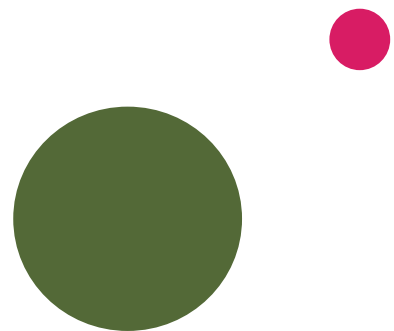




The marginal farmers typically own small plots of land, often significantly less than one hectare, and have limited access to resources and support services. Majority of them are in poverty and debt traps and engage themselves in non-farm economic activities and wage labour for sustenance. According to the All-India Report on Agriculture Census 2015-16, while the highest share of cultivators is those of marginal farmers, accounting for 65.45%, their total operational landholding constitutes only 24.03% share in total cultivable land. This makes the average landholding size of marginal farmers to be only 0.38 hectares at the national level. This size has remained almost the same for the last 40 years. Since 1985-86, the share of marginal farmers in total farm households has considerably increased by 18% whereas their share of land holding in total has gone up by almost 80%.



**Marginal farmers must have
income diversification to survive**

The most striking feature of Indian farm HHs as per the latest NSS 77th round (2018-19) report is that the farmers' income has increased but it is marked with large inter-state and inter-farm disparities. Between the SAS 2012-13 and SAS 2018-19, the average monthly income of agricultural HHs from all sources – wages, leasing out land, crop production, livestock, and non-farm activities – has increased from Rs. 6426 to Rs. 10218. It suggests an increase in annual income at about 8% in nominal prices and 6% in real price with base 2011-12. However, the most disquieting feature is that out of total income earned by these HHs, only 37.17% is earned from cultivation as against 40% from wage employment. Dependency on income from livestock rearing is also high as nearly one-fifth of the income is coming from this source.

The situation is quite vulnerable for the marginal farmers (having less than 1 ha of land), depicting hardships in their sustenance solely on agriculture. Marginal farmers face a range of challenges, including low marketable surplus, weak access to credit, input and output markets and land tenure issues. The NSS 77th round survey shows, more than 17% of land in India is held by tenants with an area under tenancy holding to be 13%. Further, only 52% of paddy farmers could sell their crop and even among them only a quarter sold it through formal agencies while three quarters chose to sell it through local markets. Over half of the agricultural households carry some amount of debt, with the average amount being close to Rs. 75,000. Moreover, farming is increasingly becoming unremunerative on small land holdings due to high cost of inputs, variability in prices and temperature, and yield risk due to recurrent floods and famines. The small landholders are dominant in low per capita income states viz. Jharkhand, Bihar, Odisha, West Bengal, and Uttar Pradesh, earning a much higher share of income from wages and livestock activities.

In this backdrop, the present article focuses on the income earning potential by the marginal farmer households owning less than 1 ha based on a comprehensive survey across 20 major states in India (The Development Intelligence Unit - a collaborative venture between Transforming Rural India Foundation and Sambodhi, undertook an independent survey of 6115 marginal farmer HHs) as well as on the data provided by NSS 70th and 77th rounds of NSSO.

Agriculture Practices

Ownership of Land and Utilization: The All-India Agriculture Census provides a comprehensive picture on the landholding and utilization pattern of marginal farmers. As per the report the percentage share of land cultivated by the marginal farmers has increased from 8.99% in 1970-71 to 13.39% in 1985-86 and then to 24.03% in 2015-16. It indicates that there has been almost 80% increase in the share of landholding by marginal farmers in the last 30 years or so.

The percentage share of number of marginal farmers has increased from 50.98% in 1970-71 to 57.79% in 1985-86 and to 68.45% in 2015-16, an increase by 18 percent. The average landholding by marginal farmers has stayed stable throughout at around 0.39 ha. (0.975 acres), while the average landholding by all farmers has decreased by 36%, i.e., from 1.69 ha (4.22 acres) to 1.08 ha (3.875 acres.)

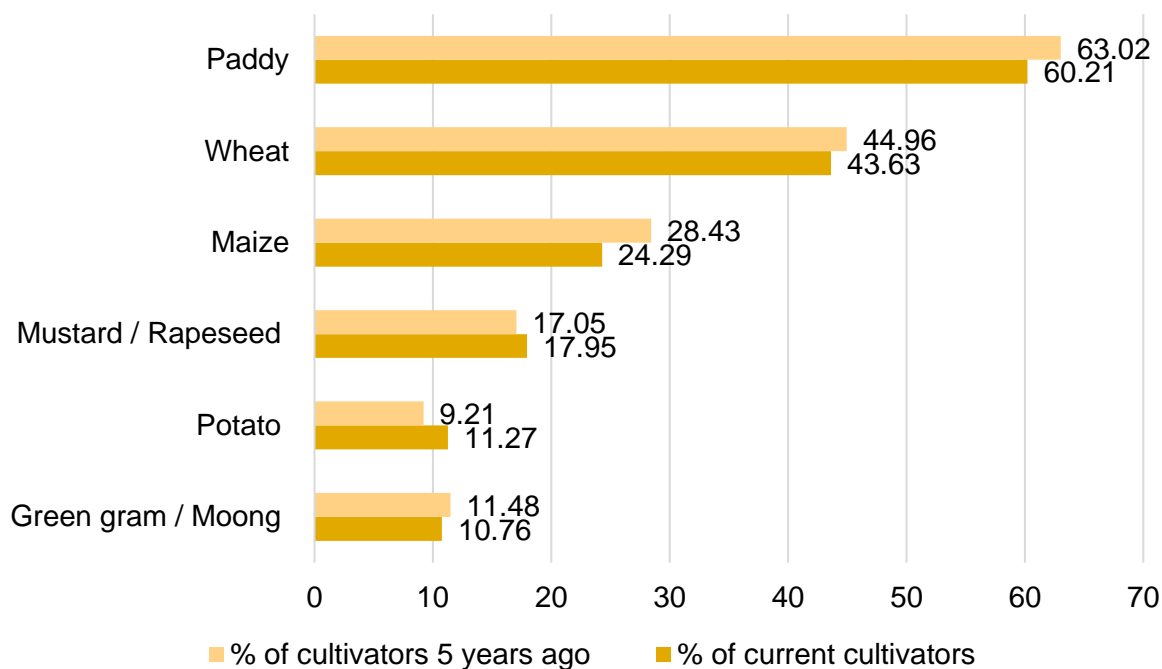
It is observed that with an increase in population, fragmentation and division of land holdings, the area cultivated by marginal farmers and their percentage share in total farmers has considerably increased. While the average landholding size of marginal farmers has remained unchanged, the average landholding size of all farmers has decreased, indicating a decline in the average landholding size of large category of farmers.

The findings from the primary survey conducted shows that the average size of landholding of marginal farmers is 1.22 acres of land and is sync with the landholding and utilization of cultivable land data given in the Census i.e., 0.95 acres. Further distribution of these farmers by size of their land holding shows that two-third of these farmers cultivated more than 1 acre of land during 2021-22. The survey also showed that only 11,12% of these farmers leased-in lands for cultivation and the average area leased-in is 0.83 acres.

Irrigation: Accessing irrigation facilities is one of the important factors for sustaining agriculture productivity for these farmers cultivating smaller size of land. The survey observed that 56% farmers have access to irrigation and among them more than three-quarter of these farmers used ground water as main source of irrigation. Among those using groundwater, over 50% use electric pump sets while 45.64% use diesel pump sets. Only a few, close to 4% farmers have installed solar pump sets to extract water from tubewells.

Cropping pattern: Major Crops Grown & Shifts in the Cropping Pattern: The respondents were asked about the major crops grown in a year and if they have made any changes in the cropping pattern during the last five years. As can be observed there is marginal shift away from cereals to cash crops. Top 4 crops cultivated by marginal farmers in the past 5 years are cereals, mainly paddy, wheat, maize and oilseed like Mustard/Rapeseed/Rai. The only noticeable change in a span of 5 years is cultivation of potato in place of green gram/moong.

Changes in Acreage under Major Crops by Marginal Farmers



Incomes of Marginal Farmers

Growth in farmer's income, especially those of the marginal farmers, depends on factors like land holding size, resource use efficiency, access to institutional credit, access to various other services like seed and fertilizer supply, availability of suitable marketing channels, technical information and inputs, and human capital. However, changes in farm size to some extent can help in the growth of the income through farming but eventually, the input cost has a larger say in the growth of income from farming. It can also be safely said often the total income earned by the marginal farmers is majorly comes from other earning sources like wage labour and livestock rearing. The survey due to its limitation, being a telephonic survey, did not consider indicators on income, expenditure and profitability. Hence, to analyze the income earning of marginal farmers over time the paper used data from SAS 70th Round and SAS 77th Round. For revenue, expenditure, and income from crop cultivation, we first looked at the NSS 77th Round. As can be seen in the table below, on average the marginal farmers in India earn a revenue of Rs. 42,107 per annum from farming while incurring an average expense of Rs. 24,875, thereby making an average yearly net income of Rs. 17,232. This also clearly depicts a direct relationship between farm size and income levels at the national level. In the present primary survey SambodhiPanel, the estimated annual farm revenue was found out to be Rs. 53,734 on average.



Average Annual Revenue, Expenses, Net Income from Crop Cultivation of Marginal Farmer Household during 2018-19 (Rs.)

Total Revenue	Total Expenses	Net Income from agriculture
42107	24875	17232

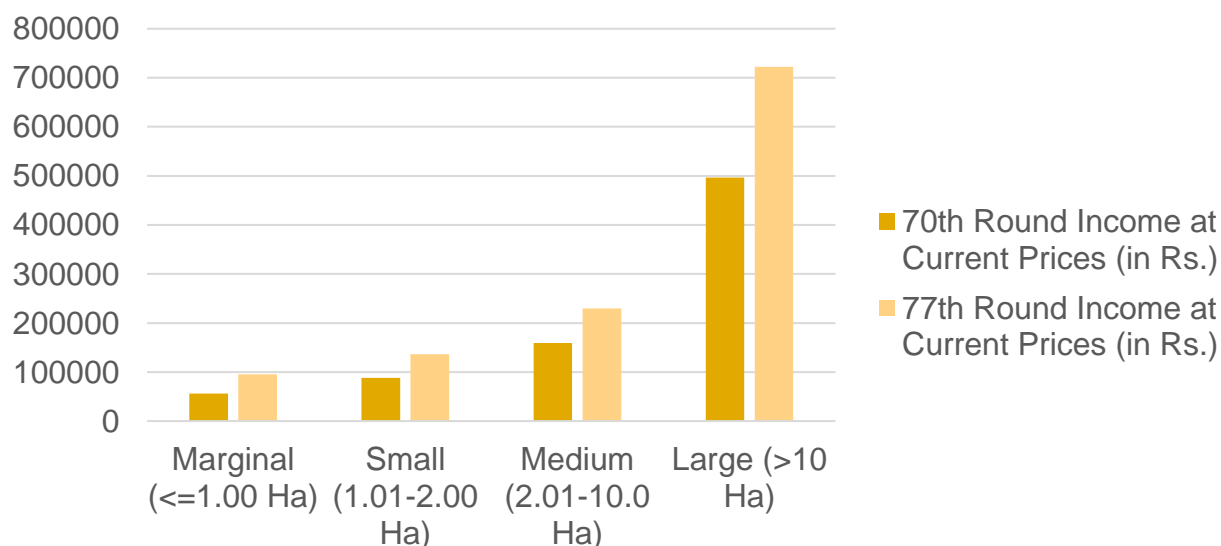
Landholding Size and Income sources: Indian agriculture is dominated by small holdings of less than 2 hectares and their proportion has risen from 83% in 2002-03 to 88% in 2018-19, and the proportion of marginal holding (<1 ha) from 65% to 70.4%. The average size of marginal and small remained almost same but the average size of large holdings declined from 15.83 ha to 14.23 ha. On the whole, the average size holdings declined by almost 31%, from 0.806 ha to 0.558 ha, during this period. The declining size of operational holdings and the rising proportion of small holdings, is becoming a cause of concern for the livelihood of a large rural population.

The annual household income grew at 9.09% CAGR from Rs 77112 in 2012-13 to Rs 129948 in 2018-19 at current prices. As can be seen from the Fig below the percentage growth of income over this period is highest among the marginal farmers. The growth trend shows a lower growth as the landholding sizes increase. The CAGR of income for the marginal farmers is also highest at 9.15%.

Total income of Farmers with different land sizes from NSS 70th round (2012-13) and NSS 77th round (2018-19)

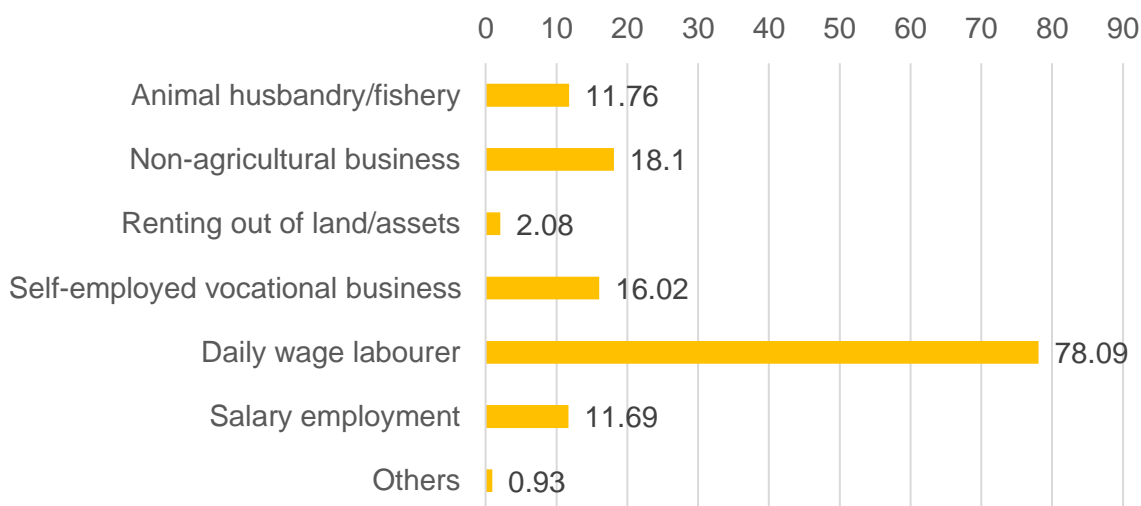
Landholding size	70th Round Income at Current Prices (in Rs.)	77th Round Income at Current Prices (in Rs.)	Percentage change in total income	CAGR at Current price
Marginal (<=1.00 Ha)	56616	95724	69.1	9.15%
Small (1.01-2.00 Ha)	88176	136488	54.8	7.55%
Medium (2.01-10.0 Ha)	159264	229896	44.3	6.31%
Large (>10 Ha)	496656	722124	45.4	6.44%
All Farmers	77112	129948	68.5	9.09%

Total income of Farmers with different land sizes from NSS 70th round (2012-13) and NSS 77th round (2018-19)



Income from different sources: Lower returns/profitability from crop cultivation is one of the factors that forces most of the marginal farmers to look for other economic activities for basic sustenance of their families. A point to note is that while 32% of marginal farmers did not report having undertaken any non-farm activities, they are likely to be firmly entrenched in the bottom of the pyramid in the form of below poverty line (BPL) or AAY households. This finding may also question the well-established inverse farm size productivity relationship in Indian agriculture. Even if we accept this relationship to hold good among the marginal farmers i.e., smaller the farm, higher is the crop productivity, the income levels of small and marginal farmers are too low to make a decent living. Higher and increasing cost of inputs, mainly fertilizer and manure are making farming increasingly unviable and less profitable. Above this, growing expenses on education and health are additional woes that farmers indicated the reason why they have to be engaged in other non-farm activities to supplement their income. From our panel survey we looked at the engagement of farmers in different non-farm economic activities/occupations. More than two-thirds (68.29%) of the sampled marginal farmer HHs are engaged in non-farm activities to supplement their income from crop cultivation. More than three-fourth sampled farmers and/or their household members are engaged in daily wage labour activities, especially road construction, house construction, MGNREGS work. The 2nd most important source of income is non-agricultural retail/ wholesale businesses with 18.11% of farmers involved in it. In all, 16.03% of marginal farmers worked as own-account workers in activities like tailors, masons, carpenters, drivers, electricians, artisans, etc. and other self-employed vocations. Salaried employment (11.7%) and animal husbandry (11.8%) activities are less prominent in terms of their engagement. The number of households rearing livestock is found to be higher but their earnings from this activity are considerably low. This may explain why only a 10th of the farmer interviewed mentioned animal husbandry as an additional economic activity to supplement their income.

Types of Non-Farm Activities and Percentage of households involved

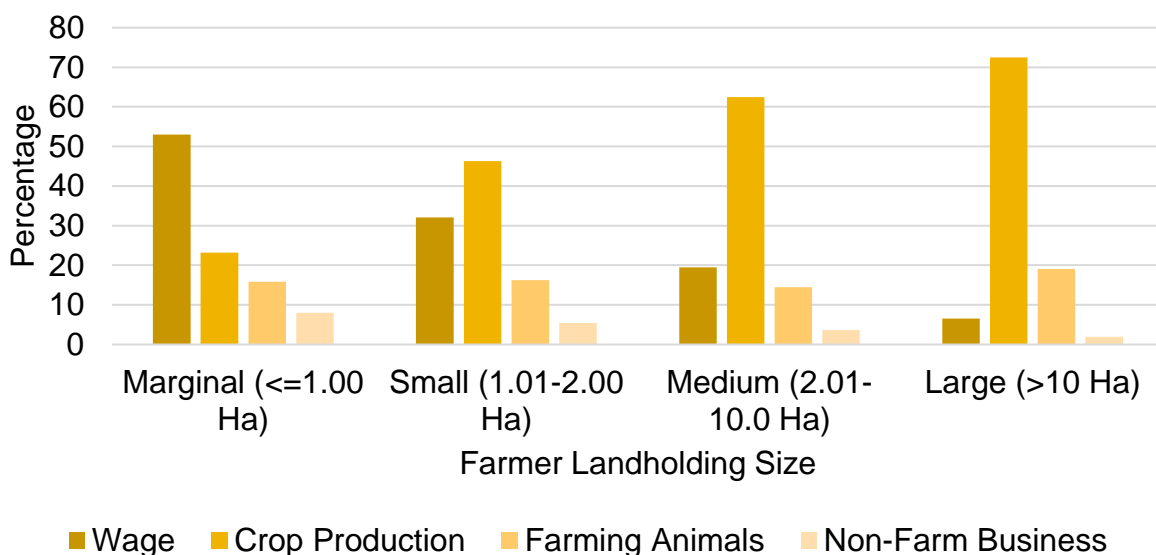


Source: Primary Survey conducted through SambodhiPanels



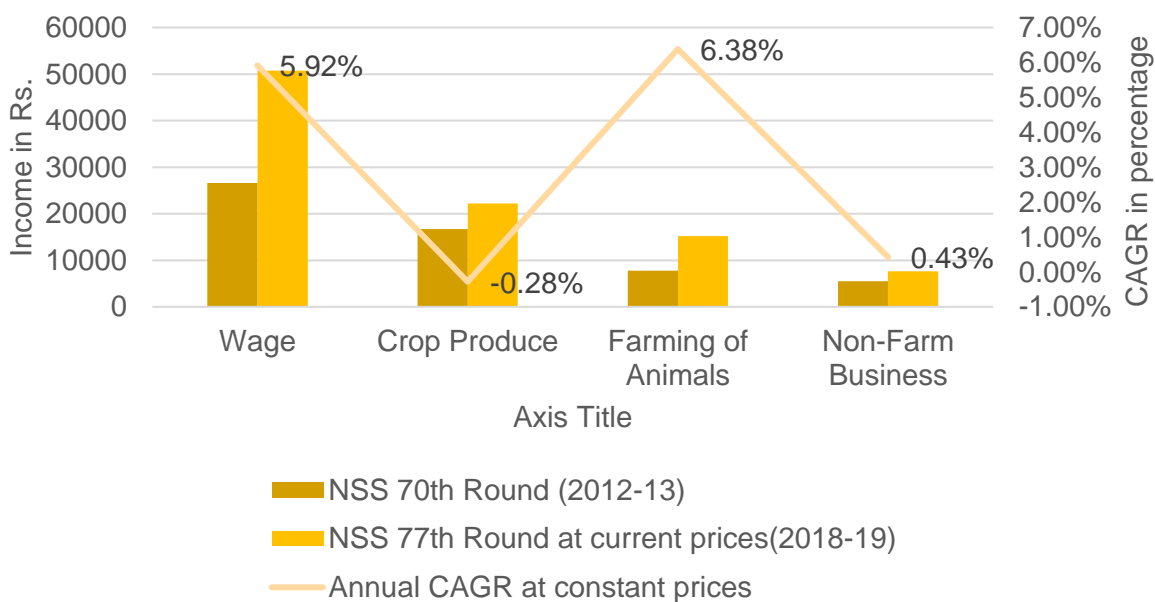
The Figure below shows the income earned from different sources by farmers of different landholding size classes. As can be seen from the figure, percentage share of income from cropping from the total income for the marginal farmers is lower at 23% as compared to earning from wage labour (53%). With the increase in landholding size the proportion of income from cropping in total income is increasing (23% in case of marginal farmers to 72.5% in case of large farmers). Contribution of livestock rearing to total income is between 16-19% for farmers from all landholding size classes. In contrast to the trend in share of income from cropping, share of income from wage labour in total income reduces with the increase in landholding size. It shows that apart from crop cultivation incomes, income from other sources is more crucial to households having lesser land and thus policies on improving these incomes could provide an impetus for equitable growth.

Share of income from different economic activities reported in NSS 77th round by different landholding sizes



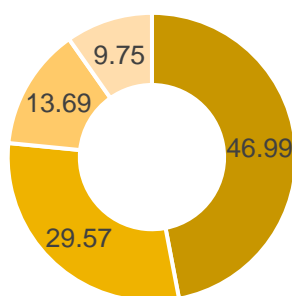
The figure below depicts the income of the marginal farmers from different sources and changes there to from 2012-13 to 2018-19 at current prices. An attempt was also made to find out the CAGR of these income sources at constant price to assess the change in income in real terms. It can be seen from the Figure that although the marginal farmers gained in income from all the sources over time, the growth in their income from cropping in real term is depicting a different story. While the CAGR during this time is highest (6.38%) in case earning from livestock rearing, the CAGR is negative (-0.28) in case of earning from crop produce. The CAGR for income from wage labour is also high at 5.92%.

Annual Income from different income sources for Marginal Farmers in 2012-13 and 2018-19 and their CAGR over that period



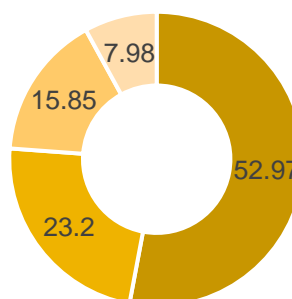
The figures below depict the proportion share of income from different sources in the total income earned by the marginal farmers. It can be seen from the figures below there is proportional increase in income in case of wages from labour activities and income from livestock rearing and proportional decline in income earned from crop production and non-farm business.

Share of Income generating activity of marginal farmers in 2012-13



■ Wage
■ Crop Production
■ Farming Animals
■ Non-Farm Business

Share of Income generating activity of marginal farmers in 2018-19



■ Wage
■ Crop Production
■ Farming Animals
■ Non-Farm Business

Per capita income: Taking the average household size of marginal farmers to be 5.7, the annual per capita income from crop cultivation is extremely low at Rs. 4308, and the monthly per capita income at Rs. 359. This is way below the poverty line set by the Ranganathan Committee report (2014) at Rs. 972 per month per capita, i.e., Rs. 11,664 per capita annually. As expected, the per capita income increases with an increase in landholding size. The per capita income earned from crop production is higher at Rs 71670, for the farmers with large landholding sizes which is 14.5 times more than the marginal farmers. The per capita income share from crop production as a proportion to the per capita income from all sources also increases with the increase in land holding size which suggests that in the case of marginal and small farmers income from crop produces not being a viable option these farmers largely depend on wage labour for their sustenance.

Annual Per Capita Income (at Current Prices in Rs.)

Landholding Size	Total Income	Income from Agriculture
Marginal (<=1.00 Ha)	23139	4936 (21.33%)
Small (1.01-2.00 Ha)	28708	12398 (43.19%)
Medium (2.01-10.0 Ha)	44480	26596 (59.79%)
Large (>10 Ha)	102115	71670 (70.19%)

Future of Small Farms and Way Forward

In India, the average income of agricultural households from farming has been growing, albeit at a slow pace. This may be explained by a much higher increase in the input cost that barely corresponds with an increase in the price of output. Natural calamities, erratic rainfall and temperature further add to farmers' woes. Farmers have no other option but to resort to other sources viz. livestock, wage labour and non-farm business for their sustenance and risk mitigation. The situation is quite vulnerable for the marginal (less <1 hectare) and small farmers (1-2 hectare of land) as their income is way behind that of the medium and large farmers. Nearly 86% of the land holdings in India are about two hectares, of which a sizeable number constitutes less than one hectare.

Adoption of yield augmenting, albeit cost-effective and climate-resilient technologies along with improved agronomic hold the key. The cost of production can be reduced through yield improvement and resource use efficiency, including micro-irrigation and soil conservation.

Equally important is to bring higher efficiency in the existing marketing channels, including government procurement centres, the opening up of FPOs, cooperatives and other value chains so that farmers are able to get remunerative prices for their produce.

As mentioned above, poor farmers cannot remain dependent only on farming as a source of livelihood to meet their consumption and other expenditures. Livestock appears to be the preferred activity, perhaps at the cost of farming. Extending credit, livestock insurance and extension services can help farmers and, also their women to take advantage of the growing opportunities in the dairy sector. Higher public investment is required in research on productivity-enhancing technology with due consideration of mitigating greenhouse gas emissions, opening of veterinary clinics/hospitals, vaccination set-up centres and automation systems.

Continued efforts are needed to train the rural youth to increase employment intensity in rural manufacturing and tertiary sectors, especially in agro and food processing. Strengthening small-scale rural industries with adequate financial incentive structures can also be helpful to absorb labour.

The marginal farmers may not be efficient in the use of inputs and hence require considerable handholding of the government. Though some of the sampled marginal farmers are aware of government facilities for the purchase of inputs, sale of produce to procurement centres/agencies and scheme of direct cash transfers, the level of utilization of these facilities/programmes by them is very low. It is important to increase awareness about the flagship programmes.

Government may initiate a differential income support scheme for marginal farmers that provides them higher support. Such a targeting is possible using the database of PM Kisan and JAM trinity. A faster updation of land records by each state can be useful in better targeting of direct support. Government should issue a farmer card to women farmers and labourers to enable them to avail the benefits under various schemes.

The pace of public investment in canal irrigation, research, extension, and rural infrastructure should be continued to incentivize farmers to make investments. Due to increasing migration of male members in the family, women tend to look after farming. Investment support for machinery/farm implements and opening of app-based custom hiring centres can improve mechanization and enable them to grow diverse crops, augment yield and generate surplus.



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