The Price of Plenty and the Harvest of Neglect: Green Revolution, Rainfed Agriculture and Public Investment in Procurement

Ashwini Chhatre
Prachee Sinha
Shreya Basu
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1. Introduction

It is common knowledge that agriculture all over the world finds it difficult to survive in a modern commodity economy that often boasts of free markets. Every government, in the developed as well as in the developing world, is forced to invest in sustaining the agricultural sector of its country’s economy. Governments in the developed countries spend large sums (around Euro 60 billion annually in the case of European Union and around USD 20 billion in the case of United States) on farm subsidies to protect their farmers from international competition and from price fluctuations of agricultural commodities. Controversies over farm subsidies are a major reason behind the failure so far of the Doha Round of the WTO negotiations.

There is far more at stake for developing countries and they are under much greater pressure to protect their agricultural sector. It is a matter of food security for the entire country and of safeguarding the livelihood of bulk of the population consisting of poor farmers and wage laborers. Furthermore, this has to be accomplished often under severe financial constraints and for a much larger percentage of the population that is dependent on agriculture. Under these circumstances the question of public investment in sustaining agriculture becomes a life and death question for very large populations.

India adopted the Green Revolution strategy in the 1960s to overcome the chronic problem of food insecurity. Since then government’s agricultural policies have been geared towards irrigated regions focusing more or less exclusively on chemical intensive cereal production. A large part of the government expenditure on agriculture goes towards input subsidies (fertilizers, pesticides, seeds, power, water etc). But an equally large part is invested in public procurement of grains with a minimum support price (MSP) ensured by the government. In the absence of such support the success story of the Green Revolution will quickly melt away. There has been a price to the plenty created by the Green Revolution.

Much of Indian agriculture, however, is rainfed. Rainfed agriculture cannot match the productivity of the Green Revolution areas, but its contribution to the country’s agricultural production and to the life and well-being of agrarian populations is by no means small. It accounts for 56% of total cropped area, 48% of the area under food crops and 68% of that under non-food crops. According to the Agricultural Census of India (2010-11), 88% of pulses, 69% of oilseeds and 73% of cotton are grown under rainfed conditions.

Given its size, weight and significance it is of critical importance to look at the extent of public
investment and government’s attention that the rainfed agriculture is able to attract. If agriculture with much higher productivity such as in the Green Revolution areas cannot stand on its own, rainfed agriculture with relatively lower productivity would need government intervention even more. The desirability of such intervention is further underlined by the fact that rainfed agriculture plays a far greater role in ecological sustainability and contains a far greater potential for removing poverty. It offers opportunities for diverse livelihoods and ensures food security and nutritional well-being for a very large population that is currently under the grip of poverty. It is in this light that one has to look at the share of rainfed agriculture in the overall public investment in agriculture. In this brief the focus will be exclusively on the public investment in procurement of the agricultural produce.

2. Key Findings: Distribution of Public Investment in Procurement

A key feature of government support for the agrarian sector is through fixing a Minimum Support Price (MSP) and procurement of the agricultural produce on that basis. In the absence of public procurement, agricultural commodity prices would certainly crash at the harvest time and farmers would be ruined. The danger of crash is far more menacing in case of capital intensive high productivity crops and regions. High input costs and larger investments make up for certain disaster and ruination of the farmer in the event of a price crash. But this does not mean that rainfed agriculture does not require or deserve such a support. More importantly, farmers in the rainfed areas have as much a claim, if not more, to government support.

Government investment and support is skewed in the extreme in favor of rice and wheat. This translates into a corresponding imbalance in favor of the Green Revolution areas of Punjab, Haryana, Godavari Basin and western part of Uttar Pradesh. Fig 1 shows the cumulative value of cereals procured by the government during a decade (2003-04 to 2012-13). During this period the government spent INR 540,000 crores on the procurement of rice and wheat. In comparison a paltry sum of INR 3,200 crores was spent on the procurement of coarse cereals such as millets.

Fig 1: Public Investment in Rice, Wheat and Coarse Cereals
Source: Directorate of Economics and Statistics, Ministry of Agriculture and Cooperation, Government of India

Map 1: State-wise national Procurement of White and Rice
Source: Directorate of Economics and Statistics, Ministry of Agriculture and Cooperation, Government of India

Map 1 shows a broad distribution of state shares in national procurement of rice and wheat together. The figures are cumulative for the decade (2003-2013). States in the darkest shade (Punjab, Haryana, Uttar Pradesh, Madhya Pradesh and Andhra Pradesh) account for more than seven percent each of the total national procurement of rice and wheat.
Table 1 gives the share of major states both in the volume of procurement and its cash value. The cash value has been calculated by multiplying the average MSP for each state by the volume of grain procured. Figure 2 shows the percentages in a pie-chart.

It is noteworthy that out of the total of INR 540 thousand crores that the government has spent on procuring rice and wheat in the entire country, Punjab alone accounts for INR 189 Thousand Crores (35 percent of the national total). Haryana, which is even smaller than Punjab in area, accounts for another 15 percent of the national total. The third in the pecking order is Andhra Pradesh which is much larger in area than both Punjab and Haryana put together. Most of the share of Andhra Pradesh is accounted for by the irrigated area of the Godavari Basin. (Please refer Table 1 and Fig. 2)

Looking at Table 1 and Fig 2 one may get the impression that states like Uttar Pradesh also get a large share of procurement investment. This impression, however, is misleading. Uttar Pradesh is more than 3 times larger in area and more the 4 times larger in population as compared to Punjab and Haryana put together. Yet, its share in the procurement investment is merely 9 percent.

The stark figure that emerges from this data is that Punjab, Haryana and Andhra Pradesh together account for more than three-fifths of the total public investment in the procurement of wheat and rice. Even more starkly, just Punjab and Haryana, which account for less than one-twentieth of India’s area and population, receive half of the total public investment in procurement. Public investment in procurement, therefore, is loaded in favor of wheat and rice and is largely appropriated by a small part of the country that is known for Green Revolution.

3. Recommendation: Paradigm Shift Is Needed

An extremely skewed distribution of public investment in procurement arises out of a paradigm that relies exclusively on the Green Revolution approach for agricultural growth and development. Green Revolution played an important role in overcoming the chronic problem of food insecurity. However, it has extracted a heavy price. It has emerged as a major threat to the agroecological sustainability. Being a capital intensive mode of agriculture it consumes most of the resources the government can deploy in the agrarian sector. The government cannot get off this tiger, nor can it offer it the rest of the country.

Rainfed agriculture, on the other hand, is ecologically sustainable and it can achieve multiple goals for the population dependent on it, such as livelihood diversity, crop diversity, nutritional well-being, and removal of poverty from the pockets and regions where it is most concentrated.

A paradigm shift is needed to bring rainfed agriculture in focus of government intervention in the agricultural sector.
Revitalising Rainfed Agriculture Network (RRAN) was established in 2010 as a pan India platform to engage government agencies, researchers, civil society and CSR teams. The purpose of bringing different stakeholders together was to establish a case for integrated interventions in rainfed areas that demonstrate the impact of focussed innovations and public investments.

Mission: “RRAN aims to influence reconfiguration of public systems, policy and investments for productive, prosperous and resilient rainfed agriculture by building synergies between diversity of ecosystems and the development aspirations of our people.”