
Impact of National Food Security Mission on Input Use, Yield and Income

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ABSTRACT

The impact of National Food Security Mission (NFSM) was evaluated with a sample of 2700 NFSM farmers and 900 Non NFSM farmers covering paddy and wheat crops. Production of rice, wheat and pulses exceeded by 2.1, 11.1 and 0.9 million tonnes as compared to target of 10,8,2 million tonnes, respectively by end of 11th Five Year Plan. The yield levels and net income of NFSM farmers for paddy and wheat was higher than the non NFSM farmers. Lack of awareness was the major constraint for participation of farmers in the programme. Increasing MSP and access to quality inputs and equipment were the more pronounced suggestions given by the sample farmers.

Key words: Food security, nutritional security, sustainable development goals.

JEL classification: Q12, Q25

I

BACKGROUND

Agriculture continues to be an inseparable sector of the Indian economy. The sector is imperative not only for food and nutritional security but also for its contribution to nation's gross domestic product (GDP) and exports. Ensuring food and nutritional security for the increasing population of the country is a huge challenge. The sustainable development goals of no poverty and zero hunger could be achieved solely by ensuring food security. However, the experience of the last three decades indicate that the growth rate of food grain production decreased from 2.93 per cent during the period 1986-1997 to 0.93 per cent during 1996-2008. The declining growth of food grains production was partly contributed by the decline in area but largely by the decline in yield.

Thus, in order to combat the challenge of deficit food availability in the country, National Development Council, the Government of India launched National Food Security Mission (NFSM) in 2007-08 at the beginning of the 11th Five Year Plan (FYP). The NFSM Programme targeted to raise production of rice, wheat and pulses by 10, 8, and 2 million tonnes, respectively, by the end of 11th Five Year Plan. The mission adopted a two-fold strategy to bridge the demand-supply gap. The first

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strategy was to expand area, and the second was to bridge the productivity gap between potential and existing yield of food crops. Expansion of area approach was mainly confined to pulses and wheat only, and rice was mainly targeted for productivity enhancement. The NFSM target was to enhance farm profitability so that the farming community retains its confidence in farming activities. With this strategy and goal, NFSM was implemented in 561 districts in 27 states in the country (Government of India, 2013). Aided by all the efforts of the Central and State governments, rice production during the end of 11th Five Year Plan increased by 12.1 million tonnes, wheat by 19.1 million tonnes and pulses by 2.9 million tonnes as compared to the production during the base year of 2006-07 (Government of India, 2012). The intervention included distribution of certified seeds, incentives for micro nutrients, machineries, plant protection chemicals, seed mini kits, INM and IPM training to the beneficiaries to achieve the target of food production. This study mainly aims at economic impact evaluation of NFSM in selected States with the following specific objectives: (i) to analyse the trends in area, production, productivity of rice, wheat and pulses in the NFSM and non-NFSM Districts of selected States in India; (ii) to assess the impact of NFSM on input use, yield and income among the NFSM farmers; and (iii) to identify the constraints hindering the performance of NFSM programme.

The remainder of the paper is divided into three sections. The second section presents the data and methodology employed whereas, the third section includes the results and discussion followed by the last section with conclusions and policy suggestions.

II

DATA AND METHODOLOGY

The study used both primary and secondary data for evaluating the impact of NFSM programme. For the purpose of the study trends in area, production and productivity in paddy, wheat and pulses for the last year of 10 FYP (2006-07: Base Year), all years of 11th FYP (2007-08 to 2011-12) and two years of 12th Plan (2012-13 and 2013-14) were considered.

For the primary survey, of the 27 states in the country where NFSM remained in operation, five major paddy growing states (Assam, Karnataka, Tamil Nadu, West Bengal, and Bihar) were selected for paddy crop and four major wheat growing states (Himachal Pradesh, Madhya Pradesh, Uttar Pradesh and Gujarat) were purposively selected for wheat crop. Multi-stage stratified random sampling was used for the selection of farmers. In the first stage, in each of the state that was selected for paddy, two districts were selected according to highest and lowest production of rice. Similarly, two districts were selected in each of the four states selected for wheat based on highest and lowest production of wheat. In the second stage, from each district, two taluks were selected. One taluk was drawn from nearby District

headquarters and the second at 15-20 kilometres from district headquarter. In the third stage, 75 NFSM and 25 Non-NFSM farmers were selected randomly from each taluk totalling to a sample size of 300 NFSM and 100 Non- NFSM farmers in every State. The NFSM beneficiaries were selected randomly from the beneficiary list obtained from the State Department of Agriculture. Thus, the total sample size constituted 2700 NFSM and 900 non-NFSM farmers. The NFSM and the non- NFSM farmers were selected from the same taluk as there is a possibility of varied cropping pattern and socioeconomic characteristics in the neighbouring taluks as compared to the area under study. This will lead to bias in the results. Thus, in order to keep the farm and farmer characteristics of the NFSM and non- NFSM farmers almost similar, the farmers were selected from the same taluk. However during the study, it was ensured that the equipment or any other material supplied by the government for the benefit of the NFSM farmers was solely used by them and was not employed by the non-beneficiaries. By doing so, selectivity bias was avoided.

The selection of non-NFSM farmers was done in the peripheral areas in such a way that similar cropping pattern and baseline characteristics are represented by the non-NFSM farmers as well. Data on general information, socio-economic profiles, cropping pattern, details on various inputs used for cultivation, irrigation details, yield and returns, constraints faced for availing the benefits and suggestions for improvement was collected from the sample farmers. The primary farm household data pertained to the agricultural year 2013-14. However, the selection of NFSM farmers was not confined to the reference year. It is to be noted that the variable costs were considered for estimation of net gains of the sample farmers. The cost of the programme was not considered while estimation of net gains of NFSM farmers.

III

RESULTS AND DISCUSSION

3.1 Socio-Economic Characteristics of the Sample Farmers

Socio-Economic Profile

The flow of labour can be gauged from the family size and hence it is one of the indicators of the socio-economic status apart from the other indicators like operational holdings and income. The family size remained more or less the same between NFSM and non-NFSM farmers. Around 89 per cent of the NFSM farmers and 93 per cent of the non-NFSM farmers were male. About 64 per cent of the NFSM farmers were educated up to matriculation and 15 per cent were uneducated.

Details on Income and Farm Size

The average income of NFSM farmers (Rs. 225463/hh) was 40 per cent higher than that of non-NFSM farmers. Of which agriculture contributed 85 per cent and 82 per cent in the case of NFSM farmers and non-NFSM farmers, respectively. Across sample states, highest income was realised by NFSM farmers of Uttar Pradesh (Rs.

544291/hh). The income of the NFSM farmers was significantly higher than the non-NFSM farmers except in West Bengal and Bihar where the income of the NFSM farmers was slightly lesser than that of the non- NFSM farmers (Table 1).The increase in income with respect to NFSM farmers as compared to non-NFSM farmers is also due to considerable income earned from the renting of machinery and equipment in most of the sample states in addition to cost reduction and income enhancement from higher yield.

TABLE 1. INCOME ACROSS NFSM AND NON-NFSM FARMERS

State (1)	NFSM(Rs/hh) (2)	Non-NFSM (Rs/hh) (3)	Percentage change (4)
Assam	113283	71601	58.21
Karnataka	230460	121389	89.85
Tamil Nadu	165761	104745	58.25
West Bengal	31731	32539	-2.48
Bihar	123222	131044	-5.97
Himachal Pradesh	253353	246528	2.77
Madhya Pradesh	226178	197670	14.42
Uttar Pradesh	544291	279974	94.41
Gujarat	340892	260102	31.06
Average income	225463	160621	40.37

The farmers were highly dependent on agriculture or crop production for their income. The dependence on allied activities such as dairy, poultry and fishery were meagre. Per farm household annual income of a NFSM farmer from agriculture and wages from agriculture was Rs.1.91 lakh and that of non-NFSM farmer was Rs.1.30 lakh which indicates the dependence of farmers on agriculture.

The marginal and small farmers together constituted 71 per cent of the total NFSM farmers and 73 per cent of the total Non-NFSM farmers operating 45 per cent and 49 per cent of the total operated land, respectively. Figure 1 and Figure 2 provide the details on categorisation of sample farmers.

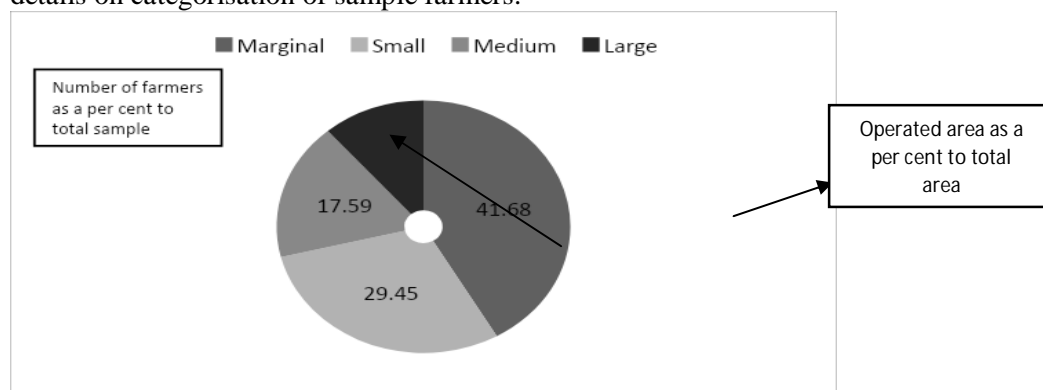


Figure 1. Categorisation of NFSM Farmers and Area Operated by Each Group

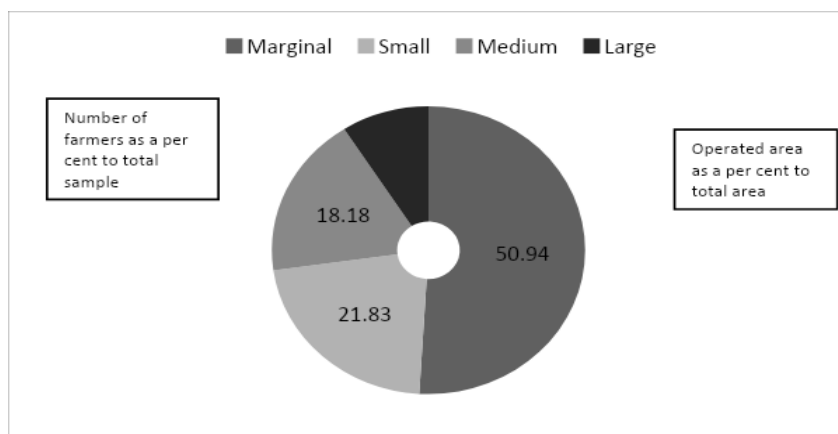


Figure 2. Categorisation of non-NFSM Farmers and Area Operated by Each Group

With regard to the land holdings, the NFSM farm households owned larger land (4.43 acre/hh) than the non-NFSM households (3.60 acre/hh). The highest land holding among NFSM farmers was in Gujarat (7.15 acre/hh), MP (6.20 acres/hh) and Karnataka (6.02 acres/hh). Similarly, among the Non-NFSM farmers, the operational holding was highest among Madhya Pradesh (7.60 acres/hh), Gujarat (5.40 acres/hh) and Karnataka (4.24 acres/hh). The cropping intensity of NFSM farmers (1.73 per cent) and Non-NFSM farmers (1.72 per cent) indicated that the farmers cultivate crops in more than one season in all the States. The irrigation intensity of 1.68 per cent and 1.69 per cent for NFSM and Non-NFSM farmers, respectively indicated that the farmers of all the States had irrigation sources to cultivate the land in more than one season. Regarding the cropping pattern, cereal crops had the major share with 75 per cent in GCA of NFSM and 65 per cent in the case of Non-NFSM farmers. Among cereals, paddy was the major crop. One striking observation about cropping pattern is that the Non-NFSM farmers of Assam, Tamil Nadu and West Bengal had apportioned higher per cent of gross cropped area for paddy than the farmers who had received benefits under NFSM scheme. Similar situation was observed in Madhya Pradesh and Uttar Pradesh that were selected for wheat.

3.2 Impact of NFSM on Input Use, Yield and Income of Farmers

Apart from NFSM, other programmes like NHM, ISOPAM were in operation simultaneously which had the built-in item of subsidy. Of the total sample, 85 per cent of the farmers were aware of NFSM. In Karnataka the per cent of farmers unaware of NFSM was to an extent of 63 per cent inspite of receiving the benefit from the same programme. Agriculture department (84 per cent) was the major source of information regarding NFSM programme to the farmers.

Benefits Availed from NFSM Scheme

It is observed that the NFSM farmers have availed more than a single intervention from the scheme. As a result, there were 4994 number of interventions /activities that were taken-up in the nine districts although the NFSM farmers were only 2700 for nine States.

The NFSM farmers had availed subsidy for 19 components under the scheme (Table 2). At the all India level, seeds/ mini kits (40 per cent) was mostly availed by the farmers except Uttar Pradesh and Gujarat. The next important component plant protection chemicals (PPC) (28 per cent). The average total cost of the benefit was Rs. 5156 per farmer. PPC was availed at highest subsidy rate of 53 per cent. The subsidy for farm machinery equipment like power weeder, rotavators and seed drill was to the extent of 20 to 30 per cent. The farmers of West Bengal had not availed any of the machineries. They had mainly availed benefits of seed kits, IPM, INM and training. Similarly, in Himachal Pradesh the farmers had only obtained benefit of seed kits.

TABLE 2. COSTS AND SUBSIDY PARTICULARS OF BENEFITS AVAILED BY NFSM FARM HOUSEHOLDS

Type of Benefit	Per cent HH availing benefit	Total cost of intervention (Rs. /hh)	Per cent of subsidy to total cost
(1)	(2)	(3)	(4)
Production of seeds-certified seed	9.26	835	16.87
Seed / mini kits	40.1	1965	52.98
Incentive for micro nutrients	18.53	801	32.82
Incentive for lime in acid soils	13.26	518	17.7
Machineries/Tools	0.25	13010	8.98
Conoweeder	5.42	1411	31.28
Zero till seed drills	0.05	15056	16.4
Multi-crop planters	-	1667	5.56
Seed drills	1.54	17753	17.09
Rotavators	1.83	35339	21.26
Pump sets	7.12	15347	34.88
Power weeder	0.47	46647	21.48
Knap Sack Sprayers	13.26	2101	37.57
Sprinkler	2.77	6162	17.79
Plant protection chemicals	28.04	757	53.15
Integrated Nutrient Management	10.27	312	24.42
Integrated Pest Management	7.24	226	36.07
Training	16.65	177	44.44
Others	10.54	4839	24.33
Total	381.37	5156	55.02

Pump set was the equipment which was mainly distributed in the programme. It was supplied in seven of the total nine states. Pump set was followed by rotavator and seed drill was supplied in five states. It is to be noted that the NFSM farmers of West

Bengal and Himachal Pradesh did not receive any farm equipments. Most of the farm equipments provided under NFSM scheme were acquired for own use as well as rented out to neighbouring farmers after meeting their requirement thus showing effective utilisation of equipments provided under the NFSM scheme. By renting out, the beneficiary farmers earned additional income. Water lifting devices like pump sets and sprinkler was utilised relatively more than other farm equipments. The seed drill generated an annual income of Rs.23,000 from renting-out (Table 3). The NFSM farmers of Uttar Pradesh earned up to Rs.60,000 per annum by renting out of seed drills.

TABLE 3. DETAILS OF MACHINERIES DISTRIBUTED UNDER NFSM

States	Imputed value of own use	Rent earned	Imputed value of own use	Rent earned	Imputed value of own use	Rent earned	Imputed value of own use	Rent earned
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Pump sets / sprinkler		Sprayers / knap sack sprayers		Multi crop thresher		Power weeder	
Assam	8002	631	1891.72	556.55	-	-	-	-
Karnataka	8250	0	3117	646	-	-	2930	7259
Tamil Nadu	4902	1364	6772.99	-	-	-	-	-
Bihar	6410	7570	250	-	-	-	11350	-
Madhya Pradesh	6304	0	616	-	-	-	-	-
Uttar Pradesh	89300	-	-	-	-	-	-	-
Gujarat	7664	-	320	-	9000	11625	-	-
All India	18690	1594	1441	134	9000	11625	7140	7259
	Cono-weeder		Rotavator		Cultivators		Harvester	
Assam	569	-	-	-	-	-	-	-
Karnataka	3712	353	-	-	10000	12500	15000	-
Tamil Nadu	-	-	9300	-	-	-	-	-
Bihar	-	-	16355	28540	-	-	-	-
Madhya Pradesh	500	0	6792	19750	-	-	-	-
Uttar Pradesh	-	-	12000	15000	-	-	-	-
Gujarat	-	-	20863	25170	-	-	-	-
All India	1594	118	10885	17692	10000	12500	15000	-
	Power weeder		Seed drill/zero tiller		Others			
Assam	-	-	-	-	-	-	-	-
Karnataka	1000	2000	7014	24750	1575	0	-	-
Tamil Nadu	12779	-	-	-	-	-	-	-
Bihar	-	-	4320	11350	2540	4360	-	-
Madhya Pradesh	-	-	6955	10037	2734	-	-	-
Uttar Pradesh	-	-	8000	60000	-	-	-	-
Gujarat	-	-	5125	9063	4688	42500	-	-
All India	6889	2000	6283	23040	2884	11715	-	-

3.3 Cost and Returns from Crop Cultivation

This section analyses the cost incurred and the returns realised by the NFSM and the Non-NFSM farmers. The details on level of input usage and costs are represented in Table 4.

Per Acre Cost and Returns of Kharif Paddy

The cultivation period varied across the sample states based on several factors like period of receiving rainfall. The cost of cultivation was 4 per cent lesser among NFSM farmers (Rs. 14350/acre) than Non-NFSM (Rs.14977/acre). The gross income realised by NFSM farmers was Rs. 27080 per acre, whereas it was 7 per cent lesser among non-NFSM farmers (Rs.25385/acre). Similarly, the NFSM farmers had realised 7 per cent higher yield (17.22 q/acre) than the non-NFSM (16.10 q/acre). A study conducted by Nagarjuna *et al.*, (2016) in Hassan district of Karnataka also revealed increased yield levels of paddy among the NFSM farmers. Per acre net income generated by NFSM and non-NFSM farmers was Rs.12730 per acre and Rs.10408 per acre, respectively.

The highest cost of cultivation was incurred by the NFSM farmers of Tamil Nadu (Rs. 18937/acre), whereas among non-NFSM, the highest cost was incurred by farmers of Karnataka (Rs.22777/acre). The total yield of main product was fairly higher in the case of NFSM farmers as compared to Non-NFSM among all states, except for West Bengal (NFSM: 15.78 q/acre; non-NFSM :15.52 q/acre) and Bihar (NFSM: 8.46 q/acre; non-NFSM :8.29 q/acre) where the yield realised by both the categories of farmers was almost the same. Net income was highest among the NFSM farmers of Karnataka (Rs. 27478/acre), whereas the least net income among NFSM was among the farmers of WB (Rs. 4829/acre). In the case of non-NFSM, the highest net income was seen among Karnataka (Rs. 18702/acre). The percentage change yield level and the net income derived by NFSM and non-NFSM farmers of all the 5 States can be seen in Figure 3. There has been an increase in percentage change in terms of income and yield among NFSM and Non-NFSM farmers across the sample states except for West Bengal. The highest per cent change in terms of income was in Karnataka where the NFSM farmers had realised 47 per cent higher income than the Non-NFSM. But in West Bengal, the NFSM farmers had realised 29 per cent lower income than the Non-NFSM farmers.

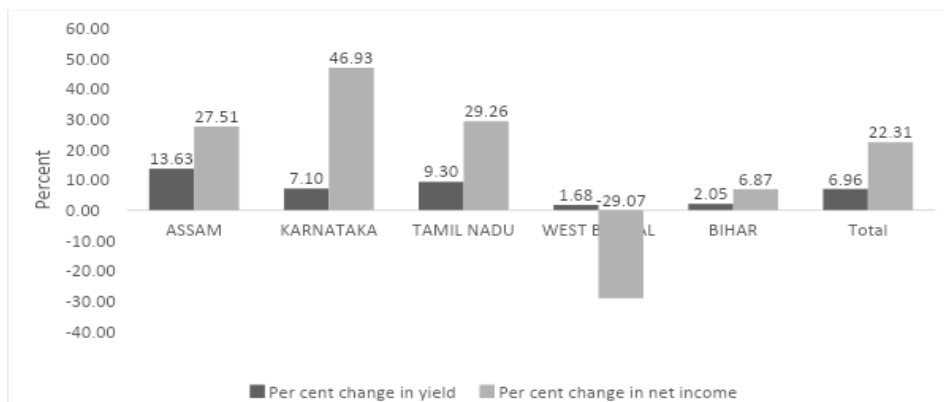


Figure 3: State-Wise per cent change in Yield and Net Income of farmers from Kharif Paddy

Per Acre Costs and Returns of Summer Paddy

Time of cultivation of summer paddy differed across the states based on various factors. The cost of cultivation of summer paddy was 15 per cent higher in the case of NFSM farmers (Rs. 20920/acre). However, the yield (20.72q/acre) and gross income (Rs. 32327/acre) was 15 per cent and 20 per cent higher than the Non-NFSM. Per acre net income generated by NFSM and non-NFSM farmers was Rs.11406 and Rs.8701, respectively. The net income was higher among the NFSM farmers among the four sample states of Assam (Rs. 9266/acre), Karnataka (Rs. 7716/acre), Tamil Nadu (Rs. 12338/acre) and West Bengal (Rs.16306/acre). The cost of cultivation of summer paddy was nearly equal in the case of NFSM and Non-NFSM farmers of Tamil Nadu (Rs.18442/acre: NFSM; Rs. 18513/acre: Non-NFSM). However, the gross income, yield and net income was higher among the NFSM. Of the total cost of cultivation (Rs.20920 /acre), 51 per cent was spent on labour, 14 per cent was for bullock and machineries, 29 per cent was cost of inputs like seeds, fertilizers and farm yard manure. The remaining 6 per cent was post-harvest expenses. The trend remained more or less same for Non-NFSM farmers. The percentage change in yield and net income derived by NFSM and Non-NFSM of all the 4 States can be seen in Figure 4.

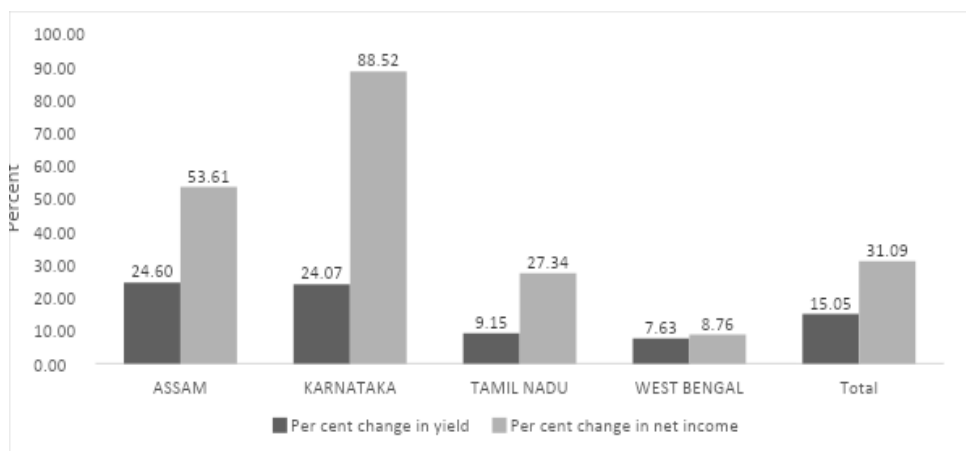


Figure 4: State-Wise per cent change in Yield and Net Income of farmers from Rabi / Summer

Per Acre Costs and Returns of Wheat

The cost of cultivation of wheat was higher by 3 per cent among the Non-NFSM as compared to the NFSM farmers (Rs. 14391/acre). The gross income drawn by Non-NFSM farmers was Rs.27361 for a yield of 13.91 quintals, thereby, per acre net income generated by NFSM (Rs.15994) was higher by 28 per cent as compared with non-NFSM farmers (Rs.12468). The NFSM farmers had realised higher yields and income than the Non-NFSM. Out of the total cost of production, around 20 per cent was towards labour, 20 per cent was for bullock and machineries, 43 per cent was cost of inputs like seeds, fertilizers, and farm yard manure. The remaining 17 per cent was post-harvest expenses. The per cent change in yield level and the net income derived by NFSM and on-NFSM of all the 4 States can be seen in Figure 5.

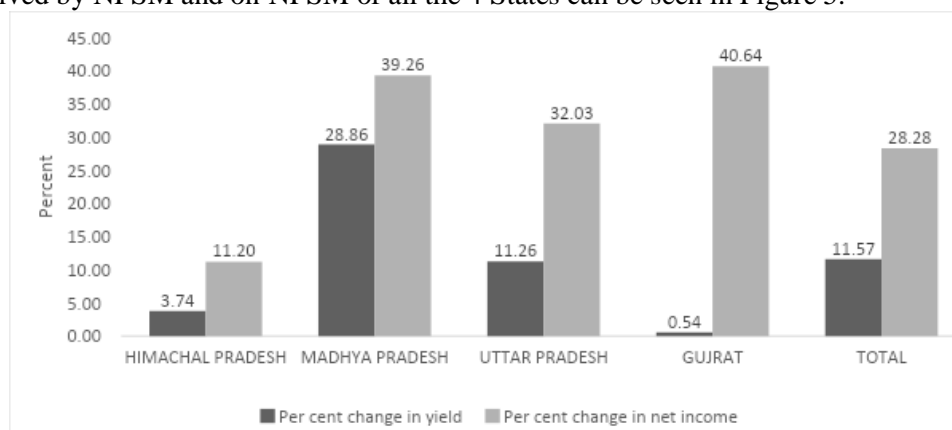


Figure 5: State-Wise per cent change in Yield and Net Income of farmers from Wheat

3.4 Marketed Surplus and Marketing Channels of Paddy and Wheat States

The marketing channels remained more or less similar among the NFSM and non-NFSM farmers. Local agents and merchants were the most sought-after channels by NFSM and non-NFSM. But in Karnataka, the farmers marketed through mills, whereas in Tamil Nadu the major actor was Government and co-operatives.

In the case of wheat, local and wholesale markets were the major channels in case of both NFSM and non-NFSM farmers. However, majority of the farmers in Madhya Pradesh were channelising their produce through the co-operatives. On an average, local and wholesale markets were the channels accounting for around 68 per cent of NFSM and 64 per cent for the non-NFSM farmers.

3.5 Constraints Faced in Availing the NFSM Benefits

Almost half of the NFSM farmers of Tamil Nadu reported the existence of bias towards large farmers and 57 per cent complained that the quality of materials /machineries supplied was of poor quality. The long gap between purchase of material and disbursement of subsidy is another major concern as expressed by around 80 per cent of NFSM farmers of TN. Higher per cent of Karnataka NFSM farmers also reported existence of bias towards large farmers and supply of poor quality of materials and machineries. None of the NFSM of Assam and Himachal Pradesh have any constraint with respect to bias towards large farmers and poor quality of materials and machineries. The study by Sandhu *et al.*, (2014) also identified similar constraints with non-availability and unawareness about new varieties of seeds and inadequacy of financial resources as constraints.

3.6 Suggestions by NFSM and Non-NFSM farmers for Improvement of the Scheme

Timely supply of inputs was a major issue in all the States followed by subsidy related issues. Subsidy related issues were mainly to provide subsidy for other crops, transferring subsidy to the beneficiary bank account instead of handing cheques, early release of subsidy to farmers, etc.

It was seen that awareness was an issue in Karnataka, Tamil Nadu, Himachal Pradesh and Gujarat States. Suggestions like access to quality and reliable power, simplification of the scheme, help for getting irrigation facilities which are grouped as others was a major issue in all the States for Non-NFSM farmers. The subsidy related issues were mainly to provide subsidy for other crops, transferring subsidy to the beneficiary bank account instead of issuing cheques and early release of subsidy as farmers cannot wait for long period.

TABLE 4. PER ACRE COST OF CULTIVATION INCURRED BY NFSM AND NON-NFSM

Particulars	Kh Paddy (Non-NFSM)		Summer paddy (NFSM)		Summer paddy (Non-NFSM)		Wheat (NFSM)		Wheat (Non-NFSM)			
	Qty (2)	Value (Rs) (3)	Qty (4)	Value (Rs) (5)	Qty (6)	Value (Rs) (7)	Qty (8)	Value (Rs) (9)	Qty (10)	Value (Rs) (11)	Qty (12)	Value (Rs) (13)
(1)												
Labour (Family and hired)	39.71	5820	38.96	6049	46.63	10607	47.05	8858	23.24	3039	18.62	3327
Bullocks (pair /day)	1.40	477	2.40	743	1.25	233	1.25	275	1.48	840	1.35	806
Tractor/Power Tiller (Hours)	6.96	2453	4.59	2710	2.67	2587	2.46	2687	2.86	2199	2.50	2145
Seed (Kgs)	23.07	811	24.84	874	23.54	888	21.45	725	57.58	1042	58.83	1545
FYM/Organic/ Bio-fertilisers (tonnes)	0.72	628	0.65	546	49.67	472	314.47	493	3.15	2116	5.30	2437
Fertilisers (kgs)	122.27	1475	126.30	1479	110.21	1646	115.85	1599	115.32	1557	102.81	1271
Zinc (kgs.)	0.60	22	0.57	21	0.75	28	-	-	-	-	-	-
Lime (kgs.)	8.53	27	0.00	-	35.00	193	-	-	-	-	0.02	6
Plant protective chemicals (kg/lit)	1.45	724	0.66	699	0.61	456	0.76	565	0.76	277	0.36	129
Irrigation charges	-	204	-	210	-	2322	-	1614	1.03	1139	1.22	1165
Harvesting, threshing, bagging	-	1710	-	1646	-	1491	-	1408	-	2184	-	2061
Total cost		14350		14977		20920		18224		14391		14893
Main product (qtl)	17.22	16554	16.10	21585	20.72	29471	18.01	24417	15.52	23199	13.91	20575
By-product (qtl)	0.75	3904	0.22	3800	0.42	2855	0.34	2508	7.23	7185	6.73	6786
Gross Income	17.98	27080	16.32	25385	21.13	32327	18.34	26925	22.75	30385	20.64	27361
Net Income (Gross income-total cost)	17.98	12730	16.32	10408	21.13	11406	18.34	8701	22.75	15994	20.64	12468
Cost per quintal (Total cost/Main product)	-	845	-	916	-	1005	-	1012	-	948	-	1084
Gross Return per quintal of main product	-	1631	-	1634	-	1548	-	1474	-	2015	-	2014
Profit per quintal	-	786	-	717	-	543	-	463	-	1067	-	930

3.7 Reasons for Non-participation of Non-NFSM farmers in the Scheme

Unawareness about the programme was the main reason quoted by around 42.47 per cent of the total Non-NFSM farmers. Biased selectivity due to political pressure was the second highest which was prominently visible in Gujarat. Lack of proper land records, inability to arrange margin money were also major reasons for non-participating in the NFSM programme as indicated by around 29.54 per cent of the sample farmers.

IV

CONCLUSIONS AND POLICY SUGGESTIONS

With the efforts of the Government, the PRODUCTION of rice, wheat and pulses exceeded by 2.1 million tonnes, 11.1 million tonnes and 0.9 million tonnes as compared to the targeted 10 million tonnes, 8 million tonnes and 2 million tonnes by the end of 11th FYP, respectively. Thus, indicating the success of the programme. With the overwhelming success of the programme, it has been further extended to nutri-cereals, oilseeds, and commercial crops with 3,49,538 beneficiaries during 2017-18. At the farm level, the programme has been successful in generating employment and enhancing income. The study revealed the existence of income gap between the NFSM and the Non-NFSM farmers. The farmers were largely benefitted by the distribution of seed kits. The farm machineries distributed to the farmers have turned to be income generating as the farmers are renting-out the machines which is an additional income. Lack of comprehensive information dissemination was a constraint in West Bengal, Bihar and MP. Constraint with regard to documentation was highly pronounced in MP and Bihar. The study found that the farmers had not owned paddy harvesters as it is not affordable despite the subsidy extended by the Government. Currently the farmers have been hiring the harvesters from the private by paying higher charges. Implementation of hiring arrangements at subsidised rates can help the farmers in this regard. Further majority of the NFSM were benefitted from the low-cost items, hence access to high cost items like tractors has to be enhanced considering the labour scarcity. Increasing the minimum support price for paddy and wheat by considering the implicit and explicit costs with reasonable profit margin can help the farmer to realise higher income. The farmers suggested the n to create awareness about the programme for the further success of NFSM which can extend the reach to a large group of farmers. It is to be noted that the cost of the programme should also be considered while extending and expanding to the programme and this should be part of cost-benefit analysis. Thus, considering these lines, the success of the programme can be further enhanced which in turn can further strengthen food security, increase income, and employment and thereby playing a role in achieving the target of no poverty and zero hunger of SDG.

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