



Workshop on Land Use Consolidation Egypt

Marking the launch of LAND-at-scale in Egypt

June 4th 2024, Marriott Hotel, Zamalek, Cairo



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Introduction

In December 2023 GIZ Egypt organized a study tour on Water for Agriculture to the Netherlands. Although both the Ministry of Agriculture and Land Reclamation (MALR) and the Ministry of Water Resources and Irrigation (MWRI) were invited to participate only a delegation of MWRI could join. Part of the program was an introduction to land consolidation. Dutch projects and international experiences were shared by Mr. Frank van Holst (Netherlands Enterprise Agency, RVO). The interactive discussion, moderated by Mr. Peter Prins (Land Water Food Consult, organizer of the study tour) was inspirational, but left room for further discussion, particularly on the topic of land use consolidation. Land use consolidation refers to the putting together of small parcel holdings in one scheme, also referred to as 'agricultural parcel consolidation' or 'consolidated cultivation'. Land use consolidation and land consolidation are therefore not the same, where land consolidation requires registration of land rights.

During the presentation by Mr. Frank van Holst the concept of land use consolidation was introduced by Ms. Aoife Ossendorp, RVO's program advisor for LAND-at-scale. This sparked interest and need for further discussion, which the program at the time did not have room for. Namely, as the concept of land use consolidation is an interesting alternative – a first step- to land consolidation, which requires a heavy administrative load of land rights which currently is complex in the Egyptian context. However, it does allow for an opportunity to address the significant land fragmentation in the Old Lands.

There has been work already carried out in Egypt on this topic. In recent years, the Embassy of the Kingdom of the Netherlands in Egypt (EKN) has funded a project, executed by World Food Program (WFP) and MALR where land use consolidation was tested across 60 villages in Upper Egypt. The evaluation of this program and a [preparatory study](#) carried out by LAND-at-scale (published 2022) showed that good opportunities exist for creating local impact through land use consolidation. Based on these findings, it was therefore decided to focus the [recently started LAND-at-scale intervention](#) on the more local components of the WFP/MALR project: land use planning and land use consolidation in close connection with private sector development and climate resilience.

This project is carried out by the German Development Agency (GIZ) having started in May 2024 where the political counterpart is also MALR. Additionally, during a recent visit of Peter Prins to MALR, the PMU on Modern Irrigation confirmed the need for land use consolidation, given the challenges caused by land fragmentation. Land use consolidation could be preconditional in the transition to future proof farming in Egypt and improve water efficiency in agriculture in Upper Egypt and the Delta. Therefore, involving not only MALR is essential but also MWRI, which is a key goal of the Embassy for increased cooperation between the Ministries.

Based on these developments and to keep momentum from the visit in December, the idea for workshop was developed. The workshop was organized June 4th in the Marriott Hotel Cairo. In total 45 experts participated in the event.

Objectives of the workshop

The purpose of the seminar was to generate a basic understanding of the principles of **land use consolidation** including the benefits and crucial elements to consider. This included the discussion of country cases for inspiration and translating this to the Egyptian context for which the present Ministries collaboratively provided input. Additionally, the workshop acted as a kick-off for the LAND-at-scale project implemented by GIZ.

Strategic embedding

The EKN in Cairo has a Multi-Annual Country Strategy (MACS) for its engagement in Egypt for the period 2023-2026. The LAND-at-scale project and thus the concept of land use consolidation aligns with the fifth thematic area which is directed towards increasing water productivity and building resilience to climate change. Concrete activities that LAND-at-scale will contribute to are the increase of water efficiency and climate adaptation through land use consolidation activities and climate-smart agriculture.

Moreover, Egypt has been identified as a combination country in which Dutch efforts are focused on combining trade with development cooperation activities within the theme of climate and water smart agriculture. Land use consolidation is considered as one of the pillars of the combi-track and therefore this project also touches upon this element.

Design of the workshop

During the workshop, the stakeholders had the opportunity to share their strategies and experiences on land fragmentation in relation to agricultural development and improving water management. By bringing in Dutch experiences on land consolidation as well, the workshop provided various angles that could help to raise awareness and discuss the way how to best apply land use consolidation in the Egyptian context, building on experiences of MALR and WFP.

In the ambition to foster interdisciplinary exchange of opinions, group discussions were held to deepen insights regarding various aspects of land use consolidation. With this set up the workshop contributed to a mutual understanding of the need for land use consolidation, among Ministries and other leading stakeholders.

Summary of the presentations

The meeting started with words of welcome by Mr. Omar Abdellatif (Agricultural Advisor EKN), Mr. Folkert de Jager (Thematic Expert Water Management & Food Security EKN), Ms. Aoife Ossendorp (RVO) and a video message by Mr. Tycho Vermeulen (Agricultural Counselor).



This was followed by presentations from the following speakers:

- Peter Prins (Land Water Food Consult, The Netherlands)
- Dr. Aly Hozayen (MALR, Egypt)
- Dr. Walid Hakiki (Ministry of Water Resources and Irrigation)
- Ms. Safa Ashoub (World Food Program)
- Ms. Aoife Ossendorp (Netherlands Enterprise Agency RVO)
- Dr. Mohamed Nabil (GIZ team Agriculture Innovation Program)

Peter Prins (Land Water Food Consult, The Netherlands)

The Netherlands has a history of more than 100 years on tackling land fragmentation and implementing instruments on land consolidation. Early 1900s land fragmentation was already a big issue in the Netherlands: plots were sometimes even smaller than 0,1 feddan. The situation could be even worse than the situation in Egypt nowadays.

Effective use of the method led to agricultural development and investments in water management. The government has the responsibility for the main system of waterways and roads at the countryside, farmers invested in irrigation and subsurface drainage to manage the groundwater table in their field. Currently the Netherlands is the second largest exporting country in the world.

The situation with land fragmentation is not hopeless nor cureless. Tackling fragmentation requires a coherent national policy, adequate instruments and trust among farmers and other local stakeholders. Trust is fundamental for successful projects, even more important than the technology or economic benefits. A package of flanking facilities such as education, extension services, applied research, a

cooperative structure and access to credit were important pillars of the coherent strategy of the government in the Netherlands.

An integrated approach of land consolidation, based on clear rules and commitment of leading local stakeholders was the basis for restructuring the agricultural landscape.

The national government developed a plan to systematically improve the agricultural production structure in the country. Investments in infrastructure and land were partly covered by the government but also by the farmers who benefitted from the land consolidation. Based on the benefits they paid a yearly fee, over a period of 26 years. The national plan and the procedures of local projects were embedded in a law.

Land fragmentation is inherent to dynamics in agriculture. This implies that land (use) consolidation is needed at frequent basis (almost every generation of 25-30 years).



Tackling land use and boosting agricultural development is also the objective of a new project initiative of Netherlands African Business Council and various Egyptian and Dutch companies. The village Qahbunah (Sharkia governorate) is the location of the project. Introduction of better varieties and re-introduction of some cash crops such as potato, onion, vegetable or maybe even cotton in combination with applicable mechanization could be part of the agricultural development plan. Based on the interest of the market parties (value chains) crops will be promoted. Given the fact that farmers need to cultivate crops in a sustainable rotation, several value chain (and thus buyers) could be necessary. The project proposal is recently submitted as so-called Impact Cluster 'BUCRA' and is pending. The project consortium intends to work closely with strategic partners such as MALR, MWRI, WFP and GIZ. Synergy 'on the ground' could be a showcase for future collaboration in other parts of Egypt, also possibly integrating lessons learned on land use consolidation from the LAND-at-scale project and vice versa.

Dr. Aly Hozayen (MALR, Egypt)

Dr. Hozayen gave an overview of the current challenges in the agricultural sector, where land fragmentation poses the biggest challenge. Land fragmentation causes lower productivity, where there is not enough to cover the demand. The ever growing population will worsen the problem. Now, more than 70% of landowners hold less than 1 feddan, and 95% of land owners hold less than 5 acres.

After looking at land limitations, then water resources come in. Water resources are also limited, where the gap in the water balance is also predicted to increase, exacerbated by climate change.

Additional challenges include the urban encroachment on agricultural land. Dr. Hozayen hypothesized this can indirectly be traced back to land fragmentation, where agricultural livelihood strategies are becoming increasingly less viable, driving people to start building for income. Many builders have a farming background, and thus one could see this as an indirect symptom which exasperates the issue.

Additionally, a part of the land (borders) and water are wasted by sub-optimal structure of agricultural fields. This also limits mechanization and increases labor costs. Additionally, production is fragmented, meaning off-takers must use many different sources, while at the same time farmers marketing positions are weakened. As a result, the yields are low, while the overall costs are high.

Dr Hozayen stressed that the definition of land use consolidation should be clear and have broad commitment. Egypt has experience with land use consolidation since 1982, first projects achieved substantial higher yields of wheat (up to 75 %). These good results helped to raise awareness and triggered farmers. The most recent project implemented with WFP 'Building resilience and food security for

vulnerable rural households in Egypt' (2022-2025) had continued to work on land use consolidation through updated models.

Collective models can be various: a small company or association, uniting a group of farmers who grow the same crop. Incentives, offered by the government such as drip irrigation and a communal solar power system, could help to convince farmers. In case farmers get free fertilizers or chemicals as incentive, this should be reduced in a few years to zero, leaving only technical support. Additionally, borders between plots are removed and replaced with small metal poles to visually mark the original borders. Also, the registration of ownership (thus, the borders of fields) became easier with introduction of GPS-systems.



Overall, the project has seen their interventions can save up to 15% of land, reduce costs of agricultural production by 30%, increase productivity up to 25% and reduce harvest losses by 45%. Additionally, setting up modern cooperatives (transforming traditional input suppliers to an active connection with the value chains) could be another option.

Dr. Ali suggested starting a campaign to establish a national program on land use consolidation, including pillars such as raising awareness and implementation of flanking legislation. Uniting farmers in associations or holdings to get access to markets should be part of it as well. Thus, a call was giving to create a model which includes such variations of the land use consolidation model. Finally, a land bank would be important to allow farmers to be compensated for their land and to facilitate land transfer.

Dr. Walid Hakiki (Ministry of Water Resources and Irrigation)

Dr. Walid explained the water gap in Egypt, urging farmers and government to be more efficient with water. The total demand of the country amounts to 114 BCM/year, of which 61.35 BCM is related to agricultural demand. The source of this agricultural demand is predominantly the Nile and also shallow groundwater. Decentralization of water management is necessary, at all levels over the whole country.

Land use consolidation, with a focus on crop consolidation, is considered as the initial step towards improving the water efficiency and fits in the 4th objective of the national water plan 'Rationalize Water Use'. Borders of the plots can be eliminated, ditches will be filled with soil or replaced by a closed system of water supply/discharge (tubes). Adequate laws are necessary to enable the government in implementing actions on land use consolidation.



Additionally, contract agriculture offers potential. These formal agreements between farmers and agrobusiness or government agencies can reduce risks for both parties, but also increase access to resources for farmers, including technical assistance, inputs, and credits. Thus, Dr. Walid called to foster partnerships and encourage collaboration between stakeholders in activities for land use consolidation. In this, the private sector has a role to play as well. Thus, contracting can be a step to consolidate land together and to encourage farmers, but it certainly is

not the full picture. Farmers need to be aware of the benefits of working together rather than alone. However, this will take time, but important we still take steps.

Ms. Safa Ashoub (World Food Program)

After a brief introduction to the broader work of World Food Program (WFP), Dr. Safa presented WFP's experiences of in 6 governorates in Upper Egypt and Sharkia (Delta). The focus of the MALR/WFP project, which was earlier referred to by Dr. Hozayen, is on Climate Change and Resilience Building. To do so, the project works with Community Development Associations (CDAs) to implement land use consolidation.

In the project, MALR/WFP introduced farming on consolidated lands, which implied removing borders between fields, promoting cultivation under protocol (same seeds, same timing of sowing, same fertilization strategy) to achieve a better quality and higher yield of agricultural produce. Removing borders paved the way for mechanization. Lining of canals or pipes contributed to reduction of evaporation and water losses. Underground pipes can also be part of the interventions, as it reduces land area that needs to be used for irrigation channels. 30% of land can be saved above ground compared to 40% underground. Additionally, costs of canal maintenance can be reduced by 70%.

Water Users' Associations were also established to collectively manage local water systems with smallholder farmers. WUAs are registered under MALR. These are also key in case of solar energy activities, but also to make sure collective maintenance is carried out.

With collective solar systems WFP reached out to 120-145 villages, listed at the Decent Life program of the Government (Haya Kareema). WFP intends to expand the program to 500 villages and 1,000,000 smallholders. When it comes to the link to the market WFP collaborates with Coca-Cola Foundation, giving farmers the potential to get access to potato market.



Ms. Aoife Ossendorp (Netherlands Enterprise Agency RVO)

Ms. Aoife Ossendorp introduced the LAND-at-scale program, a land governance program active in 12 countries globally. The 6-year program, funded by the Ministry of Foreign Affairs of the Netherlands, started in 2019 and has a total budget of 37,5 million euros. The project in Egypt will focus on land use consolidation and will be implemented by GIZ. In Africa projects are running in Burkina Faso, Burundi, Chad, Mali, Mozambique, Somalia, Rwanda and Uganda.

LAND-at-scale is demand driven and has knowledge exchange as one of the important pillars. The program works on various SDGs including food security and private sector development. The focus in Egypt on land use consolidation is based on a preparatory study in 2021/2022, where experiences of MALR/WFP in Upper Egypt were key inputs for the study.

Some elements of the collective model in Upper Egypt:

- Grouping together small field parcels & collectively preparing land for planting
- Unifying both crop input and output efforts
- Making associated irrigation improvements
- Create economies of scale incl. reduction of overall costs, raising crop productivity per feddan, reducing labor requirements, and reducing irrigation water consumption.



The study found that the farmers were interested in the model, and that even without subsidies they were interested to continue working with the collective model, without project support, but also neighboring farmers originally not included in the MALR/WFP project adopting a low cost model.

LAND-at-scale Egypt will be implemented via the Agricultural Innovation Project (AIP) implemented by GIZ, in close collaboration with MALR. The duration of the LAND-at-scale project will be May 2024 to October 2026.

Dr. Mohamed Nabil (GIZ team Agriculture Innovation Program)

GIZ Egypt will be implementing partner of LAND-at-scale via its Agriculture Innovation Project (AIP). , which aims to strengthening farming in terms of climate resilience, in which land use consolidation will be one of its pillars. A strong emphasis on the private sector is another pillar, ensuring the link to value chains of selected crops. Within the project various models on land use consolidation will be piloted, showing varying possible roles of the private sector, but also feasible models of climate adaptation. This echoes points made by Dr Walid.

The entry point of GIZ is a bottom-up approach, starting with raising awareness raising and mapping the needs of the farmers and communities, to finally achieve a strong commitment of small holder farmers and local ownership. Thus, what local group will take the lead in consolidating land use will differ according to what is locally most suitable. One option is that farmers lead themselves ('voluntary incentive approach', in another model the private sector will be leading ('joint ownership approach'). In a third option farmers' associations will take the lead ('collective farming approach'), where farmers associations can be CDA's as the MALR/WFP model, WUA's, or Farmer Cooperatives. As this will be part of the broader AIP, GIZ will offers various forms of technical and financial services, including subsidies for investments in renewable energy and irrigation. Digital solutions will also be part of the package.

A point of attention is the need for legislation: is legislation necessary for successful implementation of land use consolidation models targeting smallholder farmers? This was a question left to the audience to think about.



Discussion

In the Q&A session some aspects were highlighted:

- Various donors and projects focus only on a selected number of governorates, without coordination. Integration of projects would have more impact. Collaboration of partners is needed. Although overall coordination between NGOs is operational at national level, at local level implementing partners don't tune their objectives and activities. Thus, there was a call to increase coordination at this level in particular.
- Overload of activities targeting farmers also leads to distrust among farmers. However, the need for technical support is obvious.
- Organizing farmers in associations should get more priority and should be formalized by law.
- Theater and games could also help to raise awareness among the Egyptian farmers.
- More focus on crop consolidation and contract farming is recommended, finding ways to increase also the role of the private sector.



Group assignment

The participants discussed various statements in small groups. The participants were mixed and invited for round table group discussions, with groups of 5-6 persons each. The setting activated the participants and the atmosphere was vibrant. There was a lot of interaction between the experts. The following statements were presented to the groups:

- Land use consolidation should also offer a solution for farmers who want go out of business
- A landbank is crucial for improving the agricultural production structure
- Economic parameters should be standard in the M&E-reporting.
- Is land use consolidation as tool sufficient to achieve a future proof agriculture in Egypt?
- Roles and responsibilities of MoALR and MWRI, how to ensure a smooth coordination to ensure a sustainable impact and what's the role of both ministries after the project end.



A selection of findings:

Land use consolidation should also offer a solution for farmers who want go out of business

- Yes, land use consolidation can be a way for people to leave the agricultural sector but two key preconditions were stated for this:
 - Awareness sessions to know the farmers' motivation and how to overcome their concerns.
 - Conflict resolution mechanism between farmers (role CDA) is important as there needs to be a place where people can discuss and address grievances constructively.

A land bank is crucial for improving the agricultural production structure¹

- Yes as it will encourage farmers to get access to finance and grants for good agricultural practices.
- Provide soft loans and easy repayment terms for various agricultural investments (irrigation, land improvement).

Economic parameters should be standard in the M&E-reporting

- M&E helps to formulate over-all project decisions and direction and make changes where necessary
- Helps benchmarking and comparison between projects
- M&E based on global standards (OECD, FAO) is recommended
- M&E also depends on the character of the project
- Also take into account social and environmental parameters
- Economic feasibility is not the only determinant, national strategic priorities (e.g. food security) can also be a drive

¹ The land bank was meant as a pool of agricultural land giving the opportunity to farmers when they want to expand their area or to the government in case land is needed for public purposes such as roads or canals. The group focussed on the financial needs.

- Parameters could have different weights
- M&E could also be valuable for risk management

Is land use consolidation as tool sufficient to achieve a future proof agriculture in Egypt?

- Activate socio-economic scientists and researchers to continue to research this question
- Expect it to change farmers perception into an business view
- Establish Agro-Industrial Compounds according to the geographical region
- Enforce agricultural cooperatives whether this be CDAs, WUAs or farmer cooperatives to take a key role in this

Roles and responsibilities of MALR and MWRI, how to ensure a smooth coordination to ensure a sustainable impact and what's the role of both ministries after the project end.

- Develop Coordination Committee at ministerial level (MALR, MWRI)
- Develop Framework and Organizational Structure including roles and responsibilities
- Develop local Coordination Committee at governorate level (Agriculture Directorate, extension services, Irrigation Directorate, local development, government representatives, ...)

Roles:

- Follow up project implementation and scaling up to other areas
- Insuring whether the link between the farmers and private sector is on track
- Provide technical services (agriculture, irrigation) after the project
- Reporting to Coordination Committee

Conclusions

Fragmentation of land is an urgent issue in Egypt, and a barrier for agricultural development and efficient water management. Collective models, based on public private partnership, could be the way forward. Crop consolidation with a strong linkage to off-takers / value chains would strengthen the position of farmers when they unite their power and coordinate their practices such as cultivating the same variety based on a protocol (sowing, fertilizing, irrigation, crop protection). The linkage with the market could also generate feasible business models for a specific crop. However, when farmers grow crops in rotation, the link to the market also needs to be arranged for other crops.

Programs as executed by WFP and LAND-at-scale Egypt (executed by GIZ) can proof the instrument of land use consolidation and applicability in Egypt. The roundtable discussions reflected a number of key points from the presentation, including the potential role of the private sector and contract farming in land use consolidation, making sure that land use consolidation is demand driven and locally embedded including enforcing the role of agricultural cooperatives whether this be CDAs, WUAs or farmer cooperatives, and increase coordination among stakeholders also at local level to avoid duplication of efforts and project fatigue at farmer level. Thus, the workshop was a good first step towards this objective and to strengthen the network working on land use consolidation.

Annex 1: Program of workshop

- 09:00 Welcome by the representatives of Embassy and RVO
- 09:20 Backgrounds of the initiative: comparing challenges Egypt and Netherlands
by Mr. Peter Prins (Land Water Food Consult, the Netherlands)
- 09:45 Land fragmentation in Egypt: the policy of the Ministry of Agriculture and Land Reclamation
by dr. Aly Hozayen (Chairman Executive Agency for Comprehensive Development Projects, MALR)
- 10:15 Land fragmentation and water management
by dr. Walid Hakiki (Ministry of Water Resources and Irrigation)
- 10:45 Coffee break
- 11:05 Experiences with land use consolidation in Upper Egypt
by Ms. Safa Ashoub (World Food Program)
- 11:20 What can LAND-at-scale offer?
by Ms. Aoife Ossendorp (Netherlands Enterprise Agency RVO)
by dr. Mohamed Nabil, representative GIZ team Agricultural Innovation Program
- 11:45 Group discussions
- 12:45 Break
- 13:15 Reporting and plenary discussion, moderated by Peter Prins and Omar Abdellatif
- 13:45 Wrap up and closing by Omar Abdellatif and Aoife Ossendorp
- 14:00 Lunch
- 15:00 End of the meeting