

## 1. EXECUTIVE SUMMARY

Ethiopia has a very high potential for potato production as much arable land is located in the mid and high altitudes, which are suitable for potato production. Close to half of the country's current potato production comes from Amhara region.

Potato is an important food security and a hunger reliever crop in Amhara region and in several other parts of the country. This is because of its ability to mature in advance of most other crops, in particular grain, at the time of critical food need, mainly from September till November. During these months, late blight prevents the production of potato. However, with the availability of late blight resistant varieties in the highlands, potato can now be grown during the long rainy season. This not only has the potential to eliminate the September–November period of food shortage, but also has provided potato producers with an income from the sale of ware potatoes during this period. Furthermore, potato has a wide flexibility in terms of the time of planting and harvesting, and can be harvested and consumed before the crop is fully mature. In addition, potato can be planted in various multiple cropping systems because their short and highly flexible vegetative cycle fits well into that. The grow cycle of potato is relatively short, around 100 days, depending on the variety and the local climate conditions.

In addition, potato produces more food per unit area than any of the other major food crops. This is illustrated by the fact that potato accounts for approximately 3.5% of the area devoted to the world's four main food crops, but contributes some 14% of the share of food production. The production of dry matter and protein from potato is significantly higher than other food crops such as wheat, rice and maize. From a food security point of view, it is important to note that potatoes produce more nutritious food more quickly, on less land and in harsher climates than most other major crops. Up to 85% of the plant is edible human food, compared with around 50% for cereals.

Market opportunities are emerging for potato as a popular source of affordable food for growing urban populations. Potato is not prone to speculative commodities trading on global markets; instead, prices are more likely set by local supply-and-demand conditions. Yet, potato has long been regarded as a subsistence crop and is still one of the underexploited food crops with a huge unrealized potential to improve food security, income and human nutrition. Also, in Ethiopia, there is a growing interest in the potato crop by private investors and policy makers. Cultivation of potato is rapidly expanding in irrigable areas. For instance, in Koga irrigation project, out of the total 5,705 ha of land covered by different crops, 1,331.8 (23%) was used to produce potatoes in 2017/18 and a total production of around 26,318.3 tons was achieved.

Seed potato supply has, as yet, not been taken up by the seed companies and has thus been overlooked in the formal seed system. Consequently, the informal seed system still prevails in much of the country. Due to the gap in seed quality control, the incidence of diseases as bacterial wilt and late blight have become serious and need due attention. As quality control and certification is weak, farmers are not very interested in paying higher prices for seed potatoes because they cannot be sure that they are getting the genuine product. According to the CSA's 2017/18 report, the national average yield of 13.9t/ha is still far below attainable yields which are as high as 45 tons/ha for the improved potato varieties. At the same year, the regional (ANRS) average yield was 15 ton/ha for rain-fed and up to 19.8 tons/ha for land under irrigation. The major reason for the low yield is farmers, for various reasons, do not applying recommended improved agricultural practices. Furthermore, because of lack of adequate storage facilities,

packing and processing facilities, post-harvest losses are significant.

As for most of the agricultural value chains, women do participate in the cultivation of potato but are much less involved in decision-making and sale (except for some retailing). Potentially potato can generate more employment in the farm economy than many other crops and serve as a source of cash income for low-income farm households. Potato can also offer opportunities for processing at an industries scale, for instance for starch.

The opportunities related to the cultivation and marketing of potato in the Programme Area include:

- Expansion of irrigation infrastructure in the Koga area enables farmers to produce potato twice year;
- The understanding of value chain concept by farmers through AgroBIG interventions;
- Experience of seed potato production in the highland areas of ANRS;
- Existence of potato Tissue Culture (TC) laboratory located at ARARI, ORDA, and Dessie
- The presence of mini-tuber production facilities in the country
- The plan that BDU Integrated Seed System Development (ISSD) has to promote seed potato production in Mecha woreda;
- Existence of Farmer Training Centres (FTC);
- Existence of cooling facilities at the airport of Bahir Dar and possibility of transport by cargo planes from Bahir Dar airport to other destinations;
- The population growth of Gondar and Bahir Dar cities provides a steady and year-long demand;
- Ongoing infrastructure development, rural electrification and Universal Access to Rural Road Programme (UARRP) are an opportunity to strengthen trading, market information system and processing;
- The ongoing experiments with seed potato production in the highlands of Mecha woreda;

According to marketing survey conducted in Program areas the following constraints were noted:

- Lack of awareness for producers to pay high price for quality improved seed
- High cost of agricultural inputs
- Prevalence of seed and soil borne diseases, especially Bacterial Wilt (BW) in irrigated areas like Koga;
- Shortage of improved agricultural tools and equipment for pre and post-harvest operations
- Absence of proper storage facilities like DLS
- Transport capacity is said to be enough, however availability of cold-chain trucks is very limited
- Shortage of processing plants despite the growing urbanization and changing food habits
- Lack of cropping schedule or staggered production system
- Poor quality of ware potato
- Shortage of improved and certified seed potato supply mainly due to the absence of seed potato multiplication service providers;
- Inadequate financial management and planning skills;
- Poor market linkage facilitation for producers and collectors
- The involvement of large numbers of illegal brokers and traders both in ware potatoes and seed potatoes as well as lack of commitment to control or regulate illegal traders and brokers,
- Failure to organize primary cooperatives as strong marketing union in Bahirdar Zurian and North Mecha woreda.

- Lack of receipt system in selling and buying of potato,
- Poor sanitation of Bahir Dar vegetable market place (muddy and bad smell especially during rainy season).

Based on the results of the market survey, the following recommendations have been suggested:

- Cropping schedule that minimize over production and over supply of similar crop at the same season should be designed and implemented in the programme areas
- Cluster production system of major vegetable crops shall be implemented in order to reduce damage of crops by pests
- To enable farmers, through training, supply quality potatoes and become competent in market, there is a need to train producers on pre and post-harvest handling practices
- Production enhancement through proper use of agricultural inputs including agricultural machineries should be promoted in order to make farmers competitive and to reduce the buying price to wholesalers or collectors.
- Providing Strong market linkage service majorly by woreda trade, Industry and marketing office in collaboration with woreda cooperative promotion office,
- Introduction of water saving technologies instead of using furrow irrigation
- Open market establishment for a few days in a month to connect the farmers directly to consumers.
- Organizing cooperatives into a Union so as to induce collective marketing.
- Supporting entrepreneurs engaging in processing sector

AgroBIG's strategic intervention can be in creating a Multi Stakeholders Platform (MSP) to bring different actors of the value chain and governmental and non-governmental stakeholders to come together in every quarter and discuss on achievements of the plan, share best experiences, discuss on constraints encountered, devise solutions to the problems and finally develop action plans for the next three or six months and share responsibilities. Then AgroBIG team should make close supervision and follow-up from time to time. Each implementing partner.