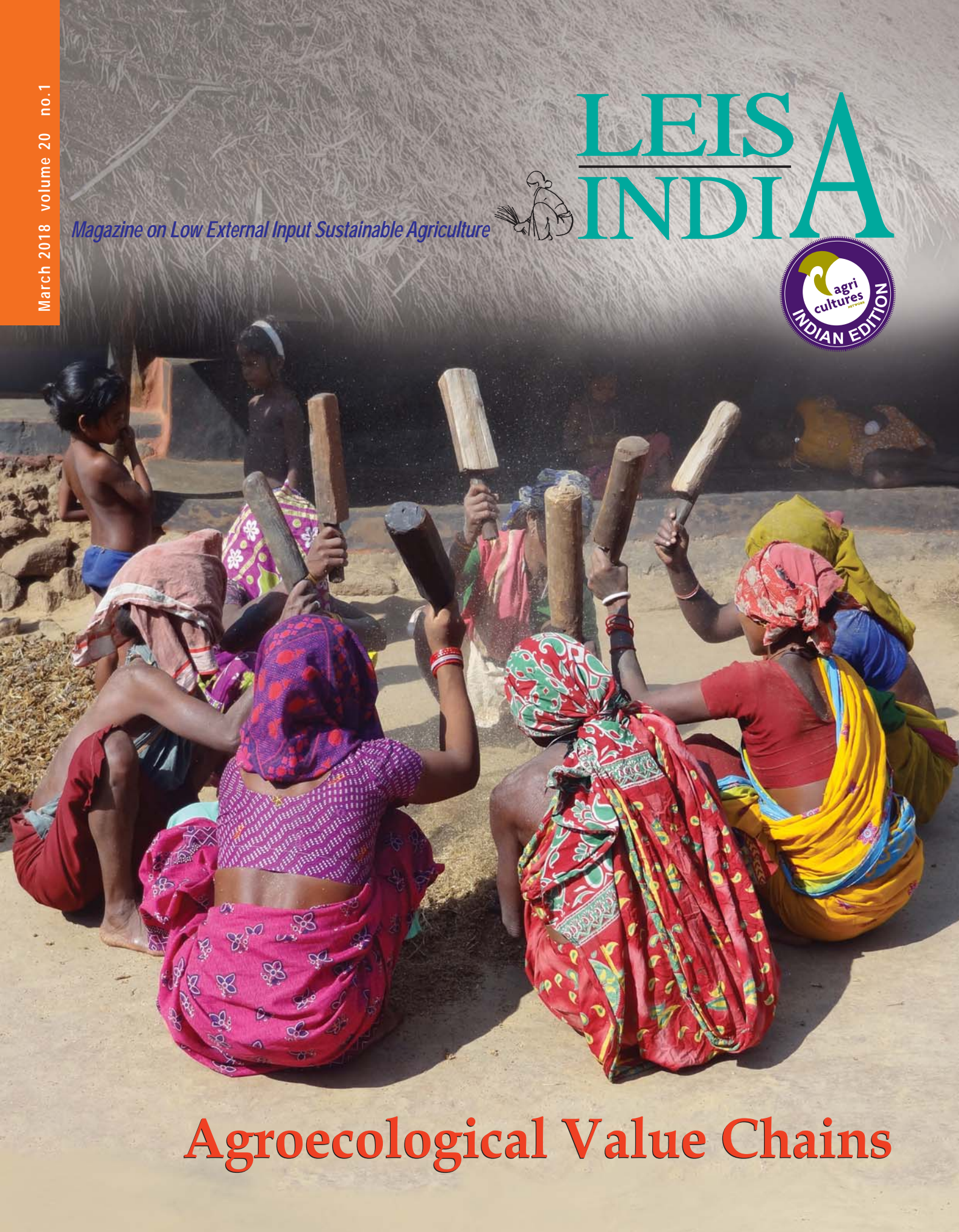


Magazine on Low External Input Sustainable Agriculture



LEIS INDIA



Agroecological Value Chains



March 2018 Volume 20 no. 1

LEISA India is published quarterly by AME Foundation
Address : AME Foundation
No. 204, 100 Feet Ring Road, 3rd Phase,
Banashankari 2nd Block, 3rd Stage,
Bangalore - 560 085, India
Tel: +91-080- 2669 9512, +91-080- 2669 9522
Fax: +91-080- 2669 9410
E-mail: leisaindia@yahoo.co.in

LEISA India

Chief Editor : K.V.S. Prasad
Managing Editor : T.M. Radha

EDITORIAL TEAM

This issue has been compiled by T.M. Radha
and K.V.S. Prasad

ADMINISTRATION

G.G. Rukmini

SUBSCRIPTIONS

Contact: G.G. Rukmini

DESIGN AND LAYOUT

S Jayaraj, Chennai

PRINTING

Nagaraj & Co. Pvt. Ltd., Chennai

COVER PHOTO

Women from Kondh communities in Odisha process
millets in the traditional way.
(Source: Living Farms)

The AgriCultures Network

LEISA India is a member of the global AgriCultures
Network. Seven organisations that provide information
on small-scale, sustainable agriculture worldwide,
and that publish:

Farming Matters (*in English*)

LEISA revista de agroecología (*Latin America*)

LEISA India (*in English, Kannada, Tamil, Hindi,
Telugu, Oriya, Marathi and Punjabi*)

AGRIDAPE (*West Africa, in French*)

Agriculturas Experiências em Agroecologia (*Brazil*).

The editors have taken every care to ensure
that the contents of this magazine are as accurate as
possible. The authors have ultimate responsibility,
however, for the content of individual articles.

The editors encourage readers to photocopy
and circulate magazine articles.

www.leisaindia.org

Dear Readers

While majority of family farmers produce food primarily for home consumption, yet they struggle to market the little surpluses that they have. There aren't any niche markets for agroecological produce. In the absence of facilities for storage facilities and capacities to add value, farmers are forced to sell their produce in the local markets with low returns. Specialised (organic) and distant markets insist on value addition and certification, that are beyond the affordability of a small farmer.

While food produced following an agroecological approach is safe and sustainable, it is necessary that it also forms basis for farmers economic prosperity. Many farmers are already reaping the benefits of collectivisation, either as informal groups or as a Farmer Producer Organisation. They are showing that it is important to build the quality of the produce right from the production level, adopting environmentally safe practices, getting together to further add value by grading or branding and gaining by collectively marketing. We have included some experiences in this issue.

We are for ever thankful to the readers, the contributors and all those who have been instrumental in sharing and exchanging practical field experiences. We would also like to inform you that we have redesigned our website (www.leisaindia.org), where you can subscribe to, read and download LEISA India magazine.

The Editors

LEISA is about Low-External-Input and Sustainable Agriculture. It is about the technical and social options open to farmers who seek to improve productivity and income in an ecologically sound way. LEISA is about the optimal use of local resources and natural processes and, if necessary, the safe and efficient use of external inputs. It is about the empowerment of male and female farmers and the communities who seek to build their future on the bases of their own knowledge, skills, values, culture and institutions. LEISA is also about participatory methodologies to strengthen the capacity of farmers and other actors, to improve agriculture and adapt it to changing needs and conditions. LEISA seeks to combine indigenous and scientific knowledge and to influence policy formulation to create a conducive environment for its further development. LEISA is a concept, an approach and a political message.

AMEF is a member of AgriCultures Network, which is involved in co-creation and sharing of knowledge on family farming and agro ecology. The network is **locally rooted and globally connected**. Besides magazines, the network is involved in multi stake holders' engagement and policy advocacy for promotion of small holder family farming and agroecology. The network consists of members from Brazil, Ethiopia, India, Netherlands, Peru and Senegal. The secretariat of the network is located in IED Afrique, Dakar, Senegal.

MISEREOR founded in 1958 is the German Catholic Bishops' Organisation for Development Cooperation. For over 50 years MISEREOR has been committed to fighting poverty in Africa, Asia and Latin America. MISEREOR's support is available to any human being in need – regardless of their religion, ethnicity or gender. MISEREOR believes in supporting initiatives driven and owned by the poor and the disadvantaged. It prefers to work in partnership with its local partners. Together with the beneficiaries, the partners involved help shape local development processes and implement the projects. This is how MISEREOR, together with its partners, responds to constantly changing challenges. (www.misereor.de; www.misereor.org)

AME Foundation promotes sustainable livelihoods through combining indigenous knowledge and innovative technologies for Low-External-Input natural resource management. Towards this objective, AME Foundation works with small and marginal farmers in the Deccan Plateau region by generating farming alternatives, enriching the knowledge base, training, linking development agencies and sharing experience.

AMEF is working closely with interested groups of farmers in clusters of villages, to enable them to generate and adopt alternative farming practices. These locations with enhanced visibility are utilised as learning situations for practitioners and promoters of eco-farming systems, which includes NGOs and NGO networks. www.amefound.org

Board of Trustees

Sri. Chiranjiv Singh, IAS - Chairman; Dr. Vithal Rajan - Member; Sri. B.K. Shiva Ram - Treasurer; Dr. M. Mahadevappa - Member; Dr. N.G. Hegde - Member; Dr. T.M. Thiyagarajan - Member; Prof. V. Veerabhadraiah - Member; Dr. A. Rajanna - Member; Dr. Venkatesh Tagat - Member; Dr. Smita Premchander - Member

6 Collective marketing

One step towards adding value

Naveen Kumar Shukla and Kamlesh Gururani

A small practice like grading and sorting at the farm level has resulted in farmers reaping rich benefits in Uttarakashi district. Besides value addition, collectivisation efforts further enhanced the bargaining power of farmers.



10 Innovative value chain ensures sustainable livelihood

Kulaswami Jagannath Jena

By organizing themselves into a Farmer Producer Company, the farmers in Koraput district in Odisha are handling processing, value addition and collective marketing of horticulture produce. With enhanced capacities in managing the crop harvest from farm to market, not only have their incomes increased, their bargaining power and motivation levels are also on the rise.

19 Agriculture

a life of inter-connectedness

C F John

Farmers of Kerwawal Panchayat in Rajasthan found that by reviving bajra based cropping systems, their farming got liberated from water hungry crops such as cotton, onion and wheat. Reviving millets not only brought in more food and fodder, but also reconnected farming households to their traditional cultures where bajra is central.



24 Traditional cuisine

The last link in enhancing the value chain

BAIF

NAHARI is an initiative connoting tribal women-led traditional indigenous food sales corner set up successfully by BAIF in villages of South Gujarat. The concept of community owned and operated Nahari is an effort to promote tribal cuisine among tourist and urban community of South Gujarat and generate alternate innovative source of livelihood for tribal women.

CONTENTS

Vol. 20 no. 1, March 2018

- 4 Editorial
- 6 Collective marketing
One step towards adding value
Naveen Kumar Shukla and Kamlesh Gururani
- 10 Innovative value chain ensures sustainable livelihood
Kulaswami Jagannath Jena
- 14 Integrated fish farming
Adding value to the traditional subsistence based farming system
Deepa Bisht
- 17 Enhancing value by improving quality
Ingrid Fromm
- 19 Agriculture
A life of inter-connectedness
C F John
- 23 Farmer Diary: Making the most of mixed cropping system
Kalaiselvan
- 24 Traditional cuisine
The last link in enhancing the value chain
BAIF
- 26 New Books
- 27 Sources
- 28 Creating better opportunities
PGS and Analog Forestry
Eduardo Aguilar and Cavan Gates
- 31 In the news
- 33 Power of collectives
Jasbir Sandhu and Rajesh Sharma



Agroecological value chains

Sustainable food systems, while preserving the environment, ecosystems and biodiversity should also be able to ensure economic prosperity. While the value chain in conventional agricultural systems refers to the value added to the product from the farm to the consumer, “agro-ecological” value chain is a bit different. It is about understanding how agro-ecologically produced crops become marketable products that are recognized by consumers for their agro-ecological qualities. The value chain begins not after the product is produced, but much before. Value is created by the way the crop is produced without using chemicals, costs are minimized by following the concepts of recycling and reuse and by collective marketing. Sustainable food value chains need to be integrated in a way that it leads to farm sustainability, generates income and employment opportunities in rural areas, particularly for youth and women.

The farming majority are small holders. They are unorganised and driven by the uncertainties of climate and markets. For them, improved productivity with timely access to inputs is only a beginning. The challenge is to get good price for their produce. Promoting smaller supply chains that end in local markets will go a long way in helping farmers realise better returns.

It is indeed recognised that farmers should have certain abilities; simultaneously, concurrent strategies be operationalized. This issue includes examples of motivated farmers and farmer groups trying out diverse strategies, some purely by their own innovative spirit and some through facilitation by farmer supportive agencies, primarily civil societies.

Farm diversity is the key

Agro ecological food production builds on farm diversity. On-farm diversified production facilitates synergy and complementarity among farms and enterprises, for example through processing, recycling etc. This approach allows producing most of the inputs needed locally, which allows keeping prices low while providing high-quality products. For instance, efficient integration of fishery with livestock, poultry and vegetable crops, clearly showed advantage over conventional monoculture practices. Diversified produce



Agro ecological food production builds on farm diversity

from the farm improves nutritional status of household and also generates steady incomes and employment opportunities throughout the year. (Deepa Bisht, p.14).

In maintaining biodiversity there is a pride with purpose beyond the simple producer – market relationship. This is reflected in efforts around seed conservation which is critical in maintaining biodiversity. Twenty five thousand people from four northern districts of Kerala have been procuring, preserving and exchanging all sorts of seed through melas (C F John, p.19). A visitor’s observation captures the spirit. “What we get to see in the stalls are not just seeds but also the spirit of dedicated collectives. The seeds reflect their labour of love. Hence they spoke from their hearts. It expressed the dignity of their work, the beauty of the togetherness, confidence and contentment. They see the work as their contribution to the coming generation.”

Besides mixed cropping and integrated models of enterprises, agro forestry is a good example of diversity offering multiple benefits. Forests play a pivotal role in

providing ecosystem services, ranging from biodiversity conservation to climate regulation. The inherent species in these systems serve as diverse income sources besides offering a variety of processing and marketing opportunities. For example, systems that produce spices, such as vanilla, nutmeg, cinnamon and black pepper, also produce cut flowers, animal fodder, rice, beans, bamboo, and plants for essential oils such as patchouli and orange leaves. Analog Forestry can be used as a tool to produce commercial products while preserving the structure and function of ecosystems. (Eduardo, p.28).

Agro ecological production fosters innovative spirit of farmers. For instance, Kalaiselvan who practises mixed cropping is not only innovative but is constantly engaged in searching for alternatives, attempting innovative experiments on his field to study and understand the nature and climate variations. He is now a role model and around 30 farmers are following his approach to farming. (p. 23).

Collectivising efforts

A consequence of developing agroecological interventions based on local ecological, social and economic contexts is that producers and their organizations come to play a central role in spreading agroecological practices, and through engaging with markets to ensure better incomes for farmers.

It is possible to establish an inclusive, sustainable and scalable model of agro ecological value chain through direct engagement of farmers through collectives. There are several examples of farmer producer organisations and companies which are able to bridge the producer and the consumers. NGOs and Foundations play a critical role in facilitating such farmer managed institutions. For instance, Agramee in Orissa (p. 10) has facilitated a FPO which now takes care of collective input procurement and marketing too. The collectivizing efforts have helped farmers increase their income levels. It has also enhanced their bargaining power. Also, farmers in Gujarat have gained a competitive edge by exercising their power of negotiation, through direct engagement in the market space. (Shukla and Gururani, p.6).

Value addition – Quality itself as value

Focusing on quality is essential. Besides producing a chemical free, safe produce through agroecological methods, other methods like grading and sorting of produce can add additional value, ensuring better returns. While branding through certification is an expensive affair for the agroecological farmers, alternatives like the PGS process can help achieve the same results. Value can be added by using a label or brand associated with a set of production standards through participatory guarantee systems. This can

vary from packaging wholesale quantities of honey into retail-sized jars with information labels, to drying leaves and other plant parts to create special blends (i.e. curries or teas). Beyond building a brand, PGS also results in community building facilitating peer education. (Eduardo, p.28). Yet another approach is branding the uniqueness of a product which emerges from a specific agroecological setting. Kolli Hills coffee is produced under unique, organic agro ecological systems that incorporate a wide variety of food products which could make it more attractive to customers. (Ingrid Fromm, p.17).

Sustainable consumption can drive sustainable production. Popularising traditional foods with the consumers will result in enhancing demand. For example, tribal groups, guided by BAIF have been popularizing the traditional food based dishes through their outlets called 'Nahari'. Besides promoting local cuisine, these Naharis have transformed into successful enterprises. There is no looking back for these empowered women who have graduated from being ordinary housewives to successful entrepreneurs capable of giving other eateries a run for their money. (BAIF, p.24)

Challenges and way forward

There are however, a number of challenges which need to be addressed, for example, lack of infrastructure for storage, lack of awareness on market dynamics etc. Several concepts of marketing like collective trading are also new to the farmers. Hence, FPCs need better understanding of the markets. Also the entrepreneurial spirit and skills of farmers need to be strengthened. NGOs though play a crucial role in development of the Farmer Producer Companies, however, they too lack adequate capacities to guide and handhold farmers in the ever dynamic marketing processes. Lastly, a favourable ecosystem in terms of policies that support agroecological production and the development of short supply chains is necessary. For instance, integrating school feeding and public procurement programmes provide an opportunity for marketing agroecological produce, which is presently lacking.

Reference:

Alexandre Meybeck and Suzanne Redfern (eds.), **Sustainable Value Chains for Sustainable Food Systems**, 2016, FAO, Rome, ISBN: 978-92-5-109532-4





Bandrani farmers grade potatoes to get better price

Collective marketing

One step towards adding value

Naveen Kumar Shukla and Kamlesh Gururani

A small practice like grading and sorting at the farm level has resulted in farmers reaping rich benefits in Uttarakashi district. Besides value addition, collectivisation efforts further enhanced the bargaining power of farmers.

Most of the rural population of Himalayan region depend on agro-based activities for their livelihood. Crops like paddy, soybean, millet, potato, wheat, green pea are predominant followed by millet and pulses. Uttarakhand has its unique geographical and climatic advantage for off-seasonal vegetables.

The Bhatwari block of Uttarkashi is a part of the Eco sensitive Zone which receives heavy rains every year. Heavy rainfall and flash floods in June 2013 wreaked havoc, wiped out settlements and decimated lives.

With an intention of transforming villages into self-reliant and sustainable ones, Reliance Foundation, in 2014, started working with the farming communities in 5 villages of Bhatwari region in Uttarkashi district, which is a most

Village Association

Village Associations are strong and vibrant community-owned and managed institutions. RF mobilises and organises communities into village associations to promote collective ownership, decision making and common welfare. The VA members work together to meet collective aspirational goals.

Membership for VA is open to all the households who are residents of the village. The VA is free to decide membership fees. Each member household will contribute towards the decision making process of the VA. Members receive social, financial and/or technical support for the development activities planned as per the resources available. They also have access to information on weather, market intelligence, seeds, agronomic practices, government schemes and technological advancements from VA, thus working as a resource centre.

vulnerable region. The Foundation has been working with the farmers in Raithal, Natin, Dwari, Gorsali and Bandrani villages in Bhatwari block. The Foundation has mobilised farmers to get organised as Village Associations and empowered them to take up development initiatives.

The Initiative

Potato and pea are the major cash crops grown by farmers in Bhatwari block. Besides climatic challenges, farmers face hardships in marketing their produce. The major challenge of the existing marketing system is the high involvement of village agents/intermediaries at village level. Farmers sell their produce without grading and sorting. Also, farmers fear that if they graded the produce, the low quality produce would not get sold. Being a mountain area, it is difficult for farmers to transport the produce to markets. Owing to lack of transportation facility, lack of organized marketing system and lack of exposure to broader markets in Dehradun and Haridwar, farmers have been depending on agents and receiving low price for their produce.

To address the issue of marketing, Reliance Foundation designed an intervention to help farmers realise a fair price for their produce. This was to be achieved by building awareness and capacities on the importance of economies of scale, value addition, building market linkages, market

Village Development Fund, popularly known as “Gram Vikas Kosh” in Hindi. It is a common pool of financial resources generated from the funds accrued/collected as contribution from Village Association members. This fund provides the VFA financial self-reliance to meet its recurring costs. It is also serving as foundation money to leverage larger funds for village development as well as a safety net for members in crisis.



Photo: Reliance Foundation

Farmers have been receiving low price for potatoes owing to lack of organized marketing

information, all leading to realising the best value for the produce. The intervention was designed and executed through the Village Associations in the year of 2016-17.

Village Association members were first trained on best cultivation practices of potato and pea, to improve the crop yields. As quality and access to seed are important, Village Associations collectively procured the seeds and distributed to the members. The collective procurement was done at cluster level by all the VAs across project village's viz. Raithal, Natin, Dwari, Gorsali and Bandrani.

The Village Association members involved the village agents/intermediaries in the General Body Meeting and discussed the challenges created by them and sought their

Collective marketing not only saved the time of members but built the capacity to negotiate in larger markets

Table 1: Benefits from graded produce

Name of the VA	Product	No. of producers	Total quantity sold - Qt	Price received Rs/Qt	Incremental benefit in price Rs/Qt
Sameshwar Devta Gram Krishak Samiti, Bandrani	Graded Potato	15	140	Rs. 1170	Rs.110
Kandar Devta Gram Krishak Samiti in Dwari	Graded Potato	15	64	Rs.580	Rs.60
Bangsariya Naag Gram Krishak Samiti Gorsali	Graded Pea	25	20	Rs.5520	Rs.971

cooperation in addressing the same. As most of the agents belonged to the same village, they agreed to cooperate with the Association.

The Village Association decided to collectivize farm produce. For this, the farmers estimated the harvesting time of Pea and Potato and the probable quantities that could be harvested, to plan the schedule of procurement and collective marketing. VA decided to sell the produce in Dehradun Mandi.

A buyer and seller meet was organized at village level, where in Village Association representatives interacted with the buyers from Dehradun Mandi. For the first time at the village level, Mandi expert imparted training and handholding support to farmers in sorting and grading. Farmers were oriented on quality of produce, importance of grading and importance of collective marketing of produce.

For the first time at the producers level, potato grading was done across two villages. Village Associations provided

Raithal farmers harvest peas



Photo: Reliance Foundation

gunny bags to potato and pea growers. Four village associations viz Pahi, Dwari, Gorsali and Raithal have taken initiative to provide packaging material for potato marketing. A total of 9600 gunny bags were procured from Dehradun market and distributed to members.

Farmers weighed the produce and filled only 50 kg each bag. In the past each bag was considered as a standard weight of 50 kgs and was sold on the basis of bags without weighing being done. Now the trend has changed and Village Association deployed weighing machine and members sold their produce as per the actual quantity of produce.

Challan book was prepared to record the quantities of Potato and Pea. Three copies of challan were printed- first copy of challan given to farmers with the details of their quantity, the second one attached to the gunny bag for facilitating sale at the Mandi and the third copy, maintained by Village Association.

The Village Association representatives booked transport for carrying the produce from village to Mandi. The cost of transportation was borne by all the producers whose produce is carried. When the produce reached Dehradun Mandi, open *boli* (auction) was done in Mandi. The quantity sold and price realised is seen in Table 1.

All the transactions were made through Village Development Fund, which is solely being managed by the village associations. The money received was deposited to VA account. VA later organized a meeting in the village and distributed money to farmers as per the quantity and selling price, after deducting the transportation charges.

Total investment done was around Rs.129600 from Village Development Fund to procure packaging material (gunny bags). Due to this initiative, VAs earned around Rs.24,000 as profit and also saved around Rs. 38400 for their members. VAs developed contacts with 3 wholesalers at Dehradun Mandi for regular updation of Mandi rate and support for market linkage. This initiative not only saved the time of members but built the capacity to negotiate in larger markets.

Conclusion

A proper market linkage has been developed by adopting a value adding practice like grading and sorting. The



Photo: Reliance Foundation

Collective procurement of peas is done at the cluster level

collectivization of produce was strengthened through collective marketing by integrating producers, Village Association members, transporters, traders and village association members. The initiative facilitated in building capacity of producers on value addition, collective marketing, better negotiation skills, forward planning and logistics management. Though this is a small step, hope it will help in bringing about a change in the market dynamics in coming years.

Naveen Kumar Shukla and Kamlesh Gururani

Reliance Foundation

Uttarkashi district, Uttarakhand

Pin Code 249193

E-mail: naveen.shukla12@gmail.com



Photo: Agramee

Women entrepreneurs process mustard to extract oil

Innovative value chain ensures sustainable livelihood

Kulaswami Jagannath Jena

By organizing themselves into a Farmer Producer Company, the farmers in Koraput district in Odisha are handling processing, value addition and collective marketing of horticulture produce. With enhanced capacities in managing the crop harvest from farm to market, not only have their incomes increased, their bargaining power and motivation levels are also on the rise.

Farmers in Dasmantpur block in Koraput district have been traditionally cultivating paddy, millets, maize and niger, primarily during kharif season. Undulating terrain, poor soil quality, lack of irrigation facilities resulted in farmers harvesting just one crop a year. Owing to lack of

awareness on organic practices, farmers have been following conventional methods, resulting in low yields. With less produce, farmers had lesser bargaining power, therefore, received low returns. With unsustainable incomes, farmers were forced to migrate in search of alternative livelihoods.

Aragamee, a national NGO, strongly believes in systematically and sustainably addressing these challenges through active involvement of producers themselves. In collaboration with donor agencies like KKS, NABARD and

Around 1850 families shifted to organic food cultivation over 2115 acres with 5-10% production improvement per hectare.



Turmeric being processed by women entrepreneurs

Govt. of Odisha, AGRAGAMEE initiated a livelihood stabilization programme and in the last ten years, it nurtured 4500 small and marginal farmers and women producers in Koraput district, to adopt agroecological practices.

Case of a Farmer Producer Company

Dasmantpur Cashew Development Processing & Marketing Producer Company Ltd. (DCDPMPL) has been promoted by Agragamee involving farmers and Mahila Mandals (women groups) belonging to 87 villages to enable fair returns to farmers. The FPC has been working with economically poor socially marginalized women and farmers to help them foster their entrepreneurial spirit and to turn potential into profit through enterprise development. The Dasmantpur Cashew Development Processing & Marketing Producer Company Ltd. (DCDPMPL) was formed during May 2016, consisting of 2050 progressive farmers belonging to 87 farmer producer groups (37 Udyan Vikas Samiti and 50 Mahila Mandals), belonging to 87 villages.

Between 2009 and 2011, the existing members of Udyan Vikas Samiti and Mahila Mandal groups in the village were organized into farmer producer groups. They have been mobilizing savings and giving loans to the members who are in need of credit. Gradually, the members got successfully initiated into different agro-horticulture production systems involving cashew, turmeric, oil seeds, pulses, mango, tapioca, hill broom and millets.

The foremost emphasis of the FPC has been on productivity enhancement. Sustainable practices were promoted among horticulture farmers. By the end of December 2017, around 1850 families had shifted to organic food cultivation over 2115 acres, with 5-10% production improvement per hectare.

Farmers were encouraged to use grafted seedlings and organic inputs like pit compost, vermi compost, liquid

Where women create their own path of self reliance

The tribal belt of Odisha is richly endowed with hill grasses. The agro-climatic condition of Rayagada forest range is very much congenial to produce the best quality of the hill brooms. Most of the tribes depend on the collection and sale of hill grass. Considering the huge demand, broom making trade with its huge potential for growth is a sustainable livelihood option for the community for some part of the year.

Ama Sangathan (Women Federation) is a registered society which grew out of the efforts of 1225 women from Kashipur Block of Rayagada district, since 1992. Tribal communities are enabled to organize themselves into people's organization. Women leadership was actively promoted both at the village level as well as at the panchayat level. Ama Sangathan society networks with 17 Mahila Mandals of different panchayats in Kashipur block.

Ama Sangathan (AS) has a central processing unit and warehouse at Mandibisi village of Rayagada district. It collects, stores raw material, processes, maintains finished goods inventory and markets the processed product. The processing is being done frequently. After collection, the hill grass is transported to the central warehouse where the final level of processing is done. In a span of five years, the collection has increased from 312 quintals to 411 quintals. Consequently, the annual turnover increased from Rs. 12,50,000/- to Rs. 17,20,000/- during the same period. The profits are shared among the members equally, every year. The women entrepreneurs have achieved self reliance.

manure, green manure, pot compost etc. They followed practices like mulching, ring making, pitcher irrigation, plant staking etc., learnt through trainings, demonstration and exposure visits. Around 1275 farmers from 56 villages have developed cashew orchards, harvesting an yield of 5-7 kg per tree. Similarly, around 1109 farmers from 53 villages developed mango orchards, harvesting an yield of 12-15 kg/tree. The FPC tied up with input dealers like Orissa State

Local vendors procure organic mango from farm sites



Table 1: Value added products

Sl. No.	Name of the Produce	Value Addition of the Produce	Local Brand Name	Done By
1	Cashew	Cashew Nut	Dasmantpur Cashew nut	Farmer Business Groups under DCDPMPCL
2	Mango	Pickle, Amchur, Dried Mango Cake	Dasmantpur Pickle	Farmer Business Groups under DCDPMPCL
3	Hill Broom	Broom (Jhadu)	Ama Haldi	Mahila Mandals under DCDPMPCL
4	Turmeric	Turmeric Powder	Shradha	Mahila Mandals under DCDPMPCL

Cashew Development Corporation Limited (OSCDCL), Agro Service Centre and Utkal Seeds and Nursery.

Around 1250 farmers from 58 villages were engaged in cultivation of hill broom. Earlier its cultivation was taken up on encroached land, but now is taking place both on individual farms and on commons, in a systematic manner. With enhanced skills and knowledge on cultivation, processing and value addition of hill broom through various capacity building processes, farmers could harvest 400-450 kg per acre.

Around 79 farmers from 6 villages were engaged in cultivation of turmeric. There were no collective efforts for processing and value addition of turmeric. Owing to lack of

awareness about the scientific methods of turmeric cultivation, the yield per acre was around 10000-12000kg. Presently, 407 farmers from 32 villages are engaged in cultivation, adopting sustainable practices realizing an yield of 18000-22000 kg per acre, besides collection, processing and value addition.

Value addition and marketing

Members of FPC took up various value addition processes after being trained on processing and value addition. (See Table 1). Local branding was also done. While value addition of mango and cashew was taken up by farmer business groups of FPC, the mahila mandals took up processing of hill broom and turmeric.

A customer verifies the hill broom quality





Cultivating cashew trees ensured better returns for tribal households

Farmer members of FPC collectively marketed by pooling their produce and transporting the same to the local as well as city markets. The procurement has been facilitated by Agramee which trained the FPC Board of Directors to handle such procurements. A fair system of quality control for procurement was adopted as per the standards laid down by the market policy and guidelines. By eliminating middlemen, farmers could get better prices. A sale outlet was set up in Dasmantpur for direct marketing of value added and processed products to customers. By the end of the year 2017, by selling 255 tons of cashew, 145 tons of mangoes and 41 tons of hill broom, each producer/shareholder got an income of Rs 53,840. FPC also had a tie up with Odisha Rural Development and Marketing Society (ORMAS) and PCM Exports. With this initiative, the income of the farmer members increased by 40%. For example, by selling to the middlemen, the turmeric farmers of Marichaguda village of Dasmantpur Block were getting only Rs. 8000/- per quintal of raw turmeric. Now, after value addition, they are able to earn Rs. 15000 per quintal of turmeric powder, by selling it directly in the market. Likewise, the cashew, mango and hill broom farmer producers have augmented their income by 40%.

In addition to market linkages, the FPC has also been organizing farmer melas seasonally, to directly sell the produce to consumers, thereby, creating visibility too. Besides marketing, FPC is also providing services like emergency credit, production credit, retail services on consumables and other agricultural production support services required by the farmer producers.

Conclusion

Collectivizing efforts for meeting the requirement on the farm inputs and increasing the direct sale of the produce has helped farmers increase their income levels. It has also enhanced their bargaining power. This procurement mechanism has now triggered a wave of support for FPC in the region not only among the farmers but also at the administration level.

However, there are still challenges. NGOs play a crucial role in development of the FPC as promoting institutions but they operate largely based on a philosophy of social work. But, understanding the markets and nurturing entrepreneurial abilities is something which is required for the FPCs to grow. And, this is beyond the capabilities of local NGOs. Also a favorable ecosystem is a must for development of the FPC, as it has to deal with most vulnerable part of the agri-value chain, which starts from the farm and ends in far away markets.

The journey has just begun.



Kulaswami Jagannath Jena

Project Coordinator -Eco Village Development
Agramee

Kashipur, Rayagada,
Odisha, India.

www.agramee.org

E-mail: kulaswami13@gmail.com

Integrated fish farming

Adding value to the traditional subsistence based farming system

Deepa Bisht

Integration of various components on the farm not only results in better resource management but also leads to increased farm production, income and productive employment. Integrated Fish Farming (IFF) is one such model which adds value to the traditional subsistence based farming system. Besides providing substantial monetary gains, the model also provides food and nutritional security to the farm household.

Uttarakhand, a predominantly mountainous state is characterized by isolated villages, undulating terrains, small and fragmented land holdings, and rain fed farming. Lack of irrigation facilities coupled with harsh climatic conditions have led farmers to focus on traditional, subsistence based cereal and millet farming systems. Lack of alternative livelihood systems, pushes them to follow subsistence based farming systems or migrate to urban areas in search of employment.

Most of the small landholdings are managed by women. Agriculture production fulfills the food requirements of the people for less than six months. Since the scope for horizontal expansion in farming is limited, vertical integration is needed to enhance farm productivity, employment, while providing steady incomes. This could be achieved by systematically integrating farming systems in right sequences. For instance, integration of different farm components like livestock, fish, poultry, vegetables etc., enables sustainable production of different commodities with low investments, while reducing negative impact on environment.

The case of a farmer

Shanti Devi is an owner of a small farm in Basoli village of Almora district in Uttarakhand. She owns around 1.2 ha agricultural land spread over 2.0 km in the mountainous



Photo: Author

Poultry raised near the pond enhanced the nutrient content of pond water by their droppings

region. Of the total land, around 0.4 ha is under cultivation. Shanti Devi has been engaged in agricultural and allied activities, dominated by traditional subsistence cereal-millet farming. During Kharif season, with rainfall of around 600 to 700 mm, has been growing finger millet, barnyard millet, horse gram, soybean and vegetables like cucurbits, french bean, okra, tomato etc., and during rabi season, with unpredictable rainfall, wheat and few leafy vegetables.

Shanti Devi took part in training in 2004, organized in the village under Women Scientist Scheme of DST (WOS-B). The training was based on Integrated Fish Farming (IFF) principles. Following the training, she received guidance for managing the system.

The model of Integrated Fish Farming

The model comprised of the following components - three water tanks (water storage tank of 1.78 m³ capacity, filtration tank of 1.47 m³ capacity, filtered water tank of 9.8 m³ capacity), fish pond of 100 m², a small poultry unit located besides the pond and beds for cultivation of vegetables.

Into the fish pond, during March 2004, a combination of *silver carp* (*Hypophthalmichthys molitrix*), *grass carp* (*Ctenopharyngodon idella*), and *common carp* (*Cyprinus carpio*) in the ratio of 45:35:20 at a stocking density of 3000 fingerlings /ha with average size of 5-10 cm, were released. These species have complementary feeding habits, occupy different ecological niches, attain marketable size at more or less the same time and are resistant to diseases. The fish received a feed comprising rice bran and ground nut cake (1:1), at the rate of 2% of body weight at initial stages of growth. Subsequently, after two months of stocking, no artificial feed was given. The feed sources were cow dung, droppings of poultry and grass. After rearing for 8-9 months, the fish were harvested.

Besides the pond, 30 hybrid birds of dual purpose were reared in low cost small poultry house. Supplementary diet was provided at initial stages of growth. The chick's growth was monitored at regular intervals. The hens were sold after the egg-laying cycle was completed. The excreta from

poultry unit was used as a supplementary feed for the fish in the fish pond.

Beds for vegetable cultivation (600 m²) were prepared adjacent to small ponds so that water could be drawn for irrigation. Improved varieties of different vegetables were grown round the year, utilizing pond overflows for irrigation and sediments as manure.

Regular efforts were made by the farmer to improve the system. The farmer has succeeded in enhancing production per unit area through improved cultural practices, using higher stocking densities of exotic carp species; proper maintenance of poultry birds; and, by growing high yielding varieties of vegetables. The farmer has been maintaining pond fertility at optimum level, with poultry droppings and livestock excreta, which promoted growth of planktons used by fish as feed which further enhanced fish yields.

Fish yields of around 5.5-6.0 t/ha/yr is being realized by the farmer under intensive management. The pond created for composite carp culture has facilitated irrigation to grow different vegetables round the year. The farmer has been growing high yielding varieties of 8-10 different vegetables by harnessing over flow of pond water for irrigation with year round cultivation of vegetables (French beans, capsicum, pea, tomato, and radish).

Call for Articles

Biological Crop Management

Vol. 20 No. 2, June 2018

Farmers interested in chemical free farming have been traditionally using biologicals. With the advent of Green revolution agriculture, the emphasis shifted to chemical inputs. However, there has been increased awareness on use of biologicals in recent years as they seem to offer diverse benefits - to the farmer, consumer as well as environment. The farmer becomes less dependent on external purchased inputs; the biological nutritional supplements and control mechanisms reduce costs of cultivation, improve crop yields; the farm produce is considered more healthy and tasty for the consumers; the use of biologicals keeps the farmer's health as well as environment safe.

While farmers on their own are producing the needed biologicals on their farm, there are initiatives where in the farmer groups or local collectives are taking up production of biologicals at the community level. There are also private actors in the production and distribution of biologicals. Have these efforts and initiatives helped to provide easy access to biologicals or are farmers finding it difficult to shift to agroecological ways of production owing to lack of access? Despite

the shift in the nature of resources used, has the dependency of farmer on the external agencies reduced? Are farmers trained enough to produce and use these resources on their own? What are the benefits and challenges by shifting to biological crop management? How are farmers dealing with some of these challenges? How are the consumer groups encouraging such efforts? Are there any incentives and mechanisms being offered to the producers for shifting to biological measures. In this issue we would like to include experiences that address these issues, both at the local as well as at the national level.

Articles for the June 2018 issue of LEISA India should be sent to the editors before 1st May 2018.

Email: leisaindia@yahoo.co.in

During 2006 and 2007, the entire unit with composite carp culture with poultry, yielded around 56-60 kg of fish, 55-65 kg chicken, and 2500-3000 eggs, per year. These three major components contributed 50- 60% of the total income (Rs 29,938) generated from the system. Over the period, the farmer family has been earning gross income of Rs30,000-35,000 annually from IFF adopting fish–poultry-vegetables. The non recurring expenditure has reduced in successive years, thus enhancing net income from the system. Net income of around Rs 30,000 was generated during 2016 from the system. Established in 2004, the IFF model at the farm of Shanti Devi is still running and fetching a substantial income to the beneficiary household.

The IFF system helped in better resource management through integration of complementary components; led to increased farm production and incomes. The integrated system not only provided substantial monetary gains, but also food and nutritional security to the farmers' family through regular supply of vegetables, eggs, chicken and fish. Besides home consumption, as the village being located near *Binsar Wild Life Sanctuary*, a tourist destination, marketing of fish, eggs, chicken and fresh vegetables, was possible. These commodities were sold at a premium price in local markets, and also to hotels and resorts in the vicinity of the wild life sanctuary. As the produce was fresh and free from chemicals, it fetched better price. The IFF model has proved its worth to generate employment for farmer household and added value in the traditional subsistence based farming. Also, as the production is within easy reach of consumers, harvesting of fish, poultry, and vegetables is adjusted to demand, thus minimizing distribution problems and spoilage.

Conclusion

IFF has offered increased efficiency of resource utilization, reduced risk by diversifying crops and livestock. Diversified produce from the farm has improved nutritional status of the household and has also generated income and employment opportunities throughout the year. The resource and residue recycling in IFF reduces production cost. The small scale IFF is not only economical but also energy saving. It encourages recycling of wastes and helps in maintaining ecological balance. With utilization of animal manure as substitute for high cost inputs (fish feed, inorganic fertilizers), leading to reduced dependence, the IFF is self supporting, self sufficient and sustainable.

The complementarity of various components
makes the model self supporting, self
sufficient and sustainable.

Further, other complementary enterprises like mushroom cultivation, vermi-composting, fodder grass cultivation and apiculture may be integrated to make the system more profitable.

Acknowledgements

Author is thankful to the Director of the G.B. Pant National Institute of Himalayan Environment & Sustainable Development, Kosi-Katarmal, Almora, for encouragement and providing necessary facilities. Financial support from DST, Govt. of India, New Delhi is highly acknowledged.

Deepa Bisht

Scientist- DST

G.B. Pant Institute of Himalayan Environment and Development, Kosi-Katarmal, Almora, Uttarakhand, India.

E-mail: deepabisht1234@rediffmail.com

Enhancing value by improving quality

Ingrid Fromm

The unique agro-ecological conditions of Kolli Hills have a direct effect on the coffee aroma and quality. The case of this small-scale, organic farmer reaffirms that a diversified, agro-ecological farming system approach adds quality to the produce, making the system not only viable, but also profitable.

The way up to Kolli Hills, a small town in the Namakkal district of Tamil Nadu, is treacherous- a painful 70 tight curves of road full of motorcycles, cars, trucks and buses just barely making it by. Once the end of the road is reached, the most marvelous, lush forest scenery awaits the traveler. It's an unlikely location for coffee production, but then again, most of the coffee produced around the world comes from exotic, hard-to-reach locations such as this. Undoubtedly, the unique agro-ecological conditions of Kolli Hills have a direct effect on the coffee aroma and quality. Coffee production in this region of India proves that producing under agro-ecological principles is possible, and even profitable.

In Kolli Hills, in the forested area dotted with paddy fields, Ms. Jayam Sulavanthipatti has been producing coffee for over 20 years. With about 2.5 hectares of land, she and her husband have planted one hectare of Arabica coffee, along with pepper, banana, cassava, cardamom, lemon, jackfruit and pomegranate in a diversified organic farm. Coffee farming is a family activity. Together with her husband and the occasional help of 3 sons who are now studying technical careers in the city of Namakkal, they produce about 200 kg of dried coffee beans a year. The pulp removal is done outside the farm, in a neighboring farmer's house. The coffee is then brought back to the family farm, where it's dried in the concrete roof of the house. Since the plantation was renewed 4 years ago, the yield has increased. In order to achieve this, Jayam had to take a loan from the Coffee Board to improve the drying yard and renew plantation. Buyers



Photo: Author

Coffee beans in Kolli hills is known for its aroma and quality

come directly to the farm to collect the coffee and they determine the price. It's practically a necessity for their family because transporting coffee to the collection centers would be too difficult for them. Despite the fact that Jayam has no bargaining power with the buyers, she's making a better income than a few years ago; much of the increase in income has to do with the higher yield. She can now afford to pay day laborers during the coffee picking season, even though her husband also works in other farms as an occasional laborer to increase the family income.

A stark contrast to the highly intensified agricultural systems found elsewhere in India, the agro-ecological practices in Kolli Hills prove that sustainable agriculture in India is possible. Most family farmers are able to sustain themselves by cultivating a number of crops, as is the case of Jayam and her family. Diversification is a key element in such a system. Income is generated by selling coffee, pepper, cardamom, jackfruit, pomegranate and lemon. Cassava is

used for household consumption and also sold and processed. Bananas are grown for family consumption and for sale at the local market. The local diet also includes minor millets grown by some of the farmers.

Adding value to production

About 1500 farmers in Kolli Hills belong to the Kolli Hills Agrobiodiversity Conservers Federation, and Jayam is one among them. This is a self-help group which provides farmers with training in processing and value-addition of crops such as cassava, coffee and minor millets. The federation works towards promoting biodiversity conservation and organic agriculture. Much of the training the farmers receive is geared towards understanding and improving organic farming practices. In some of the fields, VAM (Vesicular-arbuscular mycorrhiza) units have been set up for soil application. Use of bio-fertilizers and bio-inputs is also promoted by the federation. With the help of partners such as the M. S. Swaminathan Research Foundation, farmers have received support in the establishment of self-help groups and the identification of value addition opportunities.

Reaching wider markets

One special feature of the coffee grown in Kolli Hills is that most of it is locally consumed. Tamil Nadu, and in general the south of India, is known for its coffee culture. In big cities like Chennai or Bangalore, all types of street establishments, from simple vendors to fancy coffee shops and restaurants, sell coffee. Kolli Hills coffee, with its aroma and rich flavor, makes its way from the farm, after being dried by farmers in their own farms to the collection centers in Kolli Hills. Then the coffee is transported to Namakkal, Salem, Chennai and Bangalore. Big roasting companies in Bangalore buy, roast and sell the coffee. All of the coffee production from Kolli Hills is consumed in India. However, the full potential of Kolli Hills coffee is yet to be reached.

The fact that coffee in Kolli Hills is produced under unique, organic agro-ecologic systems that incorporate a wide variety of food products could make it more attractive to consumers. Growing consumer concerns in urban centers in India-Bangalore, for example- about the environment, transparency in supply chains and the welfare of farmers could be answered with proper certifications and labelling. By selling single-origin, organic Kolli Hills coffee, an increased price for the coffee could be guaranteed, especially because of the good reputation of this coffee. Coffee

By selling single-origin, organic Kolli Hills coffee, an increased price for the coffee is guaranteed, because of its good reputation.

production has been a profitable business for small-scale farmers in Kolli Hills. Just as Jayam pointed out, family farmers in the region are more resilient to external shocks such as the current climatic conditions, or fluctuating food prices because of their diversified production systems.

The diversified cropping systems incorporate the cultivation of profitable commodities such as coffee which adds substantially to their

income, and fruits and vegetables besides meeting household consumption needs also contribute to a higher income, when sold in local markets. Jayam attributes her success in being able to pay for her children's education to the diversified, agro-ecological farming approach they have taken in their 2.5 hectares of land.

The example of this small-scale, organic farmer from Kolli Hills in India reaffirms that a diversified, agro-ecological farming system approach is not only viable, it's profitable. In a changing agricultural landscape where there is a higher pressure on land (i.e. soil depletion, erosion, land scarcity), where climatic conditions are becoming ever more severe and unpredictable, and where the feeling of hopelessness in rural areas pushes young people to migrate to urban areas, agro-ecology is the safest way to overcome all these challenges. Both from an ecologic and an economic perspective, betting on agroecology at the farm and community level may just be the best way of finding solutions to the global problems that we currently face.

Ingrid Fromm

Bern University of Applied Sciences
School of Agricultural, Forest and Food Sciences
Laenggasse 85
3052 Zollikofen, Switzerland
E-mail: Ingrid.fromm@bfh.ch



Coffee in Kolli hills is grown along with pepper, banana and silver oak trees

Photo: Author



Seed festivals are instrumental in conserving many varieties which otherwise would have gone extinct

Agriculture

A life of inter-connectedness

C F John

Strongly believing in diversity, around 5000 farmers in Kerala have been preserving and nurturing seed diversity, over years. Exchanging and conserving not only seeds but also knowledge associated with it during their annual seed festivals, these 5000 farming families along with their collectives, are making an investment in the sustainability of agriculture and life on this planet.

With the increasing alienation from soil and life processes that we experience today, our thoughts and forms of living have become increasingly abstract, diminishing our capacity to engage with the immediate and physical. It is almost

absurd: what is alienated and abstracted have come to feel immediate and real for us, dishonoring the real processes that sustain our life. Only a true engagement with soil and the ones who work with it and help sustain our bodies, can allow all other works that we do today, become whole and complete.

With sustaining efforts of FTAK (Fair Trade Alliance Kerala), about twenty five thousand people from four northern districts of Kerala, (Kozhikode, Kannur, Wayanad, Kasargod) for the last twelve years have been procuring, preserving and exchanging all sorts of seeds, planting material, indigenous livestock, medicinal plants, indigenous and wild trees, and other living things in a focused and sustained manner.



Conscious consumers now understand the real value of safe produce

Born at the peak of the agrarian crises in Kerala, FTAK was formed in 2005 by Tomy Mathew of Kerala's oldest organic store, *Elements* in Kozhikode. The 300 families from Wayanad who were its first members, initially were looking to increase market access for their farm produce and to negotiate better prices to ensure trade justice. The dignity of farmers was at the center of the collective. Now, under its umbrella over 5000 families, adding up to about 25000 people, have made a mark in the hilly tracts of *Malabar*, by its pioneering efforts at fair market access for the hill produces of Kerala. The organization has been a trendsetter in procuring agricultural commodities like cashew, coffee, spices, coconut etc., from its members, at prices that match the cost of sustainable production.

The organization initially focused on remunerative prices and fair market access. Today the organization has managed to build on this and become a force in sustainable and organic

farming practices, rejecting monocropping for biodiversity. It is thumping a finger at terminator technology. They are recapturing seeds for the public good. At another level, it is bringing the focus back on food sovereignty. The aim is to make each member's farm a miniature rain forest with a multitude of fauna and flora, typical for the western ghats region, now a declared protected biosphere.

FTAK has become valuable as an institution for its members, not only for marketing their products for fair prices but also providing mid- and long-range proposals on how to improve their livelihoods and lives on a very regional and pragmatic way, with a strong democratic process.

Seed festival – a gathering of custodians of seeds

In this context, FTAK's seed festival is moving and reassuring. It pulses with hope for the future. It seeks to enliven both the functional and symbolic spirit of the land and community. Its participants present a vision of life as abundance – an abundance of life. Not a wasteful or accumulative affluence, but satiation and sharing, where we remember and learn again from teachers who have come to us in different forms – soil, rain, trees, plants, birds,

Today the choices we make matter.
The seeds preserved here are also
preservation of choices for our lives.

animals and elements, and from each other as a community. The farms and the venue of the seed festivals become a place for sharing experience and knowledge related to preservation and propagation of indigenous seeds.

We are living in a time witnessing an increasing aggression in our lives, fueled by obscure and abstract institutionalized forms of faith. Paradoxically, the innate and transcending nature of these faiths are being repressed and predictably producing seeds of threats and hatred. But in the seed festival, along with the preservation of life-sustaining seeds, the important values of caring, nurturing, preserving and sharing are also nurtured. So to my mind, it is not just about preserving seeds, it is about who is preserving them and how. It is often the people at the margins and the vulnerable are the ones who preserve many of the transcending visions, breathing them into the daily life. An observation from a visitor who took many rounds and spoke with each stall said, *“What we get to see in the stalls are not just seeds but also the spirit of dedicated collectives. The seeds reflects their labor of love. Hence they spoke from their hearts. It expressed the dignity of their work, the beauty of the togetherness, confidence and contentment. They see the work as their contribution to the coming generation.”*

If you went to view the exhibition the way we visit other shows, we would miss the meaning. Around sixty stalls all display seeds with extraordinary diversity, over 6000 of them: ordinary, extraordinary, unique, nearly extinct and common – all are there. Around 200 varieties of rice, one hundred and fifty kinds of beans (payaru), many kinds of brinjal, chilies, pepper, yams, spinach, tubers, fruits, nuts, medicinal plants, engendered livestock, all make a testimony. These are presented by those who have cared to keep them alive. Not just alive, but thriving with health and purity. As faith communities fight over issues of purity, here these humble farmers with urgency and mindfulness, with open eyes and hands, work in the soil to maintain its moisture, micro-organisms, air, warmth and all that is necessary for a seed to sprout, grow, and blossom to give healthy seeds again, year after year. That way they hope that along with all these rich diverse and interdependent forms of vegetation and other forms of life, our life too would regain health and sanity. One visitor said, *“Their understanding of the holistic nature of farming was most erudite... I felt that if these were the women farmers, then there was vast wealth of potential trainers and resource persons inside the organization.”* What is important is that most of the people who come to visit the seed festival are also keen to care for life and committed to



The festivals are a platform for exchanging seeds and knowledge

learn the nurturing of it. So it is the place for the gathering of minds to share their seeds and the knowledge of preservation that to my mind is doing a duty that is sacramental. Because it is the true work for our times, an investment in the continuity of agriculture and the life on this soil.

If one visits any of the farms, half-acre to three-acre plots, one would see multiple crops like coffee, spices, coconuts, fruits and vegetables all on one farm and growing amidst each other. From the tubers underground to the tallest coconut trees, from the soil to the sky, many, many varieties of food and cash crops. A farm looks more like a very large tropical allotment. Here with the involvement of over 5000 farming families, with their collectives, we see the largest indigenous seed preservation effort in the western ghats of India. The focus of the seed fest now is on seed sovereignty, *vittu swaraj*.

Today each collective has become a seed bank. A seed keeper from a collective says, *“Today, I do not even need to buy groceries, except for sugar, salt and tea. Everything is in my farm or the neighbors.”* Seeds that were only with one person at the beginning of the seed festivals are now with many. When the farmers speak, we can hear how these seeds are cared for with personal attention. *“All is done with our own hand ... this needs to be experienced personally,”* they say. If a visitor is not alert enough to the alertness of the seed keeper, he would miss this bodily connection she is whispering, the secret of Life.

Thich Nhat Hanh said once that *“if you are a poet you will clearly see that there is cloud floating in this sheet of paper. Without a cloud there will be no rain, without rain, no trees and without trees, no paper.”* If we take a moment to see

the story in reverse, we will get to see the poems in the clouds and not need to write them on paper. So that the trees, rain and clouds all would return. These seed keepers see the poems in the soil and the seeds. It is the poetry of bodily connection, celebrating life.

The seeds stay together knowing each other

In keeping with the spirit of this mindful preoccupation, the fest itself is different from the exhibitions that we normally get to see. At a time when our tastes, without even our own knowing, are defined by the studio aesthetics of corporate world, the seed fest defies all that smartness. All who come there are part of one caring. The event carries the sensibility of land, done without event managers, PR agencies and media hype. A true farmer knows what is necessary, what is wasteful and how something is made functional. So it is not an exhibition for an alienated consumption, but reminds us of our own simple taste and shows us possibilities of how one can be light. It shows our own forgotten ways of togetherness, and how one can go beyond the financially-driven economy and participate in a social economy.

Conscious consumers

Sections of people today are becoming more sensitive to the effects of their consumer behavior and are increasingly

trying to avoid a negative impact in the upstream value chain by making an educated choice. It is time for a conscious consumer to understand the real value of the produce they take away at a bargain.

Fair trade as a concept recognizes the skewed market and tries to appeal to the buyer's sense of justice. It rests on the principle of consumers supporting producers directly and a willingness to pay more than the conventional market price in exchange for healthier products. As a visitor says, "*FTAK's effort is at the very heart of the struggle between a sustainable food system centered on the work and knowledge of small farmers, and an unsustainable industrialized food system dominated by a handful of multinational corporations.*"

In a social as against a financially-driven economy, new ideas spread not by creating large corporations, but by the rich examples of forms that are smaller and in human scale. They inspire others and spread like seeds from a pod. FTAK in its short life has been just such an inspiration.



For References, contact author

C F John can be contacted at cfjohn23@gmail.com

Visitors at the FTAK seed festival



Making the most of mixed cropping system

Mr. Kalaiselvan is young and enthusiastic farmer who hails from Kovil Veerakkudi of Pudukkottai district in Tamil Nadu. Like many other places across the country, Kovil Veerakkudi, has been experiencing the impact of severe drought for the last 5 years. Kalaiselvan



Kalaiselvan on his farm

owns 7 acres of farmland and cultivates crops like paddy, groundnut, cotton and millets. Being interested in organic ways of cultivation, Kalaiselvan participated in the Farmers Field Schools organized by Kudumbam, a local voluntary organization working with resource poor farmers and involved in promoting bio-diversity based ecological agriculture alternatives. He switched over to organic cultivation of paddy.

After five years he realized that even with organic ways of cultivation, his expenses on crop cultivation, had not reduced, while the well which is his only water source was getting depleted of water. This made him to realize the need for a change in his crop cultivation methods and decided to do an experiment with mixed system of crop cultivation with the available water resources. He took a portion of 75 cents of his field for his experiment with mixed cropping system. He took groundnut as major crop and intercropped with pulses like red gram, cowpea and mung dal. In order to effectively use the irrigation water, he planted onion crop on the irrigation bunds and similarly planted sesame on the main field bunds. After second weeding and earthening for groundnut, he planted cotton seeds and during the harvest of groundnut he grew short term greens.

With mixed cropping, Kalaiselvan reaped diverse crops - 8 bags of groundnut, 40 kgs of black gram, 10 kgs of mung dal, 10 kgs of cowpea and 50 kgs of onion. With value addition, he could get groundnut oil and sesame oil, sufficient for family consumption. By this mixed cropping system, he was able to get sustained crop harvest continuously for 6-8 months at different intervals meeting

food and nutritional needs of the family.

The surplus sold in the market yielded a net income of around Rs. 59,700 from 75 cents. This was way ahead than the net profit of Rs.7315, received from 40 cents of paddy mono cropping. Also, mixed cropping reduced weed and pest infestation to a large extent.

The biggest gain in the mixed cropping system is the water saving in irrigation. Crops were now being irrigated once in 15 days while mono cropping system with paddy required irrigation once in 4 days. Above all, mixed cropping became the best climate resilient option with some crop harvests being assured in the event of other crop failures.

Many farmers are getting inspired by seeing these developments and willing to adapt his approach to farming. Around 30 farmers in the village are now trained and have allotted a small portion of their land towards mixed cropping method. Many print and visual media covered his experience on mixed cropping system. He was also invited to an International Seminar on Global Warming and its impact on Women and Environment, to share his experience on mixed cropping methods and how it helped in strengthening agro ecology from a farmer's perspective.

Kalaiselvan's approach towards farming has always been different. He is innovative and is constantly engaged in searching for alternatives, attempting innovative experiments on his field to study and understand the nature and climate variations. He strongly believes that farming is the only profession which will give livelihood security to farmers in rural areas.

◆
Mr. Kalaiselvan can be contacted at No. 75, West Street, Kovilveerakudi, Andakulam Post, Kulathur taluk, Pudukkottai district, Tamil Nadu. Ph: 097513-25207

The article was compiled in conversation with the farmer by Mr. Suresh Kanna, who can be contacted at sureshkanna_kudumbam@yahoo.in

Traditional cuisine

The last link in enhancing the value chain

BAIF

Nahari is an initiative connoting tribal women led traditional indigenous food sales corner set up successfully by BAIF in villages of South Gujarat. The concept of community owned and operated Nahari is an effort to promote tribal cuisine among tourist and urban community of South Gujarat and generate alternate innovative source of livelihood for tribal women.

Naharis are stalls set up by group of tribalwomen to sell delectable ethnic preparations of finger millet, lentil and traditional chilies and wild tubers and also seasonal forest foods, which are cooked in a traditional manner by the same group of women. The first Nahari was set up in village Ganpur, near Valsad, in the year 2006. The concept got originated when BAIF's local team members were conducting study under the theme of eco health. Various activities and events were planned as a part of this study to assess the wildfood resources that are available and that are consumed by local communities.

A few enterprising women groups such as “*Jai Ambe Mahila Mandal*” and “*Bajrangbali Mahila Mandal*” took the bold initiative of jointly setting up a stall for selling ethnic cuisine. The strategy worked. Their surprise knew no bounds when they realized that their maiden venture had fetched them a net profit of Rs. 12,000. Encouraged by this success, the groups started supplying traditional home made food for various events.

The year 2006 saw these women setting up first Nahari outlet in village Ganpur for serving authentic tribal thali to visitors. Traditionally, tribal thali comprises of ragi chapatis (called Nangli Rotla), urad dal and one local seasonal vegetable. Nahari women decided to serve these items along with 1-2 additional food items prepared from local produce.

The Nahari interiors have been designed deliberately with tribal decor to create a suitable ambience. Its quaint interiors nestled against an archetypal village backdrop makes it a

Naharis have helped in popularizing traditional cuisine



perfect setting of modern and traditional harmony while amply demonstrating the culinary skills of these women.

Ganpur *Nahari* is run by a SHG of 17 women. This *Nahari* does an average daily business of over Rs. 1000 and has reached a self-sustaining level. Today, they get wages of Rs 50 per person per day of work apart from the profits which add up to their combined savings. They have made 3 sub-groups of 6-6-5 people whose duty alternates, so that one person will have to work only 10 days a month. Everybody has a different responsibility like cooking, serving, cleaning etc. They are divided into sub-groups to ensure that each group can complete all the activities needed to run the food corner. Apart from serving ready to eat fresh food, these women today have also started a sales outlet to market the products of Vasundhara Cooperative, with an investment of Rs. 5000 from the income earned from managing this food corner. *Nahari* today is doing brisk business, as is evident from the jingling of the cash register. Patronised by the villagers of Ganpur, residents of neighbouring villages as well as weary travellers who love to savour the variety of tribal delights, it has indeed become a prominent landmark of Ganpur village and a popular destination as well.

The entire activity involved lot of painstaking effort in the form of building internal capacity for management of enterprise, building confidence, providing required trainings and skills to groups of these tribal women and shaping *Nahari* as a viable business enterprise. BAIF also assisted them wherever possible with loans and one time infrastructural assistance.

Taking a cue from this, 7-8 such *Naharis* have been setup at locations adjacent to highways in South Gujarat. Further replication of this approach was undertaken in the year 2008, through BAIF's Thematic Center for "Developing options for innovative livelihoods for rural and tribal communities through provision of hospitality services in rural areas". The concept stands well received by both tourists as well as local population. These are seen as a tool for empowerment of tribal women, while ensuring that the traditions and habits of the tribals are not lost on the path to income generation.

Emerging as a model

The *Naharis* are emerging as a model of women-led group enterprise in tribal setting which typically faces problems

The success of *Naharis* is seen as recognition and reward to local communities for conserving and reviving their traditional food based knowledge and skills.

in the form of most under developed regions characterized by vast untapped resources on one hand and under developed communities living at subsistence level and struggling to make a living, on the other. The regions are backward and are predominantly inhabited by tribal population, such as *Kukana, Koli, Warli, Kotwalia, Kolcha, Nayaka*. Tribal communities in this part are engaged in continuous struggle for existence and livelihood options are very limited to them.

Apart from creation of self-employment for tribal women near their residence, the *Naharis* have also helped in popularizing the traditional food based dishes amongst both tribal and non-tribal population in the region. Visitors have become aware about nutritional and tasty dishes of tribal communities and they cherish this experience.

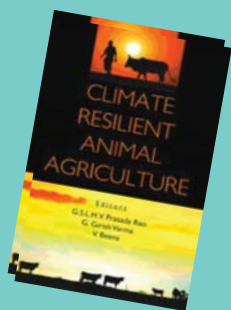
The success of *Naharis* is also seen as recognition and reward to local communities for conserving and being able to revive their traditional food based knowledge and skills. Demand creation for local wild food resources is also expected to result into resource conservation actions. The initiative has helped in creating required financial incentive and providing opportunity for gainful employment for tribal women in their own villages without getting displaced. In rural areas the problem is that of underemployment rather than unemployment. Under employment is much serious as it means that these rural women are available only during part of the day when they do not have household chores. This work flexibility has proven most useful to tribal women who otherwise did not have many options of work in their own setting.

There is no looking back for these emboldened women who have graduated from being ordinary housewives to successful entrepreneurs capable of giving other eateries a run for their money.

BAIF

BAIF Bhawan,
Dr. Manibhai Desai Nagar,
Warje, Pune, Maharashtra- 411058
E-mail: baif@baif.org.in

This article was originally published as an article "Promoting tribal cuisine among urban communities" in SFAC, 2014, Krishi Sutra 2 - Success stories of Farmer Producer Organisations.



Climate Resilient Animal Agriculture

GSLHV Prasada Rao, 2018, *NIPA*, 460 p., ISBN: 9789386546180

Climate change/variability imposes multiple stresses in animals and thus vital to understand the impact of environmental stress on livestock production and reproduction. Responding to the challenges of global warming necessitate a paradigm shift in the practice of agriculture and in the role of livestock within the farming system.

Livestock farmers should have key roles in determining what adaptation and mitigation strategies they support if these have to sustain livestock production in changing climate. The integration of new technologies into the research and technology transfer systems potentially offers many opportunities to further the development of climate change adaptation strategies. This publication is therefore a multi-authored attempt to present the scientific fraternity high quality resource material in the field of climate change and livestock production. This book is a comprehensive resource for the researchers, teachers and students to understand stress, stress management and livestock productivity so as to sustain animal production in the Country under projected climate change scenario.

Food Sovereignty, Agroecology and Biocultural Diversity: Constructing and contesting knowledge

Michel Pimbert (Ed.), 2017 *Routledge*, 338 p., ISBN 9781138955363

Contestations over knowledge - and who controls its production - are a key focus of social movements and other actors that promote food sovereignty, agroecology and biocultural diversity. This book critically examines the kinds of knowledge and ways of knowing needed for food sovereignty, agroecology and biocultural diversity.

'Food sovereignty' is understood here as a transformative process that seeks to recreate the democratic realm and regenerate a diversity of autonomous food systems based on agroecology, biocultural diversity, equity, social justice and ecological sustainability. It is shown that alternatives to the current model of development require radically different knowledges and epistemologies from those on offer today in mainstream institutions.

The authors critically explore the changes in organizations, research paradigms and professional practice that could help transform and co-create knowledge for a new modernity based on plural definitions of wellbeing. Particular attention is given to institutional, pedagogical and methodological innovations that can enhance cognitive justice by giving hitherto excluded citizens more power and agency in the construction of knowledge. The book thus contributes to the democratization of knowledge and power in the domain of food, environment and society.



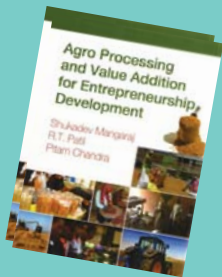
Forgotten Agricultural Heritage Reconnecting food systems and sustainable development

Parviz Koochafkan, Miguel A. Altieri, 2017, *Routledge*, 272 p., ISBN-Paperback: 9781138204157

Contemporary agriculture is often criticized for its industrial scale, adverse effects on nutrition, rural employment and the environment, and its disconnectedness from nature and culture. Yet there are many examples of traditional smaller scale systems that have survived the test of time and provide more sustainable solutions while still maintaining food security in an era of climate change. This book provides a unique compilation of this forgotten agricultural heritage and is based on objective scientific evaluation and evidence of the value of these systems for present and future generations.

Two substantial chapters are devoted to descriptions and assessments of some 50 examples of designated and potential GIAHS from around the world, including rice-fish culture in China, mountain terrace systems in Asia, coffee agroforestry in Latin America, irrigation systems and land and water management in Iran and India, pastoralism in East Africa, and the *dehesa* agrosilvopastoral system of Spain and Portugal. The book concludes by providing policy and technical solutions for sustainable agriculture and rural development through the enhancement of these systems.





Agro Processing and Value Addition for Entrepreneurship Development

Mangaraj Shukadev, 2014, Satish Serial Publishing House, 408p, Rs 3850.00, ISBN: 9789381226902

The book contains knowledge and skills on the basic steps to develop organize and manage an agro processing business venture along with any of its risks in order to make a profit. Entrepreneurial spirit is characterized by innovation and risk-taking, and is an essential component of a nation's ability to succeed in an ever changing and increasingly competitive global marketplace.

The promotion of value addition in the agricultural sector through agro-processing activities is generally reckoned to be one of the most efficient policies that can be enforced to achieve sustainable economic growth. Investments in agro-processing are known to have significant multiplier effects, due to the forward and backward linkages in the productive chains of the sector.

Considering the need of the hour it was felt to bring out a publication on agro processing for entrepreneurship development. The book discusses about the basic concepts of establishing agro processing industry, technology used in the food processing, equipment involved the establishment of agro processing centre, different crops available for taking up agro processing activities and value addition, financial feasibility and the profits that can be gained from the activities. It is useful to students, instructors, researchers, food processing industry personnel, policy maker and to all those who are interested in entrepreneurship development from agricultural processing and allied sectors.

Agricultural Value Chain Finance - Tools and Lessons

Calvin Miller and Linda Jones, 2010, Food and Agriculture Organization of the United Nations and Practical Action Publishing

Value chains in agriculture comprise a set of actors who conduct a linked sequence of value-adding activities involved in bringing a product from its raw material stage to the final consumer. Value chain finance, as described in this volume, refers to the financial flows to those actors from both within the value chain and financial flows to those actors from the outside as a result of their being linked within a value chain. The purpose of this book is to provide an understanding of the emerging field of agricultural value chain finance.

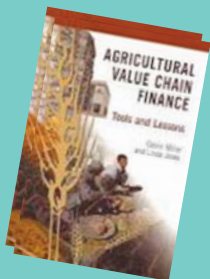
The volume represents the extensive experience of many organizations, with the learning presented through case studies and descriptive analysis, followed by lessons learned and recommendations. The information is primarily drawn from a rich collection of documents, presentations and discussions that took place at international conferences on the subject that were organized by FAO in Latin America, Africa, South Asia and Southeast Asia during 2006 and 2007, and research work in Eastern Europe and Central Asia in 2008. The information is augmented by learning from the research and case examples of multiple organizations who are working in this field.

Making markets more inclusive: Lessons from CARE and the Future of Sustainability in Agricultural Value Chain Development

K. McKague and M. Siddiquee, 2014, AIAA, 264 p., ISBN-13: 978-1137382917

Most studies of doing business at the "bottom of the economic pyramid" focus on viewing the poor as consumers, as micro-entrepreneurs, or as potential employees of local companies. Almost no analysis focuses on the poor as primary producers of agricultural commodities a striking omission given that primary producers are by far the largest segment of the working-age population in developing economies.

Making Markets More Inclusive bridges the management literature with original research on agricultural value chains in developing and emerging economies. This exciting work is the first to delve into the skills, capabilities, strategies and approaches needed for inclusive value chain development. McKague shows how NGOs and companies can connect poor producers in developing economies with the right markets to better create social and economic impact.



Creating better opportunities

PGS and Analog Forestry

Eduardo Aguilar and Cavan Gates

Besides providing for many of our needs, forests play a pivotal role in providing ecosystem services, ranging from biodiversity conservation to climate regulation. Yet over the last decade the world has lost an average of more than 5 million hectares of forests every year. Different examples show that marketing forest products can have a very positive impact, leading to higher incomes and also to healthier ecosystems.

Analog Forestry (AF) is a silviculture method that mimics the natural structure and function of a particular seral stage of an ecosystem. Its main objective is to restore the natural ecosystems, and to implement modified ecosystems with the same ecological functions as the natural ones. By re-creating a forest system's composition, structure and function, AF systems can help to increase food security and resilience to climate change – while also creating income-generating opportunities. Products such as plant fibres, medicinal herbs, spices, wild fruits, honey and many others, are known as Non-Timber Forest Products, or NTFPs. Analog Forestry methods aim at obtaining these products through a design system (see box) that helps farmers to manage the land where they work, using the available resources while preventing degradation. Most NTFPs are harvested in a traditional way, so it is generally thought that only small quantities are involved. Yet the income-generating potential of NTFPs should not be underestimated: in India, for example, the majority of forest revenues come from NTFPs. It is estimated that 60% of honey in the Indian market is harvested from the wild. There is also a widespread misperception that the price for such products should be low – despite the traditional knowledge involved and the risks communities undergo in order to harvest the produce – because they were not planted and taken care of in a conventional production system. There is an even larger challenge from logging, mining or other



Providing wider array of products to consume locally

extractive industries which decrease the areas available for wild harvesting and make sustainable management and natural regeneration more difficult. However, different examples show that the commercialisation of these products can not only help improve the incomes and opportunities of the rural population, but can also help preserve forest resources.

Certiûcation for marketing

Third party certification, using the Forest Garden Products (FGP) label, is an emerging possibility for NTFPs in different parts of the world. An FGP label reflects a set of production standards which are currently under revision in the International Federation of Organic Agriculture Movements (IFOAM) family of standards. FGP certification is carried out by inspectors authorised by the International Analog Forestry Network (IAFN). This type of certification is primarily designed for high value export products, because of the costs of involving a third party. Experience shows that a Participatory Guarantee System (PGS) is more suited

The benefits of a PGS include creating a brand name and community building.

for products that are sold in local markets. This is a less expensive method and the process also helps strengthen communities.

In general, a PGS is based on a peer review system, whereby farmers, consumers and other stakeholders verify compliance with a set of standards defining the production methods and product quality. These standards are decided upon internally by the group, and can contain any pertinent criteria ranging from organic methods to sustainable wild harvesting. The method of inspection is agreed collectively, and is usually done by a selected group that takes turns to make the visits and exchange and share information about products and the production process. Often this task is done on a voluntary basis.

The benefits of a PGS include creating a brand name and community building. The brand name is based on the standards employed by the group (which often focus on organic agriculture). Products with a known or recognised brand can be sold at a premium as they can show that, having

Analog Forestry differs from other silviculture practices in that, in the long term, it seeks to reach the same level of maturity as an original forest. In the short and mid term, the objectives will vary according to the producers' needs. These are based on an assessment of the ecosystem structure, comparing a given area with a healthy ecosystem. A roadmap towards the regeneration of the soil and the forest is then established to help practitioners restore the landscape and biodiversity while producing consumable and/or marketable products. The benefits of AF systems include enhancing the carbon cycle, providing pollinators with new niches and contributing to the formation of condensation cloud nuclei, which help with water conservation and stabilise precipitation patterns. The IAFN is still at the beginning of what may be a long, but worthwhile, process of engaging communities in new ways of connecting with their ecosystems.

followed a given process, they are of a better quality than conventional products. When interested producers join a PGS, they are also joining a community that can support them and share information. Thus, a PGS can raise production standards not only through compliance to criteria, but also through peer education.

Products such as spices, tea and guarana are being certified as Forest Garden Products and as a result are reaching some European markets. At the same time, different PGS are being

Different PGS are being developed for small scale producers



developed for small scale producers in local markets where exports are not a priority. These local markets are helping farmers and producers, as well as supporting the development of Analog Forestry. In Sri Lanka, Rainforest Rescue International (RRI) has helped farmers' cooperatives with the production and commercialisation of their tea and spices. These co-operatives market their certified products using Analog Forestry as their production method. This enables them to address the challenges of environmental conservation and restoration of the forested area around their communities whilst also meeting their financial needs. RRI trains these communities in environmentally-friendly low-input production systems, encouraging farmers and communities to engage in forest restoration and seed saving programmes in the country's arid northern region.

Similar results have emerged from the work of the Centre for Nursery Development and Eru Propagation (CENDEP) in Cameroon. As partners of IAFN, they promote Analog Forestry in all their projects and are currently supporting the commercialisation of eru (*Gnetum* spp.) and other products such as honey through a participatory certification process.

Adding value

Value can be added by using a label or brand associated with a set of production standards, such as third-party or participatory guarantee systems, but it also involves processing or transformation. This can vary from packaging wholesale quantities of honey into retail-sized jars with information labels, to drying leaves and other plant parts to create special blends (i.e. curries or teas). The benefits for consumers are obvious: better access to products and, just as importantly, higher quality products.

Farmers see also many advantages. Processed eru attracts a price that is five times higher than the unprocessed product. CENDEP is showing how the involvement of farming groups in a PGS can lead to considerably higher income levels. A PGS can cover several different food (and non-food) crops, such as cereals, beans and vegetables, as long as the best practices associated with the PGS are ascertained and communicated to consumers. Further market studies still need to be undertaken in order to determine the revenue streams associated with the PGS process; however, CENDEP's experience with two NTFPs (eru and honey) show the potential of a steady increase in incomes. At the moment, the group of participants has grown to more than 300 families, representing 6 communities.

The benefits can be even broader, as the "added value" is also seen in the forest ecosystems. This is very clear in

Cameroon, with the (re-)introduction of native species such as eru, or trees like *Anarcadium occidentalis*, red mahogany or *Ilex metis*.

Local forests, local markets

The inherent species richness in AF systems promotes diversified income streams by providing multiple products that offer a variety of processing and marketing opportunities. For example, systems that produce spices, such as vanilla, nutmeg, cinnamon and black pepper, also produce cut flowers, animal fodder, rice, beans, bamboo, and plants for essential oils such as patchouli and orange leaves. While much effort is required to get these and other NTFPs into high-end markets in northern countries, it should be remembered that most of these products are consumed in their countries and regions of origin. This suggests that more attention needs to be paid to developing new market opportunities at the local level. So instead of focusing on one or a few products, we feel that it is better to promote the sustainable management of the forests, increase biodiversity, restore landscapes and provide a wider array of products to be consumed locally. Analog Forestry can be used as a tool to produce commercial products while preserving the structure and function of ecosystems, and a PGS process can help develop local markets for these products.



This article was earlier published in Farming Matters, June 2013

Eduardo Aguilar (eduardo@analogforestrynetwork.org) and Cavan Gates work at the Secretariat of the International Analog Forestry Network (IAFN). For more information, visit their websites: www.foresteriaanaloga.org; www.analogforestrynetwork.org

More than 30 per cent of world's organic producers are in India

India has the largest number of organic producers in the world, according to the **World of Organic Agriculture Report 2018** published in February. With 835,000 certified organic producers, it is home to more than 30 per cent of total number of organic producers (2.7 million) in the world. Uganda (210,352) and Mexico (210,000) are the second and third largest organic producers.

World's biggest organic agriculture think tank 'international forum for organic agriculture movements' (IFOAM), along with research institute for organic agriculture (FiBL) has published their latest study on the World of Organic Agriculture 2018. Study reveals that the global trend of growth in organic agriculture production is continuing and India had topped the global list for the number of organic agriculture producers. The data was collected from 178 countries by the research Institute of Organic Agriculture (FiBL), the State of Sustainability Initiative (SSI), and International Trade Center. The survey is supported by the Swiss State Secretariat for Economic Affairs (SECO), the International Trade Centre (ITC), and came right in the middle of BIOFACH in Germany (world's most renowned organic agriculture show).

However, when it comes to area under certified organic cultivation, India contributes only 2.59 per cent (1.5 million hectares) of the total area (57.8 million hectares). China has around 50 per cent and India has 30 percent of total organic cultivable land in Asia. The latest data shows that current area under organic cultivation, which is a significant increase from just 11 million hectares in 1999, is still 1.2 per cent of the total agriculture land. Australia, according to the report, has largest organic agriculture land (27.1 million hectares), followed by Argentina (3 million hectares) and China (2.4 million hectares). In fifteen countries, 10 percent or more of all agricultural land is organic, a new record.

The 19th edition of the World of Organic Agriculture report claimed that organic agriculture area, and its products value has increased. The organic products worth \$90 billion were sold globally in 2016. The USA, Germany and France enjoy the largest share of market in organic produce. Switzerland tops in per capita consumption of organic produce, followed by Denmark and Sweden.

Terrace garden to farming: Urban dwellers show the organic way

An increasing number of professionals in Delhi and NCR are now renting agricultural land for organic farming. And cashing in on the growing desire among urban dwellers to grow their own food are many enterprises, which help them lease farms, provide technical guidance and raw materials. Green Leaf India, a community of about 80 urban organic farmers in Gurgaon have rented 52 farms, where they grow everything, from tomatoes to potatoes, for their kitchen. The district horticulture department has helped them rent the land from farmers and provides the technical know-how. Farmers in villages neighbouring Gurgaon, were convinced to rent out their land to these professionals. Every individual in the community has a 600-yard farm for which they contribute Rs 28, 000 every six months, including the cost of seeds and the salaries of nine labourers they have hired to help them. The community pays Rs 60,000 per acre per annum as rent to the land owners. The unique urban farming community comprising IT professionals, doctors and lawyers connect on a WhatsApp group, discussing everything from how to make manure to sowing seeds.

Not just Gurgaon villages, many are leasing farmland in places such as Palwal. Many agri-enterprises like the Organic Maati and Edible Routes who help urban residents to lease farmlands believe they are creating a sustainable local food and agricultural system that benefits the farmers, urban communities, and the environment.

<https://www.hindustantimes.com/delhi-news/terrace-garden-to-farming-urban-dwellers-show-the-organic-way/story-9DG9jCDJuKQxpiehRcCbkL.html>





International Millet Mela gives a push to millet farming

The three-day international millet mela, Organics & Millets-2018, turnout of over 2.10 lakh at the fair which provided a platform for local farmers to connect with national and international markets. The fair hosted 357 stalls over a 3,500 sqft area and participants included global names like JRMT Global General Trading LLC from Dubai, FiBL from Switzerland, IFOAM Asia from South Korea, besides buyers from the USA, Germany, Uganda, China and Malaysia. Over 15 international buyers, trade associations and 50 domestic buyers took part in the meeting with suppliers and organic farmer federations.

Twenty-one Jaivik Awards were given for outstanding achievements across multiple categories to farmers, farmer organizations, state agencies and private organizations who have excelled in organic cultivation.

The fair generated a total business of Rs. 107 crores and also established long-term commitments.

The organic food court, Khanavali, was one of the top attractions. It also played host to the Food and Nutritional Forum where conferences, competitions, workshops, demonstrative sessions and group discussions were held.

<https://timesofindia.indiatimes.com/city/bengaluru/millet-mela-ends-generates-total-biz-of-rs-107-cr/articleshow/62594620.cms>

FAO launches Global Farmer Field School Knowledge Platform

Farmer Field Schools, a community-driven approach to agricultural training and education, are increasingly in demand around the world for their ability to help smallholder farmers cope with complex challenges.

FAO, having set up the first FFS in the late 1980s, supports them in more than 90 countries today, with 70 FFS projects in Africa alone. There are now more than 12 million “graduates” worldwide.

In response to the increasing demand for FFS, FAO has set up a Global Farmer Field School Knowledge Platform with more than 15 partner organizations to facilitate access to best practices and specific expertise. The purpose of the platform, the first of seven new global knowledge products that FAO is developing to promote sustainable agriculture, is to strengthen the quality of FFS at a time when they are poised for rapid upscaling. The platform is a space for sharing knowledge and expertise on Farmer Field Schools. It is a means to connect a global Community of Practice and facilitate partnerships among institutions committed to sustainable farming, education and empowering people.

It includes a library of key resources, online profiles of experts, a news service and a global email discussion group for practitioners from more than 100 countries. Over 300 documents (case studies, training manuals, impact assessments, journal articles, videos, pictures, etc.) are available in various languages. Over 250 FFS resource persons from different regions of the world have registered themselves in the global roster of FFS experts, including master trainers, evaluators and project managers

(source: www.fao.org)

Advertise with Us

LEISA India magazine reaches more than 20000 people interested in development of agriculture, that is sustainable and eco-friendly. Every quarter, the print and digital editions of the magazine reach farmers, NGOs, academics, researchers, students, government departments, banks etc., who are interested in practical field experiences.

Produced since more than two decades, LEISA India magazine is known for its practical and quality content, attractive design, colourful layout, consistency and timely production. It is produced in 8 languages – English, Hindi, Kannada, Telugu, Tamil, Odiya, Punjabi and Marathi.

We invite institutions, companies and Universities to advertise their services, products, courses and events which align with the philosophy of agroecology. For details, contact Ms.Rukmini at leisaindia@yahoo.co.in





Farmers like Jivanbhai in Kansloliya benefitted by marketing groundnut through FPC

Power of collectives

Jasbir Sandhu and Rajesh Sharma

With an inclusive, sustainable and scalable model of value chain, farmers in Gujarat have come a long way in realising the power of collectives. Through direct engagement in the market space, farmers gained a competitive edge by exercising their power of negotiation.

Kansloliya, a panchayat village of Jasdan taluk, is located in Rajkot district of Gujarat. Inhabited largely by Koli Patel community, it is home to 372 families who rely on agriculture for their living. Being a dry land, water stress caused due to erratic rainfall or drought, greatly impacts agricultural production. In addition, dilapidated condition of water harvesting structures further exacerbates the situation, eroding the top soil without replenishing the ground water table. The only source of relief to the village is the pipeline water from Narmada, which is insufficient in meeting the needs of people. Lower

agriculture productivity has also impacted animal husbandry, leaving no option for the villagers except to seasonally migrate in search of wage labour.

Reliance Foundation (RF) which strongly believes in achieving inclusive and sustainable development through the strength of Farmer Collectives, entered the village in 2013. Initially, efforts were made to understand the context. They experienced a lot of resistance from the Village Sarpanch, who distanced the real needy from any developmental discussions. Sustained efforts were made with door to door mobilization to reach out to the people especially the poor and marginalized sections of the community. Finally, people started coming together to discuss their needs and roles in development. In December 2013, the villagers organized themselves to form the VA named Kansloliya Gram Vikas Mandal.

Water- fulcrum of development

Initial discussion of VA members made it evident that availability of water both - for agriculture and domestic use is pivotal to success in farming enterprise. This resulted in construction of an earthen dam named 'Buta Gala', to arrest and harvest rain water, in 2014. Members contributed in cash and labour. The results were seen within an year. Buta Gala harvested 90000 cubic meter of water, directly impacting 14 wells by improving water table. The harvested water could support irrigation on 14 hectares of land during Rabi season. The participatory process of planning and implementation by the community in construction of 'Buta Gala' raised their confidence and stood as an exemple towards transformation of Kansloliya.

The VA members took stock of the water scenario and systematically plugged the gap in water needs. Series of water harvesting structures were created and repaired that changed the scenario with substantial increase in area under irrigation from 6% to 26%. Simultaneously efforts were made to regulate the usage and governance of water. Drip irrigation systems were promoted especially in groundnut and vegetables. In a short span of 4 years, area under drip irrigation expanded from 13% to 31% and the number of farmers using drip systems increased from 17% to 41%. The use of water efficient devices helped farmers to increase the number of irrigations with the available water. Even in



Inclusion of groundnut in cropping system enhanced the availability of fodder too

drought conditions, farmers were able to harvest their crops with good production.

The enriched platter

With the critical input water getting stabilized, all efforts were made towards improving the basic productivity of the lands. Sustainable agriculture practices like farm bunds, mixed cropping, use of tank silt and Farm Yard Manure (FYM) were adopted by the community. Gradually there was a shift from monocropping of cotton to multiple cropping patterns. Compared to previous years, 2013 saw a jump in groundnut production to 30% and cotton crop production dropped by 5%. Groundnut crops additionally improved the fodder availability for cattle that boosted the dairy business. The quality and number of milch animals saw a big jump, generating extra income from sale of milk, thereby changing the social fabric of village. Ensured irrigation in Rabi season enabled farmers to grow two crops, thereby reducing migration.

Around 1600 more farmers from Kansloliya and 16 more neighbouring villages are now exploring avenues to sell some of the produce in the market for better price. All shared the same heart-warming story of turn-around in agriculture with bumper groundnut production. However, they also had a common challenge of getting remunerative price for their produce. They were selling the produce to the middle men, who grossly reduced the value of the produce, citing it as poor quality. Farmers were left with the option of either compromising for the lower price being offered or bear the exorbitant transportation cost to market the produce at

Success of Jivanbhai – a farmer from Kansloliya

Ageing Jivanbhai – a small cotton farmer from Kasloliya had never imagined that he would ever take second crop in his farm. He had spent his entire life growing single low produce of cotton crop on 20 bigha that fetched 7 quintals of cotton giving a gross income of Rs. 45,000. He used to migrate for 4-6 months along with his two sons in search of wage labour. Construction of earthen dam gave a new life to his farm. Supported by VA, activities like farm bunding and deep ploughing were carried out on his 15 bigha farmland. He also learnt and adopted sustainable agricultural practices and switched from applying fertilisers brought from market to farm yard manure and vermi compost generated on his farm. Simultaneously he adopted drip irrigation and animal husbandry. He started practicing inter cropping, integrated pest management practices, thereby reducing the dependency on external inputs and coping with climate change. Ensured irrigation and good soil health enabled him to replace cotton cultivation with groundnut. Crop diversity increased with the inclusion of mung and urad crops in Kharif and wheat, chana and cumin for the first time in Rabi season. Groundnut production came as a surprise, with a production of 25 quintals.

Knowledge on commodity future trading has helped farmers use new age market platforms for better price realisation.

APMC, where small quantities limited his power of price negotiation. Thus emerged the need for a Farmer Producer Company.

Evolution of Saurashtra Swanirbhar Farmers Producers Company

Collective need for getting the right value for their produce brought the farmers together. After the initial concept seeding on FPC, a small group of 12 farmers travelled across the country visiting different farmers' collective initiatives to understand the dynamics of market negotiations. Post visit, this group rallied across villages to raise awareness of farmers. This resulted in raising a share capital of Rs. 11.28 lakhs by 991 farmers to form an FPC in 2016. To gain first-hand experience, farmers collectively marketed cluster bean, which served as a learning ground on how to plan, aggregate, analyse business potentials and market as an FPC.

Based on the experience and the role of initial promoters, five members - 2 women and 3 men were selected as Board of Directors (BoDs). They finalised constitution and operational framework of FPC which later got materialised with incorporation of Saurashtra Swanirbhar Farmers Producers Company Limited (SSFPCL) on 1 August 2016. BoDs came up with business plan of the company that mainly focused on collective aggregation of groundnut and input supply at farmer door steps as primary focus. Series of meetings were organized in VAs to raise awareness among members on business plan and its governance structure. Meanwhile, SSFPCL acquired trading licence and hired a shop for sale of inputs. In collaboration with Gujarat Narmada Valley Fertilizers Company, SSFPCL helped member farmers realise better prices for six metric tonnes of neem seeds. Simultaneously, BODs also initiated talks for licence with Agricultural Produce Market Committee (APMC), Jasdian. Thus, began the confident journey of FPC with an aim to provide a just and transparent market to the produce grown by the farmers.

Expanding the horizons

Having decided to aggregate and sell groundnuts, FPC sought the support of local administration and people's representatives to establish procurement center of National Agriculture Cooperative Marketing Federation of India Ltd. (NAFED) in their village. Since, NAFED procures produce only from co-operatives, SSFPCL entered into a partnership with Gujarat Agribusiness Consortium Producer Company Limited (GUJPRO) - a nodal agency of NAFED to establish an aggregation and distribution centre.

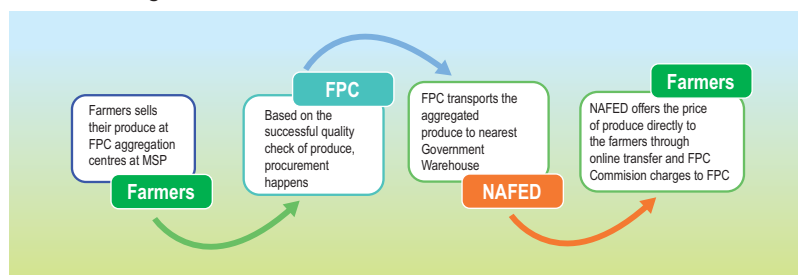
Meanwhile, there was a declaration by Government of Gujarat to purchase groundnut at MSP through Gujarat State Cooperative Cotton Federation Limited (GUJCOT) - a state level cooperative federation. In order to accelerate the scope and depth of engagement with farmers, SSFPCL collaborated with GUJCOT. As a result, FPC became a nodal agency for its 3 groundnut collection centres under state level agencies i.e. GUJCOT & GUJPRO. The operational process implemented is as follows:

SSFPCL served 168 villages reaching 5786 farmers with groundnut transaction worth Rs. 54 crores. In the process, the average price realisation grew from Rs. 3500/quintal (in local market) to Rs. 4500/quintal. Along with price benefit, the farmers were also saved from additional transportation cost with the collection centres being located in their village periphery. Direct online payments into their accounts resulted in hassle free transactions.

What distinguishes SSFPCL from many Producer Companies is its strong community presence in village institutions and collaborative efforts with relevant stakeholders in ensuring MSP to the farmers. One of the members, Chhaganbhai Metaliya of the Saurashtra Swanirbhar Farmers Producer Company says, *'I was hesitant to join Farmer Producer Company, since I wasn't sure if it would suit my business methods. But I took a leap of faith, and now, when I see farmers from other villages joining the company to sell their produce, I feel reassured. I am happy and proud to be a member of a company that helps farmers sell their produce at better rates – each member farmer has been able to increase his or her profit by at least Rs. 10,000! This is no less than a miracle.'*

In just 2 years, SSFPCL has benefited 66 farmers in Kansloliya with over Rs. 2 lakh as additional income due to collective marketing of agricultural produce and availability of farm inputs like – seeds, fertilisers, irrigation equipment, soil testing services etc., at competitive rates. Besides this, 6 farmers earned additional income of Rs. 56,000 in 3 months by working in collection centres. There has been rise in assets like motor pump, electrification, well

The marketing chain





Collection centers at the village periphery made marketing much easier for the groundnut farmers

deepening, drip systems, pipelines, number of pucca houses, cattle etc. Synergising with Gram panchayat, Kansloliya VA is gradually marching towards holistic development.

Like Kansloliya, RF is working in 550 villages across 12 states of India providing direct support to more than 60,000 households. The strategy of localising this large scale intervention has enabled every single farmer household to enjoy the impact. Today, there are 19 FPCs supported by RF, with an equity of Rs. 228 lakhs contributed by marginal farmers in 10 Indian states serving 35,000 rural families in more than 500 villages. Knowledge on commodity future trading have helped farmers use new age market platforms for better price realisation. Besides price negotiations, the FPCs have collaborated with many departments, agencies and NGOs to support farmers on soil health, seeds, seasonal information, price trends, storage etc. This has empowered farmers by bringing out the entrepreneurial abilities, reduced post-harvest losses and securing their income.

Conclusion

Empowering farming communities by providing end to end solution *i.e.*, farm to market can change the face of agriculture. Impact created through RF in transforming Kansloliya village or raising hope of Jivanbhai with ensured

water and sustainable farming or giving the power of production and market negotiation in the hands of its farmers through Jasdan FPC is a testimony to it. Market linkages through Farmer Producer Companies (FPCs) has provided economic self-reliance to producers by safeguarding them against price fluctuations, ensuring quality of produce, improving their negotiation power and enhancing their skills.

Jasbir Sandhu

Reliance Foundation
Project Office, First Floor
Thane- Belapur Road, Ghansoli,
Navi Mumbai- 400701
Email: Jasbir.Sandhu@reliancefoundation.org