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The Diversified Food System in India: Are We Budgeting Well?

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Introduction

With a big policy-level push for increased production of food grains, India has successfully ameliorated the hunger and food shortage; however, the nutrition-driven public health challenges persist (Sathyanath, Kiran and Kiran 2013; Pingali 2015). The "double burden of malnutrition" is now emerging as an imminent public health concern (Pingali, Mittra, and Rahman 2017). Although rural India struggles with "hard-to-curb" undernutrition, urban India is experiencing a greater prevalence of obesity and other noncommunicable disease burdens (Pingali, Mittra, and Rahman 2017; Vijaya Bhaskar et al. 2017). According to the National Family Health Survey (NFHS-4), 41%, 21%, and 38% children under the age of 5 are stunted, wasted, or underweight, respectively, in rural India. Also, more than half of the women of reproductive age group (54%) in India are anemic (Government of India 2016b). On the other hand, there has been a significant increase in the prevalence of obesity in last decade, from 13% in 2006 to 21% in 2016, skewed toward the urban population. Currently, almost one-third of women (31%) and more than one-fourth of men (27%) in urban India can be classified as overweight or obese (Government of India 2016b). This presents a challenge for food systems, in which micronutrient deficiency is seen despite increases in calorie availability. Government policy promoting the production of staple cereals is primarily responsible for this situation (Vijaya Bhaskar et al. 2017; Kulkarni 2018).

Agriculture remains an important focus for nutritional interventions in India. More than half of the workforce is engaged in agriculture and allied activities (Kulkarni 2018). This makes the leveraging of agriculture to address undernutrition a key area of focus. There is a clear disconnect between food policy and nutritional requirements in the country (Joshi, Kishore, and Roy 2017; Pingali 2015). Lopsided agricultural policy, biased toward the staple grains, has failed to address adequately the dietary needs of the middle class as well as the poor in the country (Joshi, Kishore, and Roy 2017; Pingali 2015).

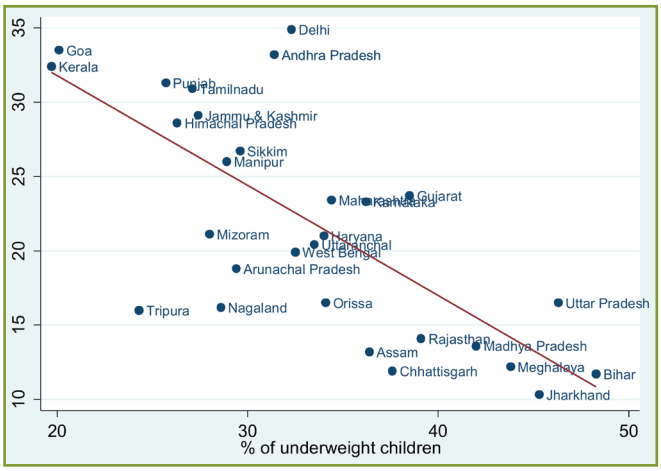

Figure 1. Double burden of malnutrition in India.
Source: NFHS 2015-16

> ***"It's no longer about enough calories, but rather about addressing malnutrition in its multiple dimensions. For the poor, it's about having access to adequate amounts of protein, micronutrients and vitamins. For the middle class, it's about dealing with the emerging health concerns associated with overweight and obesity through better quality diets"(Pingali 2015, 583).***

Agricultural policy of India, henceforth, needs to shift toward a more diversified food system that is in sync with the objective of reducing the "double burden of malnutrition" (Sathyanath, Kiran, and Kiran 2013; Joshi, Kishore, and Roy 2017).

This policy brief looks at budget expenditures in order to understand the government's policy priorities. Broadly, we aim to understand whether the union government expenditure is directed toward promoting a more diversified food system. We then propose policy recommendations within the definitional scope of the diversified food system.

The focus of our analysis is on the revenue and capital expenditure of the Union Government in the last two decades from 2000 to 2016. We analyze the actual expenditures on budgetary items identified within the purview of agriculture and allied activities. We further focus on more specific areas, like crops animal husbandry, dairy development, food and storage development, and the relevant minor items within these major budget heads. We define pulses, oilseeds, and horticulture sectors as the ones leading toward greater diversification and, hence, combine the three major sectors into one to look at their trends in the budgetary expenditure for them. Further, we look at the share of fertilizer and food subsidies in the total outlay toward the agriculture sector.

Agricultural landscape in India—the less attended avenues for diversification

A large share of farmers in India can be classified as small and marginal farmers. According to the recent agricultural census data, around 67% of Indian farmland is held by marginal farmers, with holdings less than 1 hectare. The contribution of smallholders to diversified agriculture and food security cannot be ignored. The small-scale farmers use a portfolio of economic activities, such as poultry, fisheries, and small ruminants like goats and sheep, as supplementary sources of income. These diversified livelihood sources not only sustain their income but also enable greater avenues for women to garner access to disposal income and social status. Within the agriculture sector, crop interventions have a much larger share in comparison to animal husbandry, fisheries, and dairy development (Figure 2). The share for crops varies from 14.0–58.9% of total agriculture and allied activities, whereas the shares of animal husbandry, dairy development, and fisheries are substantially lower over the years. However, dairy development has received more attention in recent years, targeting efficient milk procurement systems and providing facilities for value-added milk-based products, like ghee and butter, to the milk-producing firms. While the need of food grains for food security is adequately

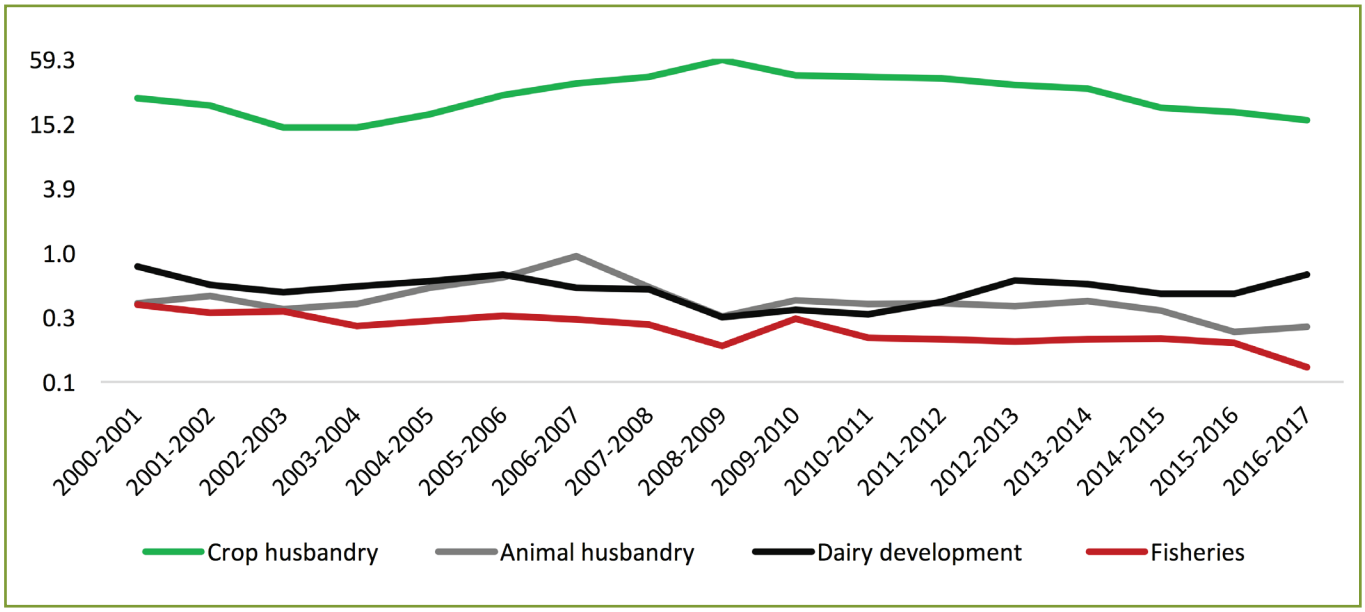

Figure 2. Share of crop husbandry, animal husbandry, dairy development, and fisheries in total agriculture expenditure.

justified, no perceptive change in the focus toward other sectors raises serious concern. Lack of adequate resource allocation toward those sectors that provide much of the protein in the system is often manifested in higher prices and lower affordability for consumers.

The resources for crop interventions—bias toward fertilizer subsidies?

Focusing on expenditure on crops, if the expenditure on subsidies (subsidies on fertilizers and manure) is excluded from the analysis, the total share falls significantly. The share of government expenditure on crops without fertilizer and manure subsidies ranges from 2.2% to 16.8%, whereas the range rises to a range of 14% to 58.9% if the amount of the fertilizer and manure subsidy is included (Figure 3). Although the trend with fertilizer subsidy has been declining from 2009–10 onward, this decline results from classification issues, i.e., the allocation for the subsidy is routed through different budget categories, but it is meant for fertilizer subsidy. Taken together, it suggests that a large share of the crop husbandry expenditure are part of subsidies to agriculture.

Although small and marginal farmers can significantly contribute toward a more diversified food system at the micro level, capital shortage appears to be an obstacle, even when there is high return on the use of fertilizer (subsidized). FAO (2005) data show the benefits of fertilizer subsidy are heavily tilted toward large farmers who are growing water-intensive, major staple crops, including rice, wheat, maize, and sugarcane. Since much of these subsidies benefit larger farmers, they are disincentivized further from producing non-staples, which negatively affects food system diversification (FAO 2005; Sharma and Thaker 2010).

Diversification within crop husbandry—a reality check?

Pathways from agriculture to nutrition point toward a more diverse food system for sustainable nutritional outcomes, as well as for improved household welfare. Food policy in India, however, leans disproportionately towards the production of staple crops—rice and wheat. According to figures from the Ministry of Agriculture and Farmer Welfare, India's total rice, wheat, and maize production for 2015–2016 was approximately 219.64 million tons. In comparison, the country produced 37.94 million tons of coarse cereals and 16.47 million tons of pulses, together totalling 54.41 million tons (Government of India 2016a). Pulses are an important source of complex carbohydrates and the main source of non-cereal

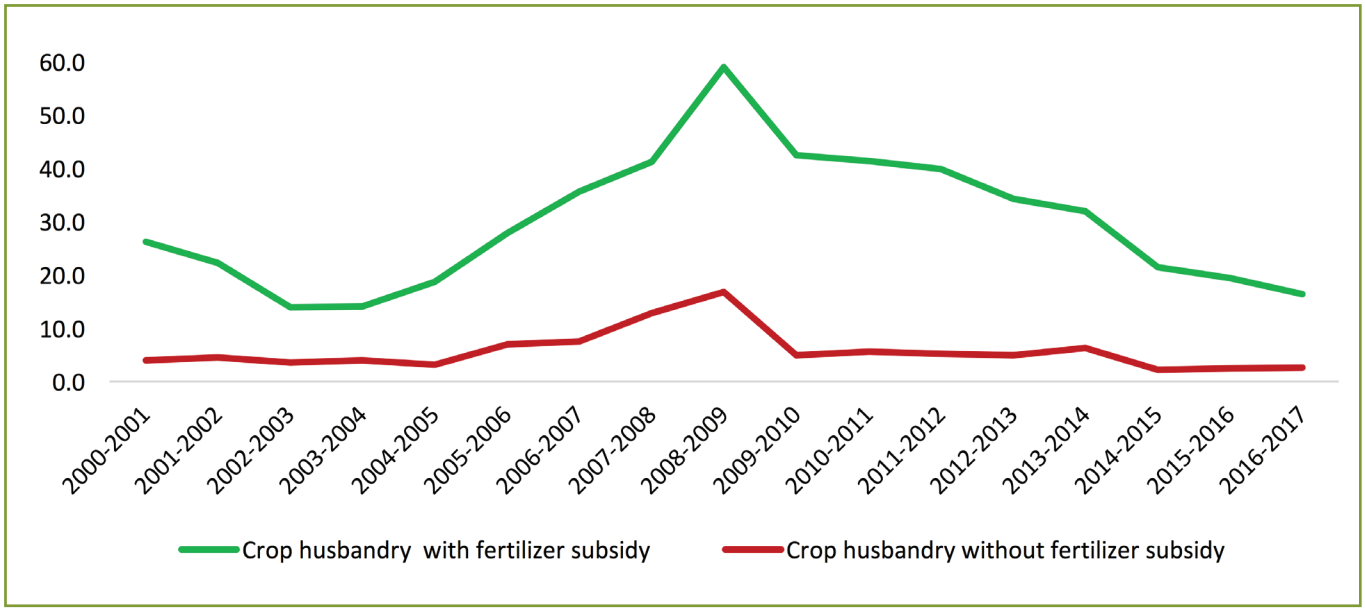

Figure 3. Share of crop husbandry with and without fertilizer subsidy in total agriculture expenditure.

protein for most Indian families (Joshi, Kishore, and Roy 2017). The differences in production are also fueled by the crop procurement/minimum support price (MSP) policy, as in practice; the government procures mostly wheat and rice, and occasionally, pulses. The procurement policy has to be properly implemented to procure a wider variety of crops (at present 22 crops are in the MSP list), which will encourage farmers to grow other, non-staple crops.

The combined expenditure on pulses, horticulture and, oilseeds, which is defined as the diversified crop in the current analysis, reflects the need for adequate resource allocation (Figure 4). Combined expenditure on pulses, oilseeds, and horticultural products has remained very low, and it has fluctuated from 4% to 12% of the total crop husbandry expenditures since 2000–1. Thus, it can be concluded that the agricultural budgeting in India seems to be heavily biased towards the promotion of staple crops, with a high share of subsidies.

Conclusion and policy recommendation

Increasing the non-subsidy expenditure in the agriculture sector - As discussed, the expenditures on food and fertilizer subsidies constitute a major part of the agricultural spending in the union budget. The expenditures on food and fertilizer subsidies in by the government stood at 29,175 Crore in 2000–2001 and 1,12,509 Crore in 2015–2016, which was 84% and 85% of the total agriculture spending, respectively (Figure 5). When the expenditures for food and fertilizer subsidies are deducted from the total agriculture spending, funding for interventions for seeds, extension services and training, food processing, storage and warehousing, agricultural research and education, and support for agricultural financial institutions, as well as diversified crops is negligible. Government expenditures on all other sectors, other than the food and fertilizer subsidies in the agriculture sector, stood at just 5,557 Crores in 2000–1 and 19,854.5 Crores in 2015–16, respectively. This clearly depicts a disproportionate allocation of resources.

In this context, there is a pressing need to increase the non-subsidy expenditures in the agriculture sector with a focus towards diversified crops such as pulses, oilseeds, and horticulture crops for improved nutritional outcomes. A more balanced focus on subsidy within the agriculture expenditure will enable the Indian agricultural interventions to target need-based sectors for better productivity.

Figure 4. Share of diversified crops in total crop husbandry expenditure.

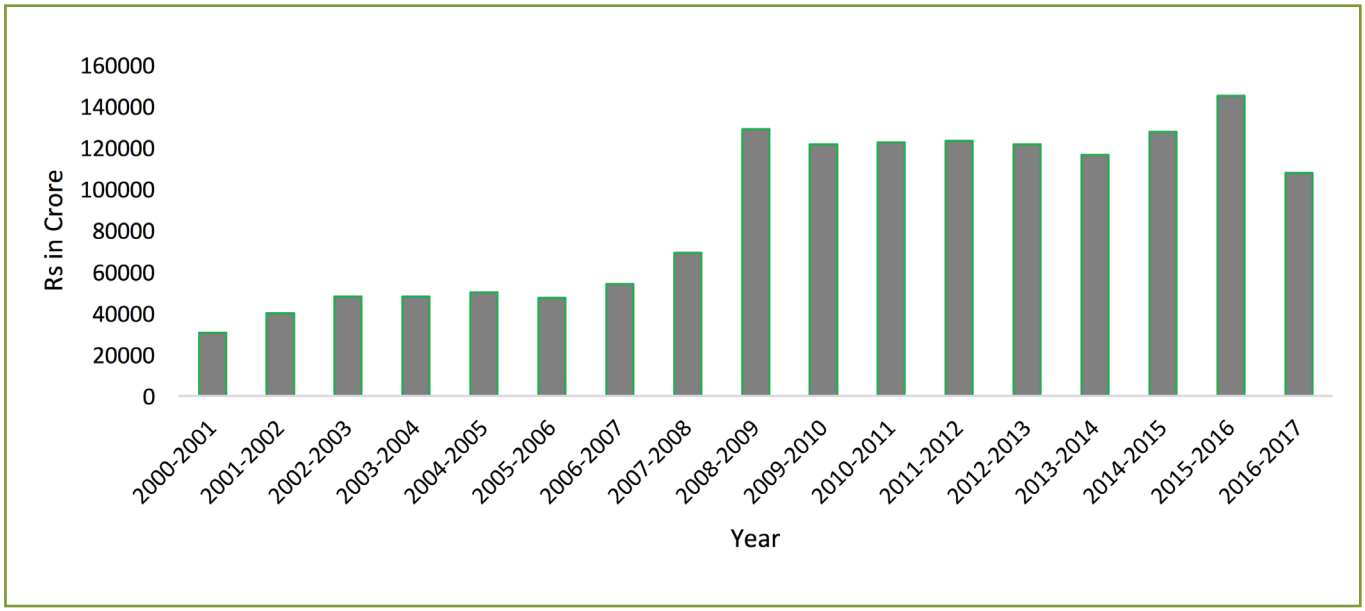

Figure 5. Government expenditure on food and fertilizer subsidy (constant prices).

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Limitations: The present analysis examined the expenses of the "Agriculture and Allied Services" sector only. The working definition of a diversified food system includes crop husbandry, animal husbandry, dairy development and fisheries. Further, this analysis evaluates pulses and oilseeds, horticulture, and vegetable and commercial as a single group within crop husbandry. There a possibility of missing other minor expenditure line items, which indirectly affect e food diversification, such as storage, processing and warehousing and market-related drivers. There is an opportunity to look at other indirect expenditures, which could possibly impact pulse production.

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