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Rapporteur's Report on Farm Income, Productivity and Methodology of Farm Income Level

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Over the past three decades, Indian agriculture has grown at an annual rate of around 3 per cent. This has helped improve farm incomes and reduce rural poverty (Datt and Ravallion, 1996). However, the present level of farmers' income is far less than households engaged in other economic activities. According the recently completed SAS (2012-13), the annual income of agriculture households from all sources is only Rs. 77,112/- and more than half of the total agriculture households in rural areas are living below poverty line. Among different sources, farm business income (cultivation + livestock) constitutes about 60 per cent of total income of agriculture households. Thus, acceleration in agricultural growth assumes a big role in improving farmers' income in the country. However, it is increasingly being realized that crop cultivation on small land holdings alone can not generate enough income to bring farmers out of poverty. Therefore, alternative employment options in non-farm sectors need to be created in rural areas for improving farmers' income. Although employment diversification towards non-farm sector is taking place but this is happening slowly. The underlying reasons for slow rate of employment diversification need to be identified and acted upon.

It is surprising that no official agency provides annual estimates on farmers' income in the country. In the absence of this precise crucial data, information related to relative change in output and input prices, slow growth in output and value added, rising indebtedness, rise in wages etc are used to indicate the agrarian distress and farm income. Indicators like the gross value added, value of agricultural output, net domestic product (NDP) of the sector, income from crops, and some micro-level evidences have been used to draw inferences about the changes in farm income. These indicators and estimates may not truly represent the farm income for the country.

Few scholars estimated farm income following various approaches. Narayanamoorthy (2006) derived estimate of farmers' income from the cost and receipt data for crop cultivation using *situation assessment survey* (SAS) of National Sample Survey Office (NSSO). He estimated the annual net income (that is, farm business income) of a farmer household for the country as a whole as Rs. 2,837 in 2002-03. Chand *et al.* (2011) derived an estimate of farm income for one point of

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time from value-added in agriculture reported by the Central Statistical Organisation (CSO), by deducting the cost of hired labour. According to this study, the per hectare farm income for the country during 2007–08 and 2008–09 was Rs 33,267 per hectare, at 2004–05 prices. It was reported that the income earned by 62 per cent of farmers in India who own less than 0.80 hectares of cultivable land was lower than the poverty line during 2007–09.

The farm business income was also estimated by Sen and Bhatia (2004) using data from Comprehensive Scheme for Studying the Cost of Cultivation of Principal Crops in India (COC) from 1981–82 to 1999–2000. The study concluded that the level of farm business income per farmer on an average was hardly sufficient to pay for essentials. Chand *et al.* (2015) argued that the cost of cultivation data is representative of crops or crop complexes in major growing states, but it does not cover the entire country or the entire agriculture sector; even the productivity of sample crops reported in COC data show significant difference from state averages. They also argued that COC survey also does not provide consistent data on horticultural crops and several minor crops that constituted 38% of the total value of the crop sector in 2011–12; their exclusion makes a significant difference to the level and growth in farm business income.

Chand *et al.* (2015) made a comprehensive attempt and estimated the farm income based on the logic that the sectoral income does not accrue to farmers alone; it is, by definition, shared by hired farm labour and farmers. They estimated the farm income from net domestic product (NDP) (agriculture and allied) by deducting the wage bill for hired labour, which was computed by multiplying the number of hired labourers employed in agriculture with per day agricultural wage earnings and the number of days of wage employment in a year in agriculture and allied activities.

As the farmers' income is an emerging area currently and all high-powered agencies are working in unified direction after the slogan of the Hon'ble Prime Minister to double the farmers' income by 2021-22, the theme of the conference on "Farm Income, Productivity and Methodology of Farm Income level" is apt in the present context. There are broadly three groups of papers received for the theme that focus on farm income, productivity and methodology of farm income estimation.

Fourteen papers have been received under the sub-theme on farm Income. The paper by K.J.S. Satyasai examines the pattern of income growth and diversification over time across different size, classes and the states, and assesses the possibility and strategies of doubling farmers' income by 2022 as announced in this year's Union Budget. The paper reveals that doubling over 5 to 6 years in nominal terms is already happening while doubling the real incomes of farmers in six years is a formidable task though may not be altogether impossible if proper strategies are implemented. The strategies should be multi-pronged and address enhancing returns and reducing costs and making the incomes sustainable keeping in view the depleting natural resource base. In the paper by Gayatri Mohan *et al.* the influence of farm household income on consumption expenditure in rural Karnataka across different agro-climatic

zones has been assessed. The farm household income comprised of income from agriculture, allied activities (AA) and non-farm activities (NFA). Similarly, in the paper by Manashi Gogoi *et al.*, the paperwriters tries to explore the impact of microfinance through SHG-bank linkage programme on agricultural transformation in terms of productivity. The findings of the study revealed that SHG-bank linkage programme had increased productivity of agricultural and allied sectors substantially and contributed to increase in income and living standard. In the paper by Syed Rizwan Ahmed *et al.* an attempt has been made to assess wage gaps across the states for different years. MGNREGS national average wage rates per person-day have been showing a rising trend over the years and agricultural wages have also increased across the country over the same period. MGNREGS has been an important driving force behind this rising wage rate but the scheme is doing better in expenditure on agriculture and allied sectors with increased allocation from 56 per cent to 59 per cent in reference period.

The second group of papers are productivity-centric. The paper by Jayanti Kajale and Sangeeta Shroff indicates higher profitability of the crop as compared to its competing crops. It is also found that though the average yield level in Maharashtra is higher than that in other major soybean producing states, it is higher only in 3 districts covering 4.5 percent of the soybean area. In most of the districts, yields are very low. O.P. Singh *et al.* have examined the impact of irrigation in Gujarat. The results suggest that after introduction of irrigation facilities, farmers diversified their cropping pattern towards water intensive crops like paddy and some new crops viz groundnut and summer bajra were introduced in the study area. After introduction of irrigation facility in most of the crops, per hectare cost of cultivation and per hectare crop yield increased significantly.

The paper by Sulakshana Rao and R. Balasubramanian using stochastic frontier production function concludes that the efficiency of the rice farmers in India has declined over the decade from 2003-04 to 2012-13 in most of the major rice-growing states except Haryana and Maharashtra. Rice production with more than 80 per cent technical efficiency was observed in Odisha, West Bengal and Tamil Nadu, implying that the farmers in these states are far more technically efficient than other rice growing states. Another paper by R.N. Barman concludes that lack of sufficient number of rural bank branches, crop insurance schemes and training on fund management and record keeping are the major constraints that severely restrains the outreach of the institutional agricultural finance. The study emphasised establishment of proper market linkages for the farmers. Another paper *Jhum* practicing in Mizoram state by Lalrinsangpuii *et al.* have calculated profit efficiency using of a translog stochastic profit frontier and inefficiency model. The result shows that profit efficiencies of the sampled farmers varied widely between 31 and 78 per cent with a mean of 55 per cent suggesting that an estimated 45 per cent of the profit was lost due to a combination of both technical and allocative inefficiencies. The paper by Poonam Singh reveals that the income from cultivation partly depends upon the

nature of the crops grown and partly upon the intensity of cultivation. The technological break-through in agricultural production through HYV seeds-fertilisers revolution has accelerated the transformation of Indian farm economy from subsistence level to a profitable business since green revolution. The paper has computed farm income with input structure according to different income concepts and discussed the livelihood issues of farmers on the basis of a village level survey in eastern and western region of Uttar Pradesh. The average per-capita income from farm business has been estimated to be Rs. 2640 and Rs. 10002 in the two regions of the State.

A study by S. Varadharaj and M. Anjuman aims to analyse the effect of MSP on area, production and farm harvest prices of food crops in India. Positive trend was observed in area, production and productivity for almost all food crops, except in the productivity of tur. The relative changes in MSP of paddy, wheat, tur and gram showed that the MSP as a policy tool favoured wheat over paddy. The cultivation of wheat, tur and gram proved to be profitable as the value of output was higher than the cost of cultivation. Paddy was not a profitable enterprise due to high input cost and labour crisis. The study by Tinku Moni Borah revealed that post-harvest losses at any supply chain network of agricultural produce negatively affects the margin of the agents involved in the chain. The authors identify the socio-economic determinants of such post harvest losses at farm level. Chandralekha Ghosh and Debdatta Mazumder examine the input use pattern in rice production across sixteen Indian states. It has been observed that the states namely Karnataka, Kerala, Haryana and MP, where the use of bullock labour declined and the use of fertiliser increased, have shown higher profitability. The study helps us to know how the states use the different factors for increasing their productivity and how the input use pattern affects profitability. A paper by Tapas Singh Modak and Aparajitha Bakshi documents the changes that occurred in the water market in Amarsinghi village, Malda district, West Bengal, between 2005 and 2015. In the study period all tube-wells were electrified and were installed by the government which was managed by a cooperative. These changes reduced irrigation costs substantially for farmers buying groundwater compared to diesel powered tube-wells, and replaced share payments in water markets with fixed-rate payments. Irrigation costs as a share of total costs decreased continually for the major irrigated crops boro paddy and potato in the study period though, costs in the private water market were higher than the cooperative tube-well. Though farmers using cooperative tube-well earned higher profits in irrigated crops initially, however by 2015 profitability of groundwater irrigated crops were similar for both groups of farmers. The paper by Govind Pal *et al.*, reveals that the total cost of cultivation in groundnut seed production was around 18 per cent higher than grain production. The gross return was about 27 per cent higher in seed production than grain production and net return from seed production of groundnut was 40 per cent higher than grain production. Such an increased productivity and net profit would attract the farmers for adoption of certified seed production technology.

A paper by Sukhpal Singh argues that small farmers are most important player in Indian farming system. The Indian small farmers are in a state of agrarian distress. It is in this context of academic and policy discourse that this paper makes evidence based policy and practical recommendations for replicating the Small Farmer, Prosperous Farmer (SFPF) models of agricultural development in India. The paper by S. Chatterjee evaluates that there has been a stagnancy in the overall productivity of crop sector in India due to excessive use of inorganic fertiliser, insecticides and pesticides. A combination of organic and inorganic mix package of practice for paddy in different states of India has been highly visualized as a marked technological change in rice cultivation. One research paper by Babu Singh *et al.* noted that agricultural diversification through agricultural and livestock has a potential for employment and income generation in central and Bundelkhand regions of Uttar Pradesh. The study shows that linkage between crop composition and economic performance of the regions depend on availability of NRM, infrastructure development, literacy, health, soil health, irrigation facility and other related factors.

The studies provide disaggregate evidences on options and strategies for enhancing the farm incomes in the country. However, none of the papers have touched upon the methodological dimensions and strategies to estimate the farmers' income. As non-farm sector is providing multi-fold opportunities to farmers' incomes, the studies and evidences on linkages among farm and non-farm sector would have been useful to provide much more gainful insights into the subject. As the role of value-addition and processing is expanding, the micro-level evidences and case studies will provide useful implications for replicating to other locations too.

REFERENCES

- Chand, R., P.A.L. Prasanna, and A. Singh (2011), "Farm Size and Productivity: Understanding the Strengths of Smallholders and their Livelihoods", *Economic and Political Weekly*, Vol.54, Nos.26 and 27, 25 June, pp.5-11.
- Chand, R., R. Saxena and S. Rana (2015), "Estimates and Analysis of Farm Income in India: 1983-84 to 2011-12", *Economic and Political Weekly*, Vol. 50, No.22, 30 May, pp.139-145.
- Datt, G. and Ravallion, M. (1996), Why Have Some Indian States Done Better than Others at Reducing Poverty, Policy Research Working Paper 1594, World Bank, Washington, D.C., U.S.A.
<http://www.igidr.ac.in/pdf/publication/WP-2012-014.pdf>
- Narayanamoorthy, A. (2006), "State of India's Farmers", *Economic and Political Weekly*, Vol.41, No.6, 11 February, pp.471-73.
- Ravallion, Martin and Gaurav Datt (1996), "How Important to India's Poor is the Sectoral Composition of Economic Growth?", *The World Bank Economic Review*, Vol. 10, No. 1 (January 1996), pp. 1-25. <http://documents.worldbank.org/curated/en/336551468269114485/How-important-to-Indias-poor-is-the-sectoral-composition-of-economic-growth>.
- Sen, Abhijit and M.S. Bhatia (2004), Cost of Cultivation and Farm Income, State of the Indian Farmer – A Millennium Study, Academic Foundation, New Delhi.
- Warr, P. (2003), Poverty and Economic Growth in India. In: Economic Reform and the Liberalization of the Indian Economy K. Kalirajan and U. Shankar, (Eds.) (2003), Edward Elgar, Cheltenham, UK and Northampton, M.A., U.S.A.