A VALUE CHAIN ANALYSIS AND MARKET SURVEY REPORT WITH INFORMATION ON THE BARRIERS & OPPORTUNITIES

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The value chain assessment identified main actors, major bottlenecks, gaps and opportunities at farmers, wholesalers, small-scale and large-scale trading levels in value chain of four crops namely teff, faba beans, white-fleshed sweet potato and maize.

Summary of Teff value chain analysis in Ethiopia

According to this value chain assessment, the key market actors involved in teff value chain are farmers, posho mill, schools, millers, cooperatives, large traders/wholesalers, assemblers (small traders) and households.

The assessment indicated lack of improved variety of seed for teff value chain. The assessment further indicated that teff is mostly used for domestic purpose in forms of local food products such as *injera* (flat bread which is traditional food in Ethiopia), bread and porridge indicating limited value creation (food processing) in teff value chain.

Several problems were reported to be bottlenecks for the development of teff value chain in Ethiopia. The study tried to observe these problems at different levels of the value chain, namely, farmers level, wholesalers' level, small-scale trading level and large-scale trading/ processing level. The major bottlenecks affecting farmers in the production of teff are shortage of land, inadequate supply of improved seed, crop destruction by weather conditions, high cost of inorganic fertilizer, traditional storage practices, attacks by crop diseases, weed infestation, natural hazards, high rainfall, and soil acidity. Some of the constraints wholesalers face in expanding and maintaining their businesses include insufficient product market, lack of quality, lack of fund, lack of storage, and problem repaying loan. It was also found that small-scale teff millers/ traders of teff are challenged by insufficient input, inadequacy of labor as a resource, power fluctuation, poor quality and durability of mill spare parts, poor / delayed power repair service by technicians of Electric Power Corporation (EEPCo) and lack of trust among customers on the quality of mill processed flour. Similarly, large-scale milling firms face major bottlenecks which includes interference of illegal brokers, lack of warehouses, insufficient government control, inadequate information about the market and price fluctuation, electric power disruption, lack of quality teff with reasonable price in the market, unnecessary and unfair competition among the merchants, insufficient supply of running water, inflated prices of raw materials, inadequate training, lack of skilled manpower, and lack of skill on mill installation and maintenance. All these together hinder the various stakeholders involved in the teff value chain from adding as much values as they could and getting benefits from it. Though these problems first

affect the farmers, trading firms and all these get involved in different levels of the value chain, they have implications to the national, regional and global economy.

The survey also found out that there are major gaps in the teff value chain. The main gaps observed in teff value chain include non-use of improved varieties by farmers, seed quality problem, improper application of recommended agricultural packages, lack of credit services and supply of inputs, availability of illegal brokers on teff marketing, high cost of inputs, and inability to properly select site for production by farmers. The study indicated that despite these challenges, the teff value chain has great economic potential with lots of opportunities. The opportunities in teff value chain include increasing price of teff, high demand, suitable land to cultivate teff, potential use of organic fertilizers such as compost and low seed per hectare. Availability of cooperatives or consumers' trade unions and high demand with fair price of teff straw for livestock feeding are additional opportunities that give rise to the potential economic value of teff value chain. These are indicators of the great potential in the value chain which is yet to be utilized by different stakeholders or actors in the value chain of teff in the future.

Summary of Faba Bean value chain analysis in Ethiopia

In the faba bean value chain, the main market actors are households, farmer traders, assemblers, wholesalers, open markets, industrial processors and millers.

The study indicated that there is lack of improved or varied seeds in the faba beans value chain. Similar with the teff value chain, the level of value creation (destinations of the product) is limited to local food products showing lack of industries that can further process faba beans to variety of food items.
The main challenges affecting Faba Bean Farming in Ethiopia include crop attack by wild animal; cut worm, disease and insect pest; frost and snow; high cost of fertilizer; inappropriate site/land selection; lack of awareness on improved production technologies and supply of herbicides to control weeds; low rainfall at early stage of the crop and sometimes high rainfall; poor soil fertility (soil acidity); rugged land surface and clay nature of the soil; and shortage of seeds of improved varieties.

The major gaps in the current faba bean value chain include use of impure seeds; lack of timely assessment and control of disease and insect pests; lack of improved post-harvest handling technologies; harvesting the crop at inappropriate time; inappropriate management of fertilizers & other agronomic practices; shortage of seeds of improved varieties; high cost of inputs; high rainfall at flowering and late stage of the crop; unclean threshing ground and poor weeding practice; low follow up by extension workers; lack of processors; low bargaining capacity of farmers; poor marketing system; and production of Faba bean by

mixing with other crops. The main challenges faced by small-scale and large-scale traders and processors in faba bean value chain include inconsistent supply of Faba bean due to reliance on rain-fed production; high transport cost; inadequate storage facility; poor road network; lack of access to good transportation; lack of integrated management of economic pests; and low commodity demand. These challenges and gaps in really hinder the faba beans value chain from contributing to the economic growth and overall development of involved actors as well as the country. In the absence of the abovementioned bottlenecks and gaps, faba beans could be used as an input for multiple industrial processed food items in both local and global markets.

The major opportunities in the faba bean value chain identified by the study are availability of human labor, materials for compost preparation, farm trials, and easiness to plant in rows. Other opportunities also include that faba bean is a preferred food and compatible to grow mixed with other crops; favorable weather for faba bean; high market demand for faba bean; relatively matures early; suitable agroecology for faba bean production; the by product (straw) is an important source for animal feed; and the increasing trend of price of faba bean.

Summary of White-fleshed Sweet Potato value chain analysis in Ethiopia

The key actors in the market of WFSP value chain are producers, wholesalers, aggregators, local processors, retailers and direct household consumers.

Similar with the value chains of teff and faba beans, shortage of improved varied seeds and limited destinations (processed food items) remain features of WFSP value chain in Ethiopia.

White-fleshed sweet potato farmer/producers face a number of challenges including limited access to improved seed; lack of improved varieties; inadequate storage facilities; unavailability of quality planting material; limited access to credit facilities; difficult to process into preservable forms; lack of collective marketing for WFSP among famers; limited access to extension services; limited access to market information; low profit; poor price at harvest; seasonality and perishability the product; poor market for product; and high level of losses.

The study also identified the major gaps in the current White-fleshed sweet potato value chain in Ethiopia which include: failure to use inorganic fertilizers; failure to market the crop among consumers; government and farmers pay less attention to the crop; highly perishable; limited knowledge and skills on the production of White-fleshed sweet potato; lack of provision of improved and quality seedlings by the government; lack

of post-harvest handling technologies; lack of strong policy on sweet potato production; and low selling price as compared to other crops and generates low income at the market.

The major opportunities in the White-fleshed sweet potato value chain in Ethiopia are its role to ensure food security; its ability to give a higher production yield from a small area; it has a relatively longer shelf life than other crops; it has health benefits; it can be produced the whole year both in the rain-fed and with irrigation; it requires a low amount of labor and other inputs; its seedlings and cuts are cheap and are propagated vegetatively; it is demanded by all members of the community primarily children and elders; and the byproduct and residue are used for livestock feeding.

The study further indicated that the challenges, gaps and opportunities observed at farmers level also apply for small-scale and large-scale traders or processors involved in White-fleshed sweet potato value chain in Ethiopia.

Summary of the Maize value chain analysis in Ethiopia

The study identified four key actors in the market of maize value chain which are schools, millers, large traders, and cooperatives.

In regard to availability of improved varied seeds for maize, the study shows that there is resistance from farmers in adopting or using the improved and varied maize seeds. Maize is primarily used for production of local food and drinks with relatively better market of its flour.

The main bottlenecks affecting maize farming in Ethiopia were reported to be army worm; climate change; degradation of soil fertility; erratic rainfall; increasing cost of fertilizer and improved seeds; increasing cost of land rent; low compost application; low level of farmers' land preparation; low supply of fertilizer and improved seeds; low use of crop rotation; non-use of mechanization for plowing; and shortage of land. Wholesalers reported that maize value chain also suffers from price fluctuations, low pre-harvest supply, theft, and Aflatoxin infestation. Large-scale and small-scale millers also face all the above mentioned problems plus high cost of power service, lack of credit, and power interruption.

The major gaps identified in maize value chain in this study include lack of proper plot/farm selection by farmers for maize, high input price, abolished use of compost fertilizer, complete removal of crop residue during/after harvest, price variability over time, reduced use of short maturing maize varieties during drought season, lack of maize Sheller machine, low price of maize during peak harvest season, lack of timely

input delivery, increasing cost of farm inputs (improved seeds and fertilizer), high labor and land rent costs, unfair cost of PICS Bag, lack of skill of farmers on maize production, decreasing maize productivity, climate and seasonal weather changes, and insufficient market linkages.

Study participants were also able to share the main opportunities in the maize value chain in Ethiopia. These include availability of Development Agents (agricultural experts) in the locality; existence of good price for maize product; availability of labor; establishment of Burrie Agro-industry which is near to the study area. Furthermore, the participants noted that maize is more productive (high yielder) than other crops in the locality and is short maturing than other crops. The crop is also useful for agro-industry raw material; and it has multiple uses (e.g. for food and beverages and animal feed).

The challenges, gaps and opportunities observed at farmers level transcend to all subsequent small-scale as well as large-scale trading firms involved in the value chain of Maize in Ethiopia.