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Summary of Supply Chain Development in Tanzania

Tanzania has enjoyed accelerated growth levels over the past five years with gross domestic product (GDP) per capita reaching over 6 percent in recent months. This performance echoes the development of its East Asian comparators more than its Sub-Saharan neighbors. Driving this is a combination of prudent structural reform and donor support.

However, the benefits of this growth have not translated into reduction of poverty, which remains at around 35 percent. The disparity in the share of this positive growth between urban and rural areas is reflected in a deteriorating GINI index, which reached 0.35 in 2003. No economic growth appears to have diffused to the agricultural sector, which contributes over 45 percent of GDP and employs the majority of the labor force. Tanzania ranks near the bottom of its region in terms of food production per capita. Although agricultural export value has increased in recent years due to accelerated private sector participation in agricultural trade, the private sector has failed to create extensive collateral benefits for small-scale farmers.

In support of the Government of Tanzania's Poverty Reduction Strategy Paper (PRSP) goal of private sector-led poverty reduction, this comparative study aims to compare supply chain development in three dynamic subsectors of Tanzania's economy—fish, sugar, and maize. It identifies ways in which new public-private institutions can take up the work of integrating farm-to-market chains and hence improve farm livelihoods. It identifies measures to improve farm productivity and strengthen forward and backward linkages between and among farmers, small and medium enterprises (SMEs), and export-oriented larger firms.

The primary finding is that supply chain organization has consequences on both the demand and supply ends of the chain for impoverished Tanzanians. Another finding is that industrial organizations for each sector differ substantially, and no single factor determines the competitiveness of the chain. Specific findings indicate that the maize chain is the least efficient in terms of both its institutions and poverty impact. Indeed, it is a legacy chain that effectively constitutes a "poverty" trap. Conversely, supply chain systems—such as the fish supply chain which is organized in such a way that allows risks to be distributed among participants based on the relative abilities of participants to manage or sell specific categories of risk outside the chain—generally allow poor farmers to accumulate assets.

Fish Supply Chain

Characteristics

Analysis of the fish supply chain reveals two separate chains serving two distinct sectors of the industry: international and domestic. There is little crossover between the two in terms of service providers and asset usage, such as warehouse sharing or a common information system.

The international chain is characterized by good integration, low transaction costs, high levels of investment, and well-employed technologies. Vertical linkages are strong. Input is supplied by specialized agents to the export processors, both in terms of hard inputs (such as equipment and finance) and soft inputs (such as finance and training).

This chain enjoys good information flow and horizontal linkages. For example, published guidelines direct prices that are set by industrial processor collectives.

The domestic chain is governed by an "arm's length" system characterized by poor organization and little information sharing, which results in high risks for fishermen and boat operators and high transaction costs. No active management integration occurs within the chain because no single agent of the collective has absolute control.

Policy Implications

The primary policy goal in improving the fish supply chain is to facilitate knowledge and capabilities transfer from the international to the domestic chain. This requires

stronger linkages and a minimum institutional base fed by strategic investment in transport, storage, and cold chain handling. Investments are needed in the following specific areas to:

- ✦ **Redevelop and enhance private sector participation in the domestic fish market governance structure.** Stronger private sector investment is needed in both backward linkage input supply and forward linkage market networks involving information system linked to parent/satellite markets, frequent logistics management services, and comprehensive cold chain coverage.
- ✦ **Develop long-term commercial “quality food providers” or “core fish vendors” and link actors to growing niche markets of supermarkets and fast food outlets, initially on a project basis.**
- ✦ **Create bankable collateral within the new institutions to cross guarantee bank repayment.**
- ✦ **Develop markets for specialized services,** such as equipment leasing, logistics management, transport, markets information, storage, and banking, through commercially viable service providers, joint ventures, or pilot feasibility demonstration projects.

Sugar Supply Chain

Characteristics

In the sugar supply chain, a strong regulatory framework exists in the form of the Sugar Act 2001, which assures that farmers fully and equitably participate in the division of value. The primary issues for actors in this chain are trade policy and collective bargaining agreements with affiliated outgrowers as a basis for formalizing internal operations and incentives, as they attempt to expand on the regional markets. Sustained competitiveness will increasingly depend on location advantage and transport efficiency. All major producers are located close to productive cane-growing areas.

The labor intensity of sugar production makes refining an effective tool for economic well-being. Most sugar refiners have adopted business models involving outgrowers, regulated under the Sugar Act and codified in collective bargaining agreements subject to the Sugar Board. This open and private sector–led framework facilitates rapid supply chain restructuring for future change.

Policy Implications

Policy goals for improving the sugar supply chain include the following recommendations:

- ✦ **Invest in the strategic infrastructural base to enable competitiveness and increase productivity in Tanzania’s sugar industry and to better respond to strong regional competition,** particularly from Malawi, South Africa, and Swaziland. For example, transport advantages will be critical in gaining regional market share. Rural road and drainage systems are currently inadequate and too few in number given the growing refinery production. And to date, private companies have been unwilling to assume any additional responsibility for infrastructure.
- ✦ **Encourage agricultural research units as public–private partnerships to develop “best practices.”** High-yield varieties, such as those bred in Hawaii, can be tested for adaptability to Tanzania’s climate and soil as a way of improving yield.
- ✦ **Reverse taxation distortion.**

Maize Supply Chain

Characteristics

It is helpful to examine the maize supply chain from two perspectives: the supply side and the demand side. On the supply side, no effective integration exists between consumers and poor farmers. Smallholder farmers are the majority actors in this chain, but they often lack timely price and market information. Insufficient information and horizontal linkages make for less return on produce because sales often occur at the gate or nearest village market, based on delivered price. In addition, maize inventory neither is bankable collateral nor can be seen as a base for value retention. Therefore, commercial bank financing is unavailable to farmers, input providers, and small-scale traders, which results in an inadequate supply much needed inputs, such as on-farm storage for farmers. Thus, end-to-end transaction costs remain high, and risks remain with the farmers. Moreover, by virtue of their lack of liquidity, farmers are then forced to sell when prices are low only to have to buy back at inflated prices.

The demand side is limited to a few large-scale traders who enjoy superior access to market and price information. They own or control a significant portion of the country’s cereal storage capacity. Because only six of twenty regions regularly produce surplus, much cross-trading, storage, and transport are required. The Strategic Grain Reserve Agency (GRA) controls the only other significant storage capacity. The GRA, however, does not offer competitive advantage storage to small-scale farmers.

In response to frequent shortages, the government injects increased uncertainty about volumes, pricing, and

timing into the chain. Unanticipated interventions or announced but unimplemented interventions limit the ability of local actors to efficiently discount them into prices. Large-scale traders with superior access to information can and do create rent and invisible entry barriers to others.

Policy Implications

The policy recommendations in the maize supply chain are many and varied. They include the need to

- **Enhance competition.** Competition can be addressed in two ways. First, the Tanzanian emergency food relief market should be opened to trading companies licensed in other parts of the East African Community (EAC). Herfindahl-type techniques should be adopted to gauge the market power of the companies. Second, third-party service providers—such as specialized maize rail-based logistics management companies, storage and asset management companies, and specialized market information service providers—should be strengthened.
- **Review government policy in maize industry.** Including the private sector in decision making, boards, and vetting regulations for public commentary before enforcement should better integrate government policy with the maize market.
- **Review food security process.** A regional rather than national approach can link up maize surplus with shortage regions, especially given the surplus distribution bias toward border areas, which are significantly distant from primary markets yet close to deficient areas such as Malawi, the Nairobi metropolitan market, and so on.
- **Integrate the Common Market for Eastern and Southern Africa (COMESA) review recommendations.** COMESA recommends that regionally acceptable, objectively measurable parameters be used to invoke maize export and import restrictions and that these be developed within an overall framework of the safeguard clause of both EAC and COMESA. It also recommends that a regional food safety information

clearinghouse become the source for statistics useful to calculate the ban-triggering mechanisms. Several non-governmental organizations, multilateral agencies, and the GRA execute similar functions, but their efforts are ill-coordinated and in need of harmonization.

- **Create middle-level organizations to develop standards and enforce protocol.** Such organizations should differentiate multiple levels of quality and thus create incentives for investment in quality production, protection, and securitization.
- **Consider a strategic alliance between the Government of Tanzania and the Johannesburg Commodity Exchange.** It may be possible to create one or more new trading bases for pricing and ownership transfer.
- **Create external service providers of banking, transport, storage, and market information either by current actors or by third parties.**

Conclusion

Among the three key supply chains, the fish chain is the best integrated and most globally competitive. Its investment in core competencies has proved both flexible and adaptable. For example, it has adapted to both internally imposed environmental standards and externally imposed food safety standards, such as EUROGAP. The maize chain is likely the most problematic and least developed of the three and is much less well developed in Tanzania than in either Kenya or Uganda. Indeed, the process of social capital development and market institutional strengthening has barely begun in this sector in Tanzania. The sugar chain is an example of a resurgent industry. The level of integration within sugar chains between out growers and sugar refiners is increasing measurably each year under the strong framework of the Sugar Act 200. However, sustaining competitiveness in the face of future strong competition will be hard. In summary, it is essential to address the individual constraints of each chain in order to increase agricultural productivity and enhance poverty alleviation in Tanzania.