POLICY BRIEF

Agroecology and global health

How can agroecology help improve food security in North Africa?

CARI

Objective :

This advocacy document aims to **encourage political actors in North Africa to create favourable policy frameworks to accelerate the agroecological transition in their countries** by putting forward strategic axes and recommendation paths that are sufficiently precise to be integrated into the political orientations and decisions implemented at the different territorial levels. It advocates agroecology as a strategic approach to strengthen food security, improve public health and ensure environmental sustainability, in line with the EU-Africa policy dialogue on agroecological transition.

Key messages for policymakers and investors in North Africa:

→ Agroecology offers a path to food security, global health and climate resilience.

→ Current agricultural models in North Africa are unsustainable and contribute to the degradation of natural resources.

→ Political support, redirection of public funds and investment in agroecology can encourage a just transition towards more sustainable farming and food systems.

To better understand how agroecology can be integrated into agricultural and food systems in North Africa, this document presents two practical illustrations (one for each system) that contribute to the countries' food security objectives as well as global health objectives (refer to Figure 1).

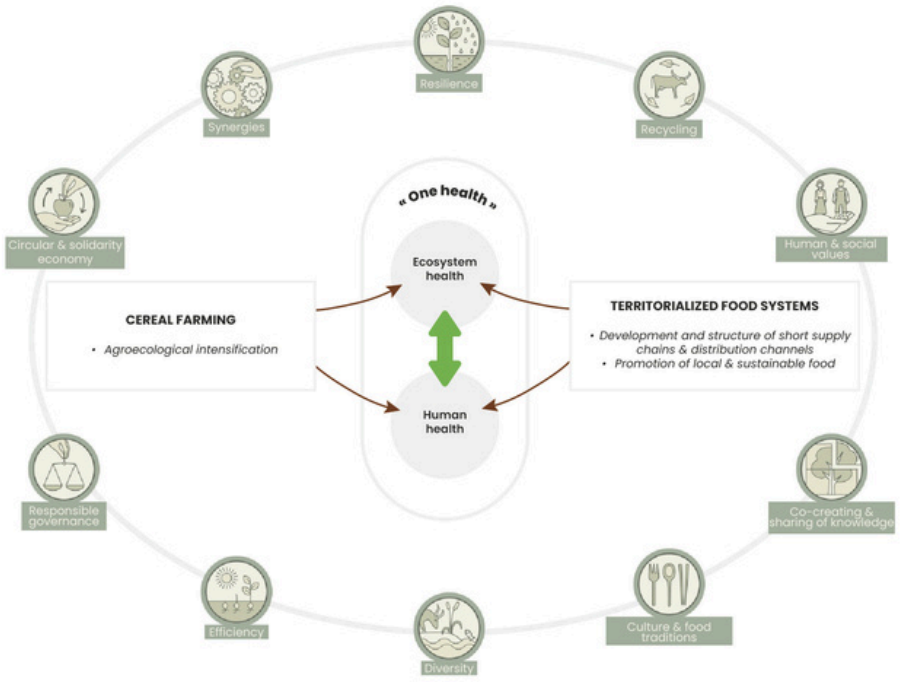

Figure 1 - Integrating agroecology into farming and food systems : Agroecological principles and global health

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PART 1 - Why is agroecology the most appropriate agricultural model for meeting food security objectives in North Africa?

Food security beyond the notion of access to food

« Food security exists when all people have the physical, social and economic access to sufficient and nutritious food to meet their dietary needs and food preferences for an active and healthy life". »
(FAO, 1996)

This definition highlights the different dimensions that make up the concept of food security. "At any time" refers to access, but also to stability in access to food products. Stability in the face of climate change, and in particular extreme climatic events such as droughts, which have an impact on agricultural yields ; but also stability in the face of disturbances in the global economy (e.g. COVID-19 or the war in Ukraine, which has destabilised cereal supplies in many countries, particularly in Africa). "Economic" means that food products must be affordable for as many people as possible. Lastly, "sufficient, healthy and nutritious food" emphasises that beyond the question of quantity, food must be varied and composed of foods of good nutritional quality.

Agroecology, a holistic approach to develop sustainable agricultural and food systems

Agroecology is a set of concepts and practices that propose to draw inspiration from ecology for agricultural production, but also to rethink food systems as a whole (from production to consumption) based on a number of principles aimed at improving their sustainability (refer to Box 1).

BOX 1 : Agroecology, a holistic approach for sustainable agricultural and food systems

Agroecology offers an integrated approach to meet the environmental, social, economic and political challenges of food systems, from production to consumption. By combining scientific and local knowledge, the principles of agroecology promote the sustainable management of agricultural ecosystems, make it possible to strengthen the resilience of agricultural systems in the face of climate change, preserve biodiversity while improving profitability for producers and the health of consumers. The FAO (2018) identifies 10 principles of agroecology for a transition to sustainable food systems.

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This model reconciles **productivity** by making it possible to produce more with less ("efficiency" principle), **socio-economic development**, in particular for the most vulnerable populations ("human and social values" and "circular economy and solidarity economy" principles) and the **resilience of agricultural systems** in the context of climate change ("resilience" principle), in particular through the **preservation of ecosystems and the sustainable management of natural resources** ("diversity" and "responsible governance" principles). This model is the most appropriate for enabling states to meet their international environmental commitments, in particular those made under the Convention on Biological Diversity (CBD) and the United Nations Framework Convention on Climate Change (UNFCCC), or under the United Nations Convention to Combat Desertification (UNCCD).

Agroecology is also particularly beneficial for human health, as it enables people to eat healthy food by limiting the use of chemical inputs in production, and to have a diet that is better in quality and rich in nutrients by diversifying the foods we eat. **Its systemic and holistic nature also enables it to make an effective contribution to global health objectives** (refer to Box 2). By preserving environment and biodiversity, human health is better protected.

BOX 2: "One Health", protecting human health by preserving the health of animals and ecosystems

The concept of "One Health" emerged in the early 2000s with the creation of the initiative of the same name. Spearheaded by the World Health Organisation, this initiative promotes a holistic and integrated vision of health by seeking to better understand the links between human, animal and environmental health. This concept highlights the close links between threats to human health (climate change, zoonotic diseases, food safety risks, etc.) and human activities that have an impact on fauna, flora and, more generally, on environment. Based on transdisciplinary studies, it demonstrates that the health of each unit of this triad is inextricably linked to the health of the other two.

PART 2 - Context and challenges for agriculture in North Africa

The agricultural sector : strategic importance for food security and the economy of North African countries

In 2023, agriculture in North Africa accounted for between 9.5% and 18.7% of the GDP of the countries in the region[1] (World Bank, 2025). A significant proportion of the North African population works in this sector. In 2020, agriculture accounted for between 9.6% and 34% of employment (World Bank, 2025).

Despite the considerable contribution made by agriculture to the economies of North African countries, none of these countries devote more than 5% of their public spending to it. Yet the heads of state have twice committed to allocate at least 10% of their national budgets to develop the agricultural sector (Jalkh et al., 2024). Current levels of investment are insufficient, given the region's dependence on imports of basic products, particularly cereals.

Most of these countries are aiming to achieve food security by **increasing their domestic production** and **boosting their exports of high value-added products in order to finance part of their imports.**

[1] Excluding Libye

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As part of the NATAE project[2] , an analysis of cross-sectoral public policies in North Africa revealed that the issue of food security is mainly addressed from the point of view of food independence (Jalkh et al., 2024). To increase national production, agricultural policies in North Africa tend to focus on two strategic areas :

→ **Intensification of production systems,** notably through the use of chemical inputs, mechanisation and irrigation.

→ **The extension of cultivated areas,** in particular through the extension of irrigated areas. For example, irrigated land represented 1.8% of the total surface area of Algerian farmland in 2003, compared with 3.34% in 2019 (World Bank, 2025).

The limits of these agricultural strategies

Implemented over several decades, these agricultural strategies are now showing their limits, with **considerable impacts on natural resources, human development (particularly in rural areas) and human health.**

A challenge for the health of ecosystems

Overexploited and polluted soils and water resources... and crops threatened by climate change

The countries of North Africa are aware of the degradation of natural resources, particularly water, which is a common denominator in most public policies. Conventional farming methods, which are still largely supported by governments, have nevertheless had a negative impact on this resource. In Tunisia, the average abstraction rate for surface aquifers in 2020 was 178%, and around 1 in 5 deep aquifers was overexploited, with an abstraction rate in excess of 200% (Direction Générale des Ressources en Eau, 2021). This over-exploitation may be due to the extension of cultivated areas, to uncontrolled irrigation techniques or to the absence of vegetation cover on the land, which reduces the capacity to limit evapotranspiration. Excessive use of fertilisers and pesticides has also led to pollution of surface and groundwater. In Morocco, the analysis of 108 water samples from 10 different sites in the Mnasra area, which is characterised by intensive agricultural activity, showed that 89.7% of these samples contained nitrate concentrations above the standards (Marouane et al., 2015).

Linked to both water resources and soil health, salinisation of land represents an additional problem by reducing the fertility of the land. This phenomenon is particularly prevalent in the context of the extension of cultivated areas onto marginal land, often with poor soils, which requires intensive irrigation causing an accumulation of salts in the soil. In Egypt, it is estimated that around 30 to 40% of the floodplain area is affected by salinisation (Jalkh et al., 2024). The intensive use of chemical fertilisers, which is supposed to compensate for reduced yields, have the effect of impoverishing the soil, as well as contaminating it. Soil degradation can also be attributed to natural phenomena which, when the soil is not covered or hedges are not planted, cause soil erosion. In Morocco, erosion affects 75% of arable land (INRA, 2024).

[2] Launched in 2022, the NATAE (North African Transition to AgroEcology) project aims to design agroecological strategies adapted to North African contexts by identifying optimal combinations of agroecological practices and developing a reproducible methodology. A Mediterranean network of actors involved in the agroecological transition has also been set up : the MEDAE network. For more information: https://www.natae-agroecology.eu

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Lastly, these agricultural strategies are vulnerable to climate change, particularly drought. Exposed, since 2018, to a series of droughts that continue to this day, water reserves and the predominantly rain-fed agricultural sector in North Africa are under strain. Cereals, which make up the majority of rain-fed crops, are particularly vulnerable. During the drought of 2016, cereal yields in Morocco fell by 70% compared with 2015 (Lebdi et al., 2023).

A human development issue

Poverty and food security : the vulnerability of communities and territories

These strategies have not solved the problem of poverty in rural communities. Since in 2021, 8 out of 10 people (77.1%) living in rural areas were in a situation of multidimensional poverty[3] (Jalkh et al., 2024). The poverty that persists in rural areas, where the vast majority of people make their living from agriculture, reflects a broader societal crisis and more specifically in agriculture, which provides neither sufficient jobs nor adequate income for small producers. Poverty and the lack of employment opportunities help to explain the growing urbanisation and the lack of interest among young people in working in the agricultural sector.

Countries have also failed to meet their quantitative targets for improving food security, and the region is now the world's most dependent on food imports. In Egypt, 60% of food requirements come from the international market, and in 2020 the country produced only 42% and 45% of its wheat and maize requirements (Jalkh et al., 2024).

A challenge for human health

Changing diets and an increase in diet-related diseases

From 82 million inhabitants in 1970 to 276 million in 2025 (UN Data Portal Population Division, 2025), North Africa has increased its need for agricultural and food products fivefold in 50 years (Marty et al., 2018), particularly cereal products, vegetable oils and sugar plants (Jalkh et al., 2024).

This demographic increase, combined with urbanisation, has led to major changes in diets, and deviations from the traditional Mediterranean diet have widened. Cereal products have taken on a more important role in the diet and, with the industrialisation of food systems and the development of large supermarket chains, imported processed products, which are unhealthy and often cheap, have become widespread (Abay et al., 2022). The impact of these dietary changes on consumer health is now well known. There has been an increase in diabetes and obesity in all countries: between 2002 and 2022, the prevalence of obesity among adults rose from 15.9% to 28.3% in Tunisia, from 9.2% to 20.2% in Mauritania, and from 27.3% to 43% in Egypt (World Health Organization, 2024).

These changes of diets have hidden costs, particularly in terms of impacts on human health. On a global scale, the FAO estimated in 2024 that the hidden costs (environmental, health and social) of current food systems represented 12,000 billion dollars, or 10% of the world's gross domestic product (AFD and CIRAD, 2025).

Faced with this situation, these countries need to embark on an agricultural transition by rethinking their strategies and gradually moving towards more sustainable and diversified production models that will improve food security in the region and help meet global health challenges.

[3] The Multidimensional Poverty Index (MPI) measures inequality and poverty in the world by assessing deprivation at 3 levels : standard of living, health and education.

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PART 3 - How can agroecology boost food security in North Africa and meet global health challenges ? What measures should be adopted to encourage its development in North African farming and food systems ?

➔ ***First illustration : Integrating agroecology in the intensification of cereal cultivation***

How to intensify agricultural production while preserving natural resources and improving crop resilient to climate change

The different countries in North Africa are faced with a two-fold situation: the inability of current agricultural models to meet the region's food needs, and their unsustainability and vulnerability to climate change, thereby threatening the production capacity and ultimately the food security of all these countries.

The intensification of agricultural practices appears to be the only way of increasing production while limiting the degradation of natural resources, **provided that it is an ecological intensification based on the principles of agroecology.**

In recent years, conventional cereal crops have been subjected to extreme climatic conditions, with severe rainfall deficits that have had a large impact on production. In 2020, cereal yields in the region were expected to fall by 9.1% compared with the previous year (FAO, 2021), and by 2022 this fall had even reached 13.8% (FAO, 2023). The testimonies of several North African farmers met as part of the NATAE project show that, during these difficult years, **agroecological crops had demonstrated their ability to maintain stable yields and therefore the ability to cope with climatic hazards.**

A better understanding of ecological intensification and its benefits

The concept of "ecologically intensive agriculture" refers to agriculture that relies primarily on ecological and biological processes, optimising the increase in production. Conventional inputs may be used, provided that their use is only secondary and does not alter the ecology and biology of the environment (Griffon, 2017). **This is the framework for agroecology, whose practices make it possible to produce more and better on smaller surfaces, and therefore to make better use of available land and natural resources.**

Agroecological practices, when implemented in combination and synergy, make it possible to adapt to the characteristics of agroecosystems and intensify production while sustainably exploiting resources and maintaining the ecosystem functions of the environment.

Thanks to its combination of practices, agroecology applied to cereal cultivation makes it possible to manage water resources more sustainably, improve soil fertility and boost crop resilience.

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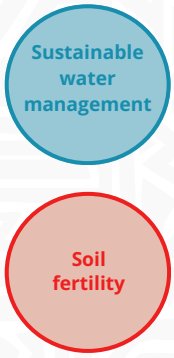
Implementing sustainable water management techniques : water recovery and conservation, optimised irrigation, etc

Cereal cultivation in North Africa is still predominantly rain-fed, so harvesting rainwater can improve yields and make crops more resilient in the face of climate change. This can involve redirecting rainwater away from catchment areas by diverting watercourses, using floodwater from wadis, or directing run-off by building low walls. Rainwater can also be stored in reservoirs or ponds that enable farmers to provide supplementary irrigation for crops during periods of drought (FAO, 2002). Optimised irrigation techniques make it possible to save water and limit wastage. They require the installation of equipment to precisely control the amount of water applied to crops.
Irrigation can be modified to suit the season, the fertility the soil (and therefore its water retention capacity) or the stages of growth that are most sensitive to drought.

Enriching soil with organic matter from natural plant and/or animal sources



Adding organic matter to soils improves their fertility and thus their water retention capacity. Soils rich in organic matter retain more water and are more resistant to erosion. The addition of organic matter of natural sources can replace mineral fertilisers. They can consist of compost made from green waste or mixtures based on animal waste (chicken droppings, goat manure, etc.). Mixed crop/livestock systems are particularly interesting because they provide farmers with a local and continuous source of organic fertiliser. Organic plant matter can be added to crops by incorporating compost into the soil or by mulching, which consists of covering the soil with plant matter (crop residues, leaves, etc.). This process increases the activity of soil organisms, limits evapotranspiration and, as with decomposition, increases the level of organic matter (FAO, 2015).

Planting and maintaining hedgerows and agroforestry

Integrating hedges and trees along the edges of plots or within them helps to combat erosion and improve soil fertility. Prickly pear trees planted at the edge of plots can limit wind erosion, while the integration of trees such as olive trees into cereal crops can enrich the soil with organic matter, improve biological activity and encourage water infiltration. Agricultural production in agroforestry systems would also be higher than that of the corresponding pure crops, particularly in the case of olive/cereal and olive/legume associations (Amassaghrou et al., 2021).

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Limiting monocultures and favouring crop rotations and combinations on the same plot of land

Sustainable water management

Crop resilience

Soil fertility

Crop rotations and associations have beneficial effects on soil health for a number of reasons: provision of a permanent soil cover, contribution of organic matter, conservation of soil moisture and enhancement of biodiversity. Crop rotation involves alternating different crops over one or more years, while crop association refers to the production of several crops at the same time. Combining legumes with cereals is interesting because the latter fix nitrogen in the soil so that cereals can benefit from. Farmers can therefore apply less nitrogen fertiliser to their crops while maintaining high yields (FAO, 2016). These practices help to promote and optimise synergies between different species, but also reduce the vulnerability of crops to climate change. Diversification also helps reduce the spread of diseases and pests, thereby limiting the risk of crop losses.

Favouring the use of drought-tolerant local seeds

Sustainable water management

Crop resilience

By promoting varieties that are resistant to drought, and in particular to water constraints, it is possible to limit water requirements and improve the resilience of crops in the face of climate change. Local seeds are interesting because they are adapted to the constraints of local ecosystems. Because of their diversity and thanks to rigorous selection, seed selection can be improved from one year to the next by the farmers themselves and therefore enabling them to adapt not only to environmental changes brought about by climate change but also to diseases and pests (AFSA and GRAIN, 2018).

BOX 3: TUNISIA - Conservation agriculture experiments on cereals

For several years, the INGC (National Institute of Field Crops) has been conducting experiments on conservation farming practices in cereal cultivation that help to conserve soil and natural resources while improving crop productivity. The aim is to **produce quantitative data on the productivity of these practices and their environmental benefits.** At its experimental station in Kodia, it has been conducting experiments for 20 years on direct seeding, a farming technique that involves no tillage (no turning over or decompacting) before the planting of seedlings.

Living soil : presence of earthworms in the no-till experimental plot

This practice is beneficial for soil structure, as it protects against erosion by maintaining the top protective layer of residue on the surface, and for soil composition, by maintaining high levels of organic matter.

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Supporting the integration of agroecological principles into public policies to develop a productive and sustainable cereals sector

By reforming public policies, introducing strong economic incentives, and initiating new partnerships with the private sector, governments can play a decisive role in integrating agroecological practices into the intensification of cereal growing.

Supporting investment in agroecological infrastructure and equipment

→ Encouraging the deployment of sustainable water management techniques by supporting the modernisation of irrigation equipment and developing rainwater recovery and conservation infrastructures. Public-private partnerships should be developed to finance the installation of these infrastructures.

→ Facilitating access to agroecological equipment with the support of public-private partnerships, in particular for the acquisition of seed drills adapted to direct seeding, which are particularly expensive and therefore inaccessible to most farmers on an individual basis. Encouraging investment in agronomic research would also make it possible to develop equipment suited to North African agroecosystems.

Strengthening seed systems and access to organic inputs

→ Promoting seed autonomy, recognising and protecting farmers' seeds by encouraging changes in legal frameworks and initiating or supporting the creation of farmers' seed banks.

→ Improving access to seeds that are resilient to climate change by developing public-private partnerships for supply and encouraging investment in agronomic research, particularly on issues of selections and varietal improvements.

→ Strengthen access to organic inputs by supporting the production and distribution of organic inputs through public-private partnerships.

Adapting agricultural and economic policies to encourage agroecological practices

→ Introducing reforms to agricultural subsidies to make better use of agroecological practices, for example by developing public support for rotational crops, particularly legumes, to support crop diversification.

→ Encouraging the development of new supply chains to improve the marketing of rotational crops, particularly legumes

→ Creating strong economic incentives by purchasing cereal products from more environmentally-friendly agricultural production at higher prices than those from conventional agriculture, to encourage the integration of agroecological practices into production systems. The aim is also to facilitate access to credit for farmers who incorporate agroecological practices into their production, particularly at the start of the season, for the purchase of seeds and organic inputs.

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Investing in research and training

➔ Developing action-oriented research by encouraging investment in agronomic research and by initiating or supporting the setting up of reference farms to test and define more productive technical itineraries that incorporate combinations of agroecological practices. Particular attention must be paid to ensure that the results of these experiments are then disseminated so that they can be implemented on a wider scale. The challenge is therefore to produce quantitative data on the productive potential of agroecology in order to guide public policy and farmers' choices.

➔ Supporting the strengthening of local skills and capacities by encouraging better integration of agroecology into agricultural education and training curricula, in order to increase the knowledge of farmers, but above all of agricultural advisors, about agroecological intensification practices adapted to cereal growing.

➔ ***Second illustration : Building a local food system based on agroecology***

Promoting sustainable food and revitalising rural areas by relocating food to local areas through family farming and short distribution channels.

Despite the predominance of agro-industrial food systems, **North Africa has great potential for developing sustainable agriculture** thanks to the vitality of its family farming, the diversification of its production, and the mutual aid and cooperation between its producers.

Family farming is characterised by a high degree of diversification, with food and fodder crops as well as livestock. This strategy enables producers to be more resilient in the face of risks induced by climate change, but also by the socio-economic context of their area (Marzin et al., 2017). When they are not intended for self-consumption by households, produce is sold through cooperatives, intermediaries (collectors, traders), or directly to consumers at local weekly markets or fairs.

The nature of the products sold is influenced by the proximity of farms to markets and the nature of those markets. Short marketing channels are more accessible for small producers because products can be sold in their raw form (Marzin et al., 2017). Structuring producers into cooperatives enables them to integrate longer marketing channels, either by pooling production or by increasing the added value of products through processing and packaging. With 36,738 agricultural cooperatives, Morocco's agricultural sector is characterised by a strong dynamic of collective structuring of its family farming (ODCO, 2025).

The relocation of food production at local level would make it possible to make better use of this agricultural potential and create new sources of income in rural areas. A survey conducted as part of the NATAE project among 2,355 North African consumers[4] revealed that it is the origin of products that matters most to consumers (Vlontzos et al., 2025). This relocation would make it possible to strengthen links between producers and consumers through the development of local supply chains.

[4]Excluding Libya

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The countries of North Africa have announced their intention to adopt the methods of Agenda 21 to develop ecological and sustainable territorial projects, and **agroecology could serve as a basis for the implementation of these territorial projects.** The principles of agroecology (in particular human and social values, synergies, food culture and traditions, responsible governance and the circular and solidarity-based economy) resonate with the vision of Agenda 21, which is based on sustainable development, solidarity and transversality. These projects could be based on family farming and existing local cooperation and solidarity networks.

Setting up local food systems : what are we talking about and why?

Territorial food systems (TFS) aim to **relocalise food at local level by promoting more sustainable models of production and consumption**, in particular by promoting local products through local supply chains. Often inspired by agroecological principles and based on the partnership of all local stakeholders, these systems act at the level of production, processing, distribution, consumption and even waste management organisations (Page et al., 2018).

The introduction of local food systems has a number of benefits, starting with **the reduction of poverty in rural areas** through the creation of jobs linked to the promotion of local products and the development of short supply chains. Developing local products also helps to **reduce dependence on food imports** by improving the processing and marketing of these products to local consumers. By increasing the proportion of unprocessed food, rich in plant proteins and nutrients, these systems also help to **combat diseases linked to changing diets.**

PANEL 4: MOROCCO - Eco-solidarity farmers' markets to promote local products from sustainable agriculture to urban consumers

Supported by RIAM (Network of Agroecological Initiatives in Morocco), the Eco-solidary Farmers' Markets initiative was launched following regional sustainable agriculture forums held between 2016 and 2017 in 8 regions of Morocco.

These markets, set up in several of the country's major cities (Rabat, Mohammedia, Casablanca and Marrakech), showcase products from short distribution channels and sustainable agriculture, enabling producers to sell directly to consumers. These markets have also given rise to **Morocco's first Participatory Guarantee System (PGS), which enables the labelling of agro-ecological products through a network of producers and consumers.** The former verify and monitor agroecological practices based on their own expertise and experience, while the latter guarantee the neutrality of the controls.

Setting up these short direct sales circuits helps to reduce economic inequalities by improving farmers' incomes, and helps to improve access for city-dwellers to fresh, local produce.

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Promoting local food systems by integrating agroecological principles into public policies, supporting rural areas and strengthening local food policies

Countries in North African have the capacity to lay solid foundations for more sustainable, more resilient, territorialised food systems that are better rooted in the social, economic and environmental realities of their territories.

Integrating agroecology and its principles into regional and agricultural policies

➔ Implementing rural development strategies that integrate agro-ecology and develop local governance tools that facilitate consultation between stakeholders.

➔ Supporting local authorities in integrating agroecology into their development strategies.

➔ Better integration of food, agriculture, nutrition and health policies, for example by including nutrition indicators in agricultural policy assessments (Jalkh et al., 2024).

Supporting rural areas and family farming

➔ Strengthening local and rural dynamics by supporting the structuring and support of local stakeholders. Family farming must be supported and the development of agricultural cooperatives incorporating the principles of agroecology must be encouraged, in particular through the establishment of public-private partnerships.

➔ In consultation with local stakeholders, supporting the development and the structuring of short distribution channels and direct sales via farmers' markets, local distribution platforms or farm sales. Setting up support funds would encourage the development of these channels by supporting the grouping of producers into cooperatives or the installation of young farmers in agroecology.

Strengthening local food policies

➔ Promoting the development of sustainable food policies by offering incentives to local authorities and incorporating new criteria into public procurement contracts so that public establishments such as schools, canteens and hospitals include more agroecological products.

➔ Developing a domestic market for agroecological products by informing consumers, particularly in urban areas, about the benefits of agroecological products, and in particular their impact on health. Mass awareness campaigns could be organised and the labelling and certification of agroecological products could be encouraged to guarantee their traceability.

➔ Revising health policies to include criteria on origin and production methods, as well as the types of food to be consumed to maintain good health.

➔ Redirecting public policies to prioritise territories (and not to globalisation actors) and to the concept of proximity in order to rebalance territorial and globalised economies (Rouille D'orfeuil, 2017).

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Conclusion and key messages

➔ Agro-ecology is a sustainable, global solution that reconciles agricultural productivity, the preservation of ecosystems and human health, and compliance with international commitments (Convention on Biological Diversity, Convention to Combat Climate Change, and also the Convention to Combat Desertification, particularly with regard to the objective of neutrality in terms of land degradation).

➔ Faced with the environmental, socio-economic and health impacts of current agricultural strategies and agro-industrial food systems, a far-reaching transition in North African agricultural and food systems is needed, based on the principles of agro-ecology.

➔ Integrating agro-ecological principles into farming and food systems helps to promote sustainable diets that have a low impact on the environment and contribute to food security while preserving natural resources and environments for current and future generations (FAO, 2012).

➔ Support for agronomic research is essential if agricultural models are to be developed based on the principles of agro-ecology that are adapted to local agro-ecosystems and that perform well.

➔ The cross-cutting and holistic nature of agroecology means that this transition must be initiated by adopting an integrated, multi-sectoral, and multi-actor approach. If agroecological principles are to be disseminated on a larger scale, appropriate funding mechanisms need to be put in place and a favourable regulatory framework needs to be established.

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