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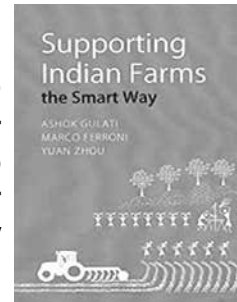
Professor, Indian Institute of Public
Administration, New Delhi

Book Review

Supporting Indian Farms the Smart Way, Editors: Ashok Gulati; Infosys Chair Professor for Agriculture at the Indian Council for Research on International Economic Relations; (ICRIER); Marco Ferroni; Ex-Chief Executive of the Syngenta Foundation for Sustainable Agriculture; Yuan Zhou; Head of Research and Policy Analysis, Syngenta Foundation for Sustainable Agriculture.

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The edited book, titled “Supporting Indian Farms the Smart Way”, is an invaluable contribution to the existing literature of Agricultural Economics. The purpose of the book is to critically analyze how the government of India has supported the farmers of the nation for the last few decades in terms of both output price support and subsidizing key inputs for farm production. The book has tried to understand how these policies have worked over the years to raise farm productivity, augment farm income and ensure environmental sustainability. The authors have made a comparative analysis of how India’s Producer Support policies fare with some of the best international practices, with special reference to the nations of Organization for Economic Co-operation and Development (OECD) and BRICS (Brazil, Russia, Indonesia, China and South Africa) nations, particularly China, in supporting their farmers. The book advocates rethinking Indian agriculture more smartly by proposing the roadmap for agri-reform measures which can hopefully help India to achieve growth in agri-GDP, faster reduction in poverty and the sustainable use of precious natural resources like soil and water.

The title of the book is also very topical in the sense that Indian agriculture is now going through a phase of agrarian distress. Agricultural growth has a strong positive external effect in terms of reduction in poverty. The World Bank Report 2008 has shown that one per cent growth in agriculture is at least two to three times more effective in reducing poverty than the same growth coming from the non-agricultural sector. But in between 2014-15 and 2017-18, the growth rate of agri-GDP of the nation was an average of 2.5 per cent (Economic Survey, Government of India, 2018-19), much lower than the growth rate prescribed by the Planning Commission and now NITI Aayog (which is at least 4 per cent) to address the issue of food security for the burgeoning population of the nation that is likely to surpass China by the year 2022. The issue has become more relevant in the present context as India has slipped to 102 positions in the Global Hunger Index 2019 of 117 nations and behind its South Asian neighbours such as Nepal, Sri Lanka, Pakistan and Bangladesh. Moreover, about 86 per cent of land holdings in the nation are small and marginal (< 2 hectares), operating 47 per cent of the area

(Economic Survey, Government of India, 2018-19). These small and marginal farmers have minimal access to input, credit and output market. Farming has become unviable for them due to shrinking farm sizes, low productivity, the rising cost of cultivation, tumbling prices of farm products during bumper harvest and obviously due to climate change. This has resulted in an increasing trend of distress push non-farm employment in the rural sector. The extreme manifestation of this agrarian distress has been reflected in terms of farmers' protests and the unending chain of farmers' suicides in different parts of the nation recently. The central government has given the call to double farm income by 2022. Many state governments have undertaken loan waiver schemes as a quick fix to empower farmers and to bring them out of the vicious circle of poverty. This book can provide proper guidelines and valuable inputs to the policymakers as well as political masters to overcome the present situation of agrarian distress.

The authors of the book have started with the premise that the government of India provides support to the farmers in two ways – (a) by the instrument of output price policy in terms of offering a guaranteed Minimum Support Price (MSP), which insures the farmers against sharp fall of farm product prices at the time of bumper harvest; (b) by providing the critical inputs for cultivation like seed, fertilizer, water, agricultural credit, electricity, crop insurance, etc. to the farmers at a subsidized rate. The book has highlighted some significant findings regarding the farm support policies of the government of India for the last few decades and proposed the corresponding policy prescriptions.

The book has shown that between 1986 and 2016, the producers' support levels measured as a percentage of gross farm receipts have fallen for all the OECD nations. Not only that, the percentage of potentially most trade-distorting price support measures in terms of import tariff or export subsidies have also declined for these nations over the same period. In the case of India, despite the rising trend of input subsidies for the last one and a half decades, the trade policies (in terms of restrictive export price policies, export ban, etc.) and domestic market control policies (in terms of the Essential Commodities Act, Agricultural Produce Market Committee (APMC) Act, etc.) have inflicted an implicit tax on farmers. The producer support estimate for India was to the tune of minus (-) 14.4 per cent of the value of gross farm receipts for the period between 2000-01 and 2016-17. India was one of the three nations out of 52 nations wherein OECD covers had negative price support during that period. To overcome the situation, the book has recommended the effective implementation of a new model of the APMC Act and E-NAM. The government should also encourage private investment in infrastructural facilities including supply chain management and food processing units.

Fall in public capital formation in agriculture is another serious issue that is plaguing the agri-GDP growth rate of the nation. At the time of 1980-81, the share of public and private investment in agriculture was almost the same. But as the book has highlighted. Public capital formation in agriculture started to decline from 3.9 per cent of agri-GDP in 1980-81 to 2.2 per cent in 2014-15. Right now, about 85 per cent of the

investment in agriculture is coming from private sources. Farm household investment alone accounts for over 90 per cent of shares in private sector investment (Bisaliah et al., 2013) and these investments are made mostly on water and farm machinery. The major, medium and minor irrigation schemes contribute to almost 90 per cent of gross public capital formation in agriculture. However, investment in public irrigation is not only lumpy, but it involves long gestation lags. The study in the book has shown that the return on investment is not comparatively high because the gap between irrigation potential created and irrigation potential utilized has increased over time. During the Eleventh Plan (2007-2012), this gap extended up to 27 per cent, which is a matter of concern as the farmers of the nation are still heavily dependent on rainfall for farm production. The book identified that the lack of 'Command Area Development and Water Management Programme' could be a possible explanation of this problem.

The interesting observation in the book is that while public capital formation in agriculture as a percentage of agri-GDP has been reduced to almost half of its value in between 1980-81 to 2014-15, input subsidies as a percentage of agri-GDP have increased almost three times (from 2.8 per cent to 8 per cent) over the same period. This rapid increase in input subsidies has squeezed public investment in agriculture and put tremendous pressure on the government exchequer. There has been a diversion of scarce budgetary resources from the capital account to the current account to meet the mounting input subsidies in agriculture. The book has estimated that the marginal rate of return of a certain amount of public expenditure (say, a million rupees) on investment in agri-R&D, construction of rural roads, irrigation or even education are five to ten times more productive in alleviating poverty or increasing agri-GDP than similar expenditure made on input subsidies. Thus the book has inferred that the nation has followed the wrong way of supporting agriculture over the years and recommended reducing input subsidies and channeling those resources towards productive investment in agri-R&D and the formation of necessary rural infrastructure.

Not only has the increase in input subsidy crowded out public investment in agriculture, but it has also caused large scale inefficiencies in the agri-system that threatens environmental sustainability.

One of the significant components of input subsidy expenditure of the government is the fertilizer subsidy. Almost 28 per cent of total subsidies budgeted by the central government was for fertilizer subsidy in the year 2014-15 (Economic Survey, Government of India, 2014-15), although it was around 51 per cent of total subsidies at the start of the last decade and it has increased yields of different crops over the years. The book has portrayed that the domestic consumption of fertilizers has increased by 1.54 times in between 2000-01 and 2014-15. However, the domestic production of fertilizer has increased only marginally, partly due to low investment in the fertilizer sector in the last decade and partly due to the lack of availability of raw material for potassic and phosphatic fertilizers. As a result, the import of fertilizer has increased

almost three times over the same period. Moreover, fertilizer subsidy, especially on urea, have led to the imbalanced use of soil nutrients. On all-India levels, the imbalanced use of fertilizers has led to an acute deficiency of some micronutrients, particularly zinc and sulphur. The administered price of urea via subsidy has resulted in the price of urea in India being very less as compared to the international market, for which it has been smuggled to neighbouring nations to use for non-agricultural purposes. The book has recommended different corrective measures to tackle the situation, as (a) liberalizing the fertilizer sector as a whole, and the urea sector in particular, in a step-by-step approach - such that fertilizer prices in the nation can be determined by the forces of domestic demand and supply; (b) switching towards direct cash (benefit) transfers to the farmers on a per hectare basis, by making cash transfer conditional upon regular check of soil health; (c) encouraging Indian investments in nitrogenous fertilizer plants in Gulf nations like Iran, Kuwait, Oman etc. - as natural gas, an essential component to produce fertilizers, could be availed of there at lower prices as compared to India; (d) promoting the practice of 'fertigation', in which fertilizers are injected in the field through drip irrigation; (e) digitalization of land records to identify the beneficiaries of subsidy accurately.

Water is another important input for farm production. India is already a water-stressed nation and is going to be a water-scarce nation very soon if steps are not taken for water management. For decades, surface irrigation charges for many states have not changed at all. The populous policy of supplying free power for farming in many states for a considerable period has led to the over-extraction of groundwater, which is posing a serious threat to environmental sustainability. The book has recommended few policy suggestions to combat the problem: (a) encouragement of drip and sprinkler irrigation technologies to enhance the efficiency of water use; (b) valid pricing of water to recover the working expense in case of surface irrigation; (c) for electricity, farmers could be given a cash transfer for using electricity less than a pre-specified level as done in China; (d) discouraging the production of water-intensive crops in water-scarce areas (such as the farming of rice in Punjab or sugarcane in Maharashtra) to check groundwater depletion; (e) learning lessons from internationally best water management practices like the 'trace irrigation system' of China or the 'solar sharing' method utilized in Japan to produce crop and electricity for irrigation in the same field of cultivation, or efficient water use in Israel in terms of desalinized seawater and recycled water for cultivation, etc.

Over the years, agriculture is becoming capital-intensive. Availability and accessibility of credit have been one of the critical inputs to promote agricultural productivity and rural development in developing nations like India. Whenever farmers face credit constraints, additional credit supply can raise input use, investment and hence output. This is the liquidity effect of credit. Apart from this, better credit facilities can help farmers to smooth out consumption and, therefore,

increases the willingness of risk-averse farmers to take risks, make investments and adopt technological upgradation. This is the consumption smoothing effect of credit (Binswanger and Khandkher, 1992). Credit to agriculture may have secondary spill-over effects on the non-farm economy via input, labour and output linkages (Haggblade and Hazell, 1989). The book has depicted that despite substantial efforts of the government of India to promote the supply of institutional sources of rural credit since independence, the latest 70th round All India Debt and Investment Survey (AIDIS) Report by NSSO (2013) shows that non-institutional sources still account for as much as 44 per cent of the share of the outstanding debt of cultivator households in the nation, although interest rate charged by them is much higher than that of institutional sources. The share of moneylenders in providing credit has risen from 17.5 per cent in 1991 to 29.6 per cent in 2013. The book has also argued that in between 1980-81 and 2015-16, the growth of credit has been far higher than the growth of agri-GDP and short-term credit has grown much faster than long-term credit over the same period. Farmers use short-term credit mainly to purchase inputs for farm production. During the 1980s and 1990s, short-term credit as a percentage of input cost in agriculture was less than 20 per cent. However, since then the increase in short-term credit has been much larger than input cost and in 2014-15, short-term credit as a percentage of input cost reached to 104 per cent. Since only 64 per cent of outstanding agricultural credit now comes from institutional sources (AIDIS, 2013), this raises the question regarding how much of short-term credit is being absorbed in farm production and whether it is used by the farmers for non-agricultural purposes. So the book recommends a serious review of interest rate subvention on short-term credit by the government. The book also proposes the avoidance of generalised loan waiver schemes. Loan waiver is a temporary relief that too tilted towards large farmers. As per the NABARD data (2018), only about 30 per cent of agricultural households take the institutional loan and among these households, about 80 per cent are large farmers. So loan waivers will benefit only this segment of the population, leaving 70 per cent of the farming community out of its ambit. Moreover, this policy of loan waiver will promote a poor credit culture and may inflict the problem of moral hazard. Expectations of rising defaults have led financial institutions to scale down their lending operations. So the book recommends a targeted action where waivers should follow a case-by-case examination of the merit of that case.

Agricultural production has become much riskier over time due to climate change and small farmers, having a meagre income to fall back upon, suffer the most from the erratic and adverse effects of climate change. Crop insurance is the only available institutional measure to reduce the loss associated with the production risk in farming. Although the crop insurance policies in the nation have been in effect from 1972, yet it is beset with several problems such as a lack of transparency, non-payment or delayed payment by insurance companies to the farmers, high rate of premium, lack

of insurance culture and insurance awareness among the farmers, etc. Moreover, as the book has highlighted, the penetration of crop insurance in India is still low not only in terms of the number of farmers covered but also in terms of the area of the land insured. After the implementation of the Pradhan Mantri Fasal Bima Yojana (PMFBY) in the *Kharif* season of 2016, the premium charges of insurance have been considerably reduced. This scheme has addressed the majority of the shortcomings of previous crop insurance schemes in the nation in terms of the amount of sum insured, settlement of claims, use of technology in case of loss assessment, etc. This new scheme is providing 80 per cent of the subsidy in insurance premium, which will be equally borne by the central and the concerned state government. To meet the increased expenditure on subsidy, the government of India has increased the allocation of funds for crop insurance in the budget. But till now only 30% of the gross cropped area is covered under crop insurance in the nation, which is much lower than what USA (89 per cent) or China (69 per cent) have achieved. The book has inferred that the infrastructure required for the successful implementation of the scheme is yet to be done. To cover the scheme for the entire nation at the block level, more automatic weather stations and the diffusion of climate-smart technologies are required. The process of digitalization of land records and linking bank accounts with the Aadhar number is yet incomplete. The issue of tenancy and owner has to be resolved so that the benefits of insurance are passed to the intended beneficiary.

The book has devoted a chapter exclusively on China's producer support policy to understand what lessons India can learn from it. There are two important aspects worth mentioning in this context. First, China has already taken a bold step to move from price support policy to income support policy, where the subsidy amount is transferred to the account of the beneficiary farmer on a per hectare basis. In India, a few state governments are recently trying to adopt this direct benefit transfer scheme. The 'Rythu Bandhu' scheme of Telangana and 'Krushak Assistance for Livelihood and Income Augmentation (KALIA)' scheme of Odisha are worth mentioning. Second, to enhance agricultural productivity, investment in R&D is the priority. Now at the global level, the private sector is leading in agri-R&D. The world's leading firms spend about 10 per cent of their annual revenue in this field. The six largest companies like Monsanto, Syngenta, Bayer, DuPont, etc. spent seven billion US dollars on R&D in 2014. In the case of India, the private seed industry came into the scene from 2002 by developing and selling hybrid crops and licensed biotechnology traits. But the private sector is mostly absent for non-hybrid field crops like rice, wheat, pulses, oilseeds and some coarse grains due to the inadequate protection of intellectual property rights (IPR). This lack of IPR protection in India reduces overall R&D activity. So, to access innovative seeds and technology and to encourage private investment in R&D, India needs to develop a proper IPR regime, which is in the interest of both farmers and investors. India has a lesson to learn from China in this case too as ChemChina, a

public sector unit, has taken over the Syngenta Corporation for \$43 billion, which is a leading player in crop protection and seeds.

One of the important aspects that could have been included in this book is how the model of contract farming can augment farm income by investigating some case studies in India. Moreover, the government has recently been promoting startups by providing incentives and announced the flagship programme, named 'Startup India' in 2016. New generation start-ups are coming into agriculture and they render either input services or output services in marketing and related jobs. BigHaat.com, Flybird, Agrostar, IFFCOKisan, Sabziwala, Big Basket, etc. are some of these initiatives. The book may include some study on the efficacy of these measures of support to the farmers and their potential to increase agricultural productivity and farm income.

To conclude, it should be mentioned that the book is very informative and since the key issues are well documented with authentic sources of data and facts, and the sequence of arguments are so well structured that it is a really interesting read. Almost all the chapters have ended up with some concluding remarks that help the readers to understand the major findings and policy implications of that chapter. The lucid writing helps the readers grasp the points of argument quite quickly. This book will be immensely valuable for academicians, government officials, research scholars of Agricultural Economics, policymakers and agri-business players to relook and revamp the existing farm support policies in the nation in a smart manner.

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