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Managing Entrepreneurial Competencies of Farmers for Sustainable Farming

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Abstract
Farming is the main production activity in all the villages across India. It is the primary activity in agriculture of growing crops and raising livestock. Farms produce field crops of cereals, fruits, vegetables and rearing of animals. Learning facilities, Knowledge, Skills and Attitudes and behaviours are broadly categorized as areas for competencies development. The existing scenario revealed that there is a prevalence of unsustainable farming practice. Such as, shortage in production, low return from the farming activities and the corresponding migration of rural people for employment. It is also well understood from the increase of greenhouse gases, degradation of water bodies and soil pollution. Sustainable farming means that it would meet the needs of present and future generations while also ensuring the profitability, environmental health and social and economic equity. Several previous studies have investigated the problems in the farming activities, the sustainability of agriculture and entrepreneurial competencies but managing the competencies for the sustainable farming has not been explored. A district level study has been made in Tamilnadu in this perspective towards sustainable farming and identified managerial ways to increase entrepreneurial competencies, thereby potentially contributes to income enhancement and employment creation.

Keywords: Entrepreneurship, Agribusiness, Agri-Resources, farmers, effective management, investment return, migration, innovative techniques, competencies, advancement in technology, sustainable farming.

1. Introduction
Entrepreneurial competencies of farmers are need to be well managed for the sustainable farming. Entrepreneurial competencies have been defined as the knowledge, skills, abilities, values, attitudes, personality and expertise that lead to entrepreneurial action Kiggundu, 2002; Morris et al., 2013 and success (Dixon et al., 2005). With the effective management of meta competence, cognitive competence, functional competence and social competence of farmer sustainable farming can be followed effectively. Otherwise, it will be impasse. Unsustainable agriculture degrades natural resources, destroys wildlife and affects wellbeing of people. Sustainable farming offers solution to the problems faced due to unsustainable practices. Therefore, entrepreneurial competencies of farmers have to be developed for sustainable farming through well management. Sustainable farming is a broader term used for growing food using methods that will also nurture society, the environment and the economy. The United Nations Environment programme (UNEP) supports a transition towards global food systems that provide net-positive impacts on nutrition, the environment and farmer livelihoods. Management is the art of getting things done through and with people in formally organized groups and the activities involved such as forecast, plan, organize, command, coordinate and control. By which, strategies for entrepreneurship have been derived out to improve the training facilities, to enhance the knowledge, to empower the skill and to develop attitudes and behaviours.

2. Scenario
Entrepreneurship is a personal skill and motivation which draws a person to engage his abilities and efforts in the creation of new products and services with a business to match the

market demand. Sivaganga district in Tamilnadu is predominantly a rural based district having almost 70 percent of the population is engaged in agricultural activities. Out of the total farmers engaged in agricultural activities only 5 percent of farmers are considered to be entrepreneur. Other farmers are conventional in nature not ventured into any type of competent business activities in their respective fields. In farming activities, from the input supplies to marketing of their produce there are so many potential areas to explore for a business opportunity. Being traditional in nature and not taken any attempt for a new business initiative are the common scenario among the farmers. Conventional farming practices have caused degradation of water resources and polluting of air and soil resources. Not turned farming as a viable business due to inherent difficulties such as low return on investment, increasing of labour cost, environmental disturbances and inability to compete with other sectors corresponding with growing inflation. It caused agricultural land conversion, migration of labour from farming to other sectors, give less attraction to younger generation in choosing the agricultural field and so on. While farmers are facing the difficulties of increasing agricultural productivity to meet the growing market demand on the one side, low profit margin, increasing input costs, weak investment strength and insufficient support services restricts their chances of taking risk. Consultancy services, extension service centres, educational institutions and training centers efforts have not been enough in building their competence. Unscientific cropping pattern, outdated technologies in practice, inefficient handling of processed goods and improper storage system resulted in weak supply chain management. Ever increase of chemical fertilizers, high cost of arriving modern technologies, inflation in economy, dominant play by intermediaries and mismatch in market demand supply system worsened the situation. Pro farmers agricultural policy, separate agricultural budget, creation of a water resources department, increased importance to research cum educational institutions, active role of training centers and export facilitation center showed that there is a sign of promotion of entrepreneurial skill among farmers. There are varieties of agri-business thriving around farming activities like vermicompost unit, fertilizer companies, agro processing unit, manufacture and supply of agricultural equipment, taking up of dealership in agricultural machineries, produce and marketing of organic products by setting a retail unit, established cold storage unit, ventured into export market, logistic services, booming of nurseries, providing consultancy services and so on. Only few farmers have come forward to do farming as a business for which they should professionally handle farming activities based on market demands. They can shine only if the barriers outside their control are removed by developing their competence.

3. Review of Literature

1.Fiona Wilson, Debora Marlino, et al., (2004), Studied to understand the gender disparity, the career motivations, self-perceptions, and attitudes of adolescents' interest for the development of entrepreneurs are investigated. Entrepreneurs in new environment was studied by Sanya Ojo (2013), Investigated ethnic minorities and their entrepreneurship skills in spatial and temporal dimensions. Studied their conventional wisdom and considered entrepreneurship is a product of persistent interface between multitude of social forces, attributes, states of being, actions, networks, attitudes, emotions, values, and beliefs. Emphasized on empowerment for development. Further, Bellotti, E., Berta, R., Lavagnino, E., and et.al (2012), In their study defined entrepreneurship as an ability and effort in the creation of new products and services to match the market demand. Relationships between intension and competencies were studied by Melodi Botha and Amorie Taljaard (2021), Investigated the relationship between entrepreneurial intention (EI) and entrepreneurial competencies (ECs), yet categorizing individual ECs in relation to higher-order competence constructs has not been explored. Based on the previous literature studies, four higher-order constructs are identified, namely cognitive, functional, social/personal and meta-competence. Moreover, in the project study of Jonathan Winterton, Francoise Delamare (2005), emphasized the learning outcome in terms of knowledge, skills and competences for the entrepreneurship education. Recognised demand driven model based on market analysis. Economic role of entrepreneurs was discussed in the work of Francis S. Nakayama Brian J. Boman Donald J. Pitts, (2006), underlined the emitter clogging continues to be a major problem in micro-irrigation systems. For high-valued annual crops and for perennial crops, where the longevity of the system is especially important, emitter clogging can cause large economic losses. In the study of Caroline Gipps (2009), described in socio cultural aspects of assessment underlined that the body of research and theory that builds on Vygotsky's work, sociocultural (generally unhyphenated) is used as a specific term embodying the roles of social interaction and cultural context in learning and identity formation. But hereby using the term socio cultural in broad sense. Reviews made by Susanne M. Scheirling and David O. Treguer (2016), in their study analysed the increasing demand on water resources as a result of demographic, socio-economic, technological and climate change. Also, pointed out water use in agriculture tends to have relatively low returns. So other users fend to turn to agriculture as a potential source of water. The study revitalized the management of water in order to respond to the challenges of water scarcity. Management work of Bharat R.Sharma, K.V.Rao, K.P.R.Vittal, Y.S.Ramakrishna, U.Amarasinghe (2010), assessed the run-off water loss, water use efficiency, economic analysis of water harvesting and supplemental irrigation in rainfed areas. The study findings said that there would be a larger scope for an effective management on conserving the surplus rain for improving the rainfed agriculture. Analysis of Carlos Lopez Marales and Faye Duchon (2011), in their study findings highlighted population growth trends, affluence and climate variability will intensify pressure on country's water resources revealed the locational mismatch between irrigation infrastructure, economic activity and water availability pointed out major irrigation technologies and their application efficiencies. Suggested effective management measures to adopt new water conserving irrigation technologies capable of achieving sustainable water usage. Highlight from Abhilas Kumar Pradhan (2018), in his study suggested better irrigation management practices like encourage poor and marginalized farmers to form co-operative association to avail need-based assistance to

achieve higher technical efficiency (TE) in resource use. Need for large scale literacy programme and training programme for better and innovative resource management practices. But, Tushaar shah, Mukul Kumar, Vanita Yadav, Anand Venkatesh (2015), in their study on rural management said many challenges of rural management in the developing world can be informed by western experiences. Ideas from Pradeep Kumar Mishra (2016), in his study on large scale projects and highlighted the important features for the success of the projects. They are, Cost, Time, Quality, Organization design and implementation dynamics. Organizational design must be recognized, flexible, deliberative, collaborative and to build completeness among core workers. Implementation dynamics involve interactive, policy change, leadership change, fund release, co-ordination and to build network of implementing agencies. Work of Carlos Lopez Morales and Faye Duchon (2011)," from the study analysis concluded with suggestions for better management like to distinguish surface and ground water sources to isolate the overdraft aquifers. Disaggregate agricultural sectors to distinguish the crop-water demands. Apply model framework to scientists about future population growth, changes in diet and climate change impact on water availability. Broad view of P.K. Aggarwal (2008), in his study on climate change and Indian agriculture identified the cause and had given management strategies for adaptation and mitigation. Reduce GHG emission by management practices like mid-season drainage and alternate drying and use resource conserving technologies. Adaptation manures to be practiced at all levels. Improve adaptation research, storage Infrastructure, provide risk management services, Impose Invest in water storage and efficient water use technologies. Effective Inter-departmental coordination is needed for location specific frame work of sustainable water management and recycling. Analysis made by Dr. Kameswari Peddada, Dr.Tarun Kumar Sharma (2020), in the project risk management is the process of identifying, evaluating and initiating negative impacts or enhancing the positive aspects of risk events. It should be integrated into project Research findings says key to risk management is in deciding way to hedge, what to pass through and what to take. Work of Ritu Pareek, Krishna Dayal Pandey, Tarak Nath Sahu, Arindam Gupta (2020), in the study has considered the guidelines and disclosures provided by GRI 2006 for reporting of sustainable performance. It provides equal importance to all the three parameters (GRI, 2006), of corporate sustainability, namely, economic, environmental and social. By giving attention of Sub-categorization of disclosures into economic, human rights, product responsibilities, labour practices and decent work, society and the environment. Ideas of Harold Koontz and Heinz Weinrich (1976) described, various management functions, out of which, coordination process was described to be an integral part of all other functions.

4. Methodology

The present paper used both the primary and secondary data. The primary data were collected from at field level from the sample respondents and the secondary data were collected from various article published in journals, magazines, newspapers and related theses.

5. Barriers

Entrepreneurs' ventures into a new initiative to meet the market demands. Farmers in their circumstances don't know how to set up a business. They have lesser education and awareness to identify the market gaps. Having lesser savings, they normally do not go for taking risk in any form of new initiative. Finding no time to spend on entrepreneurship skill development programme even if any during the agricultural season time. Lack of expertise in any form of business activities. As agriculture is a full-time occupation throughout a year, they used to involve in one or other form of activities. Knowing short of professionalism than a passion of doing it as a family occupation generation after generation. Thriving agri-business keeping an eye on the farming activities posed challenges to the farming activities. High investment cost of new advancements in agricultural field and environmental pollution caused by the increased use of chemical fertilizers, pesticides and associated by-products overburdened the farmers and questioned the sustainability of farming activities. Involvement of high production cost and struggles faced in the handling of farm products and marketing of it became major hurdles for any entrepreneurs. Increasing of labour cost and continuous arrival of high-cost agricultural equipment reduced the profit margin. Urbanization and real estate business forced agricultural land conversion for non-farming activities. Mechanization of agriculture and scope for better earning from other sectoral jobs attracted youth to migrate to towns seeking for employment. Less infrastructural support and dwindling of natural resources worsened the farming occupation. Decreasing of grazing land, labour shortage with less return from the farming income declined scope for cattle farming. Lack of entrepreneurial skill development training institution and poor access to the educational institution became challenges for their development. Lesser connectivity with the outward world and traditional in nature have become a cause of concern. Insufficient budgetary support, lack of suitable policy measures and unviable projects worsened their prospects of being an entrepreneur.

6. Requirements

Environmentally friendly initiatives to be mooted for the sustainable farming. Promotion of organic products and facilitation for geographical identification tag for the local products help for the regional growth and cooperative development of farmers. Promote locally suitable crops with less genetic modification. Encourage rearing of animals in a farmland and extend support of fodder, medical needs and marketing of animal products. Provide all form of support in the learning about farming practices and marketing of products. Create suitable legislation to prevent pollution and environmental degradation. Provide incentives for producers to change their approach towards sustainable farming. Encourage NGOs and communities involved in the development of sustainable agriculture. Support organization, policies and projects that promote sustainable farming. Increase farming productivity and take efforts to enhance farming income and create employment opportunities. Analyze ways and means to reduce costs associated with farming production, processing involved in it, distribution and marketing of produce. Identify and adopt less energy dependent farming approach and promote

methods release only fewer greenhouse gases emission. Disseminate environment friendly advanced technologies for sustainable farming. Create environment which support for biodiversity.

7. Survey Results

The questionnaire was prepared to assess the opinion of farmers on their meta competence (learning facilities), cognitive competence (knowledge), functional competence (skills) and social competence (attitudes and behaviours) towards entrepreneurship. The questionnaire had 120 respondents by 10 respondents from each block in the total of 12 blocks in Sivaganga district, Tamilnadu. Out of the 120 respondent's 68 percent were male and 32 percent were female. Random sampling technique was used to identify 10 samples from each block. By the way total samples came to be around 120 samples from the 12 blocks. Garret ranking technique was used to rank in the order of priority to be given for competence development according to farmers opinion. Without gender disparity farmers opinion in general were used to identify priority area of competence development.

7.1 TO IDENTIFY PRIORITY FOR COMPETENCE DEVELOPMENT – GARRET RANKS

In order to identify the priority area for competence development, the respondents were requested to express their opinion by giving ranks and it was processed through the garret scores and Table 1 displays the garret scores and its ranks.

Table 1: Priority on Competence Development – Garret Ranks

Sl. No	Factors	Rank				Garret Score	Mean Rank
		1	2	3	4		
1	Meta competence (learning facilities)	7480	6468	4796	2596	21340	3
2	Cognitive competence (knowledge)	8208	11913	6555	969	27645	2
3	Functional competence (skills)	10074	9271	13943	2117	35405	1
4	Social competence (attitudes and behaviours)	891	54	1890	10260	13095	4

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Source: Primary data

The Table 1 portrays the rank assigned by the respondents towards priority to be given for competence development. Based on the garret score value, the researcher has found that the highest score is awarded to the factor "skills" ranked as first followed by "knowledge" and "learning facilities". The least score is awarded to the "attitudes and behaviours".

8. Evaluation and Findings

From the discussed entrepreneurship scenario, the conditions existed in the farming sector were exposed. Identified barriers clearly depicted the issues to overcome for business development. Reviews made in respect to entrepreneurship in the farming sector described in detail about what is entrepreneurship and the different perspectives on it to understand the gaps and ideas to fulfil it. Analyzed requirements took into account of the existing conditions and the ideas derived from the reviews and experiences earned in the study to overcome the barriers for entrepreneurship development helped to identify the need for competence enhancement. The outcome of the analysis was scrutinized on the areas for competence development. It was well understood that the entrepreneurial skills of farmers have to be given priority for the competence build up. It required business plan and skills with the understanding of market gap to exploit opportunities to fulfil the needs. Understood the need of a platform for skill development, to provide a continuous training facility, for sharing updated information with the cooperation of a farming community. In this condition came to understand that there was a need of specialized advisory body for assistance and support to improve farmers competence to set up a business. For which, it was found that there is a need to set up a village guild like body and a resource team at village level for entrepreneurial competence development.

9. Conclusion

Sustainable entrepreneurship development rests with the idea of improving farmers competence in the existing conditions to overcome the unsustainable practices. Venturing into a business for profit with the due concern on environmental health was given importance. Overcome the hurdles faced by a farming community could be possible only with the support of technical advancement in practice with the cooperation of a farming community was realized. Improvement of a village economy with the overall development of a farming community is emphasized in the approach for competence development. Identified the priority areas of competence development with the better management ideas have been derived to enhance learning skills and knowledge. It was met out with the ideas of establishing a specific village guild and a resource team to extend continuous support and monitoring of business promotion in a farming sector. Village guild, an association of people with similar interests at village level to cooperate and coordinate with fellow farmers. They are trained in such a way not only to disseminate and demonstrate recent market arrivals but also infuse skills to train farmers to build confidence and competencies in them for the development of new ventures in farm businesses. They are made to be connected with resource team established at panchayat level. Resource team, an independent body functionable with its own budget equipped with up to day recent advancements in farming activities from input supplies to marketing outreach. It is to be well connected with panchayat raj institution for facilitation and smooth coordination. Making panchayat institution as a supervision body over it gives functional orientation and provides a sound platform for learning and knowledge enhancement. These strategies have been derived to improve entrepreneurial competencies for sustainable farming.

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