

# Towards Food Sovereignty and Organic Farming

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## State of Play: Farming and Food Security in Bhutan

Bhutan's ambition to become wholly organic has drawn much attention among experts and policy makers worldwide. Conventional farming practices are increasingly facing scrutiny, especially in the light of climate change, shrinking wild habitats and agricultural biodiversity, reduced soil fertility, and depleted water resources. More than ever, global cooperation is needed to enhance economically viable and resilient practices for farmers, and sufficient and healthy food for all.

Bhutan has committed itself in numerous international agreements to protect its rich wildlife and biodiversity, and to reduce its greenhouse gas emissions radically. Bhutan has more than 70 percent forest cover and is committed to maintain more than 60 percent of the country's forest area for all time to come. It is the world's only carbon-negative country, and strives to contribute even more to carbon sequestration by increasing its hydroelectric energy production.

However, two of Bhutan's important policy goals remain unmet: to achieve food self-sufficiency for the Bhutanese people; and to establish a resilient, productive organic farming system.

Despite the rapid modernisation of Bhutan's urban areas in the last decade, rural regions and communities have yet to receive focus in Bhutan's development strategy. More than 60 percent of Bhutan's population continue to live in farming communities<sup>1</sup>. The Renewable Natural Resources (RNR) sector currently contributes 15.2 percent to Bhutan's Gross Domestic Product (GDP).

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<sup>1</sup>Statistical Yearbook of Bhutan 2018, page 4

However, such GDP-based metrics fail to take into account non-monetary and non-market-based benefits, such as food security aspects of subsistence farming, non-monetary well-being and social capital, cultural identity, and religious values. As an example, mutual aid between neighbours and families during harvest time and home construction is very common in Bhutan but not reflected in GDP.

Conventional approaches to economic development measure primarily per capita income and “modernisation” of farming. Food security is defined as increase of productivity per unit. Growth in output is expected by increasing farm sizes and livestock units and applying a wide range of chemical inputs and treatments to increase productivity, while decreasing human work force.

While this paradigm of agriculture and livestock development has reached impressive growth in crop and livestock yields and GDP, many countries now face costly and negative side effects of these practices. Natural resources are depleted, rural regions are depopulated, and rural populations feel marginalised. The Organisation for Economic Co-operation and Development (OECD), the European Union and the United Nations Food and Agriculture Organisation (FAO) all point out the need to include externalised costs of conventional farming practices into the balance of GDP and consumer food prices, so as to account for the true costs, of increased water and soil pollution, deteriorating public health, and the loss of wild habitats and biodiversity.

## **A Paradigm Shift in Bhutan’s Farming Communities**

Against this background, Bhutan’s lineage of Monarchs, and since 2008 its democratically-elected policy makers, have consistently been cognisant of the risks that come with this conventional development paradigm. His Majesty The Fourth King captured this sentiment in the late 1970s when he defined Bhutan’s development vision as the pursuit of Gross National Happiness (GNH). Since that time, Bhutan has pursued the goal of becoming a “GNH society”. This vision includes Bhutan’s farming sector.

Experimental processes to promote organic farming began in 2003, followed by institutionalised programmes promoted to implement the National Framework for Organic Farming for Bhutan (NFOFB) in 2007, and the establishment of the National Organic Programme (NOP) in 2008. However, it seems that Bhutan's stated vision to go wholly organic by 2020 will not yet be achieved<sup>2</sup>, prompting calls for an open and honest discussion about the future of Bhutan's farming and food policy.

The Ministry of Agriculture and Forests (MoAF) adopted an Organic Masterplan in 2012, backed up by a roadmap for the 12<sup>th</sup> Five-Year Plan, which lays out Bhutan's development strategy from 2018 to 2023. Currently, a new Flagship Programme for the development of the organic sector between 2018 and 2023 has been developed by the MoAF, to be approved by the new cabinet. The goal of the Flagship Programme is to improve the integration of the agriculture sector with its sub-sectors of livestock and forestry, and to enhance the production of safe and nutritious food and non-food products on a sustainable basis in environmentally clean production systems, while engaging the rural population, including women and youth, in increasing production volumes for trade, and improving productivity with better research and science-based technology generation.

All of these efforts are built on the conviction that Bhutan has the potential to develop sustainable and organic farming and food systems. The use of agrochemical inputs in Bhutan is among the lowest in the world<sup>3</sup>. Making the final step towards sustainable, organic farming systems is believed to be much easier done here than in other countries.

With Bhutan's spiritual heritage, farmers strive to live in harmony with nature. However, to become more productive to achieve domestic food security, they need organic alternatives to chemical treatments. Most young people starting projects in the country's RNR sector are passionate about organic farming.

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<sup>2</sup>Organic Agriculture Development Strategies: Roadmap for 12<sup>th</sup> Five Year Plan and Beyond, April 2018, page viii

<sup>3</sup>Ibid.

The authors are familiar with numerous such initiatives, including the “Youth in Agriculture Programme, Green Hands”, a group of graduates in Chukha, the “Druk Organic Farm”, the essential oils project “Kingdom Essences”, “Druk Metho”, a project in the Punakha Valley growing organic edible flowers, or Kengrig Namsum Cooperative, an organic youth group in rural Zhemgang.

Bhutan is blessed with a wide range of climate zones in which a stunning genetic diversity of wild and cultivated food and non-food products can be grown or collected. Remarkably, this biological and genetic treasure is still in public hands, and is considered to belong to the people’s commons. Access to seeds and animal breeds is not restricted, and the country has preserved a wide range of open pollinated seed varieties, which carry high genetic diversity, making them particularly climate resistant, and appropriate for disease resistance breeding. Gasa Dzongkhag region has been fully organic since 2004 and it gained important experiences which can help to inform the required nationwide debate about the future of Bhutan’s farming and food system.

Sikkim, on India’s border with Bhutan has made the shift to organic farming, banning the import of agrochemicals in 2014, and certifying the entire arable land as organic. Sikkim’s approach provides its own challenges, which Bhutan should carefully analyse and learn from<sup>4</sup>.

Despite many efforts to translate the organic vision into reality, the results—so far at least—are still lagging behind ambitions. Bhutan’s attempt to encourage farmers to produce for the domestic and international market so far has only reached single cash crops such as potato, hazelnut and cardamom. Potato and cardamom harvests did increase household cash income in certain regions of the country. However, “single cash-crop approaches” could substantially reduce Bhutan’s agro-biodiversity, increase the risk of crop failure and deplete soil fertility.

Potato and rice farming communities especially, were apparently encouraged to significantly increase the amounts of chemical fertilisers and pesticides used over the last couple of years. Without crop rotation, the increasing use of chemicals is accelerating soil depletion. In Phobjikha and other potato farming communities, the downward spiral is alarming.

<sup>4</sup><https://www.ifp.co.in/page/items/46459/organic-farming-lessons-to-learn-from-sikkim-organic-mission/>

Despite massive use of chemicals, the yields are even declining<sup>5</sup>. At the same time, financial support for the National Organic Programme decreased substantially during the 11<sup>th</sup> Five-Year Plan, from Nu 16 million (M) in 2012-2013 to Nu 2.4M in 2016-2017<sup>6</sup>.

Direct yield comparisons of organic with conventional farming methods have limited discussions to aspects of the “productivity gap”, and lead to short-term political decision making in most countries around the world. The discourse needs to be broadened, taking a closer look at the goal of “food sovereignty” and long-term resilience. Going beyond food security, which usually focuses on availability, food sovereignty focuses on the maintenance and development of a country’s capacity to produce its basic foods, respecting cultural and productive diversity<sup>7</sup>.

It demands localising food systems and giving local producers better access to land, water, seeds and livestock breeds. Aspects such as food choice, food education, and building upon traditional knowledge, are included in this approach to resilient farming. Furthermore, food sovereignty requires the integration of a nation’s agriculture policy with other parallel priority agendas, focusing on natural conservation, biodiversity, climate resilience, and efforts to combat rural poverty.

To achieve a sustainable food system in Bhutan, two major goals need to be achieved. First, subsistence farming practices need to be strengthened, not eradicated. Extension service providers and farmers should receive targeted training to enable them to find organic solutions to the problems they face. The well-established public RNR research and extension system in Bhutan, with specialised officers at *gewog* (block) level and RNR centres in various locations, has to be seen as a major opportunity to transform the farming sector.

Organic farming is knowledge-intensive, and only substantial efforts in capacity building of extension staff and lead-farmers can push organic farming at the grassroots level. Strengthening farmers’ vocational education will be key in supporting Bhutan to go organic. Participatory

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<sup>5</sup><https://www.pressreader.com/bhutan/bhutan-times/20160807/281496455671304>

<sup>6</sup>Organic Agriculture Development Strategies: Roadmap for 12<sup>th</sup> Five Year Plan and Beyond, April 2018, page viii

<sup>7</sup>Food Sovereignty and Food Security: Where does Africa stand? Forum for Agricultural Research in Africa, 2014 page 10

action research and innovation, farmer field schools, trainings and study tours within Bhutan -- and possibly to Sikkim -- will foster opportunities to develop hands-on solutions with farmers and researchers, to establish locally adapted organic farming systems in Bhutan. This will allow farmers to continue producing enough for their families and communities without costly external inputs.

Secondly, Bhutan should actively support market-driven farming and food processing initiatives that specifically build on the rich local agro- and natural biodiversity. Such initiatives will allow young people with ambitions beyond subsistence farming to take a lead in the transformation of Bhutan's agricultural economy. Rural enterprises and youth start-ups in the organic sector can provide meaningful employment and income for Bhutanese people.

Presently, farming still has an image problem among Bhutan's youth-hard work, low paying and considered as "backward". However, showcasing success stories which create jobs and raise added value in rural villages can contribute to an increase in interest in organic farming and related business opportunities. The production of healthy, ecologically-sound food and decent jobs in the organic sector could boost the self-esteem of young rural people, and so contribute to achieving food sovereignty of the country.

## **Sustainable Land Use**

Due to its mountainous terrain and its strict policy of protecting its forest cover, only about 8 percent of Bhutan's surface area is considered arable land. Currently, only 3 percent of Bhutan's land is being cultivated. The main reason is accelerated rural-urban migration. Furthermore, infrastructure, hotels and guesthouses servicing Bhutan's fast-growing tourism industry are laying claim to much of Bhutan's fertile rice-producing valleys.

To avoid the loss of additional farmland, planners must give farmers priority usage rights to the most fertile land for agricultural production, and strictly regulate the expansion of building and transport infrastructure. The User Right Certificate (URC) land reform initiative, administered by the National Land Commission, is a crucial step in the right direction, and has the potential to transform the entire farming sector. The purpose of this reform is to facilitate the allotment of state lands for agricultural and economic purposes

in rural areas. Specific criteria for access to such public lands should include commitments by potential users to refrain from using chemicals or artificial fertilisers, and to prioritise organic farming systems.

Special attention should be given to the forestry sector, in particular to the increasing number of community forestry (CF) and Non-wood Forest Product (NWFP) management groups in the country, which increasingly embark on income-generating activities through the sale of their surplus forest products. Forest products, such as wild mushrooms, medicinal plants, lemon grass and others, have shown high market and export potential, and provide opportunities for rural enterprise development. Agro-forestry systems also provide substantial organic material for composting and other sources of energy and income for farmers, and contribute to the development of the organic sector in Bhutan.

It is important to note that organic farming refers to a holistic production system and is much more than just the abandonment of chemicals. An organic farming strategy has thus to target all MoAF sub-sectors equally, including balanced and resilient agriculture, livestock and forestry systems.

## **Potential of an Integrated Food Policy in Bhutan**

Food security in Bhutan is carried by a variety of distinct policies and responsibilities in crop, seeds and livestock production, mechanisation and post-harvest services, forestry, processing and marketing. Furthermore, legislation and measures on environmental and biodiversity protection, climate mitigation and renewable energy need to be taken into account. The goals of improving public health and access to food, especially for the poor, also belong to the equation of attaining domestic food security.

In order to reach the objective of food sovereignty based on organic farming, it seems important to create synergies between policies and strategies so as to make the best use of Bhutan's assets and ambitions.

- An Integrated Food Policy would embrace four pillars of innovation: Integration of crop, livestock and agroforestry development strategies and extension services to achieve increased productivity through crop rotation, soil improvement, and animal husbandry on the farm;

This pillar would be shaped to offer farmers support in improving their traditional practices with agronomic innovations, including leguminous, cover and humus building crops, and linking livestock with crop production to improve overall soil fertility. It would also improve the sustainability of the use of agroforestry resources for food production.

- Integration of existing services in wild and biodiversity conservation with specific research, breeding and distribution of seeds and animal breeds fit for specific needs of organic farming;

The second pillar would tap into the rich genetic diversity of plant and animal reproductive material which is collected in Bhutan's biodiversity and seed centres to develop a new organic breeding sector necessary for the organic transition.

- Coordinated public support for specific rural infrastructure and investments that support collection and processing of local food products apt for marketing and creating added value and jobs in rural communities;

The third pillar would focus on the specific rural infrastructure necessary to support transition, allowing public and private investors to boost value-added products, which can be sold on the national and international market as organic high quality products.

- Coordinated public procurement policy which creates an efficient pull effect for the marketing of organic products to be served in public canteens, hospitals, schools, monasteries and tourist facilities, along with support of farmers' markets at regional and local level. The fourth pillar would create initial demand for organic products through procurement programmes which can be combined with public health and food education so as to create awareness about healthy diets and disease prevention.



All four pillars would need to be coordinated by a national task force, which would guide the various services and actors towards the envisaged inter-service synergies.

It would monitor progress made in transition from traditional to improved organic practices, processing and marketing facilities, breeding and public health programmes.

With regard to the potential of agro-biodiversity in this context, a national organic breeding programme would concentrate on the many smaller domestic crops, like the “nine national cereals”<sup>8</sup>, which could help to overcome dependence on rice and potatoes, and could boost a process of diversification of food choice and farming resilience. Bhutan could become a place of innovation of organic breeding, which is only very slowly developing in western countries. Cooperation with breeders in this field could become the source of intensive cooperation and an emerging market for organic seeds, and could provide very attractive opportunities for Bhutanese farmers and breeders.

## **Qualified Market Development and Export**

Innovative businesses in Bhutan have already shown the way. *Chuniding* is one such producer and vendor of organic and natural food. Their success demonstrates how products based on local agro-diversity and knowledge can thrive in the local market.

The private sector must also play a role in creating opportunities for farming communities. The tourism industry, as example, could play a lead role by serving tourists in hotels and restaurants with local organic food, and by supporting initiatives of local farm produce souvenirs, to counter the increasingly available imported products. In addition, a strong commitment by the tourism sector in the development of farm and eco-tourism will also contribute to a paradigm shift, and the development of organic farming in the country.

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<sup>8</sup><https://bhutantimes.com/article/bhutans-new-organic-food-movement>

The image Bhutan enjoys globally as a responsible guardian of its natural treasures and cultural heritage, offers export opportunities. Consumers in Asia and Europe demand high value-added organic products that can be tracked to the source. Bhutan's products could be branded as a source of happiness. However, the country would risk quickly losing this reputation if this image did not match with reality. The development and enforcement of quality standards will be the key to prevent exploitation of Bhutan's image for private gain. Building authentic and farmer-centric value chains is one aspect of qualifying exports for foreign markets.

To prevent the creation of a false image, it would help to focus on "branding the quality process" of Bhutan's ambition to offer true food happiness to all. In this environment, a scene of socially and environmentally conscious processors has emerged, looking to invest into this project. Such conscientious processors can play a key role in transforming Bhutan's farming sector, and providing crucial know-how.

An established example of such a partnership is Bio Bhutan, which has been exporting Lemon Grass Oil primarily to Germany. At the same time, Primavera has provided know-how to Bio Bhutan for the development of value-added products for the local market.

The manufacturer *Druk Metho* produces organic edible flowers for "Swiss Alpine Herbs", which are low in volume and high in value, and all of which are native to Bhutan. Swiss Alpine Herbs is providing pro bono know-how, which allows Druk Metho to develop products for the local tourism and gastronomy markets. The export is therefore only a starting point, to bring resources and knowledge into the project, but the end goal is an independent and resilient local farming system.

Opportunities like this could be attractive for many Bhutanese enterprises, provided that the projects are farmer-centric, biodiversity is nurtured and the independence of the farmers is maintained.

## Conclusion

Increased amounts of chemicals have been provided to farming communities over the past few decades in Bhutan, without improvement of food security. At the same time, resources for the National Organic Programme have been reduced significantly during the 11<sup>th</sup> Five-Year Plan. This development may undermine the objectives to reach food sovereignty and the declared move towards organic production, since increased chemical use in mono-cropping farming systems will cause fast depletion of soils, loss of biodiversity and loss of traditional farming know-how.

Yet, Bhutan has maintained the opportunity to achieve “food sovereignty” and its organic vision by strengthening the subsistence farming system and carefully developing market-driven, farmer-centric approaches to farming. This will require a focus on synergies between agricultural, rural, and sustainable development goals through a well-coordinated effort, including public and private stakeholders. A multi-sectoral approach, involving public-private partnerships and a supportive civil society, can transform the farming system in Bhutan.

The first crucial step will be the adoption of the “Flagship Programme for Organic Sector Development” to strengthen the National Organic Programme and bring urgently needed support to Bhutan’s organic farmers. Conflicting objectives and missing synergies across different policies influencing the farming system could be brought together in a newly developed “Integrated Food Policy”. Effective rules and regulations are needed to support a paradigm shift in the country’s farming systems. The qualified development of local and international market opportunities, farm-related research, extension and capacity building, and innovative spirit towards organic farming, can attract youth into farming and associated value chains, and so revive rural communities.

A strong commitment and action plan to develop agro-ecological and organic farming systems will also mobilise international attention and resources required to achieve this transformation.