IFOAM ORGANICS INTERNATIONAL

GUIDELINES FOR PUBLIC SUPPORT TO ORGANIC AGRICULTURE

First edition: September 2017

Table of Contents

AUTHORS AND ACKNOWLEDGMENTS

Authors and acknowledgments

This report has been compiled by the Policy and Guarantee team at IFOAM-Organics International: Joelle Katto-Andrighetto (team leader), Diane Bowen, Federica Varini, Simona D'Amico and Cornelia Kirchner. Markus Arbenz, Gabor Figeczky, Konrad Hauptfleisch, David Gould, from IFOAM-Organics International have also reviewed and contributed to the report.

The work to produce this report and the Global Policy Toolkit on Public Support to Organic Agriculture as a whole has been funded by SDC, the Swiss Agency for Development and Cooperation, and IFOAM-Organics International who co-funded the work through its core budget. Co-funding was also received from the OTEA project (Organic Trade and Value Chain Development in East Africa) financed by SIDA, the Swedish International Development Cooperation Agency, as well as from the ProEcoOrganic Africa project, funded by SDC and Hivos and by Bio.inspecta from Switzerland. The authors would like to express their deep gratitude to these organizations for their support.

The authors also want to thank the various experts that have contributed by reviewing this report (or parts of it) and provided their valuable comments and inputs. This includes particularly Gunnar Rundgren from Garden Earth, Paul Holmbeck from Organic Denmark, Helga Willer from FiBL, Stephen Meredith and Bram Moeskops from IFOAM EU, Nic Lampkin from the Organic Research Center, David Muckenhuber from the Austrian Development Agency, Monique Marez from the US Organic Trade Association, Joeri Leysen from Caritas International Belgium, Christina Blank from SDC, Frank Eyhorn from Helvetas, Sabyasachi Roy, PhD researcher from the Institute of Agriculture, Visva-Bharati in India.

Acronyms and Abbreviations

ADB	Asian Development Bank
AMABIO	Moroccan Association of Organic Agriculture
AMS	USDA Agricultural Marketing Service
APEDA	Agricultural & Processed Food Products Export Development Authority of India
APIA	Agricultural Investments Promotion Agency of Tunisia
ASEAN	Association of Southeast Asian Nations
BAR	Bureau of Agricultural Research of the Philippines
BÖLN	German Federal Organic Farming Support Scheme
BuB	Bottom-Up Budgeting
CAP	Common Agricultural Policy
CCOF	California Certified Organic Farmers
CEO	Chief Executive Officer
CLOA	Central Laboratory for Organic Agriculture of Egypt
COST	European Cooperation in Science and Technology
CSO	Civil Society Organization
CTAB	Technical Center for Organic Agriculture of Tunisia
CORE	Coordination of European Transnational Research in Organic Food & Farming Systems
DA	Department of Agriculture
DADO	District Agriculture Development Office
DARCOF	Danish Research Centre for Organic Farming
DDT	Dichlorodiphenyltrichloroethane
DG ENV	Directorate-General for the Environment of the EU Commission
DoA	Department of Agriculture
DOA	Department of Organic Agriculture
DUS	Distinctness, Uniformity and Stability
EPA	Environmental Protection Agency
EPOPA	Export Promotion of Organic Products from Africa
EQIP	Environmental Quality Incentives Program
ERS	Economic Research Service
ETHZ	Swiss Federal Institute of Technology in Zurich
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
FAS	USDA Foreign Agricultural Service
FiBL	Swiss Research Institute of Organic Agriculture
FNAB	French federation of Organic Farmers
GIZ	German Society for International Cooperation
GMO	Genetically Modified Organism
HAFL	School of Agricultural, Forest and Food Sciences in Zollikofen
HS	Harmonized System
ICROFS	International Center for Research in Organic Food Systems
IFAD	International Fund for Agricultural Development
LBI	Louis Bolk Institute

LEADER	Liaison Entre Actions de Développement de l'Économie Rurale
LGU	Local Government Unit
MASIPAG	Farmer-Scientist Partnership for Development
MEWA	Ministry of Environment, Water and Agriculture of Saudi Arabia
MoA	Ministry of Agriculture
MSc	Master of Science
M&E	Monitoring and Evaluation
NASS	USDA National Agricultural Statistics Service.
NCOF	National Center for Organic Farming of India
NGO	Non Governmental Organization
NOAB	National Organic Agriculture Board of Philippines
NOAP	National Organic Agriculture Program
NOGAMU	National Organic Agricultural Movement of Uganda
NOP	National Organic Program
NPOF	National Project on Organic Farming
OA	Organic Agriculture
OAA	Organic Agriculture Act
OAP	Organic Action Plan
OTA	Organic Trade Association
OTEA	Organic Trade and Value Chain Development in East Africa
OTP	Organic Trade Point
ÖMKi	Hungarian Research Institute of Organic Agriculture
PGS	Participatory Guarantee Systems
PKVY	Indian Traditional Farming Improvement Program
PRO-Bio	Czech Organic Farmers Association
QR	Quick Response
RDD	Organic Research, Development and Demonstration Program
RDP	Rural Development Program
R&D	Rural and Development
SDC	Swiss Development Cooperation
SEAE	Spanish Society for Organic Agriculture
SECO	Swiss State Secretariat for Economic Affairs
SENASA	Servicio Nacional de Sanidad y Calidad Agroalimentaria
SIDA	Swedish International Development Cooperation Agency
SLU	Standard Labor Unit
SME	Small and Medium Enterprise
SNV	Netherlands Development Organization
SWOT	Strengths, Weaknesses, Opportunities, and Threats
TP	Technology Research Platform for Organic Food and Farming
UN	United Nations
USDA	United States Department of Agriculture
VAT	Value-added tax
VCU	Value for Cultivation and Use
WHO	World Health Organization
WTO	World Trade Organization
WUR	Wageningen University
ZHAW	Zurich University of Applied Sciences

EXECUTIVE SUMMARY

These guidelines have been prepared by IFOAM-Organics International as part of the Global Policy Toolkit on Public Support to Organic Agriculture.

It makes political sense to support organic agriculture, as it contributes in many ways to the welfare of society and to achieving the Sustainable Development Goals. It is also an infant economic sector with strong consumer demand and market potential. Recognizing this, governments in all parts of the world have initiated public policies and programs to support the organic sector. Such political support may be a result of different political strategies and goals, such as tapping into export markets, or addressing the issue of externalities in agriculture. Designing organic support policies that will most effectively address those political goals and be adapted to the situation of each country is a complex undertaking. These guidelines aim to assist policy makers and advocates in their choice of appropriate policy measures.

The guidelines contain some overall policy design considerations, such as the usefulness of strategic instruments and organic action plans, or the need to achieve and raise the supply-demand equilibrium. The two overarching recommendations when it comes to government support to the organic sector are the following:

1) The role of the government in the organic sector should primarily be that of an enabler, and only secondary that of a controller. In other words, setting up a government organic regulation without supporting measures to promote organic development is like putting the cart before the horse. In this report (and more generally in the *Global Policy Toolkit on Public Support to Organic Agriculture*, we deal only with the "horses" (the enabling policies). For what concerns the "cart" (the regulating policies), readers are referred to the other toolkit developed by IFOAM-Organics International: the *Organic Regulation Toolkit*.

2) Policy design and implementation should always be done in a public-private partnership and multi-stakeholder approach. Most of the organic expertise, as well as the motivation and energy to advance the sector, lie with the private sector composed of producers, companies and NGOs working on organic agriculture on a daily basis. A particular challenge for policy-making is that the concept of organic farming does not belong to government to modify and adapt at will. The concept was developed by producers, interested individuals and civil-society organizations in the 20th century and subsequently sustained by consumers through special markets, particularly since the 1970s. The concept of organic agriculture has also developed in a supra-national sphere, with a consolidated international organic movement that has adopted unified global landmarks such as the Principles of Organic Agriculture. Although the concept may now be increasingly controlled by public institutions through regulations, the involvement of stakeholders and their ownership is critical to maintain its integrity and part of good practice in policy development and implementation[1]. Government can also have much more leverage and effectiveness in the implementation of organic support measures if it relies on existing structures and expertise of the private sector.

1 Stolze M. and Lampkin N., 2009, *Policy for organic farming: Rationale and concepts*.

The core of the guidelines consists of a compilation of facts, arguments, best practices and tips on the full panel of policy measures that have been identified to support organic agriculture. They have been categorized into “Push measures”, “Pull measures” and “Enabling measures”.

“Push measures” are those that encourage the supply of organic products, i.e. measures supporting:

- Organic research and extension
- Organic input development and use
- Organic certification
- Organic vocational training and academic programs
- Conversion and maintenance of areas under organic production
- Agri-environmental practices compatible with organic production
- Organic operators through general tax breaks
- Organic farm investment
- Farm income diversification and agro-tourism
- Organic processing, product development and marketing
- Supply chain development projects
- Organic management in public areas and publicly-owned land
- Prohibition of chemical use in naturally sensitive areas

“Pull measures” are those that encourage the demand for organic products, i.e. measures supporting:

- Consumer education and promotion campaigns
- Public procurement
- Domestic trade and retail uptake
- A common logo for organic products
- School organic gardening and curricula
- Export support
- Organic trade agreements and equivalence

“Enabling measures” are those that have overarching effect on supply and demand, i.e. measures supporting:

- National data production and dissemination
- Institutional development of organic associations
- Building organic expertise within the public sector
- Development of Participatory Guarantee Systems
- Urban and collective gardening

Finally, in an effort to ensure policy coherence, one should look beyond the above measures and analyze general agricultural and food policies that can have negative impacts on organic development. The guidelines present a few of such policies and how such they can be amended to avoid such negative impacts. The policies identified are:

- Subsidies on chemical fertilizers or synthetic pesticides
- Approval of pesticides imports and pesticide use
- Support for energy crops (biogas and biofuel plants)

- Competing environmental schemes
- Unfavorable regulations on farm-made and organic fertilizers, plant protection products and farmers seeds
- Unfavorable agricultural risk management programs (crop failure compensation schemes, etc.)
- Allowance of GMO crops
- Food safety and other health requirements
- Laws related to farmland access.

CHAPTER I:
CONTEXT, SCOPE AND USE OF THESE GUIDELINES

These guidelines have been prepared by IFOAM-Organics International as part of the Global Policy Toolkit on Public Support to Organic Agriculture. The guidelines make the cornerstone of this toolkit and present a compilation of facts, arguments and tips on the full panel of policy measures that have been identified to support organic agriculture. It is destined to serve the needs of those who plan policies and programs to support organic agriculture, as well as those who advocate for such programs. This includes national and local governments, regional and international organizations, donors, consultants, as well as NGOs, private sector bodies and organic advocates.

After this short introduction (Chapter I), Chapter II gives a brief summary of the reasons that justify public support to organic agriculture, and Chapter III gives a historical and global overview of such public support.

Chapter IV provides advice on determining the right mix of support measures through national/regional action plans and guidelines.

The following Chapters (V and VI) provide examples of different forms of policy support. While Chapter V deals with specific policy measures to support organic agriculture, Chapter VI looks at the general agricultural and food policy framework and how it may impact organic agriculture.

A single country or territory will not implement all those measures. Choices will have to be made, in a process of determining the right policy mix. It is not possible to present an "ideal policy mix" applicable to all countries and regions. Designing the most effective policy mix for a specific country or region will have to be based on an in-depth analysis of the specific situation and development stage of the organic sector in that country or region, as well as the overall agricultural policy framework and the objectives and attitudes of the local decision makers. These guidelines therefore do not present an ideal policy mix. Rather, they give an overview of the main types of public support measures that can favor organic development from various angles, presenting lessons learned from various countries on the use of such measures, and guiding the user in the difficult exercise of setting their own policy mix or advocacy strategy.

This report is accompanied by a set of case studies, power point presentations, policy briefs (called "Policy Summary" in this toolkit), links to external resources and other elements, which together constitute the *"Global Policy Toolkit on Public Support to Organic Agriculture"*. The toolkit is intended for use by policy makers, as well as by policy advocates. It does not go into details about the "why" organic agriculture should be supported by governments (apart from a brief summary in Chapter II below), as this has already been covered extensively by various organizations and publications. Rather, this toolkit answers the question "how to do it".

These guidelines (and more generally the toolkit) have been first compiled and published in 2017, but are intended as a living document. IFOAM-Organics International will keep abreast of major developments and innovations in the area of pro-organic policies, and will publish updated versions of these guidelines accordingly. All users are encouraged to communicate any significant developments, lessons learned and new data available, to the IFOAM-Organics International Head Office at ogs@ifoam.bio.

CHAPTER II:
WHY IT MAKES POLITICAL SENSE TO SUPPORT ORGANIC AGRICULTURE

Public support to organic agriculture can be justified in many ways. Ultimately, it reflects a political choice that is influenced by many factors such as the overall political and economic situation of a country, the balance of political forces at a given moment, broader societal choices and perceptions regarding food production, or the relative power of influence of civil society movements and professional lobbies.

Scholars[2] have argued that state intervention (in general) can be economically justified in cases where:

- The negative effects of earlier government interventions in markets need to be corrected and eased by new interventions.
- Imperfect competition can lead to important market failure.
- A lack of information and transparency severely impedes market functions.
- Market failures arise due to the nature of the goods involved (e.g. public goods and externalities).
- Markets lead to an income distribution within a society, which is considered unacceptable.

Policy support to organic agriculture can be related to all of those reasons, ranging from correcting previous agricultural policies that have encouraged unsustainable practices, to correcting the lack of consumer information about agricultural production practices, to the generation of public goods. Adding to that is the economic justification of a national investment in a sector that has high economic potential and is internationally competitive (hence the need for a country to establish themselves in this sector).

Organic agriculture is increasingly benefiting from public support, in recognition of its contribution to societal goals, as well as its market potential. There are a variety of reasons that fall under those two broad justifications for public support. They can be summarized as follows:

1. Organic agriculture contributes to the welfare of society

An important reason to justify public funds going into supporting organic agriculture is that this is a way to ensure the production of a variety of "public goods" which are not otherwise produced by conventional agriculture, and are not sufficiently remunerated by the market: those positive externalities (or external effects) include:

1.1. Ecosystem services and environmental protection:

- Organic agriculture protects and enhances biodiversity and sustainable agro-ecosystems[3,4,5]. Biodiversity plays a fundamental role

2 Henrichsmeyer and Witzke (1994) and Dabbert et al. (2004) in Stolze and Lampkin, 2009

3 https://shop.fibl.org/fileadmin/documents/shop/1548-biodiversity.pdf

4 ftp://ftp.fao.org/paia/biodiversity/OA_biod_en.pdf

5 Sean L. Tuck and others, "Land-use intensity and the effects of organic farming on biodiversity: a hierarchical meta-analysis", Journal of Applied Ecology, vol. 51, Issue 3 (June 2014).

in directly providing goods and services as well as in regulating ecosystem properties[6,7].

- Organic agriculture supports biological pest control services and fosters ecological equilibrium[8].
- Organic agriculture sustains pollination services[9,10].
- Organic agriculture preserves water quality and therefore minimizes the need for expensive water treatments to get potable water[11]. Additionally, organic agriculture enhances water infiltration and retention, thus reducing the need for irrigation and increasing groundwater recharge.
- Organic agriculture protects against soil erosion[12, 13], desertification[14], and maintains soil fertility[15, 16] which is the most important natural capital asset to sustain food production for future generations, and in adapting to climate change[17].
- Organic agriculture contributes to carbon sequestration[18] and consumes less fossil energy[19, 20], thereby mitigating climate change.

1.2. Rural development and landscapes:

- Organic agriculture enables people in rural and less favored areas to earn a decent income and therefore helps to sustain a balanced

6 Porter, J., Costanza, R., Sandhu, H., Sigsgaard, L. & Wratten, S. The value of producing food, energy, and ecosystem services within an agro-ecosystem. Ambio 38, 186–193 (2009).

7 Sandhu, H. et al. Significance and value of non-traded ecosystem services on farmland. PeerJ 3, e762 (2015).

8 Östman, Ö., Ekbom, B. & Bengtsson, J. Yield increase attributable to aphid predation by ground-living polyphagous natural enemies in spring barley in Sweden. Ecol. Econ. 45, 149–158 (2003).

9 https://www.organic-center.org/wp-content/uploads/2015/06/The-Role-of-Organic-in-Supporting-Pollinator-Health.pdf

10 http://www.bayceer.uni-bayreuth.de/bayceer/en/pub/html/JApplEcol2007,44_41-49.pdf

11 https://www.uni-hohenheim.de/i410a/ofeurope/organicfarmingineurope-vol6.pdf

12 Siegrist, S., Scaub, D., Pfiffner, L. & Mäder, L. Does organic agriculture reduce soil erodability? The results of a long-term field study on loess in Switzerland. Agr. Ecosyst. Environ. 69, 253–264 (1998)

13 Eric Holt-Giménez, "Measuring farmers' agroecological resistance after Hurricane Mitch in Nicaragua: a case study in participatory, sustainable land management impact monitoring", Agriculture, Ecosystems and Environment, vol. 93 (2002).

14 ftp://ftp.fao.org/docrep/fao/010/y4587e/y4587e05.pdf

15 Wander M, Traina S, Stinner B, Peters S. 1994. Organic and conventional management effects on biologically active soil organic matter pools. Soil Science Society of America Journal. 58: 1130-1139.

16 http://www.emeraldinsight.com/doi/abs/10.1108/00070700910992925

17 http://www.redagres.org/Organic-agric.pdf

18 Rodale Institute, "Regenerative organic agriculture and climate change: a down-to-earth solution to global warming" (Kutztown, Pennsylvania, 2014). Available from http://rodaleinstitute.org/assets/WhitePaper.pdf.

19 https://organic-center.org/reportfiles/EnergyExecSummary.pdf

20 Tuomisto, H. L., Hodge, I. D., Riordan, P. & Macdonald, D. W. Does organic farming reduce environmental impacts? A meta-analysis of European research. J. Environ. Manage. 112, 309–320 (2012).

territorial development of rural economies and mitigates rural-urban migrations[21].

- Organic agriculture brings innovation in rural systems[22], requiring higher levels of information and lower technological input.
- Organic agriculture protects the quality and the amenity of rural landscapes, preserves the natural and cultural diversity of rural settings, while improving rural well-being and meeting the multiple urban demands on the countryside[23].
- Organic agriculture emphasizes participation and bottom-up approaches, which strengthen solidarity of rural communities[24] [25,26].
- Organic agriculture is more labor intensive than conventional agriculture, and therefore sustains rural employment (job creation)[27,28].
- Organic agriculture is a viable option for family farms and smallholders and therefore supports food security and food sovereignty[29].
- Organic agriculture increases resilience to market and climatic fluctuations, therefore stabilizing rural income and livelihoods.
- Organic agriculture maintains more diverse and attractive landscapes and preserves natural heritage, which provides a basis for the recreational enjoyment of the countryside and for tourism development.

1.3. Public health:

- Organic agriculture avoids contamination of the general environment by toxic chemicals that have an adverse effect on public health[30].
- Organic agriculture helps preserve the health of agricultural workers though the avoidance of pesticide exposure.
- Organic agriculture helps reduce the overall amount of pesticide residues in food and therefore reduces the risk of chronic diseases such as cancer, Alzheimer, Parkinson or allergies[31].

21 http://infohub.ifoam.bio/sites/default/files/page/files/rural_development_en.pdf

22 IFOAM EU Group, ARC 2020, TP Organics, 2012. *Agro-ecology: Ten examples of successful innovation in agriculture*.

23 http://www.agr.unizg.hr/smotra/pdf_68/acs68_35.pdf

24 http://www.organicagcentre.ca/DOCs/org_farmers_rural_dev.pdf

25 https://shop.fibl.org/fileadmin/documents/shop/1348-producer-initiatives.pdf

26 Abouleish I., Kirchgessner M.: Sekem, 2005, *A Sustainable Community in the Egyptian Desert*.

27 In Wales, the Organic Farming Scheme (OFS) was found to be the main contributor to restructuring and modernization of the agricultural sector and a contributing factor to participants remaining in farming. In France, it was estimated that organic agriculture employs 60% more people than conventional agriculture (source : Agreste Primeur n°284 - juin 2012). In Tunisia, according to the organic competent authority, organic agriculture employs 30% more people than conventional agriculture.

28 Prihtanti, T. M., Hardyastuti, S., Hartono, S. & Irham Social-cultural functions of rice farming systems. Asian J. Agr. Rural Dev. 4, 341–351 (2014).

29 http://www.fao.org/3/a-at744e.pdf

30 http://www.who.int/occupational_health/publications/en/oehpesticides.pdf

- Organic agriculture reduces exposure to antibiotics and other animal drugs that are usually contained in conventional animal products[32]. It reduces the risk of antibiotics resistance in human pathogens - an increasingly serious public health issue.

1.4. Animal welfare:

- Organic agriculture ensures good health and welfare standards for animals used for food production[33, 34]. Healthier animals are, in turn, less of a risk for human health (see point above).

1.5. Food quality and nutrition:

- Organic products should contain no pesticides, less nitrates, less food additives, and more healthy nutrients, and therefore generally represent less of a health risk for consumers, especially children[35, 36, 37].
- Organic products are generally of higher taste quality than their conventional equivalents[38].
- Through diversification strategies such as intercropping techniques and crop rotation, organic agriculture favors diversification of diet. Diversified organic agriculture can therefore be considered "nutrition-sensitive", helping to reduce malnutrition in poor rural populations.

Hence, the political justification for supporting organic agriculture lies in the multi-functionality of this sector. While under current policy structures its function of food production is remunerated by the market (and by general agricultural subsidies) all the other "public good" functions mentioned above must be remunerated through specific public support mechanisms. All the positive externalities of organic agriculture, and the need to reduce negative externalities of conventional agriculture, justify permanent support to the organic agriculture sector, as a cost-effective way to internalize externalities. For example, in the town of Munich, it was estimated that developing organic agriculture around the water catchment areas costs 27 times less than denitrification costs. Policy support is a way to reach social optimization of agricultural systems, which could not be achieved by market forces alone. The concept of "true cost accounting" is particularly relevant in this regard.

31 Leu A., 2014, *The Myth of Safe Pesticides*.
32 Smith-Spangler, C. et al, 2012, *Are organic foods safer or healthier than conventional alternatives?*
33 Gray, D. and Hovi, M., 2001, *Animal Health and Welfare on Organic Farms*. Organic Livestock Farming. Chalcome Publications.
34 Weller, R F and Cooper, A, 1996, *The health Status of Dairy Herds Converting From Conventional to Organic Dairy Farming*. IGER
35 Barański M. et al., 2014, *Higher antioxidant and lower cadmium concentrations and lower incidence of pesticide residues in organically grown crops: A systematic literature review and meta-analyses*, British Journal Of Nutrition 112(05): 1-18 · June 2014
36 *Human health implications of organic food and organic agriculture*, Science and Technology Options Assessment, European Parliamentary Research Service, Scientific Foresight Unit
37 Lu, C. et al., 2006, *Organic diets significantly lower children's dietary exposure to organophosphorus pesticides*. Environ. Health Persp. 114, 260–263 (2006).
38 https://organic-center.org/reportfiles/Taste2Pager.pdf

True cost accounting studies are starting to demonstrate, in monetary terms, that overall organic agriculture costs society less than conventional agriculture. If the negative externalities of conventional agriculture were internalized in the price, conventional products would be more expensive than organic ones.

The right policies would have the power to optimize public welfare by incentivizing farmers to produce positive externalities of high societal value and reduce the negative externalities. You can learn more about true-cost accounting in food systems on the website of the Sustainable Food Trust.

2. Organic agriculture is an infant sector with high market potential

Another important economic justification for public support to the organic sector, under the neoclassical economics paradigm, is the "infant industry argument". This argument is based on the fact that organic agriculture is still a very small sector that has not yet achieved the economies of scale that will enable it to efficiently compete with conventional agriculture, or on the global organic trade market. Also, increasing consumer demand for organic products means that the sector has high growth potential but needs some initial support to be able to structure itself to the scale that will allow it to fulfill this demand.

At early stages of development of the organic sector, there are a number of structural and behavioral obstacles that hinder the development of organic supply chains. These are particularly:

- The lack of market information and lack of adequate distribution channels.
- The absence of well-functioning professional organizations coordinating the needs of the organic sector.
- The lack of support services, such as advisory services, input suppliers, etc.
- The risk-averse behavior of farmers and other actors in the food chain, limiting transition to organic systems (even if they are performing economically better).
- The fear of peer pressure and social exclusion of farmers if they convert to organic while their neighbors and other members of professional associations are all conventional.
- The small scale of the sector is a hindrance for retail uptake and is not motivating research, academia and politicians to pay attention to it.

It can take many years of temporary public support to invest in research & development, build organic sector organizations and supporting institutions, and structure the organic supply chain to mainstream organic products into normal distribution channels where they become fully accessible to all consumers.

Temporary public investment into the infant sector of organic agriculture and food systems is therefore a way to achieve a variety of political objectives, including:

- Ensuring the ability of the market to fulfill upcoming consumer demands (and potentially substitute organic imports with domestic production).
- Developing an internationally competitive industry that will ensure foreign exchange revenues (through interesting premium prices and/or through securing a special place on world markets).
- Transitioning to an agri-food system that is less dependent on agrochemical imports, and is more resilient.

3. The main logics of policy intervention in the organic sector

Depending on the relative importance, at the national level, of the various political reasons listed above (whether societal welfare reasons or growth investment reasons), different types of public support to organic will be less or more appealing to policy makers. There is a complex reality of intertwined objectives. However, they can be simplified and grouped into four broad categories of the most common logics of policy intervention in the organic sector, which are the following:

a) The government wants to build a commercial organic sector as a strategy to gain export markets and earn foreign currency. This is often combined with the fact that this export market relies on production that is well suited for poor family farms. Therefore, enabling them to access high value export markets is both a way to earn foreign currency, and reduce rural poverty.
b) The government wants to ensure societal welfare optimization by addressing the problem of externalities in agriculture. In other words, it wants to encourage the production of positive externalities (environmental and societal benefits of organic agriculture) and wants to avoid negative externalities (hidden costs of conventional agriculture for the society).
c) The government wants to increase self-sufficiency in the organic sector, i.e. reduce organic imports: this can be the case in a situation where the country is a large importer of organic food and yet its own domestic production is lagging behind.
d) The government wants to increase access to healthy food products for all citizens: for citizen equality, the government would like that not only an elite have access to organic food, but potentially every interested person.

These logics are not exclusive: a government's drive to support the organic sector may combine several of these reasons. The Decision-helping framework gives guidance on the relevance of various policy measures depending on political priorities. Notes on the relevance of different policy measures are also given under the "suitable contexts" section of each measure detailed in Chapter V.

CHAPTER III: HISTORY AND OVERVIEW OF PUBLIC SUPPORT TO ORGANIC AGRICULTURE GLOBALLY

Looking at the major growth factors for organic agriculture, it becomes clear that government intervention can play a critical role. Most of the time, sector growth is a result both of policies conducive to growth and a particular dynamism in the private organic movement. However, there are states in which the effect of government policies and programs on organic sector growth has been the decisive factor in accelerating this growth, for example Tunisia, Austria, Czech Republic, the state of Sikkim in India and Bhutan. Saudi Arabia is another example of government-driven organic growth, but with a focus on consumption.

The EU is a case of mixed factors: the region has dynamic private organic movements, but it also has had a conducive policy environment. Meta studies done on the topic of the use and efficiency of EU policies in favor of organic agriculture have shown that policy matters – a lot. The quantitative and qualitative analysis showed that public support for the organic sector is the major driver for organic sector development and the sector has developed within the framework of state intervention[39]. However, the analysis has shown that public support measures do not act alone and may have little impact if other non-public support factors are absent. Environments supportive to organic farming are those in which organic businesses are economically viable and represent a well-functioning competitive industry, where the public is positive towards organic, where the organic movement is strong and well organized, and where there is a positive market environment so that organic operators see market prospects, and where all actors investing in organic business have confidence in policies. These factors considerably influence the development of the organic sector.

Recent research[40] shows that governmental organic farming support has a significant impact on the development of the number of farms and organic area. Some studies have also found that, in the UK and Denmark, the provision of organic extension as well as marketing support correlates positively with the number of organic farms and the area under organic management.

The effect of public policies on encouraging conversion to organic is particularly visible when one compares the USA and the EU (see text box below). The EU is the region of the world with the highest general level of support to organic agriculture, and one where organic agriculture is comparatively well developed. This development, especially on the production level, can clearly be linked to the impact of its supportive policies.

Comparison between US and EU level of public support to organic agriculture

The USA has traditionally had (and still has) relatively low levels of public support to organic agriculture. To date, it has converted only 0.6% of its agricultural land to organic – a very low achievement compared to the European Union (with much more pro-active pro-organic policies) which has achieved a total average of 5,7%. This is despite the fact that the USA has the largest organic market in the world and a market share for organic products higher than in the entire EU market share.

39 Sanders at al, 2011, *Use and efficiency of public support measures addressing organic farming*.

40 Daugbjerg et al., 2011; Lesjak, 2008; Bahrs and Held, 2006

In some countries, organic production has developed significantly despite the near-absence of supportive organic policies (beyond mere regulation), for example in Argentina, Peru or Uganda (although in the last two, foreign donor support has been very important), but those countries are mostly exporters of organic raw materials. They do very little value addition and have a low level of domestic demand for (and consumption of) organic products.

Below, we detail further the history of public support in some of the world's regions.

Europe: Europe has been the front-runner in terms of public support to organic agriculture, both in the EU and other European states. The first scheme specifically targeted at organic farming was introduced in Denmark in 1987, followed by other countries such as Austria and Switzerland. As part of the reform of the EU Common Agricultural Policy (CAP) in 1992, the introduction of agri-environment programs provided a unified framework for supporting conversion to and maintenance of organic production across the EU. These conversion and maintenance area payments started in 1994 across the EU and have constituted the cornerstone of public support to organic agriculture since then. During this period, supporting organic farming was a means to an end and not a policy goal itself. Towards the end of the 1990s, however, the importance of organic farming in the context of the CAP shifted. Due to changing policy, economic and societal framework conditions, organic farming goals and CAP goals increasingly converged. Although a wide variety of measures were developed to support the promotion of the organic food sector (all under the agri-environmental programs of the CAP), organic area payments[41] remained the main instrument, when judged from the overall level of financial expenditure. To give an idea of the scale of support given to organic farming in the EU-15 during this period, in 2001, organic farming was supported across the EU within the agri-environmental programs, with a budget totaling EUR 520 million for that year[42].

The impact of these organic agriculture policies on the growth of the organic sector in the EU is generally considered to have been very significant. The graph below illustrates this:

41 Fixed subsidy per ha given to organic producers depending on the type of crops they grow – see Chapter V, section 2.e. for more details.

42 Häring et al., 2004, *Organic farming and measures of European agricultural policy*. Organic Farming in Europe: Economics and Policy, Vol. 11.

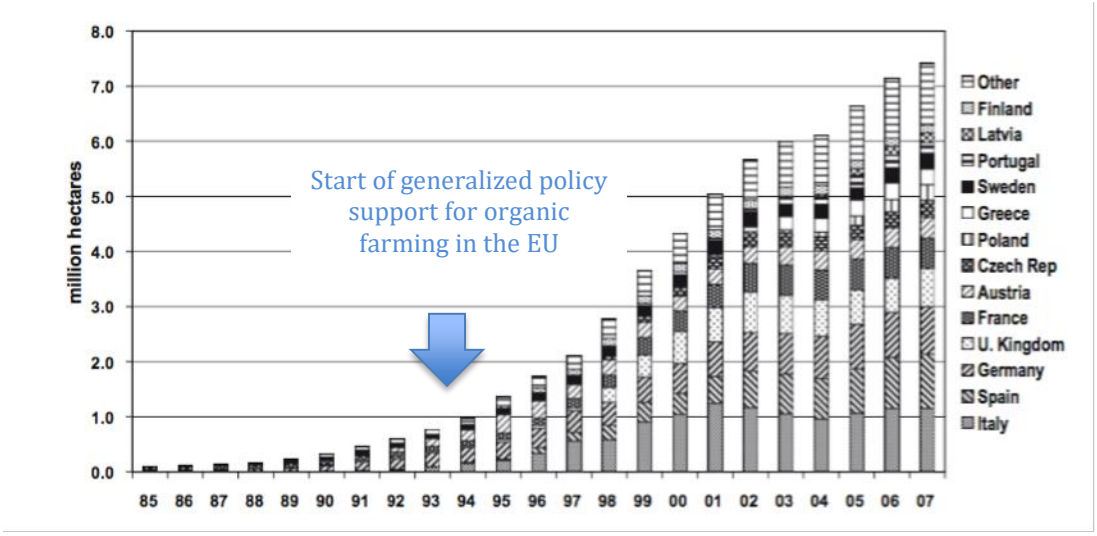

Figure 1: Certified organic and in-conversion land area (M ha) in Europe, 1985-2007
Source: Policy for organic farming: Rational and concepts, Stolze M. and Lampkin N., 2009

In the new EU CAP for 2014-2020, the role of organic farming is recognized as a way of farming that responds to consumer demand for more environmentally-friendly farming practices. In line with the motto "Public money for public goods", the new CAP 2014-2020 makes organic farming more visible and confirms its role as a measure for providing public goods[43]. As a result, the expansion of organic farming has itself become a policy goal in several EU countries, and policies to support organic farming are now widely applied in many EU countries. The total budget specifically allocated to organic agriculture in the CAP 2014-2020 (under measure 11) is set at EUR 6.3 billion in the EU-28. Additionally, the organic sector may benefit from a number of the other measures, to which they are sometimes given priority access.

North America: Public policies towards the organic sector in Canada and the USA have focused mainly on fostering orderly markets and public confidence in the organic label through regulation and enforcement. Governments do not officially recommend organic agriculture for achieving broader policy goals, and avoid the appearance of giving preferential support to the organic sector vis-à-vis other agricultural sectors. On the other hand, these governments have implemented measures to ensure that the organic sector and its operators are accommodated on an equitable basis in other programs. In a span of several years the USDA has: increased budgets for organic agriculture research, adjusted its risk management (crop insurance) program to reduce barriers to access by organic farmers, and introduced more organic data collection and dissemination. Canada supports organic market promotion through an organic roundtable, which is one of 15 such working groups on specific agricultural sub-sectors.

43 For example, under Pillar 1[43] of the CAP, organic farms automatically receive the Greening component without having to fulfill further obligations. Also, under Pillar 2[43], Organic farming is more prominent under the new Rural Development Regulation (EU) No 1305/2013 with specific mention of support for organic farming conversion and maintenance payments (Article 29), Investments (Article 17), Quality schemes (Article 16) and EIP-AGRI (Title IV).

Africa: Tunisia is by far the organic policy leader in the African continent, and a radical example of government-led sector growth within the context of an export-focused organic value chain:

Tunisia: the African success story of government-led organic export sector growth

The Tunisian government has taken a very pro-active role in supporting the growth of the organic sector over the past 20 years. Organic agriculture started in Tunisia in the mid 1980s in response to the demand for organic products from Europe. However, until 1997, organic agriculture was limited to a few private initiatives and the government was not aware of the potential of this sector.

It was after some international exchanges, particularly between a few Tunisian agronomy professors and French organic farmers, that Tunisian public institutions became interested in organic agriculture. Discussions between the professors and staff from the Ministry of Agriculture culminated in 1997 in the organization of a workshop followed by several other conferences. These events heralded government support for the organic sector because it could help achieve some of the national agriculture policy objectives, particularly improving farmers' income and export revenues.

Soon after these events, government support to organic agriculture materialized into explicit support measures. A commission was established to investigate the potential of organic agriculture for Tunisia. This led to the formulation of a draft organic law that went through months of stakeholder consultations involving both non-government stakeholders and several government agencies. The law on organic agriculture was enacted in 1999, covering both organic regulation aspects and organic support measures. The law and a series of complementary decrees resulted in an institutionalization of organic agriculture, as well as considerable public investments into organic research and extension at a very early stage of development of the sector. In particular, a number of specialized central and regional level administrative government agencies and technical institutions were created through the decrees of 1999, among which are the National Commission for Organic Agriculture and the Technical Centre of Organic Agriculture.

In 2004, Tunisia developed its first national organic action plan with funding support from FAO. This plan, implemented from 2005 to 2009, was rooted in the country's broader Economic and Social Development Plan. After a review of the sector situation at the end of the first action plan implementation, a second national organic action plan (2010-2014) followed. Again, this plan was linked to the broader Economic and Social Development Plan for that period. In particular, it made reference to the objectives related to food security, increasing exports of agri-food products and conserving natural resources. To achieve those objectives, increasing organic production volumes, diversity, quality and value addition were the particular focus of the organic plan. The action plan had clear annual targets such as areas under organic management. Market development, both international and national, was another component of the plan. The plan was backed up by a series of support measures including budget allocations to organic institutions, subsidies for operators and investors, and governmental projects.

Government efforts to support organic agriculture in Tunisia have paid off. Private investors responded to the policy measures by investing massively in the organic sector. Between 2005 and 2010, about €5.3 million per year were invested in the sector. In 2012, investment in the organic sector reached €7.59 million, representing more than 52% of the total investment in the Tunisian agriculture sector for that year.

The number of farmers, the certified organic areas and the export revenue from organic products underwent an impressive growth over the decade that followed the start of government support.

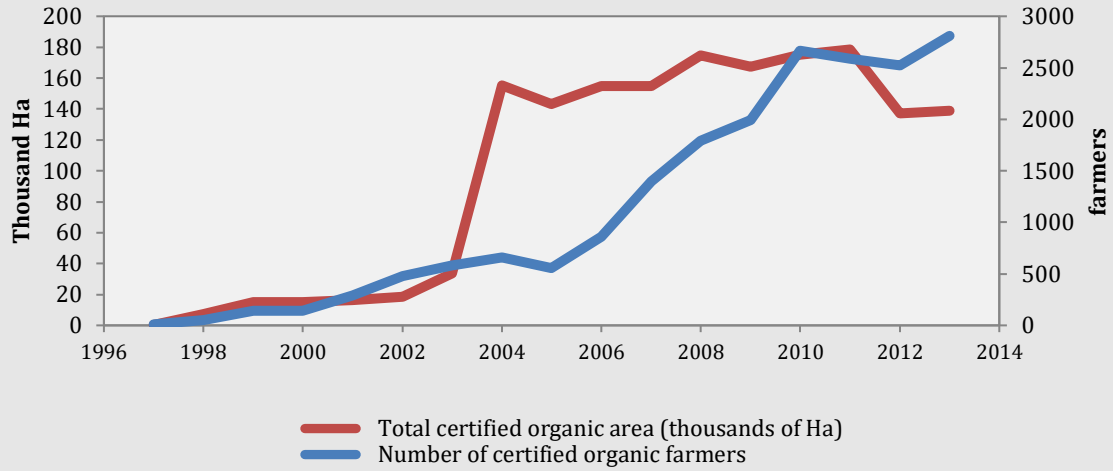

Fig. 2: Number of Certified Organic Farmers and certified organic area in Tunisia between 1997 and 2013
Sources: Ben Khedher and Belkhiria, 2006; FiBL-IFOAM, 2012, 2013, 2014 and 2015.

The value of organic exports also increased, from EUR 7 million in 2004, to EUR 35 million in 2008 and to around EUR 140 million in 2015.

Several factors explain the success of the Tunisian government intervention in the organic sector:

- The law provided clearly defined and well-coordinated roles for specialized organic agriculture institutions.
- The organic sector action plans were developed through extensive consultative and collaborative processes including private and government stakeholders. The actions plans were comprehensive, clearly structured and designed in ways that allowed them to be continuously evaluated and updated.
- The linkages of the organic plans to some of the specific objectives in the broader plans of the country have helped ensure political and financial commitment toward their implementation.
- Well-established and highly mobilized public institutions ensured that plans were implemented.

Tunisia is however an exception in Africa. For the rest of the continent organic agriculture has not received significant public support (rather the opposite, with support for non-organic inputs such as fertilizers, pesticides and GMOs undermining organic development efforts). However, in 2011 the African Union published an expression of general support to organic agriculture[44] (which provided the framework for significant foreign donor support) and more recently, a pro-organic program is being developed by the Moroccan government.

Latin America: In Latin America, public support to organic agriculture has also been largely nonexistent, and countries have put the main emphasis on organic regulations rather than on organic support policies. Exceptions are Cuba, Costa Rica, Brazil and more recently Mexico.

44 See the African Heads' of State Decision EX.CL/Dec.621(XVIII) on organic farming available at http://www.kilimohai.org/fileadmin/02_documents/EOA/AFRICAN_UNION_RESOLUTION_ON_ORGANIC_FARMING.pdf

Although African and Latin American governments have not invested a lot of their own resources in organic agriculture development, it does not mean that the sector has developed purely out of private investments. Many local NGO initiatives in those regions have managed to attract foreign aid in the form of organic agriculture development projects. In that sense, development partners have filled a role that the national governments have not been willing or able to fill.

Asia: In Asia, historically the level of support for organic agriculture has been low, except in South Korea. In the past few years, this situation has changed and a few states have started to set up proactive support policies and programs in favor of organic agriculture, for example the Philippines, Bhutan, several Indian States (particularly Sikkim, Kerala, and Karnataka), and Taiwan. The state of Sikkim is the first state in the world to have achieved full organic status, following a decade of pro-active organic policy intervention (see text box below). The Indian central government has recently initiated some organic development programs, particularly for the Northeastern region. Additionally, organic-compatible policy efforts are underway to phase out agrochemicals and promote organic fertilizers in certain countries, such as Indonesia (Bali) and Sri Lanka. However, in most other Asian countries, the public sector is doing very little to encourage organic, and this includes Russia and all former Soviet Union countries in Central Asia.

Sikkim: The first fully organic state

A success story of policy-driven conversion to organic agriculture

Sikkim, a small Himalayan state located in Northeast India, is well known for its scenic beauty and as a biodiversity hotspot. Its fragile, hilly ecosystems require sustainable farming practices to preserve the natural capital. The state produces a variety of crops due mainly to varied agro-climatic conditions ranging from subtropical to alpine. Tourism is a growing economic sector.

Political commitment to organic agriculture in Sikkim started in 2003. At that time, the state's agriculture faced serious environmental and health problems due to chemically intensive agriculture. As a solution, the Chief Minister of Sikkim, Pawan Chamling, announced his vision for Sikkim to be India's first organic state. In a historical declaration to the State Assembly in 2003, Chamling announced "a long awaited policy initiative of declaring Sikkim as a Total Organic State". This was the first such far sighted and visionary policy commitment of a state in India or indeed the world. Pawan Chamling has been Chief Minister of Sikkim since 1994, having won the legislative assembly elections for 5 terms in a row. This has provided Sikkim the political stability to implement the organic vision in just a little more than a decade.

The 2003 declaration was accompanied by the creation of the "Sikkim State Organic Board" and by an action plan containing a variety of policy measures, including a gradual increase of taxation on chemical fertilizers and pesticides, stopping synthetic fertilizers and pesticides from being imported from outside the state, supporting the production and use of organic fertilizers and organic seeds, and capacity building for extension officers, farmers and young people.

From 2006 onwards, a number of pilot projects on organic group certification involving thousands of farmers were implemented in cooperation with NGOs, service providers (for setting-up the Internal Control Systems) and certifiers.

In 2010, the Chamling government launched the Sikkim Organic Mission with a clear road map

and target of converting 50,000 hectares of land, thereby bringing the entire state to organic status by 2015. Under the Sikkim Organic Mission, a number of actions to support organic agriculture were implemented, including capacity building, organic seedling provision, the set-up of a Sikkim organic retail outlet in New Delhi, and the inclusion of organic farming in school curriculum.

In 2014, the Sikkim government adopted a State Policy on Organic Farming, which was accompanied by a five-year plan for 2013-2018 formulated by the Sikkim Organic Mission.

Sikkim achieved full organic status ahead of schedule in December 2015. This success was widely communicated in India and worldwide. The Sikkim tourism sector benefits from this image. Resorts market themselves as completely organic where tourists can pick, cook and enjoy fresh organic food from kitchen gardens.

The success factors of this rapid state conversion to organic farming have been analyzed as follows:

- The five consecutive reelections of the Chief Minister Chamling allowed him to oversee the entire process.
- Farmers had time to prepare for the change and support to do so, including investments in capacity building and input provision.
- There was a compulsory conversion strategy: the state gradually banned chemical pesticides and synthetic fertilizers. Enforcement included fines and potential jail time for those breaking the law.
- The state communicated clearly about its intent and got its people on board.
- The state is small and culturally homogeneous. Many of the farmers already had knowledge of traditional, organic ways of farming.

In January 2016, the Prime Minister of India, speaking at the inauguration of the Sikkim Organic Festival, encouraged other states in India to follow Sikkim's example. "Sikkim has shown the way and what we are seeing today is the result of tremendous hard work and belief in an idea."

Middle East: In the Middle East (excluding Tunisia), Saudi-Arabia is clearly the leader in terms of pro-organic government intervention, with more than a decade of government-funded organic farming development programs implemented with the technical assistance of GIZ International Services.

Oceania: Australia and New Zealand generally do not intervene in the agriculture sector, and therefore do not show any pro-organic policies. Political interest for organic agriculture is emerging in the islands of the Pacific Community where there are a few interesting initiatives.

Overall, the gradually growing political interest, on various continents, in supporting organic agriculture, whether from a production or from a consumption point of view, is a noticeable trend. However, outcomes will be influenced by the competition for public funds between various agricultural systems (mostly organic and conventional) and the entrenchment of various supports for conventional systems.

CHAPTER IV:
DETERMINING THE RIGHT MIX OF SUPPORT MEASURES: NATIONAL/REGIONAL ACTION PLANS AND GUIDELINES

This chapter provides recommendations concerning the clustering of pro-organic policies and actions into comprehensive plans such as organic action plans and other documents serving similar purposes. It is worth putting organic support in a broader context, showing that organic development is not the goal in itself but a tool to reach broader policy goals.

Approaching the issue of organic policies through an organic action plan will require the engagement of various stakeholders, commitment across several ministries, suitable budget allocations and ensuring coherence with other national policies and action plans that concern the agricultural sector and/or rural development more broadly.

Many governments have developed approaches to supporting organic agriculture, which are variously called policies, strategies and plans/action plans. Except for certain political declarations, these approaches are the result of a planning process. In these guidelines, the term ***policy*** is used flexibly, but mainly with reference to the general pathways in which governments translate their visions and broad goals into legislations, programs, and budget allocation. Some governments have issued broadly stated organic agriculture policies, leaving the planning of concrete actions for subsequent policy processes. It is a matter of governance style and tradition if the policies themselves will include detailed actions or if the policy is more general and concrete actions are formulated in an action plan, policy decrees or other instruments. It also relates to the decision-making processes involved. If the policies are set in parliament, it is generally better to have the action plan separate and approved by the relevant Ministry or the Government.

In these guidelines "***strategic plan***" refers to a comprehensive document describing the aims (goals) and related policies, and the strategic actions for going from the present situation towards achieving the aims and implementing the policies, often over a specific time period. The hallmark of the strategic plan is the plan for specific actions that will be taken to effect the desired change.

1. Why a national/regional organic action plan?

As shown in subsequent chapters of this document, there is a large array of policy measures and other forms of public support, which can be used at various levels of administration (e.g. inter-governmental, national, regional, municipal). There is a high interdependency among single policy measures addressing the organic sector. Policy packages are more relevant than the sum of individual policy measures and appear to be more effective if they are embedded in the general policy environment, contain strategic goals and consider directly the needs of the sector, in other words, if policy measures are packaged into an organic action plan. Choosing the right mix of appropriate, cost-effective measures in a given context requires a strategic planning exercise, of which the organic action plan is the outcome.

Organic action plans provide a framework for integrating policies and measures in order to encourage organic sector development. Thus action plans serve as a strategic instrument for governments to achieve policy goals, particularly when multiple policy

areas (such as agriculture, environment, trade) and different levels of policy formulation are to be integrated. Action plans can avoid contradictory policies while also ensuring that the different measures are complementary.

Organic Action Plans often include targets for adoption, as well as a combination of specific measures. The more detailed plans contain evaluations of the current situation and specific recommendations to address issues identified, including measures to reduce conflicts between different policy measures. Any Organic Action Plan is a political compromise reflecting tensions and diverging interests of government and various stakeholders.

Action plans are usually done at the national or regional level. For example, in 2004, the EU published its first European Action Plan for Organic Food and Farming (EOAP). In 2014, the EU Commission adopted the second EOAP. In the EU alone, a total of 17 national and 10 regional action plans or similar support schemes were implemented between 2007 and 2011[45]. In 2015, out of 31 countries in Europe, 12[46] had national (or several regional) organic action plans for the period[47]. In India[48], many states have developed national organic action plans and policies. Other countries (or group of countries) that have developed an organic action plan/strategy/program include the African Union, Brazil, Costa Rica, Nicaragua, Canada, Indonesia, Kyrgyzstan, The Philippines, or Turkey. Some of these are comprehensive plans and others are focused on one or a few aspects of support (such as Canada's organic brand development process).

Developing a comprehensive national/regional organic action plan takes time (several months to a couple of years) and some resources. However, it is a worthwhile exercise because:

- It creates and catalyzes a positive local dynamic around organic agriculture development.
- It encourages an analytical starting point, looking at the current situation of the domestic organic sector, and therefore addressing the local situation rather than trying to replicate policy blueprints of other countries, which may not be appropriate.
- It encourages policy makers and other actors of the sector to adopt a more comprehensive and strategic, and therefore more effective approach to organic support, than leaving single policy measures to be discussed and adopted in isolation.
- It provides the framework for a constructive public-private cooperation and organized stakeholder involvement in policy formulation.
- It constitutes a clear government-supported statement of the major societal

45 Sanders at al, 2011, Use and efficiency of public support measures addressing organic farming.

46 Those are Austria, Croatia, Czech Republic, Denmark, Estonia, Finland, France, Hungary, Ireland, Luxembourg, Poland, and Slovenia.

47 The list, together with links to the various national plans, is available in annex of the 2015 IFOAM EU report *"Organic Action Plans – A Guide for Stakeholders"*.

48 Including Himachal Pradesh, Uttarakhand, Maharashtra, Kerala, Gujarat, Madhya Pradesh, Nagaland, Sikkim, Mizoram, Karnataka, Uttarakhand and Arunchal Pradesh

benefits of organic farming and contributes to the expression and visibility of medium and long-term government commitment to organic support, which is a crucial signal for the private sector to invest.

It is often not too difficult for developing countries to secure resources to conduct such a planning process. Several developing countries (e.g. Serbia, Costa Rica, Nicaragua, Paraguay, the African Union, Bhutan, Kyrgyzstan, Tanzania, Uganda) financed the development of their national organic action plans in the context of a development cooperation project. It is important that there is solid political support for this process. If the process is externally funded, the risk increases that the plan will sit on the shelf (as has already happened in several countries).

Example 1: Organic Action Planning in Denmark: Working Together for More Organics

Denmark has a long history of developing and implementing organic action plans, which have become more comprehensive and strategic over time through an increasingly collaborative process. The initial seed of policy support for organic farming was recognition that organic production methods offered solutions to environmental problems linked to agriculture, in particular the problem of nitrate contamination of waterways. The government furthermore recognized that in order for organic agriculture to provide its solution, it needed to grow and be available in the market.

Early Action Plans

Action plans were established from 1995 to 1999 (Action Plan for Promoting Organic Food Production) and from 1999 to 2003 (Organics in Development). Both plans were ordered by the Danish Minister of Food, at the request of Organic Denmark, and guided by the Danish Organic Agricultural Council, which was an advisory board of the main stakeholders in the organic sector. The first plan included 65 action points focused mainly on increasing primary production. Of these, all but 5 were implemented. The second plan included 84 action points and broadened support to include both production and other points in the organic value chain, including an aggressive market development strategy. Almost all were implemented. After the period of the second action plan there was a seven- year gap until a new action plan emerged in 2011. However, a report produced by the organic research center ICROFS in 2008, in collaboration with the organic sector, included a wide range of recommendations regarding development of the organic market and organic farm practices.

Current Action Plan

The current action plan, "Working Together for More Organics," originally covered the period 2011 -2020, but was revised in 2015 to a plan which retains the original goal of doubling the land area of organic production by 2020 (against a baseline of 2007) but with revised action points and specific budgets over the period 2015-2018. This plan was initiated by the Ministry for Agriculture and developed with the assistance of an external consultant. This plan is a strategic approach based on strong year-long consultation and collaboration with the organic sector. The plan is well integrated with numerous policy frameworks at EU and national levels and supported with budgets and monitoring.

• Strategic approach: The situation analysis conducted for the plan led to the conclusion that there is a need for emphasis to be placed on certain areas. This included more innovation within the sector, more organic products in public kitchens, a leveling out of price differences between conventional and organic products in the market place partially through reform of EU

agricultural policy, better cooperation between ministries (including a joint task force to review general policy impacts on organic farming), sufficient access to land and nutrients, a greater attention to organic farming interests in formation of general rules in agriculture, more research and development and an increase in the level of knowledge of organic production.

• Consultation: Preparation was based on a comprehensive process involving more than 200 stakeholders who participated in three large workshops. The 'Organic Food Council', a government-led forum of relevant interest groups, was involved in prioritizing the initiatives recommended as a result of three workshops and from 35 interviews with key actors in the organic sector.

• Collaboration: The Action Plan points are frequently implemented in a public-private partnership wherein the government provides funding and overall guidance and private sector/civil society entities implement the projects. These include public procurement, consumer awareness campaigns, and mobile organic product development teams.

• Budget: The Danish OAP (2013-2018) has a clearly specified budget, which makes use of Danish RDP as well as other funds. It provided 390m kr. (€52.3m) in 2015, and will provide about 300m kr. per year (€30.2m per year) for 2016, 2017 and 2018.

• Policy frameworks: The plan was developed in reference to overarching policy frameworks including the EU Common Agricultural Policy (CAP), EU environmental legislation (e.g. Water framework), Danish agricultural, environmental and food policies, and national green growth policies.

• Monitoring: Monitoring is taken up in specific projects and reported. For example, the impact of the public procurement project has been assessed and published in a publicly available journal.

Content:
The plan addresses the following main themes:
- Increasing exports (7 action points)
- Promoting organic and increasing demand (8 action points)
- Collaborative efforts among government institutions (23 action points)
- Investment and expertise support (8 action points)
- Increase number of organic producers (7 action points)
- Support for organic inputs and for special sub-sector development (14 action points)

Results
Denmark has the highest market share for organic food among all countries, 8.4% in 2015. Its consumers spend the highest amount spent on organic food, (EUR 162 per capita annually). Approximately 8% of agricultural land is used for organic farming. Organic exports have grown at a rate of more than 10% annually.

Example 2: The Philippines National Organic Program: from legislation to local implementation

Legislation

A piece of legislation known as the Organic Agricultural Act of 2010 (Republic Act 10068) laid the foundation for a strategic national plan for organic agriculture for the period 2012-2016. The Act established a structural framework and financial appropriation for comprehensive support for building the organic sector, which includes but is not focused on standards and regulation. It also set some directions for the types of support that must be offered: tax incentives, production support, research etc. The Act also set some requirements for the process of sector support, especially implementation at the provincial and local levels. Significantly, the Act called for a multi-agency, multi-stakeholder National Organic Agriculture Board (NOAB), attached to the Department of Agriculture and comprised of representatives of eight government departments/bureaus and representatives from the NGOs, academic institutions and private sector. The NOAB was empowered to develop and oversee the Implementing Rules for the Act.

NOAB: an Implementing Mechanism

The structure and mandate of the NOAB facilitated collaboration across member agencies including Agriculture, Interior and Local Government, Environment and Natural Resources, Agrarian Reform, Health, Science and Technology, Education, and Trade and Industry. It also ensured transparency and consultation as the NOAB worked through several steps toward establishing and implementing a strategic action plan. The initial mandate of the NOAB was to prepare the Implementing Rules and Regulations for the Agricultural Act, which was approved as an administrative order in early 2011. The order established the National Organic Agricultural Program and called upon government units at all levels and organizations in the organic sector to submit their own sector development plans to the NOAB to foster the development of a "bottom up, multi-disciplinary and multi-sectorial participatory planning, monitoring and evaluation system." The Bureau of Agriculture and Fisheries Product Standards was designated to provide the Board's Secretariat and implement a consultative process for preparing an action plan, to include provisions for localized consultation and implementation.

Drafting and Consulting the Action Plan

The aim of the Action Plan was to translate the legislative format of rules to a planning format amenable to monitoring and evaluation. The aim was a holistic and comprehensive five-year program. The NOAB established a Technical Working Group to conduct consultations on the main islands of the Philippines, including provincial and local governments, farmers and other sector actors. A progress report on the draft was presented at the Philippines Organic Agriculture Congress in 2011.

The action plan, called the National Organic Agricultural Program, was finalized in January 2012. The unit by the same name, National Organic Agricultural Program, within the Department of Agriculture administers and monitors program implementation including at provincial and local levels, and publishes periodic implementation reports and assessments.

Program Characteristics

The following public goals are given for developing the organic sector:
- Better farm incomes and sustainable livelihoods
- Improved health of the people
- Environmental protection

• Disaster risk reduction and resilience to climate change
• Social justice.

The goal for the National Organic Program was to have 5% of agricultural land under organic cultivation by 2016.

Guiding concepts for its formulation include the following:
• Multistakeholder processes
• Public-private partnerships for implementation
• Cost-sharing with beneficiaries
• Integration/convergence with other development policies
• Systems approach to plan design.

Program Concept and Components

The program's main components are:
• Institutional development
• Research and development
• Production and technology support
• Extension and capacity building
• Promotion/advocacy/education
• Market development

Results and Impacts

By 2015, the Philippines had 343,387 hectares of organic agriculture area and 116,558 farmers. This compares to a baseline in 2006 (the earlier year for which data is available) of 14,140 Ha under organic management (0.12% of agricultural land) and 35,000 organic farmers. The target of 5% agriculture land by the end of 2016 was for 483,540 Ha.

To see an example of results at the local level, click here.

2. How to develop an organic action plan?

The impetus to develop an organic action plan may either come from the government (top-down) or from the sector (bottom-up). Often but not always the first initiative to develop an organic action plan comes from government. Examples of countries that have developed organic action plans on the basis of top-down initiatives are: Denmark (1998), Germany (2001), Czech Republic (2002), Slovenia (2004), Tunisia (2004), The Philippines (2012), Sikkim (2013), and Hungary (2014).

There are also cases where the national organic movement or the private sector, when sufficiently organized (e.g. within a national umbrella organization), is the one initiating the organic action plan process. For example, in the EU, some Action Plans were developed on the basis of bottom-up initiatives (e.g. Andalusia 2001, Italy 2001, Netherlands 2004); i.e. the sector itself demanding political action designed by the sector itself to help solve sector problems. Sometimes, in developing countries, strategic planning can be organized by national associations with support from foreign donors.

Regardless of who initiates the process, the development and implementation of organic

action plans should be seen as a partnership between policymakers, the organic sector, and other concerned stakeholders (e.g. interested businesses, consumers, sector organizations). It seeks to respond to the needs of organic food and farming in a specific country and region while contributing to wider policy objectives.

The process of developing a national organic action plan may follow the traditional policy development cycle. This "policy cycle" involves a series of linked phases or stages including policy design, policy formulation, decision-making, implementation, and evaluation. Preparing an Organic Action Plan will generally take 12-18 months. The duration of the implementation period varies considerably, from one to up to eight years.

The development of organic action plans is a complex exercise. It should contain at least the following steps:

1. Analyzing the current situation of the organic sector and its development needs.
2. Establishing the aims/goals and objectives of the action plan
3. Identifying appropriate policy measures to address the aims and objectives.
4. Deciding on the measures and allocating budgets.

Stakeholder involvement is a crucial condition to the development of a good organic action plan. Stakeholder involvement is more likely to become successful if it uses several methods and runs throughout the policy cycle of an Organic Action Plan (design, policy formulation, decision making, implementation and evaluation). Methods for stakeholder involvement include: electronic consultations, creation of committees and expert groups, workshops, surveys, etc. Case examples of stakeholder involvement and public-private collaboration on organic policy are presented in a 2014 UNFSS Discussion paper.

It is important to ensure that the process is inclusive and represents a balance of interests. Special attention is needed to ensure participation of (smallholder) farmers, women farmers, indigenous people or other possibly marginalized groups. Some measures to achieve such balance and inclusiveness include:

- Relying on identified interested stakeholders to identify and reach out to other groups that may not have been originally considered.
- If necessary, ensuring targeted financial support for key civil society stakeholders (e.g. NGOs, cooperatives, SMEs, farmer associations) to enable their active participation (this could be in the form of a project, or similar).
- If necessary, organizing some capacity building activities for stakeholders (and government representatives) on organic issues prior to commencing the policy formulation process, so that they are empowered to make a meaningful contribution.

The various steps in the development of an organic action plans are presented in more detail below.

a. Analyzing the current situation of the organic sector and development needs

Accurate data and deep understanding of the current situation of the organic sector and its context, is essential before engaging in a strategic planning process. An in-depth analysis of the following elements is recommended:

- The status of organic production, markets and other aspects relevant to the sector.
- The various stakeholders.
- The relevant bottlenecks for further development in a region or country (both on the side of production and on the side of demand).
- The specific economic, environmental and societal potentials of organic farming,
- The interplay of existing different organic support policies.
- An analysis of current national policies in relevant sectors (agriculture, rural development, environment, public health, trade, etc.), the goals they define, and how organic agriculture support can be strategically positioned as contributing to these goals.
- The extent of prior policy initiatives in support of organic food and farming (if any) - including the outcome of completed evaluations (especially evaluation of previous organic action plans if any).
- The potential impact of other policy measures or policy strategies (agricultural policy and other policy areas) on the organic sector – see Chapter VI.

Experts can be hired to prepare a study of the sector's situation and its potential. This can consist, for example, of a local study with data collection and key informant interviews to determine the sector's situation and its industry competitiveness potential. Value chain analysis by qualified experts may also provide the basis for developing realistic elements of an industry competitiveness strategy. In complex policy environments, expert analysis will also be required to identify and summarize the main policies having a significant impact on the organic sector, and the policy objectives that are relevant to the organic sector.

Once the situation analysis has been prepared, a workshop or similar event involving stakeholders can be conducted to discuss and build upon the study's results. A facilitation process can be used to collectively investigate the strengths and weaknesses of the organic sector and the opportunities and threats that impact on the current state and future development of the sector – i.e. to conduct a SWOT analysis. Strengths (and weaknesses) are those features of the organic sector that distinguish it positively (or negatively) from other sectors in the economy (such as conventional agriculture) or from organic sectors in other countries. Weak points are the bottlenecks to the further development of organic agriculture (what are the most limiting factors for the sector). Opportunities (and threats) are developments outside the influence of those seeking to develop the organic sector but are likely to influence organic farming. Opportunities can be utilized (or missed) and threats can be avoided or mitigated by taking appropriate action.

For an example of a SWOT analysis of a national organic sector (Macedonia), click here.

To see how the SWOT analysis informed the development of the 2007 Macedonia Action plan, click here.

b. Establishing aims/goals and objectives

When the needs and potential for developing the organic sector have been defined, the aims of the Action Plan can be established.

Aims (goals) identify broad ends that the government and the sector want to achieve. From a policy-maker's perspective, the development of the organic sector is more a means to an end in pursuit of societal level objectives, not an end in itself, whereas organic sector stakeholders are more likely (but not exclusively) to see the development of the organic sector as an end in itself. Thus, reconciling the interests of different stakeholder groups is central to the development of Organic Action Plans. Two sets of aims may be included in the action plan: 1) Overview of broader policy goals to which growth and improvement of the organic sector will make a positive contribution and 2) Aims for the development (growth and improvement) of the organic sector, which usually includes quantitative targets (such as number of producers, organic land area, export values, and domestic market size and share).

Objectives describe what should change in order to achieve the aims for the organic sector. A reasonable criterion for selecting objectives is that they should respond to the needs – as defined by weaknesses (internal to the sector) and the threats (external to the sector). They should also attempt to exploit the potentials – as defined by the strengths (internal to the sector) and the opportunities (external to the sector). Examples include increasing capacity of farmers in organic farming practices, reducing the risks of converting to organic farming, increasing consumer awareness of organic agriculture and products, or increasing uptake of organic products in the hospitality sector. Aims and objectives should be measurable, to provide a basis for the evaluation of the plan's implementation.

Example of aims/goals and objectives in an organic action plan (hypothetical)

Aims/goals of support to the organic action plan:

1. Contribute to the environmental protection and sustainability in agriculture on the national territory by increasing agricultural land under organic management by 25% during the period of the plan).

2. Develop market opportunities for the nation's farmers and businesses by increasing organic exports by 20% and the domestic market share by 15% during the period of the plan.

3. Improve the nutrition and health of the nation's people by increasing the national market share of organic food sales by 15% during the period of the plan.

Objectives (Based on SWOT outcomes, these could also be expressed as quantitative targets):

1. All farmers can receive advice on organic agriculture systems and practices from the national agricultural extension service.
2. Farmers have financial incentives for converting to organic agriculture.

3. Crop insurance programs are equitable for organic farmers.
4. Research on organic agriculture is equitably supported.
5. Tax policies provide disincentives for the use of conventional pesticides and fertilizers.
6. Special support is given to organic businesses for export marketing.
7. Regulation of the organic sector is suitable for establishing equivalence discussions with trade partners.
8. Consumer awareness about organic food and agriculture is increased.
9. Children can access organic food in the school meal system.
10. Data on organic agriculture and markets is available.

It is important to ensure that monitoring and evaluation (M&E) issues are addressed appropriately from the outset and that resources are allocated for them. Indeed, M&E will be an essential element to steer implementation and will serve as an input in the next action plan design phase. Responsibility for monitoring should be clarified in the plan and preferably rest with one coordinating body. Setting targets in the action plan is not only useful for the M&E, but also to express the level of government ambition regarding the organic sector development, which would also send an important message to private investors. Such targets should be clearly measurable and provide a good basis for evaluating whether or not the actions specified will be effective.

Examples of targets in European organic action plans:

- Organic farming area increase: e.g. The Czech Republic action plan 2011-2015 set a target of 15% increase in organic farming land area.

- Organic production increase: e.g. the Estonian Organic Action Plan sets a target of a 50% increase, for the period 2014-2020, in the proportion of organic farming production over the total agricultural production.

- Level of self-sufficiency in organic products: e.g. in 2002, England, in its Organic Action Plan, set the target of sourcing 70% of products for the English organic market from the UK. At the time, the UK was around 40% self-sufficient in organic products - the target helped increase the level of self-sufficiency to more than 60% in 2006.

- Share of organic food in public catering: the French program Ambition Bio 2017 has set a target of achieving a 20% share of organic produce in the public procurement market.

- Increase in consumption of organic products: e.g. the 2011-2015 Czech organic action plan sets a target of 20% annual increase in organic food consumption, and reaching a market share of 3% for organic products by the end of the period.

For targets, it is necessary to have a baseline figure, in order to measure the rate of progress.

c. Identifying appropriate policy measures to address the objectives

Specific measures (actions) can then be proposed under each of the objectives/strategies. However, identifying measures for individual objectives may

leave out possible synergies and systemic effects. An alternative is to develop result chains/networks, or a system map in which key levers are identified. The solution to achieve a mix of policy objectives may then be a combination of single-target policy measures and multi-target policy measures.

In reviewing and considering possible support measures, participants in the exercise should have the subsequent chapters of this document (details of various possible measures) at hand.

d. Deciding on the measures and allocating budgets

The challenge, at this stage is that a very long 'shopping list' of possible actions may have been prepared. A "pruning" exercise will likely be necessary in order to match intended actions with available means. This step therefore consists of selecting and prioritizing relevant measures. Decisions required concern alignment with objectives, resource availability and prioritization, implementation requirements (processes and organization), desired outcomes and methods of evaluation. Effective decision-making requires planning, participation and transparency (openness).

After agreement has been found on the various measures to be implemented, **budget allocation** might need to be done, which may involve splitting a given overall amount into various objectives and measures, or estimating what each measure would require, to calculate the total budget needed. The availability of financial resources is always a critical point. Stakeholder groups should realize that not all desired measures can be implemented. Estimating the resource needs for each policy and weighing those needs as part of the policy prioritization and budget allocation is helpful and creates greater transparency between policy makers and stakeholders. Budget allocation should be based on an assessment of effectiveness and efficiency and priority should be given to high efficiency, i.e. highly effective measures that involve low costs.

In many cases, organic action plans do not directly involve financial means, but are an instrument for governments to make the strategic role of organic farming in the general organic farming policy transparent, and the budget to support the various activities in the plan will come from more general agricultural policies budget lines.

Example of budget allocation: Denmark OAP 2013-2018

The Danish OAP (2013-2018) has a clearly specified budget, which makes use of the Danish Rural Development Plan (RDP) as well as other funds. It provided 390m kr. (€52.3m) in 2015, and will provide about 300m kr. per year (€30.2m per year) for 2016, 2017 and 2018. The 2016 budget includes about 240m kr. (€32.2m) of Danish RDP funds for area payments.

e. Policy Implementation and Policy Evaluation

Implementation and evaluation details are not in the scope of these guidelines. However, two aspects can be mentioned:

1) Effective communication of the launch of the action plan is important for its future success and to motivate stakeholders to become active in implementation. It also sends a strong positive policy signal to the organic market and investors. The launch of the action plan can be the occasion of an official speech from a high-level policy person, which can be an effective way to raise the profile of organic agriculture.
2) Importance should be given to the institutional framework accompanying the implementation of the organic action plan. In particular, establishing a National Organic Council with representatives from stakeholders and relevant public ministries and institutions, has proven valuable in many countries. Such councils can have an advisory role to the (government) body in charge of implementing the organic action plan, and can also be used, later on, for advice on future policy formulation. Similarly, the existence of a coordinating organization such as Agence Bio in France (see more details in V, measure 4.c) is a great asset for action plan implementation.

For more detailed recommendations, examples and tools, with a particular focus on Action Plan evaluation, consult the 2008 Manual *"Organic Action Plans Development, implementation and evaluation - A resource manual for the organic food and farming sector"* and in the online toolbox at http://orgapet.orgap.org/. A French version of the manual is also available. Both resources were developed for the EU but many of the recommendations are transferable to other regions.

3. Other policy documents relevant for organic sector development

There can be many other types of policy documents which are not national organic action plans but which can nevertheless provide a useful general framework for guiding and encouraging public support to organic agriculture, in ways that can be more or less detailed and strategic.

One scenario is where the country develops a strategic plan that is not specifically organic but that encompasses many pro-organic ideas. One example is **Sri Lanka**'s Toxin Free Nation Program which is a 3-year plan adopted in 2016 by the Ministry of Agriculture and President's Office that lays down a ten point program to phase out toxic chemicals from Sri Lankan agriculture.

Many countries (including all EU countries) have a national action plan to reduce risks and the impacts of pesticide use. Supporting organic agriculture can and should be an important part of such plans.

There can also be national organic agriculture promotion laws, which may be the result of a national organic action plan exercise but not always. Sometimes, promotion laws are integrated into one document together with the organic regulation, so they become an "Organic Law" that has two components: regulation and promotion. For example, in **Mexico** the organic law of 2006 is essentially an organic regulation but contains one chapter (Chapter 6) on promotion and public support. Also, in the **Philippines**, the

Republic Act 10068, also known as the Organic Agriculture Act (OAA) of 2010 contains both regulatory aspects and promotion aspects, and was accompanied by an institutional budget allocation of at least 2% of the annual budget of the Department of Agriculture (DA) to implement organic agricultural programs.

In other cases, promotion and regulations are addressed in two different laws. For example, in **Costa Rica**, the law 8591 of 2007 and the Decree 35242 of 2009 address promotion aspects, while the decree 29782 of 2000 is the organic regulation.

There can also be decrees at a more local level (regional or municipal), which can provide a conducive framework for public support to organic, again various degrees of strategies and detail. In **Mexico** for example, several states (e.g. Zacatecas, Chiapas, Oaxaca, and the federal district of Mexico City) have local laws establishing programs to promote organic agriculture.

Aside from laws and decrees, there can also be policy notification of a more inspiring (rather than constraining) nature, which can nevertheless lead to positive outcomes. One example is the **USA**, which does not have a national organic action plan, but where in 2013 the national Secretary of Agriculture issued policy guidance on Organic Agriculture. The Guidance on Organic Agriculture, Marketing and Industry directs all USDA agencies to support organic agriculture and markets, stating *"(Organic) production and commerce is a bright spot in the American marketplace of innovation and entrepreneurship, and particularly can contribute to USDA's goals for rural economic development. In recognition of this potential, the 2010 USDA Strategic Plan called for an increase of 25 percent in certified U.S. organic businesses by 2015*". The guidance requests the agencies to identify ways to serve the needs of the organic sector and remove obstacles to it.

Public measures supporting organic agriculture may also be packaged in the form of time-limited programs or projects implemented or supported by the government. Such projects are often easier to get approved in the sense that they do no require the same level of broad domestic political support (especially if they are supported through development cooperation foreign aid). For example, in **Armenia** the government-assisted project "Organic Agriculture Support Initiative" started in 2015 at the request of the Armenian government. It is funded by the EU and co-funded and implemented by the Austrian Development Agency, and combines a range of support measures (watch the project launch video of the Armenian Organic Agriculture Support Initiative here). This enables the Armenian government to implement concrete activities in order to deliver on the objective of having an efficient organic agricultural policy (an objective mentioned in the government's "Sustainable Agriculture Development Strategy").

Another example is **India**, where one government program packages several types of support measures to organic agriculture into one scheme supporting organic uptake: the Paramparagat Krishi Vikas Yojana launched in 2015 with a budget of around EUR 41 million. The scheme is a pro-active initiative of the Indian federal government and a component of the Soil Health Management scheme, which is part of the major project National Mission of Sustainable Agriculture.

Finally, organic agriculture may be mainstreamed into general agricultural policies, rather than being subject to specific policies and action plans. For example, in Switzerland, there is no government-endorsed national organic action plan, but organic agriculture development is mentioned and addressed in the general agricultural policy[49].

4. Supply and demand, and other overall policy considerations

The long-term efficacy of policy measures does not only depend on the relevance of each measure taken in isolation. The right mix of measures, the reliability of and trust in government support, can have an even bigger impact on the sector development than the amount of resources invested.

Achieving and raising the supply and demand equilibrium

Public policies are ineffective and inefficient when the concept is not economically viable. Thus, organic farming policies should be guided by a business minded approach focusing on developing the organic sector as a well-functioning competitive industry. In cases of strong demand-supply imbalance, public intervention will be most efficient when it addresses the side that is underdeveloped. However, in many cases, supply-demand imbalances are not so dramatic, and the aim is to take the sector to a higher level of supply-demand equilibrium, therefore boosting both supply and demand at the same time.

Raising the supply-demand equilibrium is a bit of a chicken and egg problem, there may be a justification for a temporary stage of imbalance before supply can pull its own demand or demand pull its own supply back into equilibrium. This can be planned over a multi-year period (typically an organic action plan length period) and temporary imbalances can be covered through specific measures such as area payments that give enough incentives for farmers to stay organic even if organic markets are not yet in place. Such a growth in supply can then provide the volumes needed for processors and retailers to enter the organic sector and then for consumer awareness campaigns to be implemented (as those require that products be available in stores). A temporary situation of supply-demand imbalance is therefore not necessarily bad and can, if combined with other measures to support organic processing and marketing, help move into a next-level supply-demand equilibrium for the organic sector.

In today's globalized economy, one must also consider the fact that supply-demand is no longer a purely national problem. A number of countries have a well developed, profitable and sustainable organic sector that is essentially export oriented (e.g. Tunisia or India), while a number of countries rely on a high level of organic imports and are bound to continue to do so, due to their climate conditions (e.g. Sweden, or Saudi

49 Bio Suisse, the national organic association, however calls for the Swiss government to work on a national organic action plan in order to provide a more proactive approach and clear political signal in favor of organic development.

Arabia). Export markets are part of the possible demand for domestic products, and foreign producers part of the possible supply. Many countries are exporters and importers at the same time and even those countries that are mainly exporters rarely manage to find an export market for all the crops in their traditional crop rotation, so a domestic market can be very valuable even if export is the main focus.

In view of environmental considerations and consumers' increasing desire to reconnect with their local producers, it can also make sense that policy action prioritizes improving the domestic supply-demand balance. One viewpoint is that, in countries that are large exporters of organic products, domestic consumers should also be able to consume the healthy products that distant markets are so eager to buy. Similarly, in countries that are big importers of organic food, consumers that invest in purchasing so much organic food should reap environmental benefits for their own surroundings.

Reliability and market actors' trust

Policies may be less effective when market actors (farmers, processors, retailers) do not trust the reliability and continuity of governmental support. Investing in organic businesses (farms as well as companies involved in processing and retailing) requires a reliable perspective to reduce risk. Action plans can be an instrument to document government's commitment and reliability towards organic farming. But more importantly it is the action itself that governments take, rather than the action plan documents, which express reliability and commitment. Governments should express what role organic farming plays in their agricultural policy concept and show that they are reliable partners for the farmers, processors and retailers.

Public-private collaboration acts in the same way as reliable policies. The entire organic sector development benefits from stable and reliable framework conditions and from good collaboration between the organic sector and government.

Continuity of policy support and policy anticipation

Continuity of policy support measures can be key to their success. Some measures are intended to be transitory (e.g. to kick-start certain processes) would be designed as such. For other measures however, which are designed as more permanent incentives (e.g. typically subsidies for organic area maintenance), a key aspect will be their continuity, and the anticipation of the effects of their possible changes by policy makers. Disruption of support schemes are often difficult to avoid due to the time cycle of political mandates and related public programs, and they will certainly have some impacts on the organic sector, which policy makers should anticipate.

For example, experience in the EU countries has shown that when the application process for organic farming support schemes such as subsidies are closed either for review or due to financial constraints, a backlog of interest can build up which may result in very large numbers of producers converting at the same time when the scheme reopens. Such administrative disruptions of organic farming schemes may lead to a rapidly rising increase in organic supply resulting in a supply and demand imbalance. It is therefore important to plan for long-term stable and continuous support, even though this is challenging in the context of short political mandates.

Choosing policy measures that are suitable to the local/national context

Not all measures are suitable in all contexts. In the following chapter (Chapter V "Array of possible support measures"), we present 26 categories of support measures aimed at boosting supply and/or demand of organic products. Most of the time, national/local organic action plans or strategies, even when they are very integrated and comprehensive, will not use all of the measures presented. Priorities will be set and choices will have to be made. In order to help policy makers and stakeholders participating in strategic organic planning, the Global Policy Toolkit on Public Support to Organic Agriculture includes a Decision-helping framework that presents the suitability of each measure in relation to the various contextual scenarios in which a country/region can find itself. This decision-helping framework is based on four factors, and under each factor, three or four possible scenarios. These are the following[50]:

Factor 1: The stage of development of organic agriculture

- Scenario a): Organic agriculture is at an embryonic stage of development, i.e. there is a small number of organic producers in the country, organic exports are not well developed, and the domestic market is very small or non-existent. (Country example: Georgia)
- Scenario b): The country is essentially an exporting country, i.e. exports of organic products are well developed, but the domestic market is very small or non-existent. (Country example: Uganda)
- Scenario c): The country is essentially an importing country, i.e. the domestic organic market is well developed, but not domestic organic production, which means that the organic market is essentially supplied with imports. (Country example: Saudi Arabia)
- Scenario d): The country has well-developed organic production and consumption patterns – even though there may still be some supply-demand imbalances in either direction. (Country example: Germany).

Factor 2: The organic regulatory context

- Scenario a): The country has no organic regulation, and no officially referenced organic guarantee system. (Country example: Senegal)
- Scenario b): The country has no organic regulation, but has an officially referenced organic guarantee system that defines what is considered organic in terms of acceptable organic standard(s) and control system(s). (Country example: East-African Community countries)
- Scenario c): The country has an organic regulation but it applies only for exports, and there is no officially referenced guarantee system for the domestic market (Country example: India)
- Scenario d): The country has a fully regulated organic market (both for the domestic market and for trade). (Country example: USA).

50 The country examples are based on their situation in 2016.

Factor 3: The culture of government intervention in the agricultural sector

- Scenario a): The country follows a free market approach, but with a significant level of government intervention in the agricultural markets, e.g. through tax and subsidy instruments to correct market deficiencies and support the agricultural sector. (Country example: the EU countries).
- Scenario b): The government has significant control over the agricultural market, but focuses on regulations, own programs, and development cooperation projects, rather than on permanent policy incentives. (Country example: Lao)
- Scenario c): The government prefers to let market forces drive the agricultural sector and market development. There is a very low level of market interventionism in the agricultural sector. (Country example: Australia).

Factor 4: The logic of policy intervention: what are the main objectives behind the support to organic agriculture

- Scenario a): The purpose is to build the organic agriculture export sector as a strategy for earning foreign currency and contributing to poverty alleviation.
- Scenario b): The purpose is to encourage the production of positive externalities (environmental and societal benefits of organic agriculture) and to avoid negative externalities (hidden costs of conventional agriculture for the society).
- Scenario c): The purpose is to increase self-sufficiency in the organic sector in order to respond to high consumer demand and reduce the share of organic imports.
- Scenario d): The purpose is to increase access to healthy food products for all citizens (popularize organic consumption).

Each country will display a specific combination of scenarios from the four factors above. For the first three factors, the scenarios are exclusive: the country can fall in only one of the scenarios proposed under each factor. For Factor Four (the policy objectives), there can be several objectives that are recognized as legitimate policy objectives by policy makers (for example, legitimate objectives are listed in the introduction of the national organic action plan endorsed by the government). For example, a country may have the following combination of scenarios: 1.a – 2.d – 3.b – 4.a.d.

The Decision-helping framework is a tool whereby the use can select the combination of scenarios that apply to a country's situation, and the tool will show the measures that are considered most suitable and suitable to that particular combination of scenarios. It will filter out the measures that are generally considered unsuitable to either of the scenarios or irrelevant to the policy objectives selected.

Chapter V explains, in narrative form, the suitable contexts in which each measure is mostly appropriate, in reference to the four factors and scenarios. This does not mean that measures are completely unfeasible in other scenarios, but there may be some major challenges to implementing them and it may be wise to consider other priorities first.

CHAPTER V:
ARRAY OF POSSIBLE SUPPORT MEASURES

1. Introduction

This chapter features the whole range of support measures that were identified through a global study of pro-organic public policies and programs. In the context of these guidelines, a "measure" is a particular approach on a leverage point along the supply chain: in other words, a certain way to attempt to influence decisions by one of the supply chain actors (be it the farmer, the processor, the trader, the consumer) in a particular direction. "Measures", represented by the paragraph headings in this chapter, are therefore broad categories of policy interventions and might encompass actions of various nature[51].

The following diagram illustrates the relationships between the various points of leverage (decision making by various players) and the measures presented under this chapter. Click here for a full size Power Point version of this diagram.

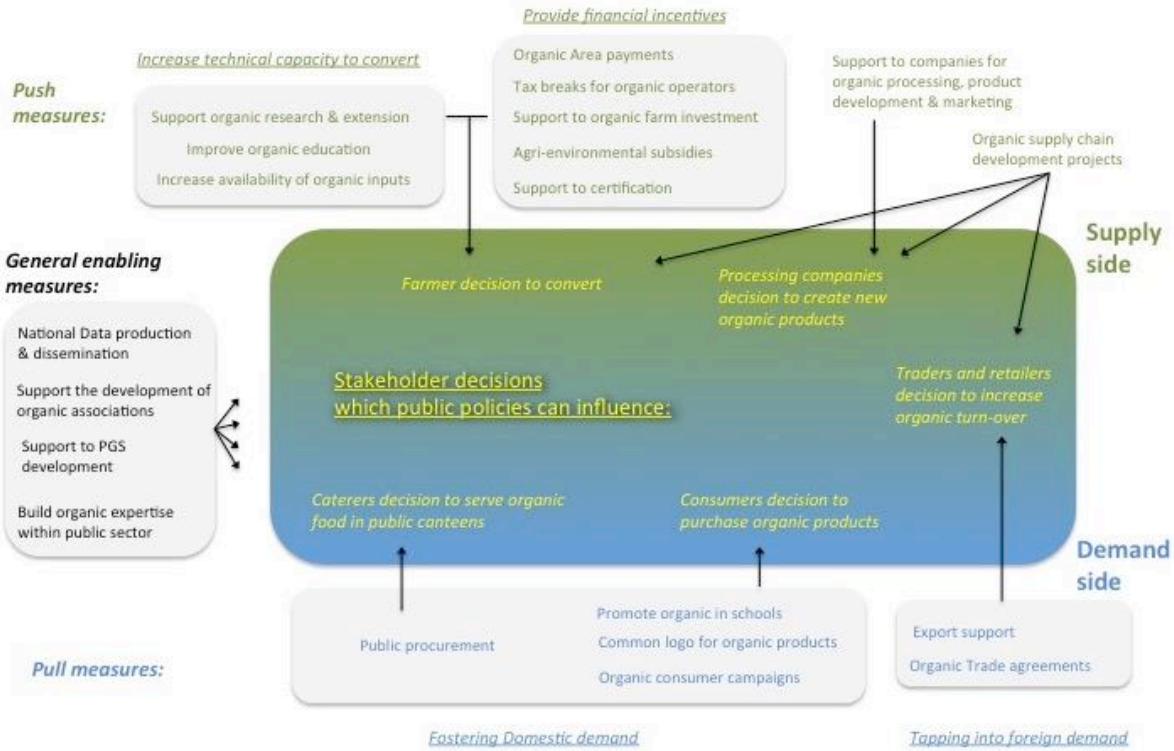

Fig 3: *Overview of leverage points and possible policy measures to promote organic development*

51 "Measures" as defined in the literature or policy documents (e.g. in the EU Common Agriculture Policy) do not necessarily correspond to the "measures" as defined in this Chapter. The "measures" presented in this chapter might also unfold into different types of policy instruments. For example, the same "measure" can be implemented in the form of any of the classical policy instrument categories, including legal policy instruments (regulations, in the sense of obligations defined by law), financial policy instruments (economic incentives or disincentives), and communicative policy instruments (including information provision).

Considering the importance, highlighted above, of balancing supply and demand, we have organized this chapter into push (supply) measures, and pull (demand) measures. There are however a few measures which fall in between and address both supply and demand by creating a supportive context for the development of the organic sector. We have clustered them under what we call "enabling" (combined push-pull) measures.

Some of the measures presented are very specifically targeted at organic agriculture. This is for example the case of organic area payments, organic management in public areas, consumer organic promotion campaigns, or the development of a national organic logo. Establishment of such support measures will be based on the values of organic agriculture per se, not on various forms of "sustainable" agriculture.

Other measures may be more easily integrated into broader policy schemes supporting sustainable agriculture and rural development, of which organic agriculture is one of the possible modalities. This is the case with support to farm investment, support to income diversification and agro-tourism, support to companies for processing, product development and marketing, support to agriculture supply chain development projects, support to agricultural input development, or support to certification. Access to support in a certain measure (say subsidies for farm equipment purchase) could be granted only to organic operators (maximum specific effect, best scenario for organic), or be open to organic and non-organic operators, with the following modalities:

- Higher support rates (e.g. higher payment rates) for organic operators
- With priority for organic operators or with preference to organic operators e.g. through a point system where organic operators receive higher scores in the evaluation (less specific effect)
- Or to non-organic and organic operators alike (but the measure might still have a positive effect if it rewards a type of decision that it made more by organic operators than conventional ones).

There are multiple examples of such approaches in the EU agricultural policy, and the detailed access criteria are decided on the state or even sometimes region level. It is therefore also important, in terms of policy development, to consider options for access criteria. The same also applies to some of the pull measures like support to export, or public procurement where support measures may be decided and adopted in a broader context (general trade policy, or promotion of sustainable schemes) but the detailed access criteria for implementation will make a difference in terms of how pro-organic the policy measure is.

2. "Push" measures

a. Support to organic research and extension

Political justification

The potential for innovation in organic farming systems is considerable. So is the potential impact of organic systems innovation on public goods and services, as well as on markets. However, current spending on agriculture research and innovation around the world does not adequately reflect this potential.

Scientific research, as a source for innovation, is key to:

- Increasing the sustainability, productivity and competitiveness of organic farming systems
- Conversion to organic farming, as the absence of organic solutions to specific local agronomic problems is one of the main obstacles when farmers want to convert.
- Recognition of the benefits of organic agriculture (both by consumers and by policy makers), which requires scientific evidence of the positive externalities associated with its production methods and of its superiority in aspects such as nutritional value and health.

Research and innovation in organic agriculture also benefits the conventional sector, increasing the overall sustainability of agriculture and food production. A classic example is new methods of biological control being used not only in organic systems, but also in integrated pest management. This is also true of the more institutional and social innovations aspects of organic agriculture: one good example is Participatory Guarantee Systems[52], a social innovation from the organic sector which is being increasingly researched for its potential to expand to other sectors.

Therefore, investing public funds into organic research is primordial for the development of the organic sector, for the design of more sustainable production systems, for the design of new and resilient business models and cooperation among stakeholders across the value chain and for the delivery of public goods and services.

From an organic movement perspective, research is not only important to solve agronomic or technical problems but also to build evidence about the benefits of organic agriculture, and to design more effective institutional frameworks and policies.

52 Participatory Guarantee Systems are local alternatives to third party certification whereby the certification is carried out by the stakeholders such as producers and consumers in a participatory manner. Those systems are particularly suitable to and affordable for small producers.

The efficacy of advice on methods and technology is a crucial factor for the development of organic agriculture. Although farmers are often the initiators and testers of innovations, there must be a support structure that collects, transfers and spreads knowledge. In a country where organic agriculture is in its initial stage, farmers often guide advisors and researchers. Farmers are very important in the knowledge transfer process but they should be supported and encouraged by research and extension. The extension service also needs input from research on agronomic, marketing and health issues as well as pedagogical knowledge on how best to deliver the advice.

Research and extension services for organic farming should be strongly linked. This is the reason that the two topics are covered jointly in this section. Extension services should also be capacitated to provide organic advice and disseminate the results of applied research to farmers. A study done in France in 2010[53], comparing various regions with very different levels of public spending in organic extension, suggests a strong link between funds invested in organic extension and the number of conversions over the period 2001-2008.

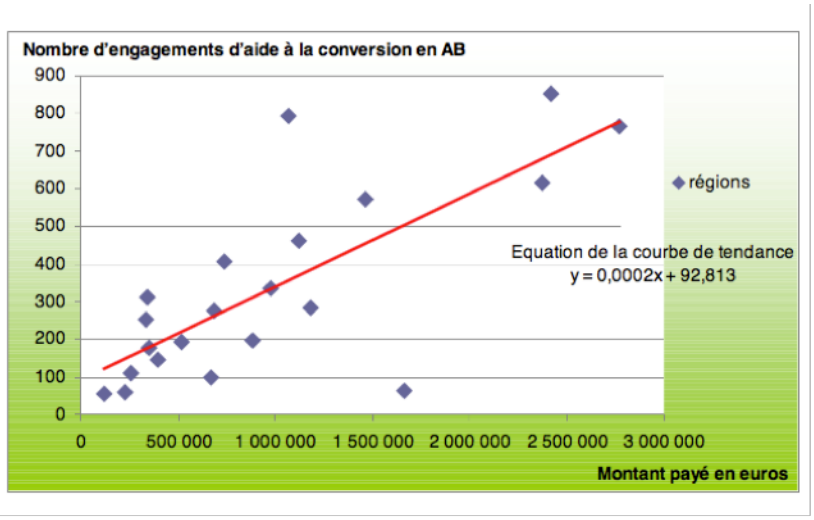

Fig. 4: *Number of conversions to organic farming in relation to the amount of funds invested in organic extension between 2001 and 2008 per region, in France (Data source: ASP, 2009)*

Suitable contexts

Government support to organic research and extension is suitable to all contexts regardless of the stage of development of organic agriculture, the regulatory context, the policy goals and the culture of government intervention: agronomic research and extension exists in most countries. Growth of organic production will be severely hampered if those support sectors only work on conventional agriculture techniques. However, the relative importance of research and extension may vary depending on the stage of development of the sector: one quantitative study[54] analyzing market and policy factors influencing the share of organic land in a dataset of 61 countries for the

53 QUELIN C., 2010, *Agriculture biologique : La fin du retard français ?*

54 WHEELER S., 2006, *The Influence of Market and Agricultural Policy Signals on the Level of Organic Farming*.

years 1990 and 2001, found that the availability of organic advice by publicly funded extension personnel was one of the factors with the largest influence on organic farming adoption at the early stage of sector development, while national organic research activities become the most influential factor at later stages of development.

Support to organic research and extension is a type of policy support that does not require a lot of extra financial resources, but rather a shift of priorities to progressively include organic issues and knowledge into the work of agronomists, researchers and extension agents. Additionally, for developing countries, there is a real opportunity to include activities required for this shift in the scope of a development cooperation project thereby getting foreign resources to support it.

Possible modalities of implementation

Research

In some countries, organic research is integrated and dispersed within many different public research institutes and university departments. This is the case for example in Sweden, the US or Germany. For example, in 2000, the German ministry for food and agriculture established, an Institute of Organic Farming in the Thünen Institute, which is the Federal Research Institute for Rural Areas, Forestry and Fisheries. Organic research in Germany is also integrated in a number of other research institutes and universities.

Other countries have a specialized organic research organization or department that strongly dominates/coordinates organic research (even though other institutions can also conduct organic research). This is the case in Switzerland (with FiBL), in Hungary (with ÖMKi) or in Tunisia (with the CTAB). A somewhat intermediate model is the model of Denmark that has ICROFS, The International Centre for Research in Organic Food Systems. It is an established organization but operates as a "center without walls," where the research is performed in interdisciplinary collaboration between research groups in different institutions and universities. The lead in organic research can be taken on by a public institution or by a non-governmental institution that receives important public financial support.

When organic research is conducted within an established conventional institution, there is a risk that the overall agenda of the institution, values and priorities of the dominant researchers hinders the development of a vibrant organic research environment. This is the case in Sweden, where organic research has taken place since the 1990s, but is still not much accepted in academia. It is likely that a special organic research institute would have been a better solution.

Regardless of the model chosen, it is highly desirable to have a mechanism for national (or even regional, like EU-level) coordination of organic research, favoring partnerships and long-term strategies. This can be in the form of a dedicated organic research program (funded for a multi-year period) such as the German BÖLN, or by assigning this role to a specialized organization (with on-going public financial support) such as ICROFS in Denmark.

There is a clear benefit[55] in having long-term programs that address the specific needs of the organic sector (identified through a proper stakeholder involvement process) and that enable coordination with organic research in other countries.

Permanence of the support to organic research is an important aspect of building long-term expertise for the sector. At the EU level, for example, there were successive projects ensuring support for organic research, but there is not yet a permanent fund to guarantee the continuity of such support. In the **USA,** annual funding for organic research has been stable at EUR 13.7 million since 2008 through a funding line included in each Farm Bill.

One beneficial element is also to have or support a dedicated organic research farm that enables long-term trials. For example, in the Canadian province of Quebec, The Platform for Innovation in Organic Agriculture is a 200-hectare research site dedicated to organic research. It provides organically managed land and infrastructure required to allow for research, development, training and public awareness activities related to organic crop production. It was designed by Quebec's Research and Development Institute for the AgriEnvironment (IRDA), and supported by a EUR 9.3 million funding allocation from the federal and provincial governments.

The institutional mechanism to set the national/regional organic research agenda is another key implementation issue. Good examples are those where the organic research agenda is established through a participatory process involving the various stakeholders of the organic movement. National examples of good public consultation processes and stakeholder involvement in the setting of organic research priorities are Denmark (for example for the ICROFS research and development strategy of 2012) and the Dutch research program of WUR/LBI that started in 1993. At the EU level, TP Organics, the European Technology Platform for Organic Food and Farming, is another good example.

Finally, it is important that organic research considers, documents and validates traditional and indigenous knowledge, as it can be highly relevant for organic farming. It is also a way to integrate traditional farmers in research and research agenda setting.

Extension

In terms of organic extension, there are also many different models.

The ideal model would be for extension services to be constructed so that, even conventional farmers learn first about organic solutions, and later, if they do not work, get advice on conventional solutions. Cuba and Bhutan have come closest to implementing such an approach.

In some cases the state advisory services offer tailor made provisions for organic farmers, e.g. Bavaria (Germany). Chambers of agriculture are often required to provide

55 Evaluations (Andreasen, Rasmussen, and Halberg 2015; Rasmussen and Halberg 2014; Vieweger et al. 2014) found that the specialist organic farming programs have had a positive impact on the development of the organic sector and are relevant to meeting specific technical needs.

advisory services on organic agriculture (e.g. in Austria, France, Turkey), which often means they must have at least one organic adviser per regional/local office. In Denmark, the Danish Agricultural Advisory Service, run by the farmer's union, receives funding from the government to provide organic advice in its 30 agricultural centers across the country.

Training and advice can also be carried out by organic farming associations or private organizations, which are subsidized by public funds (e.g. Switzerland with FiBL, France with FNAB, PRO-BIO in Czech Republic, SEAE in Spain, BioAustria in Austria, Bioland in Germany). Usually a grant is given to eligible expenses for the organization of seminars, field days, training courses and other information actions.

In the cases of FiBL in Switzerland, the Organic Research Center at Elm Farm in the UK between 1996 and 2011, CLOA in Egypt, or CTAB in Tunisia, the same organization hosts research and extension. When research organizations have organic demonstration farms, this is well suited for hosting organic extension activities.

Ideally, specific conversion advice provisions are designed for farmers aiming to convert their farms. Such services are provided at the national or regional government level in several European countries. Training and advice is offered in the form of phone or email help-lines, information packages, farm visits or demonstration farms. An innovative conversion program has been launched recently in Germany: conventional farmers interested in conversion may obtain a farm-check and are brought together with potential clients, i.e. processors and retailers before the conversion period starts.

A similar concept has been developed in Denmark: the so-called "Conversion checks", which are a full day of dialogue that give the farmer a total overview of what conversion to organic would mean on their own farm - daily practice and routines, solutions to common challenges, special needs for more land or feed, changes to buildings, where he/she can get a contract for organic sales etc. Conversion checks have proven very motivating for the farmer and hugely successful in Denmark, contributing significantly to a 20% increase in organic land area in 2016. The concept worked so well that it has become financially supported by private companies (such as the supermarket chain Coop) and by the government, as well as already 25 local municipalities/counties, which support the provision of free conversion checks to farmers residing in areas of importance for nature and drinking water supplies.

The organic farmer field school model[56] can also be very effective way to provide training to organic farmers and is being implemented in several countries (e.g. Tunisia, Swaziland, The Philippines). Another interesting model is the Innovative Farmers Programme[57] run by the Soil Association in the UK.

A classical model is to offer short training courses for (aspiring) organic farmers, supported by public funds. Ministries of Agriculture have financed such courses in order to improve competitiveness of their organic farmers. In the EU some countries

56 See https://en.wikipedia.org/wiki/Farmer_Field_School for more explanation of this model.

57 https://www.innovativefarmers.org/

have even made short courses in organic agriculture a mandatory requirement for farmers to access other forms of public support to organic agriculture[58]. The rationale for such mandatory requirement is that training on organic agriculture greatly facilitates conversion and limits the risk of farmers reverting to conventional and/or having non-compliances to organic standards.

Training courses for organic farmers can be provided by a variety of institutions, ranging from universities, organic research organizations, NGOs, farmer associations or even consultancies, all of which can be supported by public funds (or by development cooperation money in the case of developing countries). Training courses are usually organized in the low farming season (e.g. winter) to maximize farmers' attendance.

Country examples

Cuba is perhaps the best example of large-scale government support to organic agriculture research and extension. It adopted organic agriculture as part of its official agricultural policy in the nineties due to the trade embargo and agricultural crisis. The Ministry of Agriculture and the Cuban Association of Organic Agriculture took far-reaching steps to promote organic agriculture systems and establish research programs that laid the foundations for food self- sufficiency through organic management. Cuba has since then led a number of sophisticated experiments and innovations in the organic field, such as bio-fertilizers, bio-pesticides and the use of fermentation. The Alejandro de Humboldt Fundamental Tropical Agriculture Research Institute of the Ministry of Agriculture is an active actor of organic research in Cuba. Moreover, the Ministry of Science, Technology and Environment (CITMA) has given priority to organic research themes by approving research projects linked to diversification, agroecology, organic agriculture and related topics. Nearly all agricultural research centers, and agricultural universities in Cuba have been involved in organic research. To date, organic research in Cuba is still a popular destination for exchange visits whereby other countries learn about organic innovations that they can replicate in their (tropical) situations, as well as get inspired by the research and extension linkages in Cuba. Practical results of Cuban research are incorporated into Cuba's Agricultural Knowledge and Information System which is then used for extension. Extension is organized under the Directorate of Science and Technology of the Ministry of Agriculture, which supervises various governmental, academic and NGO actors delivering extension services, and ensures that they use up-to-date, clear and consistent information.

Starting in the 90s, the **EU** has increasingly, even though slowly, raised its contribution available for organic agricultural research. Between 1990 and 2006, the EU Commission funds allocated to research in organic agriculture amounted to EUR 64.2 million[59].

58 In Malta, Andalucía and Cataluña (Spain), Ireland, Austria and Lithuania, attendance of training courses was mandatory for organic farmers participating in agri-environment or organic support payments. In those regions (except Ireland), enough public funds were made available through other CAP measure (e.g. in Measure 111) to support 100% of the training costs.

59 Schmid, et al, 2008. Organic Action Plans. Development, Implementation and Evaluation. A Resource Manual for the Organic Food and Farming Sector.

Nowadays, the EU has become an important investor[60] in and framework for European organic research (even though this still represents a low proportion of total agricultural research).

As an indication, it is estimated that for the period 2016-2017 the EU is making 33 million Euros[61] available to fund organic research projects in the context of Horizon 2020. The legal texts of Horizon 2020 explicitly state that organic agriculture should benefit from the program. This is the first time that legal texts of the EU research policy recognize organic farming. In Horizon 2020, the pillar relevant to agricultural research is implemented through bi-annual Work Programs that describe the actions to be financed (calls). In order to draft Work Programs addressing the needs of the industry, the European Commission extensively consults the European Technology Platforms (ETPs), including TP Organics, which is the technology platform for organic food & farming, aiming at identifying innovation goals for organic and promoting these towards policy makers. The platform was created in 2008 by IFOAM EU, which has built a broad and strong coalition with civil society organizations, researchers, farmers and companies. TP Organic was recognized by the Commission as a European Technology Platform (ETP) in 2013, and granted an official advisory role in the implementation of Horizon 2020. The TP Organics Research Agendas of 2009 and 2014 have played an important role in setting priorities for the subsequent CORE Organic calls and Horizon 2020.

Despite the important investments provided by the European Union, most of the funds earmarked for agricultural research are still managed by EU Member States, but they sometimes do so in the form of transnational cooperation, pooling national budgets together. Since 2004, many EU Member States participate in a transnational partnership called CORE Organic, joining resources within research on organic food and farming[62]. Countries that have a government-funded specialized organic research program are members of the CORE Organic initiative. Most programs also have a clear aim to enhance knowledge exchange in the organic sector and run websites, seminars, conference etc. to highlight the findings of their research. The programs make the findings accessible to a wide range of users through an open access digital publishing archive called organic E-prints as well as through national websites, workshops, conferences, and encouraging coverage of the findings in the (organic) farming press.

60 This is being done in under 2 different frameworks: 1) the EU Research Framework projects, which are the major instruments in supporting research in agriculture (HORIZON 2020 and EIP-AGRI), and 2) the EU trans/international coordination efforts, particularly the successive CORE Organic projects, the FACCE-JPI (Joint Programming Initiative on Agriculture, Food Security and Climate Change) and the COST actions. The EU Research Framework projects are funded by the EU, while the trans/international coordination projects (ERA60-Nets) are funded mostly by participating Member States.

61 This however still represents less than 1% of the total funds made available for agriculture research under Horizon 2020 in the same period.

62 This partnership is called ERA-Net CORE Organic "Coordination of European Transnational Research in Organic Food and Farming Systems". After its first phase (CORE Organic I from 2004 to 2007) and second phase (CORE Organic II from 2010 to 2013), the partnership is in its third project phase (CORE Organic Plus, running from 2013 to 2018). Core Organic II had a total budget of EUR 14 million. Core Organic Plus, EUR 12.8 million.

In addition to EU-funding and EU-coordinated research, there are national public funds allocated by EU Member States for organic research. Several EU countries and regions provide research grants for specific projects that address specific national or regional topics relevant to organic farming. Below we list only a few examples.

In the **Netherlands**, a country with a long tradition in research on organic agriculture, research has been an important pillar in national organic farming policies. There was a strong focus on research, training and education in its National Organic Action Plan 2005-2007, in which 63% of the budget was dedicated to those activities. In 2009, the Dutch government allocated 10% of the total agricultural research budget to organic farming (this amounted to a total of 9.6 million for organic research in 2008). Organic research in the Netherlands is highly cooperative and demand-driven: since 2005, the government has delegated the responsibility of setting the organic research agenda to the stakeholders by creating and financing Bioconnect (the knowledge network for the organic sector, now integrated in Bionext). The sector persuaded the Dutch government to delegate responsibility for setting the organic research agenda to Bioconnect on the basis of a pilot project. The support to Bioconnect was thereafter extended until 2011. Participation rate was very high (60% of organic farmers and 50% of actors involved in organic processing). For more information on the organization, methodology and results of organic research in the Netherlands, see the 2009 report Research on organic agriculture in the Netherlands.

In **Germany**, the Federal Organic Farming Support Scheme (BÖLN), initiated in 2001, aims to provide information to various actors in the whole supply chain and to carrying out research and demonstration activities. The scheme supports research projects by identifying research needs, promoting research projects, checking them for relevance, practicality and cost-effectiveness, and financing and accompanying them until completion. Research projects cover all topics, including the value chain. In addition to research funding, the BÖLN supports and strengthens supply and demand of ecologically or otherwise sustainably produced products with a variety of training, education and information. In these events results from BÖLN-funded research projects are taken up and passed on to the relevant target groups - to actors in agricultural production, acquisition and processing, in trade, to large users, marketers and consumers. Since its launch, the scheme has funded 930 research projects, for a total of 126 Million Euros research spending. It has also organized 3,500 knowledge transfer events since 2005. Its contribution to organic farming development was assessed as being very significant. Additionally to the federal funding, the German Länder (states) also fund organic research. For example, Bavaria alone spent EUR 3.7 million on organic research between 1995 and 2008.

In **Denmark**, organic farming has been supported since 1996 when the Danish Ministry of Food established DARCOF, the Danish Agricultural Research Centre for Organic Farming, which coordinated several research programs in organic farming and foods. In 2008, the so-called 'center without walls' changed into today's ICROFS, the International Centre for Research in Organic Food Systems with an international board. See more information in the Best Practice textbox below.

Most EU Member States now support, in one way or another, the provision of organic advice in the national extension services or through parallel systems, including training programs for organic farmers (e.g. in Flanders, Wallonia (**Belgium**), **Finland, Germany, Ireland, Italy, Luxembourg, Poland, the Netherlands**, some regions in **Spain** and in the **United Kingdom**). Many European countries have set up an organic conversion service dedicated to farmers wanting to convert to organic (Bavaria in **Germany**, **Italy**, **Luxembourg** and **England** and **Wales -** through government funding to the Organic Research Centre and Organic Centre Wales between 1996 and 2010). In **Denmark** the government began paying for the "conversion check" concept invented by the organic association Organic Denmark. **Denmark** allocated € 3.6 million for the period 2015-2018 to support supervision of conversion, preservation and sustainability on organic farms, and to subsidize experimental organic projects. Organic farming associations in Europe (e.g. FNAB in **France**, PRO-BIO in **Czech Republic,** SEAE in **Spain**, BioAustria in **Austria**, various "Ökoringe" – producer association umbrella organizations at the Länder (state) level - in **Germany**) also receive public funding to carry out training and advice to farmers. In the case of PRO-BIO, the organic farmers association in the Czech Republic, the short courses it organizes for organic farmers are paid 70% by government subsidies and 30% by the PRO-BIO Association's own resources[63]. A significant proportion of public support to organic extension in the EU is coming from Rural Development Programs financed under the CAP. Organic advisory services can be funded under the new CAP 2014-2020 Measure 2 of the Rural Development measures ("Advisory services, farm management and farm relief").

In **Norway** all conventional farmers wanting to convert to organic have access to free advice from the Norwegian Advisory Service (NLR).

Switzerland is one of the world leaders in organic agriculture research, thanks to its organic research institute FiBL, which was established in 1974. FiBL is a private research institute, but operating with about half of its budget from public funds, which represented around 8 million Euros of public funding support for the year 2014. Additionally, 3 federal research centers have been involved in organic farming for many years. One of them, Agroscope, has 3 centers, under the federal agriculture office and has an organic research focus. Around 16% of Agroscope's annual budget goes to organic research, which represents around 30 million Euros for organic research annually. In 2014 the Swiss Federal Council requested the Swiss parliament increase the amounts going to organic research by a few more million annually. Some public universities (ETHZ Zürich, HAFL Zollikofen, ZHAW Wädensil) also carry out some organic research. Advisory services are tightly linked to research: the advisory service of FiBL has coordinated organic extension provision at a national level since 1977, but receives financial support from the regional government. Additionally, federal government funds specialized organic advisers within the general agricultural advisory service.

FiBL also has chapters in **Germany** and **Austria**, and the FiBL model of private non-profit specialized organic research and extension center has been replicated in

63 Data from 1999.

Hungary where FiBL founded ÖMKi in 2011. In 2013, ÖMKi was awarded the title of external Department of Agrobiodiversity and Organic Agriculture of the University of Debrecen. FiBL has also advised several other countries on the development of their national organic research and extension capacity.

Tunisia is an example of a country that proactively invested considerable public funds into organic research and extension at a very early stage of sector development, resulting in great success in terms of sector growth. For more information, see Best Practice Example textbox.

In **Morocco**, in 2011 the government signed a joint public-private contract with the organic industry (represented by AMABIO, the Moroccan association of organic agriculture) within which the government commits to allocate EUR 3.6 million of public money to support organic research, and EUR 1.8 million for extension (capacity building for farmers). The contract covers the period 2011-2020.

In **Egypt**, the Government supports agricultural research through the Agricultural Research Center (ARC) and in universities. A department of the ARC, the Central Laboratory for Organic Agriculture (CLOA) was established to focus on organic research. CLOA researches and promotes organic production of various crops, especially vegetables and fruits. It also has extension services.

In **Saudi Arabia**, the Minister of Agriculture decided in 2009 to convert the Qassim Agriculture Research Center into the Organic Agriculture Research Center. The center has a double mission of research and capacity building (providing farm-based consultancy, offering workshops, seminars and training courses).

The **USA** has historically dedicated a very low percentage of its public research funds to organic research (in 1997, less than 0,1% at the Federal level). The first research funding to include organic projects was the Sustainable Agriculture Research and Extension Program – SARE which began with the 1985 Farm Bill. The funds were small at the time, but nevertheless unleashed interest in doing organic research and in starting organic activities in academic institutions. In recent years, as a result of strong advocacy from the organic sector, the situation has improved and support to organic farming research is now roughly proportional to the sector's size. The US has invested nearly EUR 228.5 million over the period 2009-2015 in organic research[64]. The main US Federal program for organic research now is the Organic Research and Extension Initiative (OREI). EUR 14.8 million is available annually for targeted organic agriculture research and extension program (per 2014 Farm Bill.) This includes agronomic/ economic/markets research and development of guidance tools for organic operators. Organic research is conducted primarily by the so-called "Land Grant" agricultural Universities (they receive 90% of the OA research funding). In the US, extension is provided in the USDA Cooperative Extension Program, administered by the USDA National Institute of Food and Agriculture in cooperation with Land Grant universities in individual states. The money is allocated through a competitive grants process. The

64 May 19, 2016 Statement from the US Agriculture Secretary Tom Vilsack.

USDA can prioritize grants for certain types of extension. They have prioritized extension for organic transition for EUR 2.9 million so far, and grants for developing organic educational tools and training for extension personnel on organic farming.

In **Canada,** The Organic Agriculture Centre of Canada (OACC) at Dalhousie University, founded in 2001, plays a leading role in organic research and education. In 2009, OACC, in collaboration with the Organic Federation of Canada, received groundbreaking federal government funding, supported by over 30 industry partners, to develop the Organic Science Cluster, which channeled over EUR 7 million in research funding into Canada's organic industry. With over 80 scientists at 36 research institutions participating in organic research projects, the Organic Science Cluster spans the country and engages all major agricultural universities in Canada as well as federal scientists. This was followed by the Organic Science Cluster II project, which received a budget of another EUR 7 million for the period 2013-18, covering around 50 organic research projects.

The province of Quebec in **Canada** is also supporting organic research and extension quite intensively. Quebec has a 200 ha research site called Platform for Innovation in Organic Agriculture, dedicated to organic research, created in 2012 and supported by a EUR 10 million government funding. In the province of Quebec there is a public support program to facilitate access for organic farmers to technical advice. The program reimburses up to 85% of the costs of technical advice services.

In **South Korea**, the Division of Environmentally Friendly Agriculture in the Korean Ministry of Agriculture, Food and Rural Affairs currently has a project establishing environmentally friendly agricultural research centers throughout Korea. The project has a 3-year plan and its budget is about EUR 6.4 million. The expected roles of these research centers are to develop organic agriculture field technology, to train and educate producers and consumers, to analyze the safety of environmentally friendly agricultural products and raw materials, and to operate demonstration farms.

In the **Philippines,** the Bureau of Agricultural Research (BAR) is the main government agency that administers and awards research grants for organic agriculture. It funds basic and applied research, as well as the development and commercialization of viable and innovative organic agriculture technologies. It establishes Research, Development and Extension Centers (RDE) in strategic locations in the countryside usually located near Centers of Excellence. The first RDE Center established is the Cordilera Organic Agriculture Development Center (COARDC) at Benguet State University, launched in 2010. COARDC aspires to be the premier Center for Organic Agriculture in Asia. The National Organic Agricultural Program (NOAP), which was established by Republic Act No 10068 (2010), has since its inception supported more than 2,000 trainings for farmers and established and maintained more than 1,000 demonstration farms. The Agricultural Training Institute organizes training sessions specifically on organic agriculture, funded by the government. An organic conference is also organized every year, and the government sponsors the attendance of farmers and extensionists.

In **Argentina**, several agricultural research stations conduct research and extension

activities on organic agriculture, with various specializations (organic horticulture, organic livestock production, etc.). The Ministry of Agroindustry has been sponsoring organic research as part of the Organic Agriculture Development Program (PRODAO) since 2011.

In **Brazil**, there are several research institutions working on organic agriculture or agroecology research, both at the federal and state level. The 2013-2015 National Plan for Agroecology and Organic Production (PLANAPO) allocated around EUR 18 Million for research and technology development and another EUR 215 million for extension services. A national program for technical assistance and rural extension is dedicated to family and traditional agriculture and puts a strong focus on ecological agriculture. The management of this program includes non-governmental actors.

In **Colombia** a number of public universities host research teams specialized in organic agriculture and agroecology.

In **Sri Lanka**, the national program for a toxin-free nation launched in 2016 foresees the establishment of full facilities required to conduct research into indigenous natural (organic) agriculture systems.

In **India,** the Indian Council of Agricultural Research, ICAR, started in 2004 a network project on organic farming at 13 centers in different agro-ecological regions of the country. Since then, the research centers have been working on the development of a package of practices for different crops and cropping systems under organic farming. In 2016, the government of India set up the National Organic Farming Research Institute in Sikkim. Further, the government of Gujarat is setting up India's first university that focus exclusively on organic farming and research.

In **China**, CNCA, the Certification and Accreditation Administration, launched a program of organic demonstration counties. In 2015, seven counties were accepted and there are 30 more applicants. Additionally, the ministry of Environmental Protection has a "National Organic Production Base" of organic demonstration farms, which includes 150 farms, and is growing. By 2013 in Taiwan the Council of Agriculture had also established 8 “organic agriculture research teams” and “organic technique service groups” to conduct research and extension.

In **Bhutan** a capacity development program for farmers is implemented directly by the National Organic Program operated by the Ministry of Agriculture. Since 2008, the NOP program has trained 3306 farmers directly and 259 staff members of the Ministry of Agriculture (training of trainers). After the training of trainers, the MoA staff (including NOP staff and agricultural extension officers) carries out further training of farmers.

In **Cook Islands**, **Niue** & **Republic of the Marshall Islands**, the Pacific Organic & Ethical Trade Community, hosted by the Secretariat of the Pacific Community, manages a project funded by the EU and IFAD, which provides capacity building and technical support to around 600 farmers. In **Fiji,** the University of the South Pacific (supported by 12 island nations) specifically its Institute for Research, Extension and Training in Agriculture (IRETA) offers training and extension in organic agriculture.

In **Swaziland** the government supports a project (funded by the EU) aiming at training 1,200 smallholders on organic agriculture techniques and setting-up 6 organic farmer field schools with 12 trained organic extension workers.

In **Kenya**, Busia County partnered with local organic NGOs to train its extension officers on organic agriculture. 18 extension workers attended the one-week training. The funds to organize the training came from a donor-funded project, but the county agriculture office allocated the time for their extension staff to participate in the training.

Best practice example(s)

Best Practice Example 1: Support to organic research and extension in Tunisia

Since enacting its organic law in 1999, the Tunisian government has taken a very proactive role in supporting organic sector development with outstanding results. Key support measures were the establishment of several institutions with budgetary autonomy and permanent allocation of public funds.
The Regional Center of Research in Horticulture and Organic Agriculture (CRRHAB) was established in 1999. It houses the Tunisian national Organic Agriculture Research Laboratory, which is responsible for conducting and disseminating research on all aspects of organic horticultural production systems for Tunisia's Eastern region, where most of the organic operations are located.

The Technical Centre of Organic Agriculture (CTAB) was also established in 1999 by Ministerial decree. It conducts applied organic research and provides training and extension services for organic operators and staff of other support organizations. CTAB adapts the results of CRRHAB's research for practical application by organic operators in their local conditions. CTAB also oversees trials for the endorsement and registration of different organic inputs and maintains a list of approved inputs on its website.

Other governmental bodies are also involved in organic research, such as the Institution of Research and Higher Agricultural Education (IRESA), which created the National Commission for Planning and Evaluation of Organic Agriculture Research. This body's activities include working with stakeholders involved in the organic sector with a view to addressing their operational problems through research. Several professional groups receive government funds to collaborate with research institutions on activities such as organic input development.

The National Program for Organic Agriculture has also established organic extension services in various districts of the country. Since 2003, thanks to a collaborative project between FAO and the various aforementioned Tunisian public institutions, the concept of farmer field schools has been extensively used in Tunisian organic extension.

The various government bodies active on organic research and extension (and more broadly on organic agriculture) work in tight collaboration, ensured through their respective institutional linkages, which includes membership on one another's boards and committees.

The establishment of organic research and extension institutions with budget autonomy and sufficient funding, as well as their interlinking, are factors that explain the success of the Tunisian government's policy on organic research and extension.

Best Practice Example 2: Organic Research in Denmark: A long history of institutional development

Research for organic agriculture was already on the agenda of Danish organic farmers in 1981, when their newly established National Association for Organic Farming (now Organic Denmark) put it on their agenda of priorities. The development of a strong research agenda in Denmark has been characterized by a collaborative dialogue between the organic sector and government institutions, as well as governmental commitment to supporting organic research, particularly by the Ministry of Food, Agriculture and Fisheries. Originally this enabled a faculty position in organic farming to be established in 1987 at the Danish Agricultural University and a commitment to fostering organic research in the government's national strategy for agricultural research.

The first institutional phase: DARCOF

The 1995 Action plan for the promotion of organic food production in Denmark recommended that higher priority should be given to research in organic farming, in order to facilitate conversion and increase organic food production to match consumer demand. This plan also suggested that a dedicated organic research station should be set up. Against this background, the Ministry of Food, Agriculture and Fisheries took the initiative to establish the Danish Research Centre for Organic Farming (DARCOF) in September 1995, and it set aside about EUR 13 million for research and development during the 1996 - 1999 period. Furthermore, the Ministry decided to establish an organic research station and several organic workshop sites. DARCOF was a "center without walls" where scientists remained in their own locations while working across institutions. The organic farming movement was skeptical, favoring an organic institution where capacities could be brought together, and do research in an environment shaped by organic principles. But the model proved to be a strong model that the movement battles to maintain and grow. DARCOF's activities were coordinated by a secretariat at the Research Centre Foulum, Aarhus University. From 1995 to 2008 three major organic research programs were launched - DARCOF I, II and III. After intensive lobbying activity from Organic Denmark, the Ministry increased research funding for DARCOF ll (2000-2005) to EUR 22 million. About 100 researchers across 20 institutions were engaged in the DARCOF programs.

The second institutional phase: ICROFS

In 2008 the Ministry decided that its premier organic research institute should become an international research center with an international mandate. On the basis of DARCOF it founded the International Center for Research in Organic Food Systems (ICROFS), and committed to provide it with annual institutional funding. ICROFS is headed by an international board of directors with directors coming from Danish universities and organizations, IFOAM – Organics International, Asia, Europe, Africa, and North America. Within ICROFS is a Danish Program Committee, which oversees domestic research programs including DARCOF lll (which continues under the "center without walls" concept) and another program, Organic RDD, consisting of 11 projects with a budget of EUR 12 million for 2014-2018.

ICROFS also participates in EU and global research platforms and it engages in targeted international research projects such as Productivity and Growth in Organic Value- chains (GrOV) which assists with organic value chain development in East Africa. ICROFS is also engaged in information dissemination at national and international levels. At an international level it administers organic eprints, www.orgprints.org, the largest repository of organic research papers, which are publicly available in a web-based, open-access format. The archive contains more than 13,000 publications from global sources and has more than 23,500 registered users.

In Denmark, organic extension services are provided almost fully by the private sector through the Danish Agricultural Advisory Service and Organic Denmark. However, ICROFS disseminates its knowledge nationally by organizing farmer field days, thematic workshops, and a major domestic organic congress.

Pitfalls and challenges

The main challenge in terms of public support to organic research and extension remains the amount and continuity of support. Overall a much larger share of the agricultural research public funds still goes to areas incompatible with organic agriculture, such as genetic engineering. However, some organic associations have been increasingly successful at putting organic farming on the policy research agenda. One example is the IFOAM-EU group. Following the publication in 2014 of a Strategic Research and Innovation Agenda for Organic Food and Farming by TP Organics, the technology platform for organic food & farming in the EU, the EU budget allocated to organic research was increased and organic agriculture is now explicitly mentioned in research policy documents as a valuable approach.

An important challenge when setting up publicly funded organic research programs is getting the right level of stakeholder involvement in the identification of research priorities. In terms of farmer involvement, experience in European Innovation Partnership projects on organic research has been very positive because farmers' needs are put at the center. End-user (farmers) involvement is crucial, but one should be aware that other stakeholders might also have legitimate (and not always overlapping) interests. For example, researchers and technicians have their own legitimate concerns and ideas when it comes to research priorities, and consumers and environmental NGOs as well. Some might, for example, be more interested in an optimization of measures to conserve resources and the environment. Farmers on the other hand will be more concerned about solutions for pests and diseases, farm profitability and reduction of labor input. Advocacy organizations like organic associations will also have their specific needs, such as more studies proving the benefits of organic agriculture. Politicians might push for an increase in farm productivity or farm employment issues. The example of Bioconnect in the Netherlands (now integrated in Bionext) is an interesting one that addressed the challenge of stakeholder involvement.

There is a risk that general public research programs do not factor in the time needed to bring stakeholders together in a more participatory research approach. For multi-actor projects to be successful, a preparatory phase is needed. To build a solid basis of trust among various participants takes more time compared to purely academic research where the researchers are more familiar with each other's worldview. This aspect of the work must be recognized and budgeted for accordingly. This can be done, for example, by providing seed money thus giving multi-actor consortia financial breathing space to prepare a full project proposal. Policy makers should provide long-term support to innovation projects. Following the close of a successful project, further financial support

and follow-up promotion is often necessary to help disseminate the new ideas and change farming practices[65].

Aside from the level and continuity of public support to organic research, and having the right level of stakeholder involvement, a bottleneck remains. In many countries, this is the ability of the research community to innovate while switching to a different agronomic paradigm.

Additionally, international cooperation in research remains a challenge, even though not specific to organic research.

Although agronomic research is the chunk of what is needed in organic research, it is also important not to forget organic processing issues (an area that is still largely under-funded) and the more social and economic aspects of organic agriculture (including markets and policies).

There are often calls for comparative research, where organic and conventional production systems are compared. This has some obvious value for informing advocacy and policy making, but it is of little value for organic farmers. It is also very difficult to design such comparative research until there is substantial knowledge of organic agriculture in the country, both among farmers and researchers, as comparisons only makes sense if they are based on realistic crop rotations and organic practices used by farmers. Moreover, as organic farming builds soil fertility over many years, such research requires a long time frame, often exceeding the time frames of typical research calls. A badly designed comparative research will consume a lot of resources and have no value for any stakeholder.

In terms of organizing the integration of organic agriculture into public extension services, the main challenge remains the state of mind of extensionists in the public system. Some may have the status of public servants (employed by the Ministry of Agriculture) and have life-long positions. If they have been advising on conventional methods for the past 20-30 years, they may be unlikely to welcome a change towards more organic advice (and also are unlikely to be competent in providing this advice). Therefore, inclusion of organic advice in public extension services often means the recruitment of new additional staff, and therefore an increase in budget (and not a simple re-allocation of resources to different priorities), at least in the short-medium term until some of the advisors retire. Another challenge is that the farmer training provided by extension services in their classical form (more academic-like training) are sometimes not so well suited to the needs of organic farmers, where farmer-to-farmer knowledge exchange is more important.

65 Moeskops B et al. (2014), *Action Plan for Innovation & Learning*, TP Organics, Brussels,

b. Support for organic input development and use

Political justification

The support to organic inputs can come under the broader policy goal of reduction of chemical use in agriculture. A big part of the environmental damage caused by conventional agriculture originates from the use of chemical inputs (pesticides and over-application of chemical fertilizers). Hence supporting the development and use of alternative inputs such as organic inputs is one of the most direct policy interventions to address sustainability in agriculture. Supporting the development and use of organic inputs may not be restricted to organic producers, but can benefit the entire farming community. This is what is happening in Integrated Pest Management approaches, where at least some use of chemical inputs is being replaced by organic alternatives.

Support for research and development is particularly needed in this sector, because it is costly to develop and bring new organic pest control products onto the market. Also, at the beginning such products are unknown and expensive due to their small market share. Agro-chemical companies have benefited from decades of public research and support, and have therefore a massive head start compared to small companies that are starting to develop alternatives. Public support is thus required, also to cover the expensive input registration process, and help spread those inputs to farmers (as well as gardeners and public green space managers). Registration costs and requirements are further discussed under in Chapter VI, section 5.

The efficient recycling of waste products from food industries, public kitchens and households can on the one hand reduce pollution from waste and on the other hand supply (organic) farms with valuable nutrients.

Similarly, the development of crop varieties suitable to organic farming (or similar approaches) has been largely ignored by public research in the past decades and is therefore lagging behind conventional plant breeding. The development and propagation of organically-suitable (or even "organically bred") varieties takes a lot of time and is essentially a common good activity (especially as organic varieties should not be patented) that deserves public support.

Suitable contexts

Support for organic input development, production or import is a relevant action for any policy objective that aims to develop organic production. It is therefore a suitable measure at any stage of development, in any regulatory context, and in any logic of the policy support to organic. The only context in which it may not be suitable or feasible is in the case of a government culture of no intervention on the agricultural market. As agricultural input provision is also a business segment, anti-intervention governments will likely not want to get involved into such action that would twist the market competition in favor of certain types of inputs.

Possible modalities of implementation

Support for organic input development and use can take several forms.

Some countries have given grants to support companies in doing R&D on organic inputs (e.g. in France), or dedicated special research funds to develop organic inputs identified as most needed (e.g. France, Germany).

Some governments take on the role of organic input developers and providers directly, whereby they produce the inputs and distribute them to farmers free of charge or at very subsidized costs (e.g. the Philippines, the State of Sikkim, Bhutan).

Some countries have exempted organic inputs from certain tax and import duties (e.g. Tunisia).

Some governments subsidize the purchase or the self-production of organic inputs by farmers (e.g. Mexico, India, South Korea). This can be either in the form of ongoing subsidies for purchase or of investment grants. For more information on the subsidies for organic fertilizers and organic pesticides, see Chapter VI, section 1.

The lowering of regulatory barriers on-farm inputs such as fertilizers, crop protection products, and seeds, are discussed under Chapter VI, section 5.

Country examples

In **Mexico**, the federal government subsidizes 50% of the total cost of permitted organic inputs (with an upper limit of EUR 9,700 in 2015 year). The states of Chiapas, Oaxaca, Michoacán, Jalisco and the federal district of Mexico City have also subsidized the production of organic inputs, particularly compost.

In **Brazil**, the government supported the production and distribution of seeds of traditional crop varieties. By 2014, 600 seed banks were created due to the government allocation of EUR 5.8 million to support the conservation, multiplication, distribution and commercialization of seeds and seedlings. Additionally, another EUR 2.7 million were spent between 2013 and 2014 under the food public procurement program to purchases seeds of local and traditional varieties through public procurement, which were later distributed to family farmers and their associations.

In the **Philippines,** the Organic Agriculture Act of 2010 foresees that the government, at regional and local levels, establishes production facilities for bio-inputs and provides no-cost or subsidized inputs to producers. Between 2011 and 2016 the government established, maintained and upgraded 746 organic input product facilities. It also distributed more than 199,000 kg of organic seeds, 233,000 planting materials, 1,100 MT of organic fertilizers and other inputs, 4.4 million pcs of Bio Control Agents. Worms have been given to thousands of households to start home-based vermicomposting facilities. The government also distributed thousands of organic animals, including organic fish fingerlings and brood stock.

In **India**, the Government is promoting organic fertilizers by providing financial assistance through several schemes. Under the National Project on Organic Farming (NPOF) financial assistance is provided through a Capital Investment Subsidy Scheme (CISS) for setting-up agro-waste compost and bio-fertilizers/bio-pesticides production units. Subsidies amount to 25% of the total cost of project up to EUR 55,000 per unit for fruit/vegetable waste compost units and EUR 2,000 per unit for vermiculture hatcheries. The NPOF conducts other activities on organic inputs such as organic input resource management, technology development through support to research and market development, maintenance of a National and Regional culture collection bank of biofertilizer, biocontrol, waste decomposer organisms for supply to production units, development & procurement and efficacy evaluation of biofertilizer strains and mother cultures. Under the National Horticulture Mission (NHM), financial assistance is provided for setting up vermicompost units at 50% of the cost subject to a maximum of EUR 415 per beneficiary. Under the National Project on Management of Soil Health and Fertility there is provision for promotion of organic fertilizer up to around 7 Euros per hectare. The fund for agricultural development named Rashtriya Krishi Vikas Yojana (RKVY) also provides support for the development and quality control of organic farming inputs, especially biofertilizers, through a variety of measures including subsidy, R&D grants, and market development assistance. In the Indian State of Sikkim, the State government established vermicompost facilities and provides free or subsidized inputs under the Sikkim Mission. These include biofertilizers, including effective micro-organisms, mineral fertilizers and organic seeds and planting stock. The Sikkim government also provides pest monitoring and release of bio-control agents (see more information on the Sikkim input support in the Best Practice textbox below). Similarly, the State of Kerala has subsidized vermicompost tanks, organic manure, biofertilizers, biopesticides, and organic seeds and planting materials.

In **Indonesia**, the province of Bali has since 2009, implemented a gradual strategy to replace chemical fertilizers with organic fertilizers (see Chapter VI, section 1). Besides phasing out subsidies on chemical fertilizers (phased out in 2012) and continuously increasing subsidies on organic fertilizers, the integrated farming (Simantri) program (also known as “Organic Bali”), offered cash and technical assistance to farmers’ groups willing to adopt organic farming methods and to use alternative energy sources. In 2012, the governor of this province received an award for this program from the Indonesian Minister of Agriculture. Other provinces in Indonesia have also started providing substantial support to organic fertilizers in the past few years. For example, in 2013, the district of Toba Samosir, in the North Sumatra province, invested EUR 108,000 in direct support for organic fertilizer purchases and another EUR 20,000 for a livestock fertilizer program. In 2011, the same district also invested EUR 61,000 for building composting facilities. In the same year, the district of Semarang, in the Central Java province, has invested EUR 24,000 in organic fertilizer processing units.

In **Thailand**, the government launched, in 2005, the National Agenda’s Organic Agriculture, a 5-year program aiming to support 4.25 million farmers to use organic inputs instead of agro-chemicals covering an area of 13.6 million ha, reducing total import of agro- chemicals by 50% as well as boosting organic export by 100% annually.

A total of 23 public agencies were involved and the government allocated around EUR 31 million in 2006 for this program.

The **Sri Lanka** "Toxin Free Nation Program" published in 2016 foresees the distribution of organic fertilizers to farmers. In the plan, the Sri Lankan president commits to increase state interventions and investments to expand the use of traditional seeds and to prevent the subjugation of the monopoly in seeds to corporations. Sri Lanka started subsidizing organic fertilizers in 2016.

In **Bhutan**, the Ministry of Agriculture endorsed a plan in 2015 for the production and supply of bio-inputs, including facilitating distribution through the government system to ensure organic producers in the whole country will have access to the bio-inputs they need. This is however still at early stage of implementation.

In **Nepal**, the Ministry of Agriculture started in 2015 an organic fertilizer subsidy program. Farmer groups and cooperatives that have constructed cow shed and vermicompost facilities can receive subsidy of up to EUR 200 per farmer from the District Agriculture Development Offices. Farmers who purchase organic fertilizers (whether dust, pellets or vermicompost) can receive a subsidy of around 82 €/ton of fertilizer to a maximum of 1,5 ton.

In **South Korea**, the government provides special subsidies related to organic practices for the purchase of organic fertilizers, for soil conditioning assistance (to reduce acid soils) and for green manure seed purchase assistance (applied to fallow farmlands). The organic fertilizer support project supports farmers and farm corporations who use organic fertilizers (fixed press cake fertilizer, fixed organic fertilizer, organic composite fertilizer, livestock manure compost and general compost). Subsidies are given on a fixed amount basis.

Since 2011, the council of Agriculture of Taiwan, in **China**, provides subsidies to farmers for the purchase of organic fertilizers and for setting-up composting facilities.

In the past decade, **France** launched a number of plans aimed to reduce the use of unsustainable inputs and develop alternatives. One of those plans, launched in 2008 is the action plan Ecophyto 2018, aiming to reduce the use of pesticides by 50%. The plan is funded by the Ministry of Agriculture with a budget of EUR 71 million per year. In the 2015 edition of the plan, investment support for the development of alternative inputs (biocontrol) is foreseen, in order to promote the emergence of innovative French companies in this field. Another plan launched in 2011 is the plan *Seeds and sustainable agriculture,* which provided some positive development useful for organic farmers' access to seeds (see an organic analysis[66] of this plan here). Another relevant government plan is the *Plant Protein for France* 2014-2020 plan to develop local plant protein feed inputs. This was a general plan (not specifically organic) but it had an

66 2015 analysis of the plan's contribution to organic farming and further recommendations in the seed regulatory framework, by ITAB, the French Technical Institute of Organic Agriculture. In French only.

organic component overlapping with the organic action plan Ambition Bio 2017, which gave a priority to protein crops. In this action plan, the government set-up a goal to have 100% organic feed in organic livestock operations in France and to have crop varieties that are adapted to organic agriculture. Finally, the plan Ecoantibio 2017 foresees the reduction of antibiotic use in livestock production. One of the 5 axes of this plan is the development of alternatives to antibiotics, including natural treatments usable in organic production.

In **Germany** the strategy process "Zukunftsstrategie Ökologischer Landbau" (organic agriculture strategy launched by the German Minister of Agriculture in May 2015) pays particular attention to the non-organic inputs used in organic agriculture by initiating working groups in relation to increasing the domestic supply of organic feed and seed. Finding solutions to fill gaps in availability of organic inputs is one of the priorities identified through this process particularly in terms of protein feed, organic seed and organic young animals.

The government of **Sweden** co-funded (together with the EU), under the Swedish Rural Development Program, a collaborative project called Protein Tips aimed at increasing the production of more local organic fodder as a response to climate change and as an alternative to soya imports.

Tunisia exempted organic farming equipment and supplies from value-added tax and custom duties, as well as useful insects for biocontrol for organic agriculture (this was established through presidential decree in 2007). The Tunisian government also funds the Vegetables Inter-professional Group that collaborates with the national center for organic agriculture CTAB to develop improved vegetable seeds and coordinate breeding programs aimed at enhancing organic vegetable production. It also partners with CTAB to support compost production activities and testing of organic inputs.

In **Kenya**, the local government of the Busia County is supporting the establishment of an organic fertilizer factory. Private investors will build the factory but the county donated the land and allocated some funds to support the project.

Best practice example(s)

Best Practice Example: Sikkim's support for organic input development: a holistic approach

Assisting farmers to access organic inputs was a key objective of Sikkim's Organic Mission, which was launched in 2010 with the aim of converting all agriculture land of the Indian State to organic by 2015 (see box in Chapter III). The mission continues in a new phase until 2018. To implement its Mission, including measures on access to inputs, Sikkim drew financial support from several national sustainable agriculture programs including the National Mission for Sustainable Agriculture (NMSA) and the Mission for Integrated Development of Horticulture. The NMSA has provided special assistance to Sikkim and eight other States through a sub-program, Organic Value Chain Development Missions for the North-Eastern Region. This scheme aims to develop the full value chain starting with farm inputs and seeds. It offers funding to states on a per hectare basis for implementing assistance for on-farm and off-farm input production, quality seed and planting material supplies, training on input selection and use, and assistance for input production and distribution.

Sikkim's Organic Mission includes the following measures with respect to organic inputs:
• Providing structures for pit composting and vermi-composting to organic farmers;
• Providing worm cocoons and worms to farmers;
• Producing and distributing locally adapted strains of biofertilizers e.g. azolla (an aquatic fern), oil cake, effective microorganisms for compost;
• Training famers on organic fertility management and pest control e.g. vermi-composting, using bio-controls. (Specific training targets are set in the Mission plan);
• Providing seeds for green manure to farms;
• Providing mineral amendments at subsidized rates, or free in the case of dolomite for acid soils;
• Producing and releasing bio-control agents;
• Strengthening the state's IPM lab including the deployment of mobile plant protection vans to pest hotspots.

Organic Seeds

The Mission also developed plans and allocated resources to facilitate farmers' access to organic seeds and planting materials. This is an overlooked aspect of the action plans of most other developing countries. "Seed is the most important input of any agricultural production and it should be free from chemicals," states the 2014 progress report on the Sikkim Organic Mission. Activities towards supplying farmers with quality organic seeds include:
• Strengthening the seeds laboratory testing and processing facilities;
• Various local organic seed development projects including contracting seed producers, and government purchase and distribution (quantitative targets for various crops are set in the plan);
• Establishing automated greenhouses for quality organic seedling production.

Pitfalls and challenges

The challenge of policies aimed at supporting organic input availability and use is that they might be embedded in a broader policy framework that encourages the opposite, for example subsidies on the use of chemical fertilizers. See Chapter VI, section 1 on how such general agricultural policies can negatively impact on organic agriculture, and how they can be adjusted to mitigate this impact.

There is also the risk of putting too much implementation in the hands of the government, and not enough into the hands of the private organic sector. This can be particularly problematic when public servants are asked to deliver training or to plan organic input production and delivery, without having the right knowledge and understanding of organic agriculture. For example, the experience of Thailand shows that training on organic inputs delivered by government agencies that have no knowledge or belief in organic farming leads to inappropriate content and methodologies, emphasis on the wrong approaches, and ultimately failure to achieve the policy objective. To reduce chemical fertilizer use, Thailand's government agencies provided organic inputs and training to farmers on how to replace chemical inputs by organic inputs. About 1,75 million farmers (representing about 34 % of the farming families in Thailand) were trained. However, the statistics show that the national import of fertilizers continued to increase after this action. The private organic sector, that includes many qualified organic professionals in Thailand, was not involved in this

action.

Support to organic inputs may underscore the misconception by farmers, extension service and policy makers that organic agriculture is mainly about replacing chemicals with organic inputs, while organic management should rather strive for a system where inputs are less needed. In addition, not all organic inputs are useful or worth their price. There are many examples of rather ineffective organic fertilizers or growth promoters that are sold for a high price. There has to be some validation of inputs before they are subsidized.

c. Support to certification

Political justification

The role of certification is to provide a guarantee in the marketplace, enabling consumers to identify which producers conform to certain standards. In this sense, certification corrects one of the imperfections of the market, namely the asymmetry of information available to each side in a transaction (the seller and the buyer). Therefore, in a free market economy, certification acts as a public good to help optimize the functioning of the market. As organic certification is voluntary, the cost is mostly incurred by organic producers, while conventional producers have no such cost. Governments can correct this imbalance and help promote a well-functioning market by supporting organic certification, taking on some of the costs that otherwise fall on organic farmers.

Apart from the cost of certification services, there are considerable costs involved in the set up of the certification institutions, training inspectors/auditors, cost for accreditation etc. If the government performs this service it can be expected that they cover the development costs for the system and not let users pay for that as well. But also with private certification bodies, it can be justified for the government to cover some of these costs in support of an emerging sector.

Another reason for government to cover certification costs, in part or full, is to help ensure equal access of all operators to the service, across the territory and across all farming systems. Most often, private certification bodies charge operators for travel costs to their location, as well as time spent on their audit, etc. This can result in unequal access to certification. For example, operators based in remote areas of a country and those with diversified production systems may have to pay more for certification, which can be considered unfair competition and detrimental to rural development objectives. An organic certification support system can help correct such disparities.

Studies have shown that organic certifiers, and public support to organic certifiers, play a major role in enabling organic development at a local level. For example, a study

published by the US Organic Trade Association in 2016[67] looking at factors of development of organic agriculture in various localities, concluded "*The prevalence of outreach services by organic certifiers is found to play one of the strongest roles in organic hotspot formation. Also, whether a certifier is government-sponsored, by a state department of agriculture for example, is another key factor in enabling organic hotspots*".

Suitable contexts

Support to organic certification is a measure suitable to all contexts and all policy objectives.

Possible modalities of implementation

One model is to set-up a national certification body that is financed through the regular public budget and that offers free-of-charge certification to all organic operators nationally. This can be the most practical for operators, as they do not have to comply with complicated administrative procedures to apply for reimbursement of their certification costs. The free-of-charge public certification service is the model chosen by Denmark, which has a government-run certification system using civil servants. This has many advantages. According to Organic Denmark, this has freed up the private organic sector to invest its energy and resources in new directions to grow the sector. Also the engagement of civil sector personnel on farm with operators and managing the certification system has resulted in knowledge building in both the government and private sector that has enhanced dialogue and mutual support between government and the private organic sector. However, the model also has important limitations, and there are many situations where private organic certifiers are proven to be more effective than government agencies (those might be ineffective and/or corrupt in certain countries, or will not have the competence required to access needed international accreditations).

Some countries have set-up a national organic certification body providing certification not free-of-charge but at reduced costs. Sometimes, this certification is valid only for the domestic market, e.g. in the case of Lao, because the national certifier lacks international recognition. The government may invest in getting their national certification body IFOAM-Accredited, which will be helpful to ensure it works up to international standards (this was, for example done by Czech Republic before they entered the EU).

Subsidies for organic certification are a common mode of support. They can be integrated into national policy on organic agriculture, be allocated a specific budget annually and be managed by the national organic program or related programs.

However, it is not always necessary to have a policy document that targets organic certification specifically. Often, a policy budget allocated to supporting certification, or

67 The report is available at https://www.ota.com/news/press-releases/19049#sthash.whEoHJ5O.dpuf

food quality schemes in general, will provide the necessary framework and legitimacy for support to organic certification. This is the case in the EU, where support to organic certification is part of the more general budget line in the EU Common Agricultural Policy, which covers support for the participation of farmers in food quality schemes (Measure 132). However, member states manage to dedicate a larger portion of this budget to support organic certification, than to other food quality schemes. This can be done at the level of eligibility criteria, either by opening the subsidy scheme only to organic farmers (e.g. Cyprus, Estonia, Malta, the Netherlands), or by attributing a higher percentage of reimbursement for organic certification than for other food quality schemes (for example, in Austria, the reimbursement is 60-80% for organic farmers and 30-50% for other certification schemes).

There are several ways to construct the certification subsidy scheme. It may be ongoing (e.g. US cost-share program) or temporary (e.g. Tunisian case with limit of 5-7 years per operator), or a combination of both. For example France reimburses a certain percentage of certification costs on an ongoing basis, but additionally, certain regions (e.g. Rhône-Alpes) cover the full certification costs but only for the first 3 years for all new organic farmers.

Operators must usually apply, post-certification, to a dedicated national or regional administration office in order to get their certification cost reimbursement. An interesting set-up is the case of the Philippines where the producer applies to the Ministry of Agriculture regional field office prior to inspection of the certifying body and the office makes the payment to the certifier directly. The government designed the subsidy to include travelling expenses of the inspectors, inspection and re-inspection fees, application, certification fees and laboratory analysis.

The subsidy is most often calculated on the basis of reimbursing a percentage (or full amount) of the annual certification costs incurred by farmers, but with upper limits to avoid large-scale operators benefitting too much from the scheme. In countries with group certification, a higher upper limit is fixed for groups, as compared to individual operators. Another model is the reimbursement per hectare: this is the German model (most regions) in which the region provides, in addition to organic area payments, a separate certification support payment and reimburses a specific amount per hectare of certification and inspection costs (usually EUR 35 per hectare with a maximum of around EUR 500 per holding per year).

Then, there are more ad-hoc forms of support to certification, such as funding the certification of a big group of producers within a time-limited government-funded project, or projects supporting the setting-up of Internal Control Systems for group certification.

Country examples

Government support to organic certification costs is a widespread form of government support to organic agriculture, used in all five continents.

In several countries, the private certification bodies received substantial government

support in their establishment phase. This was the case for example in **Norway** and **Sweden**. In developing countries[68], the establishment of local organic certification bodies tended to be supported by donor-funded projects, especially in the period 1995-2010. Those were often government funds, but from foreign governments.

In the **USA**, support to certification cost is the main form of financial support to organic farmers. The National Organic Certification Cost Share Program (NOCCSP) and the Agricultural Management Assistance Organic Certification Cost Share Program (AMA) are noncompetitive financial assistance programs that help defray the costs of organic certification for organic farmers. They provide reimbursements of up to 75 % of annual certification costs, up to a maximum payment of EUR 697 per year per farm. The 2014 US Farm Bill provides EUR 8.5 million annually in mandatory funding for NOCCSP. The AMA organic cost share program also receives EUR 1 million a year in mandatory funding. The cost share programs are administered at the level of the states.

EU Member States have adopted different approaches to refund certification and inspection costs of organic farmers. Under the 2007-2013 EU Rural Development Program, several countries/regions used Measure 132 ("Participation of farmers in food quality schemes") to cover parts of, or up to 100% of certification and inspection cost incurred by farmers. This was the case in **Austria, France, Belgium, Cyprus, Estonia, Greece, Malta, the Netherlands, Poland, Portugal, Slovenia**, most regions of **Italy** and **Spain** as well as in parts of the **UK**. Flanders and Wallonia (**Belgium**) as well as **Greece** introduced the support scheme for organic farmers in 2011. These schemes are usually also open to farmers participating in other approved quality schemes.

In **Denmark**, certification is provided free of cost to operators through a government-run certification system. See best practice textbox below.

In the **Czech Republic**, in 1993, the Ministry of Agriculture took responsibility of the organic control system and covered a large part of its cost, including certification costs. The Ministry also sponsored IFOAM Accreditation for their system and applied for recognition by the EU as a third country (at that time, Czech Republic was not yet part of the EU).

In **Switzerland**, in the 1990s, about half of the cantons gave support to farmers to cover about 50% of the farm inspection and certification costs. This amounted to a public expenditure in 1996 of about EUR 350,000, of which about three-fourths went to the producers and one-fourth was for the administration of the support schemes. Nowadays, only two cantons give support for certification costs, at the rate of around EUR 80 per producer.

In **Serbia,** the Ministry of Agriculture started reimbursements for organic certification costs in 2005/2006. At that time EUR 19,000 was earmarked for this purpose. This type of support continues today.

68 For example in Uganda, Tanzania, Turkey, Lithuania, Ukraine, Bulgaria, Croatia, Thailand, Peru.

In **Croatia**, the region of Split-Dalmatia reimburses 50% of organic certification costs based on the certification body's invoice.

In **Indonesia**, the Food Crop Agricultural Agency of Bali Province kicked-started local organic certification by covering the costs of the certification of 22 farmer groups in the period 2009-2012.

In the **Philippines**, certification cost support is mandated in the Organic Agriculture Act of 2010. In 2016, the certification cost support program funds micro, small and medium enterprises engaged in local food and input productions for all certification costs for up to three annual certification cycles, which represent a subsidy ranging from EUR 950 to EUR 2850 depending on the number of scopes and whether the operation is an individual or a group.

In **India**, the government is providing, through various schemes at the federal or state level, subsidies to farmer groups to meet certification costs and manage Internal Control Systems. For example states under the Horticultural Mission for Northeast and Himalayan States support certification costs for smallholder farmers for up to 50% of the costs and up to EUR 135 per beneficiary and EUR 7,000 for a group of farmers covering an area of 50 hectares. For the first time in 2015 the Federal Government has extended financial support ranging from EUR 27,000 to EUR 234,000 to State Governments of eight North Eastern states for setting up public certification bodies and obtain accreditation. The assistance is mainly composed of accreditation fee, capacity building, exposure visits, infrastructure creation and other establishment related costs.

In **Samoa**, the government supports the organic movement by paying 100% of costs for the annual organic audit funded through the Ministry for Commerce, Industry and Labour. The audit costs are high as there is no local certification body. This was initiated by the Organic Advisory Committee, which is chaired by Samoa's Prime Minister. The number of participating farmers is nearing 600.

In **Lao**, in 2009, the Ministry established a local organic certification body that provides low-cost certification to small farmers, as well as assistance in setting up Internal Control Systems for group certification.

In **China**, there are some 80 local government policies providing certification subsidies to organic farming enterprises, accounting for more than 50% of all local policies related to support for organic farming. Individual subsidies range from EUR 1,394 to EUR 7,437, indicating that subsidies are going to large farming enterprises and/or organic production groups. Also, in Taiwan, the Council of Agriculture provided training and support for the establishment of producer groups with internal control systems and organic farmers can receive a subsidy covering part of the costs of certification and lab tests for residue testing.

In **Tunisia**, the government started to subsidize organic certification costs through its

decree of 1999[69]. In the framework of its 2010-2014 Organic Plan, the government created a subsidy package that covers 70% of the cost of certification and inspection for both individual and group organic producers converting to organic, for a period of 5 to 7 years. Subsidies are capped at about EUR 2,225 per year for individual producers and up to EUR 4,449 per year for group producers and associations.

In **Mexico**, as of 2015, the federal government had a number of subsidy schemes to support organic certification, published in the decree of December 28, 2014. First, it covered 50% of capacity building costs related to obtaining organic certification (or up to 75% in marginal areas with an upper limit of around EUR 7,300 per application). Second, it covered 50 – 75 % of the costs of technical assistance for operators to produce their Organic System Plan (which is required in Mexican organic regulations) with an upper limit of around EUR 4,900. Third, it covered 50 – 75 % of the total cost of certification, with an upper limit of EUR 3,400 per operator. Finally, it supported certification bodies directly by covering 50% of their total organic accreditation costs with an upper limit of around EUR 6,000 per certification body.

In **Costa Rica**, the government established a system of free public organic inspection, hosted by the Ministry of Agriculture. However, the service is not accessible to all producers due to the low number of inspectors, unable to satisfy the demand.

Best practice example(s)

Best Practice Example 1: Free public certification for all organic operators in Denmark

Denmark has a culture and history of public-private collaboration, and the government, with trust from the general public, has taken a large activist role on agriculture. Public support to organic agriculture in Denmark was already visible in the late 80s, when the Ministry of Agriculture recommended a subsidy program for organic farmers and a publicly funded government certification system. Approved in 1988, the first law on organic farming established the public certification system for all organic operators.

The government certification system is free of charge for organic operators (farmers , processors, input suppliers, packaging and labeling companies, and public and private restaurants and canteens that achieve the bronze, silver and gold organic labels), with the following exceptions:
• Extra controls due to risk of fraud;
• Certification for exporting to other regulating countries not covered by equivalence arrangements;
• Certification to private standards that are demanded by certain EU markets.

Paid by the government as part of the annual Finance Act, free public certification has been valuable for the organic sector. The number of organic farms in Denmark has grown spectacularly in the decade following the installation of this system. Several recommendations for the establishment of certification fees have been defeated, primarily with arguments that extra fees for environmentally friendly production is inconsistent with the public sectors interest in more organic farming and the environmental benefits that it provides.

69 Legal reference: http://www.ctab.nat.tn/pdf/R_DC2361_fr.pdf

The Danish Agrifish Agency and the Danish Veterinary and Food Agency are the competent authorities responsible for the Danish organic certification and inspection system. The Danish Agrifish Agency is responsible for the registration and inspection of organic farms and farm-input companies producing organic feed, seeds, fertilizers, etc. Inspections are carried out by its six district offices. The Danish Veterinary and Food Agency is responsible for the registration and inspection of the companies processing, packaging, labeling or importing food products from third countries, as well as the almost 2,000 public and private restaurants and canteens, that have the organic labels for food service. Inspections are carried out by its 10 regional control and enforcement offices. The Danish Veterinary and Food Agency also has a unit for cross checking control.

Because the national government is responsible for organic inspection and certification, it has gained much technical knowledge and practical understanding of organic farming and processing. This has enhanced the quality of the public-private dialogue and decision-making on supportive policy for organic agriculture. It also frees up resources of the organic private sector/civil society to focus on other areas to spur organic sector growth, such as consumer awareness and technical assistance in the organic value chain.

Best Practice Example 2: Organic Certification Subsidies in the Philippines

Only a small fraction of the Philippines 88,000 organic farmers and other organic enterprises are third-party certified. The vast majority relies on participatory guarantee systems for verification, or participates in direct markets that do not require verification. However, the Philippines Organic Law, 2010 (Republic Act No. 10068) envisions subsidies for certification as one of the means to provide incentives for farmers and other organic enterprises to convert to organic agriculture and to access markets requiring third party certification such as supermarkets and exports.

The subsidy program was implemented after issuance of a Department of Agriculture (DA) Administrative Order in January 2012, (Regulation of the Incentive Subsidy Scheme for Organic Certification," which is now superseded by Department Circular No 4 2015. This order authorized funding and set out administrative policies and procedures for the program. The 2012 order also added two additional objectives to the original objective of the Republic Act No. 10068, giving incentives to enterprises. These are to prevent fraud and to assure consumers of the quality of organic products.

Scope for the subsidies
Subsidies are offered to entities that:
• Are farms, input producers, processors, handlers
• Attain organic certification from a certification body accredited under the Department of Agriculture
• Are micro/small/medium enterprises or indigenous people or agrarian reform beneficiaries
• If exporting, use DA-accredited certification bodies that have international recognition.

The schedule of the subsidy is intended to cover the full cost of certification for three one-year periods based on annual application, available to newly certified enterprises and those continuing their annual certification. A schedule of subsidy payments includes payment rates for single operations, single operations with subcontracted farms, and groups according to the number and nature of production scopes. There is also a special category for entities engaged in wild collection. A single operation with one scope of operation receives a subsidy in the range EUR 790 to about EUR 880.

Procedure for the subsidy
The subsidy is implemented through an arrangement between the Department of Agriculture Regional Field Offices and the DA-accredited certification bodies. The operator applies to the Regional Field Office for the subsidy, indicating choice of organic certification body. The Regional Field Office initiates a procurement process with this certification body for the operator's certification. It also assesses the applicant's readiness for third party organic certification based on document review, and in some cases a visit to the operation. It notifies the certification body when the operation is approved for the certification process. After the certification process, certified operators may then submit to the Regional Field Office proof of certification and receipts and/or invoices for the cost of certification. Following this submission, a tripartite Memorandum of Agreement is signed among the operator, the operator's certification body, and the Regional Field Office, which specifies the terms of the subsidy. The Regional Field Office then issues payment to the certification body for its invoice and/or to reimburse the operator for fees already paid.

Results
By January 2017 of the 117entities that had requested participation in the subsidy program, 29 certified organic entities had received subsidy payments totaling almost EUR 37,500, and the rate of new applicants remained steady. Reasons for entities' withdrawal from the program include non-compliance with requirements, laboratory cost exceeding subsidies, decision to use participatory guarantee systems instead of third-party certification, and decision to fully assume the certification costs.

Pitfalls and challenges

Similar to other types of subsidies, subsidies for certification can present challenges in terms of access, especially for smallholders. When the procedure is too complicated, and not all operators are aware of the existence of this support, the actual uptake could be just a fraction of the total number of producers who are entitled to the support. Channeling support through the certifiers directly (rather than reimbursing the producers) can be a way to make it easier for producers, but there are cases where the support to certifiers is not effectively/entirely passed down to clients, which is a suboptimal use of public money.

The fully subsidized government certification option presents the advantage of guaranteeing full benefit for all operators, if the service is well staffed – which is not always the case, as the Costa Rican example shows. However, the challenge is for the government agency in charge of organic certification to develop the right competence and be able to serve the desired markets (which means, often, having all the needed international accreditations). It will also not work well in countries where there is a lack of trust and cooperation between government and the private sector and/or a culture of corruption.

Government certification is normally only granted according to national standards, which becomes a pre-requisite. However, in the market place there might be a need for the certification body to certify, or at least inspect, according to private or governmental standards in other markets or for categories of production not covered in the national

standard. It is often hard for a government agency, which works according to set administrative regulations, to provide such services.

Especially because government certification for the domestic market usually has no oversight, the credibility and competence of the government agency providing certification is a crucial factor. Even if not strictly demanded by the market, obtaining IFOAM Accreditation is one of the most effective ways for a government certification program to verify and demonstrate competence.

In case the government wants to provide technical support for certification, e.g. for the setting-up of Internal Control Systems, in a system which is intended for international recognition, this should be provided by a different agency/unit from the one doing public organic certification. This is in line with the international principles of separation of advice and certification functions. If the public certification system is only intended for the domestic market, there can be more flexibility: governments may develop, in close discussions with private organic stakeholders, whatever system they feel would provide the credibility needed in their own national context.

d. Support for organic vocational training and academic programs

Political justification

Organic agriculture is knowledge intensive. In the past few decades, in many parts of the world, agricultural education at various levels (in schools, universities, extension) has focused on conventional methods with high use of agro-chemical inputs, high yielding varieties, new plant breeding techniques, optimization of animal weight gain without consideration for animal welfare, etc. A lot of the knowledge dispensed through these agricultural education channels is not relevant to organic farming, or opposes it. To accompany the growth of the organic sector in a country it is crucial to develop organic agriculture education parallel to conventional agronomy and animal husbandry. In many cases, organic knowledge will also benefit people who might work in the conventional sector, in particular when it comes to improving the sustainability and resilience of conventional agriculture as they may pick up some useful ideas and concepts from organic agriculture. Therefore, it is an efficient use of public funds to include organic agriculture or agro-ecological approaches as a voluntary or compulsory component of agricultural vocational training and academic programs.

Suitable contexts

Similarly to organic research and extension, the development of organic vocational training and academic programs is suitable to all contexts and policy objectives, with the exception of very early stages of organic development where there isn't even yet enough knowledge in the country to set-up such professional education programs. At such early stages, people who want to specialize in organic agriculture would typically go abroad for studies. After some domestic universities have accumulated experience working on organic agriculture research and projects, and there are experienced organic professionals in the country, specific organic courses can be set-up and demonstration sites can be established.

Possible modalities of implementation

The ideal scenario is to combine mainstreaming of organic agriculture through compulsory courses in all agricultural education programs with offering specialized organic agriculture diplomas and degrees. That way, all agriculture students will achieve a basic level of understanding of organic agriculture, while some students can specialize further in organic agriculture.

The creation of special organic agriculture departments within existing agricultural universities is a best practice to ensure a stable pool of organic experts, who can work both on organic education and on organic research. This is common practice in EU countries and in a few other countries (e.g. Tunisia). Certain governments have gone a step further and established fully organic agriculture universities (e.g. recently Gujarat state in India).

A dedicated university or university department offering a specialized MSc in Organic Agriculture (or agro-ecology or similar terms) such as at the university of Kassel, Witzenhausen/Germany, the university of Berkley, USA or the Azad University, Karaj, Iran, is a real asset for the country, but it is also very important to offer organic specializations in lower-level education programs, such as diplomas and even school programs in areas where many school students will end up working in agriculture. Austria, for example, offers excellent organic vocational education with many 3-year vocational school programs specializing in organic available around the country.

When a whole degree/diploma in organic agriculture is not possible, a good starting point is to offer at least some optional specialization in organic agriculture in regular agriculture degrees (e.g. Belgium started offering organic farming options in agriculture diplomas in the late 80s).

One interesting format is the cooperation among various universities to offer a degree program in organic agriculture: this format is well developed in the EU with at least two such European programs[70]. In these programs, students complete their organic/agroecology degree in multiple universities and are awarded a double degree

70 Those are the EUR-Organic (the European Master in Organic Agriculture and Food Systems involving five universities), and the ISARA-NMBU-WUR MSc program on organic agriculture and agroecology.

from two of the participating universities. This enables pulling resources together so that universities can offer an organic specialization even if they do not have the sufficient resources to provide it by themselves.

Governments may also support organic vocational training in the form of grants and subsidies to specialized organic vocational training programs that may be run by NGOs. One example is CRABE in Belgium, a local development association involved in organic agriculture development since 1980. It started offering vocational training in organic agriculture in 1984. Those vocational training activities continue up to now, within the framework of a program to combat unemployment (co-financed by Belgium public institutions and by the European Social Funds). Training in organic agriculture is a full-time one-year education program that is free of charge (and with unemployment & education benefits from the Belgium government) for young people, unemployed people, agricultural workers and people wanting to start organic farming.

On-the-job training for people who are already agricultural professionals is another format, especially relevant for staff of extension services. Such training can be organized and/or financed by the government. This was done in Austria in the late 1990s, where the Ministry of Agriculture started offering both a certificate for advisors in organic agriculture and further in-service training on organic farming and related topics such as animal welfare.

Public institutions can also support time-limited projects that include cooperation between organic training institutions to produce common educational systems and materials. There have been several such cooperation projects funded by the EU[71].

Similar projects can also be funded as development-cooperation projects. A case is the project "*Development of Institutional Capacity in Organic Agriculture*" funded by the England Africa Partnership (EAP) program of the UK Department for Education and Skills. The project partners were OAPTIN (the Organic Agriculture Project in Tertiary Institutions in Nigeria) and Coventry University in the UK. OAPTIN is a network launched in 2005 by a consortium of Nigerian universities aiming to improve the contribution of education institutions to organic agriculture in Nigeria. The project developed an organic curriculum and teaching materials suitable for Nigerian Tertiary Institutions, and provided capacity building for university staff. This project was then replicated more widely in West Africa under an EU co-operation project, "Institutional Capacity Building for Organic Agriculture in West Africa". Under this project, a three-week "Concepts of Organic Agriculture" workshop acquainted university lecturers with the basic principles of organic agriculture.

Another development cooperation project in Nigeria, the *"Work, Earn and Learn Programme for Developing Entrepreneurship in Organic Agriculture among Graduates in Nigeria*", provided hands-on experience through work and provided teaching on new

71 One is the EcoNewFarmers project between 2014 and 2016. It included seven partners from seven EU countries produced a curriculum for a mobile learning course on ecological farming, and a database of institutions and trainers focus in ecological farming. Another such EU-funded project is the Euro-EducATES project, initiated in 2015. It aims to develop and disseminate common and innovative European educational tools on agro-ecology for agricultural teachers and trainers.

skills and attitudes for gaining access to markets. It included 4 weeks of intensive courses, followed by 3 weeks of internship in the private sector, visits to successful organic businesses overseas, mentoring to develop a business plan and support for business start-ups, marketing etc. Following the course, 69% of trainees opted to start their own small-scale businesses in organic agriculture.

Country examples

European countries are increasingly supporting the integration of organic education in public institutions. There are study courses and specialized degrees in organic farming at various state universities and universities of applied sciences across the EU. The most reputed are Wageningen University in the Netherlands, the University of Hohenheim in Germany, the Organic Agriculture Faculty of Witzenhausen attached to the University of Kassel (Germany), the Aarhus University in Denmark, all of which offer MSc qualifications in Organic Agriculture, and the Norwegian University of Life Science, which offers a MSc in Agroecology. Additionally, there are a number of European organic/agroecology double degree programs set up through a cooperation of various European public and private universities. Usually, (the few) countries in the EU that do not offer a special organic agriculture degree have at least some education programs offering a specialization option in organic agriculture.

Moreover, financial support is also often given by national governments to develop or improve teaching materials on organic farming for secondary schools, for example in Austria, Estonia, Germany and Spain.

Austria has well-developed organic agriculture education opportunities for more than 25 years, including higher education agricultural training, but also many vocational school programs. Since 1994 it has included training in organic farming in the curriculum for secondary agricultural colleges across the country. Nearly all the agricultural universities offer options to study organic agriculture.

In **Switzerland** almost all agricultural schools have offered a course on organic agriculture since 1996. See more information in the Best Practice text box below.

In **Serbia**, following the implementation of the National Action Plan for Organic Production Development of 2011, organic agriculture was introduced in primary education. There is also a one-year Masters Course in Agriculture at the University of Novi Sad, and there are discussions to introduce organic agriculture in high school curricula.

In **Bulgaria** the national Agricultural University in Plovdiv has started organic activities in 1993, establishing the first organic pilot farm and providing organic training. The university has been a pioneer and major contributor to the development of organic farming in the country, with a group of academic professors creating the first Association for Organic Agriculture, which farmers have subsequently joined.

The rest of the world is somewhat lagging behind Europe in terms of integration of organic agriculture in public education programs, but several countries have started the process in the past 10 years.

In the **USA**, in 2009, Washington State University became the first university to offer students a major in organic agriculture. Today, there are at least eight land grant universities that provide students the option for an organic major, minor, or certificate. In **Canada**, a number of universities and colleges also offer organic programs.

In **Australia**, Charles Sturt University offers a Bachelor in Ecological Agricultural Systems and a Master and Doctor in Sustainable Agriculture, all of which can be studied extramurally. Other universities in the country have organic units within their Master of Agriculture programs, and options for organic research at PhD level. There are also a number of organic education opportunities in **New Zealand**, whether at the certificate level or in the form of a specialization at a higher education level.

In **India**, almost all agricultural universities offer some education in organic farming, and some offer a full course. Himachal Pradesh Agricultural University in north India and the 4 agricultural universities in Karnataka (south India) have set up departments of organic farming. In 2016 the State of Gujarat announced it would set up India's first university exclusively dedicated to organic farming and research. Initial funds (EUR 1.4 million) have been allocated in the state yearly budget. In the State of Sikkim an organic farming chapter is standard part of elementary school curriculum.

In **Thailand**, the state university of Maejo has declared itself the first Organic Agriculture University in Thailand. This was included in the university's 15-year plan approved in 2012. The university is converting its land to organic agriculture and is opening an organic food center on the campus where students and staff can eat and buy organic products supplied by local organic farmers. Organic agriculture is being included as a compulsory part for all agricultural students (even though students can still learn conventional agriculture methods as well).

In the **Philippines**, the Government established the Cordilera Organic Agriculture Development Center (COARDC) at Benguet State University. The program started with 10 students in 2010 who graduated in 2012, becoming the first batch of certified organic agriculturists in the province. In the school year 2013-2014, there were 41 students enrolled in the program. Other universities have also started to include an organic curriculum. Since 2012, there is also an on-line distance learning certificate course on organic agriculture offered by the University of the Philippines Open University (UPOU).

In Samoa, the School of Agriculture and Food Technology of the University of the South Pacific (which is supported by 12 island nations of the **Pacific Community**) offers a unit on organic agriculture within the course on sustainable agriculture.

The government of **China**, in its 5-year plan 2016-2020, is planning to invest around EUR 187 million in new farmers training. The training will be for farmer and farm

managers with a preference for young graduates from college interested in agriculture. The program has a focus on organic, ecological and sustainable agriculture, with the expectation to get one million qualified farmers with international market access by 2020.

In Latin America, **Cuba** has played a leading role in the development of organic content for many of its academic and technical education courses. The CEAS (Center for Sustainable Agriculture Studies) of the Agricultural University of Havana established MSc and PhD programs in Agroecology in the 1990s, and has offered a distance-learning course since 1997. Many other universities and intermediary institutions, such as the Network of Agricultural Polytechnical Institutes, now incorporate organic agriculture in their curricula.

In **Costa Rica** specific degrees are available in organic farming, ranging from short-term courses to Master's with organic agriculture specialization. The EARTH University, a private agricultural university established with the support of the Costa Rican government, has a rather innovative academic approach and teaches organic, as well as biodynamic agriculture.

In **Brazil**, there are many possibilities to study agroecology in a BSc degree or in technical courses. At least 15 universities and educational institutions offer such options. The NGO ELO has also offered a course on biodynamic agriculture since 1986, which has recognition from the Ministry of education as Post Graduate level of education and for agriculture extension.

Brazil also hosts the first Latin American School of Agroecology (Escuela Latinoamericana de Agroecología - ELAA), which is the result of an initiative of the international NGO Via Campesina, with support from the state government of Parana (Brasil), the Federal University of the State, and the **Venezuelan** government. ELAA is under the control of the Ministry of Education of Venezuela but the curriculum and pedagogy are decided upon by Via Campesina Brasil and Via Campesina International. Similar schools have been created in Venezuela, Paraguay, and Colombia all still with support from the Venezuelan government.

In **Mexico**, 4 universities offer engineering degrees in agroecology. The most renowned is the public university of UACh (Universidad Autónoma Chapingo), which has pioneered the teaching of agro-ecology in the region and influences other agricultural colleges beyond the country.

In **Colombia**, in the nineties, the public education system started including organic agriculture and agroecology in different academic programs ranging from technical levels to postgraduate levels. Several universities offer specialization in organic agriculture or agroecology.

In **Peru**, the ministry of education and the ministry of agriculture support the FORMAGRO project, initiated in 2016 and implemented by SUCO, a Canadian development cooperation agency, to develop and implement agroecology educational programs in technical agriculture education institutions.

In Africa, **Tunisia** is clearly leading in terms of inclusion of organic agriculture in public education curricula, for more than a decade. For more information, see the Best Practice text box below.

In **Nigeria**, the Federal University of Agriculture, Abeokuta (FUNAAB) has started to integrate organic agriculture into their BSc of Agriculture and the organic agriculture group of the university offers a biennial certificated International Summer School in Organic Agriculture.

In **Senegal**, the Ministry of Agriculture has received FAO support of EUR 70,000 for a three-year program in organic agriculture at the Kaydar Center to train young people and help them start as organic farmers. The local municipality also provides one ha of land to these new farmers.

The **African Union** organized, in 2012, regional training workshops on organic standards and certification systems, organic production, marketing and extension support. The workshops were for participants from AU member states, in the context of its Ecological Organic Agriculture Initiative funded by the EU, Switzerland and Sweden. In addition, numerous African institutes and NGOs have been training organic farmers and extension workers for many decades. In **Kenya**, the Kenyan Institute of Organic Farming has conducted trainings since 1986. Other long-term training institutions are Gako in **Rwanda** and Kasizi Agriculture Training Center in **Zambia**.

In **Armenia** capacity building activities in organic agriculture are included in the EU-funded "Organic Agriculture Support Initiative" project started in 2015 and implemented by the Austrian Development Agency (the project also intends to integrate organic into academic curricula).

Best practice example(s)

Best Practice Example 1: Organic education in Switzerland

Despite being a small country with a small population, Switzerland was an early adopter of organic programs in agricultural education. Almost all agricultural schools have offered a course on organic agriculture since 1996. By 2009, several specific "organic agriculture" technical educational programs existed in the German-speaking part of the country, while directors of agricultural schools in the French-speaking part made an official commitment to develop similar programs in their schools.

Nowadays a 2-day organic farming course is mandatory for every agricultural student/apprentice, and optional organic specializations are always available. Twelve agricultural schools throughout the country offer organic agriculture training courses. There is also a specialized organic agriculture vocational school for (future) organic famers called "Bio-Schule Schwand".

The ZHAW University of Zürich offers a specialization in organic agriculture as part of the Environmental Engineering degree. This was initiated in 2010 in partnership with FiBL and Agroscope, the 2 leading organizations in organic research. Additionally, the University HAFL

Zollikofen offers a supplementary qualification in organic agriculture as part of the Agronomy BSc.

Further developments are still ongoing: in 2016, Bio Suisse and FiBL were working on the development of a new concept for agricultural education adapted to organic agriculture in Switzerland.

Best Practice Example 2: Organic education in Tunisia

Tunisia is the leading country in Africa when it comes to organic production and exports. For more than a decade, the Tunisian government has promoted organic agriculture development through a comprehensive set of measures, including the inclusion of organic options in agricultural education programs.

In Tunisia, there are compulsory OA courses at all higher agronomic institutes of learning. MSc degree programs in Sustainable and Organic Agriculture have been developed and offered in some of the higher institutions of learning in the country. These programs serve the dual purpose of training students in Organic Agriculture and as a way of researching organic production systems.

A diploma program in OA was developed to provide professional trainings for stakeholders involved in the country's organic sector. It is jointly conducted by the Agricultural Investment Promotion Agency and AVFA, the Agriculture Training and Extension Agency. The later is a public administration affiliated to the Ministry of Agriculture and in charge of developing and monitoring agricultural education curriculums. It supervises the 39 agricultural professional education centers spread across the national territory.

Pitfalls and challenges

Policy makers can take decisions that agricultural universities should switch to a more pro-organic curriculum. However, such top-down decisions will face resistance from the lecturers and staff of universities, most of whom have taught plant protection science, biotechnology and agronomy in the conventional way, and therefore may feel threatened by a shift in education priorities. In the case of the Kerala State in India, for example, the teachers' association at the Kerala Agricultural University, the flagship institution for agricultural education in the State, was one of the most fervent opponents to the Kerala 2010 organic policy, even though there were many teachers at the university who supported organic agriculture. Change will take time, and at the level of agricultural education, it may take up a generation of agronomists to get a real broad acceptance of more pro-organic curriculum.

The challenge of providing vocational training is always: is it going to really meet the needs of the farmers? This can be addressed by conducting a needs assessment of future trainees.

Another challenge, particularly with large-scale vocational training programs, is the availability of a sufficient number of qualified organic trainers. Often, before such large-scale training program is initiated, one needs to implement a national Train the Trainers program. The challenge is similar for inclusion of organic courses in academic

programs: in countries where organic agriculture is a new field of interest, there will not be enough qualified teachers to teach this subject.

e. Conversion and maintenance area payments for organic production

Political justification

The failure of the market to adequately recognize the delivery of public goods and the externalities of agricultural production is widely documented. In a number of countries conversion and maintenance area payments for organic farming are used and they partly address this market failure. These subsidies are given in the form of a fixed amount per ha to organic farmers or farmers in conversion to organic. The main policy logic behind such subsidies is to compensate organic farmers for the positive externalities (environmental and societal benefits) that they produce, or the negative externalities that they do not produce, through their choice of farming. Since these environmental and societal benefits (see Chapter II for more details) are "externalities", they are not fully compensated for by the premium price that the organic consumer is willing to pay for organic products. Hence, to encourage a wider adoption of organic agriculture amongst farmers, and to attempt to "internalize" externalities, some countries give subsidies to organic farmers in the form of multi-annual contracts. Subsidies are also given during the conversion period, and often these are even higher since, during this period, the farmer bears the additional costs of organic production but without the benefit of the premium prices for their products.

In early development stages of an organic sector, area payments can also provide the incentive necessary to bring a high number of farmers to convert to organic agriculture, at a time when market demand is not necessarily developed enough to pull so many farmers into conversion. This then provides economies of scale to build the rest of the supply chain on a wider basis of production supply. It can therefore create a temporary situation of supply-demand imbalance, which, if addressed by other measures to support organic processing and marketing, leads to a next-level supply-demand equilibrium for the organic sector.

Another advantage of area payments is that they can be used to modulate the development of certain types of production, and therefore encourage diversification in the organic sector, whether this comes from a risk-mitigation strategy, market expansion strategy, import-replacement strategy, or other reasons to encourage particular types of crops. For example, area payments for leguminous crops can be put higher than for other field crops, if the lack of protein feed has been identified as a bottleneck for the development of a domestic organic livestock sector.

Area payments for specific environmentally-friendly production methods such as organic agriculture fall within the "green box" category in the WTO Agreement on Agriculture, meaning that they are an acceptable type of agricultural subsidy for governments to maintain.

Suitable contexts

Organic conversion and maintenance area payments are not necessarily suitable/feasible in all contexts.

Although they can be implemented at all stages of development of organic agriculture, from embryonic stage to well developed production and consumption stages. They are considered most effective in early development stages because the market is not yet there to absorb supply (e.g. Bulgaria). Area payments are also particularly relevant in an importing country situation where the production is insufficiently developed to meet the demand.

Area payments require an agreed-upon official definition of what qualifies as organic production. Hence they will not be a suitable measure in the context of a country that has neither an organic regulation nor an officially referenced organic guarantee system. As soon as the government has referenced an organic guarantee system defining what is considered organic in terms of standard(s) and control system(s), the measure is feasible, with or without a regulation.

Area payments are typical (but not exclusive) to countries/regions with a culture of government intervention in the agricultural sector, i.e. where the government is used to or open to the idea of significantly subsidizing the agricultural sector. Area payments are a costly measure, especially when they are implemented nationwide to any farmer willing to convert, and as they need to be high enough to represent a real incentive for conversion. Additionally, area payments require detailed information about producers and a rather complex administration process, which governments with a culture of low intervention in the agricultural sector might not be willing or able to manage.

Organic conversion and maintenance area payments can link well with the various logics of policy support to the organic sector, including the production of positive externalities, increased access to healthy food, and increasing the self-sufficiency of the organic sector. They are a bit less relevant when it comes to the objective of building an export sector to earn foreign currency (as heavy spending on an export sector would cancel out the monetary benefits for the country), except as a transitional measure at an early stage in order to build a critical mass of producers that would enable the reaching of a competitive scale for exports.

Possible modalities of implementation

The most common way in which direct area payments to organic farmers have been implemented is through multi-year subsidy schemes to which farmers apply in order to get the subsidy. In most cases, there are eligibility criteria for applying to the scheme, and other conditions describing whether the subsidy is combinable or not with other types of public support, whether there is a ceiling (maximum amount per farmer), etc. The subsidy is also usually differentiated in amounts depending on various categories of production (sometimes differentiated to the crop level for certain crops), and there may be a different subsidy for areas under conversion and for already converted areas (maintenance). Some countries (e.g. Ireland, Portugal) have a degressive payment

model whereby the payment level per ha depends on the size of the organic area (the larger the area, the less subsidy per ha).

Although the policy justification of such subsidies is to compensate for environmental and societal benefits generated by organic farmers, the calculation methods used by governments to calculate the payment (for various types of production) has so far not been based on the estimation of the value of those positive externalities, but rather on compensating the additional costs and income foregone from farming organically. This approach is somewhat imposed by the WTO Agreement on Agriculture, which requires that in the case of payments under environmental programs, the amount of payment shall be limited to the extra costs or loss of income involved in complying with the government program.

In the EU, the level of area payments for organic production is defined by Member States based on the following parameters: differences in yield, production costs, prices and transaction costs. Usually Member States define a typical regional organic farm and a conventional reference farm to calculate the additional costs. In other words, those subsidies are calculated with a view to making organic production economical for the farmers, even during the conversion period. In the EU context, however, some countries were restricted in their ability to give high area payment rates (even if with the economics would have justified so) by the maximum subsidy per ha allowed under the EU Common Agriculture Policy Framework, by budget constraints, or both. As a result of those restrictions, not all country and regions are able to compensate 100% of the extra costs associated with organic farming.

Usually, conversion payment rates are higher than maintenance payment rates because the calculation includes the income foregone from not being able to sell produce as organic. In the EU, this is true in the majority of the Member States. However, 13 Member States[72] have had constant payment rates throughout the conversion and maintenance periods, which is a way of avoiding the scenario where some farmers convert back to conventional after the end of the high payment rates for the conversion period.

It is common for this type of support to be embedded in more general agri-environmental policy schemes whereby organic agriculture is not the only system supported but is however normally supported to a higher extent than other systems as organic agriculture is recognized as a sustainable agriculture best practice.

Organic livestock production has been supported through area payments for organic pastures (or more generally for extensive pastures, to which organic grazing areas belong because of stocking rate limitations under organic standards). However, this may not be the most effective way to specifically encourage organic livestock production, as producers can cash in the subsidies for grazing areas without necessarily producing much out of it. To promote organic livestock production, an alternative to area payments for pastures is per-unit payments for organic livestock. This has been

72 Austria, Cyprus, Czech Republic, some German regions, Estonia, Finland, some Italian regions, Lithuania, Latvia, Portugal (Azores), some Spanish regions, Sweden and Slovenia

used for example in Turkey, in Estonia and in 2 regions of Spain (Castilla-La Mancha and Extremadura).

In Switzerland, the direct payment system to farmers is sometimes not calculated on a *per-ha* basis, but using a more complex Standard Labour Unit Index. The Standard Labour Unit (SLU) records the overall working time requirement of a farm using standardized factors. The agricultural area is one factor that comes into the calculation of this index, but in combination with many other factors. This calculation index[73] is meant to be a fairer way to support small labor-intensive farms than the area calculation alone, especially when lower limits are applied as a criterion for accessing subsidies. Instead of requiring a minimum farm size, like in the EU, to access subsidies, Switzerland requires a minimum of 0,25 SLU – this is in order to exclude hobby farms from direct payments. In the canton of Tessin, a one-time payment is granted based on this SLU index to farms wanting to convert to organic. The payment has a ceiling of EUR 13,700 and is conditioned to the farm committing to farm organically for at least 10 years.

Although the most common case is to link organic area payments to organic certification (as a proof of who is farming organically), there are a few experiences of countries that have de-linked it from the obligation of certification in an attempt to encourage a broader uptake of organic practices. This was the case in **Japan**, in which direct payments for organic farmers are allocated also to non-certified organic farmers who follow the simplified definition of organic (as per the OA Promotion Act) as not using inputs other than those listed in the Organic JAS regulation, not using GMOs and following sustainable agriculture production guidelines issued by the provinces (be registered as an Ecofarmer). There are free-of charge inspections by the local governments to verify compliance with the above, but that is not an organic certification inspection. **Denmark** has also experimented with a similar system of decoupling area payments from certification, whereby payments were given under the Environmental Farming Scheme to farmers who did not use pesticides and who reduced nitrogen application rates. However, this system was changed due to very low uptake by farmers other than those certified organic, and the fact that organic certification in Denmark is already a service provided for free by the government. The payment scheme is now reserved only for certified organic farmers. **Sweden** also had for a long period a system of area payments that supported non-certified organic farmers, but those would get only 50% of the payments – this was a modality that was promoted by the certification body Krav at the time of design of the scheme in an attempt to encourage farmers to get certified in order to bring more organic products to the market. Under this payment scheme, non-certified organic farmers were controlled by random checks by the country authorities (similar to other agro-environmental subsidy schemes). This system however was forced to end in 2013, due to a change in the EU CAP regulations. In the new rural development program (2014-2020), payments for organic farmers are only for certified farms.

73 This index is called “unités de main d’œuvre standard (UMOS)”. More details on this index is available at https://www.blw.admin.ch/blw/fr/home/instrumente/grundlagen-und-querschnittsthemen/sak.html

Country examples

Conversion and maintenance area payments have been the cornerstone of public support to organic farming in Europe and an important driving force for the expansion of organic farming over the last two decades. This type of government support for organic farming began in the late 1980s, with national initiatives in countries like Denmark, Austria and Switzerland, as well as programs in a few EU member states under the framework of the 1988 EU Extensification Program. After organic farming was legally defined at the EU level in 1991, payments to organic farmers for conversion to organic or maintenance of organic management became widespread across EU countries under the "agri-environmental payments" scheme in the successive Rural Development Plans[74]. **All EU member states**, except the Netherlands, now provide area conversion and/or maintenance payments, which is the most important type of support to organic farming in financial terms in the EU. However, not all EU countries have a clear strategy when it comes to organic area payments payment rates, and eligibility conditions and requirements vary considerably between countries. Generally, the lowest area payments are for grassland (ranging from 43 €/ha for maintenance of grassland in Sweden to 548 €/ha for conversion in Estonia, in 2015), followed by arable land (ranging from 90 €/ha for maintenance in the UK to 800 €/ha for conversion in Slovenia, in 2015). Perennials, orchards and fruits generally receive the highest level of subsidies per ha (ranging from 160 €/ha for maintenance in Finland to 2,160 €/ha for conversion in Germany, in 2015), apart from greenhouse crops, which receive exceptionally high support rates but only in few countries (in Germany, they receive 6,000 €/ha). A more complete overview of organic area support payments in the various EU countries is available in the 2016 IFOAM EU report *CAP 2014-2020: Organic Farming and the Prospects for Stimulating Public Goods*.
In France (which has a rather medium level of conversion and maintenance area payments compared to other EU countries), this translated into a budget allocation for 2013 of EUR 50 million for area maintenance payments and EUR 56 million for area conversion payments.

Bulgaria is an example of country where organic sector development was triggered mainly through financial support (subsidies), while other factors (market demand, organic associations and social movement) were nearly non-existent. This happened after Bulgaria's accession to the EU, when the structural communitarian funds started providing financial incentives for the development of the organic sector. From 2011 to 2012, following the introduction of area payments, organic farming in Bulgaria expanded from 1054 to 2016 operators in only one year:

74 More specifically under measure f) in the 2000-2006 Rural Development Plan of the CAP, and under measure 214 in the 2007-2013 Rural Development Plan (and in the case of France under Article 68 of Regulation 73/2009, due to national budgetary strategies).

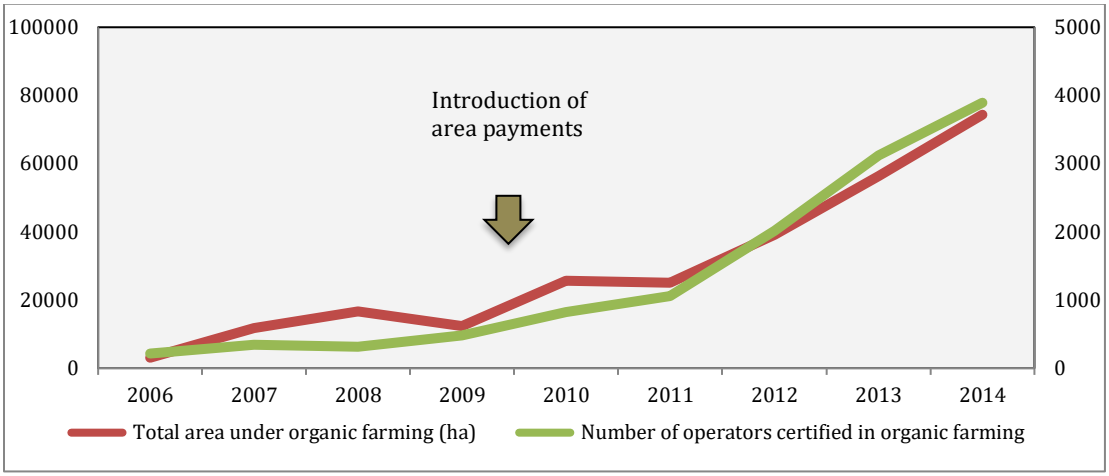

Fig. 5: *Evolution of organic farming in Bulgaria with the introduction of the organic area payments*

Switzerland also has a long history of public subsidies to organic farming. A number of cantons introduced conversion support schemes as early as 1989, which were supplemented by a national scheme in 1994. Today, federal direct payments to organic farmers are set at EUR 1,450 per ha for vegetables, fruits and wine crops and EUR 1,080 per ha for other crops. In addition, the various cantons in Switzerland have also given generous area payment (particularly conversion payments) subsidies to organic farming. Conversion subsidies vary between a few hundred Euros per ha up to EUR 18,270 per ha depending on the farm dimension, the type of production and the cantons.

At the periphery of the EU, aspirant countries have also subsidized their organic farming sector. For example, **Moldova** gave extensive support to areas under conversion to organic farming in the 2007-2009 period, with an average of around EUR 5,600 of subsidies per beneficiary farmer in 2008, a rate of subsidies that was higher in many cases than those of the EU Member States. As a result, organic exports rose to 11% of all agriculture exports from Moldova, but in 2009, it was followed by a drop in the number of organic producers when a general economic crisis erased the subsidies while domestic demand for organic was not yet developed - an objective which the government subsequently worked to address.

Turkey also provides area payments to organic farmers. Organic farmers receive area support payments for environment-friendly farming and culture techniques, under Decision No. 2012/3106 on Agricultural Supports of 2012 and the Notification No. 2012/60 on Support Payments for Organic Farming. In 2013, payments for organic agriculture amounted to around EUR 200 Euros per hectare for fruits and vegetables, and EUR 40 per hectare for field crops.

Direct area payments to organic farmers have also been used by a few countries outside Europe. **South Korea** is one example with its "Direct Payment System for Eco-friendly Agriculture" which has been implemented since 1999. This policy supports farmers who have obtained a certification for eco-friendly agricultural products (this encompasses both organic and no-pesticide schemes). The amounts for direct payment

per ha in 2010 were around 500 €/ha for organic fields, and EUR 421 for pesticide-free cultivation.

In **Japan**, the government has given direct payments to organic farmers since 2011 as part of the broader Ecofarmer program. Payments for organically cultivated land amount to around 600 €/ha, and since 2014, this support is combinable with support for other organically-compatible practices (such as application of compost for another 600 €/ha). However, these amounts are very small in comparison with the general agricultural subsidies given to farmers in Japan.

In **India**, under the Paramparagat Krishi Vikas Yojana (PKVY), farmers that participate in clusters comprising 50 acres of organic land can receive a total subsidy of around 275 Euros per acre for the first three years. See more information in the Best Practice Example below.

In **Canada**, the province of Quebec has a subsidy program to support conversion to organic farming with conversion area payments ranging from EUR 16 per ha for grassland to EUR 1,600 per ha for vegetable and fruit production. It is a one-time support with a ceiling of EUR 13,000 per farm.

In **Costa Rica**, the government set up, in 2007, a conversion area payment scheme that supports small and medium organic farmers for a period of three years, with a few hundred euros per ha depending on the crop (payment rate is based on a complicated formula but the minimum is EUR 77 per farm). This subsidy program is financed through a tax levied on fuel.

Best practice example(s)

Best Practice Example 1: Conversion and maintenance area payments for organic agriculture in Belgium

Belgium has a maritime temperate climate and a mixture of poor and very fertile soils. The main production includes livestock, barley, corn, potatoes, sugar beets, wheat, fruits and vegetables. A densely populated country, Belgium faces some environmental problems such as water quality and biodiversity loss. Environmental protection is high on the government agenda and due to consistent efforts, the state of the environment in the country is gradually improving. Belgium has provided important support to organic farming through conversion and maintenance area payments.

As a member of the European Union, Belgium has been subject to the Common Agricultural Policy (CAP) since 1962. Support to organic agriculture started in Belgium in 1994, with the introduction of the EC Reg. 2078/92 that provided a framework for all EU member states to implement policies to support organic farming. Agriculture in Belgium is under the authority of the regions. Therefore, payment levels have been set independently for the two agricultural regions of Flanders and Wallonia, but they have been relatively similar, particularly for conversion payments.

Since 2003, Belgium has shown a consistently high level of area payment rates for organic agriculture and these payments have played a major role in supporting conversion to organic

agriculture. Although starting at a small level compared to neighboring countries, organic agriculture in Belgium has experienced steady growth over the past decade, with roughly a tripling of the area under organic production between 2005 and 2014. The regions have projected high organic growth rates, allocating increasing budgets for the organic subsidy portfolio over the years, and this has enabled continuity in subsidy allocation.

Conversion area payments in Belgium have been in the range of 300 €/ha for grassland, 450 €/ha for arable land, and 900 /ha for horticulture and arboriculture. However, there has been some variability around those figures depending on the region, the CAP period and the degressivity aspect - Wallonia has a degressive payment model whereby the payment level per ha decreases when the farm organic area increases. Nevertheless, payments have remained in the same order of magnitude between 2004 and 2014.

Best Practice Example 2: India's Paramparagat Krishi Vikas Yojana (PKVY)

For many countries, especially those in the developing world, it will not be financially possible to provide area payments to all organic farmers. India is implementing an alternative scheme that provides area payments to farmers based on the objectives to support domestic organic market development and participatory guarantee systems. The subsidy, about EUR 275/acre for three years, is provided to farmers who are organized in clusters and collectively holding 50 acres or more of organic land. The subsidy covers a variety of costs, such as input purchase and harvesting and transportation costs. Certification costs are covered by the government in a separate program. Subsidies are awarded on the basis of applications for subsidy from the organizers of the clusters, which are administered by the Indian States. A 3-year national budget for PKVY of about EUR 55 million is allocated to Indian States based on a weighted formula taking into account the State's percentage of cultivated land, number of small/medium farmers, area under organic cultivation, and existence of a declaration and work plan for implementing an organic program. The program for North-Eastern States is administered regionally in the context of a special mission for organic farming. The aim is to form 10,000 clusters in the period 2016-2019 and bring about 500,000 acres of agricultural area under organic farming.

Pitfalls and challenges

The biggest challenge in the adoption of area payments for organic agriculture is often the lack of sufficient government budget resources to finance such a measure. It is more likely to be feasible (and considered acceptable public expense) in the context of countries that already have a culture of providing subsidies to the agricultural sector. This is rarely the case in developing countries. Another problem for least developed countries is the difficulty for farmers to apply and for governments to administer the scheme. The payment schemes require application by the farmer and submission of information. This is a barrier to implementation and therefore effectiveness of the programs, particularly in countries with high percentages of smallholder farmers (many who may live in remote villages) who may lack capacity to apply.

Another challenge in terms of budget allocation is for the government to correctly predict the uptake of the subsidy scheme. A dramatic illustration of this problem is the case of **Romania**, where the government estimated that about 300 very small farmers (less than 5 ha) would convert to organic farming based on the area payment conversion subsidy scheme that was adopted in 2010 and that foresaw a subsidy of EUR

1,500 (maximum) per farm for those small farmers. However, more than 7,000 farmers in this category applied for the subsidy scheme, of whom 6,550 were eligible. Because the government had budgeted a fixed total budget for this subsidy scheme, the strong uptake of organic farming led the payment per farm to drop from a maximum of EUR 1,500 to a maximum of EUR 80 per farm. This was a huge disappointment for farmers who had signed a commitment to practice organic farming for at least 5 years. Because of the time it took government to respond to the situation and communicate the drop in payments, another huge uptake of organic farming occurred in 2011 (raising also the organic export value from EUR 100 million in 2010 to EUR 200 million in 2011). Starting in 2012, after the drop in payments became public, this growth halted and even reversed.

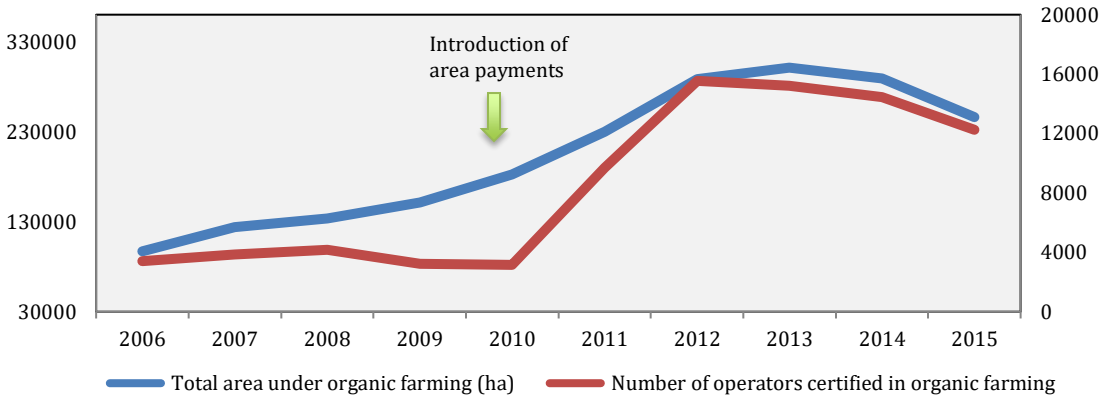

Fig. 6: *Evolution of organic farming in Romania with the introduction of the organic area payments*

An important drawback of area payments is that they sometimes tend to have proportionally more impact (encourage more conversion) in extensive farming regions or farms (where the subsidy income will represent an important revenue for the farmer) and less impact on the more intensive regions or farms for which the same amount of subsidy per ha is more negligible compared to the produce sales. This effect may be one reason why in the EU countries under the CAP subsidy system, with more marginal land and extensive systems (typically mountain areas) have reached a much higher level of conversion to organic farming than the intensive farming areas (good arable crop regions). Unfortunately this means that the subsidy scheme may accentuate the trend whereby the most productive land remains dedicated to conventional farming, while organic farming becomes more concentrated on marginal and less productive land.

An extreme version of this problem is cases where farmers convert completely unproductive land into organic just to cash in the subsidy. This is dramatically illustrated by the "Croatia Organic Mountain story" in which, following the beginning of area payment subsidies in 2013, a farmer got 5000 Ha of wild mountain grassland certified as organic and cashed in the area payments for organic pasture land without producing anything (no livestock actually grazing that land), thereby wasting huge amount of public money and distorting national organic statistics by suddenly multiplying the certified organic area by 14 times in one year! Possible measures to

mitigate this problem include putting a cap on the amount receivable per farm, and adding requirements for a minimum number of animal head per ha for accessing pasture subsidies, but such criterion have their own limitations as well.

Another difficulty of area payment support is to ensure its continuity and stability over a longer period than political mandates. Every time the subsidy scheme is discontinued and modified, the rate of conversion to organic agriculture drops and producers fall out of the scheme. An example of this is shown in the graph below, showing the number of conversions to organic in France in the period 2000-2008. In 2002, the administrative system established by the French government to disburse conversion area payments was suddenly suspended, and replaced in 2003 by a different administrative system. The same effect is visible in 2006-2007 with the transition to yet another administrative system. Each change of subsidy scheme (even if the amount of subsidies remain the same) creates uncertainty for the farmers, as well as difficulties for understanding the conditions to apply for support and to fill the adequate paperwork, which slows down the overall conversion rate.

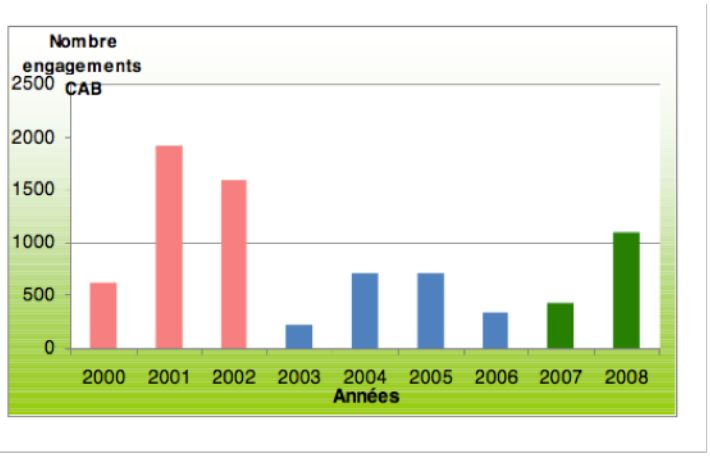

***Fig. 7**: Number of annual conversions to organic agriculture, in France (Source: ASP, 2009)*

The administrative burden of obtaining and maintaining subsidies was mentioned by 57% of the French farmers in 2009 as a main hurdle to conversion to organic farming, much ahead of technical or marketing difficulties.

The way to overcome these challenges is to develop longer-term support schemes, and to provide sufficient administrative support (e.g. through extension services) to farmers to help them understand the schemes (and changes thereof) and file their applications. More important than the level of the payments is the fact that government think long term (not just 4 or 5 years) to ensure stability and continuity of the payments.

Area payments are a very strong “push” measure. If they are not accompanied by “pull” measures, they risk creating strong market imbalance (growth of organic production without demand growth) and lead to prices falling, which in turn decreases the incentives for farmers to convert or stay organic. This effect however is tempered by the fact that, for most organic commodities, the price is now set at the level of the global market.

f. Support for agri-environmental practices compatible with organic production

Political justification

Governments can provide subsidies to support the production of positive externalities by agriculture, such as the production of environmental services, or impose regulations, fees or taxes to limit negative externalities by agriculture, such as nutrient leaching or erosion. The rationale for such policy intervention is that the market alone does internalize costs or benefits related to the environmental impact of farming practices. For example, avoiding nutrient leaching will save public resources in terms of water treatment, but it is often an additional cost for farmers who, without subsidies might not be inclined to perform this service. Another example is the protection of biodiversity, which is a public good that farms can promote, but again, often at an additional cost.

Sometimes, it is easier politically to obtain these general types of subsidies for precise environmental practices than to obtain support specifically for organic farms, which may exclude other agricultural systems that can also deliver environmental benefits. These types of support can still be quite beneficial to organic farmers who typically implement environmental practices. Practicing organic agriculture can be considered in some cases as a de-facto proof that the farm implements a particular subsidized practice or that it delivers equivalent services.

Encouraging a positive externality and avoiding a negative one are often two sides of the same coin. For example, the government may support (e.g. through subsidies) farmers in reducing nutrient leaching, or it could instead apply the Polluter Pays Principle whereby farmers who cause nutrient leaching would bear an additional cost (e.g. through a tax). Subsidizing positive practices has, up to now, often been the approach preferred by government, and is therefore covered in more detail in this section.

Suitable contexts

As these types of policies are not targeted directly at the organic sector, but benefit a broader range of producers (among whom are organic farmers), it can be implemented at any stage of development of the organic sector and in any organic regulatory environment. However, such measures are typically only implemented by countries that have a culture of high government intervention in the agricultural sector: countries where it is commonly accepted that the government should intervene in the agricultural markets with taxes/subsidies to correct market deficiencies and/or to economically support the agricultural sector.

It will not be a relevant measure if the only policy objective to support organic is to earn foreign currency, but for any other policy rationale, it will be relevant.

Possible modalities of implementation

Subsidies for agri-environmental measures that are highly compatible with organic production include:

- Subsidies for extensively managed grasslands[75]
- Subsidies for stabilization of crop rotation[76]
- Subsidies for preserving hedges, woodlands and other biodiversity-rich areas on the farm[77].
- Subsidies for using endangered breeds or local varieties[78]
- Subsidies for erosion control[79]
- Subsidies for animal welfare practices, including providing sufficient space in livestock housing[80]
- Subsidies for particular environmental protection areas like national parks, water sensitive areas, etc.[81].
- Subsidies for use of catch crops or green manure[82].

In general, the amount of the subsidies for agri-environmental measures are calculated, as for organic area payments under the EU CAP, on the basis of additional costs and income foregone because of the commitment to the supported practices. This was for example the case in the EU agri-environmental payments but also in the USA EQIP payments. In the EU system however, any combination of measures (such as organic area payments plus agri-environmental measures payments) needs to take into account the specific income foregone and additional costs resulting from that combination. The instruction to EU member states was that double funding (for the same mandatory practice) was not allowed.

Farmers apply for agri-environmental subsidies with a plan showing how they will manage their particular fields in compliance with the requirements set for each specific measure. Some of the agri-environmental practices linked to direct payments may need to be verified by external control of the farms (either on a sample basis or as a prerequisite for payment). This is the case in the Swiss direct payment system for

75 e.g. Belgium starting in 1995, and Switzerland starting in 1991/1993, Denmark starting in 1995, France starting in 1993.

76 e.g. Austria starting in 1995.

77 e.g. Belgium starting from 1996, Switzerland starting in 1993.

78 e.g. Estonia in the new RDP 2014-2020, Austria starting in 1995, Germany in some Länder starting in 1993-1995, Spain starting in 1996, France starting in 1994, Italy starting in 1994, France starting in 1994, Switzerland starting in 1998.

79 e.g. Austria starting in 1995, Norway starting in 1997.

80 e.g. Switzerland starting in 1993, Cataluña in Spain, Austria since 1990.

81 e.g. Spain starting in 1995-1996, Germany starting in 1993-1995, England starting in 1994.

82 e.g. Sweden starting in 1996, Belgium in which the requirements for set-aside land allowed the cultivation of green manure on those fields.

contributions to biodiversity, efficient use of resources, or animal welfare. In the Swiss system, farmers applying for direct payments for their contributions are subject to regular and unannounced controls that are organized by each canton but often delegated to independent control bodies. Farmers have the possibility to choose the control body they would like to get the control from, but the costs are partly subsidized by the public administration. In the Japanese Ecofarmer direct payment scheme, inspection is also covered fully by the public administration, at no cost for the farmers.

Country examples

In **Switzerland**, a significant share of the support to agriculture goes to farmers in the form of direct payments for agri-environmental practices. All farmers are also subject to fulfillment of minimum ecological criteria in order to qualify for support under the state agricultural policy. See more information in the Best Practice textbox.

In the **EU**, agri-environmental measures began in a few Member States in the 1980s on their own initiative, and were taken up by the European Community in 1985[83] in Article 19 of the Agricultural Structures Regulation, but remained optional for Member States. In 1992 they were introduced for all Member States in an "accompanying measure" to the Common Agricultural Policy (CAP) reform. They became the subject of a dedicated Regulation, and Member States were required to introduce agri-environment measures "throughout their territory" as part of the McSharry reforms. In 1999, the provisions of the Agri-environment Regulation were incorporated into the Rural Development Regulation[84] as part of the "Agenda 2000" CAP reform. The aim of their incorporation was to help achieve coherence within Rural Development Plans. Some of the agri-environmental measures have been, and still are very favorable to organic producers (when they are combinable with the area payments for organic agriculture, which depends on the member state). Those included subsidies for extensively managed grasslands, for crop rotations, for using endangered breeds or varieties, for using green manure, etc. (see complete list in the section on modalities of implementation). Setting land aside – a very common measure between 1992 and 2008 to address oversupply problems – is one of the measures that was not generally considered particularly favorable to organic producers, except in the case of Belgium where it was combinable with organic maintenance or conversion payments, and where the requirements for set-aside allowed such lands to be cultivated in green manure and other soil improvement crops.

Since January 2015, farmers have had to comply with new rules to qualify for 30% of the Basic Payment Scheme payment for general agriculture support. EU regulations now require 5% of a farmer's land to be set aside as an Ecological Focus Area – this new

83 Council Regulation (EEC) No 797/85 of 12 March 1985 on improving the efficiency of agricultural structures, OJ L 093, 30.3.1985, pp 1-18

84 Council Regulation (EEC) No 1257/99 of 17 May 1999 on support for rural development from the European Agricultural Guidance and guarantee fund (EAGGF), OJ L 160, 26.6.1999.

measure is called 'greening'. Organic land is seen as green by default, meaning organic farmers automatically qualify for the payment.

In 1995, Austria enacted several agro-environmental measures. The "Basic support" agri-environmental subsidy targeted 2,3 Million ha and the main requirements were to respect a code of good fertilizing practices, to maintain existing landscape features, and to maintain a proportion of grassland. This basic support measure was combinable with organic farming area payment support. Subsidies were also given for erosion control measures – which became compulsory for organic farmers to access organic area payments. Austria also established a subsidy for rearing local livestock breeds in danger of extinction, which was combinable with organic payments.

In 1995, **Belgium**, enacted a subsidy for "Late mowing and diversification in temporary grassland", whose main requirements were to not apply biocides (except certain spot treatments), to limit fertilizer use, to respect certain grazing and cutting dates, and to seed mixtures. This subsidy was combinable with organic farming area payments and has indeed benefited organic farmers. Also, combinable with organic payments was the subsidy for "Preservation and maintenance of hedges and woodland strips", whose main requirements were to use indigenous species, to replace missing sections, and to respect restrictions on trimming periods. The size of the payments depended on the length of hedges on farms.

Estonia, in its Rural Development Program 2014-2020, foresees some agri-environmental subsidies such as management of semi-natural habitats, use of endangered breeds and local plant varieties, which are deemed important measures for organic farmers, especially as they are often located in marginal areas and have a high share of semi-natural grasslands and some native horse and cattle breeds.

In the **USA**, subsidies for farms to implement conservation practices were introduced in 1985. The voluntary Environmental Quality Incentives Program (EQIP) provides financial and technical assistance to agricultural producers to plan and implement conservation practices that improve soil, water, plant, animal, air and related natural resources on agricultural land and non-industrial private forestland. The program is open to all producers, but there is a special budget reserved for organic and transitioning producers, known as the "Organic Initiative" program. To optimize organic farmers' participation in the program, the USDA provides training and resources on organic farming to the certified Technical Service Providers who help farmers develop their application for this program. In 2016, the program was supporting more than 6,800 farms with EUR 103 million in assistance. Individual subsidies are limited to a maximum of EUR 17,916 per fiscal year and no more than EUR 71,665 over a rolling six year Farm Bill period.

In **Canada**, the province of Quebec, through its program "Prime-Vert", subsidizes certain practices and expenses linked to reducing pesticide use, including the purchase of mechanical weeding equipment and anti-insect nets. The program also subsidizes the establishment of hedges to reduce pesticide contamination risks for organic fields.

South Korea, has supported biological insect prevention practices under its "Biological

Disease and Harmful Insect Prevention Project" since 2005. Its policy objective is to reduce the usage of pesticides and produce high quality safe agricultural products by converting chemical insect prevention to biological insect prevention for enclosed horticulture crops. Operators growing certain eligible crops in greenhouses larger than 3,000m2 qualify for support.

In **Mexico**, the government disburses subsidies for environmental services such as carbon sequestration, water protection, and biodiversity. These are large subsidy programs. For example, between 2001 and 2012, the Ministry of Agriculture invested EUR 27 million into the Soil and Water conservation program, with around 1,4 million producers benefiting. Many organic producer groups have benefited from those subsidies.

In **Colombia**, the Checua project has supported since 1998 soil and water conservation practices and more generally conservation agriculture with a focus on ecological and organic approaches. The project has been implemented by Colombia's Cundinamarca regional corporation (CAR), a government agency in charge of enforcing the country's environmental related policies, in partnership with the German Ministry of Cooperation. It has produced results that are widely recognized within the country and beyond.

In **Japan**, the Ecofarmer Program is a direct payment scheme established in 2011 aiming at encouraging soil building practices and reducing the use of chemical fertilizers and pesticides. Farmers must use alternative measures such as application of organic fertilizers, mechanical weeding, and they must restrict chemical inputs to 50% or less of the amount commonly used in the region. Ecofarmer registration is required for organic farmers to apply for area payments for organic farming. However, the Ecofarmer program is not only a subsidy scheme but also a product label scheme, whose certification costs are entirely covered by the government (unlike for organic farming). In this respect the program competes with the organic label, both in terms of farmers' incentives and in the market place (see more in Chapter VI, section 4).

Best practice example(s)

Best Practice Example: Agri-environmental measures in Switzerland

In Switzerland, the overall support to agriculture is strongly oriented towards the payment for environmentally sustainable and animal welfare practices. For several years, agri-environmental direct payments have represented a significant and growing share of all direct payments received by farmers (e.g. about 23% in 2012-2013 before the system reform and about 34% in 2015 under the new system).

All direct payments to farmers (whether organic or conventional) are subject to the fulfillment of certain ecological criteria that are highly compatible with organic farming. These include a demonstration of farm nutrient balance (no over-application of nitrogen or phosphorus), 7% of the farm area being set aside for biodiversity, crop rotations, measures against soil erosion, and pesticide use restrictions. Once the baseline conditions are fulfilled, farmers can receive direct payments for various socio-environmental contributions, many of which are also highly

compatible with organic farming: extensive grasslands, hedges and other biodiverse areas, the non-use of herbicides, etc.

Agri-environmental payments in Switzerland gained importance in the same period as in the EU: in the early nineties. Subsidies were created for measures such as maintaining "nutrient-poor ecosystems and flower rich hay meadows (ecologically diversified areas)" or "extensive management of hay meadows, hedges and shrubs". Both payments were combinable[85] with organic payments. The requirements were to use only organic fertilizers and no pesticides, and there were some restrictions on cutting[86]. These measures have been regularly adjusted over the years, but the principle of direct payments for environmental services remains, with a particular focus on landscape maintenance and biodiversity protection. In 2015, direct payments to farmers for diversity protection measures amounted to EUR 357 million.

In terms of animal welfare promotion, Switzerland also has had subsidies for a long time, for example for "controlled free range system" which requires animals to have pasture access. Started in 1993 with poultry added in 1997, this payment was combinable with organic payments. Another subsidy for "animal welfare friendly housing system" started in 1996, requiring deep litter/straw yard housing systems. It was also combinable with organic payments. Again, the measures have slightly evolved over the years but the principle of direct payments for animal welfare friendly housing system and access to outdoor areas, remain. In 2015, direct payments to farmers for animal welfare measures amounted to EUR 245 million.

In Switzerland, collective projects can also be set up by cantons in order to achieve water protection objectives, whereby farmers are compensated (on the basis of additional costs and income foregone) for reducing or not using fertilizers and pesticides. This again benefits organic farmers although it is not exclusively reserved for them.

While the effectiveness of agri-environmental policy measures in Europe in general has been widely debated, Switzerland's agri-environmental policy has shown a comparative effectiveness at motivating farmers to provide environmental services. It should however be noted that the Swiss direct payment system also contains area payments for organic farming that can be combined with the aforementioned agri-environmental payments.

Pitfalls and challenges

One of the main challenges of agri-environmental subsidies, from the point of view of the organic sector, is the risk that they compete with organic subsidies if the set-up is such that the measures are not combinable (producers are not allowed to combine both subsidies). So, even if the intent of the subsidy is very compatible with organic farming, the incentive effect might distract from conversion to organic. One example is the subsidy given by Austria (starting in 1995) for farms that did not use "yield increasing farm inputs" for which the requirement was basically not to use any input that was not allowed under the organic regulation. Since this was not a combinable measure, it competed with organic in terms of farmers' incentive to convert to the full range of (certified) organic practices. See Chapter VI, section 4 for more examples of environmental subsidy schemes that competed with organic.

85 This means that an operator could get both supports for the same land, if applicable.

86 In the current version of those measures, fertilization is further restricted.

This competing effect is also increased if the other schemes are also market oriented and their products are promoted in the market place. The Japanese Ecofarmer scheme is only one of many such schemes developed, in particular in Asia.

On the other hand farmers who participate in these kinds of schemes may quite easily convert their production to organic, it can act as an organic incubator. In some cases they could do that without a full conversion period, depending on the exact rules of the scheme and the organic standard in place, which means that they could very rapidly become certified organic farmers if there is a sufficient market demand.

Even if the measure is combinable, subsidies may compete with organic if there is a ceiling for the total amount of subsidies that can be given per farmer or per ha: in the case where this ceiling is relatively low, combining organic and agri-environmental subsidies might not be so much more advantageous than having only agri-environmental subsidies.

Agri-environmental measures should not be a replacement for more general support to organic agriculture. For example, a switch away from organic area payments to a purely segmented agri-environmental measures payment system (even if each agri-environmental measure taken individually is fully in line with organic standards) would represent a risk of organic sector stagnation in a context, like the EU, where organic farmers have enjoyed dedicated support lines. Indeed, a system of payment for small indicator performance may only encourage "subsidy optimization" behaviors on single environmental aspects leading to segregation of ecosystem services and production, and not to holistic sustainable farming management systems like organic agriculture.

In a policy environment where support to the farming sector is very varied and complex (many different measures and application procedures), it can also be a challenge to make organic operators aware of all the possibilities of subsidies and to persuade them to go through the application bureaucracy necessary to obtain the subsidies (even when they correspond to practices they are already implementing). This challenge was for example identified in the Estonia support system.

Complexity and multiplicity of agri-environmental support measures are not only a problem for farmers: they represent important administrative costs for the government. In cases of multiple policy targets that are well served by organic farming, it may be more efficient, from a societal cost point of view, instead of using too many different agri-environmental subsidies, to use multi-target policy instruments such as organic farming area payments[87].

In particular country situations there is a challenge in the administrative implementation. For example, in India, under the National Project on Management of Soil Health and Fertility, financial assistance of around 7 €/ha is offered to promote the

87 For a detailed economic explanation of this argument, see Schader C. et al, 2014, *The role of multi-target policy instruments in agri-environmental policy mixes*, in Journal of Environmental Management 145 (2014).

use of organic manure and provided on the basis of project proposals received from States. However, several reports indicate that although subsidies are allocated, they are not reaching farmers.

g. Tax breaks for organic operators

Political justification

A tax break targeted to organic operators is a way to incentivize organic businesses and favor private investment (and potentially attract foreign investment) in organic operations, in recognition of the positive market externalities that such operations generate. Although tax breaks for organic operators may be subject to qualifying criteria and conditions, one advantage of tax breaks is that they do not distort so much the production and business choices and they leave operations the freedom to make investment decisions based on market opportunities. Reducing income tax is a way to increase return to capital and labor, and therefore to encourage more investment, as well as job creation in the organic sector.

A low tax level on the organic production and processing sectors also has the effect of increasing international competitiveness and therefore favoring export activities, or import substitution, while still remaining within the realm of WTO-compatible measures.

Tax breaks can also be a useful complement to area payments, especially to support organic farmers with very small land area who would not otherwise benefit substantially from area payment support (e.g. this was installed in France in 2006 and continues up to now). Income/profit tax breaks may also favor those with active management over those who are only interested in subsidies.

One advantage of tax incentives is that they do not require an actual expenditure of funds by the government. Although the economic impact of an expense and a missed income should normally be equivalent, for political and other reasons it may be easier for the government to agree to provide tax benefits for organic operators than to agree to dedicate a specific budget line for expenses towards the organic sector. Especially if a limited budget has been allocated to support the organic sector, tax incentives may come on top of this budget.

Suitable contexts

Tax breaks for organic operators can be implemented at all stages of development of the organic sector. They are however only suitable for the contexts in which there is an agreed-upon definition of what constitutes organic (who can be the beneficiaries of a tax exemption) and this requires either an organic regulation or an officially referenced organic guarantee system.

Tax breaks for organic operators are feasible to obtain in any culture of government intervention in the agricultural sector. A tax break may be an easier measure to install politically, than a subsidy.

Tax breaks for organic operators can be relevant to any rationale for policy support to organic agriculture.

Possible modalities of implementation

There are various types of taxes on which tax breaks can be applied in order to give a small financial advantage to the organic sector. In principle, a tax credit is a financial incentive that allows certain taxpayers to subtract the amount of the credit from the total they owe the state. So it produces a similar benefit as a grant, for those who pay taxes higher than the amount of the tax credit. Depending on which tax the credit is applied to, and what can be subtracted from the tax (a fixed amount, or certain eligible expenses), the effect of the tax will actually support one or the other aspects of the organic supply chain (e.g. production, processing, export, import). The ultimate version of a tax credit is a tax exemption: where the state renounces tax on organic operators or on the sales of the products targeted by the measure.

If the goal is to encourage organic production, and to support small organic farmers, a tax credit on the farm income/profit tax can be set. This can be of a fixed amount per farm (e.g. in France). An alternative to a fixed amount of tax credit is to allow organic farmers to deduct from their final income tax amount certain types of eligible farm expenses (e.g. certification or equipment). In practice, this acts as an income subsidy for organic farmers, but it may also (depending on the calculations) encourage farm investments in organic production. It is however only relevant in contexts in which farmers are paying significant income/profit taxes.

It is also possible to set a temporary income/profit tax credit or even complete tax exemption to support the initial conversion or start of an organic business. This was done for example in Tunisia, with an income tax holiday period of 10 years for new organic operations. The Philippines foresaw a similar approach with an income tax holiday and exemption for seven years for organic operations and input producers. However, this has not been implemented to date.

Another scenario is exempting certified organic land from the property tax. This is a decision that can be taken at the regional or municipal level, as this is the level usually levying such taxes. However, it is only effective to encourage conversion or maintenance in organic production if there is a requirement that landlords must pass down the full amount of the benefit to their tenants (the tenants are the ones usually making the decision about farming organically or not).

Sometimes, fiscal advantages like some of those mentioned above may not be set specifically for the organic sector, but organic investments (investments by organic operators) may be officially recognized as fulfilling the eligibility criteria for more general schemes that aim at providing fiscal advantages for “green” investments. This

was for example the case in the Netherlands with the MIA and Vamil schemes (see country examples).

Another aspect of taxation is import tariffs and exports taxes. Exempting organic exports from export taxes is one option. Applying reduced import taxes (import tariffs) to organic products or organic inputs is another. This has not been a widely used policy measure to date (but see the Norwegian example), as it requires the creation of separate Harmonized System codes for organic products. There are however other aspects of the import tariff policies that can, to some extent, favor organic imports as compared to conventional imports. In terms of market access, organic products have not yet per se received preferential access over conventional products, and there are significant tariffs on many agricultural products in most developed countries. However, many agricultural tariffs are set on a per quantity basis ($/ton) so high-value goods (like organic) face a lower percentage tariff in percentage of their value. Since 1995, many agricultural products are imported under tariff rate quotas, with in-quota imports benefiting from very small import tariffs, while imports outside the quota may face very high tariffs to the extent that they would prevent any over-quota imports from coming in, which is often the intention. Depending on how these quotas are administrated, they may favor, or not, organic imports. There are many ways to administer the quotas and countries have preferential treatments for some of their trade partners and some of the products. It is a very complex topic, and one that is subject to much politics (especially in the contexts of bilateral trade agreements that are increasingly being negotiated between countries or blocks of countries) but it may be worth looking into possible pro-organic policies on that level as well.

Country examples

France has had a system of tax credit for organic farmers since 2006. It is aimed at providing more incentives to farmers with very small land area, who would not otherwise receive significant support from area payment subsidies. See more information in the Best Practice Example textbox.

In the **USA**, the first state-funded tax credit for organic farmers was created in June 2016 with the approval of the Hawaii's (House) Bill 1689 CD 1 that allocates EUR 1.8 million to offset, in the form of tax credits, the 25% of the cost of organic certification not covered by the federal certification cost share program and for any organic farming equipment, materials, or supplies. The bill gives farmers up to EUR 44,800, in tax credits for qualifying expenses. The legislative goal is encouraging a younger generation of farmers in Hawaii, as many farmers approach the age of retirement.

Tunisia introduced a number of measures to attract local and foreign investors to organic agriculture. One such measure is a full income tax exemption through the first ten years and another 10% exemption thereafter. In the same vein, full tax relief is provided on income and benefits reinvested as part of the starting capital in organic agriculture companies.

In **Costa Rica**, the law foresees a range of tax exemptions for organic farmers. However, to date, only the tax exemption on the purchase of equipment, vehicles and machineries has been implemented.

In **Norway**, certain organic products such as processed vegetables, juices and baby foods have a reduced import tariff as compared to those on the same conventional products.

Best practice example(s)

Best Practice Example: Tax Credit for organic farmers in France

France supports organic producers within the context of the EU Common Agricultural Policy, mainly through conversion and maintenance area payments, like in other EU countries. However, since 2006, the French government added tax credit measures on top of the conversion and maintenance subsidies. In particular, this measure was deemed to provide more targeted support to very small farmers who received very little subsidy under the area payment scheme.

The tax credit was reserved for producers for whom at least 40% of their farm income came from certified organic production. The amount of the tax credit was first set at EUR 2,000 per producer and per year. In 2009, the tax credit was increased to EUR 4,000 per producer, but was then lowered again to EUR 2,500 in 2011. In any case, the tax credit could only be combined with area payment subsidies if the total did not exceed EUR 4,000 per farm, meaning that the tax credit measure is only relevant for farmers receiving less than EUR 4,000 area payment subsidies per year.

In 2009, France also allowed municipalities to exempt organic certified land from the property tax for a period of 5 years, with an obligation for landowners to pass down the full amount of the tax exemption to their tenants in the case of leased land.

Both aforementioned tax credit measures are however constrained by the general EU CAP framework. Indeed, they are "extra" support (so called "*de minimis*" aids) not foreseen in the EU Common Agricultural Policy. The EU imposes a limit to financial support measures that can be granted by Member States to their farmers on top of the subsidies foreseen in the CAP. Before 2013, the *de minimis* maximum was fixed at EUR 7,500 for 3 years. In 2014, it was raised to EUR 15,000. The tax credit needs to be added to all other *de minimis* support received by the farmer, whose total cannot exceed those amounts.

The tax credits have proved to be a relevant measure to support certain types of organic operations. Overall, the challenge of those measures, within the overall French subsidy system, is their administrative complexity. The amounts and means of calculation have changed several times depending on overall national budget debates within the French Senate. Additionally, the calculations of the *de minimis* limits, and other requirements regarding combination of several forms of support, make the application process quite complicated for farmers. FNAB, the French federation of organic farmers, has developed guidelines and tools to help organic farmers understand those procedures.

Pitfalls and challenges

There are cases (such as The Philippines, and partly in Costa Rica) where a range of tax exemption measures for organic operators have been authorized by the government but they have never been effectively implemented due to lack of uptake by the responsible ministries (e.g. custom and finance ministries) and because the administrative procedures involved are too complex to set up.

Even when the measures are effectively implemented, there remain important challenges in their uptake by operators. As with other types of subsidies that require beneficiaries to apply through an administrative process, the main bottleneck in the uptake of such support is the lack of information for potential beneficiaries: often, a significant share of farmers do not benefit because they are not aware. Communication targeted to organic farmers should accompany such schemes.

Aside from the lack of information, beneficiaries may also not apply due to the cumbersome bureaucracy needed to obtain the tax exemption (e.g. in the Philippines, organic food and input producers are exempt from all income taxes levied by the national government for a period of seven years, but in practice very few requests have come from small producers due to bureaucratic application procedures).

Corruption is another risk. The opportunity for corruption is much greater for tax incentives regimes where officials have wide discretion in determining which investors or projects receive favorable treatment. The potential for abuse is great where no clear guidelines exist for qualification. Therefore the qualifying criteria should be simple, specific and objective to minimize the discretion afforded officials that grant the incentives and to provide guidance to tax authorities charged with monitoring and enforcing the tax incentive regime.

h. Support for organic farm investment

Political justification

For any commercial sector, the quantity of private investments is a decisive factor for sector growth. Organic agriculture is no exception to this economic reality. This is particularly true for the conversion process: conversion to organic farming can be costly in terms of initial investment such as new machinery, adaptation of livestock facilities, integration of on-farm processing facilities, or organizational investments such as setting-up internal control systems for smallholder group certification. Additionally, there is another form of "investment" required during the transition period in the sense of building soil fertility and recovering from the initial yield drop: those absorb much needed financial resources at a time where the other more physical investments are also needed. This makes farm investment support a very important element to facilitate conversion.

Besides the general goal of supporting sector growth, there are several reasons that can justify public support to private investments in the organic sector, especially at the farm level (where farmers are making the individual investment decisions).

First, the acquisition of machinery and other equipment specifically adapted to organic farming is rendered more expensive for farmers than conventional equipment, due to the absence of economies of scale (such machinery is still produced in relatively low numbers). The economic argument of path dependence/technological lock-in[88] is a useful theoretical economic model in this regard, to help understand the economic processes that render a certain technology (in this case, conventional agriculture) more economically accessible, simply because it has historically been adopted as the dominant technology. New organic technologies (e.g. for weed control, organic housing systems, etc.) may not be so well tested as technology for conventional farming, and as the market is considerably smaller, it is hard to convince machinery manufacturers to develop machinery suitable for organic farming. An investment support for the farmers, or product development support for the manufacturer can make it commercially interesting. Ultimately, producing machinery for organic farms can become a lucrative business, and may even include exporting.

Second, farmers' capacity to invest in their farm is often too limited, which prevents them from making investments in favor of organic agriculture, even if these would pay off in the long run. This is particularly true in production sectors that are under economic crisis in the conventional sector: in such situations, although farmers would see the economic benefit of converting to organic (having seen that their organic counterparts are not affected by the crisis), their financial situation is already so bad that without public support, they cannot afford to make the investments needed for the conversion. This was for example the case observed with pig farms in Germany in 2015, or the more general conclusion reached by researchers[89] looking at conversion capabilities in France (concluding that successful farmers in the conventional system were more likely to convert to organic than unsuccessful ones).

Smallholder farmers are also the ones whose production systems are best suited to organic agriculture, but again, their investment capacity is very limited – another reason for public support. The higher diversity in organic production makes it harder to achieve economies of scale for specialized machinery, which is an argument in favor of supporting such investment, possibly for groups of farms together.

Suitable contexts

Support for organic farm investment is possible at any stage of development of the organic sector. It is easier in context where there is a clear legal definition of what is organic (i.e. an organic regulation or a legally referenced organic guarantee system), but it is not impossible in other cases: for example, the government may decide to give support for certain types of farm investments which are known to be particularly useful

88 https://en.wikipedia.org/wiki/Path_dependence

89 Latruffe et al (2013)

for organic operators, such as mechanical or thermal weeders, mesh nets, compost turning machines, etc.

Support for farm investments can be obtained under various cultures of government intervention, although it will be more difficult in the case of low interventionism culture.

Support for farm investment is relevant to any of the objectives for policy support to organic agriculture.

Possible modalities of implementation

Farm investments may be incentivized through various policy instruments, including subsidies, grants, loans with reduced interest rates, tax credits (see previous section), etc.

Farm investments can be encouraged on an individual basis (farmers apply for the incentives individually) or on a collective basis (incentives available for farmer groups and cooperatives that share equipment and machinery, for example). Support to groups have the potential to also foster cooperation in other ways, e.g. in marketing.

Governments can offer farm investment incentives specifically for organic farming under a program targeted exclusively for converting and expanding organic operations, as was provided in Germany and Austria.

The government may also offer those incentives under a general agricultural investment program, which may give preference to organic farmers. Examples of the later include:

- Subsidies for installation of young/new farmers, possibly topped up with additional money for organic installations, or for which they have granted additional points to organic farmers in the criteria for access to this support.
- Grants for farm investments and modernization of equipment with higher grants for organic farmers, and/or with additional points to organic farmers in the criteria for access to this support.
- Loans for farm investment with advantageous interests rates and/or higher limits for organic farmers or with priority access for organic farmers. The higher limit may not be the most relevant approach since organic operations are usually smaller. Priority access is more relevant. Such loan programs can be via government partnership with national banks, with the government role in guaranteeing the loan and/or subsidizing the interest.

Governments may also reserve farm investment incentives for certain “sustainability practices”, such as animal welfare in livestock housing investment or investments related to soil conservation. These can end up particularly benefiting organic farmers, since such practices are required in organic production.

Country examples

Czech Republic set up organic farming investment grants in 1991 and investment loans in 1992. This was in fact the main focus of their organic support at the time. In the last decade, subsidies for young/new farmers to start-up their business were given, with additional points granted to organic farmers in the criteria for access to the support. This is deemed to have played a very significant role in the growth in the number of organic farms in the country.

Under its National Development Plan 2007-2013, **Ireland** approved a Scheme of Grant Aid for the Development of the Organic Sector, which provided investment support for organic farmers and processors. The scheme still provides grant aid of 40 % of the cost up to a maximum grant of EUR 60,000 for on-farm investments or EUR 500,000 for off-farm investments.

In the **Netherlands**, the National Action Plan 2005-2007 did not have any specific budget to encourage organic farm investment but foresaw that organic operators could seek investment support (in the form of lower or tax-deductible interest rates) from general schemes aimed at encouraging environmentally-friendly investments. Investments in organic farms were eligible under 2 different schemes, namely the MIA (Environmental Investment Rebate) and Vamil (Arbitrary depreciation of environmental investments) schemes. Also, organic projects qualified for the Green Funds Scheme whereby banks, supported by the government green fund, could charge green projects a lower interest rate. Such supports were not enough to encourage conversion but have been used by many organic farmers for scaling up their operations, particularly in the growing sectors of greenhouse production, poultry and pig farming. The Green Fund scheme supported more than 1,600 organic projects between 1995 and 2009, and the fund has supported a total investment of EUR 800 million in organic farming since 2000.

In **Germany**, agricultural investment grants have been one of the main policy instruments to support organic agriculture. Specific conditions vary depending on each Länder (region), but essentially the Agrarinvestitonsförderprogramm (AFP) contained special provisions for organic farms from 2002 to 2006, after which the organic provisions were removed. However, since 2014, animal housing investment grants are linked to animal welfare provisions, which is more favorable to organic producers as the animal welfare conditions are close to those in organic regulations. Producers can get up to a 40% grant for this investment. The region of Bavaria had a similar scheme at the regional level from 2001 to 2003, under which 211 organic farms (about 14% of the scheme beneficiaries) received a combined amount of EUR 5 million. Additionally, some German regions have support schemes reserved for organic farm investments. For example, the region of Thüringen has a program – Ökolnvest – reserved for organic farmers, under which eligible investments can receive a subsidy of up to 40% and up to a maximum of EUR 800,000 per farm during the period 2015-2020.

Many other EU countries, or specific regions within countries have given similar forms of support. Some regions of **Italy** and **Spain** have granted additional subsidies for

young/new organic farmers, on top of the general subsidy for starting-up a farming business. The regions of Flanders in **Belgium** and Madeira in **Portugal** have given higher grants to organic farmers than to conventional farmers for farm investments and modernization of equipment. **Cyprus**, **Latvia, Estonia** and **Slovakia** have given additional points to organic farmers in the criteria for access to the farm investment grants. In **Estonia**, the subsidies for investments into improved performance of agricultural holdings are deemed to have been a very important support measure for organic farmers.

In **Switzerland**, various cantons supported organic farm investments, particularly linked to the conversion to organic farming. This has been done in various ways depending on the cantons. The Jura canton gives financial aid in the form of a **loan without interests** of EUR 36,535 - reimbursable over eight years- for the farming enterprises that begin their business directly as organic or want to convert to organic.

In the province of Quebec in **Canada**, financial support is available to farmers for up to 50% of the cost of building or adapting livestock facilities for organic production, to a maximum of EUR 13,000. Additionally, under a program of support to diversification and regional development, companies opting for organic farming are eligible for reimbursement of interest on a capital loan for a period of 3 years. This support can represent a benefit of up to EUR 10,000 per company.

In **Turkey**, organic farmers can receive credits with 50% interest rate cut.

In **Tunisia**, decades ago the government introduced subsidy packages aimed at increasing farmers' productivity, reducing production costs and enhancing organic product exports. By decree, equipment specific to organic farming has been subsidized by 30% since 1994[90]. The Agricultural Investments Promotion Agency (APIA) also coordinates government investments in the organic sector and helps secure government funding of organic projects in the country. By 2010, at least 52 OA projects, worth more than EUR 42 million had been funded by the government following APIA's endorsement.

In **Brazil**, subsidized credit to support investments for organic farms is one of the actions in the PLANAPO (national plan for organic agriculture). An exclusive credit line for organic agriculture[91] was launched in 2013. Under this program, interest rates are set at 2.5 % whereas rates offered to conventional operations are about 7%. There is a maximum limit of EUR 82,000 per individual farmer or EUR 206,000 for collective projects (machinery in cooperatives, etc.).

In **China**, several local governments have supported organic farm investments. For example, in 2010 Chengdu, the largest city in Southwest China, introduced financial supports for infrastructure investments such as building greenhouse facilities and road

90 Article 12 of the decree n°94-427 of February 14, 1994 (amended by the decree of September 13, 1999)

91 The so-called PRONAF-Agroecologia.

access for organic farms. The local governments of Shanghai and Beijing also have such support. The council of Agriculture of Taiwan also subsidizes green houses investments and the purchase of machinery necessary for organic farming and provides low interest rate loans to organic operators.

Best practice example(s)

Best Practice Example: Organic Investment Grant Aid in Ireland

Ireland has been supporting organic farming for more than 2 decades. From 1994 to 2006, organic farmers were supported by way of a Supplementary Measure under the Rural Environment Protection Scheme (REPS).

Under the 2007-2013 Rural Development Programme, there was a stand-alone Organic Farming Scheme. Organic farmers were also entitled to join REPS until it was closed to new applications in July 2009, and after it was launched in March 2010 they were entitled to join the Agri-Environment Options Scheme (AEOS).

The objective of the Organic Farming Scheme was to deliver enhanced environmental and animal welfare benefits and to encourage producers to respond to the market demand for organically produced food. To be eligible for this measure, farmers must have been certified organic and farmed organically for a minimum period of 5 years. The Organic Farming Scheme combined organic area conversion and maintenance payments, and investment grant-aid for organic farmers and processors.

Investment grants were available both to farmers and to processors under the Schemes of Grant Aid for the Development of the Organic Sector, which were approved under the National Development Plan, 2007-2013. The Schemes provided grant aid for new equipment and facilities for production, processing, grading, packing, storage, distribution and sale of organic products. Under these schemes 40% of the investments costs were reimbursed, to a maximum amount of € 60,000 per recipient for on-farm investments and € 500,000 for off-farm investments.

The Organic Support Scheme resulted in significant growth of the organic sector in Ireland: during the period 2007-2013, the organic agricultural area grew by 30%. Investment support is considered to have played an important role in this growth, in combination with area payments.

Support to organic on-farm and off-farm investments continues and the maximum support for on-farm investment was raised to EUR 80,000 per holding. The funding is available under the "Organic Capital Investment Scheme" as part of a broader program cofounded by the EU and the Irish government called "Targeted Agricultural Modernisation Scheme II".

Pitfalls and challenges

Investment support (especially when in the form of grants/subsidies) means that beneficiaries receive a lot of money at once (or in a short time) for being organic. The main challenge of such support policies is to ensure that the beneficiaries will really stay in the organic sector. There have been cases of some opportunistic behavior of operators becoming organic in order to qualify for the grant aid and reverting to conventional farming once the commitment is over. Options for avoiding this problem

include:

- Restricting preferential treatment to those organic farmers whose farms are wholly converted or who market their product as organic or are willing to do so should their application be successful, linking support to a long-term commitment (e.g. 5 years) and to connecting the producer to the premium organic market.
- Focusing the investment support on machinery and equipment that are specifically needed in organic agriculture, such as mechanical and thermal weeders, grinders and compost-making machinery, compost and manure spreaders, insect proof mesh, etc.

Credit with reduced interest rates lowers the risk of opportunistic behavior because the benefit is less immediately tangible, but it has other disadvantages. Some countries (such as Costa Rica) have authorized such a support measure but did not implement it, due to the lack of cooperation with/by the banks. Unless the government covers the gap in profit by compensating the banks for the reduced interest rates they offer to organic operators (e.g. in the case the Netherlands Green Funds Scheme), those banks hardly see a reason to offer such discounts. The case has even been reported, in Denmark, of banks encouraging meat producers to skip organic production (considered a higher risk) in order to get credits.

Reduced or no-interests credits are particularly beneficial in contexts of high interest rates and in areas where access to finances (for farmers) is difficult (this is, for example, often the case for smallholders in Africa). However, in times and places where interest rates are generally low and access to credit is easy (this is for example the case currently in the EU and USA), the impact of such support measure will be limited. Even when the credit lines are (theoretically) open, it does not guarantee that the benefit will reach the producers; there can be problems in the uptake of those schemes. For example in Brazil's case (see country examples) data for the years 2005 to 2010 shows that the total resources granted by PRONAF - Agroecologia were only EUR 3.1 million, through 979 contracts, and that 40% of the budget allocated went to the Northern Region (mostly to the State of Pará). This represents less than 1% of the total agricultural credit for family farmers granted in the same period, indicating that conventional production systems received more resources through other credit lines. It is likely that this is related to difficulties in accessing credit due to:

- the lack of awareness and preparation from financing institutes (due to the need for a differentiation in the budgets and plans for requesting credits for diversified production systems, which are often also smaller than conventional ones) and
- the lack of awareness on the side of the producers, who do not know about the mechanisms or do not have the capacities to develop the projects to request credit (capacity building for rural projects to request credit has also been an issue).

i. Support for farm income diversification and agro-tourism

Political justification

Farm (or village in case of some developing countries) income diversification is the process of reallocation of farm resources (i.e., land, labor or capital) into new non-traditional crop or animal production, into processing, packaging and other forms of value addition (including new forms of marketing), or into non-agricultural activities developed on the farm, such as agro-tourism, education of children, etc.

Encouraging farm income diversification is typically a rural development oriented measure. Important challenges faced by rural areas are low income, income uncertainty (when based on sale of variable harvests at variable prices), as well as low appeal of agricultural occupations for the younger generations. These factors contribute to all the problems associated with rural-urban migrations and human "desertification" of rural areas.

Supporting farm income diversification is therefore a way for governments to tackle those problems at the root by encouraging a rural economy structure that provides more income and job diversification opportunities for farming families. Job diversification is a way to valorize the rural lifestyle, keep the value addition on the farm/village and provide also non-agricultural job options in farming areas. Diversification of income also helps to make farms more resilient by reducing the farm's dependence on commodity prices. This ultimately helps to reduce stress and retain people in rural areas.

Additionally, diversified farms such as those farms combining farming and agro-tourism, or farming, food processing and direct marketing activities (on-farm shop, etc.) are often more diverse agronomically and more attractive visually. This contributes to maintaining beautiful rural landscapes.

Finally, diversification often means that the farm is going beyond a simple food commodity production role, and instead develops other linkages with the society at large (consumers, tourists, school children, etc.). This contributes to improving the public's knowledge and understanding of agriculture and its associated culture and traditions, and the connection of urban people to the countryside, which is useful to societal cohesion at large.

There is a global rise of eco-tourism and agro-tourism. This trend can provide an economic opportunity for countries to derive foreign revenues through activities that enhance the natural, cultural and social integrity of their rural areas.

Public support to farm income diversification and agro-tourism usually benefits organic farms disproportionally, since they fit better with the societal ideal of farming. Their diverse landscapes and non-toxic environments are attractive to the public. Encouraging agro-tourism on organic farms is also a very good way to support market development and create new demand for organic products, since urban tourists can

discover attractive alternatives to industrial food production, build a relationship with the organic way of farming and transpose the positive picture acquired during their holidays into an every day consumption choice once back in their daily life. Hence such general support measure, even if not targeting organic agriculture specifically, can have a positive impact on developing and maintaining organic farms.

Suitable contexts

Support for farm diversification and agro-tourism can be implemented at various stages of development of the organic sector, but in very early stages of development it may not be a priority line of action in terms of its relevance for the development of the organic sector.

It can be implemented in all types of organic regulatory contexts. This measure tends to fit more interventionist types of government culture. The measures can often fit under budgets other than the agriculture budget, such as rural development, SME development or tourism. Projects can also be municipal or regional in scope.

Supporting farm diversification and agro-tourism is an indirect way to support organic agriculture but can be relevant to the various objectives of organic support, except the objective to earn foreign currency through organic exports.

Possible modalities of implementation

The issues of farm diversification and agro-tourism can be dealt with through individual farm incentives. The classical set of incentives (grants, subsidies, loans with zero or low interests, etc.) can be used to support farm diversification and eco-tourism. Such incentives can be given in a general rural development policy context, or the measure can apply only to organic farmers, or organic farmers can be given priority access in the case of a competitive scheme.

Alternatively, the national or local government may deal with farm diversification and agro-tourism issues through a collective approach, supporting community projects and investments to set up other income generating and agro-tourism related activities at the village or district level, like in the cases of Indonesia or Italy. A regional approach to agro-tourism development may include promotion of the region's organic farming image.

Country examples

In the **EU**, the Rural Development Program of the Common Agricultural Policy, Measures 311 and 313 in the 2007-2013 CAP and measures 6, 7 and 16 in the 2014-2020 CAP aimed to diversify the rural economy through grants for the introduction or expansion of service activities (e.g. bed and breakfast), craft activities (e.g. production of local produce), trade activities (e.g. creation of farm shops where self-made products are sold directly to consumers) as well as tourism activities (e.g. information centers or

recreational infrastructure). Some of the EU countries have recognized the added value of organic farming to achieve those objectives, and have therefore granted preference to organic applicants for such measures (e.g. Czech Republic). In the case of the Czech Republic, projects related to organic farming are awarded higher points, which may increase the likelihood of receiving support. Projects are supported in a municipality with not more than 2,000 inhabitants. The minimum total eligible expenditure is about EUR 2,000 per project. Grant levels differ depending on the size of the enterprise and region and range from and 30-60 % of the eligible expenditure.

Bali, in **Indonesia**, has defined agro-tourism development as one of the strategies to improve sustainable agricultural production and to reduce carbon emissions. Since as early as 1995, local governments in Bali have been supporting community-based agro-tourism projects and allocated funds for capacity building activities as well as the building of facilities and communication materials related to agro-tourism. The government is encouraging tour operators to create new tourism packages highlighting the Bali's Simantri program of organic farming, which is in line with the island's efforts to become a green and eco-friendly province. Visitors who purchase the packages will have the opportunity to visit villages where organic farming and green small industries are being developed.

A slightly different approach, but interestingly linking agro-tourism and organic agriculture, is the concept of Biodistrict as implemented in **Italy**. It involves cooperation between local governments and municipalities with local private actors to link the development of organic agriculture to the territorial development and the promotion of the territory as an eco-tourism destination. In biodistricts, restaurants and tourist resorts are encouraged to offer local organic products. In the National Organic Plan adopted in 2014, the Italian Ministry of Agriculture recognized the Biodistrict as an important tool for organic sector development. Currently, there are 12 bio-districts in Italy. The region of Calabria has the first biodistrict that was implemented, the Cilento Biodistrict, operational since 2011. The region of Liguria has a regional law on biodistricts, which involves, among others, criteria for eligibility of districts to qualify as "bio-districts", in which case the districts receives financial support for tourism promotion, support payments to farmers are increased and use of pesticides in public area is prohibited, amongst other measures.

There are 3 similar experiences, in **Austria**, although perhaps less advanced, with the Bioregions of Murau, Mühlviertel and Bio-Heu-Region Trumer Seenland. Territorial bioregion projects in those areas have been financed under the EU LEADER funding program for rural development.

The Biodistrict/Bioregion concept has been replicated elsewhere and an international network of Eco Regions called INNER was created in 2014, with regions in Italy, **France**, Austria, **Spain**, **Slovakia** and **Portugal**.

In a similar spirit, the government of Sikkim in **India**, in its 2013-2018 Organic 5-year Plan, foresees the development of the concept of Organic Village Tourism (one model village in each district, to be developed in coordination with the Tourism department).

In **Tunisia**, the next 5-year development plan foresees the development of Organic Tourist routes in various districts. The concept is still under development.
In the **USA**, the State of Vermont has provided some support for the increase of agriculture and culinary tourism, part of which has gone into the Farm-to-Plate initiative, which is the state plan to strengthen the Vermont's food system. In Vermont, about one third of farms derive some income from agro-tourism and Vermont ranks as the first state in the US in terms of the percentage of organic farms.

Best practice example(s)

Best Practice Example: Support of organic agro-tourism in the bio-district of the Vara Valley, in Italy

The Vara Valley (Val di Vara) is a small territory of 345 km2 comprising 8 municipalities within the coastal region of Liguria in Northern Italy. The Valley, characterized by woodland and marginal farmland, had been facing decades of agricultural decline due to an aging population and land exodus. Organic farming started developing in the Valley at the end of the 90s, primarily with organic cattle farming.

The idea of a bio-district dates back to 1998 when a local mayor pushed the idea with the support of the Regional Council. AIAB, the Italian Association for Organic Farming, also played an important role in promoting the idea of the bio-district and encourage involvement and commitment of the various territorial actors – a process that has required many years of incubation.

In 2009, the Liguria region passed legislation that provided the framework for recognition of bio-districts. It is to-date a unique example of such legislation. Inside its regional law on organic agriculture LR 66/2009, the region identifies criteria for a territory to qualify as a bio-district. Among others, the number of organic operators must be at least 13% of total operators in the territory, and the territory must have a minimum area of 250 km2. A bio-district is a geographical area where farmers, citizens, tour operators, associations and public authorities enter into an agreement for the sustainable management of local resources based on organic production and consumption. In bio-districts, the promotion of organic produce is inextricably linked with the promotion of the land and its special characteristics, and agro-tourism is a key element.

After long efforts to organize the various stakeholders, including seven municipalities, four farmer associations operating (and competing) in the area and two local farmer cooperatives, the bio-district of the Vara Valley obtained formal and legal recognition in 2013 through a resolution by the Regional Government. In 2014, the bio-district association was founded and started a membership campaign towards single farms and operators to join the bio-district. Restaurants, hotels, B&B, agro-tourism actors, and food shops can also become members of the organization, provided they sell or use local organic products.

Through its legal recognition as a bio-district, the territory gains several policy benefits, such as premium payments and priority support for organic farmers, and no use of agrochemicals in public areas. The bio-district was also able to attract substantial project funding from the region and EU sources in order to finance its tourism promotion activities and implement local development strategies.

The approach has shown clearly positive impacts: while in the region of Liguria as a whole, between 2000 and 2010, 57% of livestock farmers have ceased their activities, only 10% have done so in the Vara Valley. Moreover, between 1999 and 2014, local cooperatives producing cheese and meat in the Vara Valley have doubled their turnover. Organic agriculture now represents 22% of the farms in the bio-district (against a regional share of 1,9% in Liguria) and 50% of the utilized agricultural area (against a regional share of 8%)[92]. In parallel, regional tourism increased by 126% between 2000 and 2010[93].

Pitfalls and challenges

An effective strategy for agro-tourism development requires a certain level of attractiveness of the region for tourism, particularly for rural tourism (outdoor activities). Hence, this strategy is not a suitable to all regions.

It may be a challenge for isolated producers to market their agro-tourism offers effectively. Agro-tourism networks offer a common platform for (organic) farmers and other agro-tourism actors to market their offers. It can be a good idea for public programs at the regional or national level to support the establishment or maintenance of such networks. However, given the importance of the positioning and image of agriculture in the agro-tourism sector, such networks are often built on specific views of what a farm should be or should look like in order to be able to join the network (e.g. peasant farming). There may be competing networks and some (local) political sensitivity in the choice of whether to allocate public funds to some, or all of the networks.

The bio-districts or eco-region concepts can face many challenges inherent to the collective aspect of the projects, trying to create cooperation between a variety of (sometimes competing) actors. To help tackle these challenges, they can benefit from linkages to other eco-regions through networks at the national and international level. Those do not only fulfill a role of promotion towards the public and potential tourists, but also a role of sharing of good practices and mutual learning, as well as gaining political visibility.

j. Support to companies for organic processing, product development and marketing

Political justification

Governments can support not only organic producers but also those businesses adding value through processing and marketing. Particularly in those countries with an underdeveloped organic supply chain, such measures may play an important role in

92 Triantafyllidis A., 2014, *Local Governance Through Organic Farming – The bio-district oft he Vara Valley, a private/public partnership to assure vitality to a rural area.*

93 Studio Roberto Vegnuti, 2011, *Imprese, occupati e dinamiche nel settore del turismo in provincia della Spezia.*

bundling organically produced raw products as well as improving and professionalizing organic processing. A larger range of products available in the market, particularly in supermarkets, also enhances consumer choice and therefore spurs demand. Organic producers benefit by selling more ingredients to the processing business when processed product sales increase.

Organic processing and marketing support was considered to have had a strong positive contribution to the development of the organic production in Denmark, Italy and the Czech Republic in the 1990s[94]. The Danish history of organic development suggests that a more market-oriented approach to organic schemes can support the development of a diverse marketing structure, provide help in entering into mainstream marketing, and help overcome problems such as discontinuity of supply and lack of widespread distribution. Support for small-scale marketing projects has been particularly successful in Germany in helping develop regional marketing networks, overcoming the problems of a small organic sector and encouraging the entry of new operators. In developing countries, to increase value addition by farmers and farmer groups is a very common strategy. Cooperative processing and marketing can benefit farmers and have multiple spin-offs.

From a trade balance point of view, developing domestic supplies of value-added products keeps money in the domestic economy. It is widely known that processing and export of processed products is often a more profitable business (and brings more revenues to the national economy) than the production and export of raw materials only. From a food sovereignty point of view, it is also important for a country not to be fully dependent on imports for all processed food items (including organic ones).

Suitable contexts

Support to companies for processing and marketing organic products can be implemented at all stages of development of the organic sector, although at a very embryonic stage it can only happen on a very small scale, as organic raw materials are still lacking. Processing and marketing support measures are particularly suited to develop domestic markets in countries where organic farming production is growing or where organic exports have been the main market channel.

This type of support specifically targeted to organic products requires a context where there is a domestic organic regulation or an officially referenced organic guarantee system, which can be the basis to define which operators qualify as organic processors and which do not. It is therefore not well suited to contexts where such official reference is completely absent.

In terms of the culture of government intervention, advocating for this type of measure will likely not be successful where the government intervenes very little and prefers to let market forces drive the agriculture sector and market development. It will be more

94 Lampkin et al., 1999, *The policy and regulatory environment for organic farming in the European Union, Vol 1.*

suited to contexts where the government intervenes more on the agro-food sector, whether through incentives or their own public programs and development cooperation projects.

Supporting organic processing and product development is well suited to any policy objective that aims to develop organic agriculture. Processing products organically is nearly as important as producing them organically, if one wants to bring organic products to the market.

Possible modalities of implementation

Financial support can be provided to organic companies or cooperatives for processing and marketing ventures. This can include supporting the development of local processing facilities, co-operative marketing ventures, or market information systems, and the participation of companies in domestic trade fairs and exhibitions.

Processing support can be provided in the form of investment support for processing facilities. Typically, such financial support is not specifically reserved for organic, but organic applicants are either granted higher priority[95], easier access[96], or higher grants[97]. In the case of Tunisia, however, the 30% subsidy for organic investments was a measure created specifically and only for organic businesses.

Supporting innovation and development in processing is also possible through the provision of free or subsidized technical support. This is most logically done in cooperation with the private sector/civil society partners (as per the Danish model).

For marketing support, governments may open budget lines to support the development of collective marketing strategies for a certain category of organic products (for example, regional quality organic products). For example, in Bavaria (**Germany**) support was given to marketing programs focused on the development of local marketing strategies for organic and regional quality products.

Marketing strategies of organic businesses may also be supported more generally through the provision/financing of general organic market information (e.g. consumer surveys and other types of market studies).

95 This was the case in Cyprus, the Czech Republic, Latvia, Estonia and Slovakia between 2007 and 2013.

96 For example in Bavaria - Germany, between 2007 and 2010 the minimum investment volume to access the scheme was lower for organic as for conventional enterprises.

97 For example in Bavaria, Estonia and Slovenia, in the 2007-2013 CAP, projects related to organic food production, processing or marketing received higher support rates than conventional projects, in Austria and two regions in Spain during the same period a tiered support scheme was used to determine the level of support where organic farming was one criterion among others to be eligible to receive a top- up grant.

Country examples

In the **EU**, support to organic processing and marketing projects was provided through European Structural Funds during the period 1994-1999, through a variety of regulations[98]. During this period, EU support for marketing and processing activities in the organic sector was identified in at least nine countries with public expenditure in 1996 between EUR 5 and 10 million. Austria for example allocated between 1994 and 1999, around EUR 470,000 annually to the support of organic processing and marketing projects.

In the period 2000-2007, there was increasing emphasis at EU level on support for marketing and processing of organic food to balance the large increase in supply that occurred in the 1990s. In particular support has been provided through the regulation on the support for rural development from the European Agricultural Guidance and Guarantee Fund[99] as well as through the structural measures designed to support poorer regions of the EU, and LEADER programs to support grass root initiatives in rural areas.

From 2007, organic processing and marketing projects were financially supported through measure 123 "Adding value to agricultural and forestry products" of the EU Rural Development Program 2007-2013. It provided support for investments which improve the overall performance of an enterprise concerning the processing and/or marketing of agricultural products as well as the development of new products, processes and technologies. Support was given in the form of a grant for eligible investment costs. Target groups were micro, small and medium sized enterprises or enterprises with less than 750 employees or with a turnover of less than EUR 200 million engaged in the processing and marketing of food products. For the period 2014-2020, this type of support continues under another EU regulation.[100]

As a result of the provisions in the various EU regulations, organic marketing and processing support has been provided in many EU countries, for example, in **Denmark**, **Estonia**, **Finland**, Flanders (**Belgium**), **Germany**, **Ireland**, **Italy**, **Latvia**, **Lithuania, the Netherlands, Romania, Spain, Cyprus, Czech Republic and Scotland**. The national or regional schemes provide financial support for the development of local processing facilities, development of co-operative marketing ventures, promotion of local retailing initiatives, establishment of effective market information systems or support for participating in trade fairs and exhibitions.

Germany invested very early (as early as 1990) in organic processing and marketing support. EUR 39 million were spent on organic processing and marketing collective business projects between 1994 and 2007. After 2007, the legal framework for this support was broadened to include other "quality products", but effective support for organic projects remained at a comparable level. Investments for processing and

98 In particular (EEC) No 2328/91, (EEC) No 866/90, (EC) No 951/97, (EEC) No 1360/78, or (EC) No 952/92.

99 (EC) Reg. 1257/1999

100 Measures 4 and 8 of Articles 17(1)(b) and 21(1)(e) of Regulation (EU) No 1305/2013.

storage facilities have been financed with grants up to 40%, and the development of marketing concepts with grants of up to 50% of the costs.

In addition to the European funds, some countries allocated further national budget to financing measures in support of organic processing and marketing. **Denmark**, first through its Ministry of Food and Agriculture, and then its Ministry of Growth and Business, allocated around EUR 2 million for the mobile product development team, which was implemented by Organic Denmark, the non-governmental sector organization. See more information on this mobile product development team in the Best Practice textbox below.

In **Armenia**, the Organic Agriculture Support Initiative, of which the Armenian government is a partner, has a grant scheme for organic processors and is providing marketing support, including participation in organic fairs.

In **the Philippines**, in 2014, the municipality of Kapatagan built a processing unit dedicated to organic rice, at a cost of EUR 58,000. See more information in the Best Practice example textbox.

In **Thailand**, the Ministry of Commerce, funded, in 2015, a national organic market study conducted by the Organic Development Center and Earth Net Foundation. It is the first time in South-East Asia that a national market has been mapped with clear criteria and national market figures have been made available to assist Thai organic businesses to plan their marketing investments and product development.

In **Tunisia**, organic processors receive a subsidy of 30% of the investment costs for equipment needed for organic processing, as per the decree 2000-544 of March 2000. They also receive a 70% subsidy on certification costs for the first five years. Currently, the CTAB (Technical Center for Organic Agriculture) is carrying out an organic market study to target consumer groups and identify products that are in high demand.

In **Saudi Arabia**, the Ministry of Environment, Water and Agriculture, through its Organic Farming Project (financed by the ministry and implemented in cooperation with GIZ International Services), has provided workshops to which organic processors and farmers who process and market their own products are invited. The workshops cover topics such as packaging and marketing and are implemented together with international organic marketing experts.

In **Argentina**, the National Institute of Industrial Technology (INTI) develops pilot plants for organic food processing, as per the demands from organic companies. The plants are the property of INTI but can be used by companies for a user fee. Based on the results in those pilot plants, organic processing companies can decide to build their own full scale processing plants.

Best practice example(s)

Best Practice Example 1: Organic Product Development in Denmark: Technical assistance to small organic enterprises

Denmark has historically supported large product development projects in conventional agriculture. In recent years, Organic Denmark has won support for a more grassroots product development effort. First through its Ministry of Food and Agriculture, and now its Ministry of Growth and Business, Denmark allocates funding for the program of mobile product development teams, which is implemented by Organic Denmark, the non-governmental sector organization.

Composed of product development specialists, the teams meet with farmers and small companies to create value-added processed products and develop related marketing competencies. The team also brings chefs, packaging designers and other specialists on board for advice and collaboration with small producers. During a five-year period this enabled the development of over 400 new organic products. The product development team also advises on sales, contributing to match making with retail and food service companies.

The program was originally funded as an educational and quality development project through the Danish Rural Development Program ("Quality products"). Interestingly, it was a group of large companies within Organic Denmark that made the original application for funding of product development and sales advice to the understory of small organic businesses. The thinking was that large organic companies also benefit when the sector is at the forefront of organic product development, gaining attention from both consumers and retail.

The results from the first project were so positive that a "Growth Team" under the Ministry of Growth and Business, recommended in 2013 that the Ministry finance the Product Development Team under Organic Denmark, as a model for the food industry. The team received around EUR 672,000 per year for three years, contributing to the creation of 230 new products in 50 small companies, which had growth of around EUR 62 million, and a 25% increase in job creation.
Examples include the development of new protein rich plant-based products, new products from traditional Danish livestock lines (some threatened with extinction), marmalades and other products made from not-well-known vegetable, fruit and seaweed varieties, porridge mixes using old Nordic recipes including ancient grains, and assistance to cider producers from chefs to develop and distribute menus that pair various ciders with food items, as is often done with wine.

The Product Development Team continues now as a pay-as-you-go consultancy. This limits the support to larger companies, but it is expected that financing will again be established for smaller companies.

Best Practice Example 2: Municipal rice processing facility in The Philippines

Kapatagan, in the Lanao del Norte district of the Philippines, is a rural municipality with a population of around 63,000 inhabitants, and in which rice is the main production. It is a member of the League of Organic Agriculture Municipalities (LOAM-Philippines) with the mission of leading the promotion and implementation of sustainable organic agriculture programs in the country.

In 2008, the municipality's local government made a formal statement to make Kapatagan an

organic municipality. Since then, serious efforts towards living up to its self-proclaimed status have been exerted by the municipality through its agriculture office. In 2009, the Local Government Unit (LGU) developed a comprehensive program known as the Agricultural, Coastal, and Environmental Resources Development Program (ACERDEV) in which organic agriculture development was a key component. The municipality decided to place special focus on organic rice production. MASIPAG, the main organic farmers' network in The Philippines, cooperated in the implementation of activities supporting organic farming development.

In 2014, to ensure that organic rice sold in the market is not contaminated with rice produced through the use of synthetic chemicals, the local government unit constructed a processing unit dedicated to organic rice. The unit includes a solar dryer, rice mill and warehouse. As very few organic farmers are third-party certified in the Philippines, the facility is accessible to all organic rice farmer especially those assisted by MASIPAG and organic farmer members of the Participatory Guarantee Systems Iligan-Lanao del Norte Network.

Building the rice processing facility represented a cost of EUR 58,000. It was made possible through the Bottom-Up Budgeting (BuB) Program in partnership with the Department of Agriculture-Regional Field Office wherein 20% of the funds came from the Local Government Unit (LGU) Development Fund and the rest from the BuB. The rice processing unit is managed and maintained by De Asis MASIPAG Farmers Association (DEMFAS) to ensure that only organically produced rice will be processed at the facility. The Local Government Unit regularly monitors the facility and provides technical assistance for its maintenance and sustainability.

Pitfalls and challenges

When support measures for organic processing and marketing are integrated into more general agricultural policy support, eligibility requirements may represent a potential barrier to the uptake of the support scheme by organic operators, due to the specificities of the organic sector. For example, if eligibility criteria include a minimum turnover of the company, a minimum investment effort, or a minimum number of farmers for a cooperative to be eligible for support, this may put the bar too high for organic operations, especially in the context of an emerging organic processing sector. It is therefore best to lower those minimum eligibility criteria in the case of organic applicants. Bavaria, for example lowered by 50% the minimum investment volume for organic enterprises to access the support scheme.

Organic producer groups may lack capital and be unable to meet the co-funding requirements for support programs, and this should be taken into account.

It is essential that the businesses supported are viable, and there is often a need to assist businesses with business planning and with making a realistic profitability assessment.

Some of the countries have imposed criteria to target organic processors, such as the requirement that facilities should process a minimum of 50% of organic raw materials in order to have access to the support. For larger facilities, this can be very difficult to achieve, hence this type of support will tend to select only small processing facilities (which are not necessarily the most efficient/competitive).

k. Organic supply chain development projects

Political justification

Whereas the support measures presented above address one specific point in the supply chain (e.g. production, processing, marketing), policy makers may sometimes want to adopt a more vertically integrated approach by supporting projects that focus on developing a particular commodity's supply chain.

Contributing to supply chain development can help achieve a government's sustainable economic development objectives. Supply chain (or "value chain") development is undertaken by many public-private partnerships globally, as governments, development agencies and businesses seek win-win-win arrangements. A report from the SEEP Network (www.seepnetwork.org) observes, "*No matter the country or sector context, support from government actors often dictates the extent to which businesses can thrive and grow or stagnate and collapse.*" For emerging organic sectors in developing countries, this statement rings especially true. Where organic producers are few and organic buyers scarce, government facilitation raises profiles and enables linkages that will help build a functional sector. This is equally applicable for long export-oriented supply chains and short regional ones. In development cooperation, supply chain development is often a fundamental strategy for the integration of small farms in the modern economy.

Supply chain development projects can be:

- Projects that link research-capacity building and input provision, for example, to provide an integrated approach to encouraging conversion of a particular production,
- Projects that link production, processing and marketing, and/or
- Projects that aim to improve the structure, logistics or traceability of supply for a particular sub-sector (e.g. dairy, vegetables, meat).

There are several reasons to focus on the development of a particular supply chain. These include:

- To address structure problems in one particular sub-sector where domestic demand is not adequately met (for example, if organic vegetable producers in a given country are too small-scale and not organized enough to supply mainstream channels like supermarkets)
- To develop an organic supply chain for a regional product for which organic production has a lot of potential but a brand concept is needed to generate demand
- To create an organic supply chain for a particular export commodity, or increasing efficiency in an existing chain, to provide a valuable source of export revenues in the future and/or address environmental problems with current conventional practices in that sector.

Regardless of the objective, the advantage of such an approach is that it connects the various actors of a particular supply chain and fosters dialogue between producers, traders, processors, and potentially researchers as well, to solve the problems of that particular supply chain in an integrated manner.

Suitable contexts

Integrated supply chain development is a form of support measure that can be suitable to all stages of development of the organic sector, from the embryonic stage to the near-to-mainstream stage.

It can also be implemented in any type of regulatory environment.

As a very intensive type of support, support to value chains with one or a few commodities will typically be difficult to obtain in a context where the culture of government intervention in the agricultural sector is generally not to intervene.

This form of support is well suited to any of the rationales for policy support to organic agriculture. Whether it is to develop export value chains or to increase self-sufficiency in organic products, an integrated value chain approach will offer interesting advantages.

Possible modalities of implementation

Supply chain facilitation should be flexibly defined depending on the circumstances. It should also have flexible implementation as new bottlenecks emerge once some are resolved, and intervention focus may have to shift between the various stages of the chain.

Supply chain facilitation can be restricted to the linking of sellers to buyers. Or, it can go way beyond that and include other actions to support the commerce of these chains, including but not limited to establishing standardization and quality systems through the chain, development of infrastructure and transportation, and navigating import and export regulations. Regardless of the intensity of the support action, supply chain development is done in the form of time-limited projects or programs. The idea is that once the supply chain is well developed, it must run on its own.

In developed countries, integrated supply chain projects usually address structural issues in a given segment of the organic sector at the national or regional level. They contain a strong component of dialogues between the various actors of the supply chain to find collective structural solutions that develop the production in parallel to improving logistics, traceability and better respond to the needs of buyers. Sometimes, those projects develop the supply chain up to consumer demand, including activities such as developing a joint brand for a regional organic product. They often integrate a territorial dimension, taking advantage of the particularity of a certain region, and might combine touristic or environmental aspects (nature protection, eco-tourism, local consumption, etc.).

In developing countries, the classical development cooperation types of projects are implemented, starting with providing training to farmers for conversion, organizing for certification and linking producers to markets. The model is also being applied in "economies in transition" countries, such as the Organic Agriculture Support Initiative development cooperation project in Armenia. In both cases, projects often include the aspect of cooperation amongst farmers producing the same commodity (usually setting-up farmer cooperatives, farmer groups or other structures), to resolve production issues, but also for joint marketing. However, an alternative model to the farmer-led cooperative/group is to have supply chains that are organized by the exporter or by the processor and in which farmers are simply contracted. In such cases, the supply chain development project works with the exporter or processor companies to develop the supply chain.

Country examples

A number of organic supply chain development projects have been funded in the **EU** within the LEADER program series, which is financed by EU structural funds and designed to help rural actors develop the long-term potential of their local region. These programs encourage the implementation of integrated, high-quality and original strategies for sustainable development, and have a strong focus on partnership and networks of exchange of experience. Examples of organic projects that have been funded through this scheme include a project on organic milk regional marketing in Saarland (**Germany**), a program to develop organic agriculture in South and West **Ireland**, a project on organic farming and rural eco-development in Sardinia (**Italy**), or a project to develop an organic quality brand of processed meat in the province of Bolzano (**Italy**).

In **Wales**, the BOBL project (Better Organic Business Links) was a 6-year integrated approach project funded by the EU and Welsh government. It was used to support organic primary producers and to grow the market for Welsh organic produce in a sustainable way. The project developed existing, emerging and new markets for organic produce while driving innovation at all levels of the supply chain. It provided information to producers about market demands (who buys organic, why and how). The project ended in 2015. The market intelligence it collected in the organic sector in Wales is available online.

On a smaller scale, the Manchester Veg People project was supported by **England** under its Rural Development Program. The project was a cooperative supplying organic fresh produce across Greater Manchester. The project took the farm to fork approach, starting with building up small farms through facilitated land access, training for future vegetable small growers, and then logistics, transport, branding and market access.

In Bavaria (**Germany)**, some projects for development of certain supply chains such as organic chicken, pork, and soy received government funding between 2014 and 2016.

In **Austria**, a project on the organic pig meat supply chain was funded within the Rural Development program 2007-2013. The two-year project installed a vertical supply chain partnership for organic pork with an end-to-end quality and traceability chain (an online audit and monitoring over the entire production and marketing chain). In addition, a marketing concept for organic sausage and ham was developed.

In developing countries, it is quite common for supply chain projects to be funded through external donors and NGOs, or through development cooperation. Many of them have proven very successful at developing a particular organic supply chain in a country, for an export commodity or even for developing a local supply chain. Some projects worked on single commodities, others on a broader sector (sometimes on organic as a whole sector segment). The examples below are a mix of private-led and public-led projects. Even though in private-led projects the initiative or funding may not have come from the local government, those examples can be useful inspiration as similar project approaches can also be organized and/or funded by the national government.

In **Ukraine**, the Organic Development Project is being implemented by FiBL with funding from SECO (Swiss government), inspired by the EU LEADER approach. The project is helping to develop new market opportunities for SMEs in the sectors of organic arable crops (for export) and milk and dairy production (for the domestic market).

In **Kyrgyzstan**, the Helvetas project "Organic cotton production & trade promotion project" was implemented from 2003 to 2015. It resulted in an increase of organic producers from 38 to 1,408, of organic cotton area from 122 ha to 2,967 ha, and of organic cotton production from 24mt to 335mt of cotton lint. During the first stage of the project (2003-2006), a value chain was established for organic cotton as a leading crop, with a focus on training extensionists and farmers in organic farming, and then signing the first organic cotton production contracts. To maintain the stability of the value chain, during the second phase of the project (2007-2011), a local structure was set up in the form of the Public Union of Bio Farmers (a cooperative which now involves 1,200 members) and Public Fund Bio Service (a consultancy that offers training, certification and marketing of organic products).

In **the Philippines**, the provincial government of Nueva Vizcaya and Department of Agriculture jointly constructed and opened a multi-functional Regional Organic Trading Center (ROTC) in Nueva Vizcaya (North Luzon). The costs of the project (around EUR 300,000) were supported by the National Organic Agriculture Program funds and

Japanese NGOs. ROTC is managed as a public facility by the regional office of the Department of Agriculture. It provides organic farming demonstration, processing facilities, market promotion/trading facilities and training events. The center has an agribusiness development center, an organic native chicken production center, an administration building, a fruit processing and packaging building, a wild pig conservation and production center, and a GAP vegetable production area. It also serves as a drop-point for organically produced vegetables, fruits and meat. In this way the products of farmers will be further promoted and can be easily accessed by the customers, as it is located in proximity to a major commuter highway and a general agricultural research and development agency.

In **East Africa**, and particularly in Uganda, the EPOPA project (Export Promotion of Organic Products from Africa) was the main engine behind the development of the organic sector in Uganda, Tanzania and Zambia. EPOPA was a project funded by the Sida (the Swedish International Development Co-operation Agency) between 1997 and 2008. The program supported the inclusion of more than 100,000 farmers (among which 54,000 were in Uganda) in organic export supply chains for a range of different commodities (traditional cash crops but also fruits and vegetables for export). The EPOPA projects worked in the form of three-five year projects with various types of exporters including cooperative unions, local and expatriate entrepreneurs and subsidiaries of international trading houses, and the participation of large groups of smallholders that were organized by exporters, with assistance from EPOPA technical consultants. EPOPA provided training to farmers and companies, research and extension support, technical and financial support including for certification, and market linkages to the selected partners. Additionally, EPOPA supported the establishment of domestic certification bodies, the training of various other actors in the organic movement, and their organization into national associations. EPOPA was also involved in facilitating marketing-related promotional activities, such as participation in organic fairs and in establishing a database of market contacts.

The government of **Ghana** was quite an early supporter of several organic development projects implemented in the 1990s, such as the Abrono Organic Farming Project supported by the Department of Forestry and the Environmental Protection Agency of Ghana, the Sedentary Farming System project and the organic rice-fish projects supported by the Ministry of Food and Agriculture. Government officials from the Environmental Protection Agency and the Ministry of Food and Agriculture also participated in the Organic Farming Promotion Project.

The government of **Turkey** partnered with the German government in the form of a bilateral cooperation project from 2011 to 2013 to develop quality organic supply chains from Turkey to European markets. The project was implemented by FiBL Germany in close cooperation with the Turkish Ecological Agricultural Organization (ETO). The project worked with the various stakeholders of the Turkish organic supply chain including government regulatory personnel to build capacities and to established exporter-importer connections.

In **Nepal**, the Jumla District Agriculture Development Office (DADO) decided in 2007 to make the district an organic district. As the district was specialized in apple production, the DADO sought help from foreign donors and established a project to develop the organic apple value chain. The project activities included training on production, support for certification, facilitating transport of the apples to the markets, identification of buyers and brand marketing.

In **India**, the federal government launched in 2016 a comprehensive scheme called the Mission Organic Value Chain Development (MOVCD) for North Eastern Region, as a Sub-Mission under the National Mission for Sustainable Agriculture (NMSA). The MOVCD scheme is comprehensive in its approach and aims at developing certified organic production in a value chain mode to link growers with consumers. It supports the development of the entire value chain starting from inputs, seeds, certification, to the creation of facilities for collection, aggregation, processing marketing and brand building initiatives. Government of India allocated EUR 16 million for MOVCD in 8 North Eastern states for the fiscal year 2016-17.

Best practice example(s)

Best Practice Example: Organic Apple Value Chain development in Jumla District, Nepal

The Jumla district is one of the poorest areas of Western Nepal. The district has only seasonal road connectivity to the rest of the world, and farmers have been mostly unable to afford chemical fertilizers and pesticides. Its temperate to alpine climate is suitable for apple production, but there have been tremendous difficulties in marketing the apples produced in the district. Before 2007, only 5% of the total production (4,600 tons) was successfully exported out of the district and the majority was dumped as mulch.

In 2007, the District Agriculture Development Office (DADO) of Jumla decided to make the district organic and seek support to develop their organic apple value chain. Import and use of chemical fertilizers and pesticides in the district were banned. The DADO sought the support from SNV Netherlands Development Organization. A value chain analysis of Jumla apples in the region was first conducted with SNV support, to identify the limitations and opportunities. With the leadership of Jumla DADO, SNV facilitated the formation of a multi-stakeholder forum – the Jumla Apple Forum – which included the participation of producer groups, the local Chamber of Commerce and Industry, District Development Committee, and several development NGOs working in the district. The purpose was the development of a basket mechanism to channel all development efforts for apples coming through public, private and development agencies to this sector and the implementation of joint action plans. SNV also supported the capacity building of Jumla DADO on organic apple orchard management.

A pilot project was set-up, whose purpose was to link the high-end organic markets in Nepal to those certified organic apple producers of Jumla who could provide guaranteed quality and consistent supply. The project activities included training on production, support for certification, facilitating transport of the apples to the markets in Kathmandu, identification of buyers and brand marketing. One of the innovative actions was the facilitation of agreements between Jumla apple producer groups and Yeti Airlines - a national domestic carrier with regular flights to Jumla - to prioritize transportation of Jumla apples to Surkhet or Nepalgunj, from where road transportation begins, on a commercially viable fee basis.

Certified organic apples started to be marketed under the brand Jumla Organic (created by the DADO) and sold in supermarkets and organic outlets in the domestic market. One major success was that the apple price increased in Jumla from NRP 10/kg in 2008 to NRP 35 and NRP 25/ kg for organic certified and non-certified respectively. By 2009, 300 farmers belonging to three pilot projects had experienced an increase of 250% in their usual gross margin.

Pitfalls and challenges

The first challenge of supply chain development projects lies in the risk associated with the choice of the one or more commodities to support. A commodity-focused project starts with the assertion that there is true market potential for the organic commodity selected, that production is competitive, and that producers will want to continue with this commodity and not move to an alternative more profitable one. There is, of course, the risk that this assumption does not materialize in the medium/long run, due to market price volatility and other issues. Proper preparatory work and assessment of the market potential, competition, cost structures and supply capacity are essential.

The focus on one or a few commodities, inherent in value chain projects, can sometimes be hard to combine with the emphasis of diversity in organic production. It may be a challenge to find markets for other commodities produced by farmers alongside the main cash crop.

Another challenge of such supply chain integrated projects is that they aim to act on various levels of the organic supply chain, and therefore require broad competence and stakeholder involvement in order to design effective strategies. Projects that support an export supply chain require good knowledge of foreign markets - how they work, their regulations, and their quality expectations. Projects that adopt a more territorial/domestic approach often require a smart strategy of involvement of the various territorial actors (beyond the organic chain itself) in order to gain public support for the action and to build ownership for the future outcome.

Even if there are many relevant stakeholders in a supply chain, there needs to be clear leadership in the chain development, and external consultants or agencies must be careful not to take over the responsibilities of the actors, in their effort to support. The supply chain leader will in most cases be an exporter or a food processor and their competence and capacity may be lacking. In projects with farmer groups in developing countries, the supply chain leader is often supposed to organize certification and also farm extension work. But commercial companies may often lack the knowledge of farming and how efficient extension is carried out. In addition they mostly orient their work solely to the commercial commodity. As an alternative NGOs or government agencies can manage the extension function, but they might lack the commercial focus that is a prerequisite for a successful chain.

Like all project approaches, in which the support of a particular activity is intensive but time-limited, another important challenge is sustainability when the project ends. Capacity building activities usually pay-off in the long run if the market channels can be maintained, but projects that subsidize certification costs for a period of a few years as a

way to support the entrance of newcomers in the organic business face the risk that they may drop off after the support ends. Another challenge is the fact that building value chains can take a long time and project-funding cycles are sometimes too short for these types of complex and long-term projects. Nevertheless, there are many success stories that have been initiated with certification subsidy and other forms of temporary subsidization of organic businesses, like the EPOPA project in East Africa.

The project approach that aims at building organic businesses in a particular region where they do not exist also faces the challenge of finding entrepreneurs who are interested and able to go into organic, and competent enough to continue building the businesses after the end of financial and technical support from the project and its consultants.

The success of value chains is also dependent on trust and a mutual interest by the actors in the chain. It will not succeed if any actor tries to get only advantages without consideration of the other actors' agenda.

Public-private cooperation is another challenge. Many of these projects are only private and do not integrate public institutions enough, while when governments take the lead, involvement of the private sector, especially in the design of the project strategy, is often too weak.

l. Organic management in public areas and publicly-owned land

Political justification

Toxic pesticides and synthetic fertilizers are still being used on land that is under public management, such as roads and paths, parks, schoolyards, playgrounds, sport fields, areas around public buildings, botanical gardens, riverbanks, and railroads. For example, herbicides, such as glyphosate (recently classified as probable human carcinogen by the WHO), are widely applied to combat weeds in such publically managed land. Besides contamination of the environment, and potential contamination of adjacent organic farms, a major concern is the health of residents and particularly children occupying these areas.

The same principles used in organic agriculture can be used for the organic management of public lands. Particularly at the municipality level, the elected politicians have the power to pass local decrees or instruct city garden managers to stop the use of chemical pesticides in areas under public management and to transition to safe, effective (organic) alternatives.

There is clear evidence from around the world that the organic approach is both achievable and effective and that it is reducing the exposure of millions of citizens around the world to the potentially harmful effects of pesticides. The transition to organic management of public land needs to be carefully planned, but communicating

about such a transition and the impacts it will have on the appearance of the city is also an opportunity to inform citizens about the danger of pesticides, and the value of biodiversity.

The organic management of public gardens, parks and other spaces constitutes a large and mostly reliable market for inputs and machinery adapted to organic management. Most of this technology, as well as the knowledge and skills needed, can also be useful for organic farms. In this way can public organic management serve as a breeding ground for new methods, skills and knowledge to the benefit of the farming and gardening sector.

A number of states, provinces and municipalities still own large areas of agricultural land, which they lease to farmers. Under the leases agreements, there is often a possibility for the landowner to prescribe certain practices, such as organic farming.

Suitable contexts

Shifting the management of public areas from conventional to organic is a measure that is suitable to all contexts (all stages of development of the organic sector, all regulatory contexts, and all government cultures). It will however be relevant only to the objective of increasing societal benefits (primarily in terms of environment and health). It will not be relevant to the objectives of earning foreign currencies or increasing the self-sufficiency of organic products and access to healthy food.

Possible modalities of implementation

The classical model to shift public land management to organic practices is decision-making at the municipality level. This can originate either from elected local decision makers (e.g. the city council passing a resolution to prohibit use of synthetic pesticides on its public land), or it can be the decision of the public employee in charge of the management of the cities' green spaces. Following (or preceding) this decision, a process has to take place to convince the city gardeners (either public employees or sub-contracted companies) to support the transition process and to develop and apply their gardening skills to the new approach. The transition usually takes several years, as gardeners and landscapers may need to rethink the design of gardens and green areas and the choice and location of species best suited to organic management.

The decision to shift to organic practices may arise in response to public advocacy, often related to public (especially children's) health and safety. The policy decision may often be framed as prohibiting the use of synthetic pesticides, which addresses the main health concern. A good website for resources on how to campaign for municipalities to become "Pesticide-free-towns" is available on the page of PAN UK.

However, it is recommended that policymakers go further than simply prohibiting synthetic pesticides, and adopt the systems approach of organic management, taking into account all land-management objectives and practices, including soil fertility and

nutrient management as well as pest control. Furthermore, the systems approach of full organic management reduces the need for using pesticides.

Another model is to escalate the decision through district, regional or even national decisions to phase out pesticides in all publically managed land, so imposing this decision onto all municipalities (e.g. France). A halfway approach is encouragement, such as in the Danish national organic action plan in which the government "calls on local authorities to continue their efforts towards more organics on publicly owned lands".

Another mode of public land conversion to organic relates to government agricultural lands. Some government units own agricultural land that they lease to farmers. In this case, a policy option is to lease to farmers who will farm the land organically, like in the examples of Sweden and Italy.

Less impactful in term of land area, but of symbolic value, is the choice to convert certain highly renowned gardens or city areas to organic. Some inspired leaders such as members of royal families have also converted their royal garden or farm into organic (although this does not always concern public land, it can be mentioned nevertheless). Perhaps the most famous is Prince Charles with his entirely organic Highgrove Royal Gardens and Duchy Home Farm managed organically for more than 30 years. The farm has developed into a center of excellence for organic farming and gardening in the UK. Another example, although on a much smaller scale is the US White House organic vegetable garden.

Country examples

Hundreds of municipalities around the world have already gone pesticide-free, including big cities like Copenhagen and Seattle. Some have declared a goal to convert completely to organic practices.

In the **EU**, a number of municipalities have stopped using pesticides in the management of their green spaces for several decades. Pioneer cities, which took action in the 1980s and 1990s, include, Allerød and Furesø (**Denmark**) respectively, Witten an der Ruhr, Bielefeld, Münster, Eckernförde, Saarbrücken, and Celle (**Germany**). The movement of pesticide-free towns is spreading and scaling up to regional or national levels. For example, In **Belgium**, Wallonia, Flanders and Brussels are moving towards becoming completely pesticide-free starting in 2017. In **France**, following the leadership of Versailles and Strasbourg that abandoned chemical pesticides in the 2000s, the government has introduced a law that will ban the use of all non-agricultural pesticides by 2020 (except for railways, roadways and airports). Currently there are 400 towns and villages in France that do not use chemical pesticides and a further 400 that have severely restricted their use.

In **Italy**, since 2013 a number of regions have approved regional laws to support the creation of Land Banks or new governance systems that allow for better management of publicly owned land through direct involvement of citizens. Under these systems, public

authorities apply selection criteria for the assignment of land to private farmers. In some cases (for example in the Latium region), the call for proposal requires that the production system be organic.

Since the early 1990's some provinces in **Canada** have been implementing legislation to restrict, reduce and prohibit the use of pesticides. To date eight of the ten Canadian Provinces have enacted such legislation thereby reducing the exposure to pesticides of 30 million Canadian citizens. For example, in Ontario the cosmetic pesticides ban took effect in 2009. The requirements of the ban include also private lawns and gardens (but not golf clubs): chemical pesticides cannot be used for cosmetic purposes on lawns, vegetable and ornamental gardens, patios, driveways, cemeteries, and in parks and school yards.

Following an usually high rate of brain cancer in children that had played in parks spread with pesticides, inhabitants of Irvine (Southern California) in the **USA** founded an association called Non Toxic Irvine and recently managed to convince their city council to eliminate the use of synthetic pesticides under all circumstances, and to adopt an organic, integrated pest-management program, which incorporates manual removal, weed whacking and, if necessary, the use of organic pesticides as a means for weed abatement. Other cities in the USA that have banned pesticides on parks and playgrounds include Seattle and Portland. In addition there are statewide bans on use of pesticides on school grounds in Connecticut and New York.

In the **USA**, there is a program for accreditation of organic land care professionals, and several organically maintained urban parks in the country are managed by such accredited professionals. The Rose Kennedy Greenway in Boston, is one of such organically managed parks. The Greenway Conservancy's entire horticulture staff has attained Accredited Organic Land Care Professional status through the Northeast Organic Farming Association (NOFA), and the Greenway complies with NOFA's Standards for Organic Land Care. Products required for the maintenance and upkeep of the Greenway's landscapes are sourced with strong consideration to the manufacturing and transportation processes as well as the vendor's proximity to the Greenway. Local sources are used for the majority of turf care products including fertilizers and seed.

There are also examples of local governments and municipalities that mandate or give preference to organic farmers for leasing their public farmland:

Boulder County in the **USA** has set a goal of having at least 20% of its cropland area be certified organic or in transition by 2020. The county owns approximately 25,000 acres of agricultural land and leases it to qualified operators. The Parks and Open Space Agricultural Resources Division oversees the land, manages the leases, and tracks rent and crop production.

The city of Gothenburg in **Sweden** has a policy that all its land should be organic and that they give preference to tenants that farm organically. In addition local procurement is a tool to convert the land.

Havana, in **Cuba**, prohibited the use of chemical pesticides in agriculture within city limits.

Cicia Island, in **Fiji**'s Lau group, is the first organic island in the Pacific. With support from the Ministry of Agriculture and Provincial Council of the Lau Island Group, the elders of the island community decided to stop using agricultural pesticides and fertilizers on all the island's lands including collectively-owned areas and farm plots, and they have replaced them with organic materials and practices. All the island's farmers are certified organic through a participatory guarantee system.

Best practice example(s)

Best Practice Example: Prohibition to use non-agricultural synthetic pesticides in France

In 2014 France passed a law that prohibits public entities from using chemical pesticides in the management of their non-agricultural land, such as green spaces, parks, forests and pathways open to the public. The prohibition is included in a broader reform aimed at abolishing the use of all non-agricultural pesticides by 2022, except for railways, roads and airports.

The law requires that by January 2020 public entities (including the State, regions, municipalities, departments, inter-municipal collectivities, and public institutions) owning public or private land stop using phytosanitary products on such land, except for low-risk substances and substances allowed in organic agriculture. Low risk substances are those listed by the EU Commission in accordance with Regulation (EC) No 1107/2009 (currently there are very few substances, essentially natural ones, approved on this list).

The law foresees an exception when it comes to treatments necessary for the control of organisms considered a public threat, for which the French government maintains a list published under its "code rural" (body of legislation related to rural and agricultural regulations).

Although not conversion to full organic management, the scale of the French initiative is unprecedented. Currently there are 400 towns and villages in France that do not use chemical pesticides and a further 400 that have severely restricted their use. The 2014 law forces the remaining 34,600 municipalities in France to also abandon pesticide use.

In parallel, the 2014 law foresees, starting in 2022, a general prohibition on selling, using or storing chemical pesticides for non-agricultural use. This will apply to all private persons, meaning that gardeners will no longer be allowed to use chemical pesticides in their gardens and other private properties. This will completely phase-out the use of chemical pesticides from non-agriculture use in France, except for a few exceptions strictly regulated by law.

Pitfalls and challenges

Some of the challenges to managing public land organically are similar to those of managing agricultural land organically: higher labor and investment (machinery) costs to manage weeds, different competence needed from gardeners to manage plant pests and diseases. To keep within the same budget, an increased presence of weeds may be tolerated, but this can also pose other problems than purely esthetical problems. For example the emergence of small lumps in the road surface (e.g. asphalt, gravel, sand) can cause some road safety issues.

Many towns that have gone pesticide-free have realized that it is difficult to keep a zero-weed policy on pavements, roads and coatings with organic methods (flame weeders, brushes, steam) because it is expensive to do it on a very regular basis. Therefore, efforts should also be done on a communication level, to explain to citizens the health benefits of the new approach and for them to accept visual changes such as more weeds in the street, or a lawn with more plant diversity.

Sufficient investments should be made on capacity building (professional development) of public gardeners and land managers, on new machines and equipment for weeding, and on investigation/planning to find plants that require less maintenance with organic methods. Often, budgets need to stay within the same limit, so those investments need to be compensated by budget savings in other areas such as using less water (accepting drier lawns in summer), changing to less costly annual flowers or to perennial ones, etc.

m. Prohibition of agro-chemical use in sensitive areas

Political justification

Incentives and support for organic agriculture, as those covered in earlier sections, can facilitate conversion and produce environmental benefits across a wide territory. However, this may not be enough to achieve certain environmental objectives in particularly sensitive natural areas, such as water catchment areas or national parks where public interest would require all farmers in the area to transition to organic practices. In such cases, it can be appropriate for national or local government to impose legal restrictions on the use of chemicals in agriculture, or to require that farmers farm organically.

In water catchment areas, a local decree creating protection zones where the use of inorganic fertilizers and agrochemicals is prohibited or where conversion to organic agriculture is compulsory may be the most effective way to ensure drinking water quality. As shown by various case studies[101], a compulsory conversion to organic

101 E.g. Grolleau, G., & Mccann, L. M. J. (2012), *Designing watershed programs to pay farmers for water quality services : Case studies of Munich and New York City;* Jäger A. *et al* (2004), *Modellgestützte Analyse des ökologischen Landbaus als Instrument des Wasserschutzes*; Pedersen N. *et al* (2016), *Legacy pesticide contamination in Aarhus – groundwater protection and management*.

practices associated with corresponding financial compensations for farmers can be more cost-efficient than complicated water treatments to depollute water contaminated by conventional agriculture.

In national parks and other high conservation value areas, whenever agriculture is practiced, prohibiting the use of agrochemicals is a way to protect biodiversity - the core value of such areas. Compulsory organic management in such areas can also be a way to support diverse and attractive farming landscapes, integrated in the surrounding natural environment.

Besides naturally sensitive areas, certain zones can also be considered sensitive from a social impact point of view. For examples, urban areas, or areas in the immediate surrounding of schools, nurseries and hospitals, may be considered sensitive for public health reasons. Prohibition of certain or all agrochemicals in such areas can be decided upon by local or national governments to protect their population's health.

Suitable contexts

Prohibiting agrochemical use or imposing conversion to organic agriculture in sensitive areas is a measure that is suitable to all contexts (all stages of development of the organic sector, all regulatory contexts, and all government cultures). Even if the national government has a culture of low intervention level in the agricultural sector, it is often possible for local governments such as municipalities to pass such a directive. At the national level, the measure may also be taken outside of the scope of agriculture policies, e.g. in environmental legislation related to protected areas.

This type of measure is most relevant to the political objective of increasing societal benefits (primarily in terms of environment and health). It will not be relevant to the objectives of earning foreign currencies, and may not bring a major contribution to the objectives of increasing self-sufficiency in organic production or access to healthy food for domestic consumers, unless the areas concerned are vast.

Possible modalities of implementation

The most common level of banning agro-chemical in sensitive areas is in municipalities, especially in contexts where they are responsible for drinking water. Such bans can be decided in the form of municipal decrees and similar instruments.

It is also possible to impose bans in specific categories of sensitive areas through national laws, for example through national legislation on nature-protected areas.

National legislation can also provide a framework that will provide municipalities with the mandate to implement such measures at their levels. For example, a national law can give municipalities the authority to implement the necessary restrictions to achieve drinking water quality, or to protect pupils' health in schools, according to principles defined at the national level.

Country examples

In **Denmark**, the Municipalities of Aarhus, Aalborg and Egedal have decided to ban the use of pesticides on both publicly owned and privately owned land in order to protect drinking water. See more details about the city of Aarhus in the Best Practice Example box.

In the **Czech Republic**, the Nature Protection law 114 of 1992 prohibits the use of agro-chemicals in agriculture in protected areas and nature parks. Around 9% of agricultural land in the Czech Republic is included in protected areas under this law, which is a significant proportion. Derogations can be granted only in very special cases (such as herbicide application for invasive species elimination) and need to be granted by the nature protection authority. Farmers in those areas usually receive subsidies to compensate for the restrictions imposed on them.

The region of Brussels-Capital in **Belgium** banned the use of glyphosate in its entire territory. This applies to both publicly and privately managed lands, including farmland.

In **Germany**, the city of Leipzig has been supporting organic agriculture since 1992 as a mean to improve water quality. The city has made organic agriculture compulsory in the area critical for water protection (next to the river). To accompany the obligation to convert to organic in the critical area, the city established a compensation scheme for farmers.

The Island of Cicia in **Fiji** banned the importation of inorganic fertilizers and agricultural chemicals in 2006 as a prelude to the conversion of the entire island to organic agriculture, which was achieved in 2013. The decision was taken by the Cicia Island Tikina Council, a council composed of local Chiefs with the support of government agencies.

In **Armenia**, environmental legislation on protected areas allows organic agriculture as the only form of agriculture allowed as an economic activity within the national park territories of the country.

Best practice example(s)

Best Practice example: compulsory conversion to pesticide-free agriculture in the Municipality of Aarhus in Denmark[102]

With a total of 300,000 inhabitants, the Municipality of Aarhus is the second largest in Denmark. For decades, Aarhus has worked to protect groundwater from pesticide and nutrient contamination. This was undertaken through a long-term, holistic effort involving water service providers, management agencies and stakeholders. After achieving only partial results through voluntary programs, Aarhus resorted to implementing and enforcing pesticide bans, which is proving more effective in changing landowners' behaviors towards pesticide-free agriculture and land management.

102 Vogwill R., 2016, *Solving the Groundwater Challenges of the 21st Century*.

The policy framework originated from Denmark's investments in detailed hydrogeological mapping and groundwater contamination monitoring starting in the 80s and 90s. The results showed that in many parts of the country the groundwater was contaminated by pesticides above permissible levels. As a result, in 1994 the Danish Government introduced a 10-point plan for future protection of groundwater, implemented in a new groundwater protection act adopted by the Danish Parliament in 1998. Through this Act, the municipalities were given the authority to implement the necessary restrictions to achieve drinking water quality, including the possibility to impose mandatory restrictions on the use of pesticides. It also specified that any loss suffered by landowners (e.g. farmers) due to either voluntary or mandatory restrictions should be compensated in full by the water service providers.

Consistent with the rest of Denmark, the production of drinking water in Aarhus is based exclusively on groundwater treated through aeration and filtering. Contamination monitoring carried out in Aarhus in the 1990s had shown that approximately one third of its abstraction wells were contaminated with pesticides. In 1997, the City Council decided to stop using pesticides on areas owned by the municipality located within high priority areas for water usage. This includes roads, some municipal property and farmland that the municipality leases with agreements stipulating that no pesticides may be used on the land. It also became obvious that the municipality should find a way to encourage farmers to shift to pesticide-free agriculture in order to restore and preserve the quality of the water reservoirs in the area.

In 1998 the municipality started a program based on voluntary agreements where farmers committed to undertake pesticide-free agriculture. In accordance with the national legislation, farmers were to be compensated by the water service providers. The water service providers organized voluntary agreements that compensated farmers for production losses due to the implementation of the new system. To increase the initially low rate of conversion, the water service providers also started to offer advisory service for farmers willing to convert to organic agriculture. Farmers were offered either perpetual agreements or agreements with a 5, 10 or 20 year validity period, which can subsequently be mutually extended. This program continued until 2013.

Groundwater protection through conversion of farmers to pesticide-free production has been analyzed as the most cost-effective way to achieve uncontaminated drinking water without any form of water treatment. The cost of groundwater protection represents less than 5% of the total cost of production of drinking water. This is what has motivated 24 of the 25 municipal water service companies in Aarhus to join forces to secure funding for the farmer conversion compensation program. However the uptake of voluntary agreements was relatively low: after 13 years of efforts, only one-sixth (1000 ha) of the target area had been protected.

Due to the limited uptake of voluntary agreements, in 2013 the municipality moved to a scheme that includes binding requirements. Water providers have two to five years to attempt to establish voluntary agreements. Subsequently the municipality imposes binding requirements on landowners and farmers that did not join the voluntary agreement in the form of injunction to start organic agriculture. This had a positive effect, and by the beginning of 2015 a total of one-third of landowners had agreed to enter into the voluntary agreement. In 2016 the Municipality Council began issuing injunctions to landowners who had not joined the agreement.

Pitfall and challenges

As such a measure is regulatory rather than simply incentivizing, a typical challenge is the resistance to it amongst the farming community. This can become a source of important conflicts and divisions at the community level. When such measures are discussed on a higher level such as regional, national or supra-national level, there can also be a strong political lobby from the agribusiness sector against the measure.

Such decisions have more chances of acceptance if they are embedded in long-term policy efforts and in-depth monitoring activities to address specific objectives with clear targets, e.g. in terms of pesticide residues levels in water bodies. Hence the prohibition of chemical use does not appear as a sudden or arbitrary measure, but as an essential step in the progress towards politically legitimate objectives and targets.
Experience also shows that prohibition alone is often not sufficient. It needs to be accompanied by measures to support farmers in transitioning to organic (e.g. compensation and technical advice) and preferably also access the premium organic markets (e.g. support for certification or PGS development).

3. "Pull" measures

a. Consumer education and promotion campaigns

Political justification

Increasing household consumption of organic products is one of the main "pull" measures to increase demand for organic products. The main bottlenecks to increase household purchase of organic products are: 1) product availability in various market channels, 2) consumer awareness of organic benefits, and 3) product attractiveness including quality and price.

Consumer education campaigns are an important mechanism in increasing consumer awareness about organic products across the board. Especially in emerging sectors, the organic industry itself does not have sufficient resources (and is often not sufficiently linked) to fund mass public education campaigns, which can be very costly. Also, since this is a matter of education and public health, as well as environmental public goods, there is political rationale for the government to put public funds into such campaign.

In a market economy, incomplete information on the side of the buyer is a main reason for what is called "market failure". Without all consumers understanding the benefits behind the organic label, the organic market operates at a sub-optimum level. This may justify government intervention on the level of consumer education.

An experiment from the Netherlands implemented in 2006, whereby certain municipalities subsidized selected organic products to reduce their sales price to a

comparable level to conventional products, showed that the effect on consumer purchases is low if the measure is not combined with consumer awareness efforts. Hence to be effective all policy measures aiming at increasing the accessibility of organic products by consumers must also be accompanied by consumer awareness actions.

Another political reason often plays an important role in the decision for governments to finance organic consumer awareness campaigns: the desire to promote the consumption of domestic products. Indeed, organic consumer awareness campaigns often have a double objective: to generate awareness about organic, but also to promote in particular the national/regional organic products.

Suitable contexts

Consumer awareness of organic agriculture can be implemented at various stages of organic agriculture development, and regardless of the culture of intervention of the government on the agricultural sector. However, consumer awareness campaigns for organic agriculture are most efficient when there is an officially referenced organic guarantee system or an organic regulation. This is because consumer awareness of the benefits of organic should ideally be combined with the promotion of the national organic logo, which enables consumers to identify organic products (and such a logo needs to be backed up by an agreed-upon guarantee system). The launch of a national organic logo is typically the ideal period to launch a consumer awareness campaign to explain what stands behind the logo. However, consumer awareness campaigns should be repeated regularly to reach an ever-increasing share of the population as the availability of organic products increases in various market channels.

Consumer awareness campaigns aim to increase domestic demand, and therefore are not relevant to the policy objective of wanting to earn foreign currency. They are also not, as such, relevant to the policy objective of increasing self-sufficiency (replacing the import of organic products by domestic production), except if combined with a campaign for local (domestic) organic products (as in the example of Canada or Switzerland below).

Possible modalities of implementation

Public support to consumer awareness raising activities takes place under various policy instruments.

In the EU, it mostly takes place in the framework of the Common Agricultural Policy, which involves co-funding from the EU and from Member States. In particular, two CAP measures are most often used and combined: Measure 132 (support to quality schemes) and Measure 133 (Information and promotion activities), which supports activities such as advertising via various communication channels, tasting events or participation in fairs and exhibitions for products covered by approved quality schemes. Under those measures, public funds are given to producer organizations for the implementation of promotion activities. Producer groups may receive a grant of up to

70 % of eligible costs. However, very often the measure is not specific to organic farming promotion, but open as well for applications from other food quality (certification) schemes. For example, in Cyprus, Denmark, Saxony (Germany), Campania (Italy), Poland, Portugal (Mainland and Madeira), Slovenia and some regions of Spain corresponding support schemes have been implemented which address not only organic farming but also other European and national food schemes. Other countries, such as Malta and Estonia, have reserved access to such support for organic organizations only.

For other countries, organic consumer awareness activities are decided as part of the national organic action plan or set of measures (e.g. Denmark, Tunisia, Bhutan) or are even written into the organic policy adopted by the parliament (e.g. Costa Rica, Turkey). They can also be decided and financed through a special government-funded project (but those are then time-limited activities like campaigns) such as in Saudi Arabia or Canada.

Brazil is an interesting case where the organic unit in the Ministry has managed to secure long-term commitment to the Organic Week campaigns (held annually for over a decade) by including it both in the Multi-Year Plans of the Federal Government (prepared by the Government and approve by Congress every four years) and in the National Plan for Agroecology and Organic Production which is launched by the President and commits four different Ministries to implementation.

Cooperation with the private organic sector is highly recommended when it comes to consumer campaign activities. A typical setup is where the organic umbrella organization manages the campaign, the Ministry and potentially external donors co-fund it, and the domestic industry (organic companies) also contributes funding. Retailers are strongly involved as partners in the implementation. Government support can incentivize and leverage important private contributions. For example, in Canada, the EUR 400,000 government funding was completed by EUR 600,000 Euros private sector investment in the campaign.

In Brazil, the federal government transfers a small budget to each state for implementation of local specific actions and events for the Organic Campaign. Each state can define its own activities in line with the theme and guidelines developed by the organic unit in the federal ministry. Actions in the various states are also co-financed by local public and private entities.

In any case, before any significant action is taken the existing situation should be assessed through consumer surveys in order to better understand the profile, concerns, and shopping habits of both the existing organic consumers and the potential new ones.

The types of consumer awareness raising activities supported through public funds include general information for the public about organic food and agriculture through a permanent website, booklets and brochures, TV and radio programs, newspaper articles, billboards, and more recently and increasingly social media. But also, very importantly, commercial actions such as special product displays and tasting are carried

out in shops, special organic product fairs, and open farm days where consumers can come into direct contact with organic products and organic farming. Packaging the promotion activities in the form of an annual time-limited action, such as Organic Action Days or an Organic Week or an Organic Month every year is a popular format of action. Promotion campaigns are usually targeted at consumers or the wider public but they might target, as an intermediary step, retailers, caterers and schools, who then become partners in targeting consumers.

Organic promotion campaigns often associate the national organic logo with a slogan or a set of special messages that are repeated over multiple communication channels and in multiple locations (e.g. Canada, Saudi Arabia).

Policy makers may also contribute to raising public awareness about organic agriculture in their speeches or government declarations. For example, if a president or minister makes a statement in favor of organic agriculture, this sends an important signal to the media and to the general public, including consumers. Featuring organic products in prominent public events like government dinners, Olympic games, World Exhibitions, UN events, etc., can also be powerful messages to the public in favor of organic products.

Country examples

In 2008, the **EU** Commission launched a promotional campaign for organic food and farming, which aimed to inform consumers about the meaning and benefits of organic farming and food production. Following this, national consumer information and promotion campaigns were conducted in Austria, Belgium, Germany, Denmark, Spain, Finland, France, Italy, the Netherlands, Sweden, the Czech Republic, Poland, Slovenia, Latvia and Lithuania. The EU Commission finances projects to promote EU agricultural products to EU consumers through annual calls for proposals under its policy on information provision and promotion measures concerning agricultural products[103]. In the 2007-2013 period, the Commission funded 17 projects to promote organic products to consumers, at a cost of EUR 21 million.

In EU Member States, organic promotion activities are often co-funded with the EU as part of various CAP measures, such as Measure 132 (support to quality schemes) or Measure 133 (Information and promotion activities). Such support is often channeled through producer organizations. Below are just a few examples of EU countries' national investment in organic consumer awareness campaigns.

In the **Czech Republic**, the Ministry of Agriculture co-funds the yearly "Organic Food Month" campaigns whose goals are to encourage more consumers to explore organic products through tasting, farm visits, etc. In the previous Czech Organic Action Plan (2004-2010) there were some innovative awareness events for the public, such as a competition for the 'Best organic farmer of the year' and 'Best organic food of the year'.

103 The current regulation in force is regulation 1144/2014.

The later plans (2011-2015 and 2016-2020) also include promotional and educational activities for the public on the advantages of organic food and farming.

In **Austria**, since 2004, the Ministry of Environment, in partnership with other ministries, retailers and NGOs, sponsors the annual Sustainability Weeks event to promote organic, locally-produced and fair trade goods. The event involves thousands of retailers throughout the country who promote and have special offers on organic, fair trade, and locally made products.

The government of **Denmark** has regularly invested funds in organic consumer campaigns over the past decade. For example, in the period 2008-2010, EUR 1 million was invested (with 50% EU co-funding) into organic food campaigns. For 2015-2018 the government has allocated more than EUR 3.3 million for sales promotion in the domestic market. See more information in the Best Practice textbox below.

The government of **Switzerland** provides regular financial support to the organic umbrella organization Bio Suisse, in the form of co-funding, to promote the organic brand in the country. For example, in 2015, the subsidy provided to Bio Suisse for the promotion of sales of Swiss organic products was about EUR 2 million. Part of this amount is used for consumer campaigns organized by Bio Suisse.
Outside Europe, other countries also invest public resources in educating consumers about organic food. Below are some examples.

In **Canada**, organic consumer awareness activities are implemented mostly by the industry, but the government funded the development of a branding concept and program for Canada Organic, which resulted in the bold *"Think Before You Eat – Think Canada Organic"* sector brand campaign, successfully launched in 2013. The government also hosts the *ThinkCanadaOrganic* website (www.thinkcanadaorganic.ca) and participates in the Organic Week - a promotion campaign implemented annually across Canada. In April 2016, the **Quebec** Ministry of Agriculture announced a support of EUR 400,000 to the Quebec organic umbrella association (Filière Biologique du Québec) for the implementation of another organic consumer awareness raising campaign.

In **Turkey**, the Ministry of Agriculture undertakes organic awareness raising campaigns. Moreover, under the 2004 law for organic agriculture, state television must broadcast half an hour of educational and/or promotional programs on the organic sector every month.

In **Tunisia**, the government decided in 2010 to create an Organic Tunisian Product Week that would take place every year. This organic week includes various conferences and events for the sector but also reaches out to consumers and pupils in the various districts, including via radio programs. It is managed by the Ministry of Agriculture.

In **Saudi Arabia,** the Ministry of Environment, Water and Agriculture (MEWA) financed and co-organized two national public awareness campaigns for organic agriculture for a total budget of around EUR 400,000 (see best practice example text box below).

In **Korea**, the Chungcheongbuk-do provincial government and the Goesan County hosted, in 2015, the Goesan Organic Exposition. This was the largest organic exhibition ever organized for the public in the world. It presented scientific materials and interactive displays on the benefits of organic agriculture at 10 themed pavilions. The event attracted 1.1 million Korean visitors and sent a strong message that the government endorses the benefits of organic food.

In **Brazil**, the Ministry of Agriculture, in partnership with other ministries and with NGOs, has been financing and organizing Organic Food Week campaigns every year since 2005, which involves promotion activities in nearly every state of the country.

Best practice example(s)

Best Practice 1: Supporting Consumer Awareness in Denmark

The Danish government has been supporting organic consumer awareness initiatives since 1991. Funding support is given to private sector and civil society actors who implement specific projects and campaigns.

Denmark's organic sector NGO, Organic Denmark is a main actor in most of the funded activities. It receives project support to implement its own public awareness activities, which are reviewed and approved annually by the Ministry of Food, Agriculture and Fisheries. Organic Denmark is primarily responsible for promoting the national organic label and activities toward this are ongoing in its public awareness program.

Denmark's current Organic Action Plan for 2015-2018 allocated EUR 3.3 million annually for organic promotion in the domestic market. Until 2011 this was allocated through a "Program for quality organic foods", in which the government has provided 70-100% of the cost of consumer awareness and market initiatives, which include these campaigns and also assistance for conversion of farms and new product development by organic food companies. The consumer awareness funding is open to groups of companies that apply for particular projects and campaigns. Organic Denmark often plays a role in these initiatives, as it is often hired to lead or take part in planning and implementation. These campaigns exemplify a high level of collaboration among government, civil society and the private sector toward achieving a common objective, which in this case is to grow Denmark's domestic organic market.

Organic Denmark uses its consumer awareness funding to support activities which include harvest events and markets, messaging in traditional and social media, point-of-sale materials, information in public schools and child care centers, media relations, events and special campaigns. In 2015 it implemented a campaign celebrating the 25th anniversary of the Danish organic label in collaboration with all major retail chains, aiming to increase retail organic sales by 10%. A 12% increase in retail organic sales was achieved that year.

Organic Denmark has two annual high-profile consumer awareness events. The Organic Harvest markets in September, attended by 75,000 people, and Organic day, Øko-day, where consumers are invited to organic farms in springtime to see the cows stampede out of the barns onto fresh grass after a winter inside. In 2016, more than 250,000 people visited more than 80 participating organic farms. This is almost 5% of the Danish population.

Best Practice example 2: National Organic Consumer awareness campaigns funded by the Ministry of Agriculture in Saudi Arabia [104]

Background
Saudi Arabia depends on imports to meet 70% of its food requirements, and its organic production sector is at an early stage of development. For nearly a decade, the Ministry of Environment, Water and Agriculture has been working with the technical assistance of GIZ International Services (an independent operational department of the federally owned Deutsche Gesellschaft für Internationale Zusammenarbeit) and in cooperation with the Saudi Organic Farming Association (SOFA) to support the development of organic agriculture in Saudi Arabia. This was done under the framework of the Organic Farming Project financed by the Ministry and implemented together with GIZ International Services. In 2008, the Department of Organic Agriculture (DOA) was established in the MEWA, which was then called Ministry of Agriculture (MoA). In 2009 the first version of an organic regulation was adopted. In January 2011, the Saudi National Organic Logo was launched. The Ministry acknowledges the important role of organic consumption as a driver of growth for its emerging sector and a way to contribute to an innovative and modern production of high quality and healthy food. Since 2011, it has engaged in promoting the National Logo and organic products primarily through financing awareness campaigns implemented by GIZ International Services.
The campaigns' key objectives have been to raise awareness for "organic", to inform Saudi consumers about the benefits of organic food and agriculture, and to establish the Saudi Organic Logo as a trustworthy brand.

First Promotion Campaign
The launch of the National Organic Logo included an eight week consumer awareness campaign at a cost of nearly €100,000. A qualitative consumer survey conducted by interviews in shopping malls preceded the campaign, in order to inform the campaign design. The National Logo combined with a key message, "The health of your family depends on a healthy diet," was the centerpiece of 180 posters placed in public spaces, high traffic streets in the capital city Riyadh and on digital billboards in shopping malls. Media outreach, especially to print media, led to additional dispersal of this messaging.

Second Promotion Campaign
Based on lessons learned from the first campaign, the Organic Farming Project organized another 4-week campaign in 2014 with a budget of around €300,000. The approach to the survey changed from information collection in public places to the Internet (online survey advertised in social media), and was supplemented by cooperation with a fitness studio chain and a catering business. The survey reached more than 3000 responses. Objectives of this campaign were to: 1) create a linkage between "high quality", "healthy" and "organic" 2) promote organic foods as high quality products and 3) support domestic organic foods. A marketing agency was tasked with the creative design and implementation of the campaign. The core messages were: "Go Organic, Go Natural", "Organic...your natural choice to enjoy the benefits of pesticide-free foods!" and "There is no alternative to the original", all associated with the national logo.

The campaign consisted of:

104 Information provided by the Department of Organic Agriculture (DOA) / Saudi Ministry of Environment, Water and Agriculture and Organic Farming Project, Saudi Arabia / GIZ International Services.

- A press conference with the Minister of Agriculture and prominent business representatives from the private sector (CEO of Danube and CEO of Tamimi Markets) at the launch of the campaign to attract media attention;

- Four weeks of information in social media (Facebook, Instagram and Twitter) on the benefits of organic, in conjunction with two weeks of campaign banners on several frequently visited Saudi webpages including Google and Yahoo;

- Four weeks of "organic food festivals" in two of the biggest Saudi supermarket chains (Danube and Tamimi Markets), which partnered with the campaign to prominently display and heavily promote organic products in 20 stores located in all major cities of the country;

- Displays of the campaign's key messages on digital billboards inside major shopping malls over the four-week period.

The social media campaign was very successful (16,000 followers and 39,000 Likes) and encouraged many consumers to get actively involved. Combined with organic festivals that enabled sensitized consumers to actually find the products in their normal supermarkets, it has significantly increased the organic consumer base in Saudi Arabia and motivated supermarkets to increase their organic products range (including many imported products). Parallel to consumer awareness campaigns, the Organic Farming Project has been working on the front of organic product and market development, in order to ensure that local organic products meet consumers' (increasing) expectations in terms of quality, packaging, etc.

Pitfalls and challenges

The main risk when embarking on a consumer awareness raising campaign activity is spending a lot of resources and then still missing the target. Especially if government agencies implement such activities without consulting or cooperating with the private organic sector, there is a high risk that the efforts will not lead to the highest possible impact.

In countries with a very young organic sector, and generally speaking a low income per capita, it would be a waste of resources to do a mass campaign targeting the general public when organic products are not easily available and most people cannot afford to pay a premium. Instead, consumer campaigns should be more targeted to the potential "LOHAS" (Lifestyle of Health and Sustainability) profiles of consumers, such as those going to health clubs, dieting, doing yoga, etc., and young mothers with sufficient purchasing power.

The consumer information campaign should direct consumers to where they can find organic products. It should preferably be coordinated with push measures to ensure that there will be enough and well organized organic products to meet the newly created demand.

The core messages of the campaigns also need to be well thought through and adapted to the audience. In developing countries with emerging organic sectors, the topics such as animal welfare, biodiversity, or soil conservation, are unlikely to be driving a lot of new consumers to organic. Instead, the topics of health (avoiding pesticide residues, particularly), and the image of a "natural" product, are more likely to be effective. In

well-developed organic markets and countries with generally high consumer purchasing power, the messages and the target groups of the campaigns will be different.

It is a difficult exercise to make a consumer campaign that has the expected impact. Therefore, efforts should be invested in monitoring and evaluation of consumer campaign activities. A good practice is to collect and publish sales figures regularly (ideally annually). Such data can also be used as content for annual media conferences to present new statistics and consumer trends and show case developments, which is also a form of promoting the sector, both to potential investors and to the general public.

b. Public procurement

Political justification

Catering (the provision of food services) is an important and increasing part of the food sector. For example, the catering sector in Nordic countries accounts for one-third of total food consumption. Of this, public catering that is managed by the public sector (government institutions, municipalities, etc.) is a significant part[105]. This includes canteens of schools, hospitals, care homes, universities, government buildings, prisons, and armed forces. As the general demand for organic food increases, so does the demand for an offer of organic food in such canteens.

Aside from fulfilling the demand of canteen users and contributing to the growth of the organic sector by developing a strong demand factor for organic products, there are many reasons why offering organic products in public canteens is a powerful instrument for change towards sustainable organic food systems.

It is one of the most effective ways to raise awareness about organic food consumption and even to make it "fashionable". Public procurement has a strong symbolic impact in influencing the increase in the consumption of organic products, and it can easily be combined with educational activities around the benefits of organic food, tasting events, nutrition advice, etc.

It provides access to organic food to a broad public, including children from poorer households, and those who would otherwise be unlikely to fall in the consumer group for organic products. It therefore contributes to reducing food and nutrition inequalities in society.

Government and public institutions, which serve the public good should operate in an ethical framework of care for their communities and the environment. Regarding food purchasing decisions they therefore should consider not only the price tag of food

105 For example, in the UK in 2007, the public sector provided approximately 1.8 billion meals every year, accounting for 7% of the entire UK catering sector.

ingredients but also how their purchases can maximize societal welfare. For example, the town of East Ayrshire, in Scotland, which invested in sustainable school meals that included organic and local products, calculated that it achieved a Social Return on Investment Index of seven Euros, meaning that for every euro spent the county is producing an investment worth EUR 7 in environmental and socio-economic benefits.

Schools embarking on efforts to source organic products are also more active to promote healthy eating among the pupils in general.

Besides organic food in public canteens, the concept of organic public procurement can include office food supplies for administrations, army food supplies, food aid, public event catering, but also non-food products such as textiles for uniforms. Similar justifications apply to those areas as well.

A large buyer, or collection of buyers, can significantly stimulate the demand for domestically produced organic products, thus providing markets for producers and stimulating the growth of organic production. Public institutions offer mostly long-term contracts that represent a reliable and stable source of income for organic farms. This is a good way to encourage existing organic farmers to invest in their production and expand and can also send strong signals to conventional farms that they should convert.

Suitable contexts

Public procurement is feasible at various stages of development of organic agriculture and whether the country is a net-exporter or net importer of organic food. However, at very early stages of development, it won't be feasible to pass (or implement) regional or national policies regarding organic public procurement, as not enough organic products are available. It may be feasible on a very small scale, e.g. municipality school level and limited number of food items. If the country is essentially an importing country for organic products, public procurement as a major area of policy intervention is possible, but may be more difficult to get political support for, since it will not easily be linked to territorial development.

Actions for organic public procurement can take place regardless of the organic regulatory context, as individual canteens can set-up their own criteria for identifying credible organic products, but it will be easier in a regulated context or a context with an officially referenced organic guarantee system.

Organic public procurement is feasible and appropriate under any culture of government intervention on the agricultural sector, but is more strongly rationalized where there is a culture of government intervention in agriculture markets.

Public procurement does not serve all objectives for policy support to organic. It matches well with the objectives of encouraging the production of positive externalities (social and environmental benefits), and wanting to increase access to healthy food for all citizens. It doesn't serve the purposes of wanting to build the organic sector as a

foreign currency-earning sector, nor the objective of wanting to increase domestic self-sufficiency in the organic sector.

Possible modalities of implementation

As shown by the series of examples above, the decision to source more organic products in public canteens can happen at various levels ranging from the individual canteen (school level, or hospital level) to municipality, region and up to a national government policy. Such decisions usually start with kindergartens and school meal services (because children are the most vulnerable group when it comes to pesticide residues in food), and then extend to an overall municipal policy for food procurement across different public services.

There are essentially two models through which public canteens are managed: one is direct management whereby the institution employs staff to purchase and prepare the food, and the other is where this service is outsourced to a private catering company. In any case, management of public canteens is often (at least in Europe) delegated to management committees composed of representatives of the public institutions and of users of the canteen (or for school canteens, the parents). Such a committee often has the responsibility to write the call for tender (when the food preparation is delegated to a private catering company) and to establish the contract with the catering company, or with the suppliers (in direct management). The decision on how much and which products should be sourced organically is typically taken at the level of this management committee.

Policy decisions at a higher level (e.g. regional or national) can be constraining, meaning that they oblige public canteens to source a certain percentage of organic/local/sustainable products. Alternatively, they can be incentivizing, meaning that they provide grants and technical support to canteens wishing to move in this direction, or financial incentives to canteens, which have reached a certain threshold of organic products. One example of such incentivizing regional policy is the region of Friuli Venezia Giulia in Italy, in which the Law no.15 / 2000 grants contributions to a maximum of 30% of the expenditure incurred in the previous year to the companies that use a share of organic products higher than 60%.

Many times, the decision, especially when taken at higher levels of governance, does not involve only support to organic products but also to local products, products from "family farmers" (as in the case of Brazil), or other "sustainability" certification schemes (such as Marine Stewardship Council for fish products). Those broader policies may be more easily accepted because they cover a broader range of policy objectives, e.g. promoting economic development of local farms and processors in the region, and because they do not appear to support only one particular scheme. Nevertheless, experience shows that even if the policy is written quite broadly (sustainable food in public procurement), it allows the development of selection criteria that usually give a very high priority to organic products.

Another type of incentive for public canteens to source a significant amount of organic products is the concept of a catering mark. An example, although developed by a non-government actor (the Soil Association) is the Food for Life Catering Mark in the UK, implemented since 2009. It is found to be a successful model[106] to incentivize caterers to source at least some organic ingredients and increase the share progressively. The mark is awarded, in different versions (Bronze, Silver and Gold) to caterers that meet certain requirements with regards to the sourcing of organic, ethical, local and environmentally friendly ingredients and meet nutritional guidelines for healthier menus.

Capacity building is an essential aspect in the process of sourcing more organic products. Policy decisions with targets to increase the share of organic products should contain budget provisions to support the training of public staff in charge of purchasing food, canteen staff, teachers (for schools), as well as the canteen suppliers, such as public catering companies. This can be in the form of grants to canteens that want to transition to organic. It can also be advice offered directly by a specially appointed unit in a government agency (in case of an ambitious national program, it is worth setting-up such an expert advice unit). It can also be in the form of a public-private cooperation wherein the government agency uses the expertise of one or several private sector organizations and actors. For example, in France, the public agency Agence Bio coordinates actions to increase organic food in public canteens. It hosts a national stakeholder committee on organic public procurement, it produces information, organizes the exchange of information and the trainings. It also maintains a directory of organic suppliers for public canteens and contributes to a website dedicated to organic public catering: www.restaurationbio.org, managed by the French Federation of Organic Agriculture.

Efforts are also necessary on the level of organizing producers in local supply chains to be able to respond collectively to the demand for particular products needed by the canteens and to organize storage, processing and deliveries. Sometimes this even involves setting-up projects to encourage conversion to organic, in order to anticipate the increase in demand when canteens shift to organic products. For example, the city of Lausanne (Switzerland) supported, in 2013, the set up of an organic cooperative to organize organic farmers in the Vaud cantons in order to deliver local and seasonal organic products to the 14 public canteens serving organic products.

When the municipality manages procurement, it can be a very good opportunity to combine several municipality policy objectives, for example to encourage conversion to organic around water catchment areas for productions that are in demand by municipality canteens. In Sweden there are some local governments that have bought own cattle for grazing which combines the objectives of landscape management and supply of organic meat. It also allows them to get local products, a demand that is not easily reconciled with the procurement rules of the EU.

106 For example, in 2013, the Soil Association reported that the number of Catering Mark meals served in UK hospitals has increased by 10 million in 12 months, and that Silver and gold caterers within the Catering Mark had spent EUR 2.2 million more on organic compared to the year before.

Good examples of efficient supply chain organization for public procurement are Piacenza (Italy), Andalusia (Spain), and Camargue (France) where groups of farmers, producing a variety of different products have joined together in order to be able to win the tender for food procurement in local schools, being able to provide the higher diversity possible.

It is recommended to adopt an incremental approach to increasing the proportion of organic products in the menu each year (starting with the easiest products), in order to give time for the suppliers to adapt and plan their production. A preliminary analysis of the organic products available in the locality, including their seasonality and available quantities, can assist in planning the menus and the tender.

It is easier to have some organic items offered every day (even if it is only a few products) rather than have meals that are fully organic once in a while. The items that are organic should be identified as such. A large consumption of organic food in schools is easiest achieved in "captive catering" situations, where all or most pupils participate in the food service and are offered complete meals. Highly flexible systems with many options are more difficult to manage in terms of planning the organic supply. In adult catering, where the canteen usually proposes different price categories for various meal options, organic options should be offered in all price categories so that they become accessible to everyone.

A significant shift to organic products will most often lead to a shift in the menu. Especially when it is accompanied by a policy to shift to more local, seasonable, fresh and healthy food, the impact on the menu can be significant. Also, a shift to organic products is also often accompanied by a reduction of meat products and an increase in vegetal proteins like beans and pulses. This is often a main part of a strategy to mitigate the cost differential between organic and conventional products. Communication to the canteen users is crucial to ensure acceptance of the changes and to combine the transition with education about organic farming and healthy eating habits. As part of their program to source organic in school canteens, some cities have developed resource toolboxes for the schools to use with their pupils in order to explain the changes on the canteen menu. One example is the BIOBOX games produced by the city of Vienna for use by kindergartens.

A perceived constraint when selecting tendered offers (in outsourced systems) or selecting suppliers (in direct management systems) is that general public procurement legislations (such as the EU directives 2014/24 on public procurement) may oblige the selection of the best offer (often understood as the lowest cost). However, legislation (such as the EU 2014/24) often allows the use of objective criteria and weighted scoring systems to evaluate the offers. Hence, not only the price of the menus needs to be considered as a selection criterion but also the ability to supply organic products according to the expectations detailed in the tender. If the price is not given too high a weight as an evaluation indicator, offers with more organic products have a greater chance to win the bid. In direct management systems, the call for offers of products should be split into smaller lots (for example individual products or categories of products), which makes it more accessible for organic suppliers, as there might not be

any supplier that can offer the whole range of organic products, especially not if also local products are strived for.

Budget increase is the main concern, when shifting to organic procurement. Municipalities and individual schools are implementing a range of mitigation strategies including changing towards lower cost ingredients, reducing waste, optimizing the cooking process to save energy, which bring further environmental benefits at the same time. Another approach is to get companies of all kinds to sponsor organic school menus financially (e.g. in Munich).

In summary, to maximize the consumption of organic food in public canteens, particularly in schools, the meals should be complete meals, served without user payment, well embedded in public regulations and nutritionally calculated, with a high share of organic ingredients, in a market with well developed supply chains for organic catering. Carefully designed calls for tenders, based on dialogue and joint planning amongst the stakeholders (including local producers) in the municipalities in charge of food procurement are a key instrument to influence the quality of food. Training of catering companies and kitchen staff, as well as education and sensitization of canteen users are also important aspects.

The website of Agence Bio (France) has a wealth of resources in French relating to introducing organic food in public canteens.

Country examples

Europe is in a phase of rapid change in the area Greening of Public Procurement, and many public authorities at the local, regional and national levels have adopted or are currently adopting sustainable procurement practices, including the inclusion of organic food in public canteens. This was also encouraged at EU level when, in 2008, the EU Commission started promoting Green Public Procurement as a voluntary instrument to promote green purchasing among public authorities[107]. When it comes to food and catering, increasing the share of organic food is proposed as a major strategy[108].

In Europe, public organic procurement primarily takes place at three different levels: 1) locally (in public kitchens and institutions), 2) coordinated, initiated by local and regional administrative policies, and 3) nationally, in sector policies. There are many examples. Below is a selection of a few examples.
At the municipality level, Malmö (Sweden), Rome, East Ayrshire (Scotland), Copenhagen and Vienna triggered inspiring processes of change in their public procurement practices. These are often quoted as best practices.

In Copenhagen (**Denmark**), the Department of Technique and Environment, together with the staff of public kitchens, succeeded in developing one of the most ambitious organic public procurement programs in Europe, especially since the program was

107 http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52008DC0400&from=EN
108 http://ec.europa.eu/environment/gpp/pdf/toolkit/food_GPP_background_report.pdf

developed within existing budgets. The successive goals of 75% organic food in 2012 and 90 % in 2015 were successfully met, without increase in meal prices.

In Malmö (**Sweden**), a city of 300,000 inhabitants, efforts started in 1997 to increase its organic food purchase for school lunches. In 2010, a policy for Sustainable Development and Food was approved by the local government council, which included the goal that 100% of food served in the city's public canteens should be organic by 2020. This policy produced rapid results. Nearly 40% of the food budget had been spent on organic food by end of 2012, valued at EUR 9 million. This example is one of many in Sweden, where municipalities and councils have adopted a policy aiming at using organic foods in public catering, in particular in school meal catering. The change is supported by a network called Ekoköket in which professionals and practitioners involved in organic conversion of catering get together and discuss common problems and potential solutions. In Sweden, a "KRAV" organic certification program for kitchens in restaurants and canteens has been running for many years, and more than a hundred establishments hold this certificate.

The city of Vienna has the most successful initiative in **Austria** in terms of sustainable public procurement. The program 'ÖkoKauf Wien' ('EcoBuy Vienna') was launched in 1998 as part of the Vienna Climate Protection Program ('KliP Wien'). In 2012, the level of organic ingredients reached 38% in hospitals, 50% in kindergartens and schools, and 18% in nursing homes. The "ÖkoKauf Wien" program has received two prizes, namely the European Public Sector Award (EPSA 2011) and the Dubai International Award for Best Practices.

Rome (**Italy**) embarked on organic public procurement in 1999 when the city had a Green Party mayor. Since then, progressive phases have been implemented to gradually increase the proportion of organic products in the school canteens (feeding 150,000 children for 190 days per year, so around 150 tons of food per day). The tendering process for the period 2013 – 2017 has set a criterion that 70% of all foods are to be organic.

More details on public procurement of organic food in these municipalities can be found in the 2012 Foodlinks report.

The trend in favor of sustainable public procurement (which usually encompasses a strong component of organic catering) is spreading rapidly in European cities. Several big cities are now trying to catch up, including Paris (**France**), which has set itself an objective of 50% of organic food by 2020 for the 30 million meals that it serves every year in its 1,200 public canteens. The Department of Health and the Environment of the city of Munich (**Germany**) started the program "Organic for Children" in 2006, aiming to change to organic procurement in all Munich's kindergartens and schools. In 2013 the Munich City Council enacted a decree requiring 50% organic food in all public childcare and educational institutions, raising the percentage to 90% for animal and derived product.

For smaller municipalities it is even sometimes possible to achieve 100% or close to

100% organic food in school canteens. Some examples of municipalities achieving 100% are: Correns ("First Organic Village" in France), Langouët (France), Saint-Etienne (France), Argelato (Italy), Ravenna (Italy). Other examples of municipalities in Italy achieving more than 80% are Parma, Bologna, Cesena Ferrara, Gugliasco. In Denmark, the municipalities of Lejre, Albertslund and Aalborg Roskilde also have very high shares of organic food procurement.

A European network of cities going for organic public procurement is in the process of being created: the Organic City Network.

At the regional level, Andalusia in **Spain** has developed a program entitled "Organic foods for social consumption" as one of the main actions of the Andalusian First Organic Action Plan. The program is the result of an agreement among five different Regional Government Departments (Agriculture, Environment, Equality, Social Welfare and Health). It started in 2005 in school canteens providing organic food to around 3,000 students, involving four organic farmers' groups supplying local canteens of 16 elementary schools, five nursery schools and one home for the elderly. In year 2007 the program has involved 56 schools with 7,400 students with a turnover of EUR 208,000. The program supports the creation of new farm businesses and cooperatives of organic farmers from different parts of Andalusia so that, together, they can offer a broad diversity of organic foods to schools and other public canteens.

Emilia-Romagna and Marche, in **Italy**, are other leading examples at a regional level. Since the 1990s, the government's policy in Marche has been highly favorable to organic farming. Consumption of organic food is widespread and there is a tradition of organic catering in state schools. In 2015, in Emilia-Romagna, 172 public canteens served organic meals[109]. At regional level, the Law 29/2002 *'Standards for guidance in consumption, nutrition education and public procurement'* requires that the share of organic, integrated, typical and traditional products supplied for the preparation of meals must be at least 70%, with priority given to organic products. However, all products used for catering services of nursery schools, kindergarten and primary schools must be organic. Some municipalities in the region have exceeded the target.

At the national policy level, among EU member states, **Italy** is the leading country in terms of quantity of organic products in public procurement. The country is an early adopter of policies favoring organic public procurement. In 1999, a national law[110] created a regulatory context that encouraged many municipalities to turn to organic. This regulation and related ones have resulted in an impressive 40% (by weight) of organic school food being organic on the national level in 2010. However this law failed to stimulate the introduction of organic food in other public catering than schools, such as in hospitals or governmental institutions. To overcome this problem, on February 2016, a new law[111] was passed, enforcing the adoption of organic food in all public canteens. This law introduces at national level minimum percentages of organic

109 Biobank report (2015)

110 Finance Law 488

111 Law 221/2015

procurement for specific categories of products (e.g. 15% of the meat should be organic and 20% of the fish should come from organic aquaculture).

In the **Netherlands** the National Action Plan 2005-2007 foresaw the action to introduce organic products in the government canteens as a measure to boost the demand of organic products. In the context of this plan, the Ministry of Agriculture set as a goal to bring the use of organic products in its canteens from 50% to 100% by 2007 and to increase organic procurement in other ministries, as well as to encourage semi-governmental institutions and civil society organizations to follow the example. The goal was achieved: by the end of 2007, 100% of the products in catering for the Ministry of Agriculture were organic. However this percentage could not be maintained after the Ministry of Agriculture merged with the Ministry of Economic Affairs in 2010.

In **Denmark** substantial efforts have also been done at the national government level to promote organic procurement. In 2011 the government established a goal of 60% organic in all public kitchens by 2020. Almost EUR 8 million is allocated (under the 2015 organic action plan) for the period 2015-2018 for assistance to public kitchens to significantly increase their use of organic raw materials. Additionally, the government offers advice to public institutions wishing to change their kitchens to organic. An additional EUR 3 million is designated to support other public purchases of organic products. The Ministry of Defense has a pilot project to purchase organic products, and the Ministry of Health promotes organic procurement by hospitals. See more information in the Best Practice textbox below.

In **France**, several national policy documents[112] have set directions and goals related to organic public procurement, such as the goal of 20% organic products in State public canteens by 2012 set in 2008. This has encouraged many municipalities to take up organic products in their procurement: the percentage of public canteens that source some organic products rose from 4% in 2006 to 59% in 2015. However, organic sourcing in state-run canteens remains below the objectives.

In **Sweden**, there is a public target that 25% of all public procurement should be organic.

At the EU level there is also some policy support for projects related to encouraging public procurement of organic food. The EU Public Health Programme (PHP) and the European Action Plan for Organic Farming (ORGAP) recognize the value of including food in school menus as a tool to promote healthy eating and sustainable consumption patterns. In 2010-2010, the EU Commission funded the project "Increasing organic food in schools" which brought together various participating municipalities to exchange best practices and publish guidelines for inspiring others.

112 This includes: the Circulars of May 2, 2008 and December 2008 on the exemplarity of the State in terms of utilization of organic products in public catering; the law of August 3, 2009; the National Food Program (PNA) of September 2010; the Organic Plan to 2017 of 2013.

In other regions of the world, organic public procurement is also being increasingly considered, although currently, apart from Brazil, to a much lesser extent than in Europe.

In Latin America, **Brazil** is the leader in terms of organic purchases in public procurement. See best practice example textbox below for more information.

In the **USA**, California's Sausalito Marin City School District is the first in the nation to serve their students 100 % organic meals. Bayside MLK Jr. Academy in Marin City and Willow Creek Academy in Sausalito will serve organic food year-round to more than 500 students in a partnership with the Conscious Kitchen, a project of the environmental education nonprofit Turning Green. Meals are accompanied by nutrition and gardening education. The Conscious Kitchen first tested the program starting in August 2013. They noted that over the course of two years, disciplinary cases decreased and attendance increased.

In **Bhutan**, the government doesn't have a specific organic public procurement program but has programs where farmer groups (some of which are organic) are linked to school feeding programs and supply school canteens.

In **Taiwan**, the city of New Taipei (around 4 million inhabitants) has instituted an organic school lunch policy where students are required to have at least one organic lunch each week, the frequency planned to increase as supply increases. This school lunch program is starting to be replicated nationwide.

Best practice example(s)

Best Practice Example 1: Organic Public Procurement in Denmark: from goals to achievements

After 18 months of lobby activity, Organic Denmark succeeded in 2011 in gaining support from 4 left-center opposition parties for a goal of 60 % organic food in all public kitchens. Just weeks after this opposition gained power in October 2011, the goal was official. The government also allocated around EUR 3.7 million annually 2012-14 to support education in public kitchens that could drive the conversion. This was necessary because the plan was not just for replacing conventional food with organic food, but changing the way food is prepared in public kitchens. With Copenhagen, now at 90 % organic, as a leading example, kitchen staff began preparing more food themselves, buying in season, reducing amounts of meat and increasing greens, making the food healthier, better tasting and more climate friendly. Waste has been dramatically reduced in many kitchens. Together, this reduced waste, in-season buying and reduced meat consumption has paid for the organic premiums, allowing government institutions and municipalities to buy 60% organic within existing operating budgets.

The organic sector and ministry officials toured the country presenting the new goal and the help available to municipalities and regional governments. Private consultants, such as the Copenhagen House of Food, and Øko ++, assisted interested municipalities. About 30% of all municipalities have completed conversion and many others are on the way.

In the same period, Organic Denmark lead a mobilization in the supply chain, bringing farmers, food companies and food service firms together to ensure supply and widen the assortment of organic food being offered in the food service industry. This was supported by financing from The Fund for Organic Agriculture and the Ministry of Environment and Food. Organic Denmark also trained sales staff in the food service industry, many of whom never had bought an organic food item in their life. The staff, and thousands of kitchen workers have since visited organic farms, seeing first hand the difference organic farming makes for animals, nature, water protection and the farmers themselves.

The result was that the public sector and the food service industry went from "waiting on each other" to "motivating each other" and a considerable momentum exists now. An additional motivator is the government organic labeling scheme for restaurants and canteens. Bronze (30-60% organic), Silver (60-90% organic) and gold (90+% organic) organic labels are highly motivating, and, at the same time, provide public and private food service operators with documentation of their organic conversion efforts, as well as a platform for dialogue with their customers and guests about organic food.

In 2012, the government agreed to establish a team of advisors to help municipalities write their tenders for public procurement, so that organic purchases could be prioritized. This was financed with around EUR 2.3 million over three years. The public subsidy for public procurement (around EUR 3.7 million) was extended two additional years, under the RDP, and since 2016 has been funded with around EUR 1.3 million from the Fund for Organic Agriculture.

Best Practice Example 2: Organic Public Procurement in Brazil

Brazil is at the forefront of sustainable food public procurement policies in Latin America. Policy initiatives exist at various levels, including the national level, the state level, and the municipality level.

At the national level, the Food Acquisition Program (PAA), launched in 2003, supported the purchase of diverse, locally produced food from family agriculture and preferably from sustainable systems, which helped small organic farmers gain market access for their products. In 2009, the National School Feeding Program (PNAE) set an objective to purchase at least 30% of the products for school meals from local family farmers, prioritizing organic foods. It also required that organic products be purchased from farmers at a 30% price premium. The program feeds 47 million students each day in Brazilian public schools.

In 10 years, more than 3 million tons of food from over 200,000 family farmers has been purchased. The annual budget was around EUR 1.6 billion in 2013. These programs have not only provided strong incentives for conversion to organic, but also provided universal access of organic food which was beforehand only affordable for an elite population, and income generation for smallholder farmers.

At the state level, a leading example is the State of Parana that, in its law 16751 of 2010 has also set a target of 100% organic school meals served daily to its 1,3 million pupils (the current value is 25%).

At the municipality level, there are also impressive commitments. A few municipalities and states in Brazil have passed laws that set targets beyond what the national Brazilian School Feeding Program requires. A leading example is the city of Sao Paolo, whose school meal program is one of the biggest in the world. In 2016, the city passed a decree setting a target that

by 2026, 100% of the two million school meals offered in the city every day should be organic. This decree No 56913 of April 2016 contains a detailed plan of how this target is to be progressively achieved over the next 10 years.

Pitfalls and challenges

On average, going organic may potentially increase the cost of canteen ingredients. However, the cost of ingredients represents on average only around 25% of the total cost of a meal in public catering in developed economies. Moreover, several characteristics of organic products lead to savings: in particular, certain fruits and vegetables do not need to be peeled; cereals and meat are more nutritive than their conventional counterparts[113] and therefore portions can be reduced; rebalancing of meals with more vegetal proteins and less animal proteins can also reduce the cost. In France, experience with organic public procurement shows so far that 60% of the canteens managed to reduce the cost increase from a starting point of 23% to 16%. Cost reduction strategies of some of the canteens resulted in zero cost increase.

The catering market differs very much from the retail market. There are many obstacles that have to be overcome in order to make organic foods flow easily through the catering chain. For catering operators barriers are in finding new suppliers, finding the right products, finding products with the desired convenience level, establishing reliable deliveries, the right packaging sizes and to bring about the organizational change that is needed if a catering organization is to go organic[114].

Fair competition laws that apply to public procurement may seem like an obstacle to purchasing organic foods (which are not price competitive), but these can be circumvented through a range of creative procurement approaches, such as the use of quality criteria published in the call for tender, or through the establishment of parallel support processes for local organic catering companies. For example, in the case of Copenhagen, due to EU law the canteens were obliged to tender for suppliers in all EU countries. Their success was possible only because an overall support program of organic catering was installed at the same time. Rome has achieved the same objective through the identification of innovative award criteria, such as "foods from bio-dedicated food chains" and freshness requirements. Another common strategy is to break the contract into as many lots as possible to promote the participation of small-scale local suppliers. Vienna's hospital awarded a contract for dairy produce by writing into the tender that, if required, replacement milk must be delivered within two hours of the request, which in practice excludes remote suppliers.

One challenge, like for many policy aspects, is the continuity of political commitment after election of a different political majority. Decision makers in public institutions change; it is a big challenge not to lose momentum and to re-establish the importance of

113 See for example Lairon, D. 2010, *Nutritional quality and safety of organic food. A review*; AFSSA, 2003, *Report on Evaluation of the nutritional and sanitary quality of organic foods*; and S. Kamihiro et al, 2015, *Meat quality and health implications of organic and conventional beef production*.

114 Organic Foods in Catering – the Nordic Perspective, Danish Veterinary and Food Administration, 2002

the program. However, several experiences show that even with decreasing political support, if momentum has been created at the level of the individual kitchens, with kitchen staff and communities supporting the transition to organic, it can sustain itself and even continue developing with reduced high-level public support. For example, in Denmark, in 2011 the government established an ambitious target of 60% organic in all public kitchens, and it allocated around EUR 3.8 million annually to support the organic education of kitchen workers. After a change of government in 2015, the target was dropped and the level of financial support reduced to EUR 1.3 million annually. However, many cities and food service companies are still increasing their share of organic supplies. In 2015, there was still a 20% food service sales increase in organic, resulting in political pressure to maintain the program.

In the catering supply chain, like in the rest of the economy, concentration is occurring. In many advanced economies catering wholesalers are becoming fewer and larger. They are supplying a broader range of products (one stop shopping) with very competitive prices. The pressure from big catering companies towards central kitchens and towards cook & chill systems is very high, which is a factor to take into account when planning to go organic in canteens. In addition food markets are increasingly de-localized.

Although experiences with 80-90-100 % organic food in public canteens are impressive and inspiring, it is safer and more effective to adopt a progressive, incremental approach to the organic procurement process, which can help cities to calibrate demand and supply of organic products.

c. Support to domestic trade/ retail uptake

Political justification

Availability of organic products in market channels that are frequently used by consumers (whether they be street markets or supermarkets) is a major precondition to consumers buying them. Offer creates demand, at the level of retail. Sometimes the best way to boost organic consumption is simply to increase the number of organic products placed on supermarket shelves. We have seen that the decision of one supermarket chain to offer (more) organic products can have a bigger impact on boosting demand than any consumer awareness campaign. This is particularly true when mainstream supermarkets or regular street markets begin offering organic products: they reach consumers who would not have otherwise gone the extra miles to buy products in a specialized organic shop. But even increasing the number of specialized organic shops, or farmers' markets is a very effective way to create demand: make organic products available to consumers in their neighborhood, where they normally shop.

Some striking examples where uptake of organic in conventional retail has had a major impact on sector growth are Denmark and Switzerland.

Denmark has the highest market share for organic products in the world (7.6% of the food market), and it has the particularity of not having a specialized organic retail sector (no organic shops or supermarkets). Instead 96.5 % of organic products are sold through mainstream market channels. Only 3.5 % of organic products are sold through alternative market channels including health food stores, markets and farm gates sales. The history of organic consumption growth in Denmark is basically the history of organic products uptake and marketing efforts in conventional supermarkets. It started in 1993 when the retail chain SuperBrugsen was the first to take significant action in favor of organic products (price reduction and marketing efforts), and was quickly followed by other chains. The growth of consumption then plateaued until in 2005 when Netto and other retail chains sharpened their organic profile by widening their selection of organic products. This trend has continued with all retail chains in Denmark increasing their selection of organic products in the last years. Combined with the increasing interest of consumers in quality food products, the extended range of organic products is believed to have contributed to the renewed growth in the sale of organic products.

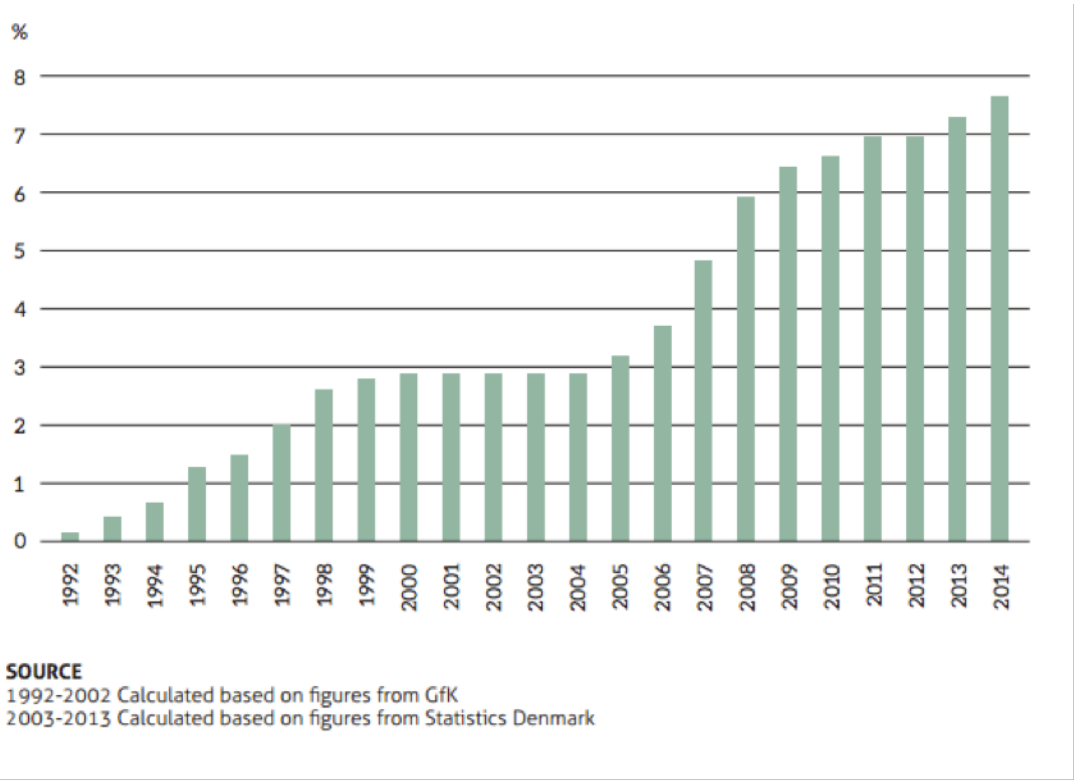

Fig. 8: *Development in the market share of organic products 1992 – 2014 (Source: Organic Denmark)*

Switzerland is another example of the importance of retail chains decisions to take on organic products. The history of development of organic sales in Switzerland, the country with the highest organic per capita consumption spending in the world, is also an illustration of the importance of organic sales through mainstream market channels (in Switzerland, general supermarkets). The vast majority of organic products in Switzerland are sold through the two major conventional supermarkets: Coop and Migros. As the below graph shows, development of organic sales in the past 8 years has been impressive nearly EUR 1 billion in organic sales. Nearly all that growth (86%) has

happened in conventional retail market channels (in blue on the graph) whereas the specialized organic shops and direct sales (green) have remained nearly stagnant over the past 8 years.

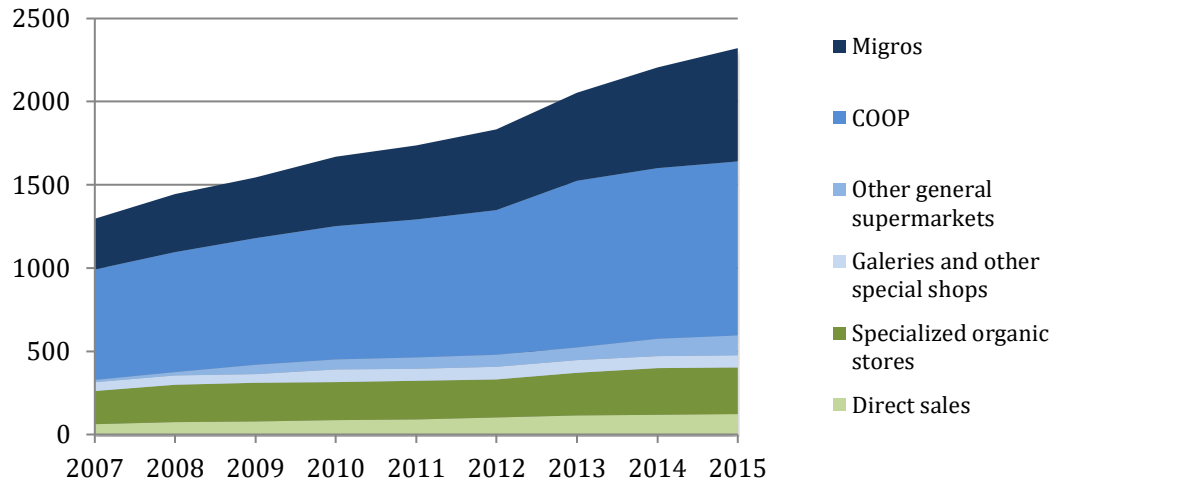

Fig 9: *Value of organic products sales in various market channels in Switzerland between 2007 and 2015 (in Million Swiss Francs). Source: Bio Suisse*

Although this aspect touches very much private business interests and is therefore not often considered as a possible policy intervention, creating organic market channels and encouraging the uptake of organic through existing mainstream food market channels can be a very cost-effective high-impact way of boosting organic demand with long-lasting impact. It is also a strategic complement to other demand-creating policies such as consumer awareness raising campaigns: consumers may respond positively to the organic message, but if they do not find organic products in the shelves it will not translate into purchasing action.

Supermarkets have become the most important sales channels for organic foods in developed countries, such as in Europe and North America[115], and they can have a big impact on demand growth as shown in the Swiss and Danish examples above.

In emerging organic markets, the creation of specialized organic shops is often the first step to encourage the creation of a regular organic consumer base. Such pioneer shops are often created by NGOs, but can also be supported by public authorities as part of the measures to support the development of the domestic organic market.

Despite the importance of supporting the uptake of organic products in supermarket chains and other types of stores, one should not underestimate the value of setting up and maintaining more direct sales systems, and in particular organic farmers' markets. These types of market channels are very compatible with the ideals of the organic movement in terms of food miles reduction, shortening of the supply chain, and sustaining small and diversified farms. Also, farmers markets serve a great educational role in terms of educating consumers about organic farming. When consumers learn

115 The World of Organic Agriculture 2016.

about the benefits of certain kinds of farming from the farmers themselves rather than from communication materials, they are more likely to seek out these products[116]. There are many good political reasons for local governments to support farmers' markets, and even more so to support organic farmers' markets. A 1995 survey of Rural Economic Development in New York State found that for every euro invested in a marketing program for farmers' markets, EUR 43 was returned to the local agricultural economy and EUR 9 was generated in net farm income for local growers[117]. Hence farmers' markets are an important component of a comprehensive local economic development strategy.

Suitable contexts

Support to organic trade and retail uptake, such as the creation of organic farmers' markets and organic shops, and the uptake of organic agriculture in general retail chains, can be implemented at all stages of development of the organic sector, of course, at very different scales and with different targets. It will be easier if the country has an officially referenced organic guarantee system or an organic regulation that provides a clear-cut definition of what can be sold as organic, and for large-scale supermarket penetration this is likely a must.

This type of support is less likely to be adopted in contexts with a culture of low interventionism in the agricultural sector, although some measures at the local (municipal) level may still be well suited.

This type of measure is focused on creating domestic demand and is therefore not relevant to the policy objectives of earning foreign currency through the organic sector or of increasing self-sufficiency in organic. For other policy objectives such as the encouraging societal benefits and increasing access to healthy food, this measure is a very relevant pull measure.

Possible modalities of implementation

Facilitating the uptake of organic products in the various domestic market channels can be done in as many ways as there are differing market channels.

Government, local governments or municipalities can support weekly organic farmers markets. This is typically done through the provision of a free location and sometimes infrastructure such as stands, electricity and water for the market. Additionally, the government or municipality can host the market management within its offices, and even pay the salaries of the staff that organize and coordinate the market. Apart from providing the location, public support is particularly relevant for farmers' markets

116 This effect was demonstrated for IPM practices by Anderson, Hollingsworth, Van Zee, Coli, & Rhodes, 1996.

117 Pirog, R and Tindall, J, 1999. Comparing apples to apples. Iowa State University.

when it comes to dealing with start-up costs, publicity, promotion, information exchange, market charter issues and, in case there are several markets in the same locality, coordination of dates. Moreover, farmers' markets may face a number of hurdles with general regulations such as health and safety or licensing. Hence, it can be useful to designate a person in charge of supporting farmers' markets to overcome these hurdles.

Although the majority of support is at municipality level, national approaches to supporting organic farmers' markets are also possible. The national government may also set aside a budget to which organic farmers market may apply for grants to support their expansion, communication, training of market managers, and other general activities. Support can also be provided for national/regional networks of farmers' markets. National/regional networks can play an important role in ensuring the authenticity of markets, promoting markets to the public and coordinating days of operation within the network. For example, in the US, about half of the states have a constituted state farmers' market association (even though those are not specific for organic). At the national level, there can also be a review of legislative and regulatory barriers to farmers' markets.

Another version is the support of an annual organic fair, which may have less impact in terms of volumes consumed, but is interesting to raise the profile of organic and for consumers to try new organic products. Again, government can administer or finance the organization of the fair and provide the space (or even the complete booth) free of charge, or subsidized for producers to display their products.

In emerging markets another format is supporting the creation of small organic shops. Especially in a country/region where no organic shop exists, this can be a way to kick-start a domestic market by offering a regular place where consumers can find basic organic products. Especially at the beginning, the organic shop will likely be a fragile business and can therefore benefit from public support in the form of free space, or even government-run shops (as in the case of the Organic Trading Posts in The Philippines). Sooner or later however, organic retail will (and should) develop as a profit-oriented business and it will no longer be necessary for government and public institutions to get involved in running or supporting organic shops.

In more modern economies or more advanced organic sector development stages, can target supermarkets by setting up project structures and negotiation forums wherein supermarket owners can be encouraged to increase their organic product range. They can be incentivized, as in the case of Saudi Arabia or The Netherlands, by win-win arrangements whereby the government sponsors organic publicity campaigns that feature the name of the supermarket and directs potential organic consumers to that supermarket to find the products. An atypical way, like the Campania region of Italy, can be to prioritize or require organic uptake in supermarkets at the level of the regulation and approval of the construction projects.

The government may also support uptake of organic products in hotels and restaurants, like in Tunisia and Costa Rica.

In keeping with the trend of online marketing, governments may finance online organic market platforms, as in the case of Taiwan, or phone apps, as in the case of Costa Rica and France.

Country examples

In **Saudi Arabia**, in 2013-2014, the Ministry of Environment, Water and Agriculture, through its Organic Farming Project, implemented an Organic Marketing Program in conjunction with its consumer campaign activities. Due to this program two of Saudi Arabia's major supermarket chains were convinced to massively promote organic products in their stores in a concerted manner. See Best Practice text-box below for more details.

In **The Netherlands**, support for supermarket uptake of organic food was provided under the national government-funded convenant 2005-2007. The convenant was an agreement between the Ministry of Agriculture and practitioners of the agri-food sector who commit to stimulate the demand for organic products. One important activity of the convenant was food chain management, whereby experts were hired as food chain managers to support members of the convenant to start new activities in one of the organic sector segment. These experts would look for gaps in the production chain and work to encourage the production of products in the right quantity and quality for the supermarkets to solve these gaps. This activity received a funding of EUR 4.3 million from the Ministry between 2005 and 2007. The umbrella organization of supermarket chains was involved in the convenant and made a pledge to stimulate organic production and consumption. The government provided financing to support advertising campaigns by supermarkets to promote organic. The intervention seems to have had an important impact, as the growth rate for sales of organic foods in the Netherlands increased from close to 0% rate in 2005 to around 13% growth rate in the year 2007.

In **Italy**, the Campania Region's regional law 01/2014, dealing with regulation of the commercial distribution system, declares that a preference for the authorization to set up a supermarket is granted to companies that commit to sell at least 5% organic products from the total of food products they sell.

In **France**, the public institution Agence Bio has developed a smartphone App "La Bio en Poche" which is directly connected to the directory database and allows users to immediately locate a nearby organic point of sale, including producers who do direct on-farm sales.

In **Croatia**, the city of Split supports the annual two-day organic fair and other activities by providing space for events, free of charge.

In **Moldova** the Ministry of Agriculture provides free space on its grounds for an

organic farmers' market.

The Council of Agriculture of Taiwan, in **China**, provided subsidies to the farmer association for setting up and participation in farmers markets.

The Philippines' government has been supporting the establishment of 49 "Organic Trading posts" across the country. These trading posts fulfill the double role of input shops (selling exclusively input for organic farming) and organic shops (selling organic products to consumers or intermediary buyers. The concept was decided by the Department of Agriculture in 2012, and applications were submitted by local government units in 2013. For more details, see the best practice text box below.

In **Nepal,** the government's Agribusiness Promotion and Marketing Development Directorate organizes an annual national organic fair. The fair, which shifts locations, is now in its 9th year and gathers around 200 farmers. The government's investments in the fair have incrementally increased and were around EUR 17,000 in 2015.

In **Tunisia,** the organic development plan maps out action points to create local organic marketing channels in supermarkets, hotels and tourist routes. The Technical Center for Organic Agriculture financed by the government organized an initiative to collect organic fruits and vegetables from producers, package them, and deliver them to some supermarkets in Sousse and Tunis. The Ministry of Agriculture then expanded it to other supermarkets in Tunis and to luxury hotels, with a focus on olive oil. The goal is to encourage the structuring of a domestic supply chain, as currently, French supermarket chains dominate the domestic organic market in the country, but mostly with imported products. The government also organizes regular organic markets and fairs in the country.

In **Argentina,** the city of Buenos Aires sponsored the national organic association for the organization of the Ferias Orgánicas Barriales (neighborhood organic fairs). This was one of the most significant public actions in support of domestic organic development in the country.

The federal government of **Mexico** supports the organization of the annual national organic trade fair, EXPORGÁNICOS, in Mexico City. In 2016, 100 producer groups were supported to participate and have been offered a booth free of charge to display their products to potential buyers.

In many regions of **Peru**, the local authorities support organic markets, for example, making available a public space for the markets, as well as by appointing a market coordinator and supplying electricity connections, security and publicity. In the district of La Molina in Lima the organic market installed a permanent roof, paid by the producers, but for which the municipality waived the fees normally charged for such construction.

In **Bolivia**, support was given to local organic markets in the context of a government - UN cooperation program from 2009 to 2013 aiming to integrate indigenous Andean

producers into new national and international value chains. Support was given to local marketing spaces such as farmers' markets, including the Raymi organic farmer's market in Sipe Sipe municipality (Cochabamba), Bio Tarija and Bio Achocalla.

In **Costa Rica**, the National Program on Organic Agriculture, run by the Ministry of Agriculture, established in 2005 a Saturday market on the premises of the National Center for Supply and Distribution of Food. Currently, the Ministry of Agriculture cooperates with the organic producer associations to develop a phone app aiming to facilitate the connections between the sellers and buyers of organic products on the domestic market.

In the **USA**, the USDA has a Farmers' Market Promotion Program, which is a competitive grant program financing projects that establish, expand, and promote farmers' markets, for a total of around EUR 12.1 million per year. Although it does not specifically target organic, it benefits the many small organic farmers who sell on farmers' markets throughout the country.

In **Laos**, the Ministry of Agriculture provides support to an organic market in the capital city, Vientiane. The market has seen significant growth since its creation in 2006, going from a monthly market to a daily market. District and provincial offices of the Ministry of Agriculture also organize several organic markets across the country, in cooperation with NGOs. For example, the Xieng Khouang organic market is organized by the Peak District Agriculture and Forestry Office with financial support and technical support from a local NGO, while the weekend organic market in Luang Prabang is managed by the Provincial Agriculture and Forestry Extension Service and the Provincial Department of Agriculture and Forestry with financial support from the Swiss Development Cooperation (SDC).

In **India**, the Ministry of Agriculture opened, in 2016, a government-run organic shop selling only PGS-certified products from the country, in its office in New Delhi. Also more and more state governments are opening organic shops to promote their organic products, or allotting a specific shelf area in general stores for organic products. For example, the Sikkim government has opened the Sikkim Organics store in Delhi and a few organic stores across Sikkim.

In **Taiwan**, the Organic Center at the I-Lan University developed the Taiwan Organic Information Portal, with funding from the Council of Agriculture. It contains an organic e-commerce system. The portal contains tools for consumers to find organic farms in their neighborhood or to buy organic products online. Organic farmers can create their own e-shop under this portal, but there is also a general e-market for those who do not want to create their own e-shop. The system is linked to QR codes, which allows consumers to track organic products through their smart phone. The government subsidizes each farm with EUR 93 to encourage farmers to put the QR code on their products.

In **Turkey**, the first organic farmers market in Izmir was established through a project funded by the İzmir Development Agency Financial Support Program for Social Development between 2009 and 2010.

Best practice example(s)

Best Practice example 1: Incentivizing the uptake of organic products in Saudi Arabia's supermarkets[118]

Background

For nearly a decade, the Ministry of Environment, Water and Agriculture (MEWA) has been working with the technical assistance of GIZ International Services (an independent operational department of the federally owned Deutsche Gesellschaft für Internationale Zusammenarbeit) and in cooperation with the Saudi Organic Farming Association (SOFA) to support the development of organic agriculture in Saudi Arabia. This was done under the framework of the Organic Farming Project financed by the Ministry and implemented together with GIZ International Services. In 2008, the Department of Organic Agriculture (DOA) was established in the MEWA, which was then called Ministry of Agriculture (MoA). In 2009, the first version of an organic regulation was adopted. Since 2011, the Ministry has been promoting organic agriculture to consumers through the Organic Farming Project.

Action to promote the uptake of organic products in supermarkets

As part of the Organic Farming Project, "organic food festivals" were organized in partnership with two of the biggest supermarket chains in the country. In 2013 the project started to work on a "Marketing Development Program". One part of this program was the implementation of so-called "Regional Marketing Working Groups". These groups gathered private stakeholders who were active in the organic sector in different regions of the country, with the aim to explore marketing possibilities for organic products. The work of the Jeddah based group resulted in a lively exchange of marketing ideas with the CEO of Danube (one of the largest Saudi supermarket chains). In 2014 a meeting was held between the Organic Farming Project and the CEO, presenting potential cooperation ideas between Danube and the project and this process was successful. A partnership was implemented as a win-win agreement whereby the supermarket was associated to the public awareness campaign in the general media, which was fully financed by the Ministry and the supermarket agreed to extend its existing range of organic products during the four weeks of the campaign, displaying the organic products prominently and even suspending the entry- and shelf-fees for the domestic organic producers. This enabled small-scale farmers to present their organic products for the period of the campaign to a large number of customers. In this way the supermarket also contributed financially, indirectly, to the campaign (by forgoing the fees). In the course of the preparation of the campaign, a second major Saudi supermarket chain, Tamimi Markets, became the second key-partner of this public awareness campaign. In total, 20 stores (belonging to these two chains) across the country participated in this action.

This action managed to increase the range of organic products offered in Saudi supermarkets. The two supermarkets involved continued to offer organic products after the end of the four-week campaign and increased their product range, especially the choice of imported processed

118 Information provided by the Department of Organic Agriculture (DOA) / Saudi Ministry of Environment, Water and Agriculture and Organic Farming Project, Saudi Arabia / GIZ International Services.

products. Moreover, two other major supermarket chains have joined the trend of offering organic products, which means that the availability of organic products in the country has increased considerably in the past two years.

Best Practice example 2: Setting-up organic trading posts in every province in the Philippines

Policy Background

In 2010, the Philippines passed a law on Promoting and Developing Organic Agriculture: the Republic Act 10068. Section 19 of this Act mandates the Local Chief Executives to establish at least one trading post for organic inputs (in the 2010 law, the centers were envisioned only as input trading centers) for every Local Government Unit in their area of jurisdiction; The rule accompanying this article specifies that "*the Local Government Units (LGUs), on their own, shall establish such trading post*".

In parallel, Section 5 of the same act establishes a National Organic Agriculture Program (NOAP) and mandates the Departments of Agriculture and Trade and Industry to develop and institutionalize the promotion of local and international trade fairs, market promotion and matching activities with the active participation of Local Government Units, NGOs, and other organic stakeholder networks to push organic consumption (also on a domestic level). Rule 18.4 of the same Act also mandates that "*The Local Government Units shall establish dedicated stalls in the public markets and organize a special market day for organic products*".

In 2012, the Department of Agriculture issued a memorandum circular on the guidelines for the establishment of organic trading posts, in which the concept was explained as serving the two purposes of a market place for organic inputs and for organic products. The circular explained that the objectives of the Organic Trading Posts was to: - Ensure availability and accessibility of certified or registered organic inputs and organic food for farmers, producers, manufacturers and stakeholders interested in adopting organic agricultural practices;
- Promote and showcase farmers organic produce such as organic inputs and products in strategic areas;
- Provide an outlet for selling organic food and products.
The eligibility criteria for the approval of such Organic Trading Posts included targeted location (i.e. strategic sites where organic farming is more advanced and where demonstration farms have been established), local government's willingness to provide counterparts for the project, the pre-existence of Local Technical Committees on Organic Agriculture and of a local ordinance in support of the Organic Agriculture
Program. The circular also specified the types of products allowed to be traded in these trading posts, but the approach was very inclusive: they allowed third party certified organic products, but also first party and second party verified and/or PGS products. Nearly all Local Government Units complied with this instruction and submitted proposals to the Department of Agriculture. In 2013, proposals from 75 Local Governments Units (LGU) for setting up organic trading posts were approved by the DA with counterparts from the LGU.

Implementation

The Department of Agriculture allocated around EUR 30,000 per Trading Post for the building, equipment and working capital and local governments were required to provide land as counterpart and expenses for operations and maintenance. The DA got the Organic Producers Trade Association (OPTA Philippines) to provide training to the Management Team on Good Organic Retailing Practices, Organic Enterprise Management, Guarantee System, Finance &

Marketing. The local governments constructed the building, purchased equipment, hired personnel and operated the organic trading posts.

By mid 2016, a total of 40 Organic Trading Posts were completed and 32 were still under development. Three approved trading posts were non-operational or had stopped operations (failed projects). Most stores are open daily and some stores open a farmers' market day once a week. Producers supply the products but also participate to some extent in the management of the Organic Trading Posts. In addition to organic inputs, the organic food products sold in these trading centers are rice, vegetables, some coffee, some herbs & spices, and some livestock and poultry. They are mostly non-certified organic products and are mostly sold at average prices, but some products are sold at a premium. The sales turnover of the trading posts varies greatly depending on the region but is usually below EUR 30,000 annual sales. Consumers buying from the trading posts are mostly employees from local governments, schools and businesses, hospitals and subdivisions.

The challenges are the classical challenges of starting an organic shop in an emerging organic sector: they include the low volumes of products currently available in the stores (not enough organic produce suppliers), the seasonality of the products and the lack of variety to encourage consumers to visit the stores, the difficulty to make consumers aware of the existence of the trading posts in their area, and the benefits of consuming organic products (that may be perceived as lower quality). Product packaging also would need to be improved

Additionally there are challenges specific to the government-operated nature of these trading posts, such as problems on fund liquidation of LGUs, resulting in the delay of the completion of the trading centers. As these centers are operated by LGUs, the purchase of goods also needs to undergo a government procurement procedure or other accounting rules, which is cumbersome. Generally speaking, there are still improvements needed to manage the trading posts as successful organic enterprises.

Pitfalls and challenges

The challenges in promoting the uptake of organic products in markets, shops and supermarkets are commonly associated with the difficulty of ensuring a reliable supply chain in the context of a niche sector. Organic products are often available in small volumes, with high seasonality of the products, limited number of suppliers, and often sub-standard packaging or visual appearance of the products, as compared to mainstream conventional products. Shops, markets and supermarkets alike have to deal with those issues, and it is best if the public support is designed to provide solutions to those problems. Adding to that is the fact that when markets or shops are run by government or municipality staff, these people might lack business sense and this results in a poorly run shop or market that will continuously depend on public financing to break even. In this respect, it may be better for the government to partner with the private sector in the management of the organic markets/shops.

Experience also shows that promoting the uptake of organic products directly into supermarkets can be a tempting short cut to give a big push to an emerging organic sector but can be a complete failure if domestic organic production capacity is not ensured first. This was the case for example in South Africa where, a few years ago, the Department of Trade and Industry (DTI) launched a retail incentive in the form of a

matching grant - giving every participating retail chain about EUR 80,000 to do a special promotion for organic selected stores. Although this sounded like a good "pull" measure, it ended in a failure because the farmers could not supply good quality certified organic products in sufficient quantities to satisfy the retailers' supply chain requirements. This action was taken against the advice of the local organic sector, which pleaded to put more emphasis on supporting producers in conversion and certification, and, overall, did more bad than good. After this failure, retailers became more negative about organic products than before. Planning, time and various efforts are needed to convert the number of organic producers needed to afford a consistent supply to supermarkets. Unless there is an over-supply situation, or imports can easily be obtained (that was the case in Saudi Arabia, for example, as their import rules for organic products are more enabling), the best strategy is to combine this measure with push (production support) measures in a well-integrated and reasonable step-by-step approach. An example of such dual effort (at the private level) was when the Coop supermarket in Switzerland decided, in the end of the 90s, to increase its range of organic products, it accompanied this decision with a massive investment in campaigns addressed to farmers for promoting conversion to organic agriculture.

d. National/common logo for organic products

Political justification

Having a common logo for organic products sold in a particular market has proven to be a decisive element in fostering consumer recognition of and trust in organic products and is therefore a very efficient tool for promotion and market development. In a market where multiple organic logos (including those of certifiers and organic brands) are used alternatively on various products, consumers can easily get confused and not know which logo to trust. Although private logos should still be allowed (and can convey different messages), ideally there should be one common organic logo that is prominently placed on ALL the products sold as organic in a country: this is a demonstrated decisive factor to build consumer recognition.

Depending on the structure of the market and the organic guarantee system, which may be organized at the national or supra-national level, the common organic logo may be a national organic logo (e.g. Brazil, China, USA…) or a regional community logo (e.g. East Africa, Pacific Community, EU…).

Normally the logo is primarily aimed at fostering domestic market development. However, in some cases governments have used it also as a brand, in an attempt to promote a country's organic exports (e.g. BioTunisia, BioBhutan). In any case, since the development and promotion of the logo are serving the collective interest of organic operators (and consumers), it is important that they are not controlled by restricted private interests. A common organic logo is, in this sense, a "public good". This is why it makes sense for the public sector (government or community of countries) to provide support to its development and continued promotion.

Suitable contexts

Supporting the development of a common logo for organic products is a measure that is suitable to any stage of development of the organic sector. Overall it is easier to introduce a national logo in an earlier stage: at a later stage, as various organizations will have invested considerable time and resources in promoting their own logos, and it is hard for them to drop them. Also, it is more difficult to "train" consumer to recognize a new logo if there are already some prominent logos that consumers have learned to identify as the signs of organic.

It is however not suited to the context where there is no agreed upon organic guarantee system. If the government is to endorse and support a common logo, it should in parallel (if not already in place) endorse a common organic guarantee system that backs-up the logo with clear technical requirements (which standards and which control systems are considered valid in order to obtain the logo).

The development of a common (regional or national) organic logo can be relevant to all the policy rationales to develop organic, whether they be to encourage the production of societal benefits, access to healthy food, increasing self-sufficiency or earning foreign currencies. If the objective is to promote self-sufficiency, the logo may have a slightly different version for domestically produced organic products, in order to promote them better, as compared to imports. If the goal is to earn foreign currencies through export, a national logo is not essential but it may, in some cases, become a marketing advantage if the country has or can create a positive image of itself compatible with the organic image (e.g. a country with a lot of unpolluted nature or smallholders and ancient traditions).

Possible modalities of implementation

The common organic logo may not need to be necessarily linked to an organic regulation, but it should be accompanied by a certain set of criteria for which organic products are allowed to bear the logo. This means having an "official" organic guarantee system, harmonized at the national or regional level. All of that may be managed by the government with or without having a compulsory organic regulation.

This guarantee system may even be managed by the private sector, rather than by the government, but it can still be somewhat endorsed/recognized by the government as THE common system for the country/region. An example of this is the East African Community (**Kenya, Uganda, Tanzania, Burundi and Rwanda**) in which the East African Organic Product Standard is approved by the East African Community (an intergovernmental body) and is linked to the regional East African Organic Mark, but the mark is managed by a consortium of the national organic umbrella organizations. This consortium also decides on the East African Organic Guarantee System, i.e. the criteria for granting the use of the logo. Governments can adopt similar models whereby they delegate the management of the common organic logo to the private sector

umbrella organization (in cases where this organization has full legitimacy) but they can support it either financially (especially at the stage of logo development and launch, but also later on for regular promotion of the logo) or by referencing the system in their official governmental policies.

The common organic logo can be made freely available for any operator who complies with certain conditions (is certified etc.) without a further licensing process. This is the case for the EU logo. In other cases, the common logo is licensed to operators who need to undergo a separate licensing/registration process, which may or may not include fees to be paid and various administrative requirements such as approval of artwork. For a government it can be sufficient to put the rules for use in a regulation. In the case where the common logo is managed by private bodies (like in East Africa), and not backed-up by mandatory government regulation, a licensing process might be necessary for legal reasons.

More advice on this topic can be found in the "Template Manual for the management of a national organic logo" under the Organic Regulation Toolkit published by IFOAM-Organics International and available at http://www.ifoam.bio/en/organic-policy-guarantee/organic-regulation-toolkit under the section "Emerging organic sector".

Country examples

Most countries that have a mandatory organic regulation also have developed an official organic logo. The logo development is then taken care of by the government and the government has the ownership of the logo. This is the case in regulated countries such as the **US, Japan, Tunisia, China, and Brazil**. For the **EU**, the logo is a regional logo (the leaf logo) that was developed in a process managed by the EU Commission. Some governments do some promotion activities (promoting the logo towards consumers) but many times the high-impact promotion is rather left to the private sector to do while the government limits itself to a few webpages that explain the meaning behind the logo to the general interested public (e.g. in the US or EU).

Developing a common organic logo is however not necessarily linked to a mandatory organic regulation. It is sufficient that the country (or group of countries) has an official organic guarantee system with clear criteria on which products (certified to which standard and under which control system) can be allowed to use the common organic logo (while other general "organic" claims may still be unregulated). There are a few examples of countries or group of countries that have adopted a common organic logo without a mandatory organic regulation. Examples include Bhutan and India. In **Bhutan** the National Organic Program managed by the government has developed and launched the "Bhutan Organic" logo, to go with an innovative type of local organic assurance system. **India** has had an organic regulation since 2000 and an accompanying government-managed India organic logo since 2002. However, up to 2016, the regulation remained voluntary for the domestic sector. Organic operators could choose to use the India Organic Logo for the domestic market or not (the organic claim per se was not regulated), but if they did, they would have to comply with the regulation.

In a few countries, such as Norway, Switzerland and Sweden, there are private organic logos that are so strong in the market place that they act as *de facto* national logos.

Best practice example(s)

Best Practice Example: The German Bio-Siegel

Germany is the largest national market for organic products in the EU and the second largest in the world after the US market. The German Bio-Siegel (national "Bio" organic logo) was introduced in September 2001 by the Federal Ministry of Food, Agriculture and Consumer Protection. The Bio-Siegel is the property of the Ministry and is protected with the German Patent and Trademark Office. It conveys the clear message that the standards of the EU organic regulation are met. The Bio-Siegel is available for use on all organic products sold in Germany, whether they are produced inside or outside of Germany or even of the EU, and whether they are produced according to the EU organic regulation or an approved equivalent standard.

Operators may use the Bio-Siegel voluntarily and free of charge. The procedures to access the logo are simple: operators register and submit their label designs, which can be done online. In case of misuse of the Bio-Siegel, the German Eco Labeling Law of January 2009 provides rules regarding fines and sanctions.

The Ministry not only administers the Bio-Siegel but also promotes it. In the first three years following the introduction of the Bio-Siegel, the German government spent EUR 15 million in promoting the label through magazines, posters, TV spots and other media. Additionally, some of the German states conducted their own promotion campaigns, showcasing the local origin of their organic products. All those promotion efforts were a key aspect of the success of the Bio-Siegel: they provided real marketing value and therefore the uptake was high, despite the fact that it is a voluntary label. After 2004, the promotion budget was included in the budget of the BÖLN, the Federal Organic Farming Support Scheme.

As a result of those promotion efforts, the number of companies that have registered their use of the Bio-Siegel continued to increase in the decade following its introduction. In 2011, more than 62,000 products on the market were bearing the Bio-Siegel. In 2013, the Bio-Siegel was recognized by over 90% of the consumers in Germany. More than 50% of consumers trusted its message and among them, 70% were willing to buy food bearing the Bio-Siegel[119].

A decade after the introduction of the Bio-Siegel, and given its success, the German government advocated for the EU Commission to follow the German model and introduce an EU organic logo, which it did in 2010. With the growing recognition of the EU organic logo, the Bio-Siegel is likely to ultimately disappear, but a long transition period with the use of both logos was planned in order to help transfer the high level of consumer recognition from the Bio-Siegel to the EU organic logo. The German Ministry therefore extended the trademark protection of the Bio-Siegel until 2021.

119 Study by the University of Göttingen, "Anforderungen an eine nachhaltige Land- und Ernährungswirtschaft: Die Rolle der Konsu-menten", by Marie von Meyer Höfer, Achim Spiller.

Pitfalls and challenges

One of the main challenges when embarking on the development of a common organic logo is to identify the best territorial level at which it should be developed. Sometimes, several options exist: for example, the country can develop a national organic logo, or cooperate with neighboring countries to develop a regional organic logo. The development of the logo in itself is not a big investment, but it can take years and substantial efforts to promote uptake of the logo on products (unless it is compulsory) and to create an understanding and trust among consumers of what the logo means. If these efforts are made at the wrong level e.g. a national organic logo, which will then be overtaken by a regional organic logo within a few years, resources will be lost and consumers will be confused. Likewise, if there is an existing regional organic logo used and promoted by a community of countries, it is counterproductive for one of the countries to embark on developing and promoting its own national organic logo. The appropriate territorial scope of the logo depends very much on the territorial scope of the organic guarantee system. Usually, when a group of countries have agreed on one common standard and one unified organic control system, there should be a single organic logo corresponding to these. However, if regional harmonization happens after the countries already have well-established national organic logos in place with high consumer recognition, abruptly abandoning the national logos will be harmful to the sector, and a multi-year transition period with use of both the national and regional logos will be necessary (as in the EU case). In Denmark and Sweden, the national logos still have much higher market recognition than the EU logo.

Some countries had the idea that their organic logo should be used as a tool for export marketing. There are however to date no examples of that being successful on a significant scale. One reason is that most exported products, especially from commodity exporting nations, are re-packaged in the importing countries or are ingredients in processed products in the importing country. Another reason is that the communication of several foreign organic logos is undermining the communication of the national logo, which means that most actors (e.g. supermarkets) will not gladly participate in such promotion.

Extra costs or complicated procedures to get access to the logo will impede its uptake, and therefore its use and recognition. This is also the case for how the logo is used for imports. If there are limitations for its use on legitimate imported organic products, there is a risk that a substantial proportion of the organic products in the market will not carry the logo, which undermines its general recognition and value. It is therefore important that the requirements for access to the logo be low-cost and easy, including for imported products that are produced according to other standards recognized as equivalent.

e. School Organic Gardening and Curricula

Political justification

"*As environmental concerns broaden and diet-related health and nutrition problems increase, governments and development partners are increasingly interested in the potential of school gardens*" FAO observes[120]. School organic gardens and curricula have strong potential to teach fundamental lessons about biology, ecology, food and nutrition.

School gardens and curricula can also start the developmental pathway for acquisition of vocational skills in agriculture: in countries which are mainly agrarian, school gardens can play a direct role in training future growers and farmers.

Last but not least, they also have the potential to shape the values and expectations of children and their families about organic agriculture systems and food supplies. It can help increase awareness and demand for organic products. Government support at all levels from national to local to school organic gardening and education initiatives is among the effective options to support development of the organic sector in the country and help to create many related public goods.

Suitable contexts

Supporting the inclusion of organic gardening and organic curricula in schools can be implemented in all contexts.

Possible modalities of implementation

Governments can and should take the lead in providing appropriate political signals and resources for developing school organic gardens and curricula. At some point the implementation will have to be at local level, but governments may identify ways to help schools and local leaders to help themselves in their endeavors. The FAO observes that "Some well-documented success stories suggest that the most sustainable programs often grow organically: they start small, take little for granted and expect slow progress; they allow schools to opt in and later to 'graduate' and help others; they offer small incentives and long-term coordination. All of these factors should be taken into account when deciding the best way forward and how far the process of setting up, reviving or re-orienting school gardens should be divided between top-down facilitation and bottom-up initiative." Governments can provide resources including support for training (train-the-trainer programs), primary school materials such as culturally and geographically appropriate lesson plans and activities linked to mainstream multidisciplinary curricula. There are many good resources worldwide that could be purchased or freely acquired and adapted.

120 A New Deal for School Gardens, FAO, 2010.

FAO notes that, "At the policy level, this multidisciplinarity needs to be reflected in some intersectoral commitment. Government initiatives tend to be housed in the Education Ministry, with support from Agriculture. Health and nutrition services and environmental agencies should also be represented. NGOs and International Development Agency activities focusing on food production or horticulture also need to make sure that nutritional, educational and environmental aspects are not neglected. The balance needs to be redressed, especially in favor of nutrition, nutrition education and the environment. The multidisciplinary view also underlines the need to build capacity across the board. It is not only children and teachers who must learn: nutritionists and agriculturists need to learn about education; agriculturists need to learn about nutrition and nutritionists about agriculture; educators need to learn about both; everyone needs to learn about the teachers, the children and their families. Time must be allowed for this."

Approaches to implementation may be either top-down or bottom-up. National governments, possibly in cooperation with international developmental agencies and other NGOs, may develop model curriculum modules for various grade levels and educational topics, and make them available to both public and private schools nationwide. National and regional governments could co-sponsor teacher training programs. Local governments could support and facilitate the provision of resources, both human and financial for constructing and maintaining school gardens. Whatever the implementation model, organizers should build into the projects means for measuring outcomes. Governments at all levels should publicize the garden initiatives, not only at launch but through performance measurement and dissemination of program results.

At the level of the schools, school garden projects are structured differently depending on the municipalities/schools. In some municipalities they are a mandatory part of the school curriculum; in some it is a voluntary offer as a part of the teaching; and in other municipalities it is an afterschool activity. It is beneficial if the crops grown are also used in the school kitchen and even better if pupils will participate in the cooking as it will extend the learning from growing into preparing food.

More information is available on the FAO website and in several FAO guides for supporting and implementing school gardens and curricula: in particular, the FAO publication, *A New Deal For School Gardens*, outlines a 12 point program for how national governments can lead a top-down approach and offers an explanation of bottom-up approaches by local governments, schools and community. For the school level, good resources also exist, such as those on the *Schools Resources* page from GardenOrganic (UK), which contains practical advice and school activities for all ages on how to start and maintain an organic food garden.

Beyond organic gardening, some governments have promoted organic theoretical education in schools through the financing and dissemination of educational materials and toolkits (e.g. France). Another model for on-farm learning is the partnership between schools and organic farmers. In Denmark, for example, there are 30 such so-called 'organic school yards', whereby organic farms take in groups of schoolchildren

for farm visits. The government has provided funding for compensating the organic farmers for their time in showing the farm to children.

In France Agence Bio, the public agency in charge of organic agriculture organizes an annual national competition named "the little reporters for organic agriculture" which, since 2002, has rewarded those groups of schoolchildren that have prepared the most interesting school journals regarding topics connected to organic farming.

Country examples

Costa Rica has long-established policies of associating school gardens with school food and improving children's nutrition and eating habits. The Food and Nutrition department within the Ministry of Education runs a program entitled "Programa Nacional del Huertas" which provides financial resources, capacity building and advice for schools to initiate their own garden projects, with a strong focus on environmental practices including organic gardening. For more information, see Best Practice textbox below.

In the **EU**, historically information measures were mainly addressed to consumers to make the EU and/or national organic logos better known at national level. Today, however, more targeted promotion and information campaigns have been developed, including e.g. building awareness at the municipal level in schools. Some of the recent national organic action plans contain measures to raise awareness about organic agriculture in school. This is the case in Denmark, France, and Andalusia (Spain).

In **Denmark**, the government promotes educational activities in schools in connection with the distribution of organic food. In 2009, the government provided funding of around EUR 300,000 for the production of teaching materials on organic food for school children. In the 2015-2018 Danish national organic action plan, the government calls on "schools to include organics in education, for instance through organic cultivation of school gardens, visits to organic farms, focusing on organic products in school kitchens, or studying and comparing conventional and organic production forms". The Ecology Gardens in Odder, the largest organic display and demonstration gardens in the Nordic countries, receives a governmental support of EUR 50,000 per year and works with schools to organize organic educational activities.

In **France**, the national organic action plan includes raising awareness among schoolchildren, their parents and their teachers in conjunction with a Ministry of Education program using school gardening, visits to organic farms, taste education classes, school activities, etc. Some of these activities have been organized by regional chambers of Agriculture. Agence Bio, the public agency in charge of organic agriculture, has produced a pedagogic toolkit (with a pedagogic guide, a set of activities and some posters) for educating school children about organic farming. The toolkit can be downloaded in high definition on the Agence Bio website and freely reprinted.

In **Germany**, the Federal Ministry for Food and Agriculture supported the development of resource materials for teachers to teach about organic agriculture in schools.

These are offered on the national platform https://www.oekolandbau.de/lehrer/.

In **Ireland**, the Department of Agriculture, Fisheries and Food financed the production of the resource "Organic Gardening for Primary Schools – Curriculum Linkages and Lesson Plans - Teachers' Resource".

In **England**, the project Food Growing Schools has an ambitious target to get every school in London to grow their own food. The three-year project is managed by Garden Organic. The Soil Association's Food for Life project is one of the partners. The Greater London Authority is one of the project funders.

In the **USA**, California has been a national leader in the school garden movement since 1995, when then Superintendent of Public Instruction collaborated with chef Alice Waters to create the Garden in Every School initiative through the California Department of Education. In 1999, the state established the Instructional School Gardens Program to support garden-based learning. The program then evolved and changed over time from an initiative and movement to a funded piece of soft legislation: the State Bill 1535, passed in 2006, which provided around EUR 12 million to support public schools in setting up or maintaining school gardens, for a period of three years. It covered thousands of schools. There is now in the USA a nationwide Farm to School program that often includes organic gardening and cooperation between organic farmers and schools.

The **USA** White House food garden in Washington D.C., includes activities for children from various local schools. The garden provides the White House kitchen with fresh organic vegetables and serves as an educational tool for school children, but its biggest impact is symbolic, promoting healthy food, good nutrition and organic gardening through the media.

In **Belize,** an NGO-led program assisting some 50 schools in developing organic school gardens is tied to the government school-feeding program. The Telefood Report 2005 described the scheme as "a working model worthy of replication".

The Ministry of Education of **Rwanda** implemented, in 2005-2006, the Rwandan school garden pilot project, funded by FAO with a grant of about EUR 300,000. Implemented in 20 schools, it aimed to make schoolchildren and their local communities aware of the importance of good nutrition, to develop their garden skills, and to supplement children's diets. The pupils and their parents at the pilot schools have identified environmental protection through organic gardening as one of the advantages of the gardens.

In **The Philippines**, the Organic Agriculture Act of 2010 mandates that "the National Government, through the Department of Education and in coordination with concerned government agencies, NGOs and private institutions, shall strengthen the integration of organic agriculture concerns in school curricula at all levels". As a result, many organic school gardens were implemented at primary school level.

In **Bhutan**, the Ministry of Agriculture and the Ministry of Environment collaborate on an organic school agriculture program, involving 200 middle schools where school children in the agricultural club grow organic vegetables and sell to the school kitchen. Organic agriculture is now also included as a chapter in the agriculture textbook for high schools.

Best Practice Example(s)

Best Practice example 1: The National Program for school vegetable gardens in Costa Rica

For more than 20 years, the Costa Rican government has been operating the "Programa Nacional de Huertas Escolares", a national program to promote vegetable gardens in schools. The program provides financial resources, capacity building and advice for schools to initiate their own garden projects, with a strong focus on environmental practices including organic gardening.

The objectives of the program are:

- To supply school canteens with fresh and healthy food;
- To capacitate the teachers to strengthen food security within Costa Rican communities by promoting environmental consciousness, team work and the importance of healthy food;
- To support the development of the pupils' healthy eating habits, particularly a balanced diet, rich in vitamins, minerals and proteins;
- To make the children agents of change in order to encourage families to also develop small auto-consumption gardening projects.

The program has existed for more than 20 years but in the past 10 years it has put a focus on non-chemical gardens. The program's budget is about EUR 254,000 per year. It supports about 1,000 school garden projects throughout the country, 75% of which are organic (others consist of various environmentally-friendly projects such as biogas production, small livestock production, tree nurseries, etc.).

The program is managed by the Equity Programs Unit in the Department of Food and Nutrition within the Ministry of Public Education. Other public institutions, such as the National Institute for Learning, or the Ministry of Agriculture, participate in the promotion of the program. The program provides technical agronomic advice to the schools, but only employs two technicians for the whole country. Schools must therefore seek advice also from the extension staff of the Ministry of Agriculture. In 2010, FAO established a program to support family farming in Costa Rica, which also supports organic production for supply to the school canteens in rural areas.

It is considered that this program has contributed significantly to raising awareness of organic agriculture in the country in the past decade.

Best Practice Example 2: California's Approach to Instructional School Gardens

From 1995 to 2005, about one quarter of California's public schools had instructional gardens. Seeking to enhance the role of school gardens in education, leaders in the California Department of Education and the sustainable food and farming movement created the "Garden in Every School Initiative." Housed in the Department of Education, the initiative provided encouragement and information resources on school gardening to citizens and local school systems. Over time, this initiative evolved to include funding for school gardens through the

passage in 2006 of the State Assembly Bill 1535, the California Instructional School Garden Program. This legislation established a non-competitive grant program to California schools over a three-year period in 2006-2009 to establish, maintain, expand and renew school gardens provided that they are used for academic instruction. The aim for California's children was that they learn how to make healthier food choices, participate more successfully in their educational experiences, and develop a deeper appreciation of their community. The funds could be used for equipment, supplies, garden-related professional development, but not for salaries for educators or garden coordinators. Administered by the California Department of Education, grants up to USD 2,500 were available to schools with less than 1000 students and grants up to USD 5000 available to schools with more than 1000 students.

Nearly 40% of California schools applied for and received grants during the funding cycle and USD 10.9 million was awarded. Applicants were required to provide information about what the grant would support, and when and for what subjects the garden will be used for instruction. About half of the applicants stated that they would use funds to start a new garden and purchase equipment and supplies. Nearly all applicants indicated that they would use the garden during regular class hours for academic instruction. The academic subjects for garden education mostly frequently cited by applicants were science (94%), nutrition (82%), environmental science (76%) and health (66%).

Parallel in time and complementary to Instructional School Garden Initiative was the formation of the California School Garden Network. Now called the Collective School Garden Network, it includes a variety of state government agencies, private companies, educational institutions, and NGOs with a vision of school gardens in every California school who work on further developing school gardens. It serves as a central hub for distributing school garden information resources. Another California-based NGO, LifeLab also provides training and resource information for implementing, managing, and teaching in school gardens. The resource materials place strong emphasis on organic gardening techniques such as pest prevention approaches and composting.

Possible pitfalls and challenges

FAO notes the following[121]: "It is not easy to choose what to imitate from the many models of school gardens that exist around the world. Many projects disappear from public view after they are launched. Mistakes and failures, which could be instructive, are seldom published. There is a serious lack of evaluation of the long-term impact of projects that may have had impressive initial results. Do these gardens still exist? Are they still productive? Some of the most demonstrably successful initiatives are long-term 'garden movements', characterized by slow growth over a number of years, continuity of support, and gradually increasing involvement of the community. They often take a holistic approach, integrating gardening, nutrition, school food, education and environmental concerns. With organic approaches, inputs are low, except where irrigation infrastructure is called for. Such schemes start small, taking little for granted in terms of capacity and interest. Schools opt in, inspired by other schools or motivated by small grants, choose their own pace and measure their own progress. In most cases the gardens are seen as important contributors to self-reliance and aim eventually to be self-supporting; schools 'graduate' when they no longer need help. There is a long-term

121 A New Deal for School Gardens, available at http://www.fao.org/docrep/013/i1689e/i1689e00.pdf

coordinator or a coordinating group, which helps with resources and promotes mutual support and exchange of experience and information".

It is essential for the success of the project that the actual growing is somewhat successful. In places with long school holidays during the growing seasons it can be a challenge to have someone tending the garden. Similarly it can be challenging to engage pupils if the harvest takes place after they finish school.

f. Export support

Political justification

Increasing the export of organic products is a way for countries to earn foreign currency and improve their trade balance. It is even more so than with conventional agriculture, because organic agriculture requires proportionally much less commercial inputs (which are often imported) and relies more on the countries' own local resources. Combined with premium prices for organic, this results in better national value creation. In addition, as organic markets are demanding markets, it helps moving exports into a quality segment, instead of a bulk segment.

A well-developed organic export sector can represent a significant amount of the overall national trade balance. Growth can also be achieved in a relatively short time. For example, Tunisia increased the value of organic exports from EUR 7 million in 2004, to EUR 35 million in 2008 and to around EUR 140 million in 2015. This represents an average growth rate of 30% per year over the decade. This spectacular growth was the outcome of very pro-organic government policies and particular pro-organic export policies.

Developing organic exports is also a way for countries that do not yet have a significant domestic demand for organic products to still encourage production development, stimulated by foreign markets. Tapping into the growing global demand for organic products represents a significant economic opportunity for agricultural export economies.

Hence government support to kick-start and boost organic export market chains is a sound investment for countries to make, with returns that will be, not only in terms of environmental protection and job creation (public goods afforded by organic agriculture) but also in terms of earning foreign currency.

Suitable contexts

Support to organic exports can be implemented at various stages of development of the organic sector. It will however be less suited to a context where the country is essentially an importing country for organic products where local production is not well developed despite high domestic demand.

Support for organic exports can be implemented regardless of the organic regulatory context of the country. Some countries can be large exporters of organic goods without having a domestic organic regulation: their producers simply abide by the regulations of the importing markets. It will be clear which operators are certified organic for foreign markets and those can still be prioritized in export support schemes.

Export support is practiced to various degrees by almost all countries, even those that are otherwise on the low side in terms of government culture of intervention on the agricultural sector.

Export support for organic businesses can contribute to the policy objective of earning foreign currency, and to the objective of encouraging societal benefits from a wider adoption of organic agriculture on the national territory. It will however not be relevant to the objectives of increasing self-sufficiency in organic production or to the objective of increasing access to healthy food for domestic consumers.

Possible modalities of implementation

Perhaps the most common type of support in this area is for government agencies to fund or subsidize organic companies to exhibit in, or attend, international organic trade fairs such as BioFach in Nuremberg. Travel costs and booth space is very expensive for small companies starting off in the organic export business, and giving them support to attend an international organic trade fair (with or without a booth) can be a very good way to enable them to make initial business contacts abroad, as well as get a sense of the demand and trends in this sector. Governments often organize and subsidize exhibits by individual companies in one pavilion under the country's banner. One intensive way for a country to promote its organic "brand" is to arrange the designation as "country of the year" at the BioFach Nuremberg. Countries that have supported their organic sectors by financing this action include The Netherlands, India, Denmark, Italy, Poland, and Brazil.

Trade missions taking organic companies abroad with an organized program of visits and meetings is another avenue for export promotion. This can also be packaged in the form of an "Organic Day" abroad, during which the domestic companies promote their products to the foreign market, as was done with the Tunisian Organic Day in Dubai. This event was deemed successful, as some Dubai specialty stores with wide regional reach became patrons of some of Tunisia's organic products.

Some countries (e.g. Tunisia, USA) provide to their organic producers and traders information on the organic sector and markets in other countries, including regulatory

requirements. In Tunisia, seminars have been organized to provide export market information. Alternatively the government can give funding to organic associations for them to organize capacity building (in the form of training, seminar or tailored advice) of organic companies on how to access international markets. In the USA, USDA has funded the Organic Trade Association's online Organic Trade Guide, which provides easily accessible and country-specific information on organic markets and regulatory requirements.

Alternatively, the government can give funding to organic associations for them to organize capacity building (in the form of training, seminar or tailored advice) of organic companies on how to access international markets.

The other way round, governments can fund potential buyers to come to their country and visit a range of organic producers and exporters, as was done by the Uganda Export Promotion Board.

Another type of support is to fund or subsidize market studies targeted at export markets. These can be either generic studies for the whole national export sector, or commodity-specific studies, or even studies done by private companies for their own export development.

Often, export support is embedded in value chain development projects, where successful export marketing is the ultimate objective.

Some countries do some general promotion for their "organic brand", meaning that they support the marketing of the image of their country towards foreign consumers and buyers. This can be in various forms, e.g. a video or presentations in conferences. It is often associated with the promotion of the national organic label as a brand, and can bank on the image of the "purity" of a country (e.g. mountainous countries) or it can try to correct the negative image of a country in terms of contamination. The compilation of a directory with export ready companies is also common. An alternative more specific approach is to grant funding to private organic sector organizations to conduct their own marketing campaigns on foreign markets.

A more anecdotal instrument is, for the few countries that still levy export taxes on agricultural commodities, to exempt organic exports from those taxes (e.g. Argentina).

One notable concept is the Organic Trade Point (OTP) developed in 2006 by the organic sector organization NOGAMU, in Uganda. Although it was funded through foreign support (development cooperation), a similar concept could be replicated and funded by government in exporting countries. The OTP is an online one stop center and a database that provides local organic farmers and exporters and importers who are interested in Uganda's organic produce necessary market information access. The OTP, which is linked with major international market information portals, is also a focal point for determining produce availability and their seasonality as well as the local growers' productive capacity.

Country examples

Tunisia is among the most pro-active governments in terms of encouraging its organic sector to export to foreign markets. Various public institutions have supported Tunisian exporters in understanding foreign market requirements and promoting their products towards foreign buyers, abroad and within Tunisia. For more information, see the Best Practice example textbox.

In **Morocco**, the government, including the Ministry of External Commerce, signed a joint public-private contract with the organic industry in 2011 for the development of organic agriculture. One axis of the plan is the development of the export sector and EUR 4.6 million has been allocated for this purpose.

In the **USA**, government export promotion programs have been particularly historically helpful for the development of organic farming when crops like organic soybeans did not yet have a big enough market in the US. More recently strong market growth has led to shortages of domestic supply for some organic products such as soybeans and for these products export promotion is not currently as relevant. However, it remains helpful for other raw products such as apples and grapes, and for many processed products. In 2015, the Organic Trade Association received a grant of around EUR 730,000 from the US Department of Agriculture's Market Access Program to promote US organic products abroad. The USDA Foreign Agriculture Service includes reports on organic markets of trading partners as a component if its Global Agriculture Information Network (GAIN) program.

The **EU** Commission finances projects to promote EU agricultural products in foreign markets through yearly calls for proposals under its general policy on information provision and promotion measures concerning agricultural products[122]. Although there is not specific funding provision for the export of organic products under those calls, the program finances a number of organic export promotion projects. In the period 2007-2013, the EU Commission spent a total of EUR 4.9 million on projects supporting organic exports in this program. Organic exports are also being promoted under other EU programs. For example, the EU Gateway-Business Avenues is an initiative funded by the European Union helping European companies to establish long-lasting business collaborations in Asia. It does sometimes focus on organic companies. For example, in the framework of this initiative, the second Business Mission to Korea in November 2016 was reserved for Organic Food & Beverages. In such missions, the EU companies operating in the processed organic Food & Beverage industry have the opportunity to participate in the Food Week Korea exhibition, showcase their products, and meet business contacts.

The **Netherlands**, in its National Organic Action Plan 2005-2007, supported exports of organic products with a EUR 1.7 million budget allocated by the Ministry of Agriculture. This included promoting Dutch organic products in international fairs, such as Biofach, as well as through trade contacts.

122 *The revised agricultural product promotion policy adopted in 2014 is regulation 1144/2014.*

In **Denmark**, the Danish Rural Development Plan contained measures financing organic export efforts and strengthening export competencies in small companies. The Organic Export Academy managed by Organic Denmark received support from the government for export training and seminars, where participants learn about individual markets, supermarket chains, certification requirements and tailoring products to specific markets. The program under the RDP is now closed but there is a provision of around EUR 1.3 Million annually for export under the Fund for Organic Agriculture, which includes support for exhibitions, work with individual chains in other countries, etc.

The **Uganda** Export Promotion Board (UEPB), in recognition of the role of organic exports in the economy, and to foster competition among organic operators producing for export, introduced the Best Organic Exporter and Organic Fruits and Vegetable Exports Awards within the President's Awards for Exports. The UEPB also co-organized buyer tours whereby European organic buyers visited Ugandan producers.

The government of **Argentina** announced in March 2016 the complete removal of export taxes on organic products of plant origin, in order to promote organic exports. This decree was published in the Official Gazette, and applies to organic products that are certified under the national organic law.

In **Mexico**, the government established in 2008 "Impulso Orgánico Mexicano", the national association for the promotion of organic products, which acts as the Promotion Committee of the National Council for Organic Agriculture (working both to promote domestic sales and export). It elaborated a promotion plan for organic product exports, which was submitted to the Mexican export promotion agency. Additionally, the Mexican Ministry of Agriculture, via its Agricultural Marketing and Market Development Service Agency (ASERCA), conducts campaigns for the promotion of Mexican organic products abroad. Mexico's participation in the Nuremberg BioFach is also supported.

In **Costa Rica** the government provided financial support to organic companies for exhibiting at international organic trade fairs, such as the BioFach.

In **China** the central government does not provide specific support for organic companies to access export markets, but some of the provincial governments[123] do, especially in terms of financial support for companies to attend BioFach fairs.

In **Indonesia** the district of Semarang has facilitated the certification of organic vegetables and access to export markets to Singapore and Malaysia. The Indonesia Organic Alliance also received some support from the government for their booth materials at the BioFach exhibition fair.

In **Nepal** the government subsidizes the cost of organic certification for export markets, as well as the establishment of internal control systems. This support is provided every year under the Ministry of Agriculture Development, Agricultural Commodity Export

123 Those include the provinces of Xinjiang, Jiangsu, Beijing, Hubei, Sichuan and Guizhou.

Promotion Program. In the year 2014/15, six organic companies benefited from the grant program.

Best practice example(s)

Best Practice Example: Tunisian government support to organic exports

Tunisia has supported organic agriculture actively since 1999, primarily with an export-focused ambition. Tunisia first saw itself as having a comparative advantage in the supply of organic products for the EU market, and put a range of measures in place to ensure this opportunity was tapped into. Recently, Tunisia has been looking at other emerging markets and supporting its exporters to enter those promising markets.

The Agricultural Investments Promotion Agency (APIA), run by the Ministry of Agriculture, promotes private investments in Tunisian agriculture and agricultural exports. In line with the government's general policy in favor of organic exports, APIA has conducted a number of activities that have facilitated the entry and penetration of the country's organic products in international markets. In 2008, APIA financed a study for a promotion strategy for Tunisian organic products on specific markets. APIA regularly participates in international organic trade shows and exhibitions, including the BioFach Nuremberg organic trade fair, at which APIA supports a Tunisian Country Pavilion where Tunisian exporters can feature their products. It also regularly organizes special events in Tunisia to present Tunisian organic products to potential foreign buyers (like the "Tunisian Organic Day").

Other Tunisian governmental institutions also promote organic product export.
In 2016, the General Directorate for Organic Agriculture, part of the Ministry of Agriculture, in cooperation with the Center for export Promotion of Tunisia, organized an information day for organic exporters, with a focus on the US and Dutch markets. The Tunisia-China cooperation council organized an information day in 2016 to provide awareness and information to national producers on Chinese market opportunities. The Tunisian Chambers of Industry and Commerce also partner with their foreign counterparts on the organization of special days on organic investment and export opportunities. In 2016, the Minister of Agriculture initiated the production of a documentary film on Tunisian organic products, to be used by Tunisian embassies and economic representatives abroad.

Together with numerous other measures implemented by the Tunisian government to promote organic production, the above export promotion policies have paid off: the value of organic exports increased from EUR 7 million in 2004 to around EUR 140 million in 2015.

Pitfalls and challenges

The hurdles for exports of organic products are the same as for conventional. But, in addition, the market is much smaller, and the quality range is narrower. Mostly only premium qualities are possible to sell as organic, unless it is a feed product. Certain qualities are not possible to sell at all, and there are numerous obstacles relating to standards and certification requirements and procedures.

Even with subsidies, it may be difficult for small companies to afford attending international organic trade fairs (unless their participation is nearly completely funded). Exhibiting at the fair is only the first step: unless exhibitors have an attractive

display, samples, good communication abilities and language skills, it is very difficult for them to get value out of a stand. It might be better for those that are not ready to simply visit the fair instead of exhibiting.

Another problem is the volumes of products, or quality that small exporting companies are able to offer, which often do not match the expectations of the large traders.

There is a general tendency to underestimate the difficulties in export marketing. There are cases where local prices are higher than export prices, and even where local prices for non-organic products are higher than organic world market prices: this is the case for honey in many countries.

g. Organic Trade agreements / equivalence negotiations

Political justification

For a country that has a full organic regulation and which has reached a significant amount of organic exports to a given importing market, negotiating an equivalence agreement (also called organic trade agreement) can be a way to further facilitate exports. If the country is granted equivalence by its main importing market, it means that to access this market its producers will need to be certified only once, to the domestic regulation. This will reduce transaction costs for organic operators. Normally, these negotiations are bilateral and reciprocal, which means that two countries will grant equivalence to each other. There are still few studies that have looked at the impact of equivalence agreements on trade, mostly due to the absence of specific HS (Harmonized Systems) codes to track trade flows of specific organic products. Among the exceptions is the US, which has been developing organic HS codes annually since 2011, reaching 34 in 2016. A study from the Organic Trade Association looked at the impact of the equivalence agreements signed by the US on its organic exports and found that organic equivalency arrangements, examined both collectively as a single policy or as individual policies, have a positive impact on organic exports, often generating a 200% increase in organic exports to the countries with which an equivalence agreement is signed[124]. In other countries, organic competent authorities have reported a decrease in phone complaints from exporters and importers regarding organic shipment procedures after an equivalence agreement is signed, which is also an indicator of tangible benefits.

Although obtaining equivalence is a very appealing milestone for an exporting country and a sign of international recognition and credibility endorsement of its organic standard and control system, its value in terms of boosting exports should not be overestimated. In particular, the strategy pursued by some governments to develop a national organic regulation (at a very early stage of development of their sector) that

124 *Impacts from Organic Equivalency Policies, A Gravity Trade Model Analysis*, available at http://ota.com/sites/default/files/indexed_files/OTAOrganicTradeReport2015.pdf

mimics the regulation of their desired export market (often the EU or the US) in hope of securing a future equivalence agreement has proven to be ill-conceived. There will be more negative impacts from the imposition of a "foreign-inspired" regulation on their domestic organic sector than there will be when (and if) the country ever achieves equivalence. Pursuing equivalence is a legitimate goal but should not be done at all costs and policy makers should look realistically at the chances of equivalence success versus the need for responding to the needs of their domestic organic sector first.

Suitable contexts

It only makes sense to put resources into negotiating organic trade agreements when the organic sector has reached a significant size, either as a producing country or an importing country or both. At embryonic stages, other countries will not be interested to negotiate and it is also not a priority action. In addition, if the sector is not well developed, there will not be sufficient expertise and experience to guide the negotiators, i.e. they will not fully understand which adaptation to foreign standards are possible and which are not, or give sound arguments for the need for local adjustments. An alternative strategy is to help local certification bodies to get international recognition.

Organic trade agreements can also only be negotiated if the country has a national organic regulation. It may be a regulation that is only for export, or a general one (export and domestic), but whatever the case, it needs to be well enforced for some years, so that the country can demonstrate its efficacy in guaranteeing organic integrity.

Possible modalities of implementation

When a country aspires to organic equivalency recognition with another country, there are several ways this can be pursued. One way, which has been used a lot in the past was to ask for a unilateral equivalence recognition (e.g. from the EU or Switzerland). The country's application would then be judged only on its technical ability to meet the equivalence expectations from the importing country. This avenue is being phased out because the EU Commission has announced that it will want, in the future, all organic equivalence agreements to be bilateral, which also means that the negotiations will become more political (give and take) and less focused on the technical aspects.

Bilateral equivalence negotiations will be the main modality to obtain organic equivalence for most countries in the coming years. One would nevertheless expect that, given the time and resources that such negotiations take, there will be only a limited number of new agreements signed in the coming years under this format.

Organic equivalency, or mutual acceptance of the parties organic systems can also be part of general trade agreements, which is the case with the agreement between Switzerland and the EU.

Organic equivalency can be integrated in the objectives of development cooperation projects, in particular in the cases they are funded from the target market country. It can help considerably in the process if the development cooperation agency in the

importing country can facilitate the process. An intermediate solution can also be to assist local certification bodies to get recognition in relevant markets that have such options.

Given the complexity of the global trade picture (with new organic markets, such as China, South East Asia, the Middle East, or Central America becoming significant importers, the future lies most probably with more efficient approaches to equivalence, such as pluri-lateral equivalence. There has been several rounds of discussions amongst representatives of the big trading partners that are currently in a loop of bilateral equivalence agreements with one another (Canada, EU, US, Switzerland), and one day those might lead to a concrete plan of a joint pluri-lateral approach.

Another approach recommended by IFOAM-Organics International is the unilateral recognition of multiple standards, through the use of the IFOAM Family of Standards as a single equivalence criterion for recognition of equivalent country standards. A few countries[125] have already adopted this approach, which means that it can become interesting for countries wishing to gain market access, to get their organic regulation approved in the IFOAM Family of Standards.

Finally, when it comes to gaining market access, the option of regional harmonization is not to be underestimated, as this is often a simpler and more powerful tool than one-to-one equivalence negotiations. Examples of regions that have already harmonized their systems into a single regional system are the EU and East-Africa. Once a regional equivalency agreement is in place, that region can embark on seeking equivalency with other regulated regions, with a stronger negotiating position than individual countries would have had.

Country examples

There are now a number of organic equivalence arrangements/agreements, mostly among the main organic trading countries.

The first wave of equivalence recognition was undertaken by the EU in the late 1990s, with Australia in 1996, and Switzerland, Argentina and Israel in 1997. Of those, only the Switzerland-EU recognition was bilateral. Others were unilateral recognition by the EU.

These were followed by other additions in the 2000s (New Zealand in 2002, Costa Rica in 2003, India in 2006, Tunisia in 2009) to what is called the "EU third country list" (list of countries who have been granted EU organic equivalence). Those were unilateral recognitions based on the need to import significant amount of raw organic materials from those countries into the EU, although afterwards some of them were converted into bilateral equivalence.

Negotiations with more "equal level" trading partners (whereby for each party, imports and exports are at stake) took more time to materialize. In 2009, the Canada-USA

125 Australia, Saudi-Arabia, Uganda, Tanzania, Kenya, Rwanda and Burundi.

equivalence agreement started a new era of equivalence negotiations (and was the organic first equivalence agreement signed by the USA). The EU granted equivalence to Japan in 2010 (which was later converted to bilateral equivalence). Canada and the EU concluded bilateral equivalence in 2011. Finally in 2012, the EU-US organic equivalency arrangement was signed, more than a decade after the beginning of the negotiations. EU-South Korea is the latest to date, in effect since 2015.

The US also signed equivalency agreements with South Korea, Switzerland and Japan.

Canada also signed other bilateral equivalence agreements (with Costa Rica in 2013 and with Japan in 2014), and Japan recognizes a few countries.

Globally, however, the map of equivalence agreements shows that equivalence is still essentially happening amongst the big players of the global organic market. Mostly it is the countries that are either big exporters or big importers who can afford to negotiate equivalence agreements. For small countries with emerging organic sectors, negotiating equivalence with big importing countries is most of the time not a realistic possibility.

Nothing however prevents the small countries from negotiating equivalence agreements amongst themselves, for example with their neighboring countries. This has been done, for example by the five countries in East Arica where a hybrid government/private organic guarantee system provides for regional harmonization and mutual recognition. A similar system exists within the countries of the Pacific Community, which have harmonized their organic guarantee system, although it is not (yet) a mandatory organic regulation. Another regional equivalence discussion process is underway in the ASEAN countries (Southeast Asian Nations).

Best practice example(s)

Best Practice Example: Costa Rica: Supporting Market Access via Equivalence

Costa Rica exports organic products with an annual value of nearly EUR 20 million, mainly bananas, pineapple, coffee and sugar cane. This is in comparison to a domestic market estimated to be about EUR 2 million, demonstrating the current reliance on export market access by Costa Rica's organic producers. About 60% of its exports go EU countries, entering ports in the Netherlands and Belgium. About 25% of organic exports go to North America, mainly the United States.

Costa Rica is distinguished by being one of the few developing countries to attain listing on the list of equivalent third countries in the EU organic regulation EC 2092/91, which was achieve in April, 2003. As a result, organic product produced and certified by approved certification bodies in Costa Rica may enter EU markets on the basis of the Costa Rica certificate without further measures to review the organic status of the product. Costa Rica's organic regulation, including standards, conformity assessment and enforcement requirements, was created with the main purpose of accessing the EU organic market. In the mid-1990s, organic agriculture advocates in Costa Rica gained support from the Ministry of Agriculture and Livestock to develop the organic regulation. A committee including government and private sector/civil society representatives had in 1997 prepared a section on organic farming in the framework of environmental legislation. In 2000, the regulation was revised and placed in the framework of a

phytosanitary regulation administered by the National Phytosanitary Service of the Ministry of Agriculture and Livestock. The drafting committee took care to ensure that the regulation was based on the EU regulation. There was a trade-off for this, as the regulation could have been more adapted to Costa Rica's situation. But the goal of EU recognition was achieved, and it has facilitated additional market access. Nevertheless, Costa Rica has managed to preserve some specificities, such as the recognition of Participatory Guarantee Systems as valid guarantee systems for their domestic market, with no negative impact on their equivalence negotiations.

Switzerland, which ensures that it follows all the organic equivalency recognitions of the EU, also recognized Costa Rica upon completion of an equivalency review process. A decade later Canada, after completing bilateral recognition arrangements with the EU, took the initiative on recognition of a developing country recognized by the EU, and initiated a bilateral equivalency discussion with Costa Rica. A bilateral equivalency arrangement was signed between the two countries in March 2013.

Pitfalls and challenges

As explained above, gaining equivalence recognition from a major organic importing country is not always feasible. In the new global equivalency landscape, small countries, whose domestic organic sector is too weak, and/or who have a recently-established and not yet credibly functioning organic control system will not manage to gain recognition by their target market (often the EU or US). They may however attempt more regional approaches with their neighbors and other small countries.

Equivalence negotiations require a lot of time and resources, and the impact on trade flows is, as mentioned above, not yet fully measurable. Before undertaking such a complicated venture, countries should consider to set-up systems, such as specific HS subcodes for organic products, to track organic trade to various target markets. This will allow best prioritization in equivalency negotiations.

Efforts to seek equivalence before the whole chain and controls are developed will be a waste of time. Equally, even if the system is in place, there must be sufficient staff resources and travel budgets to facilitate negotiations.

4. Enabling measures

a. National Data production and dissemination

Political justification

The existence of consolidated data on the national organic sector is a very important enabling factor for the growth of the sector because:

- It is very helpful for the development of a sound national strategy to develop the sector, to know the number and location of organic producers, the type of products produced organically, the existing marketing channels, the importance of organic imports, etc.
- Precise data on organic operators allow policy makers to better plan the type and amount of support needed, to calculate budget and expected coverage of their policy measures, etc.
- For market actors, good and reliable data about the size and development of the organic market is of utmost importance to make informed decisions, and having access to a directory of national producers and of existing organic businesses facilitates them in establishing commercial relationship (e.g. in identifying new suppliers).
- For consumers, having access to a directory of organic farmers (especially those that sell products through direct marketing) and markets can help find local organic products to buy.
- In international negotiations the importance of the domestic organic sector and market needs to be substantiated by solid data.
- It is important to guide researchers, academic institutions and other support structures in providing adequate outputs and services nationally.
- Tracking sector growth is important to demonstrate the potential of organic agriculture and to attract investors, organic input manufacturers and other supporting businesses.
- Comparative annual statistics on the organic sector also enables the assessment of the impact of national (or regional) policies (including trade agreements) on organic agriculture and the adjustment of those policies to maximize effectiveness.

Compiling national data on the organic sector is a typical public good service that will benefit multiple stakeholders, including the government itself. Unless there is a strong national organic association that can take on this task (and even so, they would typically need on-going financial support to do it), the responsibility for this falls logically on the national government. However, business data are often collected by national industry bodies (when those exist) while more detailed production data (yields) are collected by research or extension services.

Suitable contexts

Data collection support can be done in any culture of government intervention, and is relevant to any objective of policy support.

Data collection and dissemination is a policy measure suitable to all stages of development of the organic sector, from embryonic stages to stages of well-developed production and consumption. The intensity of the data collection (frequency and level of details) needed will vary depending on the development stage of the sector. At early stages, a punctual study to roughly locate organic producers and have an idea of their production systems and the existing market channels is enough to inform subsequent policy action. When the organic sector is well developed and organized trade is significant, then detailed production data and organic trade figures become important to monitor on a regular basis.

Data collection and dissemination can also be implemented with or without an organic regulation or an official organic guarantee system. Most of the time, when governments take on the tasks of regular data collection on the organic sector, it is when they have established an organic regulation. Indeed a regulation provides clear criteria for who may be considered organic (legal definition). It also implies a duty from the side of the government in terms of enforcement, for which the competent authority should anyways have the list of certified organic operators and access to the data of the accredited certifiers. However, in unregulated systems, the government may still conduct (or support) data collection, for example in the form of survey and studies (state of the organic sector in their country, e.g. the study financed by the South African Ministry of Trade and Industry): this should actually be a pre-requisite to the development of any organic action plan, policies and regulations.

Data collection and dissemination is a policy measure that is suitable regardless of the culture of government intervention on the organic sector, as data availability is as relevant in a free market approach as in more interventionist government cultures. Finally, data collection and dissemination is useful regardless of the objective behind the support to the organic sector (be it to improve the country's trade balance or to improve agricultural sustainability).

Possible modalities of implementation

In early stage of development, governments may conduct or finance a national survey/study on the situation of organic agriculture in the country, including an overview of organic production, active stakeholders (e.g. associations, businesses, certifiers), the standards and labels in use, and existing market channels for organic products. Such a publicly available study report supports the organic sector development and can serve as a basis for subsequent national organic action plan development.

The cornerstone of an organic data system comprises statistics on the number of organic producers, and the area certified including crop information. In regulating

countries this can be facilitated by regulations that require certification bodies to provide the data to the competent authority. Precise data on non-certified organic production are more difficult to collect and make available to the public. Nevertheless the government may approximate the number of non-certified organic producers by other means, including cooperation with the national organic association. It can also be done by including in the national agricultural census a question on whether producers considers themselves to be organic (even if not certified) – an approach that can however give reliable results only in countries where farmers are literate and where the meaning of organic is clear to farmers.

Data on the location of organic producers and their sales channels facilitate publication of a directory of organic farms, which can be used by traders, caterers, retailers and consumers to identify organic farmers in their regions. The transparent publication of all certified operators also contributes to supporting compliance, as there will be more eyes watching what happens on those organic farms.

Data may also be collected on organic processors and other organic businesses, and on points of sale. National market studies that include market figures and organic consumer behavior and trends are also very useful to the organic industry.

International trade data collection is supported by establishing specific "HS" (Harmonized Systems) codes for organic products, which are recorded in export and import transactions. Subcodes can be established for organic versions of each commodity. To date, only a few countries in the world have established such separate codes to capture organic exports and imports (namely the US, Canada and Italy). Trade data can also be compiled by other means, such as reporting by businesses, but this method will not be as reliable as using a code system.

Price and other market information on various organic commodities is also a service that is useful to organic producers for planning production, marketing and sales. Currently only a few countries have such data available. Examples are the US and some European countries (Denmark, France, Germany, Netherlands, UK), in some cases however, only for selected products.

Although the old format of newsletters and printed directories still exist and are used, digital tools are rapidly developing to disseminate data in a more efficient way. They range from searchable online databases and active maps to smartphone apps. Online tools for the collection of data are, so far, used only rarely. One example is the OTX platform that captures organic farm gate prices https://trade.o-tx.com.

Country examples

In the **USA** a number of private and public institutions are engaged in the regular collection of data on organic agriculture. In many ways the US is a role model for organic data collection – it has been one of the first countries to collect the data among the certifiers, and has pioneered a system for export data collection, which is fully integrated into general agriculture export statistics. It collects a wide range of farm-

level indicators and has excellent documentation and description of statistics available to the public and promoted through social media. See more information in the Best Practice Example box.

Canada also has some specific HS codes for organic imports (63 codes currently)[126], which cover a limited number of products. 13 new export codes for organic grain and commodities will be implemented in 2017: data are expected to be published by 2018. The federal government also includes two questions on organic in their Agricultural Census that takes place every five years. The province of Quebec has a mandatory organic data collection system through CARTV, their council in charge of quality schemes. It collects information on all organic operators in Quebec, including acreages and other statistics. The annual collection of organic area (including crop details) and operator data (based on information from the certifiers) as well as data on retail sales (based on data from market research companies) is collected and disseminated by the private sector, the Canada Organic Trade Association COTA.[127]

The government of **Switzerland** co-funds the annual compilation of global organic statistics by FiBL. "The World of Organic Agriculture", published annually by FiBL and IFOAM-Organics International, provides a global overview of organic farming statistics including area under organic management, specific information about land use in organic systems, numbers of farms and other operator types as well as selected market data.

In the **EU** the regulation on organic farming, requires all EU member states to provide basic data on organic farming to Eurostat. With the exception of Chile, there is no other country or region in the world where data collection on organic farming is mandatory in the organic regulation. Since 2008, the obligation to provide the data is defined legally in the EU organic regulation. Eurostat, the EU's statistical office, compiles for each country the number of organic operators, the organic crop areas and production, organic livestock and livestock production. Each Member State and some other European countries are asked to provide the data on an annual basis, using a harmonized questionnaire. The data are usually based on data of the control bodies, which are then compiled by the national authorities. Eurostat publishes the data on its website, in several searchable databases in English, French and German.

Regarding organic trade, currently there are no separate codes for organic products used across all EU Member States, which means that organic international trade is difficult to quantify and there are no figures for the EU organic exports and imports. However, some countries have started to use specific codes for organic imported products, e.g. Italy. Starting in 2017 the European Commission will begin collecting data on organic imports through a compulsory electronic certification system. However, there are no plans yet to generate publicly available statistics from this system.

[126] The Certified Organic Commodity Harmonized Import Codes are available at the website of Agriculture and Agri-Food Canada at http://www.agr.gc.ca/eng/industry-markets-and-trade/statistics-and-market-information/by-product-sector/organic-products/organic-production-canadian-industry/certified-organic-commodity-harmonized-import-codes/?id=1199997881628

[127] Information from the Canada Organic Trade Organization

For exports, consolidated data including a detailed breakdown by product is reported only by Denmark. Some countries, such as Italy and Spain provide a number for the total export value with some commodity details.

Retail sales data are mostly collected by private research companies and then disseminated by the private organic sector (Belgium, Germany, The Netherlands, Sweden and United Kingdom). Only in Denmark and Sweden, is this data also collected by the national statistical offices. In Spain, an annual study on retail sales is commissioned by the Ministry of Agriculture. Retail sales data collection is particularly difficult in the newer member states. Only few of them (e.g. the Czech Republic) collect retail sales data on a regular base. Hence there is an information gap on the market in the Central Eastern European countries. Aggregated EU und European retail sales data (total retail sales, organic market share, and per capita consumption) are available from FiBL and the Agricultural Market Information Company AMI, who provide them regularly in the yearbook "The World of Organic Agriculture" and other publications.

Statistics Sweden collects data not only for areas of crops but also for yields, which gives not only valuable information to the market but also an idea of how organic yields compare to conventional. For yield comparisons the data needs to be analyzed on municipal or parish level as otherwise difference in uptake of organic in intensive and less intensive areas will influence the results.

In **Italy**, in 1999, the Ministry of Agricultural, Food and Forestry Policies established the National Information System on Organic Farming (SINAB), implemented by two national institutes (ISMEA, the Institute for Market Services on Agro-food Sector and MAIB, the Mediterranean Agronomic Institute of Bari). The SINAB contains a considerable amount of administrative information related to organic farming including operators, area, livestock and production data, and also import data based on data from the customs and import authorizations. It is the only system used by the Central Administration, regions and control bodies. The data is also used for the Eurostat data compilation.
In the framework of the Italian National Rural Development plan 2014-2020, a new project aims at additional use of the enormous amount of data available on the SINAB database. The online platform will be able to provide market information relevant to organic entrepreneurs and to facilitate the implementation of rural development and supporting organic sector policies.
Retail sales data in Italy is available from the private sector association of processors and organic traders Assobio; in addition the public market research organization ISMEA provides product-related retail sales data based on samples.

In **France**, Agence Bio, the French public agency for organic agriculture, is in charge of all data collection and dissemination on organic agriculture. It has a very comprehensive website with background information and all relevant statistics on the French organic sector (production, operators, retail sales, exports and imports, public procurement) as well as on public support available to organic. It maintains a directory of organic operators and a database of all organic events taking place in France (http://www.labiodes4saisons.eu/). It has also developed a smartphone App "La Bio en

Poche" which is directly connected to the directory database and allows users to immediately locate a nearby organic point of sale, a restaurant or an event.

Denmark has probably the best system for organic data collection in place for organic retail sales and international trade data. Since 2003, this data has been collected annually from companies by Statistics Denmark. For retail sales, per-product volumes and value are collected from supermarkets, which constitute approximately 90 % of all organic sales in Denmark. For imports and export, values are available by product and by country. A new feature is the data collection on catering sales data. All data are easily accessible in Danish and English via an online database at the Statistics Denmark website. Additionally, the Ministry of Environment and Food has been publishing for several years an annual digital overview (in spatial data format) of all organic fields in Denmark.

In the **Czech Republic** data on organic agriculture is supplied by the Ministry of Agriculture, which has mandated the Institute of Agricultural Economics UZEI to collect the data. Data collection includes farm-level and operator data, including on-farm consumption, and also data on retail sales and exports and imports; the latter are collected among the companies that are trading organic products. In addition, the government funds the compilation of a yearbook on organic farming in the country. The yearbook is available in Czech and in English and can be downloaded from the website of the Ministry of Agriculture.

In **Latin America** most countries have an organic regulation and hence data on area, production, and in some cases livestock, are available for several countries. There are some very good examples of collection systems for export data (Argentina, Chile, Dominican Republic, Ecuador, Peru), which by far exceed the scope and quality of export data that are available from major organic markets such as Germany, where nothing is available. The strong focus on export data reflects the importance of organic exports for Latin America.

Argentina has one of the best data collection systems in Latin America for area, livestock and export volume data, including exports by destination. Each March a comprehensive, consistently structured, detailed report is issued by SENASA, the authority in charge. The Ministry is currently financing the establishment of the Guía Orgánica (Organic Guide) interactive website in which consumers interested in organics can find organic points of sales, products, and product information.

Peru now provides detailed data on organic exports (volumes and values), which are compiled by the export promotion agency PromPeru, outstanding examples of collection of export data. Area data and producer numbers are provided by the control authority SENASA.

In **Taiwan**, the Organic Center at the I-Lan University developed the Taiwan Organic Information Portal with funding from the Council of Agriculture. It consists of three parts: the system to disseminate organic agricultural information; the system derived from the organic certification database; and the organic e-commerce system, linking

producers and consumers. The portal contains tools for consumers to find organic farms in their neighborhood or to buy organic products online. Area data and producer numbers are available from the website of the Taiwan organic agriculture information Centre.

In **China**, CNCA (the National Certification and Accreditation Administration) is responsible for collecting, compiling and releasing national statistics on organic agriculture. Since 2005, collection efforts have continuously been enhanced. In 2014, a "White Book" on organic farming in China was published, giving access to the data (area, production, exports, imports, domestic market) and substantial background information. An English translation of the white book by the company "Organic and Beyond" has made the information internationally accessible. China is currently working to integrate the data for the international certifiers, thus making the picture more complete.

In **India**, APEDA, the Agricultural & Processed Food Products Export Development Authority, compiles data on exports through Tracenet, an online software for organic certification which issues the Organic Scope and Transaction Certificate. Basic data (area) and some export volume data are displayed on the APEDA website.

In **The Philippines**, the 2010 organic law mandates the BAR (Bureau of Agricultural Research) to coordinate with other agencies on data and information on organic agriculture. Since in The Philippines, the vast majority of organic producers are not third party certified, organic certifiers cannot be used as the main source of statistics. The National Organic Agriculture Program (NOAP) maintains a database and publishes yearly statistics that include third party certified, PGS-certified and non-certified organic producers. The data is obtained through agricultural technicians in the Local Government Units, who are assigned to implement the NOAP and expand the adoption of organic agriculture in their area of responsibility.

In **Tunisia** data on production area and export are collected by the Ministry of Agriculture. The data and producer lists are presented on the website of the Technical Centre of Organic Agriculture. Tunisia is the only country in Africa that has a governmental data collection system in place.

Best practice example(s)

Best Practice Example: Organic Data Collection in the USA

In the USA a number of private and public institutions are engaged in the regular collection of data on organic agriculture. A wide range of production-related data as well as international trade data is available from the United States Department of Agriculture (USDA). Retail sales data are provided by the private sector – the Organic Trade Association (OTA).

In many ways the US is a role model for organic data collection – it was one of the first countries to collect the data among certifiers, and has pioneered a system for export data collection, which is fully integrated into general agriculture export statistics. USDA's organic farm survey demonstrates how a wide range of data on organic agriculture can be compiled and

disseminated. Efforts of the USDA's Economic Research Service (USDA – ERS) date back to the 1990s. Up to 2011 data on area, livestock numbers and producers were collected among certifiers and published on the ERS website.

Now, the data collection is done by USDA's National Agricultural Statistics Service. Five comprehensive surveys on organic agriculture (2008, 2011, 2014, 2015, and 2017 in progress) have been conducted by ERS/NASS[128]. The data are directly collected from the producers. These surveys asked about organic farming and ranching activities, including a wide range of indicators such as:

- Production of field crops, vegetables, fruits, tree nuts, berries, livestock and poultry;
- Production practices such as pest management, cover crops, crop rotation, rotational grazing, conservation tillage, water management and buffer zones;
- Production expenses;
- Marketing practices, including wholesale, retail and direct-to-consumer sales; and
- Value-added production and processing.

Furthermore, in the 2014 Farm Bill, EUR 3.7 million is allocated annually, mostly for data collection and analysis on organic product pricing, which supports market decisions and analysis and is otherwise beneficial, for example, for establishing mandated organic crop insurance payment levels. The USDA Agricultural Marketing Service (AMS) freely disseminates market and pricing information for approximately 250 organic products through its USDA Market News and ERS has published historical prices comparisons across commodity sectors based on AMS data[129].

For external trade data (exports and imports), the USDA introduced in 2011 selected specific HS[130] tariff codes for selected fresh and processed organic agricultural products, and has been adding new codes annually[131]. This HS coding does not yet fully capture existing organic trade, but it has proven to be a useful tool to evaluate changes in trade that may result from equivalence agreements such as the EU-U.S. arrangement[132]. The data are available in a searchable online database at the USDA Foreign Agricultural Service (FAS) website together with overall agricultural export and import data.

Retail sales data to measure the demand and size of the US market are published annually by the private sector Organic Trade Organization OTA, based on data compiled by market research institutes[133].

128 Findings from all four NASS producer surveys are available at https://www.nass.usda.gov/Surveys/Guide_to_NASS_Surveys/Organic_Production/

129 The ERS organic price tables are available at http://www.ers.usda.gov/data-products/organic-prices.aspx

130 HS = Harmonized System Codes, an international harmonized commodity description and coding system.

131 The Organic Trade HS Codes are available at the FAS website http://www.fas.usda.gov/organic-trade-hs-codes

132 The export and import data is available at the website of the Foreign Agricultural Service FAS data is available here http://apps.fas.usda.gov/gats/ExpressQuery1.aspx

133 The Organic Industry Survey of the Organic Trade Association is available at https://www.ota.com/news/press-releases/19031

Pitfalls and challenges

On a global level, data on organic agriculture has grown and improved considerably in the past years, particularly data on organic agricultural land. However, challenges remain, including data gaps and issues related to definition, classification, standardization, quality, and access. Therefore, increased attention to data collection on organic agriculture is warranted in order to fill data gaps, harmonize data and improve data quality.

There is still a major lack of data on organic agriculture in many countries. Even when governments have set up data collection systems for organic data, the number of indicators collected is still relatively low. Beyond area and operator data, the volumes and value of production, retail sales, and imports and exports by product or product groups would be valuable. In addition, the collection of price data should be considered. One possible approach to the challenge is expanding data collection beyond the organic authority to other bodies such as statistical offices, customs authorities and, where relevant, individual companies[134].

The collection of yield data is challenging, but provides an excellent opportunity, not only to compare organic and conventional, but even more to monitor real development in organic farming technology.

There is also a clear need to develop improved statistical processes to increase the accuracy of data about the organic market, specifically by paying more attention to coverage and adopting improved sampling procedures in the case of data that are not based on a census (in particular, retail sales). In cases where only expert estimates are available, these should be checked against other sources. It is recommended to apply the principles as laid down in the OrganicDataNetwork's (2014) OrmaCode.

Additionally, some efforts should be done to harmonize statistical processes for organic data collection at the international level, to improve comparability and coherence.

Some of the data collected (even by official sources) is sometimes not plausible. Governments that collect organic data should establish a system of routine quality checks for organic market statistical data by:

- balancing data accuracy versus timeliness in data publication and dissemination,
- applying plausibility checks, and
- comparing and crosschecking non-official statistical data from at least two independent sources to increase accuracy and consistency.

134 Those recommendations are been made by the European OrganicDataNetwork project and elaborated in the elaborated in the OrMaCode, the ORganic market data MAnual and CODE of Practice (Zanoli et al. 2014) based on the European Statistical Code of Practice (Eurostat, 2011).

Data is most valuable when it is collected over time in a reliable, consistent, and frequent manner. Therefore governments should ensure that there is permanent funding for this activity and for maintaining long-term networks of data providers.

b. Support the institutional development of organic associations

Political justification

Organic (national) associations play a decisive role in the development of the organic sector. Historically, organic associations have initiated most elements of the organic sector, ranging from certification (with pioneers like the Soil Association in the UK and CCOF in the USA), to training and advice to farmers, organic consumer fairs, national organic logo, and consumer awareness campaigns. Organic associations, particularly if they are federated at the national level, and provided that they are strong politically and financially, can take on many of the "public interest" tasks that are necessary to build the organic sector. Hence, as civil society organizations, they can relieve the government from directly managing some of these tasks, even though they will still benefit from overall government support.

A well-federated organic sector at the national level is also key to involving the private sector in policy making, and to setting-up public-private partnerships for organic development. In terms of policy development, a national organic association can play a strong role in resolving divergences of opinion within the organic community, and forming consensus and compromises needed for advancing policies, for example the details of standards. Governments often emphasize the importance of sector constituents speaking to them "with one voice".

The risk of exclusion by the local farming community is still a factor for many farmers considering converting to organic farming. Organic farming associations play a vital role in offering a community in which organic farmers can feel a sense of belonging and interact with fellow organic farmers. Thus, government support for organic associations is connected to policy aims to convert more producers and land to organic farming. Beyond the political and social usefulness of organic farming associations, there are various examples of where a national organic association has played a decisive economic role in the development of the organic supply chain. One example is NOGAMU, the organic umbrella organization founded in Uganda in 2001. NOGAMU's work has been the principal factor in the growth and development of Uganda's organic sector. The work has included capacity building, PGS development, and consumer awareness. But also NOGAMU has assumed a very pro-active marketing role, acting as a supply chain facilitator, and creating the first specific organic market outlets and basket home-delivery scheme. Another example of a national organic association with high impact on organic development is Bio Suisse in Switzerland. They fulfill a number of functions, including standard and common logo management, public awareness raising campaigns, and market data collection.

Despite the importance of organic associations, they often struggle to establish themselves. Especially in countries with an emerging organic sector, public support, whether through the local government of through foreign aid, is often necessary to kick start an organic umbrella organization. This however is usually a good public investment because such an "organic infrastructure" organization, once well established, will be able to find other resources (in their membership and through external funding) to carry out many of the "public interest" tasks such as data collection, capacity building, political facilitation and ownership building, market development and advocacy for organic agriculture. Governments may also consider providing institutional funding on an ongoing basis to such organizations to support the provision of some of these services (such as capacity building, data collection, and communication to producers and consumers).

Suitable contexts

National organic associations are useful in all cases. This means, regardless of the stage of development of the sector, of the regulatory framework or even of the policy objectives, supporting the institutional development of organic associations will be a suitable and relevant measure. The only case in which this measure might not be realistic is in cultures of no government intervention in the agricultural sector, as supporting a sector organization may be considered market distortion.

Possible modalities of implementation

Generally, governments provide funds for organic associations to implement particular activities, such as consumer education, capacity building of producers, or participation in policy design.

However, some governments have provided institutional support to organic associations by funding their core activities and expenses such as staff salaries, contribution to administrative costs, or purchase of office equipment. Institutional support presents the advantage of empowering members of the organization to democratically set priorities for the organization, while funds given for specific projects tend to impose external (government) priorities.

Many organic umbrella organizations in developing countries have received support not from their government directly but from foreign donors. Local governments can nevertheless prioritize the inclusion of such support measures in their action plan for organic agriculture – which increases their chance of being supported by external donors – and in their negotiations for development cooperation projects.

Country examples

At the **EU** level, the EU Commission has been funding IFOAM EU (the umbrella association for organic agriculture in the EU) for many years. About 60% of the IFOAM EU budget comes from EU grants, of which half is provided in the form of operational

grant by DG ENV (the Environment department of the EU Commission). From 2004 to 2013, IFOAM EU also received a yearly Operational Grant of EUR 50,000 per year from the Flemish Government of **Belgium**.

In **Austria**, the 1988 Agriculture Act and subsequent legislation provided for support (at the rate of 50% of eligible salary and other costs) for the development of appropriate sector structures, including organic farmers' organizations.

The development and/or enhancement of the organic sector infrastructure is also an important aim of support in the **Netherlands**. Between 2001 and 2011, organic associations were supported with an average of around EUR 550,000 of public money per year, for general institutional support.

In **Belgium**, since 2009 the Flanders region government gives annual structural funding to BioForum, the regional sector association. In 2015 and 2016, this amounted to EUR 612,000 per year, funding BioForum core activities. The budget for this is allocated from the budget for the organic action plan.

In **Denmark**, the national organic umbrella organization, Organic Denmark, derives an important part of its yearly budget from governmental, or governmentally administered funding sources. The biggest part consists of levy funds - funds generated through a tax on pesticides and through contributions from the agro-food sector companies – which are redirected to agricultural sector organizations according to the Danish law. Another part is national government funding sources. See more information in the Best Practice textbox below.

The government of the Québec province in **Canada** has provided various supports to the *Filière Biologique du Québec*, the umbrella organization representing the organic sector in the province. For example, in 2014, they received around EUR 33,000 from the Ministry of Agriculture of the provincial government for an institutional funding project aiming to strengthen the association's role as a sector organization within the organic industry.

In 2014, as part of the PLANAPO (the government plan for organic agriculture development) **Brazil** launched a program named ECOFORTE that allocated EUR 70 million to support 30 organic agriculture, agroecology and wild collection networks of organizations. For more information, see Best Practice text box below.

In **Saudi Arabia**, the Saudi Organic Farming Association received financial support through the Organic Farming Project financed by the Saudi government.

In **The Philippines**, in 2012 the Organic Producers and Trade Association (OPTA) received about EUR 15,000 funding from the Philippines Department of Agriculture to implement several activities including national and regional events, as well as market research.

Best practice example(s)

Best Practice Example 1: Support to agroecological and organic networks in Brazil

In 2014, as part of the PLANAPO (the government plan for organic agriculture development), Brazil launched a program named ECOFORTE (Program to strengthen and increase the networks on agroecology, wild collection and organic agriculture). The program allocated EUR 70 million to support 30 organic agriculture, agroecology and wild collection networks of organizations within 2 years.

The program was implemented through public calls for proposals to select networks of organizations to be supported. Networks of organizations were defined as groupings of at least three organizations such as producer's cooperatives or associations. The networks should mobilize, build capacity and disseminate information and technology to strengthen their organic and agroecological member organizations.

Each network applicant could request up to EUR 504,000 to implement their activities within two years. These activities could include: purchasing of machinery and equipment; building or infrastructure development; support for value chain development and marketing; increasing women and youth participation; institutional capacity building through exchanges, workshops, training, meetings; research (feasibility and impact studies); financing and business plans; technical assistance for compliance with the national regulation on organic production; integration with education institution and creation of study and research centers within education institutions. The financial assistance requested had to include 50% of infrastructure development costs and 50% of management, capacity building and technical assistance costs.

Best Practice Example 2: Supporting Capacity development in Denmark's Organic Association: a model of cooperation

There is a long tradition in Denmark of avoiding direct operational support to organizations. But there is also a tradition of doing some serious capacity building through funding projects. A prime example is the case of Organic Denmark, a membership association representing the organic sector in Denmark. The organization's affiliates include 1000 farmers, 3700 supporting professionals and consumers, and 200 food companies, representing over 90% of organic sales.

Prior to 2002 eight non-governmental organizations, focused on developing various aspects of Denmark's organic sector. A funding decision by the Danish government in 1999 was an exception to the rule of no direct organizational support, and one that led to positive outcomes for building government cooperation with the organic sector. That year the government allocated about EUR 670,000 towards establishing the House of Organics, wherein the offices of the eight organizations came together in one building and formed a joint secretariat. The resulting knowledge and trust among these organizations, with complementary expertise in organic production, marketing, policy advocacy etc., led to their consolidation in 2002 into one new organization, Organic Denmark. This consolidation enabled government agencies to focus funding and other support for organic sector development. Organic Denmark works in close cooperation principally with the Ministry of Environment and Food, and also with several other ministries. All government funding is structured as project funding for various activities. This ensures communication and collaboration between Organic Denmark and ministries on sector development.

About 40% of Organic Denmark's budget is based on government funding for projects related to consumer information, solving problems out in the fields, advisory services, marketing, product

development advisory services, promoting conversion to organic farming etc. For the first six years of operation, the House of Organics received about EUR 400,000 annually for ongoing project activities, which had to be approved by the ministry each year. In 1998, at the request of Organic Denmark, the government used pesticide fees to established a special "Organic Agriculture Fund," funded at about EUR 1.3 million annually, rising to about EUR 5.3 million in 2011, as funding from the Rural Development program ("Quality Organic Food Products") was reduced. About 40% of funding from the Organic Agriculture Fund is allocated to projects in Organic Denmark, ranging from export promotion, consumer information and conversion of public kitchens, to technical advisory projects. Financial support is also received for projects under various other government programs related to green growth, biodiversity preservation, exporting, etc.

Other government financial supports are indirect. The Program for Quality Organic Food Products, under the Danish Rural development program, made, until 2011, made about EUR 6 million available to finance 70-100% of approved projects by groups of companies that collaborate primarily on consumer information and marketing campaigns. These groups frequently contract with Organic Denmark for project planning and implementation. The Danish government has also supported Organic Denmark's efforts to gain organic financing from Denmark's Agricultural Funds, financed by assessments on all production of milk, meat, etc.

Cumulatively these ongoing project supports have built critical capacities in Organic Denmark, enabling it to drive organic market development, farm conversion and innovation in farm practices and product development. Furthermore, by acknowledging Organic Denmark as a main actor in Danish agriculture, the Ministry of Environment and Food has further supported its visibility, networking and capacity development.

Pitfalls and challenges

If the government is too proactive in supporting the development of a national organic sector association in a rather top-down approach, the risk is that there isn't enough buy-in from the stakeholders, and hence the representativeness and the sustainability of the organization will be affected. It is therefore safer for the government to support existing organizations including, in case no umbrella organization has emerged yet for the organic sector, supporting a variety of NGOS and associations active in organic agriculture, and encouraging and supporting financially their own initiatives to consolidate when the time is right.

Legitimate minority interests (e.g. of farms with unusual production, disadvantaged groups, etc.) are not always properly represented by national associations or federations. Also, the interest of non-organic farmers who might want to convert to organic may be under-represented by organic associations. There might be cases where a national organization favors support to existing organic farmers rather than support to conversion of new farms.

The organic business sector, processors and traders, are often less inclined to cooperate and share information, than the farmers. There are very few countries where a sector body has managed to organize both farmers and traders in the same association.

In some countries, it has not, to date, been possible to reach a consolidated national

organic umbrella organization. It requires a democratic culture, as well as a culture of compromise to resolve conflicts. Even in countries that manage to overcome divergences and build such umbrella organization, a challenge will often be the lack of own resources, if members are not willing to commit resources to pay for open access common good services.

c. Build organic expertise within the public sector

Political justification

When a government decides to implement a series of policy measures to promote organic and/or if the government is implementing an organic regulation, a competent authority will be appointed to oversee the resulting programs. The mere appointment of a "competent authority" does not ensure the actual competence of the government employees that will be working on organic topics (sometimes, they also work on many other topics in parallel). One key element of sound policy implementation is to ensure that government personnel who will be in charge of organic development understand very well what organic agriculture is, the national sector and its constraints, and the positions of the various stakeholders on technical organic matters. Building capacity of government staff is therefore a prerequisite for further policy design and implementation, particularly of the staff of the unit in charge of organic agriculture, but it can also be relevant for other staff that will have to deal with organic issues one way or another.

Beyond the fact that government staff working on organic should be knowledgeable on the topic, there is a value in creating specific organic expertise within a public institution (this could be public or semi-public), which can serve as the go-to institution for all national matters organic and coordinate between ministries and agencies. Such an institution can produce statistics, resources for the sector, policy recommendations, organize national events, etc. It can serve the role of public facilitator and knowledge hub for organic agriculture and ensure that government decisions will be informed by well-versed experts working with the public interest in mind. There are also many experts in the private sector but those might often have private interests at stake. The other advantage of having a public institution specialized in organic agriculture is that it can retain knowledge and carry out activities over many years, based on more or less permanent funding.

Suitable contexts

If government is going to intervene in favor of organic agriculture in any way (whether it is just to regulate it or also with supportive measures), it is important that some personnel in government institutions be knowledgeable about the organic sector. Regardless of the stage of development of the sector, of the culture of government intervention, of the regulatory framework or even of the policy objectives, building

expertise on organic agriculture within public institutions will be a suitable and relevant measure.

Possible modalities of implementation

Governments can pursue a strategy to broadly increase organic agriculture literacy throughout its personnel, or to ensure that one or more of its employees have strong background and knowledge of the organic sector – or both. Formal teaching – learning programs are well-suited for both strategies. They can be packaged in several ways, ranging from in-person courses and workshops for staff to online learning. There are several options for further knowledge building. IFOAM – Organics International offers intensive Organic Leadership Courses to "students" from government and non-governmental backgrounds. The course includes 150 hours in-person sessions plus online learning sessions. Training for government staff may also be obtained through agreements with national or regional organizations. Experts within government agencies or hired as consultants are another option for design and delivery of customized organic training programs. Training programs can be part of an arrangement with an international development agency or intergovernmental cooperation project.

Another way for a government to gain expertise is to hire organic experts in governmental positions. This was the case in the United States, where the USDA hired the former manager of organic certification for the State of Washington to head its National Organic Program, and he subsequently hired other organic experts for key staff positions. Moldova hired an expert organic agricultural consultant to a high level position in the Agricultural Ministry. He was able to operate from a position of authority to develop strategy and an organic work program. Government employees may also be trained for organic-sector roles outside their formal employment, such as in conducting organic inspections for certification bodies.

There is value in setting-up a dedicated unit or agency to be in charge of the organic sector, and to build organic expertise within such a unit. A common way is to have an organic unit composed of a few personnel, within the Ministry of Agriculture. Another way is to set-up a dedicated separate agency, in charge of organic agriculture development in the country. See for example the case of the French Agence Bio in the best practices section.

While it is important that the public sector develops its own expertise in the field of organic agriculture, it continues to draw upon expertise in the sector and academia. To institutionalize such practice, the government can include organic experts from the private sector in their working groups or even in their delegations to international or regional meetings. For example, many countries have had private sector representatives in their delegations to the Codex Alimentarius' labeling committee in charge of organic standards.

The government may also request advice on organic policy matters from national or international experts and organizations such as IFOAM-Organics International. This is

preferably done in the form of consultations, where the expert will work together with the government personnel on a given topic – perhaps one of the best way to build government staff capacity on the job.

Country examples

In 2012, the **USA** Department of Agriculture (USDA) launched its first Organic Literacy Initiative, aimed to educate USDA staff, especially field offices, extension agencies and other field-based service providers about organic agriculture, including certification and regulation. This package of training and outreach materials covers a range of topics, including understanding organic agriculture and certification, and understanding the various government programs linked to it. The Organic 101 and 201 training modules, key to the initiative, provide learners with the building blocks to understand how the organic regulations work in practice. The modules are available publicly, as well as through the USDA's AgLearn internal training portal for employees. In October and November 2012, over 1,200 USDA employees completed the AgLearn training. Field office agencies have placed a strong emphasis on the training program.

In **Turkey**, the government engaged in 2011 in a bilateral technical cooperation project with Germany, through which FiBL provided capacity building to staff of competent authorities and government organic consultants. Multi-stakeholder dialogue and intensive training were the main pillars of the project. Expert modules were developed for all points of the supply chain. Then training courses and workshops were held for government and private sector consultants, competent authorities, control personnel, producers, and technical staff of processors/traders. Demonstration farms were also organized as a component of the training. In addition to the trainings there were intensive peer exchanges between staff of the German Office for Agriculture and Food, and the Turkish Ministry of Food, Agriculture & Livestock. The project experienced success, as indicated by the decreasing incidence of quality problems in the organic supply chain from Turkey to Germany.

In **Tunisia**, the development of the organic sector was basically government-led, and started with the creation of four specialized central and regional level administrative government agencies and technical institutions, which have been and remain the driving force behind the impressive growth of the Tunisian organic sector.

The government of **France** created, in 2001, the Agence Bio, the French Agency for the development and promotion of organic agriculture. Agence Bio is a public interest group whose members are three government institutions and three representative sector organizations. See more information in the best practice textbox below.

Mexico invested EUR 27,000 in the year 2009 for capacity building of government staff on organic agriculture.

Best practice example(s)

Best Practice Example: The French Agence Bio

In France, in complement to sections or task forces within the Ministries of Agriculture and Environment, a public institution with organic expertise was created in 2001: Agence Bio, the French Agency for the development and promotion of organic agriculture. It is a public interest group ("Groupement d'Intêret Public"), a status under French law for non-profit institutions that can include both public and private member organizations. The members of Agence Bio are on the public side, the Ministry of Agriculture, Food business and Forestry and the Ministry of Environment, Energy and the Sea and on the private side, the Permanent Assembly of Agricultural Chambers, the Federation of Agricultural Cooperatives, the National Federation of Organic Agriculture (representing organic farmers), and the National Syndicate of organic companies (representing organic processors).

Agence Bio is conceived as the national platform for information and action for the development of French organic agriculture. In practice, it is more than a coordination platform: it has a staff of 15 permanent employees and receives regular funding, primarily from the French government and through EU projects. Its missions are to communicate and inform about organic agriculture, including its products and its impact, to monitor national organic development (including organic statistics compilation), to develop the French organic market, to manage and promote the organic label "AB", to support sector development and to facilitate stakeholder cooperation and joint planning within the sector. Agence Bio is tasked to manage the "Avenir Bio" public fund for structuring the organic sector.

Aside from its Board, composed of the 6 members of the institution under the supervision of a State Controller, Agence Bio functions with a large advisory council comprising the full spectrum of stakeholders involved in the organic sector including producers, processors and traders, public institutions, certifying bodies, consumer associations, research institutes, etc. It also has four specialized technical commissions to deal with its various areas of work.

The Agence Bio model is valuable in many ways: it allows for public-private co-management and ensures the continuity, specialization and independence necessary for the promotion of the organic sector. It has been particularly active in the promotion of organic food in public canteens and in providing online resources for consumers and professionals to identify organic operators and points of sale and to monitor the market.

Pitfalls and challenges

While it is important that the government develops its own competence, there is a risk for the competent authority to think it represents or fully understands the interests of the organic sector even without proper consultations. It is therefore crucial that the government recognizes the expertise of the private sector and the need for broad consultations and for public-private partnerships in policy implementation. To enable the competent authority, organic agency or other government structure working on organic agriculture to have sufficient consultation with the private sector, funds should be set aside. This might include paying for travel costs for stakeholders to attend national meetings or having several regional meetings to ensure proper participation.

The mandate for an organic unit should be clear enough and have the backing from the higher level, to limit the risk that its efforts are obstructed by intra-ministerial posturing.

In some public services there is considerable rotation of staff, which is problematic for the development of expertise. The same applies to countries where a big proportion of the administration is changed when a new government comes in. In such cases, the creation of a special agency, separate from the ministry, can be a solution to increase staff continuity.

d. Support to PGS development

Political justification

Participatory Guarantee Systems (PGS) are locally focused quality assurance systems. They certify producers based on active participation of stakeholders and are built on a foundation of trust, social networks and knowledge exchange. PGS represent an alternative to third party certification, specially adapted to local markets and short supply chains. They are also sometimes referred to as 'participatory certification'. Participatory Guarantee Systems share a common objective with third-party certification systems in providing a credible guarantee for consumers seeking organic products. The difference is in the path to accomplish this, with the emphasis being on stakeholder participation and transparency.

PGS offers numerous benefits, including improved access to organic markets through a guarantee system for small-scale producers (those systems are much more affordable than third party certification), increased education and awareness among consumers (by involving them in the guarantee process), promotion of short supply chains and local market development, and farmer capacity building and empowerment. In other words, supporting PGS development is a way to promote organic agriculture adoption, but also livelihood improvements through market access and empowerment of smaller farmers. As the concept of PGS is not yet widespread in all countries and regions, there is a need for public support in the initial stage of PGS development, to provide resources for investment in capacity building and organizational development, after which those systems can operate in self-sufficient ways.

Suitable contexts

Support to PGS development is a measure suitable to any context (all stages of development of the sector, absence or presence of a regulation or officially referenced OGS, different cultures of government intervention). The only context in which it will be difficult to obtain (at least from the central government) is the case where there is an organic regulation in place which excludes PGS, but examples from the Philippines or Peru shows that even then, it is possible to obtain support from PGS either from local

governments (who may disagree with the overall national regulation) or from other sections of governments than the competent authority in charge of the regulation.

PGS development is relevant to all objectives of policy intervention except the one to earn foreign currencies through organic export.

Possible modalities of implementation

The most important contextual factor in terms of PGS development is the organic regulation context. It is crucial that, if the country regulates organic agriculture, the organic regulation does not hinder PGS development by deliberately or inadvertently not including them, thereby making these systems illegal. Concrete recommendations on how to develop pro-PGS organic regulations can be found in the Organic Regulation Toolkit published by IFOAM-Organics International.

Aside from PGS being recognized at the same level as third party certification, and PGS-verified operators accessing the same policy benefits as third-party certified operators, there are ways in which governments can invest specific resources in promoting PGS development. A common way to do this is to finance projects that set up PGS groups. This is particularly relevant in countries where the PGS concept does not exist yet, to introduce it in the form of pilot projects. It can however remain relevant at later stages, where PGS projects can be replicated and even possibly scaled up into a very large national PGS program, as in the case in India.

These PGS projects should run for at least three years in order to give them a better chance of becoming self-sustaining after the project period ends. If the full funding of multi-year PGS projects by public authorities is not possible for the national government, it may consider submitting a proposal for international cooperation projects and external donor funding. However, the scale of a PGS setup project can be adapted to the size of the budget available, and it is possible to do something even with low budgets (setup one small PGS in a municipality, for example).

Aside from fully-fledged PGS projects, financial support can also be given to existing PGS initiatives, which are partly self-funded or funded through other sources. This is, for example, what Mexico did with the support to the national PGS network in 2010. Funding is particularly relevant to cover expenses such as farmer training, committee meetings, development of standards and operating manuals, as well as communication and networking.

Country examples

The most progressive example of government support to PGS is **India**, which now has a government-sponsored national PGS system, as well as several government-funded organic support programs with PGS certification included. The Ministry of Agriculture initiated a PGS technical cooperation project with FAO in 2005 and launched in 2011 a nationwide PGS development program implemented by its National Center for Organic Farming (NCOF) under the Ministry of Agriculture. This program has shown impressive

outcomes, leading to the certification of 21,240 organic farmers through PGS in the year 2015. The government has an ambitious vision to reach 200,000 PGS certified organic farmers by November 2017 (see more in the Best Practice example text box below).

In **Peru**, PGS initiatives have been promoted for more then 11 years by various stakeholders including the public agricultural university of La Molina (UNALM). Although the national organic competent authority and regulation do not recognize PGS, there are various regional authorities that have officially recognized and supported PGS. To date, PGS are implemented in 10 regions of the country, often with the support of the local governments. For instance, between 2009 and 2012 the Regional Governor of Huanuco co-financed a project for the implementation of a PGS, which now certifies more than 200 producers. The governor has also introduced a regional regulation, which recognizes and supports PGS initiatives within this region. Similarly, in 2013, the Regional Governor of Abancay introduced a regulation to recognize and support PGS. In other areas, such as the Satipo Province or the Cerro Pasco Region, a program concerning development of natural resources, promoted by the Ministry of Environment, is also dealing with PGS implementation. In April 2016 the regional government of Hancavelica approved a regional regulation to recognize PGS as alternative tool to achieve sustainable development and to foster organic agriculture in the region among small-scale farmers. This regional regulation foresees the establishment of a regional PGS Committee led by the Regional Economic Development Unit.

In **Cuba**, ACTAF (Asociación Cubana de Técnicos Agrícolas y Forestales), is currently coordinating the international development project "Proyecto de apoyo a una Agricultura Sostenible en Cuba" (PAAS) which, among different objectives, aims at developing and implementing a PGS program sustained and included in the framework of the National Program for Urban, Sub-urban and Family Agriculture. This is a governmental plan; therefore introducing PGS implementation in this plan will lead to institutionalization of PGS.

In **Argentina,** the municipality of Bella Vista has taken an active part in setting up the PGS as a tool to raise awareness about agroecology and organic agriculture, eating healthy foods and sustainable production. The municipality has recognized the public value of PGS for the municipality in a council resolution (Municipal Council resolution 113/07). Following this, the municipality council has approved by municipal decree (Ordenanza 919-09) the creation of a PGS Committee and has defined its functions. The Committee is formed by public organizations, producer's organization and NGOs and its role has been to promote the creation of the PGS and to ensure the compliance of the system with the charter and the functioning of the PGS Committee. The same decree also commits the municipality to promote organic agriculture within its area. Twenty smallholder families are currently involved in the projects together with local consumers and several NGOs. It is a good example of cooperation between public and private institutions.

The government of **Mexico**, in 2010 gave support of around EUR 82,000 to the national PGS network Red Mexicana de Tianguis y Mercados Orgánicos to form 20 PGS groups.

In **Colombia** in 2009 Bogotá's Economic Development Secretariat cooperated for the first time with the network Familia de la Tierra (composed of farmers, NGOs and consumers) to conduct market research for launching an alternative channel for marketing products from indigenous and peasant farmers in Bogotá. As a result of coordinated work between organic farmers, civil society organizations, public institutions and local political leaders, this objective was formalized in a district development plan by the mayor's office of Bogotá. It strengthened the Familia de la Tierra network within an institutional environment that provided small grants to CSOs with an ecological and innovative approach. In this framework, the district government, aiming at implementing organic farming as a model for Bogotá's rural development and protecting the city against the entry of genetically modified seeds into urban kitchen gardens, supported the Familia de la Tierra network in the implementation of a PGS.

In **Bolivia** the government partnered with the United Nations in a EUR 6.2 million program to integrate indigenous Andean producers into new national and international value chains. The project trained 7,000 producers in agro-ecology and consolidated 17 PGS in the country. In February 2012, a ministerial decision approved the national technical standard for PGS, which provides for an Ecolabel in recognition of the work of smallholders. The project ran from 2009 to 2013 and involved six UN agencies working closely with specialized units of government (UC-CNAPE) and in coordination with the National Agriculture and Forestry Innovation Institute (INIAF), the Rural Entrepreneurship Implementation Unit (EMPODERAR), the Bolivian Development Agency (PRO-BOLIVIA), the Food Security Support Program (PASA) and AOPEB (the Federation of Bolivian Organic Producers Associations).

In **Costa Rica** the government provided technical and financial support for the establishment of PGS groups. The national accreditation body for organic certifiers conducts the annual audits of the PGS groups, which is needed for their official recognition according to the law. Currently, 4 PGS groups are officially approved and can make organic claims.

In **Brazil**, the Ministry of Agrarian Development supports PGS initiatives and Social control organizations (the other form of alternative verification systems allowed for direct marketing under the Brazilian organic regulation). For example, the Ministry, in partnership with the Federal South Minas Institute, carried out a diagnosis of those organizations to identify existing initiatives, and potential new ones. In 2016, around EUR 91,000 were allocated to support family farmers and technicians involved in those initiatives. For 2017, the government plans to consolidate the 18 existing PGS initiatives, train 300 extension agents in participatory certification, support the establishment of 10 new PGS initiatives and publish various resources for PGS promotion, for a total allocated budget of around EUR 268,000.

In the **Philippines**, the debate about the revision of the Organic Agricultural Act is not over: the language of the Act prohibits PGS-verified products to be labeled as organic, but the government has given several periods of grace that have, until now, meant that this requirement is not enforced. Meanwhile, the government (for example through the

Department of Agriculture-Bureau of Agriculture Research) has supported PGS implementation in the country through funding some projects including PGS development. In parallel, local governments in the provinces have played an important role in supporting PGS. The PGS initiatives in the provinces of Quezon, Nueva Vizcaya, Nueva Ecija, Negros Occidental, Lanao del Norte and Davao City were all developed and supported by their local government units, with some even allocating funds to support the initial operation, including training, committee meetings, and development of standards and manual of operations.

In **Lao**, the Department of Agriculture (DoA) has adopted PGS as part of their certification portfolio of activities, under the responsibility of their certification department. The DoA issues the logo and conducts the training, as well as the audits of PGS groups. PGS certification under this model is free of charge for farmers, as the government subsidizes all costs (through a grants it receives from the ADB PGS project – see below).

More generally in **Asia**, the Asian Development Bank, a government-funded multilateral development bank, supports PGS development in the framework of the Core Agriculture Support Program, 2011-2020. The program supports PGS development in the 6 countries of the Greater Mekong Subregion. This includes the establishment of PGS pilots in all countries, as well as a conversation with the respective governments to gain their support and recognition for PGS.

Best practice example(s)

Best Practice Example: Support to PGS by the Government of India

In India, the NGO sector has been a pioneer in PGS and has managed to grow the PGS movement from a few farmers before 2006 to more than 6,000 farmers certified in 2015. It has also managed to consolidate the various independent NGO initiatives into one single national PGS system: the PGS Organic Council. However, there are limitations in terms of the capacity for the NGO sector to include the large number of farmers and farmer groups interested to join the PGS movement in India. The government, through its National Center for Organic Farming (NCOF), is tackling the opportunity by offering an alternative PGS system that is government-facilitated and benefits from important and stable resources enabling rapid uptake of PGS in the country.

The interest of government representatives in PGS started in the early 2000s. During 2005-2007, the Ministry of Agriculture and FAO undertook a technical cooperation program that, among others, aimed to develop PGS in India. As part of this project, FAO facilitated a national multi-stakeholder dialogue on PGS, in which some representatives of government institutions attended. In India, the mandate for organic agriculture support is somewhat shared between the Ministry of Commerce & Industry and the Ministry of Agriculture. The Ministry of Commerce is in charge of the National Program for Organic Production, including the national organic standard, certification and accreditation system, with a focus on exports. The Ministry of Agriculture hosts NCOF, whose mandate is more broadly to support organic farming in the country. NCOF became interested in the PGS concept as a way to support rapid uptake of organic farming within smallholders producing for the local market.

After some years of reflection and consultations with the NGO PGS sector and international

experts, NCOF launched its PGS India program in 2011. The initiative was not aimed to compete with, but rather to complement the NGO PGS system, with the advantage that the government bears the cost of institutional networking, surveillance and monitoring as well as data management. NGOs can participate in the system and receive financial support to cover the work of data collection and upload on the central PGS website. Due to the availability of institutional resources, the PGS India network is growing very rapidly, reaching more than 130,000 farmers at the end of 2016.

In addition to the institutional support to PGS through the NCOF-facilitated PGS network, the Indian government introduced various financial assistance schemes for the promotion of PGS. One of them is the PKVY scheme (EUR 55 million allocated for a 3-year period starting in 2016) that promotes organic farming through an organic village cluster approach and PGS certification. In August 2016, the government also opened a PGS shop inside the building of the Ministry of Agriculture in New Delhi, selling only PGS-certified products. The Ministry has also opened a café and hopes to add another 7-8 PGS shops in the coming year.

Pitfalls and challenges

The main risk of government involvement in PGS support is that of having a top-down inflexible approach, which is rather contrary to the PGS concept. This risk can be mitigated through participation processes and an effort to delegate to and trust the power of grassroots organizations. Especially when PGS are recognized in an organic regulation, a certain level of formality is going to be inevitable in order for PGS to maintain official recognition. In the case of the government-run PGS program in India, the government, when setting up their PGS program, copied the PGS system that was already run by civil society organizations and there has been a lot of consultation on the government system (both nationally and even internationally whereby the advice of IFOAM-Organics international was requested). As a result, the government-run PGS has found broad support from civil society, even those that were involved in PGS prior to the government involvement. The two systems (civil society and governments) co-exist in good faith and are not considered by either party to be competing with one another.

Any nationally consolidated PGS system is also more prone to rigid procedures and inflexibilities than very localized systems, as they have to manage several (sometime quite heterogeneous) local/regional groups in a somewhat harmonized way. This is not a specificity of government-run or government-supported PGS system but any nationally consolidated system. However, when things are linked to government regulations, decrees and such official documents, they become less flexible for changes and local adaptation.

Government support to PGS might also face some internal resistance from the part of the organic sector that is purely third-party oriented and sees PGS as a competitor or as a threat to organic integrity. Typically those actors opposed to PGS development are third party certifiers, but it has become more and more common in the past 10 years to see third party certifiers acknowledging the power of PGS to promote organic growth and to deliver real organic integrity. In India, for example, some Indian 3rd party certifiers are even cooperating with the government-run PGS program, as they see an opportunity to convert PGS farmers to third party certification at a later stage.

Finally, in the case of government-led PGS development project, a common problem is too much focus on the capacity building component and not enough (effective) engagement with the market (private sector), which does not lead to sustainability after the end of the project funding period. In some cases the government-led PGS initiatives try to set a shop or markets to sell PGS products but they lack the business experience and funding to keep the shop going beyond the establishment stage. It is therefore highly recommended that, when governments wish to engage in a PGS project, they do so in partnership and with significant (management) involvement of the local private organic sector representatives.

e. Support to urban gardening and collective gardens

Political justification

There are many reasons to support urban gardening and collective gardens, from a policy point of view. They produce local food with a very low carbon footprint and contribute to local sustainable production. They reconnect people with their food and contribute to education about what food production entails, which then helps people to better understand and participate in programs supporting agriculture and farmers. They encourage people to consume more vegetables in their diet. It contributes to city landscaping by maintaining nice green garden patches in urban environments. They provide a healthy, stress-relieving, community-building, and productive social activity for people of all ages, background and economic situation to engage in.

Many collective garden projects include social integration components, such as rehabilitation of ex-convicts, integration of refugees and immigrants, people with mental of physical disabilities, children from economically disadvantages households, or elderly people in need of social connections.

Collective gardening and urban gardening can play an important educational role. Most collective gardens make the choice of going organic, because there are usually people in the group that are aware of the risks of handling and using pesticides. Other people in the group become aware and are then more likely to purchase organic products for the rest of their diet. Gardeners also become more used to eating a variety of vegetables, including ancient or forgotten varieties of vegetables and fruits, and to cosmetic imperfections in produce, which also influences purchasing behavior in the shops. They become more aware of the value of food and make more efforts to reduce waste. All these encourage positive consumer behavior, in line with an organic lifestyle.

Suitable contexts

Support to organic urban gardening and collective gardening can be implemented in any context (any stage of development of the organic sector, any organic regulatory framework, any culture of government intervention on the organic sector) and often

happens at the level of local governments. It is relevant to all objectives of support to organic, except the one to earn foreign currencies through organic exports. It is suitable to the objective of increasing self-sufficiency, even though the potential in terms of volume replacement is usually limited.

Possible modalities of implementation

Local policy makers (especially at the municipal level) can do much to encourage and facilitate urban gardening and collective gardening projects. Municipalities have a strong role to play in terms of urban zoning policies, in making public land available, in remediating contaminated land, and in providing financial and other types of support for kick-starting urban/collective gardening projects. State or national governments can also set-up enabling frameworks, both from a land policy point of view, but also with special grant programs linking, for example (organic) urban/collective gardens to care for disadvantaged groups such as the disabled, unemployed, immigrants, old people, homeless, formerly incarcerated residents, etc. In this way, urban gardening can be a tool to achieve broader social policy goals.

Rather than detailing here the types of public policies and support programs that can be developed to encourage urban gardening, interested readers are referred to existing resources on the topic.

A very good toolkit "*Seeding the City – Land Use Policies to Promote Urban Agriculture*" was developed in 2012 by ChangeLab Solutions, a US NGO, to provide a framework and model language for land use policies that local policymakers can tailor to promote and sustain urban agriculture in their communities. Apart from providing specific model legislation related to urban agriculture promotion, the toolkit also reviews other laws affecting Urban Agriculture. The concepts in this toolkit may be adapted for other countries.

Still from the US, PolicyLink published, also in 2012, a report entitled "*Growing Urban Agriculture: Equitable Strategies and Policies for Improving Access to Healthy Food and Revitalizing Communities*".

Aside from the general actions and policies supporting urban and collective gardening, governments can develop specific policies and actions to encourage specifically organic gardening. For example, organic gardening projects can be given priority access to funding or access to plots of land. As a radical measure, municipalities can also pass local decrees prohibiting the use of agrochemicals (other than those allowed under the organic regulations) on public land such as where urban gardens are located. This is the case for example in Havana (Cuba) where the use of synthetic fertilizers and pesticides is prohibited by law.

Country examples

There are many examples of local and broader public policies and programs supporting urban agriculture.

Cuba, and particularly Havana, is perhaps the most renowned example of urban (organic) agriculture. Cuba's national program for food production in urban areas has developed in the 1990s due to the embargo and resulting economic crisis and has put a very strong focus on organic practices. See the "best practice" case.

In the **USA**, Seattle was an early adopter of policies in favor of community gardens. The municipality approved a resolution making community gardens part of the city's Comprehensive Plan in 1992. In 2008, the Seattle City Council passed a resolution supporting community garden and urban agricultural development.
Many States in the **USA** have enacted legislation or provided allocation of funds for programs that promote urban agriculture by supporting local and regional food. For example, in 2009, North Carolina, Montana, Oregon, Vermont, and Minnesota enacted legislation supporting local and regional food systems.

Due to the National Backyard Gardening Programme, almost 10 percent of **Antigua and Barbuda**'s population eats homegrown food.

Denmark passed in 2001, a nationwide "colony garden" law that effectively made permanent all community gardens on public land and in spaces located on the Danish railway system land. Gardens can be dismantled only for reasons of substantial social importance, in which case the gardening association is entitled to replacement space. The colony garden law also includes provisions aimed at increasing the number of plots.

Within the framework of the EU COST program for transnational research cooperation, several EU countries[135] have funded with EUR 36 million an international project (2011-2015) to help create a European approach for implementing urban agriculture programs. The project outputs include a website[136], a book and a map of urban agriculture initiatives.

In **France**, the municipality of Paris created in 2016 a new legal instrument called a "*Permit to grow*" to encourage residents to help greening of the city by setting-up their own urban gardens. The instrument is part of Paris's 2020 target of adding 100 hectares of vegetation on the city's walls and roofs, with a third dedicated to urban agriculture. Any resident can apply for a renewable three-year permit to start his or her own urban garden project in a public space. The city also provides planting kits with topsoil and seeds. Gardeners are not allowed to use pesticides and can plant only local species. The greening program also involves the development of educational farms, orchards and vegetable gardens in schools.

In **Norway,** the City of Oslo developed a comprehensive sustainability policy: the Urban Ecology program running from 2011 to 2026. A strategic plan was developed, which includes measures such as securing land for school gardens and allotments. Indicators

135 Namely Austria, Germany, Spain, France, Italy, Netherlands, Poland, and UK
136 http://www.urban-agriculture-europe.org/

to assess impact include the area of school gardens and allotments as well as the number of children and adults who use school gardens and allotments.

In the Municipality of Barcelona, **Spain**, the Department of Environment conducts a program called Barcelona Urban Gardens' network, which aims to involve people over the age of 65 in organic gardening. The municipality provides 12 gardens within the city center, including water and tools for gardening to retired people living close to the gardens. Users of the gardens must grow organically and are not allowed to sell products obtained from their gardening activity. Another municipality initiative supported by the Department of Environment and the Department of Education started in 2001 when the City Council, within the Agenda 21, encouraged schools to set up their own vegetable gardens. 200 schools have developed their gardens within this project.

In **South Korea**, Seoul's "Urban Agriculture Promotion Act" enacted in 2011, enabled community gardens and local produce sales stations to flourished throughout Seoul. The community gardens are often divided into several sections, allowing individual families, community organizations, and professional farmers to take part in farming. The produce is sold at local sales stations with clear traceability. The Seoul city government is injecting about US$ 46 million to transform unused spaces at schools, parks and even apartment rooftops to activate urban gardening. By 2018 it plans to establish 1800 vegetable gardens within a ten-minute walking distance from all homes in the capital. A special farm zone will also be set up to train Seoulites to become professionals in urban agriculture.

Best practice example(s)

Best Practice Example: Havana's urban agriculture policy[137]

The Province and Capital City of Havana has over 2 million inhabitants and accounts for 19 % of the country's population. Urban agriculture in Havana is one of the most successful examples of urban agriculture in the world. It has developed from a combination of bottom-up and top-down initiatives emerging in response to the food crisis after the fall of the socialist bloc in the 1990s.

In the 90s, the Havana population spontaneously began to grow vegetables and was encouraged to do so by NGOs and some municipal authorities. This soon became supported by a comprehensive set of policy interventions. The Havana urban agriculture policy consists of a legal framework of over 18 Ministerial Resolutions, Decrees, Circulars and Laws that address various issues of urban agriculture.

The Havana Urban Agriculture Policy was officially launched in 1998 with the creation of the National Urban Agriculture Group. The group has oversight responsibilities for urban agriculture in the country and includes four ministries and 15 scientific institutions and agencies linked to the agricultural sector. In the same year, a Circular of the Council of Ministers instructed the Ministry of Agriculture to organize urban vegetable production. The Provincial Administration Councils were made responsible for organizing production on the ground, and

137 Source: Havan, Cuba: Urba Agriculture Policy, avaible at http://www.uclg-cisdp.org/sites/default/files/La%20Habana_2010_en_final.pdf

were given the task of identifying areas available for production. In 1999, the Provincial Physical Planning Authority prepared a land use plan for urban agriculture in Havana. Furthermore, a series of resolutions and decrees passed between 1990 and 2010 addressed issues such as the social organization of urban farmers in the various types of cooperatives, and the transfer of vacant land to urban farmers. Supporting policy measures also include the provision of training, technical support, and provision of basic resources such as water and supplies. The government established subsidized agricultural stores, compost production sites, artisanal pesticide labs and urban veterinary clinics. Additionally it introduced wage incentives to encourage people to engage in urban farming.

There are 28 subprograms within the National Urban Agriculture Program covering various aspects of production, marketing and value addition, including the production of organic fertilizers and agro-ecological integration. After a period of being organic by obligation rather than by choice, the Havana policy is now clearly pro-organic: the use of synthetic fertilizers and pesticides is prohibited by law within the city.

The policy was designed by the Ministry of Agriculture and the Provincial Government and is funded by local public authorities. It has also attracted a lot of foreign interest and support: at least 11 international development cooperation organizations support urban agriculture initiatives in the city by channeling funds through local Cuban associations, such as the National Association of Small Farmers.

The set of policies has proven successful in encouraging a variety of individual and collective urban gardens and farms on different scales, from the balcony garden to the multi-hectare fields that comprise Havana's greenbelt. On total, more than 35,000 ha of land are being used in urban agriculture in Havana. The sector employs more than 22,000 urban farmers and contributes significantly to the country's food production.

Pitfalls and challenges

Space is a major constraint to urban gardening. While there are often areas that could be turned into urban gardens, scaling up of urban gardening would inevitably face the constraint that cities are often growing and becoming more and more densely populated.

On the technical side, there are also challenges such as the fact that urban soils can be heavily contaminated, to the extent that growing crops in the soil is not recommended. Finding reliable, safe and affordable sources of water can also be a challenge.

Urban or collective gardening projects are often dependent on a few enthusiasts, which is a challenge if they move, as is often the case in university towns. The knowledge of how to store and process the crops into food may also be lacking. While this can be challenging it is also an opportunity to expand the scope of gardening into food production and eating.

CHAPTER VI:
REVIEW OF AGRICULTURE AND FOOD POLICIES THAT CAN HAVE NEGATIVE IMPACT ON ORGANIC DEVELOPMENT

The measures presented in this chapter are general agriculture and food policy measures that have shown a detrimental effect on organic development. Although policies in other sectors such as education, trade or health are not covered in this document, they may also have an impact on organic development.

A good comprehensive national strategy to develop organic agriculture should not only develop pro-organic policies and programs, but also mitigate the negative effects of policies and programs that are harmful to the organic sector. This could be done either by cancelling or reducing the importance of the negative measure (e.g. stopping subsidies on chemical fertilizers) or by providing a compensation scheme that balances it with a disincentive for organic alternatives (e.g. subsidizing equally the use of organic fertilizers). This chapter presents only a quick overview of such harmful measures and cases where such measures have been mitigated or even reversed.

It is essential that organic policy development consider the broader policy framework as that could negate efforts to develop the organic sector. To review the overall policies affecting the agriculture sector is therefore an essential part of organic policy development. That said, it might be much more difficult to change overall policies, than to introduce specific organic measures.

1. Subsidies on chemical fertilizers or synthetic pesticides

Many countries subsidize agricultural inputs, and particularly fertilizers, in an attempt to increase agricultural production. When the structure of the subsidy program is such that only commercial chemical fertilizers are subsidized and organic commercial fertilizers and on-farm produced fertilizers are not, the policy environment works against organic agriculture. Similarly, when the country applies reduced value-added tax (VAT) for commercial fertilizers and pesticides, this works as a quasi subsidization of conventional agriculture, at the expense of organic agriculture.

It is therefore crucial that, in a comprehensive strategy to promote organic agriculture, the issue of subsidies for conventional inputs is considered, and ideally reversed. This has been successfully done in a few countries, either in a deliberate attempt to promote organic agriculture (e.g. Bali) or simply as part of a strategy to decrease the use of toxic and environmentally damaging substances in agriculture (e.g. Scandinavian countries).

Generally, there is a positive global trend (especially in developed countries) towards phasing out subsidies (or reduced VAT) for pesticides and fertilizers, and to shift towards the opposite policy instruments, namely taxes on synthetic pesticides and fertilizers and/or preferential fiscal treatment of organic fertilizers and biopesticides.

In the EU, a few countries (especially Poland, Portugal, Slovenia, Cyprus and Spain) still apply reduced VAT for pesticides but the EU Commission is advocating that those countries reexamine those policies in order to help achieve the objectives of reducing pesticide use in the EU. Other EU countries are more advanced towards sustainable

policies, such as France and Italy, which apply a lower VAT to organically approved pesticides compared to conventional pesticides (respectively 10% against 20% in France and 4% against 22% in Italy).

A few European countries introduced taxes on nitrogen fertilizers as early as 1976, 1985 and 1986 for Finland, Sweden and Austria respectively, with rates of taxation varying from 10% to 72% of the fertilizer price. A study from 2001[138] evaluated the impact of such tax packages and concluded that the greatest impact (reduction of negative externalities caused by use of nitrogen fertilizers) is obtained when the tax system is combined with other policy instruments (advice, incentives and regulations) and when the revenue raised through the taxes is being reinvested solely to promote sustainable alternatives. Other European countries joined the trend of chemical fertilizer taxation in the following decade, but the history of fertilizer taxation in Europe is overall quite complex. There is a wide variety of approaches and several countries, after having implemented such programs for several years, are led by EU policy and court decisions to abolish or modify them. In general, in the EU, the national fertilizer control policies are now being dealt within the framework of the EC Nitrate Directive (91/676/EEC), which applies equally to all member states. Nevertheless, there remain disparities, for example in the VAT levels for fertilizers. Italy, Germany, France and Austria apply reduced VAT to organic fertilizers compared to chemical ones.

In other developed regions of the world, the trend is also to phase out subsidies on chemical fertilizers. South Korea abolished subsidies to chemical fertilizers in 2005 and is now subsidizing the use of organic fertilizers and soil conditioners. Other countries such as Australia, New Zealand or the US do not subsidize fertilizers.

In the developing world, the fertilizer subsidy situation is still mostly unfavorable to organic agriculture, with many/most countries (especially in Africa, Latin America and India) still subsidizing chemical fertilizers (and not subsidizing organic fertilizers), or exempting them from import taxes. However, things are beginning to change, and sometimes rapidly. A case in point is the history of fertilizer subsidies in the province of **Bali in Indonesia**. In 2009, the Bali government started a stepwise approach to annually reduce subsidies to conventional fertilizers and started, in parallel, to subsidize organic fertilizers with an annual amount of EUR 69.7 million. The budget allocated to the subsidy for organic fertilizers was gradually increased every year (EUR 278.9 million in 2013, EUR 697.2 million in 2014) and the government altogether stopped subsidizing chemical fertilizers in 2012. Hence Bali has successfully transitioned from a system subsidizing only chemical fertilizers to a system subsidizing only organic fertilizers within the course of three years. The State of Sikkim, in **India** underwent a somewhat comparable process, having progressively phased out subsidies on chemical fertilizers from 2003 to 2008 and having a deliberate policy to convert the State's agriculture to organic. **Sri Lanka**, in the context of its Toxin Free Nation Program (see below) also embarked on an ambitious plan to phase out the use of chemical fertilizers in the country in a step-by-step process that starts in 2016 by subsidizing

138 C. W. Rougoor, H. van Zeijts, M. F. Hofreither & S. Bäckman, Experiences with Fertilizer Taxes in Europe, Journal of Environmental Planning and Management, 44(6), 877–887, 2001

organic fertilizers to the same extent as chemical ones. In some countries like Nepal that still subsidize chemical fertilizers, there is a trend to revise existing policies in order to subsidize organic fertilizers as well. Nepal has been subsidizing companies to produce organic fertilizers since 2011 and in 2015 revised its fertilizer policy to subsidize both the establishment of organic fertilizer producing facilities, and to subsidize farmers' purchase of organic fertilizers.

With regard to pesticides, environmental taxes are also an effective measure to encourage the reduction of their use, as their price elasticity is relatively high. Herbicides seem to have the higher price elasticity, followed by fungicides and insecticides. Indeed, herbicides can easily be replaced by mechanical weed control measures if the farm economics so dictate. Similarly to fertilizers, studies have shown that the most effective pesticide reduction programs are those that combine tax measures with advice to farmers and regulation (e.g. stricter criteria to authorize pesticides, or mandatory farm-level record-keeping).

The three pioneer countries in terms of pesticide reduction programs are Sweden, Denmark and Norway, which adopted national action plans to reduce pesticide use as early as the late 1980s. Those plans included taxes on pesticides, levied on sales price or kilograms of active ingredient used. Taxes were paid directly by the agrochemical distributor or by importers (manufacturers are few). The pesticide reduction plans also included education, extension and research programs to promote good practices and alternatives to pesticides. In those three countries, the taxation system for pesticides has been continuously refined and improved over the past 30 years, offering a wealth of lessons learned on the topic. An important evolution has been the shift from ad valorem to banded[139] taxes, allowing for greater attention to the actual threat posed to the environment by various chemical compounds.

The set-up of an effective pesticide taxation system is quite a complex exercise, and there is much to learn from the experience of Scandinavian countries, France, Italy, or Mexico. Valuable overviews in this regard are the 2005 Briefing of Pesticides Action Network Europe on *Pesticide Taxes- National Examples and Key Ingredients* and the 2016 scientific paper *European Pesticide Tax Schemes in Comparison: An Analysis of Experiences and Developments*. Despite its complexity, it is a policy instrument worth using, and it can also bring substantial tax revenues to the state (e.g. in Denmark in 2013, pesticide tax revenues amounted to EUR 88.5 million), which can then be reinvested for organic agricultural development. For example, in the case of Italy, revenues from pesticide tax were earmarked to the fund for research on organic and quality agriculture. In Denmark and Sweden some revenues were also channeled to organic farming support.

139 Banded taxes differentiate products according to their hazards on human health and environment, according to some objective indicators.

2. Approval of pesticides imports and pesticide use

Mass pesticide spraying is one of the government decisions (together with GMO approval, see Chapter VI, section 7) that can have the single most sudden detrimental impact on a national organic sector.

A case in point is the story of DDT spraying to combat malaria in **Uganda** in 2008. That year, the Ugandan Ministry of Health took the decision to apply Dichlorodiphenyltrichloroethane (DDT) to control malaria on a large scale. Each house, in an entire region, received compulsory DDT spraying, and even though the spraying was indoor residual spray, the contamination impact on organic products that are stored in-house after the harvest was significant and expected to last many years after the spraying. Indeed, any detectable trace of DDT on organic products makes their certification invalid for their target market, namely the EU market. The 2008 compulsory spraying led to the permanent loss of organic certification status of more than 16,000 organic farms in Uganda, and had a serious and long-lasting impact on the Ugandan organic sector, as shown by the graph below:

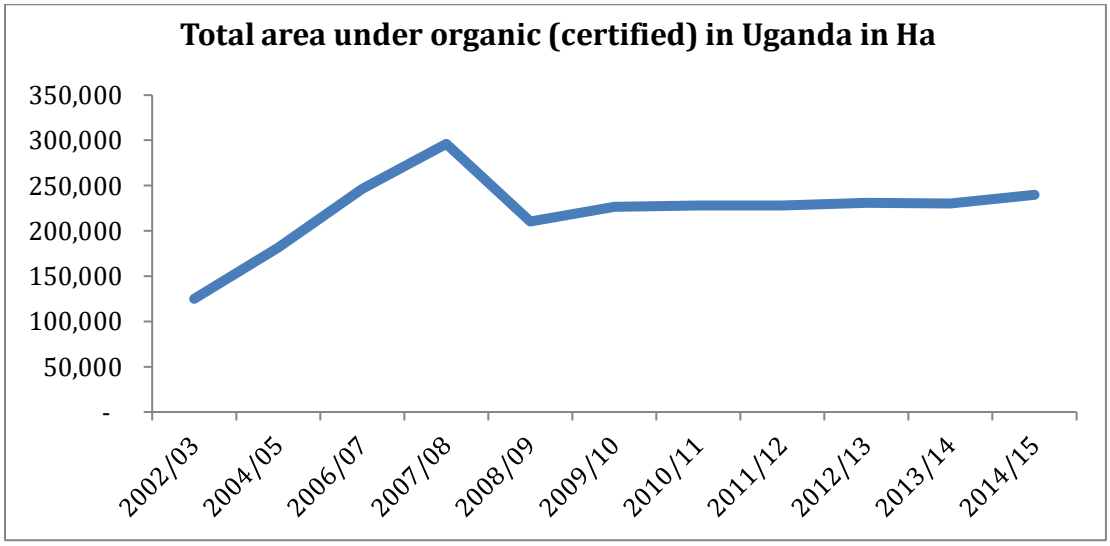

Fig. 10: *Certified organic area in Uganda between 2002 and 2015 (Source: FibL and IFOAM)*

Since 2008, the court battle has been ongoing between the Ugandan government and the opponents of DDT use (amongst which are the organic companies and the Uganda Network on Toxic-Free Malaria Control), so the future of DDT use in Uganda is uncertain.

Government-ordered aerial spraying of synthetic pesticides can also be a disaster scenario for organic farming. **Egypt** is an example of a country that had a chemically-intensive approach to pest management in cotton, whereby the government, starting in the 1950s, organized a program of intensive aerial spraying of chemical insecticides three to four times a season.

The government's approach changed radically in the early 1990s, after SEKEM, an organic company, demonstrated the effectiveness of organic pest control. The Egyptian Ministry of Agriculture sponsored further and more extensive tests. Within three years, the ministry agreed that organic pest suppression was superior for cotton farming and began converting nearly the entire area of Egyptian cotton, 4,000 square kilometers, to organic methods for controlling pests (including pheromones). Aerial spraying of pesticides on cotton became prohibited. The conversion took two years. It resulted in a reduction in the use of synthetic pesticides in cotton by 90 % and an increase in the average yield of raw cotton of 30%. In 1997, the government cancelled all conventional insecticides used to control the cotton leaf worm in vegetable and other crops, and several products were banned due to possible carcinogenesis. In the following years, the Ministry of Agriculture supported the mass production and use of a number of biological controls and biopesticides (including Trichogramma evanescens, Chrysopa vulgaris larvae and mites, Bioeanza, Protecto, Virotecto).

The best scenario to protect the organic farming sector from economically damaging contamination is an outright ban on the most problematic synthetic pesticides. This happened for DDT in most developed countries as early as in the 1970s and 1980s for agricultural use and was expanded to nearly worldwide after the Stockholm Convention had entered into force in 2004, although the chemical is still used in certain countries against mosquitos (like Uganda above).

The health impact of synthetic pesticides regularly comes to the spotlight and the concerned products are being banned in certain countries as a result. The latest product in the spotlight is the herbicide glyphosate, of which the first country to implement a complete ban on imports and use was Sri Lanka in June 2015. The decision followed the election of the new president, Maithripala Sirisena, a farmer and previously the country's Health Minister. Following the classification of glyphosate as a probable carcinogen by the WHO in 2015, other countries are following with partial bans and restrictions.

3. Support for energy crops (biogas and biofuel plants)

Studies[140] have shown that biofuels and biogas competitiveness depends heavily on government subsidies, exemption from petroleum taxes and other policy instruments (such as obligatory blending or 20 years payment guarantee).

Excessive policy support towards energy crops has a negative impact on organic farming development, through land and price competition. This effect was particularly visible in recent years is **Germany**. Since 2004 and the adoption of its Renewable Energy Sources Act (EEG), Germany vigorously supports energy crops and biogas. As a result, the demand for energy crops has considerably increased and led to high crop and land prices. This has had, according to most experts' opinions, a negative impact on

140 E.g. Banse M. et al, 2008, *Impact of EU Biofuel Policies on World Agricultural and Food Markets*.

organic farming development, with the government's targets for organic growth not being met[141]. Organic farmers have limited possibilities to integrate the main energy crops in the organic crop rotation and therefore cannot benefit from this support measure in the same way as conventional farmers. Also, the high prices for energy crops improved the profitability of conventional farms, acting as barrier to convert to organic farming. There is a strong pressure on land and land prices (for example the area of land under silage maize has increased by over 60% in the last ten years) which has resulted in large increase in land rental costs. Although competition for land with energy crop cultivation (especially for biogas production) is not the main cause of slower-than-expected organic production growth in Germany, it has certainly contributed to the problem. For a more detailed analysis of how support for biofuel competed with support for organic in Germany, read the 2012 report from the Office of Technology Assessment at the German Bundestag: *Organic farming and bioenergy production – conflicting goals and approaches to a solution*.

In other countries, such as **Brazil**, the fast growth of very pesticide-intensive energy crops (such as sugarcane for ethanol) is also creating pressure on land use, as well as contamination problems for neighboring organic farmers.

4. Competing environmental schemes

There are diverging opinions on the extent to which non-organic environmental schemes compete with organic. There are a variety of agri-environmental schemes that support certain practices that go in the direction of organic, but which are not fully organic. Those can either support producers directly (policy measures such as subsidies) or they can be consumer-oriented labels that aim to influence consumers' choice in favor of more environmentally friendly production systems.

No general position can be taken on whether all such schemes are good or bad for organic. On one hand, they promote (and sometimes mainstream) practices that often go in the direction of organic agriculture. On the other hand, they can compete with the choice of going fully organic, either at the level of the producer's choice or at the level of the consumer choice. Depending on the scheme, the balance might be judged more or less positively. But even for a single scheme, there is not always an agreement between all organic experts on whether the scheme is overall desirable or harmful from an organic perspective. This section nevertheless raises awareness of this issue and presents several cases where consensus has emerged on the competing nature and negative impact of the scheme towards organic. Advocates and policy makers are subsequently encouraged to pay attention to this aspect and review schemes in their countries/regions to judge whether they impact organic negatively or not.

Domestic demand for organic produce goes in line with the fact that consumers are

141 Meyer R. and Priefer C., 2012, *Organic farming and bioenergy production – conflicting goals and approaches to a solution*.

aware of organic labels and it is possible for them to easily recognize organic products in the market place and to make a clear distinction between organic and non-organic labels. The general greening of the non-organic sector ("half way" labels), as well as local food initiatives, make it difficult to explain the differences to the consumer and a general dilution of organic through non-organic trademarks might occur. In Austria and in the United Kingdom for example, it was assessed that non-organic trademarks that guarantee that food products are for example, environmentally friendly, GMO free or pesticide free, without being organic, compete with organic products in the market place, and that they counteract the development of the organic market in these countries [142]. Government programs that encourage such schemes may therefore indirectly harm the development of the organic market.

Some of the agri-environmental measures under the EU Common Agriculture Policy (EC 2078/92) were judged to have competed with incentives for organic production at the producer level. Those were typically measures that could not (by CAP rules) be combined with support for organic agriculture and which tried to address input reduction without going as far as organic practices. For example, the measure for input reduction and integrated production scheme in Austria, the measure for integrated and zero chemical farming systems in Germany, the input reduction scheme for cereals in France, the integrated farming measure in Portugal, and the input reduction scheme in Italy, were judged to have competed with organic in terms of incentives for the farmers.

As another example, in Italy, both Reg 2078/92 and Reg 1257/99 introduce subsidies to reduce the use of chemical inputs as part of the agro-environmental payments. The requirements and the control system for those schemes were less demanding than the subsidies for conversion to and maintenance of organic agriculture. The subsidy for pesticide reduction was slightly less than for organic, but the difference in payment was generally not sufficient to compensate for the extra burden deriving from the more demanding organic requirements and control system, except in a few regions where the difference in subsidies was set higher. Hence many more farmers in Italy chose to apply for the subsidies for the reduction of chemical inputs rather than to the subsidies for the introduction and maintenance of organic agriculture, especially in regions where conventional agriculture was very intensive. This effect somewhat persists under the current regulation 1305/2013 where Measure 10 (agri-environmental-climate payments) of the RDP 2014-2020 in many cases generates competition with organic agriculture subsidies by funding competing schemes like integrated production systems, climate smart agriculture or minimum tillage systems.

Also, in France under the previous CAP period, a subsidy for extensive pasture could bring more to the farmer than a subsidy for conversion of pasture to organic agriculture (and those were not combinable measures), which was a disincentive to conversion, as the extensive pasture requirements were sustaining existing practices rather than promoting a change. Payments for reduction of livestock density in Austria and Belgium in 1995 had the same effect, where it was not combinable with OA payments.

142 *Sanders J. et al, 2011, Use and efficiency of public support measures addressing organic farming*.

In the Estonian Rural Development Plan 2014-2020, there are several measures that are deemed to compete with the support to organic farming, in particular wide and shallow agri-environmental measures, animal welfare measures with just very few requirements, and environmentally friendly gardening measures with high support rates.

In Japan, the Ecofarmer Program (see Chapter V, section 2.f) whose main requirement was not to use more than 50% of chemicals than the amount commonly used in the region, is considered having an ambiguous effect on the organic sector in Japan. While the general effect in reduction of chemicals, and the fact that organic farmers can also benefit from the program at no extra cost (record keeping was very easy and inspection was carried by the prefectures and free of charge), are considered very positive, the program has also given a environmentally friendly image to Ecofarmers (even if they still use very toxic chemicals in large quantities) and has contributed to consumer confusion. Moreover, the program had much lighter paperwork requirements and a free certification system provided by the prefectures, which made it comparatively much easier than the highly bureaucratic and costly Japanese organic certification system. Like for the "greening" of the first pillar of the EU CAP, it also contributes to the political focus being on marginal improvements rather than on more comprehensive approaches like organic. As a result, according to the government figures from 2016, there were only 4,000 JAS-certified organic farmers in Japan, whereas at least 8,000 farmers were organic but not certified, and 160,000 farmers were certified under the Ecofarmer scheme.

Similar effects can result from donor support to various schemes deemed as environmentally friendly in developing countries. For example, in Zambia, donors have strongly promoted no-till farming using chemical inputs at the expense of organic, even if there are options to do organic no-till farming. In Vietnam the efforts to promote VietGAP (Vietnamese Good Agricultural Practices) has competed with organic.

5. Unfavorable regulations on farm-made and organic fertilizers, plant protection products and farmers seeds

Governments undertaking a strategic plan for organic agriculture and markets should always undertake a review of current fertilizer and pesticide regulations and rectify any provisions that deter use of organic inputs. This includes any provision that would deter the on-farm preparation and use of organic inputs. In some developed countries with complex registration requirements, it is technically illegal for farmers to use any unregistered pesticide or fertilizer, even if it is biologically based and prepared on farm. Attention should also be placed on the legal requirements linked to the registration of crop varieties, as registration requirements can be too complex and unsuitable to the need of the organic sector.

Recognizing the danger of chemical pesticides on human health and the environment, and therefore the need to regulate their approval before they are placed on the market,

many governments have developed stringent registration procedures for pesticides. Big agrochemical companies have no problems meeting those registration requirements. However, when the same requirements are applied to organic plant protection products that cannot be produced in the same scale, the registration costs can become a hindrance to wider adoption of organic agriculture. Similarly, when fertilizer-testing requirements (for heavy metal content or other toxic hazards) are also applied to animal manure coming from the farm or a neighboring farm, the regulation becomes an unaffordable burden. Also, when requirements for commercial fertilizers demand full exact labeling of nutrient content, this becomes unfeasible for composts and other natural origin fertilizers. Regulations should permit such fertilizers to give indicative figures based on average values (and labeled as such).

An example of an unfavorable legislative framework in this regard is the EU system, which has no differentiated legal provisions for non-chemical plant protection products: they currently fall under the same regulation as their synthetic counterparts. The data requirements are partly inappropriate or difficult to interpret for biopesticide active substances such as microorganisms. In general, the registration procedures described in Regulation (EC) No 1107/2009 are suited to synthetic substances, which are usually single molecules with high effectiveness against specific pests or diseases. Although specific guidance has been developed for several categories of naturally occurring substances including microorganisms, semiochemicals (pheromones) and botanicals (plant extracts), there are still some inadequacies that would, for example, incentivize purified single-compound botanicals, as opposed to more unrefined preparations. In general, the EU, compared to the USA, has higher costs and a slower approval system for organic plant production products to enter the market. Under current EU regulations, substances need to be first approved in the general legislation before they can be added to the organic regulation list. The process can take years, even if the product is already recognized as food (this is for example currently the case with sucrose as a plant protection substance – stuck in years of registration process).

Registration fees are usually high, but they not yet harmonized at EU level. In most EU Member States the fees for microbials (biopesticide products made of viruses, bacteria, nematodes and fungi, which are acceptable in organic production) are still much lower than the fees requested for the evaluation of chemical active substances, which somewhat limits the problem. Below are a few examples:

In **Denmark** the fees for the microbials accepted for biocontrol are half those required for the evaluation of chemical active substances (110.000 € versus 220.000 €).

In the **UK** the fee for microbials is 22,500 £, whereas the fee for chemicals is 110,000 £. This follows a project launched in 2003 that aimed at encouraging the registration of alternative pest control products such as pheromones, plant extracts and biological organisms, with registration fee reduction being an essential component of the project. The success of this project led to the creation of a permanent Biopesticide Scheme in 2006.

In **Belgium**, a special procedure was launched in 2007 in the framework of the program

for reduction of pesticides, in order to improve the availability of biopesticides on the market. The projects aims to give special consultancy for the applicant, a separate fast-track procedure for biopesticides, lower fees and improved communication. Fees for new active substances have been reduced from EUR 100,000 to EUR 10,000 for biopesticides and EUR 300 for national product authorization.

In 2016, the EU Commission launched an initiative to revise the EU Fertilizer regulation (EC) No 2003/2003, as well as to evaluate the regulation on plant protection products (EC) No 1107/2009 and to propose implementing measures regarding low-risk substances. In 2016 at the AGRI Council, the Agricultural Ministers of EU Member States have endorsed an implementation plan on the 'acceleration' of sustainable plant protection. There is therefore possibility of improvement in this policy area at the EU level in the coming years.

The **USA** has a bio-pesticide registration program similar to the approach of Belgium. The US Environmental Protection Agency (EPA) has a fast track, streamlined bio-pesticide registration program that is supported by the IR-4 program based at Rutgers University. IR-4 was started in 1982 and considerably expanded in 1994. IR-4 facilitates registration of sustainable pest management technology for specialty crops and minor uses. Working closely with and advising the EPA, IR-4 has completed 43 registration projects since 1994 at a cost of EUR 2.7 million, and also gives regulatory advice to manufacturers.

In **Switzerland**, the Swiss government (as part of the mandate/contract with the Federal Office for Agriculture) is one of the funders of the FiBL organic input review program (the program is also co-funded by organic stakeholders and applicant input companies).

In general, if governments require natural preparations to be registered, they should invest public money in supporting applications for naturally occurring substances because those are still of limited economic interest for the industry (due to the small size of the market and the limited possibility to obtain intellectual property rights). For example, which company would want to pay the registration fee for nettle-decoction to be used as a farm input? If nobody pays, nettle-decoction then becomes illegal to use. Separate and very simplified registration procedures should therefore be developed for well-known low-risk substances with high natural background (e.g. rock powders) and/or commonly used for other purposes (e.g. sodium bicarbonate, calcium hydroxide). Regulations should also take into account the fact that natural preparations or substances can have multiple uses (plant protection and fertilizer at the same time, for example).

Brazil, for example has made some legislative provisions to facilitate the registration of organic inputs. The 2003 law on organic agriculture specified that the inputs with regulated use for organic agriculture should be subject to a differentiated, simplified and streamlined registration process. Subsequently, several decrees and normative instructions detailed the approval procedures for organic fertilizers and pesticides and exempted them from certain requirements applying to conventional inputs, such as the

need for agronomic, toxicological and environmental studies, or the Temporary Special Registry and from registration of components. Farm-made products are exempted from registration. Under its 2013-2015 national plan for organic production, Brazil supported and facilitated the registration more than 50 different inputs for organic production through the financing and contracting of studies and tests for potential products and the development of reference for specifications, allowing for faster and cheaper registration of these products.

A similar concern applies to general legislation concerning seed marketing and crop variety registrations, which can be highly detrimental to organic farming. One characteristic of organic farming is that it should be site-specific and promote and take advantage of biodiversity. Hence, it is important for organic farming that farmers have access to a wide range of locally adapted plant varieties, including farmer-saved seeds and old and non-mainstream varieties. However, there are a number of general legislations related to seed use, seed exchange and seed marketing that restrict the possibilities for farmers to use such varieties.

The main problems with many general seed legislations are:

- Registration costs for varieties and certification costs for seeds are too high[143] and procedures too complex to enable small enterprises and farmers that maintain old and local varieties to register and certify them, and without registration they are often made illegal to sell. Therefore, registration requirements reduce biodiversity on the seed market and the variety choice, thereby reducing the chances for organic farmers to find varieties adapted to their local conditions.
- Among the technical requirements for registering a variety, it should be demonstrated that the variety is distinct, uniform and stable. Particularly the requirement of uniformity is difficult to meet for old and farmers' varieties that are more genetically diverse. Moreover, for varieties to be best suited to organic production, it is often desirable that they are less uniform in order to have higher adaptation and overall yield stability under stress conditions.

For example, according to the EU seed legislation, all seeds that are sold or exchanged need to be inscribed in national variety registers, and this means expensive tests. New varieties of agricultural crops in Europe must be tested for distinctability, uniformity and stability (DUS) and for their value for cultivation and use (VCU) before they can be accepted on the National List of Varieties and the Common European Catalogue of Varieties.[SEP]VCU tests are carried out nationally to evaluate the local value for cultivation and use in the concerning member state. According to a 2010 study, some EU countries have no organic VCU testing at all and some of these have no organized organic variety trials either. In such cases farmers must rely on exclusively conventional tests for variety choice, while the ultimate "test" is in the farmer's organic field. Other countries supplement conventional tests with organic variety trials. Some countries have specific organic VCU-tests (e.g. Denmark, Germany, Norway, Austria).

143 E.g. the Dutch authorities estimated that costs of registration and seed certification amounted to around EUR 1,000 per variety in 2008.

The application fees can cost a few hundred euros, to which one needs to add the variety testing fees and the maintenance fees. This can be a hindrance, especially when the fee for organic varieties is higher than for conventional varieties (e.g. in Denmark, where organic varieties have to pay for supplementary organic trials in addition to the conventional VCU testing, which adds up to EUR 3,900). The maintenance fees can be as high as EUR 900 per year (in Germany). On the other hand some countries have lower fees for organic varieties than for conventional varieties (e.g. Austria), which is certainly helping.

Some legislations exempt local and traditional varieties from cumbersome registration and testing requirements[144]. However, the multiplication of those so-called "conservation varieties" is limited to 0.3-0.5% (depending on crop) of the total seed market of the crop concerned or the amount needed to sow 100 hectares, whichever the greater quantity, which basically restricts their significant commercial use and doesn't make them viable options for most organic farmers. Moreover, only a few varieties (mostly vegetables) have been listed to date in a few EU member states.

The example of Brazil is more conducive to the promotion of local and traditional varieties: Article 12 of the law that establishes the national policy on organic agriculture or PNAPO (Decree Nº 7.794, 2012) introduces an important change to the Decree nº 5.153 of 2004 on the National System for Seeds and Seedlings. It relieves family farmers and traditional groups, as well as their cooperatives or association, from the obligation to register varieties in the national registry. This change has removed a previous obstacle to the right of farmers to keep and exchange seeds and is a proof of recognition of the important role played by family farmers and traditional communities in maintaining biodiversity through conservation and propagation of local varieties.

Some progress can be noted recently on legislation related to seed exchange. For example, in 2015 and 2016 the states of Minnesota, Nebraska, Illinoi and California passed laws that exempt non-commercial seed activities (such as seed exchange) from regulatory requirements. Since 2016 in Denmark seed exchange, since it is a non-commercial activity, is exempted from compliance with the EU regulations, meaning that all types of seeds can be exchanged and not just conservation varieties. The Danish legal interpretation also exempts the sale of non-commercial seeds (seeds intended for private gardeners) from compliance with the EU seed legislation.

In some countries, there are also regulations for compulsory seed treatments that are not compatible with organic standards and pose a problem to organic operators.

144 such as the EU Commission Directive 2008/62/EC of 20 June 2008 and the Commission Directive 2009/145/EC of 26 November 2009.

6. Unfavorable agricultural risk management programs (crop failure compensation schemes, etc.)

Some countries manage a government-sponsored farm insurance program to help their farmers to cope with risks such as catastrophic weather. Other states give financial compensation (using calamities funds or ad-hoc aids) to farmers in cases of calamities or natural catastrophes, in order to save a particular sector. Such risk management programs are generally a positive thing for agriculture, including organic agriculture. However, some of those programs disadvantage organic farmers compared to conventional farmers, for example, by not taking into account that the market price for organic products is higher (applying the same price level to all farmers), or by focusing on a few commodities (when organic farms are more diverse). This is for example the case for the German system of compensation to farmers in case of outbreaks of animal diseases under the Animal Disease Act promulgated in 2001. A fixed amount is paid per animal dead or killed because of a notifiable disease. However, the same amount is paid whether the animal is conventional or organic, and even worse, for certain species (e.g. cows), intensive breeds get a higher compensation than extensive breeds, which disadvantages organic farmers.

The Kenya National Agricultural Insurance Program launched in 2016 is the largest government-sponsored agricultural insurance program in Africa and is one that is clearly unfavorable to organic farming. The program is a partnership between the government and the private sector, particularly the Syngenta Foundation with its own insurance company. The program is a package that ties crop insurance to input purchases and extension messages that promote the use of those inputs.

USA is an example of a country whose crop insurance program was disadvantaging organic farmers, but which has rectified it in recent years to make it fairer to organic farms. Until 2014, the crop insurance program managed by the USDA Risk Management Agency has paid for individual commodities, making it very complicated for diversified organic farms especially vegetable growers that might have 30-50 distinct crops. In addition, until 2012, the federal crop insurance charged an extra 5% surcharge for organic farms and then paid out in conventional farm prices, rather than organic prices.

In 2011, the USDA began offering crop insurance for organic producers, which reflects organic market prices. However, originally, only four crops had a recognized organic premium price under the program. In 2014, the USDA made new crop-insurance pricing options available to organic and transitioning producers, including those who grew crops under guaranteed contracts. This contract price option allows organic producers who receive a contract price for their crop to get a crop insurance guarantee that is more reflective of the actual value of their crop. By 2016, the USDA finally eliminated most inequalities with regard to the compensations. The Whole-Farm Revenue Protection insurance policy became available to producers. This policy allows producers to insure between 50 to 85 percent of their whole farm revenue. This makes application easier and more affordable for a diversified farm. The organic premium prices now apply to 57 crops, providing organic producers the opportunity to protect their crops at

organic market levels. The crop list contains a diversity of crop types, including vegetables and fruits that are grown in diverse plantings and rotations. In 2017 more crops will be added to the list, which is available online.

A move in the same direction can be observed in the **Canada** agricultural insurance system, in the various provinces (prices are defined at province level). In the past five years, some of the systems have changed from one applying conventional commodity prices to one that increasingly foresees a price premium for organic crops (although the lists of crops covered by the premiums are still very short). Also, at the federal level, the Canadian Agricultural Income Stabilization program, based on a farm's production margin, is a whole-farm program available to eligible farmers regardless of the commodities they produce. Government subsidizes the program by a 60% coverage of the negative margins.

At the EU level, the importance of crop insurance schemes in the overall national agricultural risk management strategies is much lower, with more focus being placed on special calamity funds and ad-hoc aids. Nevertheless, some countries like Spain give most of their financial support in the form of subsidies for agricultural insurance schemes. In the Spanish system, there are special subsidy provisions for the insurance of certain organic productions. Moreover, certain regions like Extramedura, give an extra 5% subsidy to organic farmers for agricultural insurance.

One aspect of crop insurance schemes and eligibility for calamity funds is that the producer is asked to fulfill certain minimal technical cultivation requirements in order to qualify for compensation. For the case of organic producers, these technical cultivation requirements must be aligned with the requirements in organic standards. For example, to qualify for compensation from losses due to extraordinary pest damage, producers are required to demonstrate that they used recommended pest treatments, but for organic producers, these should be treatments in line with organic standards.

Another aspect specific to organic agriculture is the coverage of risk linked to GMO or pesticide contamination from neighboring farms that leads to decertification of the organic product. This should ideally be recognized in crop insurance programs as an insured cause of loss, even though it is not caused by a "natural disaster".

Some governments have set up public crop loss compensation schemes that are reserved for organic farmers. This is for example the case of the canton of Vaud in Switzerland, where, during the first five years of organic management, the canton gives financial support to selected crops when those are affected by certain listed pests/diseases to an extent that the average loss of harvest is more than 80% as compared to average harvest obtainable under organic management (provided that the farmer demonstrates that he implemented permitted measures to try to combat the pest/disease). The amount of the compensation is calculated by an expert assessment, which uses as reference the grading scale of compensation given by the agricultural services in case of damages cause by hail. Such a system is an additional risk mitigation factor for farmers converting to organic.

7. Allowance of GMO crops

One of the most detrimental general policies, for the organic sector, which a country can pass, is the allowance of a genetically engineered crop, particularly when this crop is also a significant organic export commodity for the country. Widespread GM contamination is a major factor in increased costs, loss of reputation, and loss of market for an organic supply chain.

A case in point in this regard is the story of allowance of Bt Cotton in **Burkina Faso** in 2008, which led to a collapse of the organic cotton sector in the country in 2009-2010 (in addition to being a commercial disaster for the country's conventional cotton sector). The damaged is being reversed now, with Burkina Faso cotton companies having declared the phasing out of GM cotton by 2018, but financial damages are estimated at EUR 205 million for the conventional sector alone. The national organic sector development suffered the worst setback of its history, which will have repercussions and missed opportunities for many years to come. Read more about the Burkina case study here.

In order to protect their organic sector and as a response to general civil society concerns about GMOs, a growing number of national governments, regions and municipalities take a firm stand against GMO cultivation on their territories and/or sale of genetically modified seeds and foods. In 2010, in the EU, 169 regions, 123 provinces/departments, and 4713 local governments (municipalities and districts) passed decrees and resolutions to ban GMO cultivation from their territory, effectively becoming "GMO-free regions"[145]. Worldwide, by the end of 2015, 37 countries[146] have officially banned the cultivation of GM crops. There are also many countries in which GMO cultivation is not banned but is currently not practiced yet. Even in countries that haven't banned GMO cultivation at the national level, some provinces and municipalities[147] have banned it.

If GMOs are allowed and food that contains GMOs can be sold in the country, then compulsory GMO labeling provides the needed transparency to consumers and, by raising awareness about GMO presence in food, can incentivize consumers to choose organic products in order to avoid GMOs. Compulsory GMO labeling (above a certain threshold of GMO presence, usually at 0,9 or 1%) has been passed as a law/decree in 64 countries[148] (data from 2013). A very good overview map is available at

145 Full list available at http://www.gmo-free-regions.org/fileadmin/files/gmo-free-regions/full_list/List_GMO-free_regions_Europe_update_September_2010.pdf.

146 Those are: Algeria, Madagascar, Turkey, Kyrgyzstan, Bhutan, Saudi Arabia, Belize, Peru, Ecuador, Venezuela, UK (for Scotland, Wales, and Northern Ireland), Germany (partial opt-out in order to pursue more GMO research), France, The Netherlands, Malta, Cyprus, Greece, Bulgaria, Russia, Serbia, Croatia, Italy, Denmark, Hungary, Moldova, Latvia, Lithuania, Austria, Poland, Slovenia, Azerbaijan, Bosnia and Herzegovina, Luxembourg, Belgium (Wallonia region), Ukraine (although there is massive GM contamination in the country), Norway and Switzerland.

147 A good example is the Davao Municipality in The Philippines.

148 Those are: Algeria, Madagascar, Turkey, Kyrgyzstan, Bhutan, Saudi Arabia, Belize, Peru, Ecuador, Venezuela, UK (for Scotland, Wales, and Northern Ireland), Germany (partial opt-out in order to pursue more GMO research), France, The Netherlands, Malta, Cyprus, Greece, Bulgaria, Russia, Serbia, Croatia,

http://www.centerforfoodsafety.org/files/cfs-ge-labeling-map-march-2013_38812.pdf.

Also, in the absence of GMO culture prohibition (if that is not achievable in the given political context) there should at least be some GMO co-existence regulations, aiming at ensuring that non-GMO crops will stay uncontaminated, or at least show less than 0,9% contamination in order to meet the typical thresholds for labeling in most countries. Coexistence regulations can be of different nature, including ex-ante (preventive) coexistence regulations, which GM farmers must follow if they want to plant a GM crops, and ex-post coexistence regulations defining liabilities for contamination. Ex-ante coexistence regulations can include, for example, isolation distance (fixed minimum distance between GM and non-GM crop fields of the same specie, imposed on the GM growing farmer) or temporal isolation (differences in corn sowing dates or in maturity class used).

A good coexistence system for organic agriculture is one that will effectively prevent contamination by having strict ex-ante regulations as well as ex-post liabilities to ensure compensation of organic farmers if their crop becomes contaminated despite the ex-ante regulation measures. One example of such system is **Portugal**, which has a comprehensive system of coexistence regulations (ex-ante and ex-post). The ex-post regulations include a GMO contamination compensation fund, whereby the Ministry of Agriculture and the companies that sell seeds have agreed to cover the cost of damages to neighboring fields. The seed supplier pays into the compensation fund at the rate of €4 per 80,000 seeds. In practice however, between 2007 and 2015, no requests by farmers for compensation have been made, and this can be attributed to the effectiveness of the strict ex-ante regulations which keep GM contamination values well below the 0,9 % EU legal threshold and overall extraordinarily low[149].

8. Food safety and other health requirements

When reviewing the country's regulatory and other requirements for provisions that may be unfavorable to organic farmers and processors, provisions for food and environmental hygiene and the phytosanitary requirements for imports and exports should be included.

Some of the food and environmental safety requirements relate to avoiding disease outbreaks from food-borne or water-borne pathogens. Use of manure and compost is one possible avenue of microbial contamination, and in some countries there are strict regulations.

The USA, where there is a high degree of political sensitivity to food-borne illnesses, is a

Italy, Denmark, Hungary, Moldova, Latvia, Lithuania, Austria, Poland, Slovenia, Azerbaijan, Bosnia and Herzegovina, Luxembourg, Belgium (Wallonia region), Ukraine (although there is massive GM contamination in the country), Norway and Switzerland.

149 Quedas and Carvalho, 2012 have found that adventitious presence was 0.1 and 0.5% in 70 and 97% of samples, respectively; and none was above 0.8%.

source of several examples. In the USA, industrial composting regulations aimed at pathogen reduction were inserted into early drafts of the organic regulation. These industrial composting provisions were ultimately relaxed, but the current composting requirements in the organic NOP regulation are still considered by many organic sector actors as too rigid, especially for small-scale farms. The current requirements are that raw animal manure must be composted except in very strict exceptions. Also, compost must be produced though a process that is strictly regulated in terms of initial C:N ration, temperature, and production method.

More recently, in 2015, the United States Food and Drug Administration (FDA) enacted the Food Safety Modernization Act, whose original draft in 2013 was heavily criticized as being unfavorable to organic farmers, particularly by making the use of manure virtually impossible for farmers, and the use of compost very difficult, as well as by definitions of "farms" and "facilities" that would lead many diversified small farms to be considered processing facilities and hence have to comply with overburdening food safety requirements. Advocacy by the Organic Trade Association and other organic sector and sustainable agriculture groups was successful to create some flexibility in the regulation for small scale and organic farmers, but it took a great effort.

In the EU, implementation of food hygiene regulations by some Member States, for example in the Netherlands or some German states, have created requirements that are quite inflexible and overwhelming for small operators including farmers and food processors. This includes specific inflexible requirements for the design of production facilities, or the management of all types of old and new contaminants and the administrative procedures to detect them. There is also an increasing concern over certain toxic substances that occur naturally in many plants of certain taxonomic families. For example, Tropane alkaloids (TAs) and Pyrrolizidine alkaloids (PAs) are categories of substances that are found in weeds of crop fields and which can end up contaminating the harvest. EU regulations have set a maximum limit to TA content in certain foods and require product sample analysis. EU Member States are required to take and analyze samples for TAs in foodstuffs and product combinations, including foods for infants and small children and products originating from organic farming. It is particularly difficult for organic farmers to ensure no contamination by these substances, as organic fields can hardly be weed-free. Furthermore, such a requirement may contradict the biodiversity objectives of organic farming. No legal limit values currently exist for PAs in foods and feeds, but the Codex Alimentarius Commission has prepared recommendations on the subject and it is likely that regulations will follow.

Another effect of some of the EU food hygiene rules is that they tend to make on-farm or small-scale processing difficult and lead to greater consolidation of processing facilities. There are flexibility provisions for small processors in the EU regulation, which permit adapted rules and derogations for primary producers engaged in direct supply chains involving small quantities of primary products, or for local retailers supplying directly to consumers. However, the EU Member States often do not properly implement the flexibility provisions[150].

150 *Organic in Europe, Prospects and Developments*, IFOAM EU, 2014, available on http://orgprints.org/25649/1/willer-meredith-2014-organic-in-europe.pdf

Requirements to prevent epizootic diseases can also represent insurmountable constraints for organic production. An example is the set of bird flue-related measures imposed on poultry farmers in Japan after 2004. Aside from the chemical disinfection requirements, the main problems for organic farmers is that the measures required that poultry should not come in contact with wild bird or wild bird excrements (even those potentially falling from the sky), which makes it very difficult to give poultry outdoor access according to organic standards. Another example is the prohibition to exchange and spread manure in the fields during foot & mouth epidemics (such as recently in Mauritius & Rodrigues), which disproportionally affects organic farmers. Although such measures may be unavoidable on a temporary basis, they should be time-limited and government compensation schemes could cover for such secondary types of losses (not just for the loss of animals killed under compulsory sanitation campaigns).

Another category of requirements that can pose problems to the organic sector are phytosanitary requirements for agricultural products, or related to agricultural activities. The requirements imposed by countries to protect their agriculture and environment from pests and diseases can pose (sometimes insurmountable) trade barriers for organic producers, exporters and importers. These requirements apply to all kinds of products ranging from seeds, horticultural products, spices and other organic products that are commonly traded. The critical barriers are when there are mandatory requirements for irradiation or fumigation with materials that are prohibited in organic production. For example, there are virtually no organic mangos exported from India to the US, due to the requirements of the USDA's Animal and Plant Inspection Services for both irradiation and fumigation of the fruit. Governments should consider waiving such requirements. In some cases, alternative treatments acceptable in organic, e.g. with carbon dioxide, exist but are not recognized by the authorities or the technology is not available in the country. In those cases government could support the introduction of treatments acceptable under organic standards.

Governments seeking to support their producers for export and the growth of their domestic organic markets via import should work with their organic producers and exporters to identify the potential bottlenecks for key exported organic products. Although it may be difficult to change the importing country's requirements, it is possible to assist the organic sector to avoid pursuing export opportunities that will dead-end with a phytosanitary trade barrier. In the case of imports, particularly for seeds, Governments may identify opportunities to include alternative "organic" treatments when such are required for imports. In this respect it is essential to work closely with the organic stakeholders to ensure that effort is expended on the most important export and import products.

Regulatory flexibility may not be impossible for phytosanitary requirements. In Mexico, many organic farmers rely on seed supplies, including organic seeds from US companies. Until recently organic farmers were unable to access organic seeds due to the mandatory fumigation requirements for export of seeds to Mexico. The issue was raised by the United States during discussions about equivalence of the US and Mexico organic regulations. As a result, Mexico has published guidelines that are more flexible to allow some approved organic materials for treatment of some seeds with conditions.

However, strict requirements such as for a government verification unit to inspect six times during the production cycle the fields where organically treated seeds are planted, are likely to raise another kind of barrier for imported organic seed. The likely effect is that organic seed access continues to be unattainable for all but the largest producers. However, a precedent was set, which may, with modifications, function to reduce the technical trade barrier.

9. Laws related to farmland access

In many parts of the world, increased population and urbanization pressure and the need for more agricultural products (whether food, fibers, biofuel, biomaterials or for other usage), as well as new restrictions on clearing new land (positive for biodiversity) have led to land access becoming an increasing problem for anyone interested to start farming or to expand their farming area. In many areas, the price of land (even agricultural land) has skyrocketed to the extent that it has become impossible to recover the money invested in land purchase through an agriculture activity, be it conventional or organic agriculture.

Existing farmers who own their land and are not planning to expand their farm area are not affected by this trend, but young farmers who want to start a farming business without a family farm land, or farmers who want to expand in order to meet increasing market demands, face severe problems to buy land. They can, of course, become tenants instead of owners, but this raises other problems as explained below.

Sometimes, national land use laws are complicating the land access problem even further. One example was Japan, which enacted in 1952 the Agricultural Land Act aiming at eliminating landlordship and doing so by restricting heavily the buying and leasing of land, allowing virtually only existing farmers to acquire farm land (and even that was made rather difficult), which makes it very difficult for any newcomers to start farming. Such policies disproportionally affect the development of organic farming because most people interested in starting organic farming are young newcomers (Conventional farming is otherwise a rather unattractive declining sector). In effect, policies that limit land acquisition and leasing are favoring the status quo (old farmers continuing to farm as they used to), and not encouraging transformation within the agricultural sector. In Japan, the restrictions were gradually loosened after 2009 and it is now easier to lease and buy land, but the rules are still quite restrictive as compared to other countries.

In France, a set of agricultural and land policies called “Structures policy” were adopted in the late 1960s in an effort to modernize French agriculture. Although the ambition of those policies was good – directing farmland for viable, family farm-size farming – some of the instruments used, such as the definition of minimum land acreage deemed viable for farm establishment, tended to limit the entry of new farmers with projects of smaller, high added value farms or pluriactivity (e.g. agrotourism).

However, in most countries, land-related policies are much more liberal than in the Japanese example. In fact, they can often be too liberal: for example, the free and unrestricted movement of capital into land acquisitions enables the trend which is now called "land grabbing" and the massive foreign accumulation and speculation on agricultural land of many regions around the world. This contributes to the increased price of land and therefore feeds the same problem of difficulty for new comers, especially young people with agro-ecological business projects but not enough capital.

There have been some attempts to establish legal instruments to counteract the trends of farmland concentration, although of limited success. One example is the SAFERs in France, the Land Management and Rural Establishment Agencies created in 1960 and still operational today. These always have the priority right of intervention on the land market with a primary goal to limit farmland price escalation and favoring establishment of new farmers. Still, there is only that much they can do against the power of capitalism encroaching on the sphere of agriculture and land.

The status of tenancy can be a stressful one for organic farmers. There have been cases where certain practices required by organic farming have brought the landlord to end a lease. As organic farming requires building soil fertility over the long term, planning multi-year crop rotations, etc., farming a given area in organic farming has to be part of a medium to long-term business plan. If landlords can suddenly terminate land lease, this is very bad for organic farmers (more than for conventional farmers).

Land policies can however mitigate the risks faced by (organic) tenants. France is an example of a country where tenant farmers' rights are extremely secure (about 80% of French farmland is leased). This is a result of the regulations adopted in the 1940s. They give tenant farmers the conditions needed for developing and benefiting from their farm work: time, foreseeability, limited cost of land, return on investment:

- In the French land law, the minimum lease duration is nine years. Other leases are 18, 25 or career-long. Unless one of the party requests it, it is automatically renewed. The tenant farmers therefore have time to invest, experiment and reap the benefits of their work.
- Land rent prices are state-controlled: in each county, a price range is set in reference with the value of agricultural output per ha. This results in current rent average much lower than in all neighboring EU countries.
- Improvements to the land done by the tenant farmer (e.g. building hedges) is recognized and must be compensated by the landowner when the contract ends.
- The tenant farmer has a preemption right when the land is put for sale.
- Leases are transferable within the family: after the farmer's death, the spouse, children or parents who participated in farm work can claim to take over the lease.
- Written and oral leases are both valid, and must equally comply with the tenant farming statute. Dispute resolution takes place in ad hoc rural lease courts, composed on par of landowners and tenant farmers.

More details on the French land tenure system is available at http://www.agter.org/bdf/en/corpus_chemin/fiche-chemin-54.html.

France also created, in 2006, an innovative environmental rural lease status that promotes environmentally friendly production practices. Under this scheme, landlords can include in their lease contract clauses prescribing certain environmental practices (including organic farming).

Another innovative approach can be observed in Italy, where, over the past few years, a few Italian regions (Liguria, Tuscany, Umbria, Puglia and Molise) have approved regional laws in order to support the creation of local "Land Bank" or new governance systems. These allow for better management of publicly owned land through a direct involvement of the social and private sectors. The proposed process is what, in general terms, can be defined as PPP, "Public Private Partnership", where the public authorities own the property, but are no longer able to guarantee the management of these assets, and therefore call for private intervention. A useful tool in this regard is the selection criteria for the identification of the private subjects that will be in charge of the management of these properties. There are cases, such as in the Latium region, where those selection criteria require that the production system be organic. In that region, publicly owned land still represents more than 25% of the regional agricultural surface (more than 220,000 ha), hence the application of pro-organic criteria for the access to this land could represent a significant boost to organic.

In Thailand, the government agency in charge of the Land Reform is about to launch an organic agriculture development scheme giving preferential support to organic farmers. The agency has run pilot projects with a gradually increasing scale over the past 3 years and has been developing its staff capacity to implement such measures, first by training its officers throughout the country. The upcoming scheme will have a target of supporting conversion of 2,000 farmers to organic agriculture. In some cases, commitment to organic agriculture will be a condition for access to land, with new farmers getting land allocated for free if they agree to practice organic farming. The scheme also includes some extension support, input and infrastructure support and guarantee system elements.

In terms of facilitating the purchase of land for organic farming, there are currently not many examples of specific policies. However, the Tunisian government reimburses the contract expenses incurred when purchasing organic farmland.

Access To Land, the European network of grassroots organizations securing land for agroecological farming, has a website rich of resources and intends to develop more materials addressing national policies through case studies, good practices, and reports in the coming years. Their website (http://www.accesstoland.eu/) provides more up-to-date information on this topic.