

Strategies for Developing Agripreneurship Among Farming Community in Uttar Pradesh, India

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Abstract

A farmer to become successful agripreneurs needs to recognize appropriate market opportunities, manage existing resources for taking risk. In general, agripreneurs should be proactive, curious, determined, persistence, visionary, hard working, honest, integrity with strong management and organizational skills. Agripreneurship is greatly influenced mainly by the economic situation, education and culture. The critical analysis of agripreneurs and traditional farmers in selected districts of Uttar Pradesh in India clearly indicates that if the right environment is created and farmers are provided with good infrastructure, technological support, and timely availability of credit it can enhance food production and ensure food security as well as increase in income of the farmers and quality of life. Contrary to common belief, caste, farm size, and age of the farmers are not necessarily major constraints for the success of agripreneurship. Even less educated small farmers of old age can also become an agripreneur provided they are clearly informed about the right type of technologies and knowledge about their use. Hence, technology dissemination system is equally important than technology generation. The farm size **per se** is not a major constraint. At present, information has become another crucial input like land, labour, and capital for enhancing agricultural production and if right type of information and facilities/services are provided timely certainly a few of the farmers will become agripreneurs.

Keywords: *Agripreneurship, Innovation, Extension, New Technology*

Introduction

Entrepreneurship has a long history and has been defined in different ways. The term "entrepreneur" originated in France as early as the 17th and 18th centuries. As back as 19th century the word entrepreneurship was described as the venturesome individuals who stimulated economic progress by finding new and better ways of doing things (Say Baptiste Jean a French Economist). In the 20th century, the concept of entrepreneurship was further refined and described entrepreneurs as innovators who drive change in the economy by serving new markets or creating new ways of doing things. The function of entrepreneurs is to reform or revolutionize the pattern of production in many ways: by exploiting an invention or, more generally, an untried technological possibility for producing a new commodity or producing an old one in a new way, by opening up a new source of supply of materials or a new outlet for products, by reorganizing an industry and so on (Joseph Schumpeter, Professor at Harvard Business School). While both Say and Schumpeter emphasize starting new, profit-seeking business ventures but starting a business is not the essence of entrepreneurship. Rather it is the role of entrepreneurs as the catalysts and innovators behind economic progress. Entrepreneurship is not bound by rigid concepts of age nor plagued by homogeneity but they are diverse, found in every culture, class, race, ethnicity, gender, sexual orientation, physical ability and age.

Entrepreneurs are those people who exhibit common traits such as single-mindedness, drive, ambition, creative, problem solving, practical, and goal-oriented. In common parlance, being an entrepreneur is associated with starting a business, but this is a very loose application of a term that has a rich history and a much more significant meaning (Dees, 1998). The notion of entrepreneurship was further extended by emphasizing opportunity (Drucker, 1985). Entrepreneurs are not required to cause change but exploit the opportunities that change creates in technology, consumer preferences, social norms, etc. Starting a business is neither necessary nor sufficient for entrepreneurship. Every new small business is not entrepreneurial or represents entrepreneurship. Later stage, another element of resourcefulness was added to the opportunity-oriented definition that distinguishes "entrepreneurial" management from more common forms of "administrative" management.

In brief, an entrepreneur is an individual who recognizes an opportunity or unmet need and takes the risk to pursue it. He needs to develop these abilities, managing productivity and seeking out new markets. Besides, there are few traits essential for successful entrepreneurs. These traits are: proactiveness, curiosity, determination, persistence, vision, hard working, honesty, integrity, strong drive to achieve, high levels of energy, goal oriented, independent, demanding, self-confident, high self-esteem, disciplined, strong management and organizational skills, internally motivated, tolerance for failure, positive attitude, positive thinking, sees opportunities where others see problems. Evidences indicate that for farmers to be successful as agripreneurs, they need to possess, most, if not all of these characteristics or qualities.

Personal Qualities of Agripreneurs

Personal qualities of an agri-entrepreneur/farmer significantly affect the agribusiness (Brockhaus and Horwitz, 1986; Verhaar and Hoeve, 1999; Elfring, 2000; Nandram and Samson, 2000; de Buck et al, 2000). Self criticism, leadership, market orientation and creativity are important for successful entrepreneurship (Nadram and Samson, 2000). Based on the field experience, twelve personal qualities of farmers were identified as the most important factors that influence agri-business (Cardien de Lauwere et al, 2000).

Market-orientation	Perseverance	Empathy	Leadership
Achievement-orientation	Inspiration	Flexibility	Creativity
Self-criticism	Laziness	Initiative	Passivity

In any country or region, strategies for improving agricultural productivity or income of the farmers, it is necessary to develop an entrepreneurial culture among farmers. This has been rightly indicated by Peter Drucker (1985) that "The essence of economic activity is the commitment of present resources to future expectations, and that means to uncertainty and risk". Hence, there is a need to create an entrepreneurial culture by putting systems in place to support and recognize entrepreneurship as a viable career choice. Entrepreneurship should not be looked as a second class career or just a hobby, but rather a wealth creating mechanism which requires critical thinking, astuteness and quick recognition of opportunities where others see problems.

One important factor that must be remembered is that creating an entrepreneurial culture is a long term goal because substantive results will not be seen immediately. But, the investment for the sustainability of agriculture must focus on to develop and strengthen the political will, social obligation and commitment by all stakeholders. This has been rightly stated by Best (2001) that it has to be focused and riveted on the breeding of local

agripreneurs, who are not just farmers, but are also thinkers, risk takers and business people. To make this approach successful all the aspects such as cultural, social and political situations must be addressed in a holistic way at the regional level. There are some differences in the qualities of adopters of new technologies and agripreneurs as Innovators. Some of the characteristics of these innovators and adopters have been described in Table 1.

Table 1: Characteristics of Adoptors and Innovators (Trend setters)

Adopter	Innovator
Efficient, thorough, adaptable, methodical, organized, precise, reliable, and dependable	Ingenious, original, independent, unconventional
Accepts problem definition	Challenges problem definition
Does things better	Does things differently
Concerned with resolving problems rather than finding them	Discovers problems and avenues for their solutions
Seeks solutions to problems in tried and understood ways	Manipulates problems by questioning existing assumptions
Reduces problems by improvement and greater efficiency, while aiming at continuity and stability	Catalyst to unsettled groups, irreverent of their consensual views
Seems impervious to boredom; able to maintain high accuracy in long spells of detailed work	Capable of routine work (system maintenance) for only short bursts; quick to delegate routine tasks
An authority within established structures	Tends to take control in unstructured situations

Source: Kirton, M.J. *Journal of Applied Psychology*, 1980

Sampling Methodology

This paper aims to address specifically the issue of entrepreneurship among farming community in Uttar Pradesh in India. The present study is based on the farm level data collected from 290 sample households (farmers) representing different farm size class and resource base in two contrasting agroclimatic regions of Uttar Pradesh. In the present study, the net income of a farmer from all the activities (including crops, livestock, wage and trade, etc.) has been considered as the indicator of a successful entrepreneur/Manager. Higher net income of a farmer indicates the higher level of entrepreneurship. All the sample farmers were divided into two groups namely, (1) Traditional Farmers and (2) Agripreneurs. Traditional farmers consists of 210 farmers, who were still growing traditional crops and practicing old farm practices while Agripreneurs consists of 80 farmers, who adopted new technologies and farm practices. These are the farmers who earn handsome net income from various enterprises and have diversified their cropping system for higher net income. They are practicing many innovative technologies and are trendsetters for other farmers to use new technologies and improved farm practices.

Objective of the Paper

In the present paper, characteristics of these two categories of farmers have been analyzed in detail to examine the difference in their personal profile, resource base, and level of income. An attempt has been made to examine the effect of various factors influencing the net income from all the activities/enterprises separately for both the groups of farmers.

Personal Profile of Agripreneurs

As has been mentioned earlier that personal qualities of the farmers substantially affect the agribusiness, an attempt was made to quantify differences in a few of the personal qualities of both the types of farmers. The results in Table 2 shows that agripreneurs had higher scores for almost all the personal characteristics such as creativity, leadership, perseverance and initiative and a very low score for passive and laziness than traditional

farmers. Farmers with higher scores for passivity are less growth-oriented and more (financially) conservative. In general, agripreneurs were more market-oriented and achievement-oriented. Besides, they were more inspired through exposure visits and ready to take initiative for adoption of new technologies and farm practices. They were also more flexible to accept the changes but creative in thinking.

Table 2: Mean Score of Personal Qualities of Traditional Farmers and Agripreneurs

Personal Characteristics	Agripreneurs	Traditional farmers
Market-oriented	3.4	1.1
Achievement- oriented	3.8	1.3
Self-criticism	2.6	1.5
Creativity	4.2	0.5
Leadership	2.5	0.01
Perseverance	3.6	1.2
Flexibility	3.1	1.3
Empathy	4.0	1.5
Initiative	3.9	0.8
Inspired	3.5	1.5
Passive	-2.7	-0.5
Laziness	-2.9	-0.4

¹ Scores vary from -5 (totally disagree) to +5 (totally agree).

Demographic Profile of the Agripreneurs

Profile of the agripreneurs and traditional farmers clearly indicate that, on average, agripreneurs had relatively larger size of family but less number of earning members compared to traditional farmers. The heads of the family of agripreneurs were relatively more educated than their counterparts. Moreover, both the categories of farmers were not very old and there was no sharp difference in the age of the head of family of agripreneurs and traditional farmers. It was expected that age as a proxy of experience would play an important role in entrepreneurship but it seems that it was not found very important as both the group of farmers had more or less similar age/experience (Table 3).

Table 3
Demographic Profile of Traditional Farmers and Agripreneurs

Particular	Agripreneurs (80 farmers)	Traditional farmers (210 farmers)
Family size (Number)	7.3	6.7
Earning members (Number)	2.4	2.6
Age of the head of family (years)	50	53
Proportion of Illiterate heads of family (%)	30	60
Proportion of educated Head of the family up to primary (%)	55	30
Proportion of head of the family having more than high school of education (%)	15	10

Agricultural Profile of Agripreneurs

Table 4 shows that about half of the traditional farmers were small farmers (operating small holdings of less than 2 ha). While 20% of the agripreneurs were large farmers (operating more than 4 ha of land) compared to 15 percent of the traditional farmers. This indicates that entrepreneurship is not related to size of farm. Even half of the agripreneurs were small farmers and only 20 percent were large farmers. This is contrary to common belief that large farmers have more risk bearing ability compared to small farmers. The total area owned by agripreneurs and traditional farmers was almost same i.e. 3.50 ha

and 3.20 ha respectively but the net cultivated area was quite less in case of traditional farmers as they had leased out more land than agripreneurs. Moreover, agripreneurs cultivated land more intensively than traditional farmers as the cropping intensity of agripreneurs was 260 percent compared to traditional farmers 160 percent. The agripreneurs had access to irrigation in more than 85 percent of the total cropped area compared to traditional farmers (only 50 percent). This indicates that agripreneurs were able to take almost three crops a year while traditional farmers could cultivate their part of their land in both the seasons due to lack of irrigation facilities, inputs, credit, etc.

It was noted that not only the intensity of cropping was higher in case of agripreneurs but they had more diversified cropping and farming system than traditional farmers. The crop diversification¹ and income diversification both were quite high in case of agripreneurs compared to traditional farmers. It was interesting to note that agripreneurs had more diversified source of income as income diversification index was (0.865) compared to traditional farmers (0.362). This was mainly because agripreneurs have more diversified cropping system (crop diversification index being 0.732) compared to traditional farmers, who had low crop diversification index (0.345). In general, agripreneurs had more access to institutional credit compared to traditional farmers. This was mainly due to differences in the repaying capacity of farmers. Since the agripreneurs had higher income, they were able to repay back their loan to get fresh credit from banks. On an average, 75 percent of the agripreneurs had access to bank credit/loan compared to only 40 percent. However, it is also to be noted that most of the traditional farmers were dependent on private money lenders than institutional credit. Moreover, agripreneurs were not having more access to institutional credit but average amount of loan availed by them was also quite high (Rs 38730) compared to traditional farmers (Rs 12910). In general, agripreneurs had, on average, lesser number of milch animals (1.5) than traditional farmers (2.5).

Table 4: Agricultural Profile of Traditional Farmers and Agripreneurs

Particular	Agripreneurs	Traditional farmers
Proportion of small farmers (%)	55	55
Proportion of medium farmers (%)	25	30
Proportion of large farmers (%)	20	15
Total area (ha)	3.50	3.20
Net cultivated area (ha)	3.20	2.60
Gross cropped area (ha)	8.50	4.15
Proportion of gross cropped area irrigated (%)	85	50
Cropping intensity (%)	265	160
Crop diversification index*	0.732	0.345
Income diversification index*	0.865	0.362
Number of milch animals (No.)	1.5	2.5
Proportion of households availing bank loan (%)	75	40
Amount of loan (Rs/household actually availing credit)	38,730	12,910

Cropping Pattern

It is evident from Table 5 that agripreneurs had more diversified cropping system while the traditional farmers concentrated more on cereal based cropping system and low diversification of cropping system. Moreover, diversified cropping system of agripreneurs was more devoted to high value crops. Agripreneurs devoted only 35.5 percent of their

¹ To measure the diversification¹ in income and crops, an index was developed using Simpson index method, which varies between zero and one. Zero value indicates no diversification as a farmer receives all his income from single source while value of one indicates perfect diversification. But often value of index as one is not possible. Higher value of index indicates higher diversification.

cropped area for cereals against 66.5 percent by traditional farmers. However, there was little difference in the area devoted to pulses by both the groups of farmers. But, if we compare the area devoted to other high value crops like medicinal and aromatic plants, sugarcane and horticultural crops like fruits and vegetable, and oilseeds, etc. agripreneurs had substantially devoted more area to these crops compared to traditional farmers (Table 5).

Table 5: Cropping pattern (Proportion of gross cropped area under different crops) of Traditional Farmers and Agripreneurs

Crops	Proportion of total cropped area (%)	
	Agripreneurs	Traditional Farmers
Cereal	35.5	66.3
Pulses	8.4	10.5
Oilseeds	15.4	6.7
Sugarcane	9.8	3.3
Horticulture	14.2	0.4
Others*	4.5	12.8
Aromatic and medicinal plants	12.2	-
Total	100.0	100.0

* includes coarse cereals and fruits, floriculture, medicinal and aromatic plants, etc.

Adoption of New technologies/Farm Practices

Area devoted to high value crops alone might not be sufficient to enhance income of the farmers unless it is fully supported by technological back up. An attempt was made to examine the adoption of a few important new/improved technologies by both the groups of farmers. It becomes clear from Table 6 that in general, agripreneurs used more high yielding varieties and had used extensively organic manures to supplement the plant nutrient and used balanced fertilizers. They had more soil testing to know the required doses of plant nutrients in the soil and also soil treatment to avoid any soil borne diseases. Besides, they had taken precautionary measure to treat the seeds before using in the field and various bio-control measures. Majority of the agripreneurs had seed treatment and used culture (Rhizobium, Azotobacter, PSB, etc.) and Bio-control measures such as Neem cakes, Trichoderma, and Trichogramma, etc. They also focused on livestock development and used more green fodder and mineral bricks, etc for milch animals to increase milk yield (Table 6).

Table 6: Adoption of Various New Technologies/Farm Practices by Traditional Farmers and Agripreneurs

New Technology and Farm Practice	Proportion of farmers adopting new technologies/ farm practices (%)	
	Agripreneurs	Traditional farmers
Soil testing and soil treatment	40	15
Seed treatment	20	5
Organic manure (NADEP, Vermi compost, CPP, BGA, CHM, etc.)	30	16
Culture (Rhizobium, Azotobacter, PSB, etc.)	25	5
Bio-control (Neem cakes/cake, Trichoderma, Trichogramma, Feromon trap, BT, Others)	15	5
Green manuring	20	-
High-yielding/Hybrid variety	60	10
Bee-keeping	10	4
Mineral mixture/bricks	10	5
Cultivation of green fodder	15	4
Total farmers using new technologies/farm practices (%)	70	20

Note: The total percentage might not add up to 100 percent because a few of the farmers in both categories adopt more than one new technologies and farm practices.

Household Income

It was also noticed that agripreneurs not only diversified their cropping system but diversified their income sources also. It is clear from Table 7 that there was sharp difference in the total income of traditional farmers and agripreneurs. On an average, total annual per household net income of an agri-entrepreneur was about 3.2 times more (Rs 5,26,600) than the total annual net income of traditional farmers (Rs 1,66,265). This comes out to Rs 72,140 per capita for agripreneurs and Rs 24,815 for traditional farmers. It is also clear from Table 7 that agripreneurs received more nearly one-fourth (22.9) percent income from growing horticultural crops while traditional farmers got only 12.4 percent. However, the share of cereals, pulses and oilseeds in the total households income was only 18.1 percent in case of agripreneurs compared to 21.6 percent in case of traditional farmers. As against this, agripreneurs received about 17.2 percent income from sugarcane as cash crop while traditional farmers got only 9.4 percent of total income from sugarcane. In case of agripreneurs, contribution of medicinal and aromatic plants was considerably high (16.8 percent) compared to traditional farmers (5.1 percent). However, traditional farmers received higher income from animal husbandry, which contributed about 15.3 percent to their total income while agripreneurs received only 8.6 percent income from livestock.

Similarly, traditional farmers participated in labour market and earned about 27.4 percent of total income from daily wages and salaries while agripreneurs relied less on salaries and received only 5.8 percent of their income from wages and salaries. The contribution of other sources of income such as petty trade, remittances, interest earned and gifts, etc. was also substantial in case of agripreneurs than the traditional farmers. Here, it is to be noted that agripreneurs, who had substantially higher income and were quite progressive farmers in the region they used to finance other farmers for their farming and other activities. This provided them additional income from interest earned on loan given to farmers in the villages. Besides, these agripreneurs had deposited extra income in the bank and since loan was easily available to them they had availed the facility of loan from the bank.

Table 7

Major Sources of Total Income of Traditional Farmers and Agripreneurs

Sources of income	Agripreneurs	Traditional farmers
Horticultural crops	120640 (22.9)	20560 (12.4)
Cereal and pulses	95310 (18.1)	35940 (21.6)
Sugarcane	90450 (17.2)	15650 (9.4)
Medicinal and aromatic plants	88450 (16.8)	8450 (5.1)
Animal husbandry	45375 (8.6)	25485 (15.3)
Wages and salary	30540 (5.8)	45620 (27.4)
Others*	55835 (10.6)	14560 (8.8)
Total Income/household (Rs)	526600 (100.0)	166265 (100.0)
Per capita annual net income (Rs)	72140	24815

* includes income from bee-keeping, petty trade, remittances, gifts, etc.

Figures in parentheses are percentage to total income.

Summary and Conclusion

The critical analysis of agripreneurs and traditional farmers in selected districts of Uttar Pradesh clearly indicates that if the right environment is created and farmers are provided adequate infrastructure support, agricultural production to ensure food security can be increased and many farmers can enhance their income and quality of life through adoption of new technologies and improved farm practices. Contrary to common belief, caste, farm size, and age of the farmers are not necessarily major constraints for the promotion of agripreneurship. Even less educated small farmers of old age can also become an agri-entrepreneur provided they are clearly informed about the right type of technologies and knowledge about their use. Hence, technology dissemination system is equally important than technology generation.

As has been observed that new technologies are neutral to scale/farm size but certainly not neutral to resources, even a small farmer operating 2 ha of land having higher access to irrigation facilities and improved farm practices with entrepreneurial ability can earn higher income than a small farmer with same size of holding without other facilities. Hence, the farm size *per se* is not a major constraint. In the present age, information has become another crucial input like land, labour, and capital for agricultural production. However, it does not mean that all the farmers in any region, irrespective of their caste, farm size, age and education will become agripreneurs if right type of information and facilities/services are provided at right time but certainly a few of the farmers will be agripreneurs. This will lead to transfer of new innovations and technologies through farmer-led extension system.

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