

Needs Assessment Report



Trilateral Cooperation for the Improvement of the Maize Value Chain in Ghana

Name of expert

Position/Title

Date

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GENERAL INFORMATION

TITLE OF THE MISSION:

Fact-Finding and Needs-Assessment Mission for Trilateral Cooperation for the Improvement of the Maize Value Chain in Ghana

DATES OF THE MISSION: 6-13 September 2017 (7 days)

COUNTRY AND LOCATION: Ghana – Wenchi & Adidome Demonstration Farms and Training Centers

MAIN COMPONENTS OF THE MISSION:

IMPLEMENTING INSTITUTIONS:

- ❖ MASHAV - Israel's Agency for International Development Cooperation (MASHAV) through MASHAV Agricultural Training Center (MATC)
- ❖ GIZ - the Deutsche Gesellschaft für Internationale Zusammenarbeit on behalf of the German Federal Ministry of Economic Cooperation and Development (BMZ)
- ❖ The Ministry of Food and Agriculture (MOFA) in Ghana.

MASHAV TEAM MEMBERS: names of mission participants

EXECUTIVE SUMMARY



Sample photo, not MASHAV's

PROJECT BACKGROUND

Cooperation between Israel and Germany in Ghana was established in the framework of the *German-Israeli Africa Initiative* announced by Israel and Germany on the occasion of the fifth German-Israeli Intergovernmental Consultations held in February 2014 and captured in the signing of a Joint Declaration of Intent (JDI) on trilateral development cooperation in Africa. A *Guiding Principles* document adapted into a second JDI was subsequently signed on the occasion of the 6th German-Israeli Intergovernmental Consultations in February 2016. Within the framework of this initiative, it was agreed that development cooperation in Africa would be implemented by MASHAV and BMZ between 2015 and 2019 in 6 African countries, including Ghana.

As a means to advance development cooperation in Ghana, it was agreed that cooperation would be carried out within the framework of GIZ's existing Green Innovation Centre project (GIC) and jointly implemented by GIZ, MASHAV and the Ministry of Food and Agriculture (MOFA) of Ghana. In line with SDG 2 to promote sustainable agriculture and in accordance with the priority development areas of the Ghanaian government, GIC focuses on fostering innovation along the value chains of maize and rice through training, capacity building, community mobilization and financing measures. The trilateral cooperation focuses specifically on providing training and capacity building in the areas of modern agricultural

techniques and technologies, irrigation, post-harvest handling & food safety, fertigation, agricultural entrepreneurship and crop export along the value chain of maize.

MISSION OBJECTIVE

To acquaint MASHAV with GIZ's current activities in the field of agriculture in Ghana, conduct an initial needs-assessment and survey on the current state of Ghana's water management and irrigation system, and prepare a basis for a joint action plan for cooperation.

TARGET AREA & POPULATION

Small to medium-holder farmers in close proximity to the Adidome (along the Volta River) and Wenche (Brong Ahafo region) Demonstration Farms.



Sample photo, not MASHAV's

MISSION DESCRIPTION & ACTIVITIES

MEETING BETWEEN MASHAV & GIZ

During the meeting, GIZ representatives described the following objectives of GIZ's Green Innovation Centre Project in Ghana:

- To work among smallholder farmers who comprise the majority of agricultural producers
- To increase rice and maize yields
- To change the farmer's approach towards farming – from a subsistence model to a more commercial, business model.
- To increase employment opportunities and improve standard of living.
- To enhance maize drying technologies – *farmers currently lose about 30% of their yields due to rain during the harvest season.*

In order to achieve these goals, the GIZ team built a professional program adapted to each of the four innovation centers and tailored to the specific crops grown in each region. More than 300 trainees have already taken part in the training program which was adapted to each of the students' knowledge and interests.

The Israeli delegation expressed MASHAV's ability and intention to collaborate in the framework of GIZ's existing project and thus proposed the following potential means of engagement: on-the-spot training courses, an 11-month practical and theoretical agricultural training program in Israel (agriculture apprenticeship program), and short-term dispatching of MASHAV agricultural experts to Ghana for consultancy missions.

FIELD VISITS

MASHAV experts conducted field visits to two demonstration farms. The first visit was to GIZ's demonstration farm/training center in Adidome along the Volta River where MASHAV was accompanied by the center's manager and several instructors. Subsequently, MASHAV experts conducted a visit to the Wenchi demonstration farm located in the Brong Ahafo region, which is the primary maize production region. A GIZ officer accompanied MASHAV throughout the visit to Wenchi farm, and helped them to better understand the local agriculture and unique conditions. MASHAV also met with the Wenchi farm manager (who arrived a month ago), the technical specialist and the individual responsible for water management on the farm.



Sample photo

OBSERVATIONS & KEY FINDINGS

ADIDOME DEMONSTRATION FARM

The Volta River flows throughout the year. The relevant authorities constructed a dam that harvests the water, so that farmers would have a consistent water source. However, very little of the infrastructure required to deliver the water to the consumers is functional, while the energy needed to pump the water is very expensive for local consumers. The result is that water usage for agricultural irrigation is almost nonexistent, and therefore nearly all crops rely on rainfall during the rainy season, rather than utilizing irrigation throughout the year.

The farm area is approximately 83 acres, on which several crops are grown: carrots, red beet, mint and others. These crops currently rely solely on rainfall without any sort of irrigation system. They also raise livestock, such as pigs, chickens and goats. MASHAV representatives

visited two greenhouses which grow tomatoes and zucchini by using the Family Drip Irrigation System with impressive results.

Among the other activities conducted on the farm and supported by GIZ and other NGOs is a training course for future farmers. The participants are high school graduates who study daily for 8 hours (half of the time in the field). The duration of the course may vary and can last up to a year. They study the use of tractors, sprayers and other types of advanced equipment. Each participant is assigned a plot of land where they learn how to prepare the soil, plant and manage the crop. The local staff includes the farm manager and nine instructors who are employed by the Ministry of Agriculture. This program is expected to produce a new generation of farmers that are familiar with advanced technologies and equipped with modern agricultural skills and techniques.

WENCHI DEMONSTRATION FARM

The primary goal of the farm is to replace the import of very expensive maize grains through increasing local production. The farm also contains an agricultural school with 100 students, 7 teachers and a permanent staff of 28 workers. It has tractors and agricultural equipment that were donated by Japan. The farm offers optimal conditions for maize production in three cycles a year; with the adaptation of new maize varieties, the farm could reach a harvest with up to 10 x higher yields than the current yield.

The following optimal conditions in the farm for production:

- ✓ 1 Hectare of Drip irrigation system.
- ✓ 1 Hectare of Sprinkler irrigation system.
- ✓ A water bore-hole with a discharge of 5M³/hour of excellent pure water.
- ✓ 2 water containers of 10,000 liters each one.

- ✓ An advanced head control for the system.
- ✓ 2 electric pumps to pump the water.
- ✓ A small climate station that provides all the relevant information to the farmer.
- ✓ Plastic mulch – the mulch was put in place, but later destroyed by local animals that ate the entire cabbage crop.

Although the farm offers optimal conditions for maize production, there are areas (particularly the management and ongoing maintenance of the farm) which could be improved for enhancing production. Overall, the impression was that the Adidome farm has excellent staff who are very capable and motivated, yet there is a lack of infrastructure on

the farm, whereas the Wenche farm offers optimal conditions for maize production, yet it is necessary to improve farm maintenance and management.



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RECOMMENDATIONS

RECOMMENDATIONS FOR COOPERATION AT THE ADIDOME DEMONSTRATION FARM:

- ✓ Two one-week on-the-spot courses per year (the second week will take place in Wenchi). These courses would be comprised of half-a-day of theoretical studies, and the rest of the time would be devoted to practical application in the demonstration plots such as: drip irrigation systems, filtration, fertigation, soil preparation etc.
- ✓ Supply and install Family Drip Irrigation systems in selected commercial fields. The farm staff will demonstrate how to use the systems to the rest of the farmers in the region.

- ✓ Introduce tomato varieties and other vegetables and adapt them to local conditions, thus increasing the farmers' yields and income.
- ✓ Cooperation with a civil engineer from Israel in order to prepare a water application program for the farm based on solar energy that will enable the farmers to grow crops all year round.
- ✓ Cooperation with the GIZ team in order to prepare written educational manuals for growing several crops that will guide the farmers and help them to achieve higher production yields.

RECOMMENDATIONS FOR COOPERATION AT THE WENCHE

DEMONSTRATION FARM:

- ✓ Provide fencing needed to protect the irrigated area against all types of animals.
- ✓ Replace electrical pumps in bore-holes with solar pumps. This will enable irrigation throughout the dry season without budget limitations due to the high cost of energy.
- ✓ Conduct a special on-the-spot training course dealing with the management of agricultural farms.

- ✓ Introduce and adapt Israeli maize varieties to increase production
- ✓ Design and disseminate a study manual on "Technologies for Maize Production."

FURTHER RECOMMENDATIONS

- ✓ Sending some of the GIZ staff to Israel for a professional study tour
- ✓ GIZ is looking for an Israeli specialist who can manage the two farms.
- ✓ Conduct two on-the-spot training courses on the subjects of post-harvest handling and marketing.
- ✓ The Adidome farm team would like to have Israel's assistance in developing a work plan for the farm.

CONTACT INFO OF LOCAL PARTNERS



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