CONTEMPORARY RESEARCH IN INDIA
ISSN 2231 - 2137

TYPES OF AGRI BUSINESS INCUBATORS (ABIS) IN ENTREPRENEURSHIP DEVELOPMENT OF KERALA

Ashwini. T*, *M.Sc. Agri, Department of Agricultural Extension, College of Horticulture, Vellanikkara*

Binoo. P. Bonny, *Professor and Head, Communication Center, Mannuthy*

Received: 22/01/2019 | **Edited: 29/01/2019** | **Accepted: 07/02/2019**

Abstract: *India is an agro based economy in which 61.5 per cent of population depend on agriculture to earn their livelihood. In this scenario, agriculture should be seen as agribusiness to enhance the prosperity of primary sector. The rejuvenation of Indian agriculture is in boosting the entrepreneurship. Most of the technologies even though helpful for doing agribusiness were remained inside the laboratories. This happened due to lack of intermediaries involved in commercialization of the technologies in agriculture. In fulfilling this backdrop, Indian Council of Agricultural Research (ICAR) through its National Agricultural Innovation Programme (NAIP) established 10 Agri Business Incubators (ABIs) in 2008-09 and 12 ABIs in 2013-14 for creating technology based entrepreneurship in the society. ABIs are the unique phenomenon which are involved in commercializing new products, technologies and providing services to increase the practical utility of research findings of academic and research institutions in India. It was felt suitable, to studythe types of ABIs based on their organizational structure, functions and roles.*

The Study on types of ABIs based on organizational structure showed that the CPCRI, CTCRI, CIFT and IISR had 'Entrepreneurial' and 'Adhocratic' structures. In addition to the above two structures, CDB had 'Missionary' and 'Bureaucratic' organizational structures. ABI unit in KAU had 'Entrepreneurial', 'Adhocratic' and 'Professional' organizational structures. The study on ABIs types based on functions revealed that ABI units of CPCRI, CTCRI, CIFT, CDB, IISR and KAU were 'Technology', 'Economic development' and 'Basic research' functional types and delineated as 'University Business Incubators' (UBIs) type based on their roles in entrepreneurship development.

Keywords: *Agribusiness, Entrepreneurship, Incubators, Innovation, Types, Structure, Function, Role, Technology, Kerala.*

Introduction

Business Incubators are models for capacity building in entrepreneurship. They deliver networks for building relationships, provide training, business and technology support, infrastructure and other elements which are fundamental in survival of start-ups, deprived of much capital to develop into a full fledge enterprise (Ogutu andKihonge,2016). The Agri-Business Incubator (ABI) is an institution where the process of starting agri-business venture is stimulated by encouraging the entrepreneurs with agricultural technology, business consultancy, networking with management experts, venture capital funding, infrastructure and other facilities (Baljeeth, 2014).

The ABIs are developed to provide the entrepreneur friendly environment to be involved in commercialization of the technologies developed by them. Since they are creating an interfacing and interacting mechanism among research and development institutions, industries, and financial institutions, they are enhancing the practical impact of the research which is conducted in the research institutions by providing technology and services to commercialize new products (Pandey *et al.,* 2014).

The ABIs in Kerala are situated at Central Plantation Crop Research Institute (CPCRI) in Kasaragod, Central Tuber Crop Research Institute (CTCRI) in Thiruvananthapuram, Kerala Agricultural University (KAU) in Tavanur, Indian Institute of Spice Research (IISR) in Kozhikode, Central Institute of Fisheries Technology (CIFT) and Coconut Development Board(CDB) in Cochin, which are mainly involved in commercialization of technologies for the development of entrepreneurial

spirit and for the development of agri-entrepreneurs in the state.

The purpose of business incubators is in encouraging economic development of its public by associating with start-ups.It involves many stakeholders in which contribution of each affects the overall effectiveness of the system. The performance of the enterprises which are incubated by ABIs depends on the ecosystem of those incubators so the analysis of ABIs organizational structure, functions and their roles in creation of ventures will help in understanding the opportunities and challenges faced by both agri-entrepreneurs and the ABIs in the state.

Methodology

The research design followed in the present study is *ex-post facto* design. *Ex-post facto* design is a systematic study in which the scientist does not have direct control over the independent variables because their manifestation have already occurred or because they are inherently not manipulate (Kerlinger, 1973).

The data were gathered by using an interview schedule which was prepared under the guidance of advisory committee. Aqualitative approach of investigation was used for the study which involved visits to the ABIs in Kerala are situated at Central Plantation Crop Research Institute (CPCRI) in Kasaragod, Central Tuber Crop Research Institute (CTCRI) in Thiruvananthapuram, Kerala Agricultural University (KAU) in Tavanur, Indian Institute of Spice Research (IISR) in Kozhikode, Central Institute of Fisheries Technology (CIFT) and Coconut Development Board(CDB) in Cochin selected for the study to observe their functioning in their natural settings, interaction with the nodal officers and staffs to understand about the main features and characteristics of the incubators.

To delineate types of ABIs based on organizational structure, the hierarchy and their functions in the organization was identified. The organization structure identified by Bakkali *et al.* (2014)was adopted for the present study. They were described as: Missionary structure, which supports social projects; Entrepreneurial structure, which is specialized in a specific sector and focussed on their directors; Professional structure, which is developed within an Academic environment and also creating entrepreneurship with providing opportunities; Adhocratic structure, which supports business through innovations with a strong technological content; Bureaucratic structure, in which the organizations are larger in size.

To delineate the functional types identified by Aernoudt (2004) was adopted for the present study. They were described as: Technology Business Incubators with philosophy to fill entrepreneurial gap, creation of entrepreneurship as a main objective and to stimulate innovations in start-ups as a secondary objective; Economic development incubators are involved in diversification of regional economies and enhancing the regional competitiveness by supporting the technology based firms; Mixed incubators are those types which were established to revitalise the declining manufacturing areas. They served as a tool for reconversion and focussed on all types of enterprises; Basic research incubators are the types whose aim is to bridge the discovery gap by connecting the principle of incubation with fundamental research; Social incubators are those who aim is to bridge the social gap by increasing employment opportunities for disabled people, low skilled workers.

The types of BIs based on their roles in venture creation identified by Grimaldi and Grandi (2005) was adopted for the study. They were described as Business Innovation Centers (BICs) and University Business Incubators (UBIs). BICs and UBIs they differ from each other in terms of services providing to the incubatees. BICs are the incubators whose services are more inclined towards tangible assets including physical assets at low prices. UBIs are more evolved than BICs. In addition to the tangible assets they also provide intangible services which includes scientific and technological knowledge, networks with the business experts and

conveyance of image of affiliated research institutes to the enterprises.

Results and discussion

1. Types of ABIs based on their organizational structure

The results from the Table 1 concluded the ABI units in Central Plantation Crop Research Institute (CPCRI), Kasaragod; Central Tuber Crop Research Institute (CTCRI), Thiruvananthapuram ;Central Institute of Fisheries Technology (CIFT), Cochin and Indian Institute of Spice Research (IISR), Kozhikodewere headed by director and the daily activities are executed out by business manager. Principal Investigators (PIs) were involved in decision making. Co-PIs were involved in technology up scaling and providing guidance to the entrepreneurs on technologies The ABI units have developed technologies for processing and value addition and increased the competitiveness in their respective sector. Hence, The ABI units exhibited the characteristics of an 'Entrepreneurial' and 'Adhocratic' structures.

The ABI unit in the Coconut Development Board (CDB), Cochin operates within a statutory body established by GOI for the integrated development of coconut cultivation and industry in the country. CDB is functioning under the administrative control of the Ministry of Agriculture and Farmers welfare, GOI. It is having its headquarters at Cochin and regional offices at Bangalore, Chennai, Guwahati, and Patna.

Under the project called Integrated Development of Coconut Industry in India, the programmes are implementing by CDB which includes production and distribution of planting material, expansion of area under coconut integrated farming for productivity improvement. CDB implemented programmes for development, demonstration and adoption of technologies for management of insect pest and disease affected coconut gardens. Development and adoption of technologies for processing and product diversification, market research and promotion. The ABI unit in CDB displayed the elements of an 'Entrepreneurial', 'Adhocratic', Missionary and Bureaucratic structures.

The ABI unit in Kerala Agricultural University is located at KCAET, in Tavanur. It operates within an academic environment and governed by Dean of the college. The daily activities are performing by Incubation Head (IH). It developed technologies on food processing and value addition for entrepreneurship development. The ABI unit in KAU, had 'Entrepreneurial', 'Adhocratic' and 'Professional' structures.

2. Types of ABIs based on functions

It could be observe from Table 2 that the ABI units in CPCRI, CTCRI, CIFT, CDB, IISR and KAU were displayed the elements of three identified functional types of incubators such as 'Technology ABIs' as they were supporting the innovations in value addition with help of technology. The ABI units also showed the elements of 'Economic development' incubators features as they were established in research institutions for supporting technology oriented firms and increasing the regional competitiveness in value addition of their respective sectors. They also classified as 'Basic research incubators' as they were involved in nurturing the new ideas in laboratories and launched them into the economy by bridging the discovery gap by connecting the principle of incubation with fundamental research.

3. Types of ABIs based on roles

It could be noticed from the Table 3 that the ABI units in Central Plantation Crop Research Institute (CPCRI), Kasaragod; Central Tuber Crop Research Institute (CTCRI), Thiruvananthapuram; Central Institute of Fisheries Technology (CIFT), Cochin and Indian Institute of Spice Research (IISR), Kozhikode; Coconut Development Board, Cochin; and Kerala Agricultural University (KAU) were involved in entrepreneurship development by supporting aspiring entrepreneurs in the society.

The phase of intervention for the creation of ventures in the above ABI units were started from nascent stage to the independent stage of ventures. The incubation period ranges from six months to one year. The ABI units were providing tangible services of laboratories and equipment and the intangible services including technical guidance and knowledge on innovations. Based on all these features the ABI units in CPCRI, CTCRI, CIFT, CDB IISR and KAU were classified as University Business Incubators (UBIs).

Conclusion: The ABI units in CPCRI, CTCRI, CIFT. IISR were delineated into the types which were having 'entrepreneurial' and 'adhocratic' organizational structures. The ABI unit in Coconut Development Board (CDB) is identified as having 'entrepreneurial', 'adhocratic',' missionary' and bureaucratic organizational structures. The ABI unit in KAU is identified as having 'entrepreneurial', 'adhocratic' and 'professional' organizational structures.The ABI units in CPCRI, CTCRI, CIFT, CDB, IISR and KAU were delineated into 'technology', 'economic development', 'basic research' ABIs based on their functions. The ABI units in CPCRI, CTCRI, CIFT, CDB, IISR and KAU were delineated into 'University Agri-Business Incubators' based on their roles.

Acknowledgements

The study formed a part of MSc. (Ag.) programme of first author and financial support from Kerala Agricultural University is gratefully acknowledged.

References:

Aernoudt, R. 2004. Incubators: tool for entrepreneurship? *Small Bus. Econ.* 23(2): 127–135.

Baljeeth, S. 2014. Technology based entrepreneurship in agriculture - Role of agribusiness incubators. *Int. J. Manag. Int. Bus. Stud.* 4(3): 249-254.

Bakkali, C., Messeghem, K., and Sammut, S. 2014. Towards a typology of incubators based on human resource management. *J. Inov. Entrepren.* 3(3): 1-10.

Grimaldi, R. and Grandi, A. 2005. Business Incubators and new venture creation: an assessment of incubating models. *Technovation. J.* 25: 111-121.

Kerlinger, F. N. 1973. *Foundations of Behavioural Research*. Surgeeth publications, New Delhi, 1008p.

Pandey, P. S., Ravishankar, C. N. and Singh, N. 2014. Capacity building for entrepreneurship development through business incubation. *Indian Farming 64* (2): 24-26.

Ogutu, V. O. and Kihonge, E. 2016. Impact of Business incubators on economic growth and entrepreneurship development. *Int. J. sci. Res.* 8(5): 231-240.

Table 1: Types of ABIs based on organizational structure

Hierarchy and Function	Name of ABI-units					
	CPCRI	**CTCRI**	**CIFT**	**CDB**	**IISR**	**KAU**
Director/ Dean	Authority	Authority	Authority	Authority	Authority	Authority
PI/ IH	Decision making	Decision making	Decision making	Decision making	Decision making	Decision making
CO-PI	1.Guidance 2.Technology up scaling	1.Guidance 2.Technology up scaling	1.Guidance 2.Technology up scaling	1.Guidance 2.Technology up scaling	1. Guidance 2.Technology up scaling	1.Guidance 2.Technology up scaling
Co-PI	Technical guidance	Technical guidance	Technical guidance	Social projects	Technical guidance	Technical guidance
Business Manager	Executing activities	Executing activities	Executing activities	Executing activities	Executing activities	Executing activities
Location	Kasaragod	Thiruvananthapuram	Cochin	headquarter in Cochin and regional offices	Kozhikode	Kerala Agricultural University in Thrissur
Structural Type	**Entrepreneurial and Adhocratic**	**Entrepreneurial and Adhocratic**	**Entrepreneurial and Adhocratic**	**Entrepreneurial, Adhocratic, Missionary and Bureaucratic**	**Entrepreneurial, Adhocratic**	**Entrepreneurial, Adhocratic and Professional**

Table 2: Types of ABIs based on functions

Functional categories	Name of ABIs					
	CPCRI-ABI unit	**CTCRI-TI unit**	**CIFT-ABI unit**	**CDB**	**IISR-BPD unit**	**KAU-ABI unit**
Main philosophy	Promotion of entrepreneurship in coconut	Promotion of entrepreneurship in tubers	Promotion of entrepreneurship in fish	Integrated development of coconut cultivation	Promotion of entrepreneurship in spices	Promotion of entrepreneurship in food processing and value addition
Main objective	Entrepreneurship through incubation	Entrepreneurship through incubation	Providing pro-active and value added business	Imparting technical advice	Technology development	entrepreneurship through incubation
Secondary objective	Production or processing unit of coconut products	Processing unit of tuber crops based products	Platform for speedy commercialization of ICAR technologies	Encouraging adoption of modern technologies	To enhance competitiveness in spice sector	To facilitate agribusiness enterprises
Sectors involved	developing technology firms in coconut	developing oriented firms in tuber crops	developing technology firms in fish	developing technology firms in coconut	developing technology firms in spices	developing technology firms in food processing
Location	Public research institute(CPCRI)	Public research institute(CTCRI)	Public research institute (CIFT)	Public research institute (CDB)	Public research institute (IISR)	Higher educational institute (KAU)
Functional Type	'Technology', 'Basic research' and Economic	'Technology', 'Basic research' and Economic	'Technology', 'Basic research' and Economic	'Technology', 'Basic research' and Economic	'Technology', 'Basic research' and Economic	'Technology', 'Basic research' and Economic

	development ABI	development ABI	development ABI	development ABI	development ABI	development ABI

Table 3: Types of ABIs based on their roles in venture creation

Role of ABIs	Name of ABIs					
	CPCRI	**CTCRI**	**CIFT**	**CDB**	**IISR**	**KAU**
Sector focussing	Entrepreneurship in coconut value addition	Entrepreneurship in tropical tuber crop products	Entrepreneurship in fish	Entrepreneurship in coconut value addition	Entrepreneurship in Spices value addition and processing	Entrepreneurship in food processing and value addition
Origin of ideas	ICAR and Research	ICAR and Research	ICAR and Research	MOA and FW	ICAR and Research	KAU and research
Phase of intervention in ventures	Nascent to independence venture	Nascent to independence of venture	Nascent to the independent ventures	Nascent to independence of venture	Nascent to independence of venture	Nascent to independence of venture
Incubation period	6 months to 1 year	6 months to1 year	1 year and extends	Trainings	1 year and extends	6 to 1 year
Sources of revenue	ICAR (GOI)	SFAC (GOI)	ICAR (GOI)	MOA (GOI)	ICAR (GOI)	Kerala State Government
Services offering	1.Providing tangible services including laboratories and equipment 2.Intangible services of technical knowledge and guidance	1.Providing tangible services including laboratories and equipment 2.Intangible services of technical knowledge and guidance	1.Providing tangible services including laboratories and equipment 2.Intangible services of technical knowledge and guidance	1.Providing tangible services including laboratories and equipment 2.Intangible services of technical knowledge and guidance	1.Providing tangible services including laboratories and equipment 2.Intangible services of technical knowledge and guidance	1.Providing tangible services including laboratories and equipment 2.Intangible services of technical knowledge and guidance
Type of ABI	**University Business incubators**	**University Business incubators**	**University Business incubators**	**University Business incubators**	**University Business incubators**	**University Business incubators**