MULTIDIMENSIONAL ANALYSIS OF THE PERFORMANCE OF AGRI-CLINICS AND AGRI-BUSINESS CENTRES (ACABC) SCHEME IN KERALA AND ANDHRA PRADESH

by

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THESIS

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DECLARATION

I, hereby declare that this thesis entitled **"Multidimensional analysis of the performance of Agri-Clinics and Agri-Business Centres (ACABC) scheme in Kerala and Andhra Pradesh"** is a bonafide record of research work done by me during the course of research and the thesis has not previously formed the basis for the award to me of any degree, diploma, associateship, fellowship or other similar title of any other University or Society.

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CERTIFICATE

Certified that this thesis entitled **"Multidimensional analysis of the performance of Agri-Clinics and Agri-Business Centres (ACABC) scheme in Kerala and Andhra Pradesh"** is a record of research work done independently by Mr. Dumpala Santhosh Reddy under my guidance and supervision and that it has not previously formed the basis for the award of any degree, diploma, fellowship or associateship to him.

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LIST OF ABBREVIATIONS

Abbreviations	Full form
ACABC	Agri-Clinics and Agri-Business Centres
GDP	Gross Domestic Product
NTI	Nodal Training Institute
MANAGE	National Institute for Agricultural Extension Management
NABARD	National Bank for Agriculture and Rural Development
OBC	Other backward caste
SC	Schedule caste
ST	Schedule tribe
Ph.D.	Doctor of Philosophy
PG	Post graduate
SME	Small and medium enterprise
EDP	Entrepreneurship Development Programme
UAS	University of Agricultural Sciences
VAPS	Voluntary Association for People Service
MPUAT	Maharana Pratap University of Agriculture and Technology
SMS	Subject matter specialist
RUDSETI	Rural Development and Self-Employment Training Institute
TSS	Training Service Scheme
KAU	Kerala Agricultural University
VHSE	Vocational Higher Secondary Education
KPI	Key Performance Indicators
SPI	Special Performance Indicators
IIFSA	Information Inputs for Sustainable Agriculture
CTDS	Central Travancore Development Society
LOS	Level of significance

Introduction

CHAPTER- 1

INTRODUCTION

India is basically an agriculture based economy. Agriculture sector is the single largest employment provider in the country. With 159.7 million hectares of arable land, agriculture and allied sectors account about 16 per cent of GDP (Singh, 2016). With regard to total cultivable land and irrigated area India ranks second in world. Agriculture is an approach of life and a convention, which for several centuries has formed Indians' ideas, expectations, culture and also the economic life. It will still be an integral part of all planned social and economic development strategies in the country.

In India the key to poverty alleviation and overall economic development is still rapid agricultural growth. In the years ahead, the increase in agricultural production will mainly result from the growth in productivity which will call for the intervention of agricultural extension activities in providing farmers information, training and support for adoption of improved production technologies. With 20 different agro-ecological zones there is a great variation in farmers' needs and problems. If these needs and problems of the farmers are to be answered, it requires a strong extension network. The recommended extension worker to farmer ratio is 1:750 but the actual extension worker to farmer ratio at is 1:1162 (Nithya & Nandi, 2019). Every year there will be around 28,000 students who graduate in agriculture and allied sciences. Out of this some are getting into government and private jobs and some will be continuing education while the remaining are unemployed. This unemployed group has an immense potential for agricultural development. To address the farmers' problems and unemployment problem, Government of India in association with NABARD has launched Agri-clinics and Agri-business Centres (ACABC) Scheme on 9th April, 2002. Through this scheme interested candidates were given two months free training to establish agriclinics and agribusiness centres.

In addition to technical assistance, the candidates were also given financial assistance to establish agriventures. A composite subsidy of 44 per cent of project cost for women, SC/ST & all categories of candidates from NE and Hill states and 36 per cent of project cost for all others is provided by NABARD (www.agriclinics.net). The perceived need of farmers for locally accessible, dependable, efficient and knowledgeable third party advice is the reason for the development of ACABC scheme. These centres will provide input supply, soil testing facilities and consultancy services. They will help in strengthening the extension services and transfer of technology as well as providing self-employment opportunities to competent agricultural graduates (Karjagi, 2006).

OBJECTIVES OF AGRI-CLINICS AND AGRI-BUSINESS CENTRES (ACABC) SCHEME

1. To supplement efforts of public extension by necessarily providing extension and other services to the farmers on payment basis or free of cost as per business model of agripreneur, local needs and affordability of target group of farmers;
2. To support agricultural development; and
3. To create gainful self-employment opportunities to unemployed agricultural graduates, agricultural diploma holders, intermediate in agriculture and biological science graduates with PG in agri-related courses.

(Source: Revised Agri-clinics and Agri-business Centres (ACABC) Scheme-2018)

STATUS OF ACABC SCHEME

As on May, 2019 the total number of trainings conducted are 2086 and total trained candidates are 65,790. A total of 28,261 ventures are established under 32 different categories. About, 2415 ventures have got bank sanction under ACABC scheme and 21,801 projects are pending for bank sanction as on 2018. Across the

country there are 192 nodal training institutes (NTIs) as identified by MANAGE (www.agriclinics.net).

Table 1. Overview of Agri-clinics and Agri-business Centres (ACABC) Scheme as on May, 2019

S.No.	Name of the state	No. of trainings	No. of trained candidates	No. of ventures established
1.	Andhra Pradesh	28	1167	321
2.	Arunachal Pradesh	1	35	3
3.	Assam	25	735	227
4.	Bihar	120	3954	1391
5.	Chandigarh	0	3	1
6.	Chhattisgarh	26	773	335
7.	Delhi	0	32	5
8.	Goa	0	13	7
9.	Gujarat	69	1913	749
10.	Haryana	28	700	237
11.	Himachal Pradesh	13	421	108
12.	Jammu & Kashmir	49	1491	191
13.	Jharkhand	28	747	186
14.	Karnataka	125	3977	1617
15.	Kerala	9	223	51
16.	Madhya Pradesh	101	3284	1307
17.	Maharashtra	483	15923	7980
18.	Manipur	16	439	128
19.	Meghalaya	2	35	3
20.	Mizoram	1	34	0
21.	Nagaland	7	184	21
22.	Orissa	22	603	114
23.	Pondicherry	21	134	84
24.	Punjab	23	656	218
25.	Rajasthan	108	3512	1395
26.	Sikkim	1	9	1
27.	Tamil Nadu	211	7137	3663

28.	Telangana	75	1642	417
29.	Tripura	0	5	1
30.	Uttar Pradesh	439	14376	7045
31.	Uttaranchal	16	470	159
32.	West Bengal	39	1163	296
	Total	2086	65790	28261

Source: www.agriclinics.net

NEED OF THE STUDY

The implementation of ACABC Scheme is not gaining required momentum in state of Kerala and Andhra Pradesh as well; so far no profound study has been conducted on these states regarding the impending factors that are obstructing its penetration into the society. Hence it becomes essential to come up with a comparative study on ACABC Scheme in states of Kerala and Andhra Pradesh in order to propose required changes for the ambiguities identified in respective states and suggest possibility of add-on activities which may be undertaken by the prospective agricultural graduates.

OBJECTIVES OF THE STUDY

1. To comparatively scrutinize the functioning and performance of Agri-Clinics and Agri-Business Centres (ACABC) scheme.
2. To elicit the views and attitude of agripreneurs or prospective agripreneurs on the benefits and services accruing from these ventures.
3. To delineate and document the constraints faced by agripreneurs and ACABC centres.

LIMITATIONS OF THE STUDY

The universe of investigation was restricted to only two Nodal training institutes (NTIs) one each in Kerala and Andhra Pradesh. Hence the findings and recommendations of the study have limited generalizability. The data collected was

based on the recall memory of the respondents which has many limitations. But much care had been taken in collection of data to attain the objectives of the research study.

ORGANIZATION OF THESIS

The entire Master's thesis is presented as five chapters:

The first chapter 'introduction' deals with the importance and present scenario of ACABC scheme and the need, objectives and limitations of the study. Second chapter, 'review of literature' is a comprehensive review of the relevant studies in confirmation and contradiction with the present study. Third chapter 'research methodology' explains the sampling design, the study area, measurement of independent and dependent variables, method of data collection and statistical tools used. Fourth chapter 'results and discussion' discusses the findings of the study along with meaningful inferences. The final chapter 'summary' briefly summarizes the work done, salient findings, and implications of the study and also suggestions for future areas of research.

Review of Literature

CHAPTER- 2

REVIEW OF LITERATURE

In this chapter, past studies related to the objectives of the current study are elucidated under the following headings.

2.1. SOCIO-ECONOMIC PROFILE OF AGRIPRENEURS

2.1.1. Age:

Age was operationalized as number of years completed by the agripreneur at the time of enquiry.

Sinha (1996) in his study on "Human factors in entrepreneurship effectiveness" reported that the younger entrepreneurs are more successful than the older entrepreneurs. Age of the entrepreneurs is a significant predictor for the healthy growth of the enterprise.

Antoncic (2009) in his study on entrepreneurs stated that age of person is not related to the success of business but the age of the firm is positively related to technological developments in business.

Priyaraj (2016) found that majority of the agripreneurs belonged to 36-54 years age accounting for 50.00 per cent, 36.67 per cent belonged to 54-72 years of age and remaining agripreneurs belonged to below 36 years and above 73 years age groups.

Vimalraj *et al.* (2012) in their study on correlates of successful agripreneurship found that majority of the respondents were in middle age group (26-50 years) accounting for 90.00 per cent, 6.70 per cent were in old age group (51-75 years) and 3.30 per cent were in young age group (< 25 years).

Yadav (2012) in his study on "A study on agriclinics & agribusiness centres in Varanasi district of Uttar Pradesh" found that 51.22 per cent of the agripreneurs belonged to 31-40 years age group followed by 39.02 per cent and 9.60 per cent who belonged to below 30 years and 41-50 years age groups respectively.

Venkattakumar and Sontakki (2014) in their study on ACABC scheme reported that majority of the agripreneurs (67.00%) of the study were aged above 45 years, followed by 19.00 per cent and 14.00 per cent belonged to the age up to 35 years and 36-45 years respectively.

According to the study on the performance of ACABC centres in Karnataka it was found that majority (45.00%) of the successful agripreneurs belonged to middle age category followed by 35.00 per cent and 25.00 per cent belonged to young age and old age (Laxmi, 2015).

Armorikar *et al.* (2016) in their study on economic dimensions of enterprises under ACABC scheme, stated that majority (60.00%) of agripreneurs were of less than 35 years of age category, followed by 40.00% in the age group category of 36-55 years.

Illuru and Kondeti (2017) in their study on sericulture women entrepreneurs observed that the majority (41.00%) of the respondents belonged to 35-45 years age group, followed by 11.33 per cent belonging to age group below 25, 23.00 per cent belonging to 25-35 age group and 24.67 per cent belonging to above 45.

2.1.2. Sex:

Sex refers to the male and female category of respondents.

Crant (1996) in his study on students found that gender has significant correlation with entrepreneurial intentions and reported that males are more intended towards entrepreneurship than females.

Ahire *et al.* (2008) in their study on "Perception of agripreneurs on centrally sponsored schemes of Agri-Clinics and Agri-Business Centres" found that majority (92.00%) of the trained agripreneurs was males and only 8.00 per cent of the trainees were females. Therefore there should be encouragement for female graduates to undergo training.

Zeffane (2012) in his study on gender and youth entrepreneurial potential stated that there is no significant difference between males and females in terms of entreprenurial potential except in relation with risk taking ability.

Ferk *et al.* (2013) analyzed the leadership and managerial capacities of males and females and found men to be more dominant entrepreneurs because of increased access to an insecure area and their focus on narrow problems and visual approaches, while women were better managers because of stronger multitasking capacity, a broader approach for things and less risk appetite.

Modi (2013) in his study on entrepreneurs of Ludhiana reported that there was no female entrepreneur in the locale of study and the entire respondents were male entrepreneurs.

Sindhu (2015) in her study on behavior of agripreneurs in Visakhapatnam district found that more than half (55.84%) of agripreneurs were males and remaining were females (44.16%). It was also opined that due to the excess physical activity there were more male entrepreneurs than female entrepreneurs in agro based ventures.

Deepthi (2016) in the study on agripreneurs in Andhra Pradesh reported that that majority of the agripreneurs (80.00%) were males and remaining 20.00 per cent agripreneurs were females in the selected districts of Andhra Pradesh. This clearly shows the agro based ventures are dominated by males. The reason for the dominance

would be males are given free choice, freedom and liberty to start their own ventures than their counter parts.

Waribugo (2016) in his study on agripreneurs of Nigeria found that majority (66.00%) of the agripreneurs was males and remaining (34.00%) were females. Though majority represented by men there was an increase in the participation of women entrepreneurs.

2.1.3. Stream:

Karjagi (2006) in his study on performance of ACABC centres in south India found that majority (65%) of the respondents belonged to agriculture stream; 13.33 per cent belonged to engineering whereas, 8.15 per cent belonged to veterinary and horticulture each. Only 4.45 per cent of the respondents belonged to other streams like agribusiness management / MBA etc.

Yadav (2012) in his study on ACABC centres in Varanasi district reported that all the agripreneurs of the study belonged to agriculture stream.

Bairwa (2015) in his study on "Performance of agriclinic and agribusiness centres scheme in Rajasthan state" revealed that among 150 respondents, 98 (65.34%) belonged to the agricultural stream followed by 16 (10.66%), 13 (8.66%) and 5 (3.34%) respondents who belonged to engineering, horticulture and veterinary streams respectively. Only 8 (5.34%) respondents belonged to other streams such as forestry and soil and water conservation.

2.1.4. Caste:

Caste refers to ascribed status of the respondent.

Thorat (2005) in his study on poultry entrepreneurs reported that among 110 poultry entrepreneurs, 93 (84.55%) belonged to higher caste followed by 11 (10%) and 6 (5.45%) of them belonged to intermediate and lower caste groups respectively.

Shivani *et al.* (2006) in their study on "Socio-cultural influences on Indian entrepreneurs: the need for appropriate structural interventions" found that caste had no impact on the level of success of entrepreneurs but caste does have impact on the supply of entrepreneurs and the enterprise survival in different situations. Entrepreneurs belonging to higher caste are able to maintain their enterprise as a result of their caste orientation. Regardless of whether they face disappointment at a specific stage they can defeat them because of the support of caste groupings. In such situations the low caste entrepreneurs are not capable to maintain their enterprise because of lack of such caste support.

Ahire *et al.* (2008) in their study regarding perception of agripreneurs on ACABC scheme found that 41.00 per cent of the agripreneurs belonged to general category followed by 40.00 per cent, 17.00 per cent and 2.00 percent who belonged to OBC, SC and ST category respectively.

Ramesh (2009) in his study on raisin entrepreneurs of Nashik district stated that nearly three fourth of raisin entrepreneurs (73.30%) were belonged to general category followed by 16.70 and 10.00 per cent of the respondents who belonged to OBC and SC categories respectively.

Yadav (2012) in his study on ACABC centres in Varanasi district revealed that majority of the respondents (58.54%) belonged to general category followed by OBC (41.46%) and there was no SC or ST candidate operating ACABC in the selected area of study.

Bairwa (2015) in his study on ACABC centres in Rajasthan found that majority of the respondents (38.66%) belonged to OBC category followed by General, SC and ST category accounted for 26 per cent, 25.34 per cent and 5.34 per cent respectively.

Chatterjee and Das (2016) in their study on impact of entrepreneurial skills reported that majority of the sample entrepreneurs (89.12%) belonged to general category followed by 10.88, 4.08 and 3.40 per cent of entrepreneurs who belonged to OBC, SC and ST categories respectively.

2.1.5. Educational Status:

Educational status refers to extent of formal education received by an individual.

Robinson and Sexton (1994) in their study on "The effect of education and experience on self-employment success" found that education is closely related to the entrepreneurial spirit where entrepreneurs have a higher educational level than those in the pay and wage sector. In addition, higher education levels increase the likelihood of self-employment and the success of persons in this area in terms of benefits.

Lee and Tsang (2001) in their study on "The effect of entrepreneurial personality, background and networking activities on venture growth" stated that education has a negative impact on entrepreneurship development, but the outcome is very small. For big firms, education has a little but positive impact on venture development. This is a rational outcome because the operations of big firms are more complex and require more knowledge, some of which can be obtained from formal education.

Karjagi (2006) in his study on performance of ACABC centres in south India revealed that more than 63.00 per cent of the respondents were graduates, 28.89 per cent were Post-Graduates and 7.40 per cent were Doctorates in agriculture and allied disciplines.

According to the study on entrepreneurial performance it was found that education had improved the performance of entrepreneurs both directly and

indirectly. The more educational years linked to a significant reduction in capital constraints. Every additional year of education lowers capital constraints by 1.18 percentage points (Parker and Van Praag, 2006).

Chargotra (2007) in his evaluation study on ACABC in Rajasthan found that 47.30 per cent of respondents were post graduates followed by 41.30 per cent who were graduates whereas only 10.90 per cent respondents were doctorals.

Bhutta *et al.* (2008) in their study on small to medium sized enterprises in Pakistan stated that there is significant relationship between education and health of small and medium enterprises. Increase in level of education of the owner clearly depicts an increase in performance of enterprises.

Venkattakumar and Sontakki (2014) in their study on impact of ACABC scheme in Andhra Pradesh reported that most of the respondents (67.00%) had bachelor's degree as their highest educational qualification followed by Diploma (21.00%), Masters (9.00%) and Post-Graduate Diploma (3.00%) in Agriculture.

Joshi (2015) in his study on entrepreneurship reported that majority of the entrepreneurs (41.90%) were graduates, followed by 21.3, 15.6, 13.75 and 7.5 percent of the entrepreneurs had highest education of senior secondary, matriculation, post-graduation and less than matriculation respectively.

Tamminana and Mishra (2017) in their study on socio-economic dimensions of agripreneurs revealed that majority of the agripreneurs (43.33%) had bachelor's degree as their highest educational qualification, while 26.11, 21.67 and 8.89 per cent of respondents had highest education of Post-Graduation, Diploma and Ph.D respectively.

2.1.6. Marital Status:

Marital status refers to the married or unmarried status of the respondents.

Gopika (2005) in her study on "SWOT analysis of agro-based enterprises in Kerala" stated that majority of the entrepreneurs were married (92.00%) while the remaining 8.00 per cent respondents were unmarried.

Chargotra (2007) in his study on "Evaluation Study of Agri-Clinic and Agri-Business Centres in Rajasthan" found that out of 110 respondents, 58 (52.70%) were unmarried and 52 (47.30%) were married.

Tamizharasi and Panchanatham (2010) in their study on entrepreneurial attitudes stated that there is no significant difference in the levels of entrepreneurial attitudes based on marital status.

Sandhu *et al.* (2011) in their study on post graduate students reported that married students were likely be bound to participate in entrepreneurial activities after graduation. Although wedded people have more responsibilities and tend to be reluctant towards risk, they are also more mature and this most likely clarifies their inclination towards entrepreneurship.

Yadav (2013) in his study on women in sericulture enterprise in Uttarakhand revealed that most of the respondents were married accounting for 79.16 per cent and remaining respondents were unmarried (14.16%), widowed (5.00%) and divorced (1.66%).

Bairwa (2015) in his study on ACABC centres in Rajasthan found that majority of the respondents were unmarried (58.66%) followed by married (41.34%).

Kaur (2017) in his study on agro-based industries in Punjab reported that out of 74 respondents, 71 (95.95%) were married and 3(4.05%) were widowed.

Manikandan (2017) in his study on effectiveness of entrepreneurial development programme found that majority of the respondents (49.20%) were married followed

by 39.20 and 11.50 per cent of the respondents were unmarried and widowed respectively.

2.1.7. Family Size:

Family size refers to the number of family members in each respondent's household.

Karjagi (2006) in his study on "Economic performance of agriclinics and agribusiness centres in south India" found that 62.96 per cent of the respondents belonged to small family with less than five members followed by 5-8 members and more than eight members accounting to 31.11 per cent and 5.93 per cent, respectively.

Jha (2008) in his study on "Entrepreneurial characteristics and attitude of pineapple growers" observed that the majority of respondents (75.56%) were from the average family size of 5-10 people, with 13.33 per cent of the respondents having large family of more than 10 individuals and only 11.11 per cent of respondents were from small family of up to 4 members.

Cetindamar *et al.* (2012) in their study on entrepreneurship stated that family size had significant positive relation with entrepreneurship since family gives individuals the work pool important to deal with the business at a moderate expense.

Nagalakshmi and Sudhakar (2013) in their study on agripreneurs of Dharmapuri stated that majority of agripreneurs are coming from joint family (46.00%) followed by 36.00 per cent and 18.00 per cent of the agripreneurs were from small family and large family respectively.

Armorikar *et al.* (2016) in their study on economic dimensions of enterprises under ACABC scheme found that majority of the agripreneurs (90.00%) belonged to joint family and remaining 10.00 per cent belonged to nuclear family.

Deepthi (2016) in her study on agripreneurs in Andhra Pradesh found that majority of the agripreneurs (60.00%) belonged to small family followed by 24.58 per cent and 15.41 per cent were from medium and large family respectively.

Kumar *et al.* (2019) in their study on "Socio-economic and psychological profile of agri-entrepreneurs of Bhagalpur district of Bihar" reported that majority of agri-entrepreneurs (82.00%) belonged to family with more than 5 members and remaining 18.00 per cent respondents belonged to family with less than 5 members.

2.1.8. Means of livelihood:

Means of livelihood refers to the means of securing the necessities of life.

According to the study on ACABC in south India it was found that 43.70 per cent of the respondents depended on their parents for livelihood followed by 25.93 per cent employed in government and private sectors and 17.03 per cent were self-employed. About, 13.34 per cent of the respondents depend on farming for their livelihood (Karjagi, 2006).

Bairwa (2015) in his study on performance of ACABC in Rajasthan stated that 46.67 per cent of the respondents depended on parents for their livelihood followed by 24.67 per cent employed in government and private sectors and 15.33 cent were self-employed while, 13.33 per cent of the respondents were involved in farming as their livelihood.

Warthi (2017) in his study on dairy entrepreneurs reported that all the respondents were having dairy enterprise as main occupation, while 89.17, 25.00, 9.17 and 4.17 per cent of respondents were also involved in agriculture, services, business and labor occupations respectively.

2.1.9. Experience:

Experience refers to the number of years the respondent has been engaged in agripreneurial activity.

According to the study on "The effect of education and experience on self-employment success" reported that every self-employed worker, both male and female, had over two years experience more than those in pay and wage sector. Strong positive relations found between self-employment and both experience and earnings except for females whose experience did not considerably influence on their earnings (Robinson and Sexton, 1994).

Kolvereid (1996) in his study on "Prediction of employment status choice intentions" observed that previous experience in self-employment had significant correlation with entrepreneurial intentions. Respondents with previous experience in entrepreneurship were found to have considerably higher preference for self-employment than respondents without previous experience.

Colombo and Grilli (2005) in their study on human capital and new technology found that respondents with previous entrepreneurial experience in the founding team of a firm results in superior or high growth of the firm. Similarly respondents with previous work experience in the same branch in the new firm results in higher growth of the firm.

Islam *et al.* (2011) in their study on Small and Medium Enterprises (SMEs) in Bangladesh revealed that SMEs operated by respondents having longer period of work experience are more successful than SMEs operated by individuals having less work experience.

Sravan (2012) in his study on entrepreneurs of Guntur district found that most (86.66%) of the entrepreneurs had medium (3-6 years) and low (<3 years) experience,

followed by 13.33 per cent of entrepreneurs who had experience of more than six years.

Usha (2012) in her study on rural micro enterprises stated that majority of the women entrepreneurs (58.33%) had medium level of experience followed by 33.33 and 8.33 per cent of respondents who had low and high level of experience respectively.

According to the study on "Impact of fostering entrepreneurship in agriculture: a case of Agriclinics and Agribusiness Centres (ACABC) in Andhra Pradesh" it was found that 40 per cent of the agripreneurs had professional experience in activities related to farming before establishing agri ventures (Venkattakumar and Sontakki, 2014).

Shivacharan *et al.* (2017) in their study on rural young agri entrepreneurs reported that majority of the respondents (41.67%) had low entrepreneurial experience while 23.33, 18.33 and 16.67 per cent of respondents had very low, medium and high level of entrepreneurial experience.

Tamminana and Mishra (2017) in their study on socio-economic dimensions of agripreneurs reported that majority (83.89%) of agripreneurs had up to 8 years of experience and the remaining 16.11 per cent had experience of more than 8 years in their agri-enterprises.

2.1.10. Landholding:

Landholding refers to the total land possessed by an agripreneur.

According to the study on "Evaluation Study of Agri-Clinic and Agri-Business Centres in Rajasthan" it was found that 44.50 per cent of the total number of respondents possessed small size of land holding followed by 24.50 per cent and 22.70 per cent of them having marginal and large land holding respectively. However, only 8.30 per cent respondents have no land (Chargotra, 2007).

Mohapatra and Sahu (2012) in their study on tribals of Mayurbhanj district observed that majority of the respondents (40.00%) had land holding of medium size, followed by 36.25 per cent of respondents had small land holding, while the remaining (23.75%) of them possessed large land holdings.

Kumar (2016) in his study on agrientrepreneurship in Bhagalpur district found that majority (63%) of agripreneurs had marginal (<1 ha) landholding followed by small (1-2 ha), semi-medium (2-4 ha), medium (4-10 ha) and large (>10 ha).

Esakkimuthu and Kameswari (2017) in their study on entrepreneurial potential of beekeeping in Kanyakumari found that majority (92.49%) of the beekeepers had marginal landholding followed by 7.05 and 0.46 per cent of beekeepers had small and semi-medium landholdings respectively.

2.2. Extent of employment generation

Henry *et al.* (2004) in his study on "the effectiveness of training for new business creation" found that after two years of a training program the average number of jobs created per business idea were 5.

On average, more than six people working in each enterprise were getting 90% of direct employment. This will provide jobs for more than 25,000 people in 4,152 institutions, supported by the scheme (Global Agrisystem, 2008).

In addition to providing employment opportunities for graduates, the ventures created by them helped provide direct and indirect benefits to many people, depending on the nature of the project. On average, there were 3 people working in each enterprise with 80% of them receiving direct employment (NABARD, 2010).

Venkattakumar *et al.* (2012) in their study on "Challenges in establishing agribusiness ventures in India" revealed that 86% of the ventures established provide employment opportunity up to 10 persons per venture followed by 10 per cent and 4

per cent ventures providing employment to 10-20 and more than 20 persons respectively.

Munyori and Ngugi (2014) in their study on small and micro dairy enterprises found that Dairy sector is one among the major sectors in Kenya. Dairy sector at farm level itself provides about 8,41,000 jobs and further job opportunities are provided at value chain. In addition to that around 40,000 people were employed in informal sectors of dairy industry.

2.3. Impact of training on Economic Status

Gupta (1989) in his study on "Entrepreneurship development: the Indian case" conducted research on small enterprises in Gujarat and found that entrepreneurs who were trained have a closing rate of less than 10 percent, compared to 20 to 25 percent among other small businesses. Profit analysis of these small businesses found that 80 percent of trained entrepreneurs were profitable, compared to 60 to 70 percent of other small businesses.

Wang and Wong (2004) in their study on students revealed that the family income has no association with entrepreneurial interest. The financial capacity of the respondent's family is not correlated to their entrepreneurial interest. The source of the entrepreneurial interest is based on thought and drive of their own not through family support.

At least Rs.8 lakhs was invested in each project in 250 sampled projects. Based on this analysis, it has been estimated that Rs.30,000 lakhs investment is made under this scheme (Global Agrisystem, 2008).

Kessy and Temu (2010) in their study on impact of training on performance of enterprises revealed that the averages of asset and revenue indicators of the enterprises of the recipients of business training were greater than the averages of enterprises of respondents without any business training. It was also found that there

was higher growth in enterprises owned by recipients of business training than non-recipients. It was concluded that business training have impact on levels of assets and revenue of recipients.

Venkattakumar *et al.* (2012) in their study on agribusiness ventures in India found that 81 per cent of the established ventures generated income up to 35 lakhs per annum followed by 11 per cent and 8 per cent of ventures generate 35-70 lakhs and more than 70 lakhs per annum respectively.

Yadav (2012) in his study on ACABC in Varanasi district found that 39.02 per cent of the respondents were under more than 3 lakh income group followed by 36.59 per cent, 21.95 per cent and 2.44 per cent belonged to 2-3 lakh, 1-2 lakh and less than 1 lakh income groups respectively.

Laxmi (2015) in her study on "Performance of agripreneurs under agri-clinics and agri-business centres scheme in Karnataka-an exploratory study" found that more than half (55%) of the agripreneurs belonged to high income category followed by 25 per cent and 20 per cent belonged to medium and low income categories respectively.

Armorikar *et al.* (2016) in their study on "Economic dimensions of enterprises established under agri-clinics and agri-business centres" reported that approximately 53.33% agripreneurs have invested less than 5 lakhs followed by 36.66% and 10% in the range between 5-10 lakhs and more than 10 lakh rupees of investment respectively for establishing the venture.

2.4. SWOC analysis:

Binieeta (2001) in her study on "SWOT analysis of emerging agro-enterprises in Orissa" found that consumers' demand and availability of technical guidance were the major opportunities for entrepreneurs and it was also found that majority of the entrepreneurs haven't encountered any important policy threats.

Gopika (2005) in her study on agro based industries reported that market network for the produce, the scope for technical guidance and the raw material availability are the main strengths of the enterprises, whereas lack of storage and processing facilities, non-availability of credit, pest and disease incidence and insufficient raw material supply in case of a few enterprises were the major concerns of the enterprises.

Negi (2010) in his study on entrepreneurial activities of rural women found that major strengths as perceived by respondents were good product life, work experience, family support and uniqueness of the product. Major weaknesses were low rate of return, poor location of enterprise, high product cost and lack of business family background. Respondents perceived insufficiency of raw material, feeble government policies and little demand for product in the market as major threats. Respondents perceived product quality and unique design of the products as major opportunities.

Deepthi (2016) in her study on "A critical study on entrepreneurial behaviour of agripreneurs in Andhra Pradesh" identified the weakness as perceived by agripreneurs and stated that high investment cost, difficulty in getting financial assistance, inadequate infrastructural facilities and non-availability of labor were important weakness of sample respondents.

2.5. Training traits:

2.5.1. Source of Information:

Karjagi *et al.* (2007) in their study on "Factors affecting participation in Agriclinic and agribusiness centres programme in South India" found that information about ACABC training programs from friends (74.81%) has turned into an important source of information followed by others, electronic media and newspapers.

Yadav (2012) in his study on ACABC centres in Varanasi district found that the important sources of information about ACABC training program were friends and newspaper of which the major source found to be friends (58.54%) followed by newspaper (41.46%).

Bairwa *et al.* (2017) in their study on evaluation on training aspects of ACABC scheme revealed that major source of information about the ACABC training program was friends (76.00%) followed by newspapers (13.34%), electronic media (10%) and university notice board (6.6%).

2.5.2. Motivational factors:

Veena (2005) in her study on effectiveness of EDPs reported that the important factors responsible for the respondents to join EDP were self-motivation (48.3%) and motivation by friends (29.4%).

Karjagi *et al.* (2007) in their study on "Factors affecting participation in Agriclinic and agribusiness centres programme in South India" stated that self-motivation for own business and efficient utilization of resource base were the important factors affecting participation in ACABC training programme in South India.

Elmuti *et al.* (2012) in their research on entrepreneurs of the United States found that desire for independence, attain job and income security and need for achievement were the major motivation factors to start own business.

Kumari (2013) in her study on "The evaluation study of agriclinics and agribusiness centres scheme in Andhra Pradesh" found that self-motivation for own business and improved market outlets has been recognized as a central point for joining training programme which might be because of enthusiasm of the agri graduates to take up business on their own.

Bairwa (2015) in his study on performance of ACABC centres in Rajasthan found that self-motivation for own business and better institutional linkage were the prime factors responsible to join the training program.

2.5.3. Facilities in training institute

Pal *et al.* (1997) in their study on "Problems in organizing monthly workshop" reported that majority of the trainees responded as physical facilities were poor (61.00%) and use of audio visual aids were inadequate during the training course.

Singh and Singh (1988) in their study on effectiveness of training stated that 80.70 per cent of the respondents felt facilities for practical training were adequate. Library/laboratory (66.70%) facilities were satisfactory but lodging and boarding facilities were not found satisfactory.

Lambe (2000) in his study on training institutes reported that trainees of each training program perceived the physical facilities were good. It was also inferred that there is no significant difference between physical facilities provided by the institute for different training programs.

Ahire *et al.* (2008) in their study on "Perception of agripreneurs on centrally sponsored schemes of Agri-Clinics and Agri-Business Centres" found that majority of the trainees were satisfied with the facilities such as lodging, boarding, transport/communication etc provided in the training institute.

Venkattakumar and Sontakki (2012) in their study on ACABC scheme revealed that opinion of agripreneurs towards the training institute facilities such as boarding and transport facilities, learning environment and capacity of the faculty of NTI's was ranging from good to excellent.

Bairwa *et al.* (2017) in their study on training aspects stated that all training institutes were found to provide minimum basic facilities such as housing, boarding,

classrooms and libraries. Apart from these modern facilities such as computers with internet, agricultural machinery, practical fields, newspapers, telephones, faxes, etc. are provided by all institutes to little extent.

2.5.4. Seriousness of training program

Anwar (2004) conducted a study on entrepreneurship development programs and found that, entrepreneurs were not serious regarding the entrepreneurship development training. Candidates attended the training as it was compulsory to avail loan under PMRY.

Karjagi *et al.* (2007) in their study on ACABC programme in south India revealed that majority (70.37%) of the trainees has attended more than 40 days training and the overall seriousness of the trainees towards the training program was 66.67 per cent.

Venkattakumar and Sontakki (2012) in their study on ACABC scheme stated that impression of the agripreneurs towards method of training such as theoretical backup, coverage of content, hands on experience, exposure visits, provided resource material, interaction with guest faculty and seriousness in training was extending from good to excellent.

Bairwa (2015) in his study on ACABC scheme in Rajasthan found that majority (65) of the respondents were 60-80 per cent serious followed by 45, 30 and 10 respondents with 80-100, 40-60 and <40 per cent seriousness respectively.

2.5.5. Feedback on training institute

Singh and Singh (1998) in their study on "Effectiveness of training on oil seed technology" observed in his study on evaluation of training that while expressing the views by trainees participants regarding facilities available during training period,

they mentioned the use of teaching aids was very satisfactory and satisfactory (50% each).

Karjagi (2006) in his study on "Economic performance of agriclinics and agribusiness centres in south India" revealed that the overall feedback from the trainees about the training institutions in South India was good. However the trainees have rated the two institutes: UAS, Dharwad and VAPS, Madurai as very good.

Bairwa (2015) in his study on performance of ACABC in Rajasthan found that among the three NTIs' in Rajasthan, MPUAT was rated as very good institute by the trainees and the other two institutes were rated as good.

2.6. PERFORMANCE INDICATORS

According to the study on "Impact of training programme on tuber crops" reported that the increase in knowledge level, acquisition of practical skill on various items and suitable selection and coverage of topics showed that the training program had provided the trainee with satisfied learning situation(Anantharaman and Ramnathan, 1990).

Islam and Hossain (1990) in their study on "Attitude towards training on agricultural planning, administration and management by non-agricultural youths" stated that all the trainees viewed the training as important and useful with same degree of variation. They were all satisfied with the training received and training management was considered 'good' by same and 'very good' by others.

Satyanarayana *et al.* (1994) in their study on effectiveness of institutional training programme reported that majority of the farmers found the training duration and participation size of 25 as adequate. They found time for discussion to clear their doubts during training, the time for covering the subject was sufficient.

Ajore and Singh (1996) stated in his article, "Duration of training for making SMS training programme effective" that duration of training program had a positive linear and significant relationship with the knowledge gain of SMS. It was also reported that majority of the trainees preferred long duration training.

Kulkarni and Nikhade (1996) reported that the effectiveness of the training program primarily was based on three dimensions i.e. comprehensiveness, teaching quality and availability of training facilities.

Veena (2005) in her study on effectiveness of EDPs found that there was significant difference between starters and non-starters regarding the duration of EDP. It was also found that majority of respondents trained under RUDSETI perceived the duration of training as normal while in case of MDIC equal proportion of respondents perceived the duration of training as normal and too short.

KPIs are quantifiable measures used to evaluate the success of an organization, stakeholders, etc., in meeting the objectives for performance (Velimirović *et al.*, 2011).

Elmuti *et al.* (2012) stated that entrepreneurs from the United States believed that the training and education of entrepreneurs and social competence comprising of honesty and fine social skills were the most important items of success for small business enterprises.

Manikandan (2017) in his study on effectiveness of entrepreneurial development programme revealed that majority of the respondents (55.7%) perceived the training program as extremely useful, while 32.3 and 12 per cent of the respondents perceived the training program as useful to some extent and not useful respectively. It was also reported that majority of the respondents opined duration of EDP was too short.

2.7. CONSTRAINTS IN IMPLEMENTATION OF ACABC SCHEME

2.7.1. Constraints faced by agripreneurs

Chargotra (2007) in his study on ACABC in Rajasthan revealed that fluctuation of market price, lack of skill and confidence, lack of risk taking ability and political interference were the major constraints faced by successful entrepreneurs. The study also stated that lack of linkage between centers and line departments, discouragement by family and lack of risk taking ability were the important constraints faced by unsuccessful entrepreneurs.

Yadav (2012) in his study on ACABC centres in Varanasi district found that lot of formalities to avail bank loans, high rate of interest and lack of subsidy component in the scheme, lack of business and field experience, insufficient cash to start the business, and heavy competition from well-established enterprises were the important problems faced by majority of agripreneurs.

Patel and Chavda (2013) in their study on "Rural entrepreneurship in India: challenge and problems" identified the problems faced by rural entrepreneurs. Major problems were financial scarcity, risk, competition from other enterprises, lack of skilled workforce and lack of adequate knowledge.

Bairwa *et al.* (2015) in his study on problems faced by agripreneurs stated that lack of own money to start business, lack of handholding support from NTIs, lack of support from family, lack of business and field experience, high interest rate on loan and a lot of procedure in availing bank loans were the major problems faced by agripreneurs in establishing their ventures. It was also revealed that the heavy competition from existing market players, marketing and infrastructural problems, perishability and seasonality of products, fluctuation in demand and prices of products, illiteracy and lack of knowledge of the farmers and insufficient cash in hand were the important constraints faced by agripreneurs while operating their ventures.

Kumari *et al.* (2016) in their study on constraints faced by agripreneurs revealed that high rate of interest, lack of hand holding support from the training institutions, lack of family support and fear of collection of money from farmers were the major problems faced by agripreneurs.

2.7.2. Constraints faced while organizing training program

Pal *et al.* (1997) in their study on "Problems in organizing monthly workshop" observed that majority of subject matter specialists' (79%) reported lack of field visits and skill teaching as well as inadequate fund and lack of travelling allowances advances as problems in organizing monthly workshops.

Lambe (2000) in his study on training effectiveness revealed the difficulties faced by the institutes in organizing training programs. The main difficulties are inadequate grants allocation to institute, improper utilization of slots allotted to different states/departments and delay in candidate selection for training.

2.8 PROFILE OF AGRICULTURAL GRADUATES

2.8.1. Age

Patel (2005) in his study on "Occupational aspirations of the B.Tech dairy students in Anand agricultural university" reported that 56.36 per cent of the students belonged to the age group of 19 to 22 years, followed by 23.64 per cent of the students belonged to the less than 19 years age group and 20.00 per cent of the students belonged to above 22 years age group.

Shingare (2005) in his study on the attitude and occupational aspirations of the students found that majority (82.40%) of the students belong to the age above 20 years while 17.62 per cent of the students belong to the age group below 20 years.

Narendra (2010) in his study on "Entrepreneurial attitude of agricultural students" revealed that majority (46.67%) of the students were in the age group of less

than 22 years followed by 36.67 and 16.66 per cent of the students were in the range of 22-24 years age group and above 24 years respectively.

2.8.2. Sex

Wilson *et al.* (2007) in his study on implications of entrepreneurship education revealed that there is a significant difference between gender and entrepreneurial intentions and males have higher entrepreneurial intention than females.

The findings presented by Dhiman *et al.* (2010) shown that there is a significant difference in entrepreneurial cohort among male and female students in North India since male students prefer to start their own business compared to female students.

Silva *et al.* (2010) in their study on youth attitude towards contract farming revealed that the gender is one of the pointers for the factors that play a role in shaping the young people attitude and acceptance towards entrepreneurship.

Saranya (2015) in her study on "Attitude of agricultural graduating students towards entrepreneurship" found that out of 120 student respondents, 78 (65%) students were male whereas 42 (35%) students were female.

2.8.3. Parental Occupation

Crant (1996) in his study on students stated that respondents with entrepreneurial parents have more entrepreneurial intentions than the respondents without entrepreneurial parents.

Akanbi (2013) in his study on entrepreneurial intentions of students reported that parental occupation had significant contribution towards the entrepreneurial intention of children.

Rasli *et al.* (2013) in their study on students in Malaysia stated that the data was not clear enough to show any difference in entrepreneurial intentions with respect to parental occupation.

Pablo-Lerchundi *et al.* (2015) in their study on "Influences of parental occupation on occupational choices and professional values" reported that parental occupations do have influence on occupational choices of children. Self-employed parents being entrepreneurial role models promote entrepreneurial intention, while civil servant parents are pessimistic role models in entrepreneurship.

Farroq *et al.* (2016) compared the scores of entrepreneurial intentions of respondents with employed parents and respondents with self-employed parents. There was a considerable variation in scores of respondents with employed parents and of respondents with self-employed parents.

2.8.4. Caste

Patel (2005) in his study on aspirations of the dairy students found that majority (64.55%) of the students were from general category, whereas number of students belonged to OBC and SC were 22.72 and 9.09 per cent respectively.

Narendra (2010) in his study on "Entrepreneurial attitude of agricultural students" reported that 50.00 per cent of the agricultural students belonged to non-reserved caste category, followed by 30.00, 10.00 and 10.00 per cent of agricultural students belonged to OBC, SC and ST respectively.

Kumar (2017) in his study on entrepreneurial behavior of students inferred that 43.09 per cent of the respondents belonged to the OBC category, whereas 24.31, 16.86 and 15.75 per cent of them from ST, general and SC, respectively.

2.8.5. Family size

Sharma (2014) in his study on entrepreneurship reported that out of 530 respondents, 249 respondents belonged to 'Less than or = 4 members' category, 214 respondents belonged to the category of '5-6 members', 45 respondents belonged to '7-8 members' category and only 22 respondents belonged to the category of '9 members and above'.

Saranya (2015) in the study on "Attitude of agricultural graduating students towards entrepreneurship" reported that 61.67 per cent of the respondents belonged to nuclear family followed by 38.33 per cent belonged to joint family.

Regarding family size of the students, Kumar (2017) in his study on entrepreneurial behavior of students concluded that 50.55 per cent of the respondents were from greater than 5 member family, whereas 49.45 per cent from less than 5 member family.

2.8.6. Birth order

Ajit (2004) in his study on occupational aspirations of the undergraduate students in Anand agricultural university mentioned that majority (37.59%) of the agricultural students were second born children followed by 27.66, 24.11 and 10.64 per cent of the agricultural students were first, third and fourth born respectively.

In the study conducted on aspirations of the B.Tech dairy students it was stated that over one-third (37.27%) of the agricultural graduates were third-born children. Numbers of graduates born in fourth and second place were 35.45 per cent and 15.46 per cent respectively. At first place, the number of graduates born were 11.82 percent (Patel, 2005).

Narendra (2010) in his study on entrepreneurial attitude of agriculture students revealed that out of 120 students, the first-born kids were 46 (38.34%).

Number of second-and third-place born students were 43 (35.83%) and 22 (18.33%) respectively. The number of fourth place born students were 9(7.50%).

2.8.7. Area of residence

Bothikar (2008) in the study on aspirations of higher secondary students disclosed that more than half (65.00%) of the students had rural background and 35.00 per cent of the respondents were from urban area.

Sridevi (2013) in her study on "Entrepreneurial skills of graduate students- a study" found that majority (68.10%) of the students were from rural background, whereas 31.90 per cent of the students were from urban background.

Saranya (2015) in her study on attitude of agricultural students towards entrepreneurship inferred that more than half (66.67%) of the agricultural graduates were from rural background and 33.33 per cent of graduates were from urban areas.

Kumar (2017) in his study on entrepreneurial behavior of students revealed that 60.77 per cent of the students were from the rural area, while 26.52 and 12.71 per cent of the students were from urban and semi urban areas respectively.

2.8.8. Family annual income

Bai (2016) in her study on attitude of agricultural graduates towards entrepreneurship stated that nearly three fourth (74.00%) of the agriculture students belonged to medium family annual income category while 17.00 per cent of the students belonged to high family annual income category and 9.00% belonged to low family annual income category.

Dahake (2009) in the study on "Attitudes and aspirations of post gradute students towards agricultural entrepreneurship" found that more than half (57.46 per cent) of the post graduate students belonged to above Rs.1,51,000 family annual income category, while 32.14 per cent of the students had annual family income in the range of

Rs.1,10,000 to 1,50,000 and the rest 10.00 per cent of the students had annual family income below Rs.1,00,000

Dhakre (2014) in his study on aspiration of agriculture students revealed that 40.00 per cent of the agriculture students had family annual income in the range of 2-3 lakhs, followed by 36.30 per cent ranging between 1-2 lakhs, 16.30 per cent had more than 3 lakhs annual income and remaining 7.50 per cent students had annual income less than 1 lakh.

2.8.9. Landholding

Patel (2005) his study on aspirations of the dairy students revealed that more than half (61.82%) of the students family were landless and 21.82 per cent were having large size of landholding. The remaining students were under the category of medium (6.36%), marginal (5.45%) and small (4.55%) size of land holding.

Shingare (2005) in his study on the attitude and occupational aspirations of the students found that more than one third (36.00%) of the graduates families were landless. The remaining graduates had low (28.80%), medium (24.80%) and high (10.40%) landholding.

Narendra (2010) in the study on entrepreneurial attitude of agriculture students stated that majority of the agricultural graduates were having small (31.67%) and medium (30.83%) size of family landholding. The percentage of marginal and large size of family landholding of the students were 20.83 per cent and 16.67 per cent, respectively.

2.8.9. Entrepreneurial intention:

Venesaar *et al.* (2006) in their study on students' attitudes and intentions toward entrepreneurship revealed that majority (61.00%) of the students believed about beginning their own business and 13 per cent actually started a business at the

moment of questioning or had their own business (6%). Nearly one-fifth of the respondents had no intention of being an entrepreneur, almost 4 per cent had left the idea of starting a company and 1 per cent had previously been businessmen, but no longer

Pouratashi (2014) in the study on "Entrepreneurial intentions of agricultural students: levels and determinants" stated that majority (45.00%) of the respondents had a medium level of entrepreneurial intention while, 30.80 and 24.20 per cent of the respondents had low and high level of entrepreneurial intention.

2.9. ATTITUDE TOWARDS ACABC SCHEME

Attitude towards ACABC scheme is the extent to which people think there are good opportunities for starting agribusiness through ACABC scheme.

Koh (1996) in his study on tourism entrepreneurial process stated that positive entrepreneurial attitude alone is not enough to motivate a person to start business. But entrepreneurial intention occurs only when person developed positive attitude towards entrepreneurship.

Parimaladevi *et al.* (2006) in their study on "Determinants of the effectiveness of 'agriclinics and agribusiness centres scheme' in Kerala" stated that trainees with a favorable attitude towards self-employment, high entrepreneurial skill, and decision-making ability have perceived the ACABC training programme as an effective process, compared to trainees without such qualities.

Chargotra (2007) in his study on ACABC in Rajasthan reported that majority of respondents (75.50%) were having moderately favorable attitude towards ACABC scheme and less percentage of respondents have least and most favorable attitude towards ACABC scheme.

Petridou and Glaveli (2008) in their study on women entrepreneurship studied the effect of training on rural women entrepreneurial skills and found that the respondents had developed positive attitude towards entrepreneurship.

Pihie (2009) in his study on students on entrepreneurship reported that students of a University in Malaysia had moderate score of attitude towards career as entrepreneur. Students who had high attitude score towards entrepreneurship also perceived entrepreneurship education.

In the study "Attitude of the agricultural graduate towards agri-clinic and agri-business centers in Arunachal Pradesh" it was found that majority (75.50%) in the three selected categories of respondents have most favorable attitude towards ACABC scheme followed by 14.50 per cent and 10.00 per cent of the respondents were undecided and highly unfavorable towards ACABC scheme respectively (Kanwat *et al.*, 2011).

Kgagara (2011) in the study on higher education students attitude towards entrepreneurship stated that majority of the students of higher education in Sedibeng district in South Africa had positive attitude towards entrepreneurial career. Majority of the students perceived entrepreneurship as admirable occupation.

Movahedi and Fathi (2011) in the study on "Assessing agricultural students' attitude towards entrepreneurship" reported that 64.34 per cent of agricultural students have positive attitude towards entrepreneurship, followed by 23.43 and 12.23 per cent of the students have neutral and negative attitude towards entrepreneurship.

Ibrahim *et al.* (2017) in their study on attitude of graduate students in Oman towards entrepreneurship revealed that graduate students attitude towards entrepreneurship is positive but many of the students prefer to work for government and private sectors rather venturing into business.

Kusmintarti *et al.* (2017) in their study on polytechnic students reported that there was positive and significant relationship between entrepreneurial attitude and entrepreneurial intention. Students with positive approach towards entrepreneurship have a propensity to start a new venture in the future.

Methodology

CHAPTER- 3

METHODOLOGY

Methodology refers to the systematic and theoretical analysis of the methods applied to a field of study. This chapter gives description of methods and procedures adopted in conducting the study. The methodology followed in the study is presented under the following sub-headings:

3.1. Research design

3.2. Locale of the study

3.3. Selection of the respondents

3.4. Operationalisation and measurement of the variables

3.5. Data collection techniques

3.6. Statistical tools

3.7. Conceptual model of the study

3.1. RESEARCH DESIGN

The research design is a framework or fundamental plan used for collecting and analyzing the measures of variables that are specified in research problem to obtain solutions to the research questions.

Ex-post facto research design was used in conducting the study. The ex-post facto research design was defined as any systematic empirical inquiry in which the independent variables cannot be directly manipulated because they have already occurred. In the present study, variables considered, have already occurred and the researcher cannot directly manipulate them. Keeping in view the type of variables

under consideration, sample size and the phenomenon to be studied, the selected design was considered as appropriate.

3.2. LOCALE OF THE STUDY

The study was conducted in Nodal Training Centres in Kerala and Andhra Pradesh. In Kerala there was only one NTI i.e., Training Service Scheme (TSS) Vellayani, Kerala Agricultural University (KAU) and it was selected for the study. Among 9 NTIs in Andhra Pradesh, the NTI with most number of years of experience viz., Bojja Venkata Reddy Agricultural Foundation, Nandyal was purposively selected, as it was the leading institute in Andhra Pradesh.

3.3. SELECTION OF THE RESPONDENTS

The respondent groups of the study comprised of Agripreneurs, Unemployed Graduates and Trainers.

a. Agripreneurs:

In this study agripreneur was operationally defined as venturer in agriculture and allied sectors who have undergone training under ACABC scheme. Thirty agripreneurs from each NTI in Kerala and Andhra Pradesh were selected thus making a total of 60 agripreneurs.

b. Agricultural graduates:

A total of sixty agricultural graduates comprising thirty each from each state were randomly selected for the study. This respondent category was only meant for the study pertaining to attitude of agricultural graduates towards ACABC scheme.

c. ACABC Officials cum trainers:

Fifteen trainers or officials from each NTI chosen in Kerala and Andhra Pradesh were selected thus making a total of thirty trainers as respondents for the study.

3.4. OPERATIONALISATION AND MEASUREMENT OF THE VARIABLES

S.No	Name of the variable	Measurement techniques
A. Independent variables for agripreneurs		
1.	Age	Chronological age of respondents
2.	Sex	Male/ Female
3.	Stream	Agriculture/Horticulture/Engineering/Veterinary/ Fisheries/ Agribusiness
4.	Caste	SC/ ST/ OBC/ GENERAL
5.	Educational status	Diploma or VHSE/ B.Sc/ PG/ Ph.D
6.	Marital status	Married/ Unmarried
7.	Family size	Numbers of family members living together
8.	Means of livelihood	Arbitrary scale
9.	Experience	Years of experience as agripreneur
10.	Landholding	Land possessed by the family of respondent
11.	Annual income	Income earned by all members of the family from all sources in terms of rupees per year
12.	Agripreneurial income	Income earned by the agripreneur from the agri-venture in terms of rupees per year
13.	Training traits	Arbitrary scale was used to measure the training aspects in terms of Information source, Motivational factors, Training seriousness and Feedback on training
B. Independent variables for agricultural graduates		
1.	Age	Chronological age of respondents
2.	Sex	Male/ Female
3.	Parental Occupation	Schedule was developed
4.	Caste	SC/ST/OBC/GENERAL

5.	Family Size	Numbers of family members living together.
6.	Birth Order	Ordinal position by birth of the respondents
7.	Area of Residence	Rural/Semi-Urban/Urban
8.	Family annual income	Income earned by all members of the family from all sources in terms of rupees per year
9.	Landholding	Land possessed by the family of respondent
10.	Entrepreneurial Intention	Arbitrary scale was developed
C. Dependent variables		
1.	Key Performance Indicators (KPI)	Arbitrary scale
2.	Special Performance Indicators	Arbitrary scale
3.	Attitude towards ACABC scheme	Scale developed by Chargotra (2007) was used with some modifications.

Independent variables for agripreneurs

Age:

Age can be operationally defined as number of years completed by the respondent at the time of enquiry.

This was measured as the total number of years completed by the agripreneur at the time of interview and was classified based on census report, 2011 classification method.

S.No	Category	Years
1.	Young age	<35
2.	Middle age	35-55
3.	Old age	>55

Sex:

Sex was operationalized as the biological classification of respondents as male, female or transgender. According to the sex, the respondents were classified as male or female. A code of 2 was assigned to male respondents and 1 was assigned to female respondents.

Stream:

In this study, Stream referred to the discipline in which the respondent had completed graduation. The coding procedure developed for the study was as follows.

S.No	Category	Code assigned
1.	Agriculture	1
2.	Horticulture	2
3.	Engineering	3
4.	Veterinary	4
5.	Fisheries	5
6.	MBA/Agribusiness	6
7.	Others	7

Caste:

Caste can be operationally defined as a social category whose members are assigned a permanent status with a given social hierarchy and whose contacts are restricted accordingly. The scoring procedure used for the study was as follows.

S.No	Category	Code
1.	SC	1
2.	ST	2
3.	OBC	3
4.	GENERAL	4

Educational status:

Educational status refers to extent of formal education received by the respondent at the time of enquiry. The scoring procedure adopted by Bairwa (2015) with slight modifications was used for the study and was as follows.

S.No	Category	Score
1.	Diploma/V.H.S.E.	1
2.	Graduation	3
3.	Post graduation	6
4.	Ph.D.	10

Marital status:

Marital status refers to the married or unmarried status of the respondents. A code of 1 was assigned to unmarried respondents and 2 was assigned to married respondents. The results were expressed in terms of frequency and percentage.

S.No	Category	Code assigned
1	Unmarried	1
2	Married	2

Family size:

Family size is measured as the number of closely related persons of both sexes belonging to the family, living under single roof. Based on the number of members in the family, the respondents were classified into following three categories with the coding procedure given as follows. The results were expressed in terms of frequency and percentage.

S.No	Category	Code
1.	4 members family	1
2.	5 members family	2
3.	6 members family	3

Means of livelihood:

It refers to the means of securing the necessities of life. Respondents were categorized as agripreneurship + other activities and agripreneurship alone. The scoring procedure developed for the study was as follows.

S.No	Category	Score
1.	Agripreneurship + other activities	1
2.	Agripreneurship alone	2

The results on the means of livelihood was expressed in terms of frequency and percentage.

Experience:

Refers to the number of years the respondent has been engaged in agripreneurial activity. The scoring procedure developed for the study was as follows.

S.No	Category	Score
1.	Low level	< Mean – SD
2.	Medium level	Mean-SD to Mean + SD
3.	High level	> Mean + SD

Landholding:

Landholding was measured as the area in acres of land possessed by the family of the respondent. Based on the values obtained, the mean and standard deviations were worked out. The scoring procedure developed for the study was as follows.

S.No	Category	Score
1.	Low landholding	< Mean – SD
2.	Medium landholding	Mean-SD to Mean + SD
3.	High landholding	> Mean + SD

Annual Income:

Annual income was operationally defined as the total gross income earned by the agripreneur from all sources in terms of rupees in a year. The respondents were asked to tell their gross annual income for which the mean and standard deviation was calculated for categorization as low, medium and high income groups. The categorization procedure used for the study was as follows.

S.No	Category	Score
1.	Low	< Mean – SD
2.	Medium	Mean-SD to Mean + SD
3.	High	> Mean + SD

Agripreneurial Annual Income:

Agripreneurial Annual income was operationally defined as the total income earned by the agripreneur from an agriventure that was expressed in terms of rupees in a year. The mean of the agripreneurial income of all the respondents were calculated and based on the standard deviation categorization was done. The categorisation procedure used for the study was as follows.

S.No	Category	Score
1.	Low	< Mean – SD
2.	Medium	Mean-SD to Mean + SD
3.	High	> Mean + SD

Training traits:

Training traits of ACABC is key to the perception of agripreneurs on its influence on trainees who are trained for staring an agri business unit. The training traits are composed of information source, motivational factors, training seriousness and feedback on training institutes.

Information source:

Information sources refer to the respondents source of information about ACABC scheme. For each source a score of 1 was assigned and cumulative score was considered as score for information sources.

S.No	Category	Score
1.	Newspaper	1
2.	Friends	1
3.	Radio	1
4.	Television	1
5.	Social media (facebook, whatsapp etc.)	1
6.	Notice boards	1
7.	Others, if any- please specify	1

Motivational factors:

Need satisfying and goal oriented behaviour is motivation. In this study, motivational fcators was operationalised as respondents intention or need to pursue the vocational training on ACABC. To study the motives for joining the training program, respondents were asked to indicate their intention as to why they joined ACABC training. According to the intentions, the respondents ranked the statements regarding their motives. The scale used for the collection of data was as shown below.

S.No.	Particulars	MI (3)	LI (2)	NI (1)
1.	Unemployment problem in both government and private sectors			
2.	Non-remunerative yields from present farming			
3.	Self motivation for starting own business			

4.	ACABC training is free of cost			
5.	Better institutional linkage (training, credit and marketing			
6.	Access to credit facility			
7.	There are emerging new market outlets			
8.	Better price expectations from the activity undertaken			
9.	Efficient utilization of resource base (education, knowledge, contacts, land etc.)			
10.	Wanted to be an employer rather than employee			
11.	Others (If any)			

Based upon the total score, the items were ranked and the respondents were classified into low, medium and high categories of motivation. The minimum-maximum score exclusive of statements other than the 10 closed questions a respondent could secure was 10-30 respectively.

Training seriousness:

Training seriousness refers to the quality of the respondent being keenly intent or serious towards training program. To assess the seriousness of respondent, three statements indicating their seriousness were administered to the respondents. The scale used for the collection of data and scoring method adopted was as follows.

S.No.	Particulars	Degree		
1.	How often you missed training classes?	VR (3)	R (2)	O (1)
2.	How often have you faced opinion conflicts with the faculty members?	VR (3)	R (2)	O (1)

3.	How often the resident trainees' committed unlawful practices like alcohol consumption etc; during the period of training?	VR (3)	R (2)	O (1)

VR-Very rare; R-Rare; O-Often

The maximum possible score was 9 and least possible score was 3. Based on the scores obtained the respondents were categorized as follows.

S.No	Category	Score
1.	Less serious	< Mean – SD
2.	Moderately Serious	Mean-SD to Mean + SD
3.	Highly serious	> Mean + SD

Feedback on training institute:

Feedback refers to the information or opinion of the trainees about the facilities and functioning of training institute. The respondents were enquired about various facilities and functioning of training institute.

S.No	Particulars	Excellent (4)	Good (3)	Average (2)	Poor (1)
1.	**Training component** 1. Faculty 2. Theory sessions 3. Study visits 4. Interaction with successful agripreneur /farmers etc. 5. Audio/Video aids 6. Video conferencing				
2.	**Infrastructural component** 1. Lodging				

	2. Boarding 3. Transportation facilities				

The maximum possible score was 36 and the least possible score was 9. Based on the score of respondents categorization was done and the results were expressed as frequency and percentage.

SWOC ANALYSIS OF CENTRES AND AGRIPRENEURS:

A SWOC analysis was an organized planning technique used to assess the Strengths, Weaknesses, Opportunities and Challenges (SWOC) involved in a project or in a business venture after venturing into agribusiness through ACABC scheme. Also, SWOC was also done for the centre as perceived by nodal officer and other officials of the centre.

In the present study SWOC analysis was done for training Centre's as well as agripreneurs. By interviewing the nodal training officer and officials the researcher collected data on SWOC of training Centre's. SWOC analysis of agripreneurs was prepared by using a set of open-ended questions under each strength, weakness, opportunity and challenges. SWOC items for each agripreneurs were listed and the items were ranked based on the weighted mean score.

PERFORMANCE INDICATORS

Key Performance Indicators (KPI):

In this study KPI was operationally defined as those indicators that throw light to the different dimensions that reflects the degree of effectiveness of the ACABC program. It was measured in terms of leading (LE) and lagging (LA) performance indicators. Leading indicators are those indicators that designates input oriented comparably constructs that are difficult to measure and easy to influence but lagging indicators

are relatively easy to quantify and measure that is output oriented but hard to improve or influence.

S.No.	General Performance Indicators	Degree of importance				
		5	4	3	2	1
1.	Productivity (LE)					
2.	Efficiency (LE)					
3.	Good projects initiated (LE)					
4.	Trainee satisfaction (LE)					
5.	% of turnover (LA)					
6.	ROI of training (LA)					
7.	Cost of human resource initiated (LA)					
8.	Time of training (LA)					

Leading and lagging performance indicators were ranked based on the weighted mean score.

Special Performance Indicators:

Performance indicators, which don't fall under KPI, were listed under Special performance indicators. They were measured in terms of 4 aspects *i.e.,* financial, satisfaction, quality and organizational performance. These performance indicators were measured using statements on a 3-point continuum for each of the four aspects. The indicators were ranked based on the weighted mean score. Higher the weighted mean score meant more was the influence of special performance indicators.

Constraints faced by agripreneurs:

Constraints, in this study refer to the difficulties faced by the agripreneurs while setting up and running of their ventures. Based on the discussion with agripreneurs, scientists, trainers, experts in agriculture and also through relevant review of

literature, some of the constraints faced by agripreneurs were identified. A list of constraints was included in the final interview schedule (Appendix-I). The list was open ended so that the additional constraints expressed by the respondents at the time of interview could also be included.

The response to each constraint was obtained on a five-point continuum namely, strongly agree, agree, undecided, disagree and strongly disagree, with the score 'five', 'four', 'three', 'two' and 'one' respectively. For each constraint, total score was worked out and the constraints were ranked.

Constraints as perceived by ACABC Officials cum trainers:

A total of ten major constraints faced by the ACABC Officials cum trainers providing training to agricultural graduates were identified. Constraint analysis of ACABC Officials cum trainers was done based on their responses to enlisted constraints and ranked based on weighted mean score.

The response to each constraint statement was obtained on a five-point continuum namely, strongly agree, agree, undecided, disagree and strongly disagree, with the score 'five', 'four', 'three', 'two' and 'one' respectively. For each constraint, total score was worked out and the constraints were ranked.

Independent variables for agricultural graduates:

Age:

Age can be operationally defined as number of years completed by the respondent at the time of enquiry. Based on the obtained median value the respondents' age was categorized into three groups as shown below.

S.No	Category	Code assigned
1.	Below median age	1
2.	Median age	2
3.	Above median age	3

Sex:

According to sex, the respondents were classified as male and female. A code of 2 was assigned to male respondents and 1 was assigned to female respondents.

Caste:

Caste can be operationally defined as a social category whose members are assigned a permanent status with a given social hierarchy and whose contacts are psychologically differential in nature. The results were

S.No	Category	Code
1	SC	1
2	ST	2
3	OBC	3
4	GENERAL	4

The results of caste status of students were computed in terms of frequency and percentage.

Family size:

Family size was measured as the number of closely related persons of both sexes belonging to the family, living under single roof. Based on the number of members in the family, the respondents were classified into following three categories.

S.No	Category	Code
1.	4 members family or less	1
2.	5 members family	2
3.	6 members family or more	3

The results were then expressed in terms of frequency and percentage.

Birth Order:

It was operationalised as respondent's rank by position of birth among his or her siblings. The birth order was classified into four groups and scored as shown below.

S.No	Category	Rank assigned
1.	1st born child	1
2.	2nd born child	2
3.	3rd born child	3
4.	4th born child	4

The results on birth order of students were computed and expressed in terms of frequency and percentage.

Area of residence:

Area of residence in this study was indicated in terms of whether the students come from rural, semi urban or urban background. Based on area of residence the respondents were classified into 3 categories such as rural or semi-urban or urban and a code was assigned as shown below.

S.No	Category	Code
1.	Rural	3
2.	Semi-urban	2
3.	Urban	1

The results on the area of residence of students were computed and expressed in terms of frequency and percentage.

Annual Income:

Annual income refers to the total amount of income in rupees that the family of the respondent earns from all the sources in a year. The mean annual income of the parents of the students were calculated and the respondents were classified into three categories based on the mean and standard deviation values as check.

S.No	Category	Score
1	Low	< Mean – SD
2	Medium	Mean-SD to Mean + SD
3	High	> Mean + SD

Landholding:

Landholding refers to the total possession of own land in acres by the parent. Landholding was measured as the land possessed by the family of the respondent in acres of and the classification of category was made as designated below.

S.No	Category	Score
1.	Landless	0
2.	Low landholding	< Mean – SD
3.	Medium landholding	Mean-SD to Mean + SD
4.	High landholding	> Mean + SD

A score of zero was assigned for the student whose parent did not possess own land.

Entrepreneurial intention of students:

Entrepreneurial intention can be defined as a situation of a person to own a business or become to be independently employed. Entrepreneurial intentions are also

considered as personal orientations which may lead to creation of ventures. To measure entrepreneurial intention an arbitrary scale was developed consisting of six statements of which four were positive statements and two were negative statements. The response for the statements was collected on a five-point continuum as strongly agree, agree, neutral, disagree and strongly disagree with scores as 5,4,3,2 and 1 respectively for positive statements. While for negative statements reverse scoring was followed.

S.No	Category	Score
1	Low intention	< Mean – SD
2	Medium intention	Mean-SD to Mean + SD
3	High intention	> Mean + SD

The likely range of scores was 6 to 30. Based on the mean and standard deviation the respondents were classified into three groups.

Attitude of students towards ACABC scheme:

A favourable or unfavourable reaction towards someone or something is referred as attitude. For the present study, the definition of attitude towards ACABC scheme was operationalised as mental pre-disposition to respond positively or negatively towards ACABC scheme. Scale developed by Chargotra (2007) was used with due modifications to measure attitude towards ACABC scheme. Scale consists of seventeen statements, out of which ten were positive statements and seven were negative statements. The response for the statements were collected on a five-point continuum as strongly agree, agree, undecided, disagree and strongly disagree with scores as 5,4,3,2 and 1 respectively for positive statements. While for negative statements reverse scoring was followed.

S.No	Category	Score
1	Low	< Mean – SD
2	Medium	Mean-SD to Mean + SD
3	High	> Mean + SD

The probable range of scores was 17 to 85. According to mean score and standard deviation the respondents were classified into three groups.

3.5. DATA COLLECTION TECHNIQUES

Data collection was done through personal interviews with the respondents. The interview schedule was pre-tested in a pilot study conducted in a non-sample area and suitable changes were made based on the information collected. On the basis of these corrections, the final interview schedule was prepared. The respondents were surveyed separately.

3.6. STATISTICAL TOOLS USED

The data collected were scored, tabulated and analyzed using the following parametric and non-parametric tools.

3.6.1 Mean

The respondents were grouped into various categories based on the means of the independent variables. After grouping of the respondents, their percentages were worked out.

3.6.2. Percentage Analysis

To represent the collected data on proportion basis, for simple and meaningful understanding of the data and to make simple interpretations, percentage analysis was used in the study. It can be done by using the frequency distribution of the collected

data. It is calculated by multiplying the frequency with hundred and then dividing the value obtained with total number of respondents.

3.6.3. Median

It is the value separating the data sample into above median, median and below median and it was used in the study to categorize the respondents based on their motivation.

3.6.4. Correlation analysis

It is the statistical technique used to find out the relationship between the variables. In this study it was used to find out the relationship between the independent and dependent variables.

3.6.5. Weighted mean

The weighted mean is a type of mean that is calculated by multiplying the weight (or probability) associated with a particular event or outcome with its associated quantitative outcome and then summing all the products together. It was used in the study to enlist the performance indicators and motives of the agripreneurs behind joining ACABC training and rank them based on the preference of the agripreneurs.

3.6.6. t-test

The t test of significance for difference in mean was employed to test whether the respondents of Kerala and AP differed significantly in terms of independent and dependent variables.

3.6.6. Spearman rank correlation

The Spearman rank correlation test was employed to determine the relationship between the ranks assigned by the respondents of Kerala and AP.

3.7. CONCEPTUAL MODEL OF THE STUDY

A conceptual model has been designed for the study based on the objectives of the study, the concepts theoretically framed from the existing literature and the factors influencing performance indicators and attitude towards ACABC scheme. The model explains the relationship between the independent and dependent variables namely performance indicators and attitude towards ACABC scheme. The conceptual model is given in Fig.1.

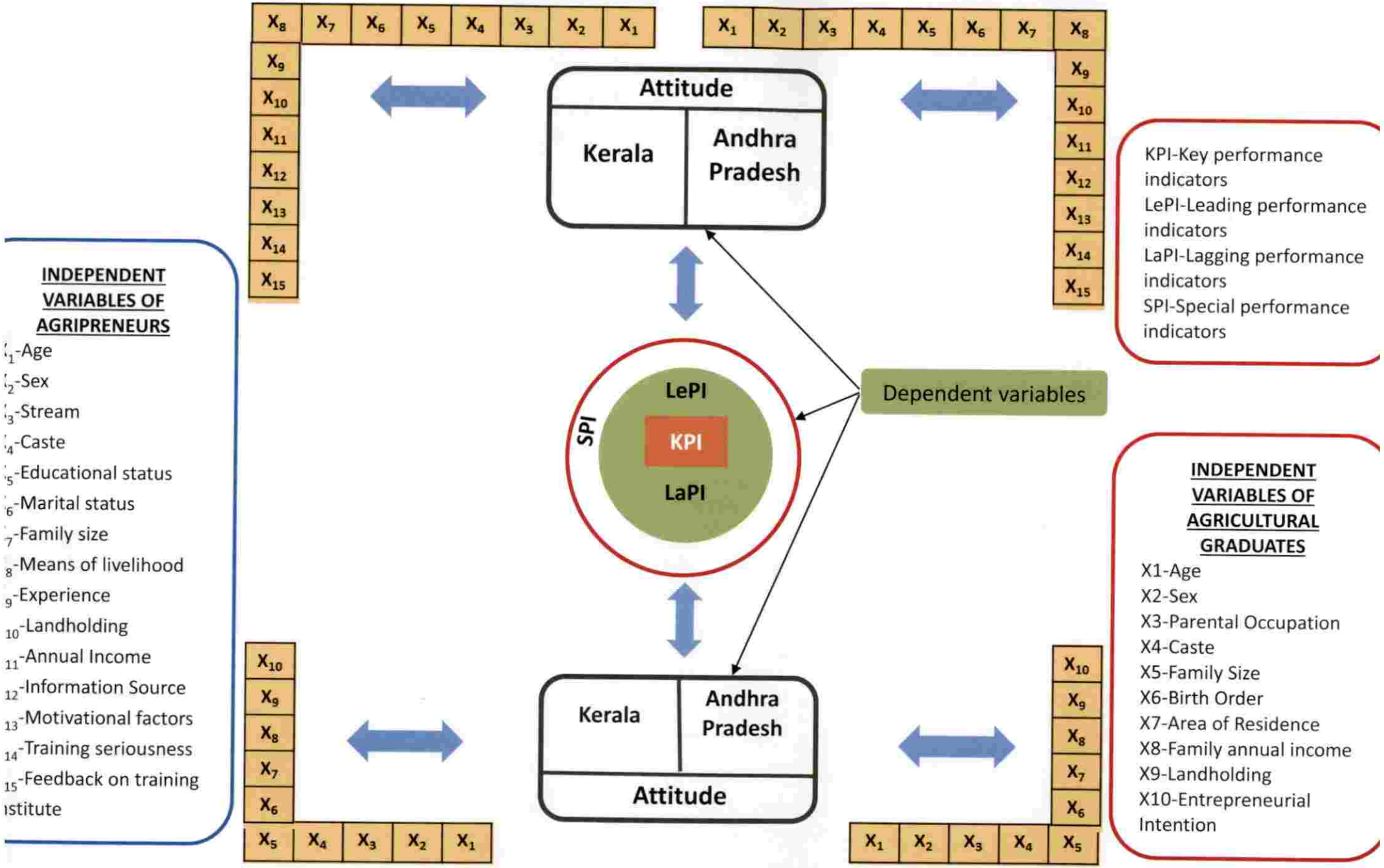

Fig 1. Conceptual model of the study

Results & Discussions

CHAPTER- 4

RESULTS AND DISCUSSION

In this chapter, the results and discussion based on the analysis of obtained data from the study are presented under the following headings.

4.1. Socio-economic profile of agripreneurs

4.2. Extent of self-employment and employment generation

4.3. Impact of training on economic status

4.4. SWOC analysis

4.5. Training traits

4.6. Performance Indicators

4.7. Attitude towards ACABC scheme

4.8. Success Stories

4.9. Constraints in the implementation of ACABC scheme

4.10. Profile of agricultural graduates

4.11. Suggestions to improve the performance of ACABC scheme

4.12. Empirical model of the study

4.1. SOCIO-ECONOMIC PROFILE OF AGRIPRENEURS

4.1.1. Age

The distribution of agripreneurs in Kerala and Andhra Pradesh (AP) based on their age is furnished in the Table 2 and Fig 2 & 3.

Table 2. Distribution of agripreneurs based on their age

Category	Kerala (n=30)			Andhra Pradesh (n=30)		
	Male (n_1=28)	Female (n_2=2)	Overall (n=30)	Male (n_1=26)	Female (n_2=4)	Overall (n=30)
Young age <35 years	3 (11.53)	1 (25.00)	4 (13.33)	12 (42.85)	1 (50.00)	13 (43.33)
Middle age 35-55 years	10 (38.46)	1 (25.00)	11 (36.67)	15 (53.57)	1 (50.00)	16 (53.33)
Old age >55 years	13 (50.00)	2 (50.00)	15 (50.00)	1 (3.57)	0	1 (3.33)
Total	**26**	**4**	**30**	**28**	**2**	**30**
	Mean=50.6 S.D=13.024 SE=2.378			Mean=35.9 S.D=8.181 SE=1.494		

*Figures in brackets represent percentage

As evidenced by the Table 2, observing the distribution of Kerala agripreneurs, half (50.00%) of the agripreneurs belonged to old age category. 36.67 per cent were found to be belonging to middle age category and 13.33 per cent belonged to young age category.

Whereas with respect to distribution of AP agripreneurs, more than half (53.33%) of the respondents belonged to middle age category followed by 43.33 per cent who belonged to young age category. Only 3.33 per cent of agripreneurs were under old age category.

Comparing the distribution of agripreneurs of Kerala and AP based on their age revealed that, Kerala comprised high percentage of old age category than AP which might be due to higher number of takers for ACABC training post retirement observed in Kerala.

The results of distribution of agripreneurs of Kerala based on age are in conflicting with Laxmi (2015) while the results of AP are in line with Yadav (2012),

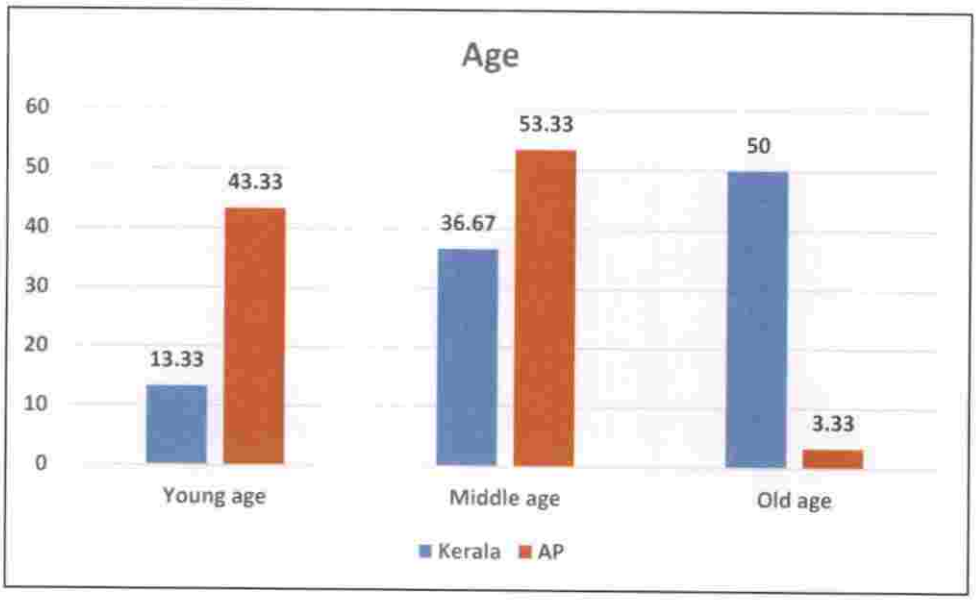

Fig 2. Distribution of agripreneurs based on age

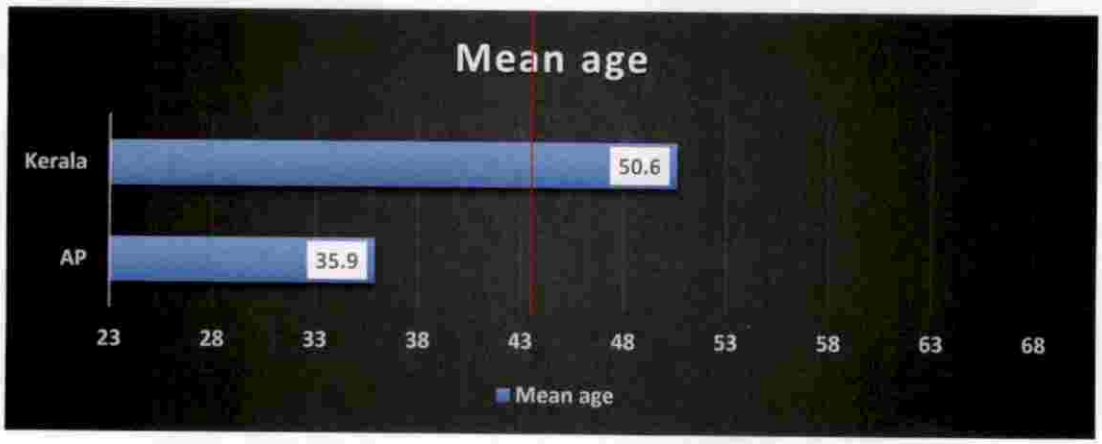

Fig 3. Distribution of agripreneurs based on mean age

who reported that usually more agripreneurs are generally from the category middle age to young.

4.1.2. Sex

The distribution of agripreneurs in Kerala and AP based on their sex is depicted in the Table 3.

Table 3. Distribution of agripreneurs based on their sex

Category	Kerala (n=30)		Andhra Pradesh (n=30)	
	F	%	F	%
Male	26	86.67	28	93.33
Female	4	13.33	2	6.67
Total	**30**	**100**	**30**	**100**

A glance of the Table 3 reveals that majority of the agripreneurs from the both Kerala (86.67%) and AP (93.33%) were male. The percentage of female agripreneurs from both Kerala (13.33%) and AP (6.67%) were very less.

High proportion of male agripreneurs may be primarily attributed to risk taking capability of male agripreneurs rather than female agripreneurs. Agripreneurs requires a lot of travel and the mobility freedom enjoyed by the male in the current patriarchal system of family structure could also be a reason for high proportion of male agripreneurs.

The above observations are in line with the results of the study conducted by Bairwa (2015) and conflicting with the results obtained by Modi (2013).

4.1.3. Stream:

The distribution of agripreneurs in Kerala and AP based on their stream is depicted in the Table 4.

Table 4. Distribution of agripreneurs based on their stream

Category	Kerala (n=30)		Andhra Pradesh (n=30)	
	F	%	F	%
Agriculture	25	83.33	23	76.67
Horticulture	2	6.67	4	13.33
Agril. Engineering	0	0	1	3.33
Veterinary	0	3.33	1	3.33
Fisheries	2	6.67	1	3.33
MBA/Agribusiness	1	3.33	0	0
Total	**30**	**100**	**30**	**100**

A glance of the Table 4 revealed that majority (83.33%) of the agripreneurs of Kerala belonged to agriculture stream; 6.67 per cent belonged to horticulture and agricultural engineering stream each and only 3.33 per cent to belonged to MBA/agribusiness stream.

While in case of agripreneurs of AP from the table it was clear that more than three fourth of the respondents belonged to agriculture stream; 13.33 per cent belonged to horticulture stream and 3.33 per cent to belonged to agricultural engineering, veterinary and fisheries stream each.

When comparing, it is clear that majority of agripreneurs from both Kerala and AP belonged to agriculture stream. This was quite natural because majority of agripreneurs had their undergraduate or vocational education in the field of agriculture. It was natural that individuals ought to venture into business where their knowledge base was comprehensive and the sound skill sets they have practiced.

These observations are on par with the results of the study undertaken by Karjagi (2006).

4.1.4. Caste:

The distribution of agripreneurs in Kerala and AP based on their caste is depicted in the Table 5 and Fig 4.

Table 4. Distribution of agripreneurs based on their caste

Category	Kerala (n=30)		Andhra Pradesh (n=30)	
	F	%	F	%
SC	1	3.33	2	6.67
ST	1	3.33	1	3.33
OBC	5	16.67	16	53.33
GENERAL	23	76.67	11	36.67
Total	**30**	**100**	**30**	**100**

A perusal of Table 5 reveals that majority (76.67%) of Kerala agripreneurs belonged to general category followed by 16.67 per cent who belonged to other backward castes (OBC) and 3.33 per cent belonged to SC and ST caste categories each.

Whereas the results showed that more than half (53.33%) of the AP agripreneurs belonged to OBC category followed by 36.67 per cent who belonged to general category. Only 6.67 and 3.33 per cent of agripreneurs were from SC and ST caste categories, respectively.

The results again is socially significant that majority who ventures into agribusiness are from either general category or OBC category, which means the marginalized should be lured into agripreneurship through more incentives and policy support. There could be another reason too as to why SC/ST agripreneurs are less. It could be because it was relatively easy for them to get into a government job when

compared with general category or OBC. The results of distribution of agripreneurs of Kerala based on caste are in line with Ramesh (2009) while the results of AP are in line with Bairwa (2015).

4.1.5. Educational Status:

The distribution of agripreneurs in Kerala and AP based on their educational status are presented in the Table 6 and Fig 5.

Table 6. Distribution of agripreneurs based on their educational status

Category	Kerala (n=30)		Andhra Pradesh (n=30)	
	F	%	F	%
Diploma/VHSE	2	6.67	4	13.33
B.Sc.	21	70.00	19	63.33
M.Sc.	5	16.67	7	23.33
Ph.D.	2	6.67	0	0
Total	**30**	**100**	**30**	**100**

A glance of the Table 6 revealed the distribution of the respondents based on their educational status in the states of Kerala and AP. Examining the Kerala agripreneurs distribution, it could be marked from the Table 6 that 70.00 per cent of the respondents had graduation as highest education, 16.66 per cent were post graduates and 13.34 per cent of the respondents had Diploma/VHSE and Ph.D. as highest educational qualification.

With respect to AP state, majority (63.33%) of the respondents were graduates followed by 23.33 and 13.33 per cent who had post-graduation and diploma as highest level of education. It was obvious that majority of respondents would be graduates as this scheme is meant basically to promote agricultural graduates to employers who are job givers and not job takers.

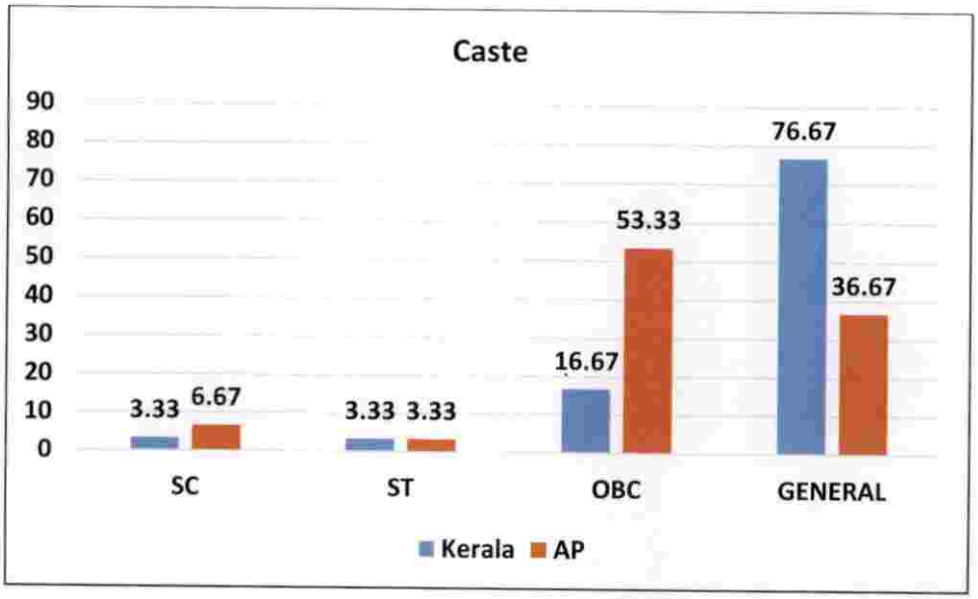

Fig 4. Distribution of agripreneurs based on caste

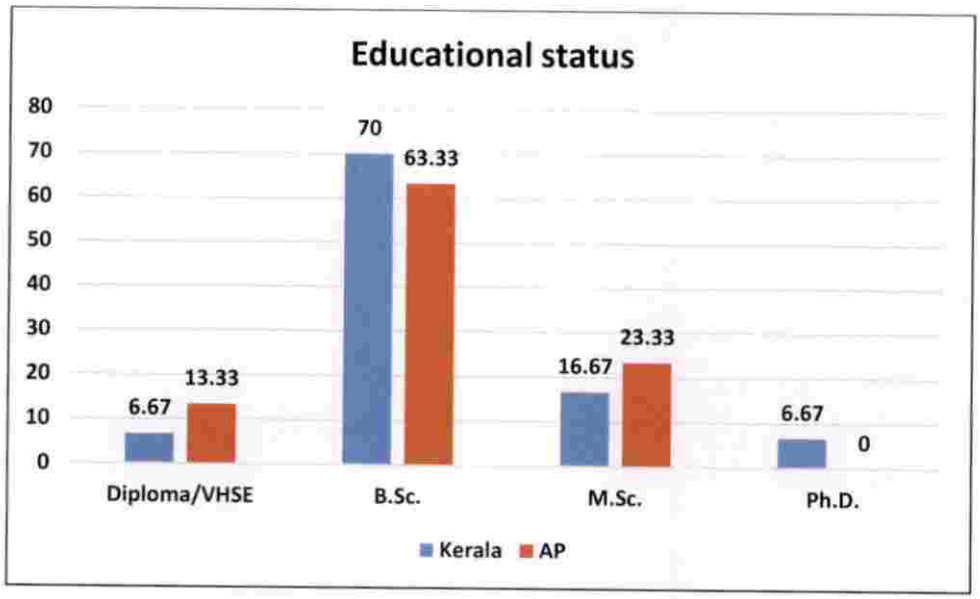

Fig 5. Distribution of agripreneurs based on educational status

The above findings are in line with the results obtained by Venkattakumar and Sontakki (2014)

4.1.6. Marital Status:

The distribution of agripreneurs in Kerala and AP based on their marital status are depicted in the Table 7.

Table 6. Distribution of agripreneurs based on their marital status

Category	Kerala (n=30)		Andhra Pradesh (n=30)	
	F	%	F	%
Unmarried	2	6.67	5	16.67
Married	28	93.33	25	83.33
Total	**30**	**100**	**30**	**100**

A glance of the Table 7 revealed that majority of the agripreneurs from the both Kerala (93.33%) and AP (83.33%) were married. The percentage of unmarried agripreneurs from both Kerala (6.67%) and AP (16.67%) were very less.

While comparing both Kerala and AP agripreneurs regarding marital status, it was clear that the percentage of married agripreneurs was more in case of Kerala this might be due to the reason that most of the trainees or agripreneurs were old aged to middle aged in Kerala unlike the agripreneurs from AP who were belonging to the category middle aged to young age. The results obtained are in agreement with the results of the studies conducted by Yadav (2013) and Gopika (2015).

4.1.7. Family Size:

The distribution of agripreneurs in Kerala and AP based on their family size is depicted in the Table 8.

Table 8. Distribution of agripreneurs based on their family size

Category	Kerala (n=30)		Andhra Pradesh (n=30)	
	F	%	F	%
4 members	22	73.33	5	16.67
5 members	7	23.33	11	36.67
6 members	1	3.33	14	46.67
Total	**30**	**100**	**30**	**100**
	Mean=4.3 S.D=0.53 SE=0.09		**Mean=5.3 S.D=0.74 SE=0.14**	

A perusal of Table 8 reveals that nearly three fourth (73.33%) of Kerala agripreneurs belonged to 4 members family, followed by 23.33 and 3.33 per cent of agripreneurs belonged to 5 and 6 members family respectively. While in case of agripreneurs of AP majority (46.67%) belonged to 6 member family followed by 5 (36.67%) and 4 (16.67%) members family.

From the above observations it can be inferred that agripreneurs of Kerala belonged to nuclear families whereas agripreneurs of AP belonged to medium size families. The reason might be more awareness about family planning in Kerala than AP and also the high literacy rate. The results of Kerala are in contradictory with the results of the study conducted in Bhagalpur district of Bihar by Kumar *et al.* (2019) while results of AP are in agreement with the study results.

4.1.8. Means of livelihood:

The distribution of agripreneurs in Kerala and AP based on their means of livelihood are presented in the Table 9

Table 9. Distribution of agripreneurs based on their means of livelihood

Category	Kerala (n=30)		Andhra Pradesh (n=30)	
	F	%	F	%
Agripreneurship + other	16	53.33	11	33.33
Agripreneurship alone	14	46.66	19	66.67
Total	**30**	**100**	**30**	**100**

A glance of the Table 9 revealed that more than half (53.33%) of the Kerala agripreneurs had other occupation in addition to agripreneurship and 46.66 per cent of the agripreneurs had agripreneurship as only occupation.

Whereas, two third (66.67%) of agripreneurs of AP had agripreneurship as only occupation and one third (33.33%) of the agripreneurs had other occupation in addition to agripreneurship.

Comparing distribution of agripreneurs based on their livelihood reveals that, Kerala agripreneurs are less dependent on agripreneurship than AP agripreneurs.

4.1.9. Experience

The distribution of agripreneurs in Kerala and AP based on their experience are presented in the Table 10 and Fig 6 & 7.

Table 10. Distribution of agripreneurs based on their experience

Category	Kerala (n=30)		Andhra Pradesh (n=30)	
	F	%	F	%
Low (< Q1)	4	13.33	6	20.00
Medium (Q1-Q3)	22	73.33	17	56.66
High (> Q3)	4	13.33	7	23.33
Total	**30**	**100**	**30**	**100**

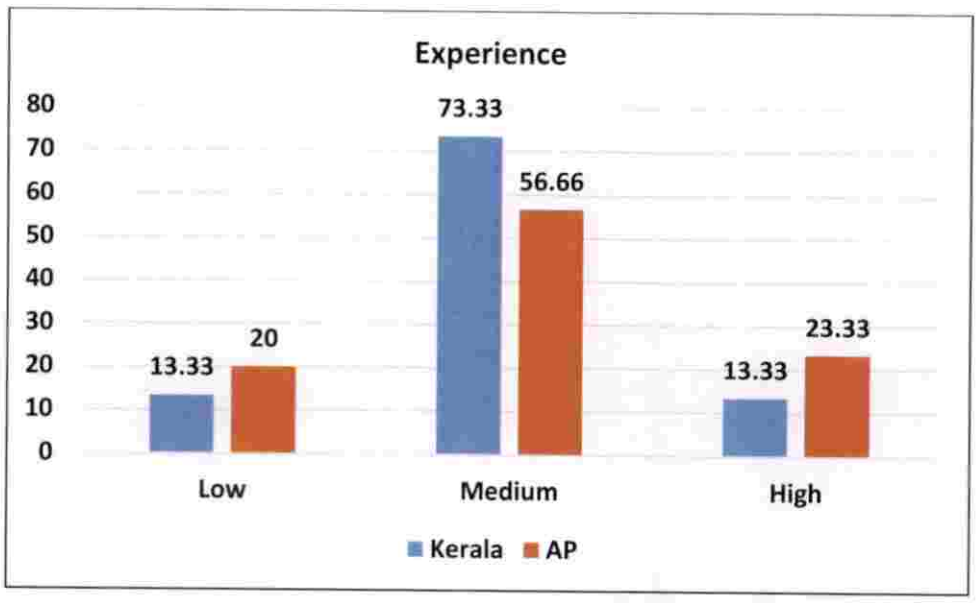

Fig 6. Distribution of agripreneurs based on experience

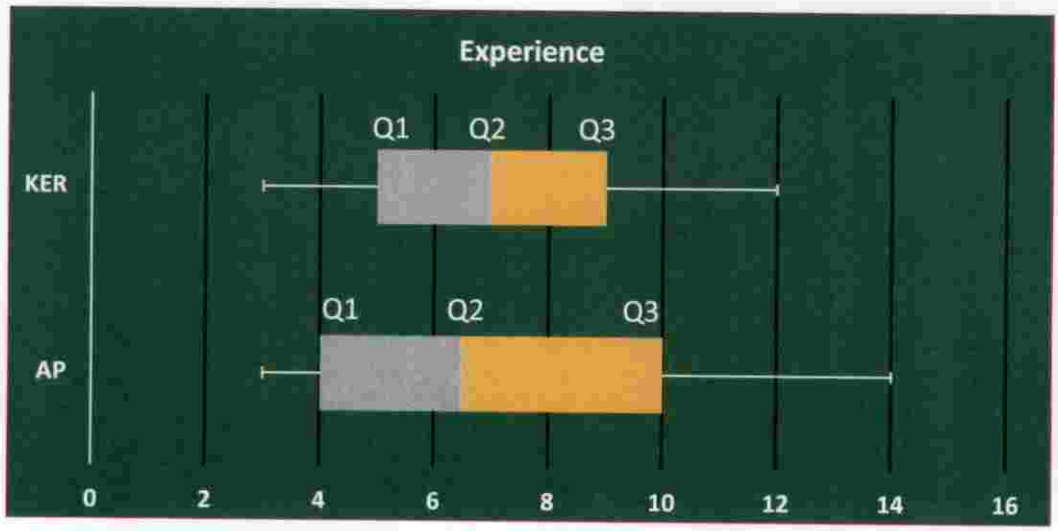

Fig 7. Distribution of agripreneurs based on experience (BOX PLOT)

	Q1=3, Q3=9 Mean=6.73 Max-Min=12-3	**Q1=3, Q3=10 Mean=7.1 Max-Min=14-3**

A look at the Table 10 revealed that nearly three fourth (73.33%) of the agripreneurs of Kerala had medium level of experience and 13.33 per cent of agripreneurs had low and high level of experience each.

With respect to agripreneurs of AP, more than half (56.66%) had medium level of experience while 23.33 and 20.00 per cent of agripreneurs had high and medium level of experience, respectively.

It can be inferred that agripreneurs of AP had more years of experience than Kerala. The results also reflects to the scale and sustainability of agripreneurs from AP which was more when compared to that Kerala where the scale of business was generally low and more experienced agripreneurs were undertaking consultancy service more than agribusiness.

The obtained results are consistent with the results obtained by Usha (2012) and are contradictory with the results obtained by Shivacharan *et al.* (2017).

4.1.10. Landholding:

The distribution of agripreneurs in Kerala and AP based on their possession of land holding was presented in the Table11

Table 11. Distribution of agripreneurs based on their land

Category	Kerala (n=30)		Andhra Pradesh (n=30)	
	F	%	F	%
<1 acre	18	40.00	2	6.67
≥1-2 acres	10	33.33	14	46.67

≥2-4 acres	0	0	10	33.33
≥4 acres	2	6.66	4	13.33
Total	**30**	**100**	**30**	**100**
	Mean=1.738 Max-Min=20-0.2		**Mean=3.375 Max-Min=25-0.5**	

A glance of the Table 11 reveals that majority (40.00%) of the agripreneurs of Kerala had less than one acre of landholding; 33.33 per cent of the respondents had 1-2 acres of landholding and 6.66 per cent of the respondents had more than 4 acres of landholding.

With respect to agripreneurs of AP, majority (46.67%) had 1-2 acres of landholding; 33.33 per cent of the respondents had 2-4 acres; 13.33 per cent of the respondents had more than 4 acres and 6.67 per cent of the respondents had less than one acre of landholding.

From the above table it can be inferred that 83.33 per cent of agripreneurs of Kerala had less than 2 acres of landholding wherein closed to half the respondents (40%) had even less than one acre, while 80.00 per cent of agripreneurs of AP had greater than 1 acre of landholding. This was typical as land availability in Kerala was generally less for agriculture due to the pressure of population, fragmentation and idling of land.

4.2. EXTENT OF SELF-EMPLOYMENT AND EMPLOYMENT GENERATION.

4.2.1. Extent of self-employment

The details of ACABC program along with extent of self-employment in Kerala and AP is presented in Table 12.

Table 12. Details of ACBAC program in Kerala and AP

S.No	Name of the state	No. of trainings	No. of trained candidates	No. of ventures established	Average no. of trainees per training	Average no. of ventures per training
1.	Kerala	9	223	51	24.78	5.67
2.	Andhra Pradesh	28	1167	321	31.54	8.68

Desk analysis about the ACABC program in Kerala was carried out and it was found that the number of trainings conducted were 9; trained candidates were 223; and ventures established were 51. The average number of trainees and ventures per training were 24.78 and 5.67 respectively.

However in case of AP, it was identified that the number of trainings conducted were 28; trained candidates were 1167; and ventures established were 321. The average number of trainees and ventures per training were 31.54 and 8.68 respectively.

Comparative analysis shows that in all above aspects regarding ACABC scheme AP state was doing better than Kerala. This highlight the importance of laying down policies that keep away graduates venturing into agri business and promoting schemes that can bring more agricultural graduates into the field of agri-business ventures.

4.2.2. Extent of employment generation

Employment generation potential of ACABC ventures in Kerala and AP are presented in Table 13.

Table 13: Employment generation potential of ACABC ventures in Kerala and AP

S.No.	Particulars	Kerala (n=30)		Andhra Pradesh (n=30)	
		Frequency	Mean	Frequency	Mean
1.	**Skilled employees**	37	1.23	46	1.53
2.	**Unskilled employees**	122	4.07	165	5.50
3.	**Total employees**	190	5.30	211	7.03

A glance of the Table 13 revealed that in 30 agriventures of Kerala employment was generated for 37 skilled and 122 unskilled employees. Mean skilled and unskilled employees per venture were 1.23 and 4.07 respectively. The mean employment generation potential was 5.30 per venture.

However in case of agriventures of AP, 46 skilled and 165 unskilled were employed. Mean skilled and unskilled employees per venture were 1.53 and 5.50 respectively. The mean employment generation potential was 7.03 per venture.

From the above table it can be inferred that employment generation potential was high (7.03 per venture) in AP as against 5.30 per venture in Kerala. This reiterates the argument put-forth in the above findings sited under extent of self-employment. It can also be obvious that when the scale of business was high, the employment generation potential would also be elevated.

4.3. IMPACT OF TRAINING ON ECONOMIC STATUS

4.3.1. Annual agripreneurial income

The distribution of agripreneurs in Kerala and AP based on their annual agripreneurial income is presented in the Table 14 and Fig 8

Table 14. Distribution of agripreneurs based on their annual agripreneurial income

Category	Kerala (n=30)		Andhra Pradesh (n=30)	
	F	%	F	%
< 2 lakhs	17	56.67	10	33.33
≥2-4 lakhs	7	23.33	12	40.00
≥4-6 lakhs	3	10.00	4	13.33
≥6-8 lakhs	2	6.67	2	6.67
>8 lakhs	1	3.33	2	6.67
Total	**30**	**100**	**30**	**100**
	Mean=3.16 S.D=2.30 SE=0.42		**Mean=3.867 S.D=2.54 SE=0.46**	

As evidenced from the Table 14, more than half (56.67%) of the respondents of Kerala had annual agripreneurial income in the range of 2-4 lakhs; 23.33 per cent had annual agripreneurial income less than two lakhs; 10.00, 6.67 and 3.33 per cent of the respondents had annual agripreneurial income in the range of 4-6, 6-8 and more than 8 lakhs respectively.

In case of respondents of AP, majority (40.00%) of the respondents had annual agripreneurial income in the range of 2-4 lakhs; 33.33 and 13.33 per cent had annual agripreneurial income less than two lakhs and 4-6 lakhs respectively; 6.67 per cent of the respondents had annual agripreneurial income in the range of 6-8 and more than 8 lakhs each.

From the above Table 14 it can be inferred that agripreneurs of AP had more annual agripreneurial income than agripreneurs of Kerala, which was mainly due to the fact that the scale of business of AP agripreneur was larger than that of Kerala agripreneurs. Also, the cost of running an agribusiness in Kerala in any field was high than any other states due to the high wages offered to labourers. The impact of high

labour cost reflected in the net returns for Kerala agripreneurs, which was low in comparison to the agripreneurs of AP.

4.3.2. Annual Income:

The distribution of agripreneurs in Kerala and AP based on their annual income is presented in the Table 15 and Fig 9

Table 15. Distribution of agripreneurs based on their annual income

Category	Kerala (n=30)		Andhra Pradesh (n=30)	
	F	%	F	%
< 2 lakhs	9	30.00	7	23.33
≥2-4 lakhs	15	50.00	12	40.00
≥4-6 lakhs	1	3.33	2	6.66
≥6-8 lakhs	3	10.00	5	16.66
>8 lakhs	2	6.66	4	13.33
Total	**30**	**100**	**30**	**100**
	Mean=3.19 S.D=2.17 SE=0.39		**Mean=3.91 S.D=2.57 SE=0.47**	

As evidenced from the Table 15, half of the agripreneurs (50.00%) of Kerala had annual income in the range of 2-4 lakhs; 30.00 per cent had annual income less than two lakhs; 10.00, 6.67 and 3.33 per cent of the respondents had annual income in the range of 6-8, more than 8 and 4-6 lakhs respectively.

Whereas with respect to respondents of AP, majority (40.00%) of the respondents had annual income in the range of 2-4 lakhs; 23.33 per cent had annual income less than two lakhs; 16.67, 13.33 and 6.67 per cent of the respondents had annual income in the range of 6-8, more than 8 and 4-6 lakhs respectively.

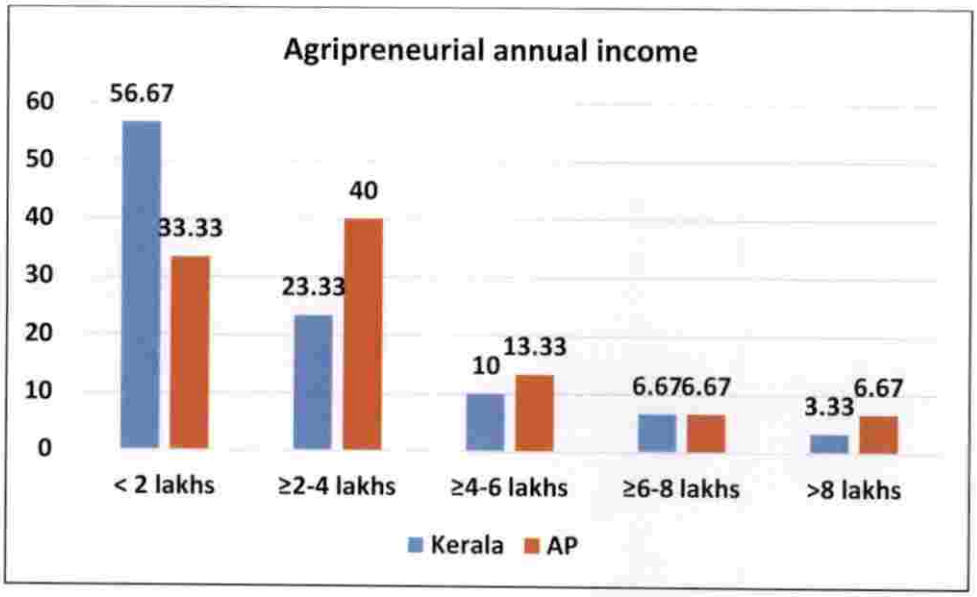

Fig 8. Distribution of agripreneurs based on agripreneurial annual income

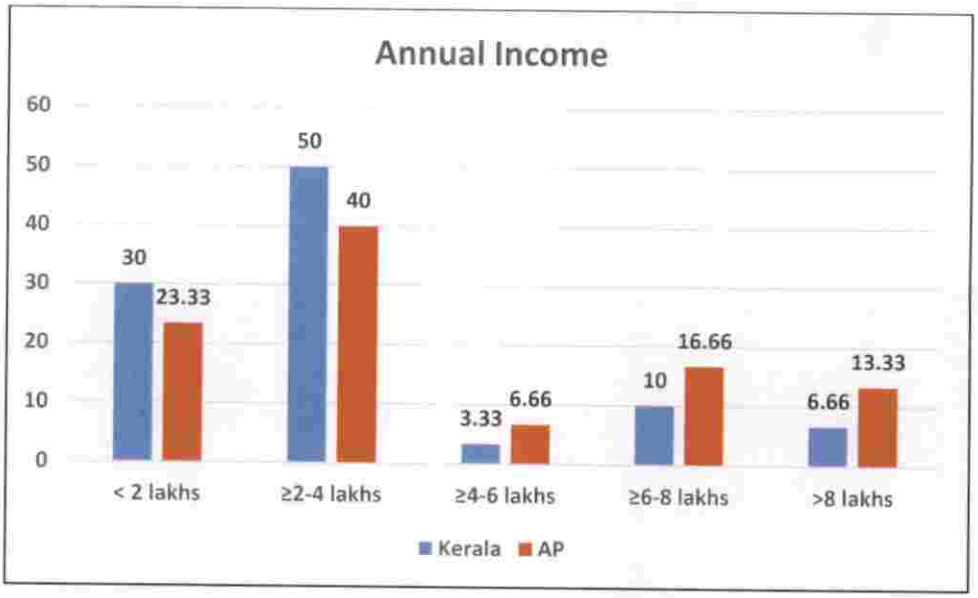

Fig 9. Distribution of agripreneurs based on annual income

From the above Table 15 it can be inferred that agripreneurs of AP had more annual income than agripreneurs of Kerala. The possible reason is that agripreneurs of Kerala were mostly old aged pensioners and the scale of business is small in Kerala when compared with AP.

4.4. SWOC ANALYSIS

A SWOC analysis is an organized planning technique used to assess the strengths, weaknesses, opportunities and challenges involved in a project or in a business venture. SWOC analysis was carried out for both centres as well as agripreneurs.

4.4.1. SWOC analysis of Centres

SWOC analysis of centres was analyzed by interviewing the nodal training officer's and its officials. Based on the perception of the nodal training officers' strengths, weakness, opportunities and challenges of centre were identified.

Strengths:

Being a government organization nonprofit motive and availability of multi-disciplinary faculty were the major strengths of NTI of Kerala *i.e.* TSS, Vellayani, KAU. However, NTI in AP is a NGO, where the organization knows specific interest of trainees and flexibility in using of funds were perceived as important strengths.

Weakness:

Less number of trainees with B.Sc. qualification and more number of takers with V.H.S.E/Diploma qualification were weakness of Kerala NTI. Screening bias was the major weakness of NTI of AP. Heterogeneity of trainees was perceived as weakness in both NTIs of Kerala and AP.

Opportunities:

This was the best scheme currently available for self-employment for graduates with a huge prospects of linking ACABC subsidy credit with other subsidy schemes

As the NTI in AP was a NGO there was a provision of linking the trainees back to organization activities.

Challenges:

Abatement of loans was a common challenge in both Kerala and AP. The major challenge in Kerala was that lack of transparency in selection of NTI's by central agency. Mushrooming of many ACABC NTIs under NGO's was a major challenge in AP.

4.4.2. SWOC analysis of Agripreneurs

SWOC analysis of agripreneurs were analyzed, it was done in terms of ranking strength, weakness, opportunities and challenges of ventures as perceived by agripreneurs and based on the weighted mean each item was ranked.

Table 16. Ranking of strengths of ventures based on weighted mean

Sl. No.	Strengths	Kerala (n=30)		Andhra Pradesh (n=30)	
		WM	Rank	WM	Rank
1.	Vast domestic market	4.73	1	4.63	1
2.	High quality service/product	3.83	2	3.17	3
3.	Availability of highly qualified and experienced personnel	1.33	5	3.53	2
4.	Good brand image in market	2.43	4	1.83	5
5.	Located in well-established agricultural and industrial area	2.70	3	1.87	4
Spearman rank correlation coefficient = 0.4					

Perusal of the Table 16 revealed the strengths of agripreneurs of Kerala of which 'vast domestic market' was ranked first followed by high quality service/product, located in well-established agricultural and industrial area, good brand image in market and availability of highly qualified and experienced personnel.

However regarding agripreneurs of AP, it was found that 'vast domestic market' was the major strength which was ranked first followed by availability of highly qualified and experienced personnel, high quality service/product, located in well-established agricultural and industrial area and good brand image in market.

Table 17. Ranking of weakness of ventures based on weighted mean

Sl. No.	Weakness	Kerala (n=30)		Andhra Pradesh (n=30)	
		WM	Rank	WM	Rank
1.	High requirement of working capital	4.57	1	4.33	1
2.	Lack of adequate infrastructural facilities and technology	2.42	4	1.93	5
3.	Lack of professional management	2.93	3	2.20	4
4.	Difficult to get financial assistance	3.97	2	3.80	2
5.	Low profitability	1.50	5	2.60	3
Spearman rank correlation coefficient = 0.7					

Perusal of the Table 17 revealed the weakness of agripreneurs of Kerala of which 'high requirement of working capital' was ranked first followed by difficult to get financial assistance, lack of professional management, lack of adequate infrastructural facilities and technology and low profitability respectively.

However regarding agripreneurs of AP, it was found that 'high requirement of working capital' was the major weakness which was ranked first followed by

difficult to get financial assistance, low profitability, lack of professional management and lack of adequate infrastructural facilities and technology respectively.

Table 18. Ranking of opportunities for agripreneurs based on weighted mean

Sl.No.	Opportunities	Kerala (n=30)		Andhra Pradesh (n=30)	
		WM	Rank	WM	Rank
1.	Increasing market span	4.60	1	4.53	1
2.	Government policies supporting agri-ventures	3.77	2	2.20	4
3.	Strong institutional support and linkage	1.33	5	1.07	5
4.	Large crop and material base	3.17	3	4.07	2
5.	Trend of smart agricultural management rises	2.10	4	3.13	3
Spearman rank correlation coefficient = 0.7					

Perusal of the Table 18 revealed the opportunities of agripreneurs of Kerala of which 'increasing market span' was ranked first followed by government policies supporting agri-ventures, large crop and material base, trend of smart agricultural management rises and strong institutional support and linkage respectively.

However regarding agripreneurs of AP, it was found that 'increasing market span' was the major weakness which was ranked first followed by large crop and material base, trend of smart agricultural management rises, government policies supporting agri-ventures and strong institutional support and linkage were the opportunities of agripreneurs in decreasing order of ranking respectively.

Table 19. Ranking of challenges faced by agripreneurs based on weighted mean

Sl.No.	Challenges	Kerala (n=30)		Andhra Pradesh (n=30)	
		WM	Rank	WM	Rank
1.	High level of competition in market	3.90	2	4.86	1
2.	Fluctuation in market prices	3.43	3	3.30	2
3.	Huge cost of modern equipment and technology	2.23	4	3.07	3
4.	Unorganized market	4.30	1	2.67	4
5.	Outdated technology and equipment	1.23	5	1.37	5
Spearman rank correlation coefficient = 0.4					

Perusal of the Table 19 revealed the challenges of agripreneurs of Kerala of which 'unorganized market' was ranked first followed by high level of competition in market, fluctuation in market prices, huge cost of modern equipment and technology and outdated technology and equipment were the challenges of agripreneurs in decreasing order of ranking respectively.

However regarding agripreneurs of AP, it was found that 'high level of competition in market' was the major weakness which was ranked first followed by fluctuation in market prices, huge cost of modern equipment and technology, unorganized market and outdated technology and equipment were the challenges of agripreneurs in decreasing order of ranking respectively.

Table 20. Results of Spearman's rank correlation coefficient

Sl.No.	SWOC	Spearman rank correlation coefficient
1.	Strengths	0.4
2.	Weakness	0.7
3.	Opportunities	0.7
4.	Challenges	0.4

The results of spearman rank correlation coefficient revealed that agripreneurs of Kerala and AP have common weakness and opportunities but they differ in the views regarding strengths and challenges. This difference in views on strengths and challenges could be due to the socio-demographic and physio-ecographic situations that was unique to the different states. Also, the policy changes could have a bearing on the difference of opinion of agripreneurs from Kerala and AP. The quantity and quality of agricultural graduates pursuing ACABC training was also different because in Andhra, more agricultural graduates pass out every year than that of Kerala, and this would definitely have a bearing on the enrollment rate for ACABC training wherein in AP the Agripreneurs would be genuine as self employment would be the only basis of creating a livelihood. Hence, their perception on strength and challenges differ.

4.5. TRAINING TRAITS

4.5.1. Information Source:

Information source in this study refers to the agripreneurs perception on the nature or type of information source they rely upon for news related to ACABC centre. The distribution of agripreneurs in Kerala and AP based on information source is presented in the Table 21.

Table 21. Distribution of agripreneurs based on information source

Category	Kerala (n=30)	Andhra Pradesh (n=30)
	Frequency	Frequency
Newspaper	27	19
Friends	25	27
Radio	11	9
Television	13	7
Social media (facebook, whatsapp etc.)	16	13
Notice boards	4	8

A glance of the Table 21 about the information source reveals that out of 30 agripreneurs from Kerala 27 mentioned newspaper as information source; 25 mentioned friends; 16 mentioned social media. Only 13, 11 and 4 agripreneurs mentioned television, radio and notice boards respectively as information source.

While in case of agripreneurs of AP, 27 mentioned friends as information source, 19 mentioned newspaper; 13 mentioned social media. Whereas only 9, 8 and 7 agripreneurs mentioned radio, notice boards and television respectively as information source.

From the Table 21 it can be concluded that friends and newspaper were the important information sources regarding ACABC program. The above findings are in agreement with the results obtained by Yadav (2012)

4.5.2. Motivational Factors:

The distribution of agripreneurs in Kerala and AP based on information source is presented in the Table 22

Table 22. Distribution of agripreneurs based on motivational factors

Category	Kerala (n=30)		Andhra Pradesh (n=30)	
	F	%	F	%
Low < 23	12	40.00	10	33.33
Medium 23	13	43.33	7	23.33
High > 23	5	16.67	13	43.33
Total	**30**	**100**	**30**	**100**

Median=23

A glance of the Table 22 revealed that majority of the agripreneurs (43.33%) of Kerala had medium level of motivation and 40.00 per cent had low level of motivation. Very less percentage of agripreneurs (16.67%) had high level of motivation for joining ACABC program.

Whereas with respect to agripreneurs of AP, majority (43.33%) had high level of motivation followed by 33.33 and 23.33 per cent who had low and medium level of motivation respectively.

From the Table 22 it can be inferred that agripreneurs of AP had high level of motivation when compared with agripreneurs of Kerala. Self-motivation was a necessary skill to achieve something valuable. Since the job prospects of agricultural graduates are more in Kerala owing to a more balanced demand–supply of man power unlike other states where more number of agricultural graduates are created every year after pursuing agricultural graduation, they might not be enthused with the idea of venturing into agri business, which was risky and challenging. This could be the reason that agripreneurs of Kerala had low level of motivation when compared with agripreneurs of AP which was not in tandem with the findings of Kumari (2013) who found that self-motivation for own business and improved market outlets has been recognized as a central point for joining training programme which might be because of enthusiasm of the agri graduates to take up business on their own.

Table 23. Ranking of motivational factors based on total score

S.No.	Particulars	Kerala		Andhra Pradesh	
		TS	Rank	TS	Rank
1.	Motivation due to unemployment problem in both government and private sectors	71	4	77	2
2.	Non-remunerative yields from present farming motivated me to join training program	61	9	61	9
3.	Drive to start own business	78	1	81	1
4.	Motivation due to free ACABC training	72	3	72	4
5.	Motivation due to better institutional linkage (training, credit and marketing)	63	8	71	5
6.	Opportunity of access to credit facility motivated me to join training program	75	2	75	3
7.	Scope of new emerging market outlets	66	6	67	7

	motivated me to join training program				
8.	Better price expectations from the activity undertaken motivated me to join training program	65	7	65	8
9.	Motivation for efficient utilization of resource base (education, knowledge, contacts, land etc.)	69	5	69	6
10.	Increasing cost requirements motivated me to join training program	54	10	56	10

From the above Table 23, it was evident that the motivation behind joining ACABC training program to start own business was ranked first followed by motivation due to opportunity of access to credit facility, free ACABC training and unemployment problem in government and private sectors was ranked second, third and fourth respectively by the majority agripreneurs of Kerala. However, some other motives of the agripreneurs include efficient utilization of resource base, scope of new emerging market outlets and better price expectations from the activity that were ranked 5, 6 and 7 based on the total scores obtained from the data. Whereas, motivation due to better institutional linkage, non-remunerative yields from present farming and increasing cost requirements were ranked 8, 9 and 10 according to the total scores obtained which shows that these were motives of very less number of agripreneurs.

It is evident from the Table 23 that majority agripreneurs of AP ranked motive to start own business as first followed by motivation due to unemployment problem in government and private sectors, opportunity of access to credit facility and free ACABC training was ranked second, third and fourth respectively by the majority agripreneurs of AP. Yet, some other motives of the agripreneurs consist of better institutional linkage, efficient utilization of resource base and scope of new emerging market outlets that were ranked 5, 6 and 7 respectively based on the total scores obtained from the data. However, motivation due to better price expectations from the activity, non-remunerative yields from present farming and increasing cost

requirements were ranked 8, 9 and 10 according to the total scores obtained which shows that these were motives of very less number of agripreneurs.

4.5.3. Extent of Seriousness in training:

The distribution of agripreneurs in Kerala and AP based on extent of seriousness in training was presented in the Table 24

Table 24. Distribution of agripreneurs based on extent of seriousness in training

Category	Kerala (n=30)		Andhra Pradesh (n=30)	
	F	%	F	%
Low level of seriousness; <8	11	36.67	6	20.00
Medium level of seriousness; 8	15	50.00	17	56.67
High level of seriousness; >8	4	13.33	7	23.33
Total	**30**	**100**	**30**	**100**

Median=8

A glance of the Table 24 revealed that half of the agripreneurs (50.00%) of Kerala had medium level of seriousness followed by 33.67 per cent whose extent of seriousness was low and 13.33 per cent with high level of seriousness towards ACABC training program.

Whereas more than half (56.67%) of the agripreneurs of AP undertook the training with medium level of seriousness followed by 23.33 per cent with high level of seriousness. Only 20.00 per cent had low level of seriousness towards training program.

Hence, it was inferred that agripreneurs of AP had high level of seriousness towards training program than agripreneurs of Kerala. Keeping in mind the varying dynamics of the agribusiness, the practical exposure should be increased. The

programme syllabus requires strengthening of coverage of in terms of project specific knowledge, viability, funding and financial aspects and preparation of bankable detailed project. Also genuine and needy trainees are to be selected for the programme instead of finding eligible candidates for training just to ensure adequate number of trainees for the ACABC training programme.

4.5.4. Feedback on training institute:

The distribution of agripreneurs in Kerala and AP based on feedback on training is presented in the Table 25

Table 25. Distribution of agripreneurs based on feedback on training institute

Category	Kerala (n=30)		Andhra Pradesh (n=30)	
	F	F	%	%
Poor	4	13.33	8	26.67
Average	9	30.00	5	16.67
Good	10	33.33	12	40.00
Excellent	7	23.33	5	16.67
Total	**30**	**100**	**30**	**100**
	Mean=26.77 S.D=2.041 Max-Min=30-23		**Mean=27.63 S.D=2.64 Max-Min=33-23**	

A perusal of the Table 25 reveals that 33.33 per cent of agripreneurs of Kerala rated the NTI as good followed by 30.00 and 23.33 per cent who rated it as average and excellent. Only, 13.33 per cent rated the training institute as poor.

However in case of agripreneurs of AP, 40.00 per cent of agripreneurs rated the institute as good. However 26.67 per cent rated the training centre as poor, which was double the percentage as against 13.33 in Kerala. Sixteen per cent of agripreneurs graded institute as excellent and average each.

In comparing the feedback of agripreneurs of both states it was inferred that 56.67 per cent of the agripreneurs of both states had rendered good to excellent feedback on the training institutes.

4.6. PERFORMANCE INDICATORS

4.6.1. Key Performance Indicators:

The distribution of agripreneurs in Kerala and AP based on Key performance indicators of training centres are presented in the Table 26

Table 26. Distribution of agripreneurs based on Key performance indicators

Category	Kerala (n=30)		Andhra Pradesh (n=30)	
	F	%	F	%
Low < X - S.D.	7	23.33	4	13.33
Medium (X - S.D.) to (X + S.D.)	18	60.00	19	63.33
High (X + S.D.)	5	16.66	7	23.33
Total	**30**	**100**	**30**	**100**
	Mean=29.53 S.D=2.49 SE=0.45		**Mean=30.4 S.D=2.88 SE=0.53**	

A glance of the table revealed that majority (60.00%) of the agripreneurs fell under the category medium in terms of key performance indicators (KPI) followed by 23.33 and 16.66 per cent in low and high categories respectively. In case of AP, the results were almost similar to that of Kerala for there was only a slight increase in percentage (63.33%) of agripreneurs who fell under the category medium. However there were more agripreneurs of AP who fell under the category 'high' as against Kerala which was only 16.66 per cent.

Hence, from the above table it can be inferred that AP Nodal centre implementing ACABC scheme performed better than Kerala in terms of KPI.

KPI were analyzed under two sections *i.e.* leading and lagging performance indicators.

Leading Performance Indicators:

Table 27. Ranking of leading performance indicators of training centres based on weighted mean

S.No.	Particulars	Kerala		Andhra Pradesh	
		Weighted mean	Rank	Weighted mean	Rank
1.	Productivity	4.10	1	4.20	1
2.	Efficiency	3.87	2	3.80	3
3.	Good projects initiated	3.50	4	3.57	4
4.	Trainee satisfaction	3.63	3	3.90	2
		Mean=3.78		Mean=3.87	

Perusal of the table revealed that the leading performance indicator as perceived by agripreneurs of Kerala was 'productivity' that was ranked first followed by efficiency, trainee satisfaction and good projects initiated in decreasing order of ranking of indicators respectively.

However regarding agripreneurs of AP, 'productivity' was perceived as the important leading performance indicator which was ranked first followed by trainee satisfaction, efficiency and good projects initiated that were the other leading performance indicators in decreasing order of ranking respectively.

However, it was interesting to note that out of the four leading indicators measured for its key performance as perceived by agripreneurs, only two leading indicators *viz.*,

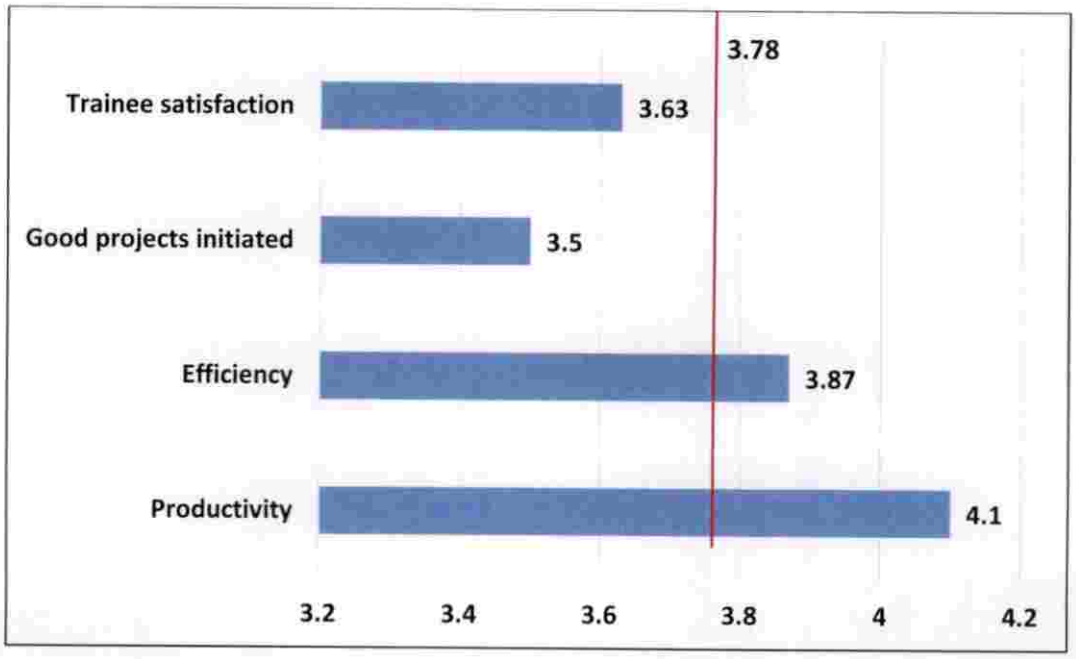

Fig 10. Representation of leading performance indicators based on weighted mean (KERALA)

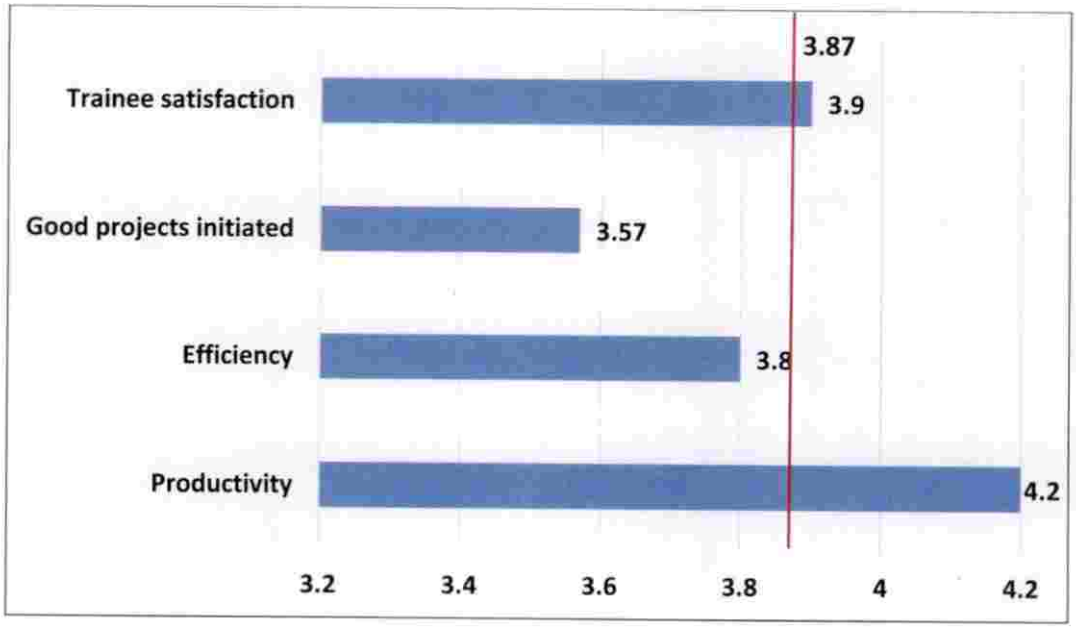

Fig 11. Representation of leading performance indicators based on weighted mean (AP)

productivity and efficiency in case of Kerala and productivity and trainee satisfaction in case of AP were above the mean value. Since the other two variables, *viz.*, trainee satisfaction and good projects initiated in case of Kerala and other two variables, *viz.*, efficiency and good projects initiated were less than the mean value, it was subjected to correlation with the overall score of leading KPI and it was seen that except efficiency all three variables were significant at 1 per cent significance as mentioned in Table 28.

Table 28. Correlation of leading performance indicators with the overall score

S.No.	Leading Performance Indicators	Kerala (n=30)	Andhra Pradesh (n=30)
1.	Productivity	0.56**	0.78**
2.	Efficiency	0.45*	0.42*
3.	Good projects initiated	0.71**	0.68**
4.	Trainee satisfaction	0.68**	0.73**

** significant at 1% significant level, * significant at 5% significant level

Correlation of leading performance indicators with overall mean score showed that except efficiency all three indicators *i.e.* productivity, good projects initiated and trainee satisfaction were significant at 1 % level of significance.

Performance indicators lets one improve overall results of the institutes in terms of goal attainment and helps to align stakeholders and processes with organizational objectives. The KPI assessment benefits the organisation in many ways casting light to the contribution of nodal centres to agripreneurs trained in terms of productivity, efficiency, good projects initiated and trainee satisfaction.

Lagging Performance Indicators

The lagging performance indicators reflected to the quantitative parameters that threw light to the efficiency components than the effective components, which was comparatively easy to measure. The results on the same was presented in Table 28

LPI of training Centre's based on weighted mean was calculated in terms of Turnover %, Return on investment of training, cost of human resource initiated and the time of training.

Table 29. Ranking of lagging performance indicators of training centres based on weighted mean

S.No.	Particulars	Kerala		Andhra Pradesh	
		Weighted mean	Rank	Weighted mean	Rank
1.	Turnover %	3.33	4	3.57	3.5
2.	Return on investment of training	3.37	3	3.57	3.5
3.	Cost of human resource initiated	3.67	2	3.7	2
4.	Time of training	4.07	1	4.1	1
		Mean=3.60		Mean=3.73	

Perusal of the Table 29 revealed the lagging performance indicators were 'time of training' that was ranked first followed by cost of human resource initiated, return on investment of training and turnover % in decreasing order of ranking respectively as perceived by agripreneurs of Kerala. The same was the perception of agripreneurs from AP, who perceived that 'time of training' followed by cost of human resource initiated as the most important lagging performance indicator with rank one and two respectively.

It was found that out of the four lagging indicators measured for key performance of ACABC programme as perceived by agripreneurs, only two lagging

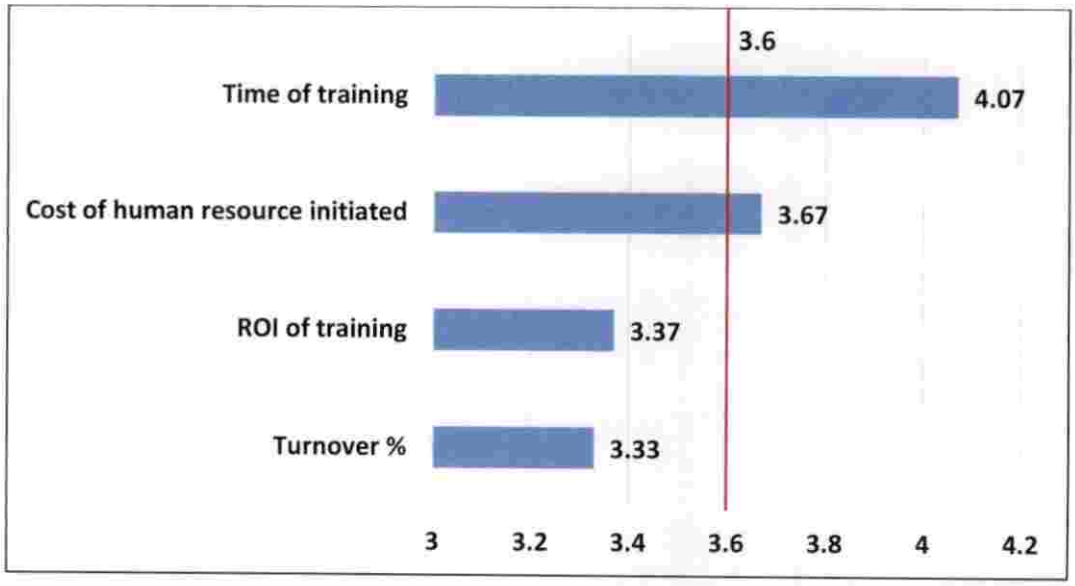

Fig 12. Representation of lagging performance indicators based on weighted mean (KERALA)

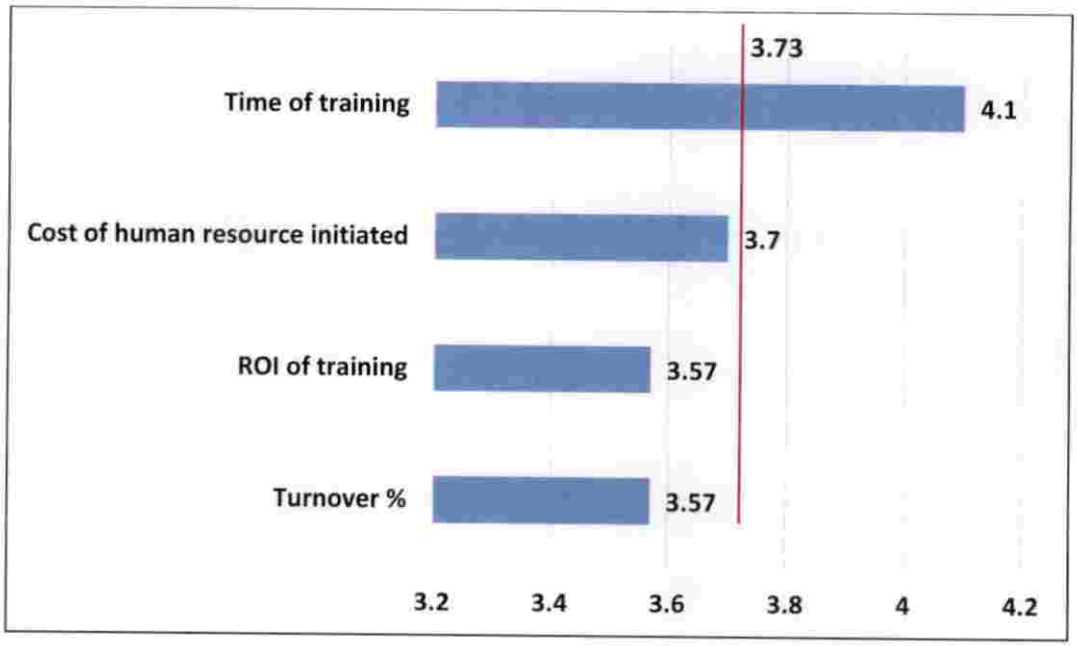

Fig 13. Representation of lagging performance indicators based on weighted mean (AP)

indicators *viz.*, time of training and cost of human resource initiated was above the mean value. Since the other two variables, *viz.*, return on investment of training and turnover % were less than the mean value, it was subjected to correlation with the overall score of lagging KPI and it was seen that all four variables were significant at 1 per cent significance as mentioned in Table 30.

Table 30. Correlation of lagging performance indicators with the overall score

S.No.	Lagging Performance Indicators	Kerala (n=30)	Andhra Pradesh (n=30)
1.	Turnover %	0.83**	0.67**
2.	ROI of training	0.71**	0.57**
3.	Cost of human resource initiated	0.67**	0.65**
4.	Time of training	0.77**	0.77**

** significant at 1% significant level

The results of correlation of lagging performance indicators with the overall score of LPI showed that all the four indicators were significant at 1 % level of significance. This proves that all the four LPI are vital indicators signposting the relevance of its measurement to get an appraisal of the overall efficiency in performance of the training centres.

4.6.1.3. Relationship between independent variables of agripreneurs and Key performance indicators

The results of correlation analysis were taken into consideration for analyzing the influence of independent variables on the Key performance indicators in Kerala and Andhra Pradesh. The results are presented in Table 31

Table 31. Results of correlation of independent variables of agripreneurs with Key performance indicators

Variables	Kerala (n=30)	Andhra Pradesh (n=30)
Age	0.08	0.66**
Sex	-0.08	0.04
Stream	0.48**	0.08
Caste	0.10	0.13
Educational status	0.23	0.51**
Marital status	0.11	0.32
Family Size	-0.26	0.23
Means of livelihood	0.29	0.35
Experience	0.37*	0.52**
Landholding	0.41*	0.34
Annual Income	0.71**	0.72**
Information source	-0.01	0.26
Motivational factors	0.34	0.36
Training seriousness	0.25	0.37*
Feedback on training institute	0.69**	0.68**

** Significant at 1% level of significance; * significant at 5% level of significance

Examining the Kerala agripreneurs, it could be evident from the Table 31, that out of 15 independent variables, five variables namely Stream, Experience, Landholding, Annual Income and Feedback on training institute were positively and significantly correlated with Key performance indicators of ACABC program. With respect to agripreneurs of AP, out of 15 independent variables, six variables namely Age, Educational status, Experience, Annual Income, Training seriousness and Feedback on training institute were positively and significantly correlated with Key performance indicators of ACABC program.

However a detailed analysis shows that out of 15 independent variables three variables namely Experience, Annual Income and Feedback on training institute were positively and significantly correlated with Key performance indicators of ACABC program in both the states.

4.6.2. Special Performance Indicators:

The distribution of agripreneurs in Kerala and AP based on special performance indicators of training centres are presented in the Table 32

Table 32. Distribution of agripreneurs based on Special performance indicators

Category	Kerala (n=30)		Andhra Pradesh (n=30)	
	F	%	F	%
Low < X - S.D.	7	23.33	5	16.67
Medium (X - S.D.) to (X + S.D.)	20	66.67	21	70.00
High (X + S.D.)	3	10.00	4	13.33
Total	**30**	**100**	**30**	**100**
	Mean=29.53 S.D.=3.37 SE=0.62		**Mean=36.53 S.D.=3.59 SE=0.66**	

A glance of the above table revealed that majority (66.67%) of the agripreneurs fell under the category medium in terms of special performance indicators (SPI) followed by 23.33 and 10.00 per cent in low and high categories respectively. In case of AP, the results were almost similar to that of Kerala for there was only a slight increase in percentage (70.00%) of agripreneurs who fell under the category medium followed by 16.67 and 13.33 per cent in low and high categories respectively..

Hence, from the above table it can be inferred that AP Nodal centre implementing ACABC scheme performed better than Kerala in terms of SPI.

Table 33. Ranking of special performance indicators of training centres based on weighted mean

S.No.	Particulars	Kerala		Andhra Pradesh	
		Weighted mean	Rank	Weighted mean	Rank
1.	Financial aspects	2.46	1	2.49	1
2.	Satisfaction	2.38	2	2.36	4
3.	Quality of training	2.36	3	2.48	2
4.	Organizational performance	2.35	4	2.43	3
		Mean=2.38		Mean=2.44	

Perusal of the Table 33 reveals the special performance indicators perceived by agripreneurs of Kerala of which 'financial aspects' was ranked first followed by satisfaction, quality of training and organizational performance were the other special performance indicators in decreasing order of ranking respectively.

However regarding agripreneurs of AP, 'financial aspects' was perceived as the important special performance indicator which was ranked first followed by quality of training, organizational performance and satisfaction were the other special performance indicators in decreasing order of ranking respectively.

Based on the perception of agripreneurs it was found that out of the four variables measured for special performance indicators, only financial aspects variable in case of Kerala and financial aspects and quality of training variables in case of AP were above the mean value. Since the other three variables, *viz.*, satisfaction, quality of training and organizational performance in case of Kerala and two variables, *viz.*, satisfaction and organizational performance in case of AP were less than the mean value, it was subjected to correlation with the overall score of lagging SPI and it was

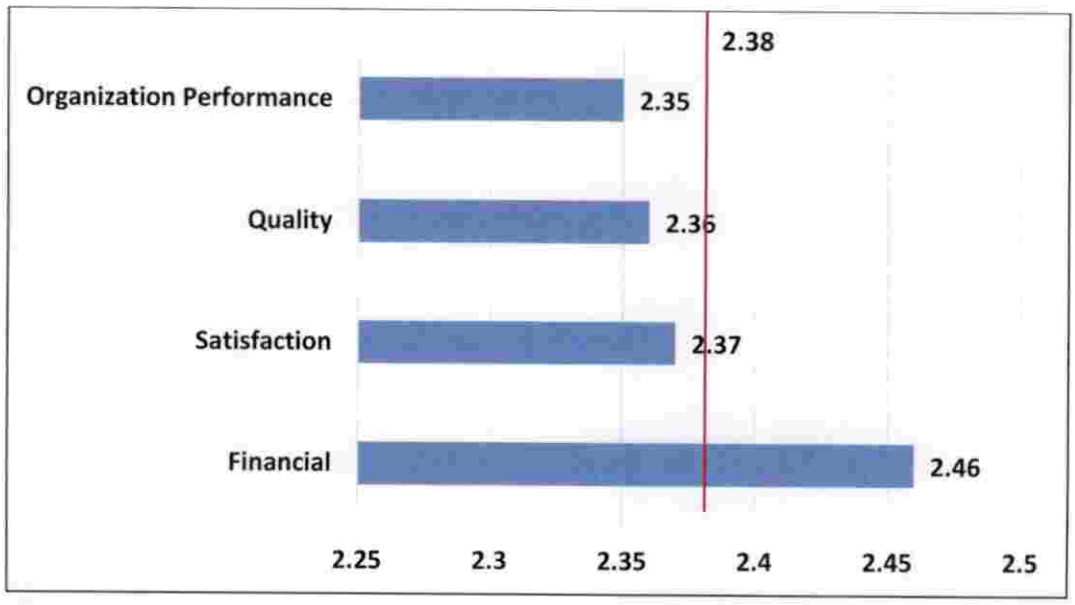

Fig 14. Representation of special performance indicators based on weighted mean (KERALA)

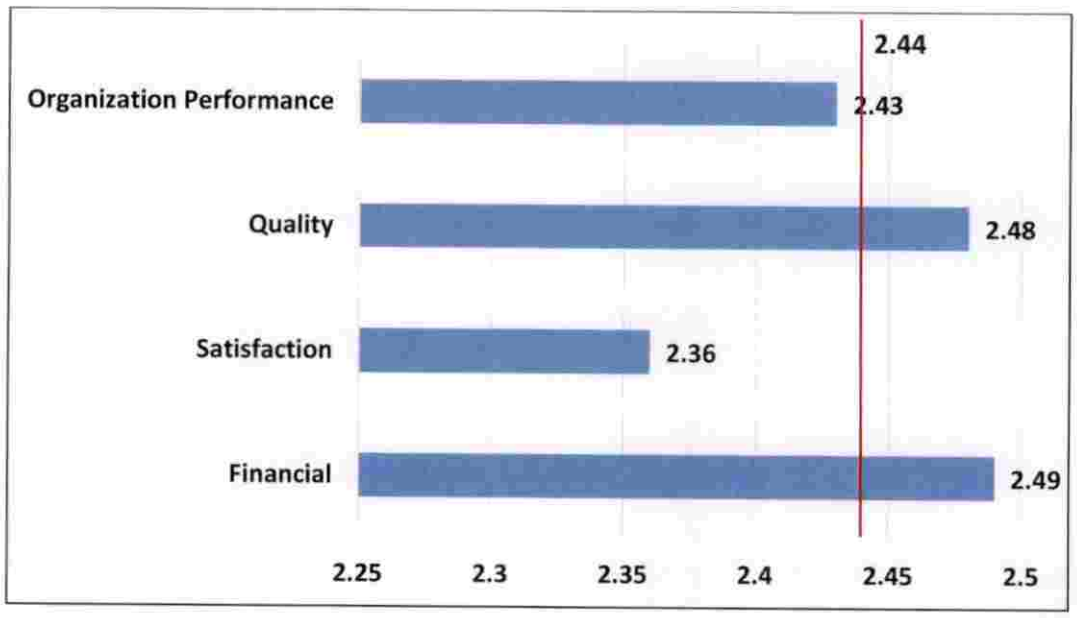

Fig 15. Representation of special performance indicators based on weighted mean (AP)

seen that all four variables were significant at 1 per cent significance as mentioned in Table 34

Table 34. Correlation of special performance indicators with the overall score

S.No.	Special Performance Indicators	Kerala (n=30)	Andhra Pradesh (n=30)
1.	Financial aspects	0.75**	0.82**
2.	Satisfaction	0.80**	0.91**
3.	Quality of training	0.90**	0.86**
4.	Organizational performance	0.93**	0.81**

** significant at 1% significant level

Correlation analysis of special performance indicators with the overall score of SPI showed that all the four indicators were significant at 1 % level of significance. This evidences that all the four SPI are important indicators signposting the relevance of its measurement to get an appraisal of the overall efficiency in performance of the training centres.

4.6.2.1. Relationship between independent variables of agripreneurs and Special performance indicators

The results of correlation analysis were taken into consideration for analyzing the influence of independent variables on the special performance indicators in Kerala and Andhra Pradesh. The results are presented in Table 35.

Table 35. Results of correlation of independent variables of agripreneurs with Special performance indicators

Variables	Kerala (n=30)	Andhra Pradesh (n=30)
Age	-0.01	0.65**
Sex	-0.27	-0.07
Stream	0.42*	0.06
Caste	0.01	0.11
Educational status	0.37*	0.55**
Marital status	0.10	0.42*
Family Size	-0.05	0.21
Means of livelihood	0.49**	0.37*
Experience	0.18	0.53**
Landholding	0.48**	0.37*
Annual Income	0.69**	0.72**
Information source	0.17	0.20
Motivational factors	0.12	0.34
Training seriousness	0.28	0.49**
Feedback on training institute	0.47**	0.74**

** Significant at 1% level of significance; * significant at 5% level of significance

Examining the Kerala agripreneurs, it could be evident from the Table 35, that out of 15 independent variables, six variables namely Stream, Educational status, Landholding, Annual Income and Feedback on training institute were positively and significantly correlated with Special performance indicators of ACABC program. With respect to agripreneurs of AP, out of 15 independent variables, nine variables namely Age, Educational status, Marital status, Means of livelihood, Experience, Landholding, Annual Income, Training seriousness and Feedback on training institute were positively and significantly correlated with Special performance indicators of ACABC program.

However a detailed analysis shows that out of 15 independent variables five variables namely Educational status, Means of livelihood, Landholding, Annual

Income and Feedback on training institute were positively and significantly correlated with Special performance indicators of ACABC program in both the states.

4.7. ATTITUDE TOWARDS ACABC SCHEME

The distribution of agripreneurs in Kerala and AP based on attitude towards ACABC scheme are presented in the Table 36

Table 36. Distribution of agripreneurs based on attitude towards ACABC scheme

Category	Kerala (n=30)		Andhra Pradesh (n=30)	
	F	%	F	%
Low < X - S.D.	8	26.66	4	13.33
Medium (X - S.D.) to (X + S.D.)	18	60.00	21	70.00
High (X + S.D.)	4	13.33	5	16.66
Total	**30**	**100**	**30**	**100**
	Mean=61.63 S.D.=2.999 SE=0.548		**Mean=66.83 S.D.=3.76 SE=0.687**	

A glance of the Table 36 reveals that majority (60.00%) agripreneurs of Kerala had medium level of attitude followed by 26.66 and 13.33 per cent who had low and high level of attitude towards ACABC scheme.

However in case of agripreneurs of AP, 70.00 per cent had medium level of attitude and 16.66 per cent had high level of attitude towards ACABC scheme. Only 13.33 per cent had low level of attitude towards ACABC scheme.

From the above table it can be inferred that agripreneurs of AP had better attitude towards ACABC scheme than agripreneurs of Kerala which might be due to

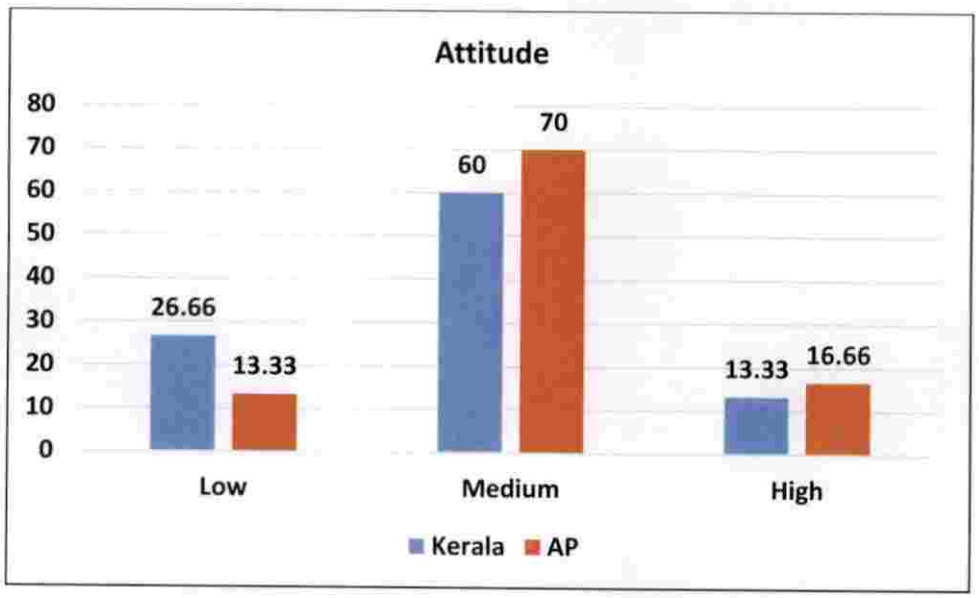

Fig 16. Distribution of agripreneurs based on attitude towards ACABC scheme

increasing unemployment in AP among agricultural graduates and therefore the graduates propelling themselves as entrepreneurs. While in Kerala unemployment of agricultural graduates is less and there by the graduates are not interested to take up ventures.

The results obtained are in agreement with the results of the study conducted by Chargotra (2007).

4.7.2 Relationship between independent variables of agripreneurs and attitude of agripreneurs towards ACABC scheme

The results of correlation analysis were taken into consideration for analyzing the influence of independent variables on the attitude of agripreneurs towards ACABC scheme in Kerala and Andhra Pradesh.

Table 37. Correlation of independent variables of agripreneurs with attitude towards ACABC scheme

Variables	Kerala (n=30)	Andhra Pradesh (n=30)
Age	-0.09	0.48**
Sex	-0.12	0.28
Stream	-0.02	0.25
Caste	-0.08	0.13
Educational status	0.09	0.44*
Marital status	-0.21	0.20
Family Size	-0.16	0.28
Means of livelihood	0.03	0.34
Experience	0.01	0.52**
Landholding	0.38*	0.28
Annual Income	0.45*	0.63**
Information source	0.43*	0.26
Motivational factors	0.37*	0.12
Training seriousness	0.16	0.41*
Feedback on training institute	0.18	0.27

** Significant at 1% level of significance; * significant at 5% level of significance

Examining the Kerala agripreneurs, it could be evident from the Table 37, that out of 15 independent variables, four variables namely Landholding, Information source and Motivational factors were positively and significantly correlated with attitude towards ACABC scheme. With respect to agripreneurs of AP, out of 15 independent variables, five variables namely Age, Educational status, Experience, Landholding, Annual Income and Training seriousness were positively and significantly correlated with attitude towards ACABC scheme

However, a detailed analysis shows that out of 15 independent variables only one variable in common *i.e.* annual income was positively and significantly correlated with attitude of agripreneurs towards ACABC scheme in both the states.

Age vs Attitude

Age of the agripreneur had a positive and significant relationship with attitude towards ACABC scheme in AP. The reason for the positive trend was due to the fact that the majority of the respondents belonged to middle to young age category those who have desire to grow up and set themselves as an example of success therefore they developed positive attitude towards ACABC scheme. The findings were in line with the study conducted by Kanwat (2011). In case of Kerala no significant relationship was found between the variables.

Educational status **vs Attitude**

Educational status of the agripreneur had a positive and significant relationship with attitude towards ACABC scheme in AP. This might be due to the fact that, fresh agriculture graduates are likely to possess more information about self-employment opportunities and are probably better able to assess their chances at this sector, which in turn increases one's ability to perceive opportunities and pursue them. Similar results were obtained by Chargotra (2011). No significant relationship was found between the variables in case of Kerala.

Experience vs Attitude

Experience of the agripreneur had a positive and significant relationship with attitude towards ACABC scheme in AP. This might be due to that highly experienced agripreneurs got acquainted with the prospects of the scheme and benefited by it. Thus they had developed a positive attitude towards ACABC scheme. The obtained results were not in line with the findings of Hatten and Ruhland (1995). In case of Kerala no significant relationship was found between the variables.

Landholding vs Attitude

Landholding of the agripreneur had a positive and significant relationship with attitude towards ACABC scheme in Kerala. The possible reason for this relationship might be as the agripreneurs possessing land with mixed cropping or farming systems had numerous opportunities to establish ventures under ACABC scheme unlike AP where agripreneurs venture more on a single entity and thus developed positive attitude towards ACABC scheme. The obtained results were in line with Lawrence and Ganguli (2016). In case of AP no significant relationship was found between the variables.

Annual income vs Attitude

Annual income of the agripreneur had a positive and significant relationship with attitude towards ACABC scheme in both Kerala and AP. Agripreneurs earning high annual income may have positive attitude towards ACABC scheme as the training laid a successful path for their ventures. The obtained results were in line with the results obtained by Chargotra (2007).

Information source vs Attitude

Information source of the agripreneur had a positive and significant relationship with attitude towards ACABC scheme in Kerala. Trainees with multiple

source of information on ACABC scheme may be convinced with the communication source and developed positive attitude towards the scheme. The obtained results were in line with Bairwa et al. (2017). In case of AP no significant relationship was found between the variables.

Motivational factors vs Attitude

Motivational factors of the agripreneur had a positive and significant relationship with attitude towards ACABC scheme in Kerala. Trainees with multiple motivational factors may have considered the ACABC scheme as an opportunity to make best use of their abilities. Thus motivational factors have a positive and significant relationship with attitude.

Training seriousness vs Attitude

Training seriousness of the agripreneur had a positive and significant relationship with attitude towards ACABC scheme in AP. This may be due to the reason that trainees took the training programme not only for subsidy component but as a means to improve entrepreneurial ability and now they are able to run the enterprise successfully. This seriousness resulted in better attitude towards ACABC scheme. These findings were in conflicting with the results obtained by Anwar (2004). There is no significant relationship between variables in case of Kerala where the seriousness towards training was below that of agripreneurs from AP.

Table 38. Comparison of independent and dependent variables of agripreneurs between Kerala and AP using t-test

Variables	Kerala (n=30)	Andhra Pradesh (n=30)	t calculated
Age	50.60	35.90	5.211
Educational status	3.83	3.43	0.82^{NS}
Means of livelihood	1.47	1.63	1.29^{NS}

Experience	6.73	7.10	0.47 ^{NS}
Landholding	1.74	3.38	1.36 ^{NS}
Annual Income	3.16	3.87	1.14 ^{NS}
Information source	3.20	2.77	3.18
Motivational factors	22.37	23.13	2.28
Training seriousness	7.53	8.00	1.99^{NS}
Feedback on training institute	26.76	27.63	1.42 ^{NS}
KPI	29.53	30.40	1.25 ^{NS}
SPI	35.70	36.53	0.93 ^{NS}
Attitude	61.63	66.83	5.92

Examining the results of t-test, it could be inferred that out of 18 variables, four variables namely age, information source, motivation and attitude of agripreneurs of Kerala and AP shown significant difference while there was no significant difference for remaining 14 variables.

4.8. SUCCESS STORIES

4.8.1. Greeno Agrotech – Mr. S. Raghavendra

The founder of Greeno Agrotech is Mr. S. Raghavendra who was trained under ACABC scheme from Bojja Venkatreddy Agriculture Foundation, Nandyal, Andhra Pradesh. Mr. Raghavendra is agricultural graduate fully involved in promotion of precision farming in Anantapur district. Greeno Agrotech is one of the leading tissue culture lab promoting tissue culture banana cultivation in and around Anantapur district of Andhra Pradesh. It was established in 2010 with Rs. 17.50/- lakh loan as financial assistance from Syndicate bank and 36% of loan amount was subsidized by NABARD. With 40 employees, in addition to planting material this venture is also providing agronomical support viz., cultivation practices, irrigation scheduling, pesticide management, mechanized harvesting etc. With more than 85 lakhs turnover this venture is serving 500 farmers in 30 villages around Anantapur.

4.8.2. Information Inputs for Sustainability Aquaculture –S. Akbar Ali

Information and Inputs for Sustainable Aquaculture (IIFSA) is an aquaculture service company established by Mr. Akbar Ali. After completion of graduation in Fisheries Science, Mr. Akbar Ali took the ACABC training and now he has 14 years' of experience in the aquaculture sector. IIFSA provides professional advice, transfer of technology and farm management services to new and existing aquaculture farms. IIFSA was established in 2009 under ACABC scheme of Government of India and now it holds solid, well-known brand name and with products ranging from water quality management, soil management, aquaculture animal health management, natural feed management, supplementary feed management etc., to solve all aquaculture problems. He has handful of experience in developing and executing programs for aquaculture farmers. He has adequate experience in coordinating and planning development programs on aquaculture involving financial management, community relations and volunteer development. Annual turnover of IIFSA is 2 crores and the services were offered to more than 10,000 farmers.

4.8.3. Ponnoos Aquaclinic & Hatchery Training Centre –Akhila Mol

Mrs. Akhilamole, a graduate in fisheries science with innovative ideas who turned into an agripreneur and provides consultancy for 650 farmers. By realizing the numerous opportunities in fisheries enterprises she decided to quit her job and to start a venture in 2010 which mainly focused on value addition of various products like rice, wheat, vegetables, fishes, squid, prawn and beef. On parallel she also came to know about the profitability of the fisheries sector and has undergone trainings under ACABC from Kerala Agricultural University in 2011. Currently she has fish hatchery units and provide consultancy services and inputs for various aquaculture units. Indian Overseas Bank has sanctioned a loan of Rs.25 lakhs for her project. Now she has 10 employees under her enterprise with an annual turnover of 65 lakhs.

Plate 1. Tissue culture laboratory-Greeno Agrotech, Anantapur

Plate 2. IIFSA Aqua clinic owner receiving award from NTI

4.8.4. CTDS-Agriclinic and agribusiness centre- C.Ramachandran Pillai

Mr. C. Ramachandran Pillai a retired Agricultural Officer at the State Department of Agriculture, Kerala was trained under the ACABC scheme at Kerala Agricultural University. After completion of training program he submitted a project report and got a loan of Rs.20 lakhs from State bank of Travancore. Then he established 'CTDS Agri-Clinics and Agri-Business Center' at Pattazhy, a remote village in Kollam District, which is predominantly inhabited by small and marginal farmers. Central Travancore Development Society, a Non-Governmental Organisation functioning in the area is associated with the training sector. This firm provide on-campus and off-campus agri-consultancy services on quality agri inputs, package of practices, soil and water testing, plant protection with special importance on vegetable and coconut, landscaping, tree rejuvenation, precision farming etc. At this centre around 1150 farmers from 14 villages were trained and have adopted mechanised farming. With 10 skilled employees in the firm Mr. Pillai is earning Rs. 60,000 per month as net profit.

4.9. CONSTRAINTS IN THE IMPLEMENTATION OF ACABC SCHEME

4.9.1 Constraints faced by agripreneurs

4.9.1.1. Constraints faced by agripreneurs while starting agriventure

Table 39. Ranking of constraints faced by agripreneurs while starting agriventure

S.No	Constraints	Kerala		Andhra Pradesh	
		Total score	Rank	Total score	Rank
1.	Lack of resources for initial investment	132	1	131	1
2.	Refusal of loan from banks	110	8	112	7.5
3.	Delay of loan	111	6.5	111	9

Plate 3. Karshaka Mithram award winning agripreneur- Ponnoos aqua clinic

Plate 4. Farm machinery unit-Kollam district

4.	High interest rates for loan	114	5	116	4.5
5.	Lack of collateral security	111	6.5	124	2
6.	Inadequate training by NTI	55	15	53	15
7.	Lack of handholding support from NTI	67	14	66	14
8.	NABARD and commercial banks will not give correct picture on the rate of interest, subsidy and collateral security	96	12	104	11
9.	Many banks do not know about the ACABC scheme	107	10.5	113	6
10.	High margin money (25% of the total cost have to be borne by agripreneurs)	118	2	116	4.5
11.	A lot of procedure is involved in getting bank loans	116	4	123	3
12.	Huge risk involved	117	3	112	7.5
13.	Employment in private/public sectors	92	13	91	13
14.	Lack of support from family	109	9	98	12
15.	Lack of adequate business background	107	10.5	106	10

Perusal of the Table 39 revealed that constraints faced by agripreneurs while starting agriventure and ranking of these constraints based on the total score. It was evident from the table that 'lack of resources for initial investment' was first ranked constraint followed by high margin money (25% of the total cost have to be borne by agripreneurs), huge risk involved, lot of procedure involved in getting bank loans, high interest rates for loan, delay of loan, lack of collateral security, refusal of loan from banks, lack of support from family, many banks do not know about the ACABC scheme, lack of adequate business background, NABARD and commercial banks will not give correct picture on the rate of interest, subsidy and collateral security, due to employment in private/public sectors, lack of handholding support from NTI and inadequate training by NTI were the constraints faced by agripreneurs of Kerala in decreasing order of ranking respectively.

However regarding agripreneurs of AP, it was found that 'lack of resources for initial investment' was the major constraint which was ranked first followed by lack of collateral security, lot of procedure involved in getting bank loans, high

interest rates for loan, high margin money (25% of the total cost have to be borne by agripreneurs), many banks do not know about the ACABC scheme, refusal of loan from banks, huge risk involved, delay of loan, lack of adequate business background, NABARD and commercial banks will not give correct picture on the rate of interest, subsidy and collateral security, lack of support from family, due to employment in private/public sectors, lack of handholding support from NTI and inadequate training by NTI were the constraints faced by agripreneurs in decreasing order of ranking respectively.

4.0.1.2. Constraints faced by agripreneurs while running agriventure

Table 40. Ranking of constraints faced by agripreneurs while running agriventure

S.No.	Statements	Kerala		Andhra Pradesh	
		Total score	Rank	Total score	Rank
1.	Competition from established ventures	127	1	123	1
2.	Low margin for products, goods and services offered	105	9	91	10
3.	Lack of self-confidence & decision making ability	107	8	101	7
4.	Lack of skilled man power	99	11	111	5
5.	Lack of support from farmers	63	13	65	13
6.	Lack of market information	100	10	87	11
7.	Lack of business and field experience	108	6.5	99	8
8.	Lack of infrastructural facilities	108	6.5	104	6
9.	Lack of efficient equipment or technologies	111	5	97	9
10.	High labour cost	125	2	122	2
11.	Fluctuation in market price	122	3	115	4
12.	Seasonal production of raw materials	113	4	120	3
13.	Lack of adequate handholding support	75	12	80	12

Perusal of the Table 40 revealed the constraints faced by agripreneurs while starting agriventure and ranking of these constraints based on the total score. It was evident from the table that 'competition from established ventures' was first ranked constraint followed by high labour cost, fluctuation in market price, seasonal production of raw materials, lack of efficient equipment or technologies, lack of business and field experience, lack of infrastructural facilities, lack of self-confidence & decision making ability, low margin for products, goods and services offered, lack of market information, lack of skilled man power, lack of adequate handholding support and lack of support from farmers were the constraints faced by agripreneurs of Kerala in decreasing order of ranking respectively.

However regarding agripreneurs of AP, it was found that 'competition from established ventures' was the major constraint which was ranked first followed by high labour cost, fluctuation in market price, lack of efficient equipment or technologies, seasonal production of raw materials, lack of skilled man power, lack of infrastructural facilities, lack of self-confidence & decision making ability, lack of business and field experience, lack of efficient equipment or technologies, low margin for products, goods and services offered, lack of market information, lack of adequate handholding support and lack of support from farmers were the constraints faced by agripreneurs in decreasing order of ranking respectively.

4.9.2. Constraints faced by ACABC trainers cum officials

Table 41. Ranking of constraints faced by ACABC trainers cum officials while conducting training program

S.No	Constraints	Kerala		Andhra Pradesh	
		Total score	Rank	Total score	Rank
1.	Lack of quality instructors	29	10	34	10
2.	Lack of adequate number of trainees	58	6	60	6
3.	Insufficient budget	53	7	56	8
4.	Trainees are not serious towards training program	67	2	65	2.5
5.	Insufficient time for training	66	3	65	2.5
6.	Candidates are interested in diversified activities	52	8	61	5
7.	Delay in process of selection of candidates for training	50	9	51	9
8.	Candidates attend training for name sake	70	1	71	1
9.	Trainees heterogeneity affects training	63	4	62	4
10.	Projectisation component is not supported or guaranteed at the time of training	60	5	57	7

Perusal of the Table 41 reveals the constraints faced by ACABC trainers cum officials while conducting training program and ranking of these constraints based on the total score. It was evident from the table that 'candidates attend training for name sake' was first ranked constraint followed by trainees are not serious towards training program, insufficient time for training, trainees heterogeneity affects training, projectisation component is not supported or guaranteed at the time of training, lack of adequate number of trainees, insufficient budget, candidates are interested in diversified activities, delay in process of selection of candidates for training and lack of quality instructors were the constraints faced by ACABC trainers cum officials of Kerala in decreasing order of ranking respectively.

However regarding ACABC trainers cum officials of AP, it was found that 'candidates attend training for name sake' was the major constraint which was ranked first followed by trainees are not serious towards training program, insufficient time for training, trainees heterogeneity affects training, candidates are interested in diversified activities, lack of adequate number of trainees, projectisation component is not supported or guaranteed at the time of training, insufficient budget, delay in process of selection of candidates for training and lack of quality instructors were the constraints faced by ACABC trainers cum officials in decreasing order of ranking respectively.

4.10. PROFILE OF AGRICULTURAL GRADUATES

4.10.1. Age:

The distribution of agricultural graduates in Kerala and AP based on their age is presented in the Table 42.

Table 42. Distribution of agricultural graduates based on their age

Category	Kerala (n=30)			Andhra Pradesh (n=30)		
	Male (n_1=14)	Female (n_2=16)	Overall (n=30)	Male (n_1=15)	Female (n_2=15)	Overall (n=30)
< Median age	1 (7.14)	4 (25.00)	5 (16.67)	5 (33.33)	7 (46.67)	12 (40.00)
Median age	10 (71.43)	6 (37.50)	16 (53.33)	10 (66.67)	6 (40.00)	16 (53.33)
> Median age	3 (21.43)	6 (37.50)	9 (30.00)	0	2 (13.33)	2 (6.67)
Total	**14**	**16**	**30**	**15**	**15**	**30**
	Median=24					

*Figures in brackets represent percentage

The distribution of agricultural graduates based on their age as shown in the Table 42 reveals that more than half (53.33%) of the agricultural graduates of Kerala belonged to median age followed by above median age group (30.00%) and only

16.67 per cent belonged to below median age group. While in the case of male graduates, majority of them belonged to median (71.43%) followed by above median age (21.43%) and only 7.14 per cent of the graduates belonged to below median age group. Whereas among the female graduates, 37.50 per cent of them belonged to median and above median age group each and only one fourth of them belonged to below median age group.

The distribution of agricultural graduates of AP based on their age revealed that 53.33 per cent of the graduates belonged to median age followed by below median age (40.00%) and only 6.67 per cent belonged to above median age group. While in the case of male graduates, all of them belonged to median (66.67%) and below median age groups (33.33%) and none of them belonged to above median age group. Whereas among the female graduates, majority (46.67%) per cent belonged to below median followed by median age group (40.00%) and only 13.33 per cent of them belonged to below median age group.

From the above table it was inferred that more than half (53.33%) of the agricultural graduates from both states belonged to median age group and the number of graduates above median age were more in Kerala than AP.

4.10.2. Sex:

The distribution of agricultural graduates in Kerala and AP based on their age is presented in the Table 43.

Table 43. Distribution of agricultural graduates based on their sex

Category	Kerala (n=30)		Andhra Pradesh (n=30)	
	F	%	F	%
Male	14	46.67	15	50.00
Female	16	53.33	15	50.00
Total	**30**	**100**	**30**	**100**

A glance of the Table 43 reveals that female agricultural graduates (53.33%) were more in number than male graduates (46.67%) in Kerala. Whereas in case of agricultural graduates of AP, both male and female were equal in number.

From the table it was revealed that male and female agricultural graduates were almost equal in number in both Kerala and AP.

It was appreciable that the ACABC officials consider gender equity by providing equal opportunities for women in training. The results obtained are in conflicting with the results of study undertaken by Saranya (2015).

4.10.3. Parental Occupation:

The distribution of agricultural graduates in Kerala and AP based on their parental occupation are presented in the Table 44.

Table 44. Distribution of agricultural graduates based on their parental occupation

Category	Kerala (n=30)				Andhra Pradesh (n=30)			
	Fathers' occupation		Mothers' occupation		Fathers' occupation		Mothers' occupation	
	F	%	F	%	F	%	F	%
Family occupation	0	0	16	53.33	1	3.33	20	66.67
Private employee	13	43.33	4	13.33	5	16.67	3	10.00
Govt. employee	9	30.00	10	30.00	3	10.00	1	3.33
Self-employed	1	3.33	0	0	2	6.67	0	0
Agriculture & allied	7	23.33	0	0	19	63.33	6	20.00
Total	**30**	**100**	**30**	**100**	**30**	**100**	**30**	**100**

A glance of the Table 44 reveals that father of 83.33 per cent of Kerala agricultural graduates' are private and government employees followed by 23.33 per cent who had occupation in agriculture & allied activities. Father of only 3.33 per

cent of graduates' fathers were self-employed. Whereas in case of AP, father of 63.33 per cent of the graduates' fathers had occupation in agriculture & allied activities followed by 26.67 per cent who were private and government employees and 6.67 per cent of them were self-employed. Only 3.33 per cent were involved in family occupation.

Mother of more than half (53.33%) of the graduates' in Kerala were involved in family occupation and 43.33 per cent were private and government employees. None of them were involved in self-employment/agriculture and allied activities. Whereas in case of AP, mother of 66.67 per cent of the graduates' were involved in family occupation followed by 20.00 per cent who involved in agriculture and allied activities. Only 13.33 per cent were employees in private and government sector.

From the above table it can be inferred that there was a dissimilar trend in the father's occupation of agricultural graduates of Kerala and AP. Regarding father's occupation majority were employees in Kerala while in case of AP majority were involved in agriculture and allied activities. This could also invariably influence the children attitude towards ACABC scheme where in Kerala the graduates look for job rather than self-employment in line with that of their parents. While in AP the graduates may be influenced by agricultural background and will be engaged in it.

The results of distribution of agricultural graduates of Kerala based on parental occupation are in line with Jondhale and Wattamwar (2004) while the results of AP are in line with Waman *et al.* (2000).

4.10.4. Caste:

The distribution of agricultural graduates in Kerala and AP based on their caste are presented in the Table 45.

Table 45. Distribution of agricultural graduates based on their caste

Category	Kerala (n=30)		Andhra Pradesh (n=30)	
	F	%	F	%
SC	4	13.33	1	3.33
ST	0	0	3	10.00
OBC	10	33.33	16	53.33
GENERAL	16	53.33	10	33.33
Total	**30**	**100**	**30**	**100**

A glance of the Table 45 revealed that majority of agricultural graduates of Kerala belonged to general (53.33%) and OBC (33.33%) category. Only 13.33 per cent of the graduates belonged to SC category. None of the graduates belonged to ST category.

However in case of agricultural graduates of AP, majority belonged to OBC (53.33%) and general (33.33%) category. 10.00 and 3.33 per cent of graduates belonged to ST and SC category.

From the above table it was inferred that majority of agricultural graduates belonged to general and OBC category in Kerala and AP respectively. The possible reason is that literacy rate and socio-economic condition of general and OBC category is higher than that of SC and ST category. Thus, they were getting more exposure to higher education and they get opportunity for such exposure to training. Also, the parental support due to their financial strength to graduates will be more prevalent among general/OBC category compared to SC/ST who are generally financially backward and this would have motivated more candidates for agricultural education in keeping an eye to career or agribusiness prospects.

The results of distribution of agricultural graduates of Kerala based on caste are in line with the results obtained by Narendra (2010) while the results of AP are in line with results reported by Kumar (2017).

4.10.5. Family size:

The distribution of agricultural graduates in Kerala and AP based on their family size is presented in the Table 46.

Table 46. Distribution of agricultural graduates based on their family size

Category	Kerala (n=30)		Andhra Pradesh (n=30))	
	F	%	F	%
4 members	19	63.33	7	23.33
5 members	10	33.33	16	53.33
6 members	1	3.33	7	23.33
Total	**30**	**100**	**30**	**100**
	Mean=4.4		**Mean=5**	

A glance of the Table 46 reveals that majority (63.33%) of agricultural graduates of Kerala belonged to a 4 member family followed by 33.33 per cent from 5 member family and only 3.33 per cent belonged to 6 member family.

However in case of agricultural graduates of AP, majority (53.33%) belonged to 5 member family and 23.33 per cent of graduates belonged to 4 and 6 member family each.

From the above table it was revealed that mean family size of graduates of Kerala is less than that of AP. The possible reason behind these might be majority of graduates of Kerala were from nuclear families and were aware about family

planning. The possible reason behind these might be the changing life style and living conditions, increased literacy rate and awareness about family planning.

The results are conflicting with the findings of Sharma (2014) and Kumar (2017).

4.10.6. Birth Order:

The distribution of agricultural graduates in Kerala and AP based on their birth order is presented in the Table 47.

Table 47. Distribution of agricultural graduates based on their birth order

Category	Kerala (n=30)		Andhra Pradesh (n=30)	
	F	%	F	%
1st order	16	53.33	11	36.67
2nd order	13	43.33	14	46.67
3rd order	1	3.33	5	16.67
Total	**30**	**30**	**30**	**100**

A glance of Table 47 revealed that more than half (53.33%) of the graduates of Kerala were first born children in their respective families followed by 43.33 per cent and 3.33 per cent of the graduates were second and third born children in their families respectively.

However in case of agricultural graduates of AP, majority (46.67%) were second born children in their respective families followed by 36.67 per cent and 16.67 per cent of the graduates were first and third born children in their families respectively.

From the Table 47, it was concluded that there is a dissimilar trend in the distribution of graduates of Kerala and AP based on their birth order. The obtained results were in disagreement with the findings observed by Patel (2005).

4.10.7. Area of Residence:

The distribution of agricultural graduates in Kerala and AP based on their area of residence are presented in the Table 48.

Table 48. Distribution of agricultural graduates based on their area of residence

Category	Kerala (n=30)		Andhra Pradesh (n=30)	
	F	%	F	%
Rural	7	23.33	17	56.67
Semi-urban	9	30	8	26.67
Urban	14	46.67	5	16.67
Total	**30**	**100**	**30**	**100**

A glance of Table 48 reveals that majority (46.67%) of agricultural graduates of Kerala were having urban background followed by 30.00 per cent who had semi-urban background and only 23.33 per cent of graduates had rural background.

However in case of agricultural graduates of AP more than half (56.67%) were with rural background while 26.67 and 16.67 per cent of graduates were with semi-urban and rural background.

From the above observations it is clear that majority of graduates of Kerala had urban background whereas graduates of AP had rural background. Rapid urbanization and pronounced development might be the reason for urban background of graduates in case of Kerala unlike graduates from AP who generally pursue

agricultural education from rural background. The results of graduates of Kerala are in disagreement and results of AP are in agreement with the results observed by Sridevi (2013).

4.10.8. Family Annual Income:

The distribution of agricultural graduates in Kerala and AP based on their birth order are presented in the Table 49.

Table 49. Distribution of agricultural graduates based on their family annual income

Category	Kerala (n=30)		Andhra Pradesh (n=30)	
	F	%	F	%
Low (Up to 1 lakh)	3	10.00	6	20.00
Medium (≥1 lakh- 5 lakh)	14	46.67	20	66.67
High (≥ 5 lakh)	13	43.33	4	13.33
Total	**30**	**100**	**30**	**100**

A perusal of the Table 49 reveals that majority of agricultural graduates of Kerala belonged to medium (46.67%) and high (43.33%) level of family annual income categories. Only 10.00 per cent of graduates belonged to low income category.

While in case of agricultural graduates of AP, majority (66.67%) belonged to medium family income category followed by 20.00 and 13.33 per cent who belonged to low and high level of family income categories.

From the above table it is clear that graduates of Kerala had more family annual income than graduates of AP. This might be due to the fact that majority parents of Kerala graduates were employees while majority were engaged in agriculture and allied activities in AP. The results of the study are in line with the results obtained by Bai (2016).

4.10.9. Landholding:

The distribution of agricultural graduates in Kerala and AP based on their parents landholding possession are presented in the Table 50.

Table 50. Distribution of agricultural graduates based on landholding

Category	Kerala (n=30)		Andhra Pradesh (n=30)	
	F	%	F	%
Landless	8	26.67	4	13.33
Below mean	14	46.67	15	50
Above mean	8	26.67	11	36.67
Total	**30**	**100**	**30**	**100**
	Mean=0.74		**Mean=3.66**	

A glance of the Table 50 reveals that nearly half (46.67%) of agricultural graduates of Kerala fall under below mean category of landholding and 26.67 per cent of graduates fall under landless and above mean category each.

However in case of agricultural graduates of AP, half (50.00%) fall under below mean and 36.67 per cent were above mean landholding category. Only 13.33 per cent of the graduates were landless.

From the above table it can be inferred that the mean landholding of agricultural graduates was very less in case of Kerala (0.74) when compared with AP (3.66). This might be due to less availability of land and small and scattered landholdings in Kerala.

4.10.10. Entrepreneurial intention:

The distribution of agricultural graduates in Kerala and AP based on their entrepreneurial intention are presented in the Table 51 and Fig 16.

Table 51. Distribution of agricultural graduates based on their entrepreneurial intention

Category	Kerala (n=30)		Andhra Pradesh (n=30)	
	F	%	F	%
Low	8	26.66	4	13.33
Medium	18	60.00	21	70.00
High	4	13.33	5	16.66
Total	**30**	**100**	**30**	**100**
	Mean=18.53 S.D=2.501 SEM=0.456		**Mean=20.03 S.D=3.034 SEM=0.554**	

A glance of the Table 49 reveals that more than half (60.00%) of agricultural graduates of Kerala had medium level of entrepreneurial intention followed by 26.66 per cent who had low level of entrepreneurial intention. Only 13.33 per cent of graduates were found to have high level of entrepreneurial intention.

However in case of agricultural graduates of AP, majority (70.00%) had medium level of entrepreneurial intention 16.66 and 13.33 per cent had high and low level of entrepreneurial intention respectively.

From the above table it is clear that agricultural graduates of AP had more entrepreneurial intention than that of agricultural graduates of Kerala. The problem of unemployment and number of opportunities in agripreneurship in AP might be the reasons for higher entrepreneurial intention of graduates unlike the less competition for jobs in Kerala might be the reason for less entrepreneurial intention of graduates.

The results of the study are in line with the results obtained by Venesaar *et al.* (2006)

4.10.11. Attitude towards ACABC scheme

The distribution of agricultural graduates in Kerala and AP based on their attitude towards ACABC scheme is presented in the Table 52 and Fig 17.

Table 52. Distribution of agricultural graduates based on their attitude towards ACABC scheme

Category	Kerala (n=23)		Andhra Pradesh (n=26)	
	F	%	F	%
Low	5	21.74	2	7.69
Medium	15	65.22	19	73.08
High	3	13.04	5	19.23
Total	**23**	**100**	**23**	**100**
	Mean=63.09 S.D=2.95 SEM=0.616		**Mean=64.73 S.D=4.74 SEM=0.929**	

When the agricultural graduates were asked if they are about ACABC scheme, it was found that among the 30 agricultural graduates each from Kerala and AP, 23 graduates were about the scheme in Kerala while in case of AP 26 graduates were aware about ACABC scheme.

A glance of the Table 50 reveals that majority (65.22%) agricultural graduates of Kerala had medium level of attitude followed by 21.74 and 13.04 per cent who had low and high level of attitude towards ACABC scheme.

However in case of agricultural graduates of AP, 73.08 per cent of agricultural graduates of AP had medium level of attitude and 19.23 per cent had high level of attitude towards ACABC scheme. Only 7.69 per cent had low level of attitude towards ACABC scheme.

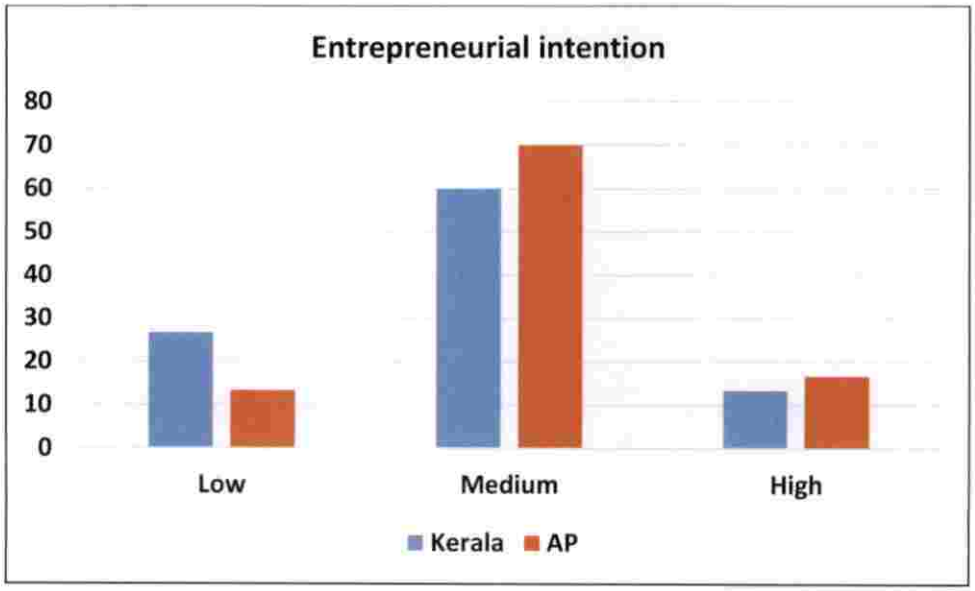

Fig 17. Distribution of agricultural graduates based on entrepreneurial intention

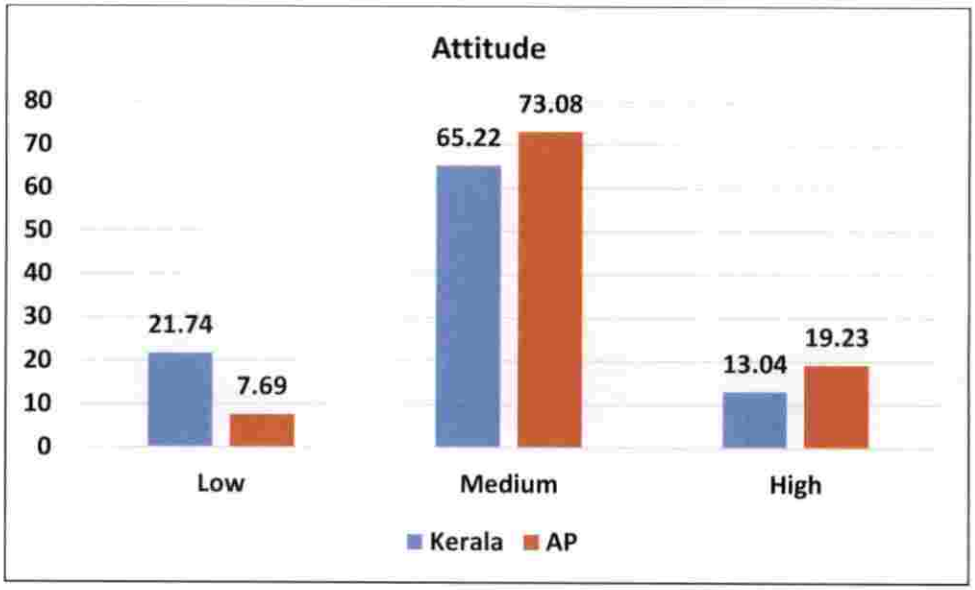

Fig 18. Distribution of agricultural graduates based on attitude towards ACABC scheme

From the above table it can be inferred that agricultural graduates of AP had better attitude towards ACABC scheme than agricultural graduates of Kerala. This might be due to the fact of raising unemployment in case of AP owing to large number of graduating students in the field of agricultural education every year.

The results obtained are in agreement with the results of the study conducted by Chargotra (2007).

4.10.12. Relationship between independent variables of agricultural graduates with attitude towards ACABC scheme

The results of correlation analysis were taken into consideration for analyzing the influence of independent variables on the attitude of agricultural graduates towards ACABC scheme in Kerala and Andhra Pradesh.

Table 53. Correlation of independent variables of agricultural graduates with attitude towards ACABC scheme

Independent variables	Kerala (n=23)	Andhra Pradesh (n=26)
Age	0.465*	-0.102
Sex	0.393	0.505**
Father's Occupation	0.052	0.101
Mother's Occupation	-0.031	0.010
Caste	0.278	0.050
Family Size	0.331	-0.049
Birth Order	0.217	0.008
Annual Income	0.482*	-0.248
Area	0.108	-0.075
Land	0.055	0.183
Entrepreneurial Intention	0.600**	0.839**

** Significant at 1% level of significance; * significant at 5% level of significance

Examining the agricultural graduates of Kerala, it could be evident from the table, that out of 10 independent variables, three variables namely age, annual income

and entrepreneurial intention were positively and significantly correlated with attitude towards ACABC scheme. With respect to agricultural graduates of AP, out of 10 independent variables, two variables namely sex and entrepreneurial intention were positively and significantly correlated with attitude towards ACABC scheme.

However, a detailed analysis shows that out of 10 independent variables only one variable *i.e.* entrepreneurial intention was positively and significantly correlated with attitude of agricultural graduates towards ACABC scheme in both the states.

Age vs Attitude

Age of the agricultural graduates had a positive and significant relationship with attitude towards ACABC scheme in Kerala. The reason for the positive trend may be due to that graduates had enough courage and maturity and were aware about the situations. The results were in line with Narendra (2010) and contradictory with Ajit (2004). In case of AP no significant relationship was found between the variables.

Sex vs Attitude

Sex of the agricultural graduates had a positive and significant relationship with attitude towards ACABC scheme in AP. This may be due to the reason that gender difference is a fundamental socio-cultural dimension that also impacts attitude towards ACABC scheme. The obtained results are in line with Dhiman et al. (2010). In case of Kerala no significant relationship was found between the variables.

Annual income vs Attitude

Annual income of the agricultural graduates had a positive and significant relationship with attitude towards ACABC scheme in AP. This might be due to the fact that availability of financial support of the family influences the attitude of

graduates. The obtained results are in line with the findings of Ajit (2004). In case of Kerala no significant relationship was found between the variables.

Entrepreneurial intention vs Attitude

Entrepreneurial intention of the agricultural graduates had a positive and significant relationship with attitude towards ACABC scheme in both Kerala and AP. This may be due to the fact that ACABC scheme is the best opportunity for an agricultural graduate to turn into an entrepreneur. Therefore agri-graduates with high entrepreneurial intention has positive attitude towards ACABC scheme. The findings are in line with the results obtained by Venesaar et al. (2006).

4.11. SUGGESTIONS TO IMPROVE THE PERFORMANCE OF ACABC SCHEME

Various suggestions were drawn through interaction with ACABC officials, officers of MANAGE, agripreneurs and students and are presented below:

- The procedure for obtaining loan has to be simplified and its accessibility be increased since majority of the agripreneurs mentioned that a lot of procedure is involved in getting loan.
- More handholding budget should be appropriated to the ACABC centres for facilitating continuous support to the agripreneurs after training.
- The agripreneurs trained under ACABC may be given preference for issuance of dealership license for fertilizers, pesticides, insecticides etc.
- More ACABC centres should be established in remote areas where agriculture is main means of life.
- Facilitate ACABC training for biological science graduates who are interested in agriculture.
- Regulate the ACABC training centres under Private sector and bring more under Public sector.

4.12. EMPIRICAL MODEL OF THE STUDY

The conceptual model designed earlier (Fig 1) for the present study was tested based on the obtained results and empirical model was prepared and presented in Fig 18.

This model was expectantly conceived to make an objective assessment of performance of ACABC centres and attitude of respondents towards ACABC scheme. This model was verified using correlation analysis to observe the relationship between independent and dependent variables.

Based on the results of correlation analysis the relationship between independent and dependent variables is shown by the the empirical model.

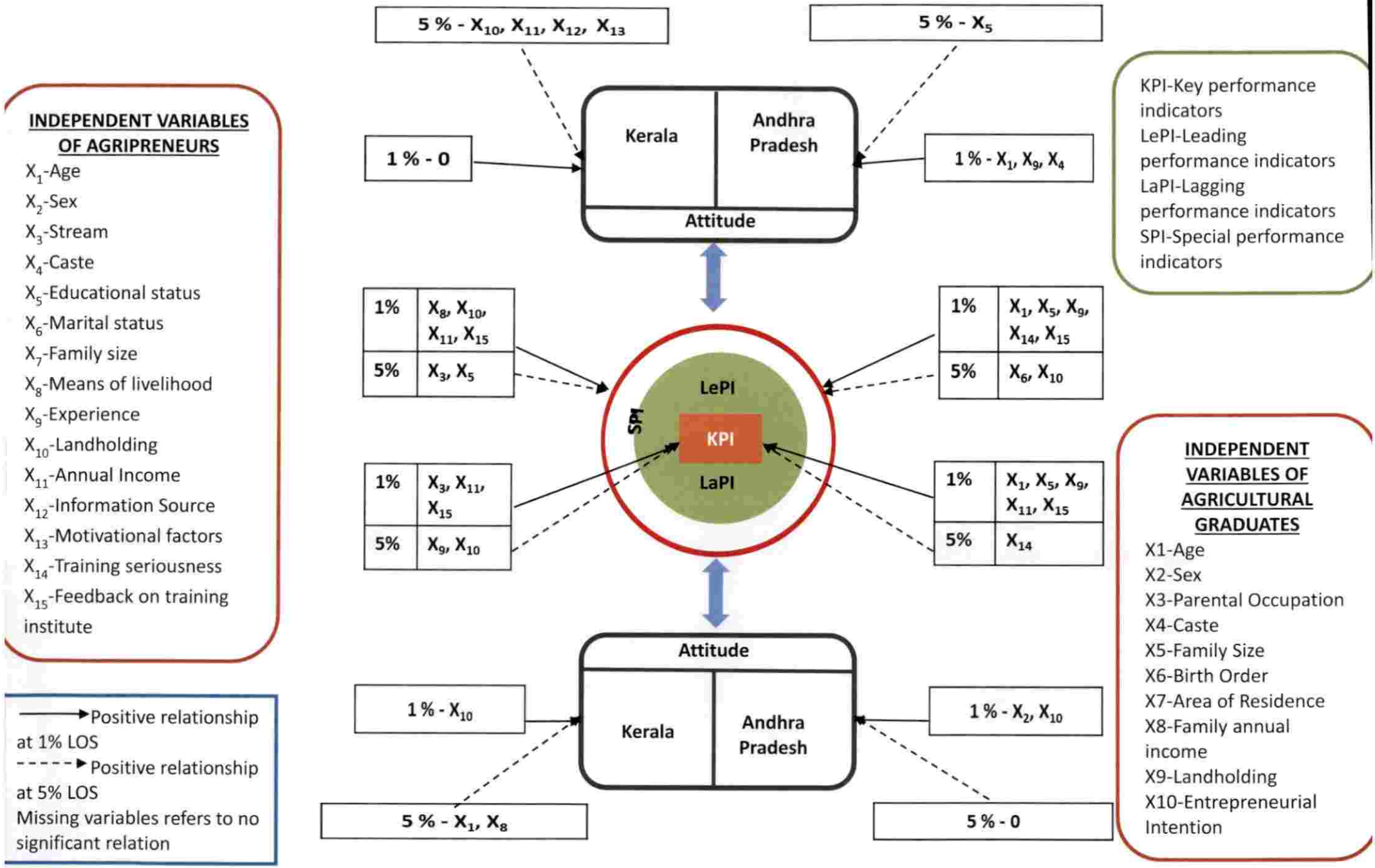

Fig 19. Empirical model of the study

Summary

CHAPTER – 5

SUMMARY

The Agriclinics and Agri business Centres' scheme was launched on 9th April, 2002 with the aim to supplement the public extension service to accelerate the transfer of technology process in agriculture and to provide self-employment openings to technically qualified personnel. Candidates eligible to the scheme are agriculture graduates / graduates in the allied agriculture subjects like horticulture, fisheries, dairy, veterinary, sericulture and forestry. The scheme was intended to improve opportunities for private extension to lower the burden on public extension system, to offer a wider range of expert services in specialized areas and to develop challenging job for agricultural graduates. However, the scheme has not gained required momentum in the states of Kerala and Andhra Pradesh and no profound studies were made on factors limiting the penetration of the scheme. Hence the present study has been conducted with the following objectives.

- To comparatively scrutinize the functioning and performance of Agri-Clinics and Agri-Business Centres (ACABC) scheme.
- To elicit the views and attitude of agripreneurs or prospective agripreneurs on the benefits and services accruing from these ventures.
- To delineate and document the constraints faced by agripreneurs and ACABC centres.

The study was conducted in Nodal Training Centres in Kerala and Andhra Pradesh. In Kerala there is only one NTI i.e., Training Service Scheme (TSS) Vellayani, Kerala Agricultural University (KAU) and it was selected for the study. Among 9 NTIs in Andhra Pradesh the NTI with most number of years of experience is Bojja Venkata Reddy Agricultural Foundation, Nandyal. This training centre is purposively selected as it is the leading institute in Andhra Pradesh. Thirty agripreneurs from each NTI in Kerala and Andhra Pradesh were selected thus making a total of sixty agripreneurs. A total of sixty agricultural graduates comprising of

thirty from each state were selected. This respondent category was only meant for the study pertaining to attitude of agricultural graduates towards ACABC scheme. Fifteen trainers from each NTI in Kerala and AP were selected thus making a total of thirty trainers.

The independent variables for agripreneurs were age, sex, stream, caste, educational status, marital status, family size, means of livelihood, experience, annual income, landholding, information source, motivational factors, training seriousness and feedback on training. The independent variables for agricultural graduates were age, sex, parental occupation, caste, family size, birth order, area of residence, family annual income, landholding and entrepreneurial intention. The dependent variables Key performance indicators and special performance indicators were measured for agripreneurs by using arbitrary scale. The other dependent variable attitude towards ACABC scheme was measured for both agripreneurs and agricultural graduates using scale developed by Chargotra (2007) with some modifications. Correlation analysis was carried out to determine the relationship between independent variables and dependent variables. Further mean, percentage analysis, median, standard deviation, weighted mean, correlation analysis, t-test were the statistical tools used for the analysis of the data and interpreting the results.

The salient findings of the study are presented below:

1. 86.67 per cent of the agripreneurs were middle to old aged in Kerala whereas 96.66 per cent were young to middle aged in AP.
2. Majority of agripreneurs were male from both Kerala (86.67%) and AP (93.33%).
3. Majority of agripreneurs hailed from agriculture stream in both Kerala (83.33%) and AP (76.67%).

4. More than three fourth (76.67%) of agripreneurs belonged to general category in Kerala whereas more than half (53.33%) belonged to OBC in AP.
5. Majority of agripreneurs were graduates in both Kerala (70.00%) and AP (63.33%).
6. Majority of agripreneurs were married in both Kerala (93.33%) and AP (83.33%).
7. The mean family size of the agripreneurs was 4.3 members in Kerala whereas 5.3 members in AP.
8. More than half (53.33%) of the agripreneurs from Kerala had other occupation in addition to agripreneurship, while 66.67 per cent of the agripreneurs from AP had only agripreneurship as the sole occupation.
9. The mean number of years of experience is 6.73 in Kerala whereas 7.1 in case of AP.
10. 83.33 per cent of agripreneurs of Kerala had less than 2 acres of landholding while 80.00 per cent of agripreneurs of AP had greater than 1 acre of landholding.
11. The total number of ventures established under ACABC scheme was 51 and 321 in Kerala and AP respectively. The average number of trainees and ventures per training were 24.78 and 5.67 respectively.
12. The employment generation potential was 5.30 per venture in Kerala as against 7.03 per venture in AP.
13. Considering the income from agripreneurship alone, 56.67 per cent of agripreneurs in Kerala fall under the income category less than 2 lakhs while 67.77 per cent of agripreneurs in AP had annual income greater than 2 lakhs.

14. Eighty per cent of agripreneurs of Kerala had annual income less than 4 lakhs while 77.77 per cent of agripreneurs of AP had income greater than 2 lakhs.

15. SWOC analysis of centres reveals that heterogeneity of trainee is major weakness, important opportunity is that it is the best scheme for self-employment of graduates and abatement of loans is a common challenge in both Kerala and AP

16. SWOC analysis of the ventures as perceived by agripreneurs revealed that 'vast domestic market' under strength, 'high requirement of working capital' under weakness and 'increasing market span' under opportunity were ranked first by the respondents of both AP and Kerala. 'Unorganized market' was the most important challenge faced by Kerala agripreneurs while 'high level of competition' was perceived to be one of the most important challenge faced by agripreneurs of AP.

17. Major source of information regarding ACABC scheme was 'newspapers' and 'friends' in Kerala and AP respectively.

18. In both Kerala and AP, the primary motive for joining ACABC training program was "drive to start own business". Forty three per cent of agripreneurs from Kerala and AP belonged to the category of medium and high level of motivation categories respectively.

19. Majority of the trainees from Kerala (63.33%) and AP (80.00%) took the training seriously and belonged to medium to high level of seriousness.

20. 56.67 per cent of agripreneurs from both states had rated the respective training institutes as good to excellent.

21. Majority (61.67%) of the agripreneurs from both states perceived the performance of training centres as medium in terms of KPI.

22. Productivity was ranked 'one' with a weighted mean score of 4.1 and 4.2 for Kerala and AP under the leading performance indicators.

23. Correlation of leading performance indicators with overall mean score found that except efficiency all three indicators were significant at 1 % level of significance.

24. Time of training was ranked 'one' with a weighted mean score of 4.07 and 4.1 for Kerala and AP under the lagging performance indicators.

25. Correlation of lagging performance indicators with overall mean score found that all four indicators were significant at 1 % level of significance.

26. Correlation analysis of KPI with the 15 independent variables revealed that five variables in case of Kerala and six variables in case of AP and had positive and significant relationship. The variables *viz*., stream, annual income and feedback were significant at one per cent level in Kerala; whereas variables *viz.,* age, educational status, annual income, experience and feedback were significant at one per cent level in case of agripreneurs from AP.

27. Majority (68.33%) of agripreneurs of both states had perceived the training centres as medium in terms of SPI.

28. Financial aspects was ranked 'one' with a weighted mean score of 2.46 and 2.49 for Kerala and AP under the special performance indicators.

29. Results of correlation of special performance indicators with overall mean score found that all four indicators were significant at 1 % level of significance.

30. Correlation analysis of special performance indicators with independent variables revealed that six variables of Kerala agripreneurs and nine variables of AP agripreneurs were positively and significantly correlated.

31. Majority (65.00%) of the agripreneurs from both Kerala and AP had medium level of attitude towards ACABC scheme.

32. Correlation analysis of attitude towards ACABC scheme with independent variables revealed that four variables of Kerala agripreneurs and five variables of AP agripreneurs were positively and significantly correlated.

33. The t-test carried out for comparative analysis of agripreneurs of Kerala and AP revealed that among 18 variables, only 4 variables showed significant difference between states.

34. More than half (53.33%) of the agricultural graduates from both Kerala and AP belonged to median age group.

35. Male and female agricultural graduates were almost equal in number in both Kerala and AP.

36. Parental occupation revealed that majority were employees in Kerala while in case of AP majority were involved in agriculture and allied activities.

37. Majority (53.33%) of agricultural graduates belonged to general and OBC category in Kerala and AP respectively.

38. Mean family size of graduates of Kerala (4.4) is less than that of AP (5).

39. More than half (53.33%) of agricultural graduates were first born children in Kerala while majority (46.67%) were second born children in AP.

40. Majority of graduates of Kerala (46.67%) had urban background whereas graduates of AP (56.67%) had rural background.

41. Majority of agricultural graduates belonged to medium family income category in Kerala (46.67%) and AP (66.67%).

42. Majority of agricultural graduates fall under below mean category in terms of landholding in Kerala (46.67%) and AP (50.00%). But the mean landholding size of Kerala (0.74) is less than that of AP (3.66).

43. Majority (65.00%) of agricultural graduates from both Kerala and AP had medium level of entrepreneurial intention.

44. Lack of resources for initial investment was one of the major constraints (Kerala-132 and AP-131) faced while starting agriventures.

45. Competition from established ventures (Kerala-127 and AP-123) and high labour cost (Kerala-125 and AP-122) were the important constraints faced while running agriventures.

46. Trainees attend training for just name sake (AP-71 and Kerala-70) was the major constraint as perceived by trainers.

Suggestions for future research

- As this study was concentrated to one NTI each from Kerala and AP sates, similar comparative studies should be initiated in other NTIs and states for generalizing the findings.
- The impact of financial and institutional support on promotion of agripreneurs needs to be scrutinised systematically.
- Further, studies with increased sample size and by taking additional factors extraneous to this study need to be conducted.

References

REFERENCES

Ahire, L. M., Sontakki, B. S., and Basith, M. A. 2008. Perception of agripreneurs on centrally sponsored schemes of Agri-Clinics and Agri-Business Centres. *J. Res. ANGRAU.* 36(2&3): 49-54.

Ajit C. 2004. Determination of attitude, occupational aspiration and preference for placement of B.Sc. agriculture students of Gujarat state. M.Sc.(Ag) thesis, Gujarat Agricultural University, Anand, 118p.

Ajore, R. and Singh, K. 1996. Duration of training for making SMS training programme effective. *Agric. Ext. Rev.* 8(3): 16-18.

Akanbi, S.T. 2013. Familial factors, personality traits and self-efficacy as determinants of entrepreneurial intention among vocational based college of education students in Oyo State, Nigeria. In *The African Symposium: An Online J. African Educational Res. Network.* 13(2): 66-76.

Anantharaman, M. and Ramanathan, S. 1990. Impact of training programme on tuber crops. *Indian J. Ext. Educ.* 26(1&2): 103-106.

Antoncic, B. 2009. The entrepreneur's general personality traits and technological developments. *Int. J. Social, Behavioral, Educ. Econ. Business Ind. Eng.* 3(5): 360-365.

Anwar, S.A. 2004. Evaluation of entrepreneurship development programmes. *South. Economist.* 42: 11-13.

Armorikar, P.S., Hansra, B.S., Gowda, M.J. and Jain, P.K. 2016. Economic dimensions of enterprises established under agri-clinics and agri-business centres. *J. Community Mobilization Sustain. Dev.* 11(1): 39-44.

Bai, C. 2016. Attitude of agriculture graduates of SKN College of Agriculture, Jobner towards agriculture entrepreneurship. M.Sc.(Ag) thesis, Sri Karan Narendra Agriculture University, Jobner, 167p.

Bairwa, S.L. 2015. Performance of agriclinic and agribusiness centres scheme in Rajasthan state. Ph.D. thesis, Banaras Hindu University, 134p.

Bairwa, S.L., Kushwaha, S., and Sen, C. 2015. Problems faced by agripreneurs in starting and operating agriventures under ACABCs scheme in Rajasthan state. *Int. J. Agric. Sci. Res.* 5(2): 203-208.

Bairwa, S.L., Kushwaha, S., Sen, C., Singh, R. and Rai, D.C. 2017. Evaluation of various training aspects of Agriclinics and Agribusiness Centres (ACABC's) scheme in Rajasthan, *Int. J. Curr. Microbiol. App. Sci.* 6(5): 1363-1372.

Bhutta, M.K.S., Rana A.I. and Asad, U. 2008. Owner Characteristics and Health of SMEs in Pakistan. *J. Small Business Enterprises Dev.* 15(1): 130-149.

Binieeta, S. 2001. SWOT analysis of emerging agro-enterprises in Orissa. M.Sc.(Ag) thesis, Orissa University of Agriculture and Technology, Bhubaneswar, 184p.

Bothikar, G.R. 2008. Aspirations of higher secondary students attending agriculture as a vocational subject in Marathwada region. M.Sc.(Ag) thesis, Vasantrao Naik Marathwada Krishi Vidyapeeth, Parbhani, 74p.

Cetindamar, D., Gupta, V.K., Karadeniz, E.E. and Egrican, N. 2012. What the numbers tell: the impact of human, family and financial capital on women and men's entry into entrepreneurship in Turkey. *Entrepreneurship Regional Dev.* 24(1-2): 29-51.

Chargotra, M. 2007. Evaluation Study of Agri-Clinic and Agri-Business Centres in Rajasthan. Ph.D. thesis, Maharana Pratap University of Agriculture and Technology, Udaipur, 171p.

Chatterjee, N. and Das, N. 2016. A study on the impact of key entrepreneurial skills on business success of Indian micro-entrepreneurs: a case of Jharkhand region. *Global Business Rev.* 17(1): 226-237.

Colombo, M.G. and Grilli, L. 2005. Founders' human capital and the growth of new technology: a competence-based view. *Res. Policy*. 34(6): 795-816.

Crant, J.M. 1996. The proactive personality scale as a predictor of entrepreneurial intentions. *J. Small Business Manag.* 34(3): 42-49.

Dahake, H.R. 2009. Attitudes and aspirations of post gradute students towards agricultural entrepreneurship. M.Sc.(Ag) thesis, Anand Agricultural University, Anand, 92p.

Deepthi, V. 2016. A critical study on entrepreneurial behaviour of agripreneurs in Andhra Pradesh. Ph.D. thesis, Acharya NG Ranga Agricultural University, Guntur, 332p.

Dhakre, D. S. 2014. Aspiration of agriculture students towards agriculture enterprise in West Bengal: A case study. *Indian Res. J. Ext. Edu.* 14(1): 64-68.

Dhiman, B., Sharma, P. and Khurana, A. 2010. A study on the entrepreneurship career among students in northern India. *Sri Krishna Int. Res. Educational Consortium*. 1(1): 18-32.

Elmuti, D., Khoury, G. and Omran, O. 2012. Does entrepreneurship education have a role in developing entrepreneurial skills and ventures' effectiveness? *J. Entrepreneurship Educ.* 15: 83-98.

Esakkimuthu, M. and Kameswari, V.L.V. 2017. Entrepreneurial potential of small scale beekeeping in rural India: a case in Kanniyakumari district, Tamil Nadu. *Trop. Agric. Res.* 28(4): 411-424.

Farooq, M.S., Jaafar, N., Ayupp, K., Salam, M., Mughal, Y.H., Azam, F. and Sajid, A. 2016. Impact of entrepreneurial skills and family occupation on entrepreneurial intentions. *Sci. Int.,* Lahore, 28(3): 3145-3148.

Ferk, M., Quien, M., & Posavec, Z. 2013. Female vs. Male Entrepreneurship-is there a difference? *Stud. Organisational Manag. Sustainability.* 1(1): 67-77.

Global Agrisystem. 2008. Midterm evaluation report of agriclinics and agribusiness centre scheme. Global Agrisystem Private Limited, New Delhi. 66p.

Gopika, S. 2005. SWOT analysis of agro-based enterprises in Kerala. M.Sc.(Ag) thesis, Orissa University of Agriculture and Technology, Bhubaneswar, 183p.

Gupta, S.K. 1989. Entrepreneurship development: the Indian case. *J. Small Business Manag.* 27(1): 67-69.

Hatten, T.S. and Ruhland, S.K. 1995. Student attitude toward entrepreneurship as affected by participation in an SBI program. *J.* Educ. *Business.* 70(4): 224-227.

Henry, C., Hill, F.M. and Leitch, C.M. 2004. The effectiveness of training for new business creation: a longitudinal study. *Int. Small Business J.* 22(3): 249-271.

Ibrahim, O.A., Devesh, S. and Ubaidullah, V. 2017. Implication of attitude of graduate students in Oman towards entrepreneurship: an empirical study. *J. Glob. Entrepreneurship Res.* 7(1): 8-24.

Illuru, N.K. and Kondeti, S. 2017. Problems and prospects of sericulture women entrepreneurs in Andhra Pradesh: An analytical study. *Int. J. Advanced Res. Dev.* 2(6): 239-243.

Islam Md. Aminul Khan, Mohammad Aktaruzzaman and Muhammad Obaidullah Abu Zafar. 2011. Effect of Entrepreneur and Firm Characteristics on the

Business Success of Small and Medium Enterprises (SMEs) in Bangladesh. *Int. J. Business Manag.* 6(3): 289-299.

Islam, M.S. and Hossain, M.A. 1990. Attitude towards training on agricultural planning, administration and management by non-agricultural youths. *Bangladesh J. Training Dev.* 3(2): 11-18.

Jha, K.K. 2008. Entrepreneurial characteristics and attitude of pineapple growers. *Int. J. Hum. Social Sci.* 2(10): 197-201.

Jondhale, S.G. and Wattamwar, V.T. 2004. Aspirations of food technology students. AGRESCO Report of social sciences subcommittee. MAU, Parbhani. pp.29-54.

Joshi, V. 2015. Entrepreneurship in food processing industries. Ph.D. thesis, CCS Haryana Agricultural University, 147p.

Kanwat, M., Chargotra, M., Kumar, P.S. and Mishra, B.P. 2011. Attitude of the agricultural graduate towards agri-clinic and agri-business centers in Arunachal Pradesh. *Indian Res. J. Ext. Educ.* 11(21): 117-119.

Karjagi, R. 2006. Economic performance of agriclinics and agribusiness centres in south India. Ph.D. thesis, University of Agricultural Sciences, Dharwad, 178p.

Karjagi, R., Khan, H. S. S. and Vijaykumar, H. S. 2007. Factors affecting participation in Agriclinic and agribusiness centres programme in South India. *Karnataka J. Agric. Sci.* 20 (4): 873-875.

Karjagi, R., Khan, H. S. S., Vijay Kumar, H. S., and Kunnal, L. B. 2009. "Problems of trained agripreneurs under the scheme of agriclinics and agribusiness centres in starting and running their agri-venture: A study in South India." *Karnataka J. Agric. Sci.* 22(1): 233-234.

Kaur, P. 2017. Economic analysis of agro-based village industries in Punjab M.Sc.(Ag) thesis, Punjab Agricultural University, Ludhiana, 78p.

Kessy, S. and Temu, S.S. 2010. The impact of training on performance of micro and small enterprises served by microfinance institutions in Tanzania. *Res. J. Business Manag.* 4(2): 103-111.

Kgagara, M.R. 2011. An assessment of the attitude towards entrepreneurship among higher education students in Sedibeng district. MBA thesis, North-West University, 89p.

Koh, K.Y. 1996. The tourism entrepreneurial process: a conceptualization and implications for research and development. *The Tourist Rev.* 51(4): 24-41.

Kolvereid, L. 1996. Prediction of employment status choice intentions. *Entrepreneurship Theory Practice*. 21(3): 47-58.

Kulkarni, S.Y. and Nikhade, D.M. 1996. Effectiveness of extension training programmes for agriculture development. *Agric. Ext. Rev.* 8(1): 3-5.

Kumar, D. 2017. A study on entrepreneurial behaviour among the students at Indira Gandhi Krishi Vishwavidyalaya, Raipur in Chhattisgarh. Ph.D. thesis, Indira Gandhi Krishi Vishwavidhyalaya, Raipur, 174p.

Kumar, T. 2016. Factors affecting development of agrientrepreneurship in Bhagalpur district of Bihar. M.Sc.(Ag) thesis, Bihar Agricultural University, Sabour, 107p.

Kumar, T., Singh, S.R., Kumari, P. and Panda, C.K. 2019. Socio-economic and psychological profile of agri-entrepreneurs of Bhagalpur district of Bihar. *J. Pharmacognosy Phytochemistry*. 8(2): 238-242.

Kumari, M. V. 2013. The evaluation study of agriclinics and agribusiness centres scheme in Andhra Pradesh. M.Sc.(CABM) thesis, Acharya NG Ranga Agricultural University, Hyderabad, 19p.

Kumari, M., Durga, P., Bhanusree M.R. and Chandrika, M. 2016. Major constraints faced by the trained agripreneurs in sucessfully running their agriventures under the scheme of agriclinics and agribusiness centers in Andhra Pradesh. *Int. J. Agric. Sci. Res.* 6(3): 241-244

Kusmintarti, A., Asdani, A. and Riwajanti, N.I., 2017. The relationship between creativity, entrepreneurial attitude and entrepreneurial intention (case study on the students of State Polytechnic Malang). *Int. J. Trade Glob. Markets*, 10(1): 28-36.

Lambe, S.P. 2000. Status of training institutes with special emphasis on training effectiveness. Ph.D. thesis, Dr Panjabrao Deshmukh Krishi Vidyapeeth, Akola, 218p.

Lawrence, C. and Ganguli, D. 2016. Entrepreneurial behaviour of dairy farmers in Tamil Nadu. *Indian Res. J. Ext. Educ.* 12(1): 66-70.

Laxmi, B. 2015. Performance of agripreneurs under agri-clinics and agri-business centres scheme in Karnataka-an exploratory study. Ph.D. thesis, National Dairy Research Institute, Karnal, 115p.

Lee Don, Y. and Tsang Eric, W.K. 2001. The effect of entrepreneurial personality, background and networking activities on venture growth. *J. Manag, Studies.* 38(4): 583-602.

MANAGE [National Institute of Agricultural Extension Management] 2013. Data base available at Agriclinics and Agribusiness Centres Cell. Hyderabad, (On-line). Available: http://www.agriclinics.net:MANAGE, [21 May, 2019].

Manikandan, D. 2017. A study on effectiveness of entrepreneurial development programme for the training and development in small scale entrepreneurs in Salem, Erode and Namakkal districts of Tamil Nadu. Ph.D. thesis, Periyar University, Salem, 305p.

Modi, K. 2013. Internet based b2b marketing: a study of issues and challenges faced by Ludhiana entrepreneurs. M.Sc.(Ag) thesis, Punjab Agricultural University, Ludhiana, 74p.

Mohapatra, A.S. and Sahu, U.N. 2012. A study of socio-economic and entrepreneurial characteristics of tribals of Mayurbhanj district in Sabai grass enterprise. *Int. J. Manag. IT Eng.* 2(5): 426-438

Movahedi, R. and Fathi, H. 2011. Assessing agricultural students' attitude towards entrepreneurship. *Int. J. Agric.: Res. Review.* 1(4): 168-173.

Munyori, K.J. and Ngugi, J.K. 2014. Factors affecting the growth of small and micro enterprises dairy farmers' in Kenya: case of Gatundu south farmer's dairy cooperative society ltd. *Int. J. Curr. Business Social. Sci.* 1(1): 48-63.

NABARD. 2010. Evaluation study of agri-clinics and agribusiness centres (ACABC) in Himachal Pradesh. Shimla, 52p.

Nagalakshmi, T. and Sudhakar, A. 2013. Agri-preneurs: a case study of Dharmapuri farmers. *Int. J. Sci. Res.* 2(8): 12-17.

Narendra, A.A., 2010. Entrepreneurial attitude of agricultural students. Ph.D. thesis, Anand Agricultural University, Anand, 108p.

Negi, T. 2010. SWOT Analysis of selected entrepreneurial activities performed by rural women. M.Sc.(HS) thesis, Maharana Pratap University of Agriculture and Technology, Udaipur, 105p.

Nithya, V.G. and Nandi, R. 2019. Organic tomato value chains and determinants of market linkage: a smallholder's perspective for inclusive growth. *Indian J. Econ. Dev.* 7(3): 1-11.

Pablo-Lerchundi, I., Morales-Alonso, G. and González-Tirados, R.M. 2015. Influences of parental occupation on occupational choices and professional values. *J. Business Res.* 68(7): 1645-1649.

Pal, S, Kumar, B. and Keshawa. 1997. Problems in organizing monthly workshop. *Agric. Ext. Rev.* 9(5): 26-27.

Parimaladevi, S., Husain, A. S., and Bhaskaran, S. 2006. Determinants of the effectiveness of 'agriclinics and agribusiness centres scheme' in Kerala. *J. Trop. Agric.* 44 (1-2): 91-93.

Parker, S.C. and Van Praag, C.M. 2006. Schooling, constraints, and entrepreneurial performance: the endogenous triangle. *J. Business and Econ. Statist.* 24(4): 416-431.

Patel, B. and Chavda, K. 2013. Rural entrepreneurship in India: challenge and problems. *Int. J. Adv. Res. in Comput. Sci. Manag. Stud.* 1(2): 28-37.

Patel, V.B. 2005. A study of attitude and occupational aspiration of B. Tech. Dairy science students of Gujarat state. M.Sc.(Ag) thesis, Anand Agricultural University, Anand, 112p.

Petridou, E. and Glaveli, N. 2008. Rural women entrepreneurship within co-operatives: training support. *Gender in Manag: an Int. J.* 23(4), 262-277.

Pihie, Z.A.L. and Akmaliah, Z. 2009. Entrepreneurship as a career choice: An analysis of entrepreneurial self-efficacy and intention of university students. *Eur. J. Social Sci.* 9(2): 338-349.

Pouratashi, M. 2014. Entrepreneurial intentions of agricultural students: levels and determinants. *The J. Agric. Educ. Ext.* 21(5): 467–477.

Priyaraj, PM. 2016. Socio-economic profile and empowerment among agropreneurs in Kannur district. *Int. J. Res. in Commerce Manag.* 7(7): 73-79.

Ramesh, N.V. 2009. A multidimensional study of raisin entrepreneurs in Nashik district of Maharashtra. M.Sc.(Ag) thesis, Indian Agricultural Research Institute, New Delhi, 109p.

Rasli, A., Khan, S.U.R., Malekifar, S. and Jabeen, S. 2013. Factors affecting entrepreneurial intention among graduate students of Universiti Teknologi Malaysia. *Int. J. Business Social Sci.* 4(2): 182-188.

Robinson, P.B. and Sexton, E.A. 1994. The effect of education and experience on self-employment success. *J. Business Venturing.* 9(3): 141-156.

Sandhu, M.S., Sidique, S.F., & Riaz, S. 2011. Entrepreneurship barriers and entrepreneurial inclination among Malaysian postgraduate students. *Int. J. Entrepreneurial Behav. Res.* 17(4): 428-449.

Saranya, M.N. 2015. Attitude of agricultural graduating students towards entrepreneurship. Ph.D. thesis, Vasantrao Naik Marathwada Krishi Vidyapeeth, Parbhani, 73p.

Satyanarayan, M., and Husain, S.M. and Reddy. P.R. 1994. Effectiveness of institutional training programme for tribal farmers. *Maharashtra J. Ext. Edu.* 13: 281-282.

Sharma, L. 2014. Impact of family capital & social capital on youth entrepreneurship-a study of Uttarakhand state, India. *J. Glob. Entrepreneurship Res.* 4(1): 1-18.

Shingare. 2005. Study of attitude and occupational aspiration of under graduate veterinary science and animal husbandry college students of Gujarat. M.Sc.(Ag) thesis, Anand Agricultural University, Anand, 124p.

Shivacharan, G., Sudharani, V., Vasantha, R. and Supriya, K. 2017. A study on profile characteristics of rural young agri entrepreneurs. *Int. J. Curr. Microbiol. App. Sci.* 6(11): 252-258.

Shivani, S., Mukherjee, S.K. and Sharan, R. 2006. Socio-cultural influences on Indian entrepreneurs: the need for appropriate structural interventions. *J. Asian Econ.* 17(1): 5-13.

Silva, J. L., Mohamad, S. H. A., Uli, J. and Abu, S. B. 2010. Socio-demography factors that influence youth attitude towards contract farming. *Am. J. Appl. Sciences.* 7(4): 603–608.

Sindhu, K. 2015. A study on entrepreneurial behaviour of agripreneurs in Visakhapatnam district of Andhra Pradesh. M.Sc.(Ag) thesis, Acharya NG Ranga Agricultural University, Guntur, 192p.

Singh, A. and Singh, S. 1988. Effectiveness of training on oil seed technology. *Maharashtra J. Ext. Edu*, 7: 159-163.

Singh, S.K., 2016. Progress and performance of agriculture in India. *J. Agroecology Nat. Resour. Manag.* 3(1): 67-71.

Sinha, T. N. 1996. Human factors in entrepreneurship effectiveness. *J. Entrepreneurship.* 5(1): 23-29.

Sravan, K.T., 2012. A study on entrepreneurs of vermicompost technology in Guntur district of Andhra Pradesh. M.Sc.(Ag) thesis, Acharya NG Ranga Agricultural University, Hyderabad, 126p.

Sridevi, K. 2013. Entrepreneurial skills of graduate students- a study. Ph.D. thesis, Smt. V.H.D. Central Institute of Home Science, Bangalore, 155p.

Tamizharasi, G. and Panchanatham, N. 2010. An empirical study of demographic variables on entrepreneurial attitudes. *Int. J. Trade, Econ. Finance*. *1*(2): 215-220.

Tamminana, S.K. and Mishra, O. 2017. Socio-economical dimensions of agripreneurs under ACABC scheme in Andhra Pradesh. *Trends Biosci.* 10(15): 2679-2682.

Thorat, G.N. 2005. An analysis of poultry entrepreneurs' knowledge about poultry management practices. M.Sc.(Ag) thesis, Anand Agricultural University, Anand, 156p.

Usha, M. 2012. A study on rural micro enterprises under PMEGP in Guntur district of Andhra Pradesh M. Sc.(Ag) thesis, Acharya NG Ranga Agricultural University, Hyderabad, 157p.

Veena, K.P. 2005. Effectiveness of enterpreneurship development programmes: a comparative study of RUDSETI and MDIC in Mysore city. Ph.D. thesis, University of Mysore, Mysore, 321p.

Velimirović, D., Velimirović, M. and Stanković, R. 2011. Role and importance of key performance indicators measurement. *Serbian J. Manag.* 6(1): 63-72.

Venesaar, U., Kolbre, E. and Piliste, T., 2006. Students' attitudes and intentions toward entrepreneurship at Tallinn University of Technology. Working papers in economics TUTWPE, 154, 97-114.

Venkattakumar, R., Chandarshekara, P., and Sontakki, B.S. 2012. Challenges in establishing agribusiness ventures in India. *J. Agric. Ext. Manag.* 13(1): 23-30.

Venkattakumar. R. and Sontakki. B. S. 2014. Impact of fostering entrepreneurship in agriculture: a case of Agriclinics and Agribusiness Centres (ACABC) in Andhra Pradesh. National Academy of Agricultural Research Management (NAARM), Rajendranagar, Hyderabad, 103p.

Vimalraj, G., Rashmi, S., and Vijayaragavan, K. 2012. Correlates of successful agripreneurship: A study of awardee farmers of Tamil Nadu. *Karnataka J. Agric. Sci*. 25 (2): 283-286.

Waman, G.K., Girase, K.A. and Desai, R.R. 2000. Aspirations and employment of agricultural graduates. *Maharashtra J. Ext. Educ.* 19: 141-144.

Wang, C.K. & Wong, P.K. 2004. Entrepreneurial interests of university students in Singapore. *Technovation*. 24(2): 163-172.

Waribugo, S. 2016. Motivational factors and obstacles among Nigerian agripreneurs: empirical evidence from Port Harcourt, Rivers state. *The Int. J. Business Manag*. 4(3): 82-88.

Warthi, M.J. 2017. Use of mobile phone as an ICT tool by dairy entrepreneurs in Kolhapur district of Maharashtra. M.V.Sc. thesis, Maharashtra Animal and Fisheries Sciences University, Nagpur, 149p.

Wilson, F., Kickul, J. and Marlino, D. 2007. Gender, entrepreneurial self–efficacy, and entrepreneurial career intentions: Implications for entrepreneurship education. *Entrepreneurship theory practice*. 31(3): 387-406.

Yadav, N. 2013. Social status of women engaged in sericulture enterprise in Uttarakhand. *Int. J. Advanced Res. Manag. Social Sci.*2(8): 95-103.

Yadav, V.B. 2012. A study on agriclinics & agribusiness centres in Varanasi district of Uttar Pradesh. Ph.D. thesis, Banaras Hindu University, Varanasi, 76p.

Zeffane, R. 2012. Gender and youth entrepreneurial potential: evidence from the United Arab Emirates. *Int. J. Business Manag.* 8(1): 60-72.

Appendices

Appendix-I

Multidimensional analysis of the performance of Agri-Clinics and Agri-Business Centres (ACABC) scheme in Kerala and Andhra Pradesh

Code: **Date:**

INTERVIEW SCHEDULE

A. General Information of Agripreneur :

1. Name: _____

2. Age: _____

3. Education: _____

4. Contact no, & E-mail: _____

5. Address: _____

_____

B. Aspects Related to Profile of Agripreneurs and Their Performance

1.

S.No	Name of FM	R/n with head	M/F	Age	Educn	Occupn		Income (Rs)		MS	C
						1°	2°	1°	2°		

FM-Family member; R/n-Relation; M/F-Male/Female; C (Caste)- SC-1/ST-2/OBC-3/GENERAL-4/Others-5; MS- Marital status (Single/Married)

a. Stream: Agriculture/ Horticulture/ Engineering/ Veterinary/ MBA/ Agribusiness/ Others (specify) _____

b. Means of livelihood: Agripreneurship + others/ Agripreneurship

c. Size of Landholding:

2. Details of Agriventure and its status:

a.

Name of the agri venture	
Year of establishment of venture	
1. Total Investment	Rs.
2. Fixed Cost	Rs.
3. Operational Cost	Rs.
4. Source of Borrowing	_____
a. Own investment	Rs.
b. Amount borrowed from bank/others	Rs.
c. Name of the bank and place	
d. If through bank, whether availed subsidy	Y/N
e. If yes, what extent of the total investment	_____
f. Whether repaid the loan?	Y/N
g. If yes, How much?	_____

b. Nature of service provided by your centre: Input supply/ Product supply/ Consultancy/ Combination of any/ Any others (mention) _____

c. Average income per year from the venture Rs._____

d. Number of years of experience: _____

e. Number of persons employed:

Skilled: Unskilled:

f. Constraints faced by agripreneurs

i. Constraints faced while setting up agriventures

S.No.	Statements	Degrees of agreement				
		SA	A	UD	DA	SDA
		5	4	3	2	1
1.	Lack of resources for initial investment					
2.	Refusal of loan from banks					
3.	Delay of loan					
4.	High interest rates for loan					
5.	Lack of collateral security					
6.	Inadequate training by NTI					
7.	Lack of handholding support from NTI					
8.	NABARD and Commercial banks will not give correct picture on the rate of interest, subsidy and collateral security					
9.	Many banks do not know about the ACABC scheme					
10.	High margin money (25% of the total cost have to be borne by agripreneurs)					
11.	A lot of procedure is involved in getting bank loans					
12.	Huge risk involved					
13.	Employment in private/public sectors					
14.	Lack of support from family					
15.	Lack of adequate business background					

Nodal Training Institute

ii. Constraints faced while running agriventures

S.No.	Statements	Degrees of agreement				
		SA	A	UD	DA	SDA
		5	4	3	2	1
1.	Competition from established ventures					
2.	Low margin for products, goods and services offered					
3.	Lack of self-confidence & decision making ability					
4.	Lack of skilled man power					
5.	Lack of support from farmers					
6.	Lack of market information					
7.	Lack of business and field experience					
8.	Lack of infrastructural facilities					
9.	Lack of efficient equipment or technologies					
10.	High labor cost					
11.	Fluctuation in market price					
12.	Seasonal production of raw materials					
13.	Lack of adequate handholding support					

3. **Mention the strength, weakness, opportunities and challenges that you find in your venture**

Strength	**Weakness**
1. Vast domestic market 2. High quality service/ product 3. Availability of highly qualified, competent and experienced personnel 4. Good brand image in market 5. Located in well-established agriculture and industrial area	1. High requirement of working capital 2. Lack of adequate infrastructural facilities and technology 3. Lack of professional management 4. Difficult to get financial assistance 5. Low profitability
Opportunities	**Challenges**
1. Increasing market span 2. Government policies supporting agri-ventures 3. Strong institutional support and linkage 4. Large crop and material base in the country 5. Trend of smart agricultural management rises	1. Heavy level of competition in market 2. Fluctuation in market prices 3. Huge cost of modern equipment and technology 4. Unorganized market 5. Outdated technology and equipment

Training Aspects of Agriclinics and Agribusiness Centres Scheme

1. Where did you get the information about this training programme? (Mark (✓) the appropriate points)
   a. Newspaper ( )
   b. Friends ( )
   c. Radio
   d. Television
   e. Social media (facebook, whatsapp etc.) ( )
   f. Universities notice boards ( )
   g. Others_____
2. Period of training _____
3. What are the factors motivated you to join this training programme? (Mark (✓) the appropriate points)

S.No.	Particulars	MI (3)	LI (2)	NI (1)
1.	Motivation due to unemployment problem in both government and private sectors			
2.	Non-remunerative yields from present farming motivated me to join training program			
3.	Motivation for starting own business			
4.	Motivation due to free ACABC training			
5.	Motivation due to better institutional linkage (training, credit and marketing)			
6.	Opportunity of access to credit facility motivated me to join training program			
7.	Scope of new emerging market outlets motivated me to join training program			
8.	Better price expectations from the activity undertaken			

	motivated me to join training program			
9.	Motivation for efficient utilization of resource base (education, knowledge, contacts, land etc.)			
10.	Increasing cost requirements motivated me to join training program			
11.	Others (If any)			

MI- Most Important; LI- Less Important; NI- No influence

4. Seriousness of training programme

S.No.	Particulars	Degree		
1.	How often you missed training classes?	VR	R	O
2.	How often have you faced opinion conflicts with the faculty members?	VR	R	O
3.	How often the resident trainees' committed non permitted activities like alcohol consumption etc; during the period of training?	VR	R	O

VR-Very rare; R-Rare; O-Often

5. Feedback about the training institute (Mark (✓) the appropriate point)

S.No	Particulars	Excellent (4)	Good (3)	Average (2)	Poor (1)
1.	**Training component** 1. Faculty 2. Theory sessions 3. Study visits 4. Interaction with successful agripreneur /farmers etc. 5. Audio/Video aids 6. Video conferencing				
2.	**Infrastructural component** 1. Lodging 2. Boarding				

	3. Transport 4. Internet facility 5. Others (if any)				

Key Performance Indicators (KPI's)

a. Following are the statements reflecting the Key performance of training centres in terms of Leading (LE) and Lagging (LA) indicators. Please rate the indicators on a scale of 1-5 based on the degree of its importance

S.No.	General Performance Indicators (LE & LA)	Degree of importance				
		1	2	3	4	5
1.	Productivity(LE)					
2.	Efficiency(LE)					
3.	Good projects initiated(LE)					
4.	Trainee satisfaction(LE)					
5.	% of turnover(LA)					
6.	ROI of training(LA)					
7.	Cost of human resource initiated(LA)					
8.	Time of training(LA)					

LE-Leading; LA-Lagging

b. An additional set of Specific Performance Indicators are given below. Please rate the following according to your perception on a 3 point scale

F	Financial aspects	1	2	3
1	Training helped my business in terms of operations-cash flow			
2	Training helped me to decide and plan for long term investments			
3	Training increased my ability to procure investment			
S	**Satisfaction**	**1**	**2**	**3**
1	Satisfied with the training content and method			
2	Satisfied with the training in terms of usefulness			

3	Satisfied with the hands on support after training			
4	Satisfied with the trainer organization support and service			
Q	**Quality of training**	**1**	**2**	**3**
1	The objectives of the training were clearly defined			
2	Participation and interaction were encouraged			
3	The topics covered were relevant to me			
4	The time allotted for the training was sufficient			
OP	**Organizational Performance**	**1**	**2**	**3**
1	Utilization of fund			
2	Sanctioned strength vs Filled Strength			
3	Regularity of classes			
4	Meritorious expert selection			

Attitude towards ACABC scheme

S.No	Statements	Degrees of agreement				
		SA	A	UD	DA	SDA
		5	4	3	2	1
1.	ACABC's are excellent source of income for agripreneurs					
2.	Expert services and advice to the farmers are offered by ACABC's					
3.	ACABC's don't supplement the efforts of extension services by Govt (-)					
4.	ACABCs are succeeding and will succeed in future in providing professional extension services to farming society at their doorsteps					
5.	ACABC is always a threat to sustainable income derivative (-)					
6.	ACABC centres are providing a profitable employment in new emerging area of agriculture sector					

7.	ACABC scheme is not helpful to increase the agricultural production of the country (-)					
8.	Training is very much necessary for establishment and management of ACABC's.					
9.	After training, one would be confident and competent enough to setup and run the ACABC's and effectively					
10.	Subsidy avail for the loan through ACABC scheme are not adequate/helpful (-)					
11.	ACABC scheme is helpful in brightening the future and strengthening the career of agripreneurs					
12.	It is difficult to get acceptance of the project submitted to banks after training (-)					
13.	ACABC's on group basis are more profitable as compared to individual projects					
14.	ACABC scheme is not well planned & comprehensive for self-employment generation (-)					
15.	ACABC scheme helps in better utilization of specialized and trained manpower for betterment of farmers					
16.	ACABC training help the individuals a lot to improve their agripreneurial behavior, accountancy and managerial skills					
17.	As a graduate/post-graduate I would rather prefer a job than venture into business through ACABC (-)					

SA-Strongly agree; A-agree; UD-Undecided; DA-Disagree; SDA-Strongly disagree

Appendix-III

Code: **Date:**

INTERVIEW SCHEDULE

General Information of agricultural graduates:

1. Name: _____
2. Age: _____
3. Sex: Male/Female
4. Education: _____
5. Father name:_____ Occupation: _____
6. Mother name:_____ Occupation: _____
7. Family size:_____
8. Total family income:_____
9. Social group: SC/ST/OBC/OC/Others
10. Area of residence: Rural/ Semi-Urban/Urban
11. Contact no, & E-mail: _____
12. Size of Landholding (cents): _____
13. Please rate the following statements regarding entrepreneurial intention

S.No	Statements	Degrees of agreement				
		SA	A	UD	DA	SDA
1.	I always desire to start to a business					
2.	I admire successful business personalities					
3.	My ideal career is to become an entrepreneur					
4.	I don't desire to work under others as an employee following their commands					
5.	I prefer to have a steady job(-)					
6.	I would hesitate to invest in activities which involves risk(-)					

SA-Strongly agree; A-agree; UD-Undecided; DA-Disagree; SDA-Strongly disagree

14. Are you aware about Agriclinics and Agribusiness Centres (ACABC) scheme? Yes/No

If yes, please rate the following statements regarding ACABC scheme

S.No	Statements	Degrees of agreement				
		SA	A	UD	DA	SDA
		5	4	3	2	1
1.	ACABC's are excellent source of income for agripreneurs					
2.	Expert services and advice to the farmers are offered by ACABC's					
3.	ACABC's don't supplement the efforts of extension services by Govt (-)					
4.	ACABCs are succeeding and will succeed in future in providing professional extension services to farming society at their doorsteps					
5.	ACABC is always a threat to sustainable income derivative (-)					
6.	ACABC centres are providing a profitable employment in new emerging area of agriculture sector					
7.	ACABC scheme is not helpful to increase the agricultural production of the country (-)					
8.	Training is very much necessary for establishment and management of ACABC's.					
9.	After training, one would be confident and competent enough to setup and run the ACABC's and effectively					
10.	Subsidy avail for the loan through ACABC scheme are not adequate/helpful (-)					
11.	ACABC scheme is helpful in brightening the future and strengthening the career of agripreneurs					
12.	It is difficult to get acceptance of the project submitted to banks after training (-)					
13.	ACABC's on group basis are more profitable					

	as compared to individual projects					
14.	ACABC scheme is not well planned & comprehensive for self-employment generation (-)					
15.	ACABC scheme helps in better utilization of specialized and trained manpower for betterment of farmers					
16.	ACABC training help the individuals a lot to improve their agripreneurial behavior, accountancy and managerial skills					
17.	As a graduate/post-graduate I would rather prefer a job than venture into business through ACABC (-)					

SA-Strongly agree; A-agree; UD-Undecided; DA-Disagree; SDA-Strongly disagree

Appendix-III

Code: **Date:**

INTERVIEW SCHEDULE FOR TRAINERS

Name: _____

Designation: _____

Constraints faced while conducting training program. Please rate the following statements

S.No	Constraints	SA	A	UD	DA	SDA
1.	Lack of quality instructors					
2.	Lack of adequate number of trainees					
3.	Insufficient budget					
4.	Candidates passive attendance					
5.	Insufficient time for training					
6.	Candidates are interested in diversified activities					
7.	Delay in process of selection of candidates for training					
8.	Candidates attend training for name sake					
9.	Trainees heterogeneity affects training					
10.	Projectisation component is not supported or guaranteed at the time of training					

SA-Strongly agree; A-agree; UD-Undecided; DA-Disagree; SDA-Strongly disagree

MULTIDIMENSIONAL ANALYSIS OF THE PERFORMANCE OF AGRI-CLINICS AND AGRI-BUSINESS CENTRES (ACABC) SCHEME IN KERALA AND ANDHRA PRADESH

by

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ABSTRACT

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2019

ABSTRACT

The Agriclinics and Agri business Centres' scheme was launched on 9th April, 2002 with the aim to supplement the public extension service to accelerate the transfer of technology process in agriculture and to provide self-employment openings to technically qualified personnel. Candidates eligible to the scheme are agriculture graduates / graduates in the allied agriculture subjects like horticulture, fisheries, dairy, veterinary, sericulture and forestry.

The study entitled "Multidimensional analysis of the performance of Agri-Clinics and Agri-Business Centres (ACABC) scheme in Kerala and Andhra Pradesh" was conducted during 2017-2019. The objective of the study was to comparatively scrutinize the functioning and performance of ACABC scheme of Kerala and Andhra Pradesh (AP). The study elicited the views and attitude of agripreneurs or prospective agripreneurs on the benefits and services accruing from these ventures. The constraints faced by agripreneurs and ACABC centres were also delineated and documented. The study sample comprised of 150 respondents with 30 agripreneurs, 30 agricultural graduates and 15 ACABC officials cum trainers were randomly selected each from Kerala and AP.

The results of the study on socio-economic profile of agripreneurs in Kerala and AP revealed that half of the agripreneurs were old aged (50%) in Kerala whereas 53.33 per cent were middle aged in Andhra Pradesh. Majority of agripreneurs were male from both Kerala (86.67%) and AP (93.33%). Furthermore 88.33 per cent of the total agripreneurs were married. 76.6 per cent of the agripreneurs belonged to General Category in Kerala, while 53.33 per cent belonged to Other Backward Castes in AP. The mean family size of the agripreneurs was 4.3 in Kerala whereas 5.3 in AP. When 53.33 per cent of the agripreneurs from Kerala had other occupation in addition to agripreneurship, 66.67 per cent of the respondents from AP had only agripreneurship as the sole occupation. Agripreneurs (40%) from Kerala had less than one acre of landholding as against 46.67 per cent of the agripreneurs in AP who possessed landholdings in the range of 2-4 acres. The total number of ventures established under ACABC scheme was 51 and 321 in Kerala and AP respectively. The

employment generation potential was high (7.03 venture^{-1}) in AP as against 5.30 venture^{-1} in Kerala. The study also pointed out that 50 per cent of the agripreneurs in Kerala and 40 per cent of the agripreneurs in AP had an annual income in the range of 2-4 lakhs. However, the percentage of agripreneurs amplified in Kerala (56.67%) falling under the income category less than 2 lakhs considering the income from agripreneurship alone.

SWOC (Strength, Weakness, Opportunity and Challenge) analysis of the ventures as perceived by agripreneurs revealed that 'vast domestic market' under strength, 'high requirement of working capital' under weakness and 'increasing market span' under opportunity were ranked first by the respondents of both AP and Kerala. When 'high level of competition' was perceived to be one of the most important challenge faced by agripreneurs of AP, while unorganized market was the most important challenge faced by Kerala agripreneurs.

The study on training aspects found that major source of information regarding ACABC scheme was 'newspapers' and 'friends' in Kerala and AP respectively. 'Drive to start own business' was ranked the first for both AP and Kerala (with a cumulative frequency of 81 and 78 respectively) as the main motivational factor of agripreneurs for joining the ACABC training programme. 43.33 per cent of agripreneurs from AP and Kerala belonged to the category of high and medium level of motivation respectively. Majority of the respondents (80% and 63.33%) from AP and Kerala took the training seriously and belonged to the category of medium to high level of seriousness. Moreover, 56.67 per cent of the trainees from both states had rendered good to excellent feedback on the training institutes.

The dependent variables of the study were Key Performance Indicators (KPI), special performance indicators and attitude towards ACABC scheme. Majority (61.67%) of the agripreneurs perceived performance of the training centres as medium in terms of key performance indicators. Productivity was ranked 'one' with a weighted mean score of 4.2 and 4.1 for AP and Kerala under the leading performance indicators. Similarly, the time of training was the most important lagging performance indicator in AP and Kerala with a weighted mean

score of 4.1 and 4.07 respectively. Correlation of KPI with the 15 independent variables revealed that six variables in case of AP and five variables in case of Kerala had positive and significant relationship. The variables *viz*., stream, annual income and feedback were significant at one per cent level in Kerala; whereas variables *viz.,* age, education, annual income, experience and feedback were significant at one per cent level in case of agripreneurs from AP. In case of correlation of independent variables with special performance indicators, it was found that 9 variables of AP agripreneurs and 6 variables of Kerala agripreneurs were positively and significantly correlated. The major special performance indicators were financial and satisfaction aspects in Kerala whereas financial and quality aspects were ranked important in AP.

Majority (65%) of the agripreneurs belonged to the category of 'medium attitude' towards ACABC scheme. Correlation analysis of agripreneurs from AP revealed that three independent variables *viz*., age, experience and annual income were significant at one per cent level however in case of Kerala none of the variables correlated at one per cent level of significance. The study on attitude of agricultural graduates towards ACABC scheme revealed that majority (69.38%) of them belonged to the category 'medium attitude' irrespective of the state. However, 18.33 per cent of them were unaware about ACABC scheme. Entrepreneurial intention of agricultural graduates correlated with attitude towards ACABC scheme at one per cent level of significance for both the states.

Finally the study explored the constraints for starting and running agriventures. Lack of resources for initial investment was one of the major constraints (Kerala-132 and AP-131) faced while starting agriventures. Competition from established ventures (Kerala-127 and AP-123) and high labour cost (Kerala-125 and AP-122) were the important constraints faced while running agriventures. The major constraint pointed out by trainers was that the trainees attend training for just name sake (AP-71 and Kerala-70). Major suggestion for the better performance of ACABC centres in Kerala is to augment the number of training centres and facilitate training for biological science graduates who are interested in agriculture through ACABC and thus to improve the enrollment rate.

Whereas, in AP, regulating the training centres under private sector and bringing more training centres under public sector will facilitate better acceptability of ACABC scheme.

To conclude, ACABC centres of AP perform better than Kerala. More number of ventures was established in AP even though the benefits and services through ACABC scheme remain the same for both Kerala and AP. Efforts must be initiated to encourage fresh agriculture graduates and agripreneurs to venture into agribusiness activities in agriculture and allied sectors of Kerala and AP for overcoming the rising unemployment of agri-graduates to ensue.