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WEF Nexus Farming: Upscaling Solutions for Small and Medium-Scale Farms

Co-Designing a Loan Product for Nexus Farming in Egypt

21 June 2023

Workshop

Marriott Hotel, Zamalek



— SUSTAINABILITY . AGRICULTURE . LIVELIHOODS —



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1. Introduction

In June 2022, GEBAL launched the project “WEF Nexus Farming: Upscaling Solutions for Small and Medium-Scale Farms”, funded by the Nexus Regional Dialogues Programme (NRD) – implemented by GIZ (co-financed by the EU and the German Government). This project seeks to investigate the needs of farmers with small to medium-sized farms in Egypt, to invest in nexus-based and climate-smart protected agriculture. This means transforming local growing techniques, which are heavily based on flood irrigated, open field cultivation, to more climate-smart, nexus-based farming solutions.

The project built on two nexus farming models GEBAL had previously implemented in the Western Desert and in Upper Egypt. Both models are greenhouses that are fully operated by solar energy and that integrate fish farming with crop farming to increase the food output per drop of water while making use of natural fertilizer. The greenhouses also utilize drip irrigation systems to save maximum amounts of water. The greenhouse in the Western Desert is a smaller and simple shade house model that is more affordable for small-scale farmers. In turn, the greenhouse model implemented in Dandara and Esna in Upper Egypt is a larger climate-controlled model. Both models can be considered as applied models of nexus farming as they combine and integrate a) sustainable energy generation, b) water savings and maximum water use efficiency, and c) enhanced food production through intensive, resource-efficient growing systems. The models are particularly appropriate where farming will become less productive in hotter and more water-scarce growing conditions in areas impacted by climate change. They also promise higher productivity as well as slightly out-of-season production, which ensures better prices for farmers.

In order to assess how nexus farming models such as those implemented by GEBAL could be successfully upscaled in Egypt, GEBAL partnered with two Egyptian entities: Dandara Development Center (located in Dandara, Upper Egypt) and El Heiz Water Education Centre (located in El Heiz Oasis, Western Desert), to bring together a multitude of stakeholders, including farmers, NGOs, government representatives, extension agents, universities, and educational institutions, as well as investors and representatives from financing institutions, to develop policy recommendations for up-scaling nexus farming across Egypt. Through research, business models, training, and workshops in El Heiz in the Egyptian Western Desert, as well as Dandara and Esna in Upper Egypt, the project explores what policies, incentives, loan programs, grants or tax mechanisms, skills, training programs or business models may enable a wide-scale implementation of nexus-based farming solutions.

The project kicked off with a participatory workshop at the South Valley University in Qena on June 16th, 2022. This event was followed by a kick-off and WEF Nexus workshop in El Heiz, WEF Nexus Training of Trainers and Training of Farmers, Design Thinking workshops and Agricultural Entrepreneurship Trainings. The events targeted stakeholders from all project-relevant locations. During those events, GEBAL’s team collected impressions and observations from the participants and interviewed a number of them. The findings were summarized and clustered, partially by the workshop participants themselves, and shared with relevant stakeholders in Cairo. Throughout the duration of the project, GEBAL worked with key financing institutions to discuss and design a nexus



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farming loan product that could be made widely available to Egyptian farmers across Egypt. The findings from the workshop series, in particular the expressed needs of the farmers, have been incorporated into the design of the financing mechanism.

2. Workshop: CO-Designing Farming Financing Product

2.1 Overview

On June 21st, 2023, GEBAL hosted a half-day workshop on financing products for nexus farming at the Marriott Hotel in Zamalek, Cairo. The event was attended by a variety of partners – including representatives from different banks – the Agricultural Bank of Egypt, National Bank of Egypt, as well as The Export Development Bank of Egypt, representatives from the European Union, a representative of USAID, two farmers from Egypt’s Western Desert, the private-and research sector. The workshop event was kicked off by GEBAL presenting the highlights and main outcomes of the project “Water-Energy-Food-Nexus Farming: Upscaling Solutions for Small and Medium-Scale Farms”, co-funded by the EU and BMZ, and implemented by GIZ. The presentation summarized the results and outputs of the different roundtables, workshops, and Design Thinking challenges conducted by GEBAL with a variety of stakeholders in Cairo, Upper Egypt, and the Western Desert between August 2022 and June 2023.

2.2 SME’s Independent Feasibility Study

As requested by different Egyptian banks during workshops conducted earlier on in the project as a pre-requisite for a nexus farming loan product, GEBAL had commissioned an independent feasibility study of a) GEBAL’s two nexus farming greenhouse models and b) an open farm model also designed by GEBAL that integrates solar pumping with crop farming, composting, and poultry farming. The two feasibility studies were conducted and combined in an integrated report by SME Castle.

At the workshops, SME Castle presented the preliminary results of the independent feasibility study GEBAL has commissioned in preparation of the design of a designated nexus farming financing product for Egypt. SME’s evaluation is based on an extensive market study, a legal feasibility assessment, and a financial feasibility study. The report concludes that GEBAL’s nexus farming greenhouses are feasible under all conditions, with particularly lucrative results found in situations and locations where farmers are able to tap higher end markets, such as large supermarket chains, hotels, or restaurants.

2.3 Discussion around Nexus Farming Loans

The presentation was followed by an open discussion on the types of nexus farming products Egyptian Banks might be able to offer. While there is currently a number of agricultural loan products available to Egyptian farmers, none of them specifically address nexus farming approaches. Existing loan products include loans for the individual components of irrigation installations, solar pumping, livestock, or greenhouses. Loans for the installation of drip irrigation systems were subsidized as zero



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interest products for farming operations in the Nile Valley for a while, but this incentivized loan product has since been discontinued.

The lively discussion engaged all stakeholders, including the farmers from the Western Desert who were present at the event. All participants confirmed general interest in more readily available nexus farming financing products. The workshop participants emphasized that such products could represent key elements in helping to facilitate a larger-scale switch to more sustainable, climate-smart, nexus-oriented growing practices in Egypt. It was agreed that a **nexus farming loan product** would represent a product tailored to farming initiatives that a) ensure maximum water use efficiency, b) are based on renewable energy, and c) enable enhanced food production, in integrated, circular ways. Through the integration of these three elements, they could be set aside from other, existing loan products on the Egyptian market.

All banks represented at the event reconfirmed their interest in designing a nexus farming product and in adding this product to their list of potential loan products available to farmers in Egypt. The bankers declared that Egyptian banks were particularly interested to add products to their list of loan products that would foster more environmentally friendly farming practices, such as more water-efficient, integrated, and climate-smart farming. Including such products would match their company missions and outlooks and would also fit in well with national development priorities. All banks offered to work with GEBAL on developing such a product.

One important part of the discussion revolved around the applicants for, or beneficiaries of, a loan product. Previous workshops had resulted in banks stating that they would rather deal with companies, cooperatives, or NGOs representing a larger group of farmers, rather than dealing with small-scale farmers individually. In fact, SME Castle's report had presented one potential business model that entailed an entity such as a company, NGO, or cooperative representing a large number of farmers in applying for a loan product. However, the bankers present in the room also emphasized that some banks, particularly the Agricultural Bank, offered products that were accessible to individual farmers.

Besides the need to design a loan product, the discussion also addressed the need to develop culturally sensitive financing models, as many farmers in Egypt reject entering into loan contracts based on an assumption that the concept of interest clashed with the Islamic religion. In this context, and to generally increase the attractiveness of nexus farming, it was discussed whether an entity, such as the EU or USAID could help fund banks to offer nexus farming loans under reduced or no interest conditions. Such an arrangement would also be conceivable as part of a corporate social responsibility initiative of one of the banks offering the loan product.



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2.4 Brainstorming Conditions of Nexus Farming Loans in Egypt

The discussion led to an agreement of the following points that are relevant to the development of a specific nexus farming loan product:

Target group

- Banks can lend to any individual or entity that can ensure the repayment of the loan.
- The nexus farming loans would be designed to target small-scale to medium-scale farmers
- The existence of a company or an entity that would act as an overarching entity representing a larger number of farmers and managing loans on behalf of farmers is a highly motivating factor for banks to provide loans.

Payback periods

- Banks usually lend with payback periods that do not exceed five years for first-time borrowers
- Longer payback periods can be granted to borrowers with adequate business or borrowing track records.
- Solutions that are developed as part of a funded projects, such as the project this workshop was carried out as part of, add credibility to a technology or model from the point of view of banks and thus generate greater willingness by the bank to base a loan product on such a model.

Interest rates

- There are initiatives in place in the agricultural sector that already offer loans at reduced interest rates of five percent. A nexus farming product could therefore operate at a very similar interest rate.
- There are women-focused lending programs that bring down interest rates to three percent
- Banks have previously collaborated with donor organizations to promote upgraded agricultural practices and to reduce interest rates on loan products of strategic agricultural importance.
- Banks lock in the lower initiative-based interest rates designed for SMEs, even if the borrowing entities grow their revenues beyond the original threshold in the years to follow (within the original tenor duration).

Timeframes

- A loan product could be designed and readily made available by an Egyptian bank within a short period of time(months) if enough aspects of the business endeavor are made clear through an independent feasibility study such as the one conducted by SME.
- The environmental and social impacts of the project are factors that banks also take into consideration, and applicants are encouraged to highlight them.

Marketing

- Given the enhanced quality of the foods proposed, it was clear that they fit the market if the product is sold at competitive prices. Similar products currently fetch very high prices on retail shelves.
- Enhanced quality also increases bargaining power at farmgate selling channels as well as wholesale markets.
- A farmers' network of value chains that ensures consistent revenues is important, ranging from simple networks of reliable local farmgate traders to sophisticated contract farming, futures, or retail contracting. What matters is a proof of the ability to maintain cash inflow that covers costs.
- Attendees assessed the issue from a consumer perspective too, as they already buy high quality produce from retail chains, many of which are grown in greenhouses. They recognized its market potential if produced by more farmers and sold at more affordable prices.

Social and environmental impacts

- Water and energy cost savings are integrated in the cost structure and taken as a sign of better profitability prospects.
- Water and energy savings are especially important for desert farmlands, but attendees from Delta and Nile Valley villages pointed out the increasing costs of both lately everywhere.

Collaterals

- Banks do not require land ownership as collateral.
- Banks reissue loans to individuals and entities they have worked with before and who had repaid the original borrowed amounts. Reissued loans usually come with better conditions and higher amounts.

Sustainability

- Banks work towards building long-term relationships and helping successful businesses of small sizes grow.

The discussion as followed by a workshop aimed at determining the actual conditions such a banking product could have. This workshop resulted in the identification of existing agricultural loan products offered by banks, which can be used as a basis for developing a nexus farming loan product (Table 1).

Table 1: Existing conditions for agricultural loans for banks represented at the workshop

Conditions	Agricultural Bank of Egypt	National Bank of Egypt	Export Development Bank of Egypt
Paperwork required	Agricultural card that registered farmers hold (not necessarily land papers (Heyaza))	Agricultural card that registered farmers hold (not necessarily land papers (Heyaza))	Agricultural card that registered farmers hold (not necessarily land papers (Heyaza))
Clients	Companies and individuals	Companies only	Companies only
Other requirements	For companies: A detailed feasibility study that's also revised/signed off/approved by an official CBE auditor	For companies: A detailed feasibility study that's also revised/signed off/approved by an official CBE auditor	For companies: A detailed feasibility study that's also revised/signed off/approved by an official CBE auditor
	A contract with a potential buyer is a plus	A contract with a potential buyer is a plus	A contract with a potential buyer is a plus
	A co-signer would help	A co-signer would help	A co-signer would help
	Realistic projections of future earnings	Realistic projections of future earnings	Realistic projections of future earnings



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Interest rate	<p>Clients qualify for a low 5% interest rate when clearly showing small business and development criteria</p> <p>Female leadership and female inclusion (Partnering up with female founders/owners) in projects would qualify for a further reduced 3% interest rate loan</p>	<p>Clients qualify for a low 5% interest rate when clearly showing small business and development criteria</p> <p>Female leadership and female inclusion (Partnering up with female founders/owners) in projects would qualify for a further reduced 3% interest rate loan</p>	<p>Clients qualify for a low 5% interest rate when clearly showing small business and development criteria</p> <p>Female leadership and female inclusion (Partnering up with female founders/owners) in projects would qualify for a further reduced 3% interest rate loan</p>
Credit running time	Max 5 years	Max 5 years	Max 5 years
Additional remarks	<p>The agricultural bank is willing to take bigger risks with newcomers to the banking system and lend to very small farmers</p> <p>The agricultural bank is strong on farm initiatives and has a track record focused on small farmers, and some women centric initiatives too they could help founders capitalize on</p>	<p>NBE has a track record working with the USAID to facilitate projects for extra small producers</p> <p>NBE wants to expand on such work, and is supportive of a WEF Nexus approach, as it is in line with the state's green and climate initiatives.</p> <p>NBE and Ag Bank have strong relationships with the CBE and the government</p>	



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All present banks expressed interest in modifying the conditions of these existing loans to design an integrated loan product specifically tailored to nexus farming. As mentioned before, such a product would be set apart from conventional, existing loan products through the integration of water, energy, and food components that traditional Egyptian farms do not usually address in an integrated manner.

The representatives of the different banks and GEBAL Egypt agreed to start working on this product in a series of bilateral meetings with these bankers. Given the focus on small farmers, the Agricultural Bank might be a particularly suitable partner, however, the best potential partnership for listing the nexus loan product will be determined during the upcoming meeting with bankers. It should also be emphasized that a number of banks who had previously attended workshops that were organized as part of this project were not represented at this particular workshop but will be approached again through bilateral meetings.



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Annexes

Annex 1: Program

9:00-9:30	Registration and morning coffee
9:30-9:45	GEBAL introduction
9:45-10:15	Presentation of Feasibility Study by SME
10:15-10:30	Coffee break
10:30-11:00	Discussion of farmers' needs in accessing finance products
11:00-11:40	Co-Designing the conditions of a nexus loan product
11:40-12:00	Discussion and wrap-up



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