

Online ISSN 2582-368X

AGRIALLIS

SCIENCE FOR AGRICULTURE AND ALLIED SECTOR

A
Monthly
Magazine

VOLUME 4,
ISSUE 1
JAN. 2022

www.agriallis.com

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Article Id
AL04101

FARM BUSINESS SCHOOL: TRANSFORMING SMALLHOLDER FARMER INTO A FARMER- ENTREPRENEUR

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The question, how to increase the income of smallholder farmers? is knocking the minds of stakeholders in the Indian agriculture. Smallholder farmer engages in farming for either one of the four reasons; 1. exclusively for family consumption, or 2. primarily for consumption with intention to sell surplus, or 3. partly for market and partly for consumption or 4. exclusively to sell in the market. Among these reasons, farming exclusively for the sake of selling in market fetches higher profit resulting in income enhancement.

In several instances, these farmers selling system is disturbed due to external forces like excess production leading to fall in market prices, unfair trading practices by middlemen, heavy yield loss due to biotic and abiotic stresses. In these cases, the farmers need to integrate business into farming and run it like an entrepreneur. This process is the transformation of a primary producer farmer into an “profit-creating” farmer-entrepreneur.



Producing what a farmer want



Producing what is possible for a market

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There are many ways in which a small farmer can become an entrepreneur like selling their produce into a new market, converting farm waste into a business, converting a part of farm produce into a processed product or venture into full-scale farm business. This process

can happen either at individual or group or community levels. However, integrating business into primary production pose new challenges. They range from building the farmers' capacity to identify, design and manage a farm business to enabling the agri-entrepreneurial ecosystem to support newly formed farm businesses. In such cases, the professional extension system comprising of state / central departments, quasi-extension institutions like KVKs, CSR wings of industries, NGOs and other private agencies need to facilitate the farmer entrepreneur transformation process.

There are several participatory approaches like farm business schools and participatory market chain analysis which enable the agripreneurs and farmers collectives (e.g., FPOs) to venture into agricultural entrepreneurship. In this article we will be primarily focusing on the concept of farm business school as an approach to build capacity for entrepreneurship. We will try to make understand the concept in a question answer mode.

Can Smallholder Farmers Become Entrepreneurs?

Yes, smallholder farmers can become entrepreneurs. Many of us are unaware that agriculture is listed one of the risk and dangerous occupations in the World. Despite its risky nature, the farmers have mastered the art and science of agriculture and learned the ways to decide and act upon in complex, diverse risk-prone environments. They try out new crop varieties and rare livestock breeds to increase productivity. The farmers manage the erratic climatic conditions to generate profit from their crops and livestock. They search for new markets to sell their products, adopt new ideas to reduce risk and increase profits. With such propensity to generate value from harsh and unstable ecosystem, the farmers can easily venture into business with proper facilitation from the extension system.

Who is A Farmer-Entrepreneur?

A farmer-entrepreneur is one who...

- can create value for the consumer he/ she is serving,
- has a clear picture in mind about possibilities in farming and the future,
- knows that market is the determinant of possibilities in farming,
- always is in search of new opportunities and knows that they are found in market,
- wants to make profit and knows profit is made in the market and,
- has the initiative, drive, capacity, and ability to take advantage of opportunities

Smallholder farmers need to learn the art entrepreneurship to become a farmer-entrepreneur. Since the farmers learned agriculture through elder mentoring and direct field practice, the farm serves as a dynamic platform to learn entrepreneurship. Farmer Business School (FBS) is an emerging approach which employs facilitation and learning by doing approaches to inculcate entrepreneurial attitude among farmers and help them to acquire capabilities to establish and manage a profitable business. Let us understand FBS hereafter.

What is a ‘Farm Business School’?

FBS is a curriculum-based approach conceptualized by the UN Food and Agriculture Organization (FAO), and inspired by its farmer field schools, that is aimed at building entrepreneurial capacity of farmers. It is a forum or a venue that bring group of like-minded farmers together to discuss and act on their farm business problems and opportunities to maximise profits.

What are the Aims of FBS?

- ⇒ to facilitate smallholder farmers, acquire knowledge and learn skill that makes their farm profitable,
- ⇒ to help them develop entrepreneurial competencies (knowledge+ skill+ behaviour)
- ⇒ to help them transit from production to market-oriented farming

How FBS is Practically Conducted?

- Smallholder farmers are organised into a group, a particular marketable farm enterprise is selected. Well qualified and experienced facilitators and mentors help farmers in developing entrepreneurial competencies.
- The venue for FBS is a real farm setting (farm enterprise) that is easily accessible to all group members. Farmers meet on a mutually agreed date and time. Farmer learn together about their own personality and capacities. learn about various aspects through practical exercise covering the complete production cycle (from planning to marketing).
- Farmers learn under the guidance of facilitator; they are taken step-by -step through all the stages and processes involved in establishing and sustaining a farm business.

The duration of FBS may range from 8-10 months depending up on the farm enterprise.

- They conduct market survey, identify opportunities, challenges, develop a product, mobilise resources and exploit market opportunities. They interact with stakeholders (fellow farmers, experts, bankers, traders, extensionist, agents etc.,) and learn from them.
- Here, farmers are not given lectures, they are made to use different simple tools and techniques to learn skills and generate ideas to address given farm business situation or a problem.
- The outcome of FBS is that farmers start efficient management of existing farm business or set a new farm business that is exclusively for market. Farmer build knowledge and skills that match the requirement to operate a farm business in an entrepreneurial way.



Farm Business School : Transformation of a farmer into a farmer-entrepreneur

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How the Entrepreneurship Development Happens in FBS?

At first the farmers are made aware of who they are and what they are, their capabilities, personality, strengths, and weaknesses. Once they are aware of their current state, they accept the reality. They develop vision; where they want to see themselves and their farm business in a long run and set long term goals. To achieve the set goals, they develop business plan and plan of action. later they Implement the plan, reflects (thinking carefully or deeply) on the results, and learn from the direct experience. Farmers while passing through these stages undergoes through a reflective learning process. They gradually learn various entrepreneurial competencies. A farmer is empowered when all the acquired

competencies match his personality and his goals. The degree of empowerment depends on the farmers commitment to learn from every situation in all the stages.

A Case from Indonesia

Under Food Resilience Through Root and Tuber Crops in Upland and Coastal Communities of the Asia-Pacific (FoodSTART+)an IFAD and EU-funded project is implemented in Indonesia. under this project 10 group of small farmers from the island provinces of Maluku and Maluku Utara in Indonesia participated in Farm Business School. the farmer groups underwent eight months long experiential learning under FBS. The farmers were trained in various tuber crops base value-added products. The FBS culminated with the business launch by its FBS groups. The micro business developed by FBS groups included various tuber crops and other crops, such as cassava chips, cassava biscuits, sweetpotato flour, sweetpotato cakes, and cassava flour with banana rhizome egg rolls, among others. The participants realised the potential to make more money by their FBS training.

Conclusion

The disconnect between farmer and market is the primary issue with Indian agriculture. FBS is a silver bullet focused on transforming a farmer into a farmer-entrepreneur. It empowers farmer with entrepreneurial competencies. Farmers are made to walk through the production cycle on their own and learn from the experiences from each other. At present FBS's are being implemented in the regions dominated by smallholder farmers across the globe including few in India with promising results. India needs to adopt such approaches to transform Indian farmer into a farmer-entrepreneur. Further, the way entrepreneurship development programmes are being organised need to undergo 360-degree transformation. Currently entrepreneurship development programmes are viewed as set of activities such as imparting technical skills or supplying inputs or linkage with credit. The entrepreneurship facilitators and mentors need to remould themselves. They need to understand fundamental human behavioural concepts, gain experience in effective implementation of new approaches, to respond to emerging issue of farming as a business and farmer as an entrepreneur. Entrepreneurship development programmes should aim at practical outcomes resulting in empowering farmers.

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Article Id
AL04102

BLACK RICE'S FUNCTION IN HEALTH AND DISEASE

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Black rice is a variety of *Oryza sativa* L. rice that is used as a functional meal owing to its health benefits (Ryu *et al.*, 1998). Purple rice, forbidden rice, heaven rice, imperial rice, king's rice, and prized rice are all names for black rice (Kushwaha *et al.*, 2016). Vitamins, minerals, and dietary fibre are included in both brown and black rice. When compared to brown rice, however, black rice is preferable since it includes more protein and fibre. In addition, black rice has a significant number of antioxidants, which gives a variety of additional health advantages (Das *et al.*, 2014). The protein, vitamin, and mineral content of black rice is greater than that of white rice (Baenziger *et al.*, 2009). Black rice is high in critical amino acids like lysine and tryptophan, as well as vitamins like vitamin B1, B2, and folic acid, and minerals like iron, zinc, calcium, phosphorus, and selenium (Qiu *et al.*, 1993). All rice cultivars have the highest levels of antioxidants, protein, and dietary fibre, as well as phenolics, flavonoids, and anthocyanins (Gani *et al.*, 2012). Black rice is becoming increasingly popular and has several health advantages, including the prevention and treatment of illnesses and disorders including heart disease, cancer, diabetes, and high blood pressure, as well as the improvement of overall quality of life (Adom *et al.*, 2002).

Heart Health and Black Rice

Black rice has been shown to help prevent plaque build-up in the arteries. Plaque build-up in arteries can cause the arteries' walls to stiffen and become clogged. Black rice can lower the risk of cardiovascular and heart disease, while also enhancing heart health and function (Ling *et al.*, 2001). Including black rice in one's diet may assist to improve cardiovascular parameters by lowering triglycerides and increasing high density lipoprotein (HDL) cholesterol levels. This is the "good" cholesterol required for a healthy cardiovascular

system to operate correctly(Thanuja *et al.*, 2018). Dietary fibre is abundant in black rice. Dietary fibre, on the other hand, has been related to the prevention of heart disease, hypertension, stroke, and high blood sugar levels (Lobo *et al.*, 2010).

Brain Function and Black Rice

Anthocyanins' antioxidant properties help to improve brain function. This indicates that black rice can help to strengthen memory and lower the risk of illnesses including Alzheimer's, dementia, and depression. Anthocyanins were also found to assist boost learning ability and lessen depressive symptoms in clinical tests. By include black rice in your diet, you can aid to improve memory and avoid cognitive ageing (Jang *et al.*, 2012).

Cancer Prevention and Black Rice

Cancer is composed by the proliferation of abnormal cells that fail to respond correctly to normal regulatory mechanisms. Carcinogenesis, a multi-step process, is characterised by initiation, promotion, and progression of uncontrolled cells. Damage to deoxyribonucleic acid (DNA) occurs during the initiation phase, and during the promotion phase, cells multiply and expand into aberrant cells. Finally, in the advancement stage, these aberrant cells undergo further modifications, leading to the creation of malignant cells(Bueno *et al.*, 2012). Oxidative stress, which is the result of an imbalance between the production and the removal of reactive oxygen species (ROS) or reactive nitrogen species (RNS). ROS or RNS are commonly generated from exogenous and endogenous sources (Valko *et al.*, 2007). Excess production of ROS has been connected with carcinogenesis and damage to nucleic acids, proteins, or lipids. Oxidative stress plays an important role in the pathogenesis of many cancers (Puklauniget *et al.*, 2004). Cancer is also caused by the interaction of dietary, genetic, and environmental risk factors.

Conclusion

Owing to its nutraceuticality and functionality, black rice is gaining commercial popularity. Being an excellent alteration to brown and white rice, the consumption of black rice is increasing day to day all over. Research suggests black rice usher a number of problems like reduce the likelihood to develop illness or disease, and thereby supporting black rice consumption to promote the health of heart and liver, loss of weight, prevention of inflammation and cancer(Thanuja *et al.*, 2018).

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Article Id
 AL04103

NAKED OR FEATHERLESS CHICKEN- IS IT SO?

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The world's first naked or featherless chicken was genetically produced at Rehovot Agronomy Institute, Israel, by Israel geneticist Avigdor Cahaner and it was known to be first appeared in 2002. They are very strange, terrific breed of chicken and it was a result of 50 years of efforts of natural mating methods. It was produced by crossbreeding between a broiler and naked neck chicken, where crossbreeding involves crossing of two pure breeds of animals/birds to exploit heterosis and improve production performance. They are not genetically modified breeds of birds, but some admit it was produced by prototype, a genetic mutation which was created.

Other names: nude chicken, slippery chicken, featherless GMO chickens,

Genes

There are two set of alleles for creation of featherless chicken. One is naked neck gene (NA) and another is scaleless gene (Sc). The Scaleless gene (Sc) at the homozygous recessive stage will eliminate the development of feather and thus featherless chicken produced.

Why to be Produced??

Naked neck chicken has already known variety of bird for their conduction, convection purpose which is usually tolerant to heat stress condition that it is rearing in warm countries like India, where the feathered chicken can't tolerate much heat stress and need of cooling systems like environmentally controlled houses, sprinklers which fetch more cost of rearing and production and researchers claim that these chickens have no harm to human health.

To prevent genetically altered hens from becoming overheated due to their fast heart rate, which is known to be faster than normal chicken.

Advantages of Naked Chicken

1. Faster in growth compared to broilers
2. Their meat with low fat content
3. Low calorific value of meat.
4. Their energy need in feed is less and require comparatively less feed to produce the same amount of meat of broilers
5. They can be better adopted in hot climates
6. More ecofriendly breeds as there are no need of plucking, a process that contaminates large quantities of water with feathers and fat tissues.
7. Naked chicken meat processing does not involve plucking, so it saves additional money in processing plants running.

Disadvantages

1. Major disadvantage lies in welfare aspect as it is seen to be inhumane.
2. They are hard to survive in cold climatic regions
3. Random genetic mutation shows that they suffer more than the normal birds.
4. No protection from ectoparasites like mosquitoes, ants, gnats, bugs, centipedes
5. No protection from dust, dirt, mud.
6. More susceptible to sunburns.
7. They must not be kept in direct sunlight.
8. More susceptible to temperature variations as like young chicks
9. Natural mating will be difficult as the rooster will cause injury to bare skin with sharp beak and claws.
10. Additional work load in clipping the claws of males needed.
11. Male sometime fail to mate, as the male mating behaviour includes strutting where feather is needed (flapping wings, showing them off etc.)
12. Brooding of chicks will be difficult as no feather to provide heat to chicks

"It's a prime example of sick science and the suggestion that it would be an improvement for developing countries is obscene." Said by Joyce D'Silva of Compassion in world farming.



Fig: Image of featherless chicken

Conclusion

Even though breeding systems were used for producing those type of breeds, acceptance rate by the consumers will not be successful due to fact of fear of hormonal usage, unusual animals, fear on health impact. So still further study and also those not altering the nature can be used efficiently.

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Article Id
 AL04104

AZOLLA CULTIVATION- AN APPROACH TO SUSTAINABLE INTEGRATED FARMING SYSTEM

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Azolla (*A.pinnata*) is a free floating aquatic fern and it's containing almost all the essential nutrients. And also act as bio-fertilizer and green manure (nitrogen fixation-25kg/ha) in the rice field. Nowadays, Azolla is an excellent alternative feed supplement for livestock, poultry and fish. Generally, Azolla cultivation is doing it for polythene sheets or portable HDPE Azolla beds or cement tanks. But, the tank is only using for Azolla production. So, Azolla beds are alternatively using for fish culture is sustainable way of Azolla- fish production in a single system. Then, the harvested azolla as supplemented to Japanese quail as natural food and it is reducing feed cost.

In that respect, small scale or landless peoples effectively using our terrace or backyard place for rearing **Japanese quail** (*Coturnix japonica*) and **Indian spiny loach** (*Lepidocephalichthys thermalis*) integrated with Azolla cultivation is the best results in sustainable farming practices and also making profitable and healthy livelihoods.

Aquaculture plays an important role in global food security and employment provision. In that respect, aquaculture is integrated with animal husbandry is a highly eco-friendly and economically balanced farming system for farmers. Azolla is a good source of protein and it contain almost all the essential amino acids, minerals such as iron, calcium, magnesium, potassium, phosphorus, manganese, etc. apart from appreciable quantities of vitamin-A precursor beta carotene and vitamin-B 12. Indian spiny loach or common spiny loach (*Lepidocephalichthys thermalis*) is a freshwater fish species found in India and Sri Lanka. In tamilnadu, Indian spiny loach is locally called as "**Ayirai meen**". Loaches are an important group of freshwater fishes, which demand a high market price, particularly in the state of Tamilnadu. Because it is tastiest and easier to consume all age group of peoples and also it is rich in minerals such as calcium. Usually they found in quite flowing water with a sandy substrate. However, their culture production remains to be insignificant and invisible.

And Japanese quail is one of the best meat and egg producing sectors in the poultry industry. Because it's rich source of protein and less amount of cholesterol and also produces shorter duration. So, these two livestock's are integrated with azolla cultivation as a sustainable way of producing good quality foods and generating small additional incomes.

Cultivable Species

Azolla (*Azolla pinnata*) were procured from KVK-Krishi Vigyan Kendra or recognised research stations or other farmers. Initial Stocking rate of azolla is 2kg/ azolla beds. Production capacity of azolla in 12*10*1feet size azolla bed is 1.5 to 2kg/day.

The cultivatable fish of **Indian spiny loach** (*L.thermalis*) were collected from the natural resource of the Western Ghats river system (Thamirabarani) in India. The average weight of fish is 1.25-1.58g. Stocking rate is 1000 fingerlings/azolla beds. The fish were acclimatized for 30minutes in Azolla bed and then released slowly.

The **Japanese Quail** (*Coturnix japonica*) were procured from KVK-Krishi Vigyan Kendra or recognised research stations or certified hatcheries. The average weight of Japanese quail is 6-7g (day old chicks). Stacking rate of Japanese quail is depends upon the azolla production per day. Generally, rearing 200 quails are adequate for two azolla beds.

Food and Feeding Habits

Indian spiny loach is Feeds mainly on detritus, but also feeds on algae, artemia, daphnia and sinking pellets. But, in this system doesn't require for any special feed supplementation for Indian spiny loach. Because, naturally available for live-feeds in azolla beds is sufficient for their growth.

The Japanese quail are seed eaters, but will also take insects and similar small prey. In this system, we are using azolla as a major feed supplement and also feed on less quantity of commercial feeds. The commercial feeds mainly using first week for chicks rearing. The total rearing period is 30-35days for meat purpose. In this period, per individual quail is takes 450-500g of feed and reaches 180-190g of male and 190-210g of female quail.

Farming System Set up

There are two numbers of portable HDPE Azolla beds (size-12*10*1) are installed and covered with 50% green shad nets. Then follow the azolla cultivation protocol (TNAU Standards).

The cage system of Japanese quail is 4*3*0.6feet (four racks on arranged vertically) and elevated above 2feet in the ground level. To provide the drinker and feeder set- up was outside of the cage system for preventing the wastage and contamination of foods. The stocking rate is 50quails/rack. Generally, adults require 150-180cm² per quail in laying cage. For egg production, we should maintain the sex ratio of 4:1(40F:10M/racks).



Azolla cultivation with Indian spiny loach farming



Cage system of Japanese quail rearing

Nutritional Composition

Indian spiny loach (*Lepidocephalichthys thermalis*)

Proximate composition	Amounts (%)	Proximate composition	Amounts (mg)
Moisture	80%	Vitamin C	1.0mg/100g
Crude protein	16%	Vitamin E	2.1mg/100 g
Crude fat	2%	Vitamin B9	10mg/ 100 g
Carbohydrate	0%	Vitamin B12	2.2mg/100 g
Ash	12.18%	Vitamin A	20mg/100 g
Energy value(kcal/100g)	81calories/100g	Calcium	924 mg/100 g
		Zinc	0.14 mg/100 g
		Iron	1.86 mg/100 g

Japanese quail (*Coturnix japonica*)

Proximate composition (Meat)	Amounts (%)	Proximate composition (Egg)	Amounts (%)
Moisture	73.93%	Water	74%
Crude protein	20.5%	Protein	13%
Crude fat	3.8%	Lipid	11%
Carbohydrate	1%	Carbohydrate	1%
Minerals	1.12%	Total ash	1%
		Calorific value	649KJ/100g liquid

Conclusions

The most effective way to reduce water scarcity in aquaculture is to intensify and diversify farming practices. In that respect, most preferable integrated farming system of aqua-animal husbandry is a great support for many landless and agricultural enthusiasts, as it will be possible to set up this type of integrated farm with minimum investment and in a very narrow space utilized to produce good quality meat and eggs. In this system is effectively utilizing fish and Japanese quail wastes as nutrient for azolla cultivation and azolla as a natural supplement on Japanese quail.

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Article Id
AL04105

RURAL NON-FARM EMPLOYMENT FOR PROMOTING RURAL ECONOMY AND SUSTAINABLE LIVELIHOOD IN INDIA

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India is a country of villages with almost 70 per cent of population staying in rural areas and a significant wellspring of income continuing to be agriculture. While 25.7 per cent of them fall under Below Poverty Line, is a challenge that needs to be considered. Indian agriculture is now at a critical situation of being over-saturated and over-reliance on agriculture has proved to be lethal and thus been unable to create adequate employment opportunities. In this context, Rural Non-Farm Sector (RNFS) has created a diversification in the source of employment for the rural India. RNFS and its potential of creating sustainable employment opportunities can act as a boost to decline poverty and provide economic security. Irrespective of the tireless service of agricultural enterprises, the rural population including the rural youth is now shifting to various activities in order to have a sustainable livelihood and support their family. RNFS has an innate capability to act as both supplement and complement to farm sector. RNFS can likewise address a noteworthy issue of rural unemployment, intending to be a tafrightened rate of 5.3 per cent (NSSO, 2018). Long ignored by policymakers, the provincial Rural Non-Farm Sector is picking up consideration and have an incredible opportunity to solve the problems of migration, joblessness, inequality and natural calamities.

Potential Sources of Farm-Household Income

Davis and Pearce (2000) analysed in a review the potential sources of income available to each farm or rural household. The traditional and main component has been income from agricultural core activities. These may be defined as those enterprises taking place on predominantly agricultural proprietorial units, which are based on the primary

production of food or fibre. On-farm income can come from both agricultural core activities and non-farm agricultural employment.

Potential sources of non-farm income can be divided into three components: income from non-agricultural employment; non-farm enterprises; and remittances. As such, one can distinguish between enterprise and income diversification. Enterprise diversification activity embraces both on and non-farm business creation outside of agricultural core activities. Income diversification will embrace these two components plus any movement towards nonfarm employment (whether agriculturally based or not).

Finally, a third source of revenue is unearned income (such as pensions, dividends and interest), which – while usually ignored – can be very substantial in certain cases, and decisions made in this sphere may have an important bearing on such crucial choices as time of retirement and intensity of farming.

These variations between components of income are therefore likely to have a major effect on the decision-making of farmers and there is a need to understand the importance of each, rather than subsuming them all into binary classifications such as the part/full-time dichotomy. Thus, potential sources of income are disparate, likely to vary substantially in importance between farmers, and exhibit wide variations in their attractiveness as sources of pecuniary gain.

All the rural economic activities may be divided into the following six categories:

- i) Crop Production
- ii) Livestock Production
- iii) Agricultural Wage Employment
- iv) Non-agricultural Wage Employment
- v) Non-agricultural Self-employment
- vi) Transfer Incomes.

The first three qualify as agricultural employment while the last three constitute non-farm sources of income. But from aspects of Rural Non-Farm Employment, the fourth and fifth are the relevant activities (Davis et al. 2007).

Rural Non-Farm Sector, Rural Non-Farm Employment and Rural Non-Farm Economy

- Rural Non-Farm Sector encompasses all non-agricultural activities, undertaken by enterprises varying in size from household own account enterprises to factories. e.g.- Agri-tourism, manufacturing, construction, handicrafts etc.
- Employment generating out of RNFS is known as Rural Non-Farm Employment (RNFE).
- Rural Non-Farm Economy may be defined as comprising all those activities associated with waged work or self-employment in income-generating activities (including income in-kind) that are not agricultural but which generate income (including remittances etc.) rural areas.

Rural-non-farm Sector and Its Importance

Non-farm sector represents all economic activities in the rural areas except agricultural, livestock, fishing and hunting. It is not a homogenous sector. The non-farm sector, particularly in rural areas is being accorded broad acknowledgement in recent years for the subsequent reasons.

- Rural non-farm activities are very useful for utilizing for local talents and local resources which cannot be easily transferred and utilised in the urban centres.
- A designed strategy of rural nonfarm progress may be preventing rural migration to urban industrial and commercial sectors.
- The expansions of rural non-farm activities significantly bridge the gap between rural and urban economy and also among the people of rural areas.
- Rural industries are usually a lesser amount of capital intensive and more labour captivating through a wide network of rural non-farm activities, there is considerable solution to rural poverty as well as urban poverty.

As a Solution to Migration Problem

In India a large portion of population lives in rural areas and this population continues to grow at substantial rate. Given the limits to arable land, such growth rate in the rural labour force will not be productively absorbed in the agriculture sector. Hence, the percentage of labour force employment is falling in agriculture sector. So this leaves migration to urban areas or the development of non-farm sector in rural areas to take up the slack. Hence, by generating employment opportunities outside agriculture the RNFS play a big role in reducing migration to a significant extent.

As An Answer to Economic Inequality

The more important role the RNFS plays is in reducing the inequality in income distribution across different sections of the society like a landless agricultural labourers who work in the agricultural season, which is highly seasonal in nature and he remains slack for rest of the year but a landholder has enough product to fulfil his requirement of food & non-food items for the rest of the year. So, by providing employment during slack seasons RNF sector smoothens the rural households' income flows and hence the consumption. Hence, participation in the RNF sector allows poor people to smooth out offset fluctuations in agricultural income that might occur on a seasonal basis or as a result of unexpected events and in this way it reduces the vulnerability of the poor section to cope with future unforeseen contingencies.

As An Answer to Employment Problem

Ever-increasing Land-Man imbalance (in other words, ever declining land to man ratio), Agriculture alone can't provide the ultimate solution to the rural unemployment and underemployment and poverty. The moot point in developing countries now a day is that they must steadily reduce their dependence on agriculture and expand its non-farm sector to facilitate the transfer of workforce out of agriculture, which is supposed to be the economic activity with least productivity. Hence due to population pressure, small & fragmented land holdings and highly inequitable land distribution structures in the country we need to have a well-developed non-farm sector. Employment continued to be the Achilles' heels for the Indian economy, partly due to the failure of the industrial sector to absorb the expanding army of surplus agricultural workers and partly due because of agriculture too can't take on more working hands-on an indefinite basis, RNFE expansion would have to be a logical way out of the employment problem.

As A Solution for Rural Poverty

The vital role of the rural non-farm sector in addressing poverty and rural development is no more hidden. So, any analysis of the rural economy must look beyond the farm gate and must demonstrate the importance of the non-farm economy to the rural poor, the majority of whom are only part-time farmers or farm labourers and adopt a wide range of other strategies to support their livelihood.

Push factors for RNFE	Pull factors for RNFE
1. Population growth	1. High return on labour in RNFS
2. Declining natural resources	2. Higher return on investment in RNFS
3. Declining return to farming	3. Lower risk of RNF compared to farm activities
4. Lack of access to farm input markets	4. Generation of cash to meet family objectives
5. Absence of rural financial markets	

Public sector initiatives to promote RNFE

1. Mahatma Gandhi National Rural Employment Guarantee Act
2. Deendayal Upadhyay Grameen Kaushalya Yojana
3. Deen Dayal Antyodaya Yojana – NRLM
4. Ajeevika Grameen Express Yojana
5. Skill India Campaign
6. Pradhan Mantri Mudra Yojana

Conclusion

Rural Non-Farm sector is increasingly playing an important role in the development of rural areas in developing countries like India. Specifically, as agriculture in the region declines in importance in terms of its contribution to the economy, the RNFS will need to become more and more a major provider of employment and income to many rural folks. It should be noted, however, that RNFE are not a substitute for employment in agriculture but rather as a supplementary measure. Agricultural development is still important and should be pursued as a necessary precondition. The promotion of RNFE also should be undertaken within the broader context of rural development. Efforts are needed to identify appropriate and effective institutional vehicles for development of nonfarm sector policy and interventions for creating employment opportunities. Many strategies and programs to promote RNFE have been formulated in various countries.

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