

Role of Cooperatives in Improving Livelihood of Farmers on Sustainable Basis

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Abstract Cooperatives are present in all the countries and in almost all the sectors, including agriculture, food, finance, health care, marketing, insurance & credit. A cooperative is an autonomous association of persons united voluntarily to meet their common economic, social and cultural needs and aspirations through a jointly owned and democratically controlled enterprise. Agriculture continues to be the engine of economic growth in most developing countries. Strong cooperatives are able to overcome many of the difficulties faced by the farmers; wherein in a country like India 85% are small and marginal farmers. Cooperatives work on the set seven principles, among these principles the seventh principle - Concern for the community derives cooperatives to work for the sustainable development of the community. There are a number of successful cooperatives in India itself like IFFCO (Indian Farmers Fertiliser Cooperative Ltd.) and KRIBHCO (Krishak Bharti Fertiliser Cooperative Ltd.) in the fertiliser sector, the Institution like AMUL in Dairy Sector and Self Help Groups (SHGs) formed by various Institutions have immensely benefitted farmer members in increasing crop productivity and overall income by generating support in various programmes related with agriculture. Suitable Farming Systems to generate year round employment and sustainable income through crops, vegetables, fruits and livestock have been achieved by the members of the cooperatives. Initiative has been taken to go in for Agro Forestry combining plantation of fruit trees, fuel trees, and forest trees to improve the overall climate on wastelands by cooperatives like IFFDC (Indian Farm Forestry Development Cooperative Ltd.). This has helped ecological resilience and rural livelihood enhancement among the community. The farmer members have been immensely benefitted in increasing efficiency of various agri inputs and overall crop productivity and finally making better profit through the efforts of cooperatives.

Keywords: cooperative, principles of cooperation, farm forestry, sustainable rural livelihoods, climate change, women empowerment, IFFDC

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1. Introduction

Cooperative society is an organization of group of people with collective responsibilities and thoughts for the development of needy, especially under privileged. "A cooperative is an autonomous association of persons united voluntarily to meet their common economic, social and cultural needs and aspirations through a jointly-owned and democratically-controlled enterprise." It is based on the values of the development of agriculture, forestry, banking, credit, agro-processing, storage, marketing, dairy, fishing and housing and its network covers 85 per cent of rural households. It occupies a key position in agricultural development with support in resource and input use, harvesting of water resources, marketing channels, storage facilities, distribution channels, value addition, market information and a regular monitoring network system. Cooperatives are also engaged in economic activities like

disbursement of credit, distribution of agricultural inputs (seeds, fertilizers, and agrochemicals), etc.

Cooperatives have inherent advantages in tackling the problems of poverty alleviation, food security and employment generation. It is considered to have immense potential to deliver goods and services in areas where both the public and private sector have failed. By and large, cooperatives (except a few large ones) are "local institutions", addressing "local needs", employing "local talent", and led by "local leaders". A situation is emerging wherein there is a possibility of people migrating back to rural areas, as the cooperatives exhibit vast potential for generating self-employment opportunities at grassroots.

Since its formal launch in 1904 in India, the Indian Cooperative Movement has played very important role in the Indian economy especially in the development of the agriculture and rural sectors combining the strengths of both public and private sector specially in supporting the small and marginal farmers and weaker sections. Immediately after Independence in 1947, the Cooperative

Sector was recognised by the government as a third economic sector to serve as a balancing factor between the private and public sectors. The government had even considered the cooperative sector as a 'Cooperative Commonwealth'. In this way cooperatives developed as a special sector combining the strengths of both the public and private sectors, especially serving the needs of small and marginal farmers and weaker groups. At present it is the largest Movement in the world.

self-help, self-responsibility, democracy, equality, equity and solidarity which helps in Cooperatives are democratically-managed economic institutions with social objectives providing every kind of services that the members need based on the principles of the Cooperation. In the economic development of the country, Cooperation was accorded a place of prominence in the Five-Year Plan Documents until the 8th Plan. In accordance with the policies laid down and the budget allocations provided, the Cooperative Movement has made tremendous achievements e.g., Dairy Cooperatives, Fertiliser Cooperatives, Rural Credit sector, Environment upgradation and livelihood improvement etc.

2. The Principles of Cooperation

The Principles of Cooperation are guidelines by which cooperatives put their values into practice.

2.1 First Principle: Voluntary and Open Membership: Cooperatives are voluntary organisations, open to all persons able to use their services and willing to accept the responsibilities of membership, without gender, social, racial, political or religious discrimination.

2.2 Second Principle: Democratic Member Control: Cooperatives are democratic organisations controlled by their members, who actively participate in setting their policies and making decisions. Men and women, serving as elected representatives, are accountable to the membership. In primary cooperatives, members have equal voting rights [one member one vote], and cooperatives at other levels are also organised in a democratic manner.

2.3 Third Principle: Member Economic Participation: Members contribute equitably to, and democratically control, the capital of their cooperative. At least part of that capital is usually the common property of the cooperative. Members usually receive limited compensation, if any, on capital subscribed as a condition of membership. Members allocate surpluses for any or all of the following purposes: developing their cooperative, possibly by setting up reserves, part of which at least would be indivisible; benefiting members in proportion to their transactions with the cooperative; and supporting other activities approved by the membership.

2.4 Fourth Principle: Autonomy and Independence: Cooperatives are autonomous, self-help organisations controlled by their members. If they enter into agreements with other organisations, including governments, or raise capital from external sources, they do so on terms that ensure democratic control by their members and maintain their cooperative autonomy.

2.5 Fifth Principle: Education, Training and Information: Cooperative provide education and training for their members, elected representatives, managers, and

employees, so that they can contribute effectively to the development of their cooperatives. They inform the general public – particularly young people and opinion leaders – about the nature and benefits of cooperation.

2.6 Sixth Principle: Cooperation among Cooperatives: Cooperatives serve their members most effectively and strengthen the Cooperative Movement by working together through local, national, regional and international structures.

2.7 Seventh Principle: Concern for the Community: Cooperatives work for the sustainable development of their communities through policies approved by their members. It undertakes need based community-related services e.g., drinking water, health care, sanitation, education, women empowerment, and other community related programmes. A cooperative is a central rallying point in the village and therefore it performs a lot towards the social responsibility and such activities bring the general community closer to the cooperative.

3. Hypothesis

The rural livelihood depends on natural resources (Land, Water, Forest, Livestock and human capital) and it has been assumed that, beside the Public and Private sectors, Cooperative being the third economic sector of the country is playing important role for improving rural livelihoods. It is worth to study whether these cooperative are dealing with the natural resources development for rural livelihood improvement and upto what extends. If yes then, it is important to assess the replicability of the successful model on wider scale for sustainable rural livelihoods.

4. Objectives of the Study

1. To assess the importance of the cooperative societies for rural India.
2. To study, the role of cooperatives in sustainable livelihood of farmers of the country.
3. To evaluate the efforts of a cooperative society towards improving rural livelihood.

5. Ways & Means for Improving Livelihoods of Farmers

5.1 Normally, a livelihood is known by any set of economic activities through which a household meets its basic needs and earns some cash income. When carried out on a repetitive basis, these tend to become a "way of life". The vast majority of people make a living through self-employment or wage-employment in the informal sector. In broader way, the livelihood comprises of people, their capabilities and means of living including food, income and assets. The tangible assets are income and stores, while the intangible assets are claims and access. The livelihoods should be sustainable environmentally and socially. The livelihood of farmers in India largely depends on agriculture and allied agricultural activities and the agriculture depends on land, water, Agri-inputs, credit, market, Govt policies and knowledge base.

5.2 Presently, with about 40% of the population living in poverty, livelihood security for the rural poor farmers continues to be a cause of concern in India. As a majority of the rural population is dependent on agriculture for their livelihood, increasing agricultural production through active involvement of the poor and weaker sections of the society is the most appropriate solution.

5.3 Small and fragmented land holdings, heavy soil erosion resulting in depletion of soil productivity, inefficient use of water resources, out-dated agricultural production technologies, un-availability of agricultural credit and lack of infrastructure for post-harvest management and marketing of agricultural produce, are responsible for lower yield and income.

5.4 Livestock is another source of income for small farmers. However, over 75% of the animals are uneconomical due to severe genetic erosion, inadequate feeding and health care. With lower crop and livestock productivity, the employment opportunities in the farming and other related sectors are reduced further, leading to reduction in farm wages, seasonal employment, malnutrition and migration.

5.5 Water is a critical input for food production and better quality of life. Neglect of water resources will not only affect the agricultural production and employment opportunities, but also affect the supply of clean potable water. Scarcity of water leads to unemployment, ill-health and hardship for women. This vicious cycle can be broken through improvement in agricultural production.

5.6 It is necessary to address the above challenges, particularly to improve the productivity crop yields of low productive non-irrigated areas, owned by small and marginal farmers, which in turn can improve the purchasing power of the poor. This calls for a value chain development approach, where small farmers are supported for backward and forward integration to improve production and add value to the produce.

5.7 There are many initiatives across the country where small and marginal farmers and tribal families, have excelled in food production in spite of small holdings, poor quality soils, limited resources and poor access to modern technologies, when they were assisted for establishing backward and forward linkages.

6. Why Cooperatives in Livelihood Enhancement

6.1 Beside the Public and Private sectors, Cooperative being the third economic sector of the country has the important responsibility for improving rural livelihoods by playing major role in improving the agriculture sector as majority of the population depends on it for their livelihood particularly in rural area.

6.2 Since its introduction, the cooperative movement in India has been considered more as a product of Government Policy rather than a people's movement. Nevertheless 100% villages and 75% of the rural population in India are serviced by the cooperatives today. It is estimated that there are 5.45 lakh cooperatives functioning with 2.36 crore members and a working capital of Rs. 34,000 crores, who have made significant contribution to the development of institutional infrastructure, formation of private capital, distribution of

agricultural inputs, and processing and marketing of the produce, which are the key components of value chain development.

6.3 Cooperatives have also been active in the areas of land development, water resources management, farm machinery services, power distribution, labour supply and many other sectors. Cooperative organisations had several advantages such as easy access to financial and administrative support for developing critical infrastructure and services required to boost agricultural production and to replicate on a wider scale.

6.4 Nobody can repudiate the efforts put by some of the cooperatives like Indian Farmers Fertiliser Cooperative Ltd (IFFCO) and Krishak Bharti Cooperative Ltd (KRIBHCO) in fertiliser Sector, AMUL in dairy sector and Indian Farm Forestry Development Cooperative Ltd (IFFDC) in forestry and environment sectors in the country towards improving rural livelihood.

7. Role of Cooperatives and Their Progress

Different types of cooperative societies operating in India with different activities can be grouped into the following four categories:

- Production Cooperatives which deal with agricultural and industrial production, such as Farming Cooperatives, Industrial Cooperatives and Processing Cooperatives.
- Marketing Cooperatives which are engaged in marketing of agricultural produce, such as Agricultural Marketing Societies and Consumer Cooperatives.
- Service Cooperatives which provide services necessary for their members, such as Cooperative Credit Societies and Cooperative Banks and also Housing Cooperatives,
- Allied Service Cooperatives which are dealing with activities necessary for daily life and business of the agriculturists, artisans, etc.

7.1 Farming Cooperative Societies: Development of farming sector was given major emphasis after independence for ensuring food and employment security in rural India. While various land reforms were enforced to ensure equitable distribution of natural resources, consolidation of small and fragmented holdings was considered necessary for improving agricultural production. Hence concept of Cooperative farming was mooted by the Planning Commission to pool the land owned by small farmers for joint management. The proposed approach was either to retain individual ownership of the land and lease to the cooperative or transfer land ownership to the Cooperative and collect shares worth the value of the land. The Cooperative could then pool the holdings for land improvement and intensive cultivation, using modern technologies. These farming cooperatives were supported with financial resources to develop land and water resources.

By 1955-56, there were over 1000 cooperative farming societies with 1.9 lakh members, mostly in Punjab, Bombay and Uttar Pradesh states. The Government of India had provided Rs.50 lakhs for promoting these

societies. By 1960-61, the number of cooperative farming societies increased to 6,325 with 3.05 lakh members. These cooperatives had brought 3.5 lakh ha under cultivation. The number of farming cooperatives increased to 9,473 in 1971, with 2.57 lakh members and 4.88 lakh ha. Out of these 5,070 were joint farming cooperatives and 4,403 were collective farming societies. The programme was intended to assist small and medium farmers to come together for joint farming operations.

7.2 Agricultural Processing Cooperatives: The first processing cooperative society was established in India for setting up of a ginning factory in 1917. Subsequently, cooperatives for sugar processing, paddy milling, groundnut decorticating, copra and oil seed crushing, processing of fruit, vegetables, tea and jute were established. These processing cooperatives with individual farmers, cooperative marketing societies and local service cooperatives as members are regulated by cooperative rules and by-laws.

Farmers in India have been growing sugarcane from time immemorial but the first sugar plant was established by a French group in Orissa in 1824. The first vacuum pan process sugar plant was set up in Bihar in 1904. By 1932, there were 31 sugar factories, all in the private sector, producing 1.5 lakh tons while the annual consumption was about 12 lakh tons. Hence India had to import sugar mainly from Indonesia. With favourable policies, there was a sudden spurt in the establishment of sugar factories. By 1933-34, there were 111 sugar factories with 4.6 lakh ton production, which further increased to 148 factories with 11 lakh ton capacity by 1940-41, all in the sub-tropical regions of North India.

Today, with 316 cooperative sugar factories, India is the second largest producer of sugar in the world and the cooperative sector is responsible for about 48 per cent of the total production. The sugar industry has a huge annual turnover of Rs. 55,000 crores, ensuring livelihood for over fifty million sugarcane growing families and a large mass of agricultural labourers. Presently, 7.5% of the rural population of India is dependent on the sugar industry.

Dairy cooperative is another success story in India. To prevent the exploitation of marginal milk producers by the private dairy, farmers in Gujarat formed the "Kaira District Cooperative Milk Producers' Union Ltd." in Anand. Under this Union, cooperatives were formed at every village to collect surplus quantities of milk from small producers and a modern dairy was established to process the milk locally. The products were sold under the brand name Amul since 1955. The success of this dairy soon spread across the neighbouring districts of Gujarat. To support these Dairy Federations and to expand the activities, the Gujarat Cooperative Milk Marketing Federation, an apex marketing body was set up in 1973.

Presently, 170 Milk Producers' Cooperative Unions and 15 State Cooperative Milk Marketing Federations are involved in milk processing. However, many of these dairy federations could not function successfully, in the true spirit of a people's movement, barring a few states. Nevertheless, the dairy cooperatives account for the major share of processed liquid milk marketed in the country. During 2004-05, there were 12.95 million members of dairy cooperatives who sold milk and milk products worth Rs.3320 crores. Dairy Cooperatives have been instrumental

in transforming the rural economy on the lines of cooperative sugar factories.

7.3 Agricultural Marketing Societies: Establishment of marketing cooperatives were encouraged to provide marketing facilities to small farmers. The anticipated advantages were increase in bargaining strength of farmers, removal of intermediaries and direct interaction with consumers. There was also scope for availing credit and cheaper transport, storage facilities, grading and processing of agricultural produce to fetch better prices. The National Agricultural Cooperative Marketing Federation of India Ltd. (NAFED) was established in 1958 for promoting cooperative marketing of agricultural produce. NAFED has been procuring foodgrains, pulses, oilseeds, spices, cotton, tribal produce, jute products, eggs, fresh fruits and vegetables from farmers through its cooperative network in selected areas whenever farmers faced problems of marketing their produce. The advantages of cooperative marketing were increased bargaining strength of farmers, direct dealing with consumers, credit availability, cheaper transport, storage, grading and processing facilities and market intelligence.

Indian Farmers' Fertiliser Cooperative Limited (IFFCO) was established in 1967 to produce and distribute fertilisers through cooperatives. Presently, over 40,000 cooperative societies are members of IFFCO. Initially, IFFCO commissioned an ammonia – urea complex at Kalol and the NPK/DAP plant at Kandla both in the state of Gujarat in 1975. The another ammonia – urea complex was set up at Phulpur in the state of Uttar Pradesh in 1981. The ammonia – urea unit at Aonla was commissioned in 1988. Moreover, IFFCO has acquired an NPK/DAP and Phosphoric acid fertiliser unit at Paradeep in Orissa in September 2005. The marketing of IFFCO's products is channelled through cooperative societies and institutional agencies in over 28 states and union territories of India. In term of plan nutrient, it holds about 20% share in nitrogen and 30% in phosphorus production of the country. During 2013-14, it produced total 75.86 lakh MT and supplied 96.42 lakh MT fertilisers for the country. The annual turnover of IFFCO for year 2013-14 was Rs 20,853.45 crores.

At IFFCO, the thirst for ever improving the services to farmers and member co-operatives is insatiable, commitment to quality is insurmountable and harnessing of mother earths' bounty to drive hunger away from India in an ecologically sustainable manner is the prime mission. All that IFFCO cherishes in exchange is an everlasting smile on the face of Indian Farmer who forms the moving spirit behind this mission.

7.4 Agricultural Service Cooperatives: Cooperatives play a very important role in disbursement of agricultural credit. These cooperatives have been aiming at increasing agricultural production through credit supply to agricultural producers, agricultural labourers, artisans, supply of agricultural inputs, arranging storage, marketing and processing of agricultural produce, arranging raw materials for industries and providing technical guidance, while promoting social and economic welfare. There have been cooperative land development banks, which provide long term loans to cultivators for land development and capital investments.

The Primary Agricultural Cooperative Credit Society at the village level is the base for many of these activities. They federate into Central Cooperative Bank at the district

level and with apex bank at the State level. The loans advanced by the cooperative banks increased from Rs.55 crores in 1950-51 to Rs.48,203 crores in 2005-06. At the same time, outstanding loans also increased to a large extent from Rs.20 crores to Rs.39,996 crores.

7.5 Allied Agricultural Cooperatives: These cooperatives cover activities like dairy farming, poultry, piggery, etc. Among them, poultry was a major activity with over 4,876 cooperatives with 4.4 lakh members in 2003-04. However, most of the members were not poor. There were 14,339 fishery cooperatives in 2003-04, but many of them suffered from inadequate financial and technical support and lack of coordination between production, storage and marketing. There were 4714 forest labour cooperatives with 74000 members with a business turnover of Rs.227.23 crores in 2003-04.

8. A Case- IFFDC Is Serving for Sustainable Rural Livelihood Improvement

8.1 Indian Farm Forestry Development Cooperative Limited (IFFDC) came into existence formally in 1993 although its work had begun as early as in 1986-87. Its promoter, Indian Farmers Fertiliser Cooperative Limited (IFFCO), had launched programmes of eco-restoration and wasteland development through farm forestry in the states of Uttar Pradesh, Madhya Pradesh and Rajasthan and these programmes were subsequently handed over to the IFFDC for being scaled up and integrated with rural livelihood development and poverty alleviation programmes in the country.

8.2 IFFDC has diversified its portfolio and has broadened its focus to include in addition to Farm Forestry and Climate Change, activities such as Watershed Management, Nutritional and Economic Security, Livelihoods, Seed Production, Agri-Input Supply, Cross Cutting Interventions etc. This has been done by adopting approaches that are participatory in nature and designed to cater to the emerging and evolving needs of the community.

8.3 Over the past decade, IFFDC has also expanded its territorial scope of action and started sustained operations in the States of Uttarakhand, Odisha, Jharkhand, Chhattisgarh, Andhra Pradesh, West Bengal, Tamil Nadu, Maharashtra, Gujarat, Himachal, Haryana and Punjab. With its presence in more than 9,410 villages across 14 States covering all the agro-climatic zones, it has so far implemented rural development projects worth more than Rs.220 crore. In addition, IFFDC has also started a Seed Production and Marketing Programme to provide quality seed to the farmers of rural India.

8.4 IFFDC's aim is to trigger development in rural areas and enhance livelihood options of rural communities. Its conviction that this can be best achieved only with the total involvement of the communities that it works amongst, has engendered its overall participatory approach along with emphasis on capacity building that is in-built in its numerous portfolios. For holding communities together, and importantly, to ensure among other things, long term sustainability of its interventions, Institution Building, following the cooperative route, has been a major plank of its programmes. IFFDC has accordingly framed its strategies to deal with specific issues arising as a corollary to the fast growing development needs and the aligned imperatives. Its wealth of accumulated experience of the past two decades has in turn helped to create for it a distinct niche in the rural development arena.

8.5 Starting out primarily as a Farm Forestry Cooperative that would address the issue of Climate Change, which had at the time caught the attention of the global community, IFFDC has over the time expanded its areas of concern to include several portfolios, most of these emerging out of its primary agenda of rural development are as follows:

- Farm Forestry and Climate Change.
- Watershed Development and Climate Change (Ecological Resilience).
- Nutritional and Economic Security for Tribal and Marginalised Communities (NEST).
- Sustainable Rural Livelihood Development.
- Consultancy Programme.
- Cross Cutting Interventions (Community Institutions, Gender Mainstreaming & Women)
- Empowerment, Capacity Building).
- Seed and Agri-inputs Supply

9. IFFDC's Portfolio and Progress

9.1. Farm Forestry and Climate Change

IFFDC's flagship programme of Farm Forestry focuses on mitigating climate change effects and encashing carbon credits through developing participatory forestry on waste and marginalised lands belonging to individual farmers, village panchayats and Government. The concerned communities are organised into 148 Primary Farm Forestry Cooperative Societies (PFFCS), designed as the key community institutions to manage and maintain the developed community forests, on a sustainable basis.

Table 1. State wise degraded land covered under plantation:

S.No.	State	District	Area (ha.)	Plants (Lakh)
1.	Uttar Pradesh	Sultanpur, Raebareilly, Unnao, Lucknow, Allahabad, Pratapgarh, Kaushambi, Amethi	12,283	53.85
2.	Uttarakhand	Nainital	145	0.58
3.	Madhya Pradesh	Sagar, Tikamgarh, Chhatarpur	9508	34.65
4.	Rajasthan	Udaipur, Rajasamand, Chittorgarh	6516	41.91
	TOTAL		28,452	130.99

Source: IFFDC 2015; Annual Report 2014-15.

IFFDC supports the PFFCS with the necessary technical, financial, capacity building, networking,

marketing and resource mobilisation inputs. As a result of its intervention, green cover has not only been improved

in more than 500 villages, but 28,452 hectares degraded lands have also been restored as green forests having 130.99 lakh multi-purpose trees in Uttar Pradesh, Madhya Pradesh, Rajasthan and Uttarakhand. Economic returns from existing forests, presently restricted to selective felling, grasses and Minor Forest Produce (MFPs) etc., however, need to be accelerated for other environmental services/benefits to the community. The green cushion facilitated by IFFDC has resulted in an estimated present net carbon sequestration of 14.27 MT per ha/year.

9.2 Watershed Management (Ecological Resilience)

Very early on in its Farm Forestry and Climate Change crusade, IFFDC recognised the importance of integrating other thematic interventions like Water Resource Development into this activity. In particular, the IFFDC's experience of its watershed programme for improving gender focused rural livelihoods of communities through natural resource management is noteworthy.

Village Watershed Committees and Water Users Committees are developed for implementing this programme. Focusing on providing Water and Food Security, a comprehensive set of activities related to land use planning and development and other livelihood generation activities has been systematically integrated for building up the 'Ecosystem Resilience' of the community.

The purpose of watershed development is to rehabilitate and conserve land and water resources in order to develop resilience towards climate change to ensure food and livelihood security. For this, the IFFDC has joined hands with other agencies and is mobilizing resources directly from NABARD and through convergence with various Government agencies for the restoration of depleting water resources. Presently, it is implementing 14 watershed projects on 36,418 ha area in Madhya Pradesh, Chhattisgarh, Andhra Pradesh and Rajasthan. The focus is on building capacities of the rural community by developing sustainable community institutions like Village Watershed Committee (VWC) and ensuring gender equity in all stages of the project cycle.

Table 2. State wise Watershed area (ha.)

Partner Agency	State	District	Total Area (ha.)	Treated Area (ha.)
NABARD	Chhattisgarh	Kawardha, Bilaspur	3,207	2,609
	Madhya Pradesh	Sagar, Chhindwara	1,452	1,185
	Rajasthan	Pratapgarh, Udaipur	2,277	1,596
	Andhra Pradesh	Adilabad	2,991	1,837
State Govt	Madhya Pradesh	Bhopal, Sheopur, Chhattarpur	15,000	3,417
	Madhya Pradesh	Chhattarpur, Rewa	11,491	4,083
		Total	36,418	14,727

Source: IFFDC 2015; Annual Report 2014-15.

Total 14,727 ha area has been treated with effective soil water conservation measures and 103 Stop Dams/Anicuts, 85 Ponds Deepening and 26 Wells Construction have been undertaken for Water Resource Development. Moreover, 2.10 lakh saplings of forestry species have been planted in the watershed areas. It helped in increase of water table of the wells and farmers are able to harvest their second crop successfully leading to more returns. Additional area has been brought under cultivation by adopting various soil conservation measures. Landless farmers and women have been endowed with employment opportunities in the area through various soil moisture conservation activities.

9.3. Nutritional and Economic Security for Tribal & Marginalized Communities (NEST):

To provide nutritional and economic security for tribal and marginalised communities IFFDC has initiated projects for the development of Small Orchard/Wadi. The project addresses the growing concerns related to malnutrition in women and children in rural areas and the need to look at these problems in a wider perspective to find appropriate integrated solutions.

These projects envisage the mobilisation and organising of tribal families into affinity based groups called 'Wadi Tolee' and building their capacity to grow fruit trees, alongwith inter-cropping and other allied activities, on designated pieces of land. The emphasis is on up-scaling beyond family consumption to build a value chain that will serve to enhance income and livelihoods. The project

has diverse ramifications for integrated rural development from supplementing incomes to increasing land productivity.

Total 7,014 Wadis (7000 Acres) having 2.21 lakh plants of Mango, Aonla and Cashewnut were developed and 14.63 lakh forestry plants with survival rate of 60% were planted on the boundaries as protection measures. Horticulture plantation in the project villages has created opportunities for additional income in the future on sustainable basis. Improved agronomic practices adopted by the farmers have resulted in better crop production and better income from vegetable production. Water Resource Development activities provided opportunities to cultivate additional crop of vegetables as intercropping.

9.4. Integrated Rural Livelihood Development

Despite initiatives aimed at inclusive growth in the country, poverty persists because of limited access to productive resources, such as land, water, improved inputs, technology and microfinance, as well as vulnerability to drought and other natural disasters. IFFDC's rural livelihoods approach places people at the centre of development and focuses on building assets and skills, supportive policies, robust institutions and regulatory structures that both encourage growth and protect the most vulnerable, so that women and men together can access new opportunities for income generation and employment.

IFFDC is taking several measures in collaboration with IFFCO for increasing productivity, reducing costs, value

addition, marketing support etc for enhancing livelihood of the marginalised community. Five projects are being implemented in 168 villages of Odisha, West Bengal, Tamil Nadu, Uttar Pradesh and Maharashtra with the financial support of IFFCO.

The focus is on promotion of available appropriate technologies for farming system development, water resource development etc. that have not yet percolated to the farmers' fields. In this regard, the IFFDC is adopting 'Farmer-Centric' processes through training, extension, exposure visits and cluster approach to achieve economies of scale and for having a demonstrative effect.

Total 367 Ponds Deepened, 5 Wells & 89 Check Dams constructed and 107 Tube Wells have been established for Water Resource Development. Similarly, for ensuring safe drinking water, installation of 61 hand pumps have been undertaken.

Farmers of the project villages are being motivated and facilitated to adopt improved technologies of crop production to obtain higher yields. 8,045 soil samples were tested and the concerned farmers were provided with the results alongwith recommendations to promote balanced fertilizer application. 1,249 compost/vermi compost pits have been prepared and 21,320 farmers have been encouraged to adopt High Yielding Varieties seeds of Vegetables and other crops which enhanced the crop yield. Cattle Breed Improvement to get more production from the existing cattle, 574 veterinary camps organized. Due to increase in water availability in the nearby wells and tube wells, farmers are now able to provide 2-4 times more irrigations to their crops. New crops i.e. Ginger, Peas, Potato, Garlic and Sugarcane have been introduced in the project area. Farmers have assured water resource through farm ponds which can save their first crop through life saving irrigation. These ponds have also helped in recharging the nearby wells which resulted cultivation of second crop.

Safe drinking water has been made available during scarcity periods to the community near their hamlets due to installation/repair of hand pumps. All the project villages are institutionalized through Self Help Groups (SHG) by providing financial support for addressing immediate needs and setting up of Micro-enterprises enhanced income of members through various Income Generation activities and Micro-enterprises is leading towards their self-reliance.

9.5. Cross Cutting Interventions

Interventions and activities which are common to most of the IFFDC projects have been placed under the thematic area "Cross Cutting Interventions" which are as under: -

9.5.1. Community Institutions

Building capacity for collective action is crucial for the successful management of Common Property Resources (CPR) and to provide sustainable mechanisms for continuing the development process after withdrawal of project based interventions. IFFDC has consciously adopted the policy of promoting Community Institutions for institutionalizing its development interventions. The promoted groups are strongly rooted in the cooperative principles but differently named depending on the purpose for which formed, under its different projects viz: Primary

Farm Forestry Cooperatives Societies (PFFCS), Primary Livelihood Development Cooperative Societies (PLDCS), Farmer Producers Organisation (FPO), Farmer Clubs, Wadi Groups, Water Users Associations (WUA) and so on. Since Inception, 1,895 Self Help Groups have been formed and nurtured, consisting of 21,512 members. 148 PFFCS have been formed for development and management of forests, consisting of 28,580 members. 78 PLDCS/PLDACS were formed in tribal dominated areas to facilitate the delivery of livelihood products having membership base of 2,500. A total of 258 Farmer Clubs and 180 Wadi Groups with a membership of 2,599 and 2,475 respectively are being promoted. For management of the assets created on Common Property Resources (CPR), the project facilitates formation of Water User Committees (WUCs) to ensure sustainability of the structures and judicious use of water. So far, there are 181 WUC and 61 Village Watershed Committee (VWC) encompassing 2,124 and 184 members respectively. 1,970 Farmers Interest Groups (FIGs) have been formed by organising 30,900 farmers. Similarly, 29 Farmer Producer Organisations (FPOs) have been promoted by federating FIGs with membership base of 28,800 member farmers.

9.5.2. Gender Mainstreaming & Women Empowerment

IFFDC's approach to mainstreaming gender and women empowerment in all its projects is not about adding merely a 'woman's component' or even a 'gender equality component' into an existing activity. It goes beyond increasing women's participation, bringing the experience, knowledge, and interests of women and men to bear on the development agenda. Its efforts for empowering women through transforming unequal social and institutional structures into equal and just structures for both men and women are an essential feature of all IFFDC interventions. The IFFDC is nurturing 1,206 SHG with a total membership of 17,708 of which 92% are women. The cumulative savings of these groups has reached a staggering Rs.292.95 lakh. Loans taken by members are around Rs. 269.10 lakh. The local banks are also providing financial assistance to them for initiating micro-enterprises for sustainable livelihood development. These SHG are being nurtured through Regular Meetings, Skill Development and Capacity Building Programmes. Furthermore, the revolving fund amounting to Rs. 200 lakh has been operationalised for facilitating Micro-Credit Mechanism in the rural areas.

Apart from Self Help Group formation, women membership is also encouraged in Community Based Organisations such as PFFCS, PLDCS, WUA, etc. The Self Help Groups (SHG) are helping in addressing the fulfilment of immediate needs as well as the strategic interests of women and helping to bring them into the mainstream. In addition to issues related to improved farming, SHG are also discussing their problems related to health, functional literacy, education of children, social exploitation and social evils like addiction to alcohol, gambling, tobacco consumption etc. and are identifying suitable solutions for their problems.

9.5.3. Capacity Building

Capacity building, essentially an organised process of providing systematic inputs to personnel/ stakeholders that

results in acquisition of practical knowledge, skills and attitudes, is another cross cutting component that IFFDC places great emphasis on.

IFFDC's use of System Approach to Training ensures that training programs and the required support materials are developed continuously to adapt to the variety of needs and rapidly changing environment.

The IFFDC has laid emphasis on grooming people from the community for performing transformational roles that aim at capacity building of groups and individuals. These roles include promotion of SHGs and other groups and training of village level local service providers. All the teams took initiatives to engage and groom such people. The Capacity building programmes have played a crucial role in the field of health (veterinary & human health) and awareness. It helped in inculcating a sense of ownership in the community that helps in turn in the overall sustainability of interventions. A cadre of more than 1,000 local-level service providers are trained and groomed as para-professionals such as krishakmitras, jankars, volunteers, group motivators, etc, and are involved in skill up-gradation of the community. Involvement of women in the training programmes has helped in instilling a sense of confidence in these women.

10. Seed Production Programme

Seed is the critical determinant of agricultural production on which depend the performance and efficacy of other inputs. Seed itself can potentially raise total production by about 15 – 20% depending upon the crop and further up to 45% with efficient management of other inputs. Quality seeds appropriate to different agro-climatic conditions and in sufficient quantity at affordable prices are required to raise productivity. Availability and use of quality seeds is not a onetime affair. Sustained increase in agriculture production and productivity necessarily requires continuous development of new and improved varieties of crops befitting to the needs of the farmers and efficient system of production and supply of seeds to farmers.

Most of the farmers in the country have little or no access to improved seed and continue to recycle seed that has been exhausted after generation of cultivation. Crop Yields have remained poor, resulting in persistent food insecurity. Lack of timely availability of quality seed is one of the problems for dwindling agriculture productivity and shrinking food availability.

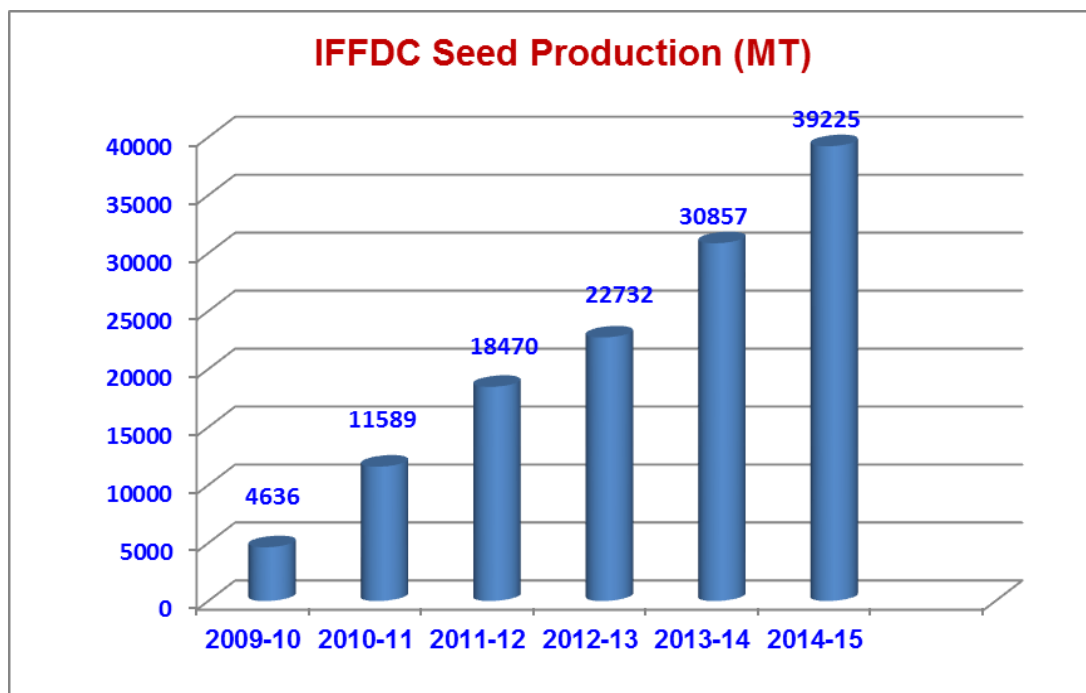


Figure 1. Year wise certified seed production by IFFDC (qtl) (Source: IFFDC 2015; Annual Report 2014-15)

To address this problem, the IFFDC has initiated a 'farmer centric', market driven Seed Production Programme, which is fast becoming a major activity. During the year 2014-15, 30.86 thousand metric ton certified quality seeds of different crops have been supplied to the farmers in the states of Uttar Pradesh, Haryana, Rajasthan, Madhya Pradesh, Punjab and Chhattisgarh to increase availability of quality seed and thus enhance agricultural productivity.

11. Agri-Inputs Supply

To increase production and productivity of crops, timely supply of quality agri-inputs to the farmers even in

the remote areas is being ensured by IFFDC through its supply chain (Agro-forestry Service Outlets, PFFCS Network, Krishak Seva Kendra etc). During the year 2013-14, total 3.81 lakh MT fertilisers and 0.65 lakh qtls certified seeds have been supplied timely to the farmers for better crop production.

12. Recognition - The Efforts of IFFDC:

The role of IFFDC as a cooperative society, in improving livelihood of the farmers and poor communities has been recognised in the country and it has been awarded the "Social Impact Award – 2011" in "Livelihood" Category by the Times of India. Besides the

several awards and honours, IFFDC has also been awarded with “Indira Priyadarshini Virkshamitra Award-1999 by Ministry of Forest & Environment, Govt of India for its outstanding contribution towards environment up-gradation through afforestation and wasteland development.

13. Conclusion

Cooperatives can mobilise their members and help them to organise for their sustainable livelihood. However, cooperatives need additional support to adopt the successful model for ensuring livelihoods of the members. There is also a need to look at the rules and regulations of the cooperative to facilitate flexibility to suit the local requirements and promote various activities required for improving rural livelihoods. Since, the India is one of the largely populated countries, dependent on agriculture for livelihood security and hosting over 25% of the world's poor, therefore; any such successful development initiative by the cooperative in India may instrumental for other developing countries for wider replication. Hence, a successful cooperative movement in India will not only ensure livelihood security in rural India but will also help to enhance rural livelihoods of the other similar countries.

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