Prioritizing value chains for agrifood system transformation in India by using Social Accounting Matrix Multipliers

Topic:
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Agrifood system (AFS) remains central to the sustainable development goals (SDGs) to eliminate poverty, erase hunger, organize climate actions, and develop an ecosystem for life above the land and below the water. With a population of 1.43 billion and approximately 70 percent of its people living in rural areas, India heavily relies on AFS to support the livelihoods of its low-income households and achieve some of its SDGs. Despite its importance, there is limited literature that focuses on estimating the size of agrifood system, its contribution to national income, unpacking AFS value added between on-farm and off-farm activities across different agrifood value chains (AVCs), and prioritizing AVCs by estimating their backward and forward linkages.

In this proposed study, we aim to estimate above research gaps by using our latest Social Accounting Matrix (SAM) for India for the year 2019/20. To develop India SAM, national accounts statistics for 2022 and the supply-use table for 2019/20 has been used, which is published by the Ministry of Statistics and Programme Implementation (MoSPI), Government of India. Besides national data, we have utilized databases like World Development Indicators from World Bank, and Government Finance Statistics and Balance of Payments Statistics from the International Monetary Fund (IMF) to compile the social accounting matrix for India.

Our India SAM accounts 112 sectors of Indian economy of which 39 sectors are accounted for agriculture and allied activities, 18 sectors are related to agriculture-based processing activities, 4 mining sectors, 24 manufacturing sectors other than agro-processing, 3 sectors related to utilities, 1 construction sector and 23 service sectors including transport and trade. The primary factor input has been classified into 8 types of labor, 4 types of capital and one category of land. The categorization of labor is based on the level of education of the workers and geographical location, that is, rural and urban. The 4 types of capital are crops, live animal, mining, and other financial capital. This SAM distinguishes households into three broad categories like rural farm households, rural non-farm households, and urban households. Households are further disaggregated into per capita expenditure quintiles.

The agrifood value chain comprises primary agriculture, food processing, agrifood trade, food services, and input supplies. A comprehensive analysis of AVCs requires an economywide database like social accounting matrix (SAM) that considers monetary transactions between production, processing, distribution, consumption, and external trade activities related to AFS. Further, the economywide modeling tools are necessary to prioritize value chains by analyzing the policy related trade-offs between development outcomes like employment and income.

In our study, the agrifood system comprises 28 crops and 4 livestock value chains, and provides monetary transactions between primary production, processing, agrifood trade, food services, and input supplies activities across all the value chains. The systematic estimation of value-added components directly embedded in each transaction within the AFS helps us measure the overall value added by the AFS and the share of off-farm activities in that value addition across all value chains. Further, we use SAM multiplier model to help us prioritize AVCs in India based on their contribution to income, and employment.

Keywords: Agriculture, Agrifood, India, Social Accounting Matrix

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