Factsheet
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Profitability on ecological organic farms in the Tropics

Major factors to achieve good profits

Profitability is a key factor affecting farmers' choices. Ecological organic farming provides many benefits for health, the environment and societal welfare, but is generally percieved to be not as profitable as conventional due to lower yields and high labour costs. However, current research has demonstrated that farm profitability on actively-managed organic farms can match or exceed that of conventional. In organic systems, the cost savings from not purchasing as many external inputs and the higher market value of organic produce can often compensate for the lower yield.

This factsheet introduces the ways in which organic farmers can be profitable, and highlights some of the major factors from the experiences of the research related to profitability, namely: labour, organic inputs, best practices and market access. The information is based on long-term experiments and on-farm research conducted in the scope of three projects across different countries in Africa, as well as Bolivia and India. Further products in the series, e.g., posters, videos and more, are linked in the 'Further information' section on the last page of this factsheet.

Key messages from the research

- With a **holistic, active management approach** and the implementation of good agricultural practices, ecological organic farms can match or exceed the yields of conventional systems and, therefore, be **profitable**.
- There is **no silver bullet for increasing profitability** among organic smallholder farmers – profit increasing activities can be associated with labour input, crop type and best practices.
- **Farm diversification** can help to ensure economic resilience, e.g., diverse production through crop rotations, mixed cropping, etc.

In this factsheet, we define the profitability of a production system as the gross margins and return on economic and labour investments of a farm. Simply speaking, the achieved yields on the farm and prices for marketable products minus variable production costs. Return on investment shows how much profit was earned per labour hour or money invested.

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How can organic farms be profitable?

During the initial years of converting from conventional to ecological organic production, farmers can expect a decrease in yields, often estimated between 5 and 20 %, as the soil recovers fertility and farmers learn new holistic management techniques. This requires a bit of patience and innovation, as, on average, **farmers converting to organic production need around five years to get the best return on their investment**. Farmers transitioning their farms to ecological management are advised to start small, converting their farm section by section.

Organic farms with active ecological management can outperform farms with non-active management and match or exceed conventional farms, with high input and capital demands. Conventional systems require more external, market-purchased inputs and therefore have the potential to make capital-poor families more vulnerable to cycles of debt.

In ecological organic systems, lower costs for external, market-purchased inputs and higher market value of organic produce can compensate for the lower yields of some crops which do not perform as well in organic systems after the first few years of conversion, e.g., wheat, brassicas. The return on investment, in terms of both production and labour costs, makes organic arable systems a more suitable choice for smallholder farmers who have limited capital for investments.

In Kenya, from year three of active organic production onwards, the profitability of the organic system was found to be similar to conventional (without the organic price premium). With 25 to 50 % premium prices on organic products, profitability in the actively-managed organic system was higher than the profit from the conventional system.

To optimise profitability, focus on crops that perform particularly well in organic systems and those crops which have a good organic market in your region or for export, detailed in the following section. For more information and some examples from the research, refer to the 'Productivity' factsheet, video and more > Link

Major factors to consider regarding farm profitability

Ecological organic systems take a holistic system approach, considering long-term farm sustainability, diversity, quality and health of the system. This is in contrast to the standard approach which focuses on short-term efficiency, yields and income.

The holistic organic approach requires a focus on the **health and productivity of the whole farm system over the long-term** using organic best practices. Refer to the 'Ecological approach' factsheet, video, etc. > Link to go deeper into this topic.

This difference in approach means organic farmers face **different challenges** regarding productivity and profitability. For example, on ecological organic farms **labour is a major factor contributing to production costs**, (e.g., labour for fertiliser preperation, as was found in SysCom Kenya). In conventional systems, production costs are mainly determined by the costs for external inputs. It is essential to keep good farm records, in order to see which crops are most successful and adapt accordingly.

In this section, some important factors regarding profitability on organic farms are explained.

Labour costs

> Labour costs are often higher in organic – how can organic farmers ensure returns on labour investments? Return on labour measures the gain or loss generated per unit of labour used.

We found that labour demands, e.g., for compost preparation and weeding, contribute strongly to production costs in organic systems. However, this higher investment does not need to result in a loss of profitability. In fact, organic systems can achieve higher returns on production costs (SysCom India, ProEcoAfrica in Kenya) and equal returns on labour (SysCom Bolivia, some ProEcoAfrica cases in Ghana and Kenya), making it a suitable option, particularly for capital-poor smallholders.

Regarding return on labour, we found that even though agroforestry systems were more labour intensive (mainly due to the management of shade trees and by-crops) the return on labour was almost double in the agroforestry systems compared to monocultures in the youth phase. This was without organic price premiums for the organic by-products of the system.

Organic inputs

> Ecological organic does not mean low input – on the contrary! Organic farmers do not rely on external inputs to feed their soil and protect their plants but rather utilise on-farm resources to recycle nutrients locally – this is the holistic ecological approach.

Organic farms should produce self-made inputs, from composts to biorationals (e.g., botanicals). Although the preparation of these inputs is labour-intensive, input costs are reduced significantly. Additionally, self-made inputs are made from locally available and sustainable resources, and are safe for farmers, their communities and the environment, when produced and handled correctly.

The use of organic composts also protects soils. We found that after six years of active organic management, using high-quality, self-made composts, soil fertility was built at a faster rate compared to conventional soils. This approach can better support sustainable soil fertility management and crop production in sub-Saharan Africa compared to high or low-input conventional production systems. See the 'Soil fertility and health' factsheet, poster, video, etc. to go deeper into this topic > Link.

Organic best practices

Farm profitability is directly dependent on productivity. In well-managed organic systems, farm productivity can match or exceed conventional systems. Improved on-farm practices through a holistic ecological approach are the key.

Some major considerations to improve productivity and profitability are outlined here, to go deeper into the topic refer to the 'Productivity' factsheet, video, etc. for more > Link:

- Healthy soil, healthy crops: 'Soil fertility and health' factsheet, video, etc. > Link
- Use locally adapted varieties and livestock races
- Prevent pest and disease attacks: 'Pest and disease' factsheet, video, etc. > Link
- Plan, learn and experiment
- Cultivate a diversity of crops
- Integrate agroforestry systems

Post-harvest practices

Profitability of farms is further affected by post-harvest handling operations and management practices, e.g., sorting, cleaning, grading, processing, packaging, storing and transportation. Good post-harvest practices can help to maintain or enhance the quality and profitability of farm produce.

Some major factors to consider:

- Shading and cooling are especially important for products which are sensitive to heat or high temperatures, e.g., fruit and vegetables.
- Transportation and distance to markets are important factors. Some organic buyers, e.g., Kenyan organic macadamia nut farmers, provide local collection points, reducing transportation costs to farmers and ensuring quality checks.

- Pest and disease damage to harvested products can lead to significant losses. Organic farmers must continue best practices even after the harvest to maintain high product quality.
- Good clean storage facilities are important for harvested products.
- Some post-harvest operations are labour intensive, costly and hence reduce profitability.

Market access

Organic products can receive a premium price if marketed properly - it is advantageous for farm profitability to choose crops with an organic market in your region, or for export.

With good organic management and organic price premiums, organic farmers can achieve ~30 % higher profitability compared to conventional systems. However, price premiums are often only available for cash crops destined for export market, e.g., cocoa, cotton, and not for all crops in the rotation.

Design a diverse crop rotation or agroforestry system which includes products destined for the market (as organic to capitalise on the price premium) and crops for home-consumption. Knowing the market is important, but diversity also helps you to be able to react if the market changes.

Organising into cooperatives is also helpful to have more power in negotiations, but also for organic certification. Cooperatives also provide access to knowledge exchange, training and other services.

In agroforestry systems, e.g., cacao as cash crop, by-products compensate for lower income from cocoa. So, monocultures produce higher cocoa yields, but agroforestry systems achieve higher total productivity, as well as a higher diversity of products.

Further information

- Complimentary knowledge products, e.g., a poster, powerpoint, video about the profitability on ecological organic farms > Link
- Further knowledge products, e.g., posters, videos and more, in the series cover topics such as: the ecological approach, pest and disease, productivity, soil and biodiversity > Link
- What is the contribution of organic agriculture to sustainable development?, Bhullar et al. (2021): A synthesis of twelve years (2007-2019) of the 'long-term farming systems comparison-sin the tropics (SysCom)'. The SysCom team published a first report which synthesises the scientific findings of SysCom. The report is presented in a form that is easy to understand for an 'educated non-expert' audience > Link
- Leaflet series: 'Preparation and Application of self-made organic pest control products' Mandloi, L. et al. 2014 > Link
- Organic Africa Manual Module 7: Marketing and Trade, Kilcher, L. et al. (2011): The module points out the importance of marketing and explains where to find relevant information about market opportunities, prices and quality requirements > Link
- Can organic agriculture improve yields and incomes for smallholder farmers in Africa? A video from FiBL explaining some of the agronomic and economic results from the ProEcoAfrica project > Link

Imprint

This factsheet is a part of a series of knowledge products created within the KCOA project, analysing the outcomes of the SysCom and ProEcoAfrica projects. For further information on these projects refer to the corresponding project brief > Link

The purpose of this series is to educate African farmers and advisors on research results related to organic farming.

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