

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.

I. 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. The story of how parents and doctors and other citizens managed to win this political battle in their town is available [here](#). 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 studies¹⁰², a compulsory conversion to organic

¹⁰² 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*.