A STUDY ON AGRICLINICS & AGRIBUSINESS CENTRES IN VARANASI DISTRICT OF UTTAR PRADESH

THESIS
SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF

Master of Science (Agriculture) in Extension Education

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Submitted by
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INDIA

ID.No. X-1083
2012
Enrolment No. 323339
Dedication

To my loving parents, I share this work with you... for always encouraging me to achieve my goals, for having unwavering confidence in my abilities, even during challenging times, for providing seemingly infinite compassion and support from which I too often drew, and perhaps most significantly, for instilling in me the values to always nurture.
To,
The Registrar (Academic)
Banaras Hindu University,
Varanasi-221005 (India).

Through: The Head, Department of Extension Education, Institute of Agricultural Sciences, BHU, Varanasi (U.P.)

Dear Sir,

I have great pleasure in forwarding the thesis entitled "A STUDY ON AGRICLINICS & AGRIBUSINESS CENTRES IN VARANASI DISTRICT OF UTTAR PRADESH" submitted by Mr. Veer bahadur Yadav, I.D. No. X-1083 in partial fulfilment of the requirements for the degree of Master of Science (Agriculture) in Extension Education, Institute of Agricultural Sciences, Banaras Hindu University, Varanasi (U.P.) and placing on record that he has completed the requisite residential requirements as contained in the statutes of the university.

I certify that the entire scheme of investigation presented herein was planned and carried out solely by the candidate under my guidance and supervision. The data presented in thesis, to the best of my knowledge and belief, are genuine and original.

Thanking you,

Yours faithfully,

(Kalyan Ghadei)
Supervisor
A STUDY ON AGRICLINICS & AGRIBUSINESS CENTRES IN
VARANASI DISTRICT OF UTTAR PRADESH

By

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Thesis Submitted in partial fulfilment of the requirements for the degree of

Master of Science (Agriculture)
in
Extension Education

2012

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ACKNOWLEDGEMENT

I thank my 'God almighty'. I appreciate the support I got from those who showed courage, care and love revealing that I am who I am today because of God's mercies. To bring you guys to be part of this journey in one way or another: It was dark, with many obstacles on the way but you made me feel 'I can make it', here I am today. Let us have this slice of bread together. I was not doing it for myself alone but for you too.

I humbly and wholeheartedly bow my head before Mahamana Pandit Madan Mohan Malviya Ji whose ecstatic creation the Banaras Hindu University let me reflect my jest for the searching mystery of science in the form of the present manuscript.

I wish to record my sincere innate respect, appreciation and deep sense of gratitude to Dr. Kalyan Ghadei, Assistant Professor, Department of Extension Education, Institute of Agricultural sciences, Banaras Hindu University, under whose esteemed guidance and supervision, this thesis has been completed. I am thankful to him for his valuable guidance, constructive criticism and wholehearted support and especially for the encouragement and confidence he imparted to me throughout the period of my study and preparation of this manuscript.

I express my sincere thanks and gratefulness to the member of my advisory committee, Dr. O. P. Mishra, Associate Professor, Department of Extension Education and Dr. O. P. Singh, Assistant Professor, Department of Agricultural Economics, for their help, valuable suggestions and encouragement during the course of study.

I am highly grateful to Dr. Deepak De, Professor and Head of Department, Dr. A. K. Singh, Professor, Department of Extension Education, Late Dr. D. K. Sujan and Dr. B. Jirli, Assistant Professor, Department of Extension Education for their valuable suggestions enthusiastic constant inspirational help and fruitful discussions during the course of study.

I will ever remain indebted to my beloved parents Shri Ram Sahay Yadav who always remain as a source of inspiration for me. I am highly indebted for the unending, unconditional love, moral support and help by my beloved mother Smt. Tara Devi, my sister Malati Yadav and Arti Yadav, my brother Dharm Prakash Yadav and my fiancee Gunjan and Kalindii Singh, and all my family members who bestow their blessings and good wishes on me from miles apart & for their constant encouragement and moral support during this stage. I will ever remain indebted to my beloved Naniji and Nanaji for their blessings.
I also wish to thank SMGGS for their valuable support. My special thanks also go to my sample respondents for their willingness, commitment and patience to answer all the questions in the test item.

No words can describe the unending love, moral support and help by my dearest friends, Devbrat, Govind, Ramesh, Praveen, Arijit, Ramnarayan, Abhishek, Anamika, Swati, Naresh, Sunil, Rajesh, Jitendra, Sunder, Pramod and all batch mates, my loving juniors, and my seniors for their constant motivation and support.

I am highly grateful to Sunil Kumar Yadav, M.Sc. (Ag) IASRI, New Delhi for their help during the analysis and interpret the results.

I am greatly obliged to Shri H. S. Mishraji, Shri Ramlakhanji, Shri Bipramji, Sri Anup, Shri Rambrikshji and Shri Mahendraji, non-teaching staff, who have been a great source of knowledge to me and always easier to listen to my problems and to solve them like an affectionate guardian.

There are a lot of people to thank for the roles they played to make this study a success but I might not be able to mention all the names, forgive me guys I appreciate and am so thankful for your contribution.

Date: 01/08/2012
Place: Yaranagi

[Veer Bahadur Yadav]
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The agricultural sector is knowledge intensive. To improve and sustain farm productivity, farmers require information on new technologies, best practices, inputs, and postharvest information related to marketing and prices. In past few decades public-sector extension has received much criticism due to limited reach and relevance, and high cost of operation (Feder et al. 2001, Anderson and Feder 2004). With the changing focus of agricultural extension and with the commercialization of agricultural technology and research, the private sector is now playing a larger role in advisory services (Swanson 2008; Rivera and Alex 2004). Privatization of extension services is a popular agricultural extension reform option in many countries, including developed countries such as the Netherlands and New Zealand. This is partly because privatization addresses the issues of fiscal sustainability and poor accountability faced by public-sector agricultural extension (Feder et al. 2001). Private extension provides targeted information as required by the client, the farmer, thus improving the client orientation of advisory services.

A number of issues need to be considered when introducing private extension and advisory approaches in a developing country. First, the information provided through privatized extension and advisory services depends on the nature of that information where higher excludability and rivalry increase the chance for the private sector to be involved. For example, information related to common-good issues, like the environment or natural resource management, tends not to be addressed through the private sector. Second, by privatizing extension, governments recognize information as a commodity. But this focus may neglect the value of extension for educational, human, and social capital development, like formation of farmer groups (Bloome 1993). Third, a private extension model may have limited impact in resource-poor areas, where farmers are unable and may be less willing to pay for information (Sulaiman and Sadamate 2000). So while the private-sector presence in extension and advisory services may be useful for large-scale and commercial farmers, for small-scale and marginal farmers the private sector may even be detrimental and unlikely to serve their interests (Swanson and Rajalahti 2010).
While the Indian government is increasingly considering the role of the private sector in agricultural extension, the 2003 survey of the National Sample Survey Organization (NSSO) showed that the 282,0002 private input dealers already play a large role in the provision of information to farmers (NSSO 2005). The National Commission for Farmers noted that “today the farmer depends on the input dealer who sells seeds, pesticides and fertilizers for technical advice. The input dealer is also the money lender, the scientist, agricultural expert, counselor and buyer, all rolled into one” (2006, 23). Despite reliance on the private input dealer for information, it is difficult for small and marginal landholder farmers to hold private input dealers accountable for errors. Also private input dealers tend not to be technically competent (Swanson 2008).

Training the input dealers may improve the information they give to farmers. This may help agri-clinic and agribusiness centres (ACABC) program to develop another source of reliable information. The ACABC program is a public–private partnership in agricultural extension and advisory services. The ACABC program aims to supplement the pubic extension system, increase the availability of input supply, provide reliable advice and services to farmers outside commercial interests, and provide employment to agriculture graduates (India, Planning Commission 2006). The role of an agri-clinic is to provide expert services and advice to farmers on such matters as cropping practices, technology, and crop protection from pests and diseases; an agribusiness centre would provide inputs for sale, farm equipment for hire, and other services. The central government provides 25 percent of the cost to start up an agri-clinic by a qualified individual (one who has a degree or diploma in agriculture). (source: http://www.acabc.net)

Indian agriculture, since independence made rapid strides because of multi-disciplinary and multi-institutional approaches. Country achieved self-sufficiency in food grains production (241.56 million tons), milk (112.5 million tons) and second largest producer of vegetables (80 million tons), rice (95.32 million tons), wheat (85.93 million tons) and pulse production (19.09 million tons) (2011). Further, it possess more than 56 per cent of the world buffaloes and ranks first in cattle and buffalo, second in goats, third in sheep, fifth in poultry population and sixth in fish production. Unfortunately, pattern of growth of agriculture has brought in its wake uneven development across regions and crops as also across different sections of farming community.
Agriculture not only faces the challenges of how to increase productivity but also how to sustain? Some agriculture scientists say the main problem in agriculture pertains to sustainability of resources, use and indiscriminate use of chemical fertilizers and pesticides. These problems have led to increasing awareness and a felt need for moving away from the input intensive agriculture pursued during the green revolution phase to sustainable farming in different parts of the world better agricultural practices are needed to bring sustainability in Indian agriculture (www.ficci.com/ficci/media-room/speeches-presentation/2001oct.htm). Others argue that agriculture is suffering because of lack of good extension service to the farmers in addition to the poor infrastructure in many rural areas. The inability of farmers to directly access markets has sustained the presence of a chain of middleman through when most agricultural commodities must circulate before finally reaching consumers (source: S.L. Gupta -Rural Marketing Text and Cases, page no.147)

National Agricultural Policy (NAP) announced by the Government of India in July 2000 seeks to analyze a significant growth potential of Indian agriculture, strengthen rural infrastructure to support faster agriculture development, promote value addition, accelerate growth of agribusiness, create employment in rural areas, secure a fair standard of living for farmers and agricultural workers and their families, discourage migration to face challenges arising out of economic liberalization and globalization, etc. NAP, among other things, accord a very high priority to application of frontier sciences like biotechnology, pre and post- harvest technologies, adequate and timely supply of quality inputs (seeds, fertilizers, plant protection chemicals, bio-pesticides and control agents, agriculture machinery, strengthening and revitalizing research and extension linkages), broad based extension system, development of human resources through capacity building and skill up-gradation of public extension functionaries and other extension functionaries.

Due to a number of constraints and other reasons, public extension is shrinking and paving the way for wide extension gaps at the juncture of ever challenging time of WTO. At the same time, a reservoir of over 12000 agriculture graduates every year are available for
supporting agricultural production process if viable business opportunities are afforded to them.

At the backdrop of an extension gap and availability of a vast reservoir of untapped resource of unemployed agriculture graduates, a need was felt by the Government of India to design a programme which can take care of both, gave birth to the centrally sponsored scheme of “Agri-clinics and agribusiness centres”, with a view (a) to gainfully utilize services and skills of agricultural graduates for supporting agriculture and allied activities, (b) to complement government efforts, and (c) to bring up standard of Indian agriculture (www.acabc.net).

Government of India constituted a steering committee on agriculture and allied sectors under the chairmanship of Prof. M.S. Swaminathan. The committee, among others, suggested creation of agri-clinics and agribusiness centres managed by agri-graduates so as to provide consultancy services to the farming community in rural areas. Subsequently, a scheme for setting up of agri-clinics and agribusiness centres by agricultural graduates was announced by the then finance ministers on February 28, 2001. The scheme was later approved by the parliamentary consultative committee of Ministry of Agriculture on August 22, 2001. These centres were supposed to provide a package of soil and input testing facilities, input providing facility and other consultancy services. Besides of strengthen the transfer of technology and extension services, the scheme provide self-employment opportunities to technically trained agricultural graduates

ACABC:

In India, agricultural extension and advisory services are pluralistic, involving the public, private, and civil society sectors. However, policy actions continue to focus mainly on the public-sector extension system. The Indian 10th and 11th five-year plans (2002–2007 and 2007–2012, respectively) stress the need to strengthen agricultural extension as a key to reducing the yield gap in farmers’ fields (India, Planning Commission 2001; India, Planning Commission 2006). In the last decade, a number of reforms have been introduced to improve the performance of public-sector extension. These include the Support to State Extension Programs for Extension Reform program, which is institutionalized through the Agricultural Technology Management Agency (ATMA); the mass media program, which focuses on public television and radio to disseminate agricultural
information; and the Kisan Call Centre program, which provides a toll-free number for farmers to call and speak to experts. ACABC is also a national program but is a unique initiative of the central government.

While the other programs support existing public institutions, ACABC subsidizes private enterprises. But international experiences of extension privatization show that incentives are needed for extension provision to be responsive to farmers’ needs, well-trained personnel to provide quality services, and public-sector investment in education and training (Chapman and Tripp 2003). To be successful, ultimately farmer demand is needed. ACABCs are working throughout India but the present study is done in Uttar Pradesh at Varanasi district.

Out of 105 institutes, Uttar Pradesh has 14 training institutes namely,

1. Shree Maa Guru Gramodhyog Sansthan, Varanasi,
2. Indira Gandhi Institute of Co-operative Management, Lucknow
3. Jubilant Agriculture Rural Development Society, Moradabad
4. State Institute of Management of Agriculture, Lucknow
5. Shree Maa Guru Gramodhyog Sansthan, Jhansi
6. Sam Higginbottom Institute of Agriculture, Technology & Science, Allahabad
7. Centre for Agriculture and Rural Development, Noida
8. National Research Centre for Agro-Forestry, Jhansi
9. C.S.Azad University of Agriculture and Technology, Kanpur,
10. Krishi Vigyan Kendra, Kaushambi
11. Sardar Vallabh Bhai Patel University of Agriculture and Technology
12. Raja Dinesh Singh Krishi Vigyan Kendra, Pratapgarh
13. Narendra Deva University of Agriculture & Technology, Narendranagar
14. Indian Veterinary Research Institute, Bareilly

All these 14 institutes are identified as agri-clinic training centres but some are imparting training continuously since 2002 and few are discontinued due to lack of trainees strengths and other problems. These institutes have imparted training to more than 4896 participants by January 2012 and Uttar Pradesh registered 2115 success stories among which Shree Maa Guru Gramodhyog Sansthan, Varanasi, contributes 1482 success

~ 5 ~
stories which is largest institutes to report success stories in the country (www.agri-clinic.net).

About 60 Agri-clinic and agribusiness centres are operating in the Varanasi district. This is the sign of achievement that the farmers are getting consultancy about agriculture related problems new technologies, modern agricultural practices, input supply, and marketing of their produce.

The study is aimed to know how much effectiveness ACABC operator, Contribution, Performance and problems faced by them. Hence an attempt has been made to study the training needs and other aspects of training, profile of trained agri-graduates, problems faced by the trained graduates in establishment and running their agri-clinics and agribusiness centres, strategies adopted by the banks in providing the loans under this scheme, extent of loans issued to trained graduates under this scheme and suggestion. There are a few studies on above mentioned aspects, which are the main concerns for the slow establishment of agri-clinic and agribusiness centres in the North India. The following objective has been taken for the present study.

**Objectives of the study:**

1. To study the socio-economic personal- psychological profiles of agri-preneures.
2. To document the profile of selected ACABCs, diversification in the enterprises and seriousness towards the own ACABC’s.
3. To study and analyze the problems faced by the agriclinic and agribusiness centre operators.
4. To see the association among some selected independent variables with dependent variables and impact of some selected independent variables with dependent variables.

**Scope of the study:**

With different agro-climatic eco-zones, North India offers congenial ambience for growing a wide range of agri-horticultural, livestock and dairy produce. It has also provided a lead in non-conventional farming practices like organic farming, hybrid seed production, exotic vegetables, medicinal and herbal plants, spices, floriculture etc. In
short, farmers are shifting from substantial farming to market oriented farming for which they need high investment and technical information which is mostly not available in the Department of Agriculture. They look for other agencies and ready to pay for such service, which is vital to make profit. Farmers need advice to solve specific problems in the field, advice and plant protection measures and totally new information/technologies which opens a wide scope for AC and ABCs in the region.

On the other hand, in Uttar Pradesh, many national and state level R & D organizations in agriculture and allied fields. The region has four state agricultural universities and 2 agricultural institutes, which are continuously engaged in development of technologies for the farming community. Such skilled manpower could be advantageously used through AC and ABCs for further development of this sector. So that the study of such kind clinic & agribusiness centre and will provide road map and findings cater the need of farmers as well as agricultural experts.

**Organization of Thesis**

This thesis has been divided into different chapters the chapter-I, gives a brief introduction including the objective, scope and limitation of the study. The chapter- II cites a little about the available review of literatures. The chapter-III highlights the methods and procedure followed to fulfill objectives of the study. Further the chapter IV entitled results and discussion presents the tabulated/ calculated data as per objectives of the study. The summary, conclusion and recommendations have been discussed in chapter V.
Chapter II

REVIEW OF LITERATURE

Review of literature provides information to the researcher regarding the previous works done in their area of research and thereby helps them in identifying the theoretical framework and methodological issues relevant to the study. It provides the researchers a proper direction to carry out their research work and enable them to arrive at a meaningful results. Although there is no much work done on aspects of agriclinics and agribusiness centres, an attempt is made to review the available literature connected with the objectives and related aspects of the present study in general made in India and abroad was reviewed and they are presented hereunder the following headings.

1. Socio-economic personal- psychological profiles of agripreneurs.
2. Profile of selected ACABCs, diversification in the enterprises and seriousness towards the own ACABC’s.
3. Study and analysis of the problems faced by the agriclinic and agribusiness centre operators.
4. Association and impact between some selected independent variables with dependent variables

2.1 Socio-economic personal-psychological profile of agripreneurs

Okey Chikwengdu (1997) determined the impact of different extension systems in six states representing south-east and north-west agro-ecological zones of the country. Both descriptive and quantitative statistical tools were employed in data analysis. The results indicate that the T and V system employed by the government extension agency impacted less than the participatory system used by NGOs and private extension agencies in terms of positive changes in cropping pattern, food quality, farm income, crop yield, livestock productivity and number of livestock. The analysis showed that being an NGO/PAE system farmer was more strongly correlated to income from livestock and crop production and crop yield than a contact or non-contact farmer under the public
operated T and V system. Constraints to effective extension delivery within the systems were also identified. The study concludes with recommending that the participatory extension system used by the NGOs/PAE should be incorporated into the public extension system.

Meeran and Jayaseelan (1999) reported that 58 per cent of the respondents exhibited high degree of scientific orientation as shrimp farming needs high degree of scientific orientation. About three fourth (72%) of the respondents were found to have high levels of risk orientation followed by medium level (26%). A very small fraction (2%) of the respondents had low levels of risk orientation. As shrimp farming is risky venture due to its proneness to natural calamities and disease problems.

Pradap et al. (1999) in their study on profile characteristics and overall participation of members of credit management groups in Kodaikanal region of Tamil Nadu found that, majority of the respondents belonged to young age group had education, belonged to backward community were engaged in farming alone had joint family and had a family size of less than five in number. Majority of the respondents come under the low level category when they were classified for variable viz., farm power, mass media exposure, extension agency contact and information sources utilization, while for the remaining variables viz., level of income, livestock possession, social participation, farming experience scientific orientation, majority of them belonged to the medium category.

Venkatakumar and Nanjaiyan (1999) in their study on profile characteristics of commercial coconut growers in Coimbatore district of Tamil Nadu found that nearly half (45.13%) of the respondents were middle aged and one fifth of them were found to be old aged farmers. More than one third (38.05%) of respondents had possessed medium level of education followed by low (34.52%) and high (27.43%) level of education. It was also found that nearly fifty per cent of the respondents had low level of farming experience whereas one third (33.63%) of the respondents had medium level of farming experience.

Oloruntoba and Fakoya (2000) studied the socio-economic indicators such as income and pattern of expenditure, education, occupation and household size in an assessing statutes of rural adult females. Descriptive statistics was used to analyse the data obtained
from cross sectional survey of adult females in six selected rural communities in Ifeldun local Government area of Kawara state in Nigeria. Findings suggested that rural adult females exhibit variables typical poor status because majority of them have low average monthly income, high expenditure on food consumption which fueled low savings. They are also mostly petty traders with large family size of eight persons sourced informal credit to boost income generating activities and have low education.

Padmavathi (2002) in a study conducted in Kurnool district of Andhra Pradesh found that majority of farm women labourers (55%) was in middle age group of 30 and 50 years, followed by 37 per cent in young age group of less than 30 per cent and eight per cent in old age group.

Oladele et al. (2003) examined the effect of structural adjustment programme on the performance of extension services in Nigeria. This was because of agricultural extension services are considered as public good and the heavily subsidized by the government. The macro policy frame work within which the agricultural sector is expected to perform is highlighted. Data was obtained from secondary sources and analysed by using frequency counts, percentages and ‘t’ statistics. The results indicated that home was a sharp decline in the funding and operation of the extension services and thus the question of privatization of agricultural extension services arising.

Bhagyalaxmi et al. (2003) observed that majority of rural dairy women entrepreneurs (68.33%) belonged to middle age group, whereas, 21.67 per cent of them belonged to young age, followed by old age (10%).

Murali and Anitha (2003) in their study on entrepreneurial characteristics of floriculture farmers reported significant negative relationship between age and entrepreneurial behaviour.

Suresh (2004) observed that majority of the respondents (68.75%) were having medium size of land holding followed by high (19.17%) and low (12.08%) size of land holding, respectively.

Suresh (2004) reported that most of respondents were in medium income group (80.33 per cent), followed by high and low income group (15.00 and 4.17 per cent), respectively.
Bevinahalli (2005) reported that majority of the respondents (70.33%) were middle aged, while 28.33 per cent of them were young aged and remaining (1.33%) were old aged.

Devalatha (2005) in her study conducted in Gadag district of north Karnataka reported that majority of the respondents (71.76%) were young aged, while 25.00 per cent of them were middle aged and remaining belonged to old age category (3.33%) she also revealed that 40.00 per cent of the respondents had studied upto high school followed by 11.67 per cent each of them were having middle school level and college education, while 4.16 per cent of them were having just primary school level education, while 20.33 and 11.67 per cent of them were functionally literate and illiterates, respectively.

Kin Mar Oo (2005) observed that majority of the dairy women (60.83%) were illiterates, while 22.50 per cent of them were educated upto primary level followed by middle school (10.33%). Thus, 4.17 per cent of the respondents were educated upto high school level and only 1.67 per cent of them studied upto to college level.

Rao and Rupkumar (2005) studied the socio agro-economic characteristics of trained agripreneurs in Maharashtra by considering various variables such as age, education, sex, social group, land holding, annual income etc. It was found that 74 per cent of the sample SAEs were below 30 years while 25 per cent of UAEs in the range of 31-40 years. As many as 69 per cent of UAEs had only graduation. Out of 16 SAEs 38 per cent belonged to weaker sections while 3 per cent UAEs hail from other category, vast majority of SAUs are self employed and that of UAEs are either dependents or employed and 75 per cent of them are small and marginal farmers. However, analysis of their annual income show that 50 per cent of sample SAEs have Rs. 1 to 3 lakhs, while 69 per cent UAEs have annual income less than Rs. 1 lakh.

Joseph and Eswaran (2006) in the study conducted at Eizawl district of Mizoram reported that majority of the respondents (53.85%)were aged between 40 and 60 per years, followed by 30.77 per cent falling under below 40 years and 15.38 per cent falling under above 60 years category. The mean age of numbers was found to be 48 years.
Arunkumar (2008) reported that 65.00 per cent of the respondents were illiterates and 35.00 per cent of them were literates. Amongst literate respondents, 12.50 per cent of them were studied upto primary school, followed by middle school (9.38%) and high school (11.25%) and a meager per cent of them (1.88%) were college educated.

Sivanandhan (2009) observed that majority of the respondents (56.00%) were small farmers, followed by marginal (26.00%) and big (18.00%) farmers, respectively.

2.2 ACABCs Diversification and seriousness

Prabhat Kumar et al. (1998) surveyed 120 young farmers from Raipur district, Madhya Pradesh indicated the need for training in diversified field i.e. plant protection, improved varieties of crops, and water management and irrigation regarding crop production; in plant protection, improved varieties and preparation of the nursery regarding horticultural crops; and animal disease control and improved breeds regarding animal husbandry.

Chelladurai (2000) listed the suggestions of women’s education as impartant at all levels, proper exposure and knowledge are imparted to them in order to over come the family restrictions, family counseling must also form part of entrepreneurial programmes for women, governmental and non-governmental organizations must arrange the entrepreneurship development programmes according to the local needs, extending financial support and training programmes for entrepreneurship development should be organized by governmental and non-governmental organizations.

Amudha and Veerabhadraiah (2000) reported that following suggestions would solve the problems of farm women in poultry farming.

1. Training programmes should be organized to update the knowledge of rural women about improved poultry practices and disease control measures.

2. Regulatory marketing facilities should be provided for marketing of egg to fetch remunerative prices.
3. Egg consumption should be popularized among the public.

4. Cold storage facilities should be provided in every district to avoid the spoilage of eggs.

Anonymous (2002) reported that Sri. Rakesh Kumar, a first batch trainee from NRCAF, Jhansi, after exposure to marketing aspects of bee-keeping and hands on experience with one of the ayurvedic medicines firm, has struck a deal to supply honey for the firm on a bulk basis. Bharatpur and Dholpur areas of Rajasthan are quality mustard growing areas and bee-keeping is the common practice in this belt. With this he is not only helping small bee-keeping farmers but also establishing better links between the bee-keepers and regular industrial buyers. He is planning to establish his own bee-keeping unit.

Anonymous (2002) reported that Sri. Rajeev Kumar approached the KVK (SKCET), Madhubani to spare the Mobile Soil Testing Unit in order to utilize the equipment using his own chemicals and staff for testing of various samples in the farmer’s fields at a marginal cost. He provides consultancy too. He has involved a trained veterinarian (trained at KVK) to start an Animal husbandry and Dairy unit.

Anonymous (2003) reported that Smt. Swaroop Rani has expanded the existing business with three other entrepreneurs, with a self-investment of Rs. 3 lakh. She had a turnover of Rs. 25 lakhs during 2001-02. After the training programme, they are expanding the business in the areas of hybrids, R and D activities on the farm and packing unit. A project proposal was submitted to the Union Bank of India. Bowenpally Branch, Secunderabad for a loan of Rs. 9 lakhs with an aim to increase turnover to Rs. 75 lakhs during the current year.

Jaya and Reddy (2003) envisaged that public agricultural extension system with a mandate and mission, beyond transfer of technology is needed to develop the capacities of the farming community. It is expected to change itself to suspend to global changes and act as an integral component of extension-farmer-research-education-market linkage chain. The emphasis on farmer centred and participatory approach, usage of information technology must overtake the top down central approach. The present extension scenario calls for private public partnership, diversification, intensification, natural resource management, research on
consumer preferences and continues capacity building of all the stake holders in the agricultural development.

Sumangala (2003) suggested that programmes for development of women entrepreneurship can encompass increased opportunities for women education, financial assistance, availability of practical knowledge, increase of market facilities, development of infrastructure, development of self-employment programmes and training availability of information and more and more research and survey programmes.

Beena and Sushma (2003) suggested that many more women should be encouraged to take up small business activities, enterprises should be registered with the government so that they can be given help during the time of need. The customers of particular streets can give award to the best performing women entrepreneur, it is necessary to device baskets and so that they are economically efficient and light weight and studies focusing on baskets and push out may be conducted in countries where they are used like in China and Malaysia.

Rao (2003) Agribusinesses in India will need to deploy Internet technologies to gain competitive advantage and avoid isolation from mainstream businesses. Some challenges to becoming e-commerce-enabled are technical (limited infrastructure for Internet access), some are government policy-related (bandwidth, free movement of goods across states, market and trade policies), and some are legal. Many of these challenges are being addressed through both public and private initiatives. Some are specific to agribusiness, for example, relating to scope, regional specificity, the multidisciplinary nature of agricultural services, and trade restrictions on agro-products. Low levels of computer literacy and innumerable local languages compound these challenges. A two-stage strategy is suggested for agribusiness, one for improving operational efficiencies within businesses by using Internet technologies in back office business operations, and the other for delivering both knowledge and products to farmers. The first requires deploying new, generic and cost-effective Internet technologies with open standards and protocols. The second requires using Internet technologies for strategic positioning of products and services to gain long-term competitive advantage. The latter would mean persisting with conventional business strategy while using the Internet as an effective front end.
Parimaladevi, et al. (2006) 'Agriclinics and Agribusiness Scheme', a survey of 60 trainees from the agriclinics and agribusiness training programme of Kerala Agricultural University for the period from May 2002 to October 2003 was conducted. Results showed that the most important factors influencing establishment of agribusiness units are attitude towards self-employment, entrepreneurial ability, and self-confidence. Gender-related variations were also significant with regard to attitude towards self-employment, decision-making ability, and information seeking behaviour. They have suggested to focus on changes in attitude towards self-employment, develop entrepreneurial ability, and enhance self-confidence of the trainees, which in turn, will promote successful agribusiness ventures.

Lendes (2008) Despite strong overall economic growth and strengthening food demand, investment in Indian agriculture and agribusiness has remained sluggish, and growth in farm output has slowed, since the early 1990s. An array of policies and regulations affecting agricultural production, marketing, and food processing - along with weak infrastructure and a lack of market services - have discouraged private investment by farmers and large, vertically integrated agribusinesses. The policy environment has grown more investor friendly since the late 1990s and private investment appears to be responding, but significant barriers remain and the pace of future reforms remains uncertain.

Rajashekar, et al. (2009) This study examines the problems faced by trained agribusiness entrepreneurs in establishing and running their agribusiness ventures. Data were collected in south India from 99 trained agribusiness entrepreneurs who have not started their venture and 46 who have already established theirs. High rate of interest, lack of subsidy component and lack of hand holding support from the training institutes were the major problems faced by the agribusiness entrepreneurs in establishing their agribusiness ventures. On the other hand, heavy competition from the well-established dealers, non-cooperation of the farmers in repaying credit and insufficient cash on hand while starting the business are the major problems in running the start-up ventures.

Glendenning et al. (2011) agriclinic is a private form of advisory service, its success depends, among other things, on farmers' willingness to pay for soil testing services. Farmers who have tested their soil and followed the advice of the soil testing service provider are willing to pay
more for the service. The paper also explores the extent to which certain extension services can or
should be privatized in India. Results indicate that farmers who are willing to pay more for soil
testing are those who do not have formal any schooling, are not members of farmer-based
organizations (FBOs), have larger land holdings, and live further from the agriclinic. Farmers
who use the soil testing service at agriclinics are likely to be members of FBOs, to use extension
services, and not belong to the population groups scheduled caste/tribe. The results also show that
the agriclinics are an important knowledge intermediary for farmers. But greater awareness of the
potential benefits of soil testing and of agriclinics themselves within farming communities is
required.

2.3 Problems faced by the agripreneurs

Gupta et al. (1974) in their study on modernization of rice mills in West Godavari
district of Uttar Pradesh opined that the short supply of raw material i.e., paddy, stiff
competition among the processors and uncontrolled price fluctuations as the three main
problems of the rice milling industry.

Singh et al. (1981) highlighted the problem of lack of infrastructural facilities in
dal processing industries and suggested for providing them with those infrastructural
facilities of transportation, crediting and electricity at an affordable rate.

Anand (1983) in his study on the problems of sugar industry in Maharashtra state
opined that insensitivity and inflexibility of the government’s policies with respect to
market trends as the main problem faced by the industry and therefore, he suggested for
policy makers to come out with a sugar-policy that is sensitive and flexible enough to
account for any changes in the market’s demand supply equilibrium.

Chadha (1984) reported that flower and flower bud drop, cluster tip wilting, pink berry
formation, poor bud burst, premature defoliation, poor cane maturity and dead arm and trunk
splitting are the main constraints in grape cultivation.
Angadi and Renukarya (1984) observed the problems namely, existing credit facilities were inadequate (55.00%), veterinary services were inadequate (65.00%), difficulty in getting the loan sanctioned and in getting the full amount of the loan (10.00% each).

Neelgreevam et al. (1985) revealed that the present system of transporting, handling and packaging of fresh fruits and vegetables result in pre-harvest losses ranging from 15 to 40 per cent.

Malyadri (1986) indicated that selection of beneficiaries is not properly examined in Tamil Nadu. Less number of training institutes, inadequate supply of raw materials and lack of marketing facilities hindered the performance of TRYSEM programme.

Rameshwar et al. (1986) studying on the processing and marketing of linseed in Banda district of Uttar Pradesh concluded that high processing costs and short-supply of raw materials as the main problems as conceived by the co-operative oilseed crushing units in rural areas of the state.

Ramesh Babu (1987) in Uttar Pradesh observed that non-availability and high cost of inputs, more diseases and pests, lack of water for irrigation, poor bud burst, problem of weeds, micronutrient deficiency, soil salinity and alkalinity were the problems faced by the grape growers in grape production.

Prasad Rao (1988) reported that loans are not available, loan amount is inadequate, lengthy loan procedure, no technical guidance from bank officials, no financial assistance for plant protection were the major problems experienced by farmers while availing benefits of crop loan system.

Shripathi (1989) reported that duration of the training and content of the training were not satisfactory to the trainees under the scheme of “Youth of Self Employment in Karnataka”.

Singh (1989) identified some of the problems like inappropriate identification of vocations, non-availability of raw materials and marketing support, lack of publicity,
lack of post training facilities and improper monitoring in the implementation of TRYSEM programme.

Bheemappa et al. (1990) while studying adoption behaviour of dairy project beneficiaries under IRDP noticed that lack of knowledge (100.00%), inadequate veterinary facilities (87.00%), no irrigation facilities (85.00%), less land resources (80.83%), lack of operating capital (66.67%) and non-availability of fodder (63.33%) were the important problems.

Hemchand (1989) in his study on economics of processing of arhar in Narasinghpur district of Madhya Pradesh found that the main problems of the processors were short supply of raw materials, frequent shedding of power and inefficient technology which together ultimately lead to the consequences of lower capacity utilization and declining output.

Singh and Sharma (1990) observed that lack of finance (84.00%), lack of knowledge of improved practices (81.70%), high cost of HYV seeds (75.09%) and lack of irrigation facilities (61.00%) were the constraints experienced by contact and non-contact farmers.

Praveen Kumar (1992) in his study on effectiveness of IRDP-Dairy complexes on beneficiaries reported insufficient loans, corruption in purchasing of animals, lack of follow-up action, inadequate training as the major difficulties.

Swarnkar and Chouhan (1993) concluded that lack of practical training, timely non-availability of inputs, poor communication and poor economic conditions were the difficulties experienced by the farmers.

Mangal Singh (1995) while studying the strategies for effective management of sugar factories in India found that lack of quality raw material, efficient technology and professionally trained management personnel at different levels of organizational structure as the main problems as depicted by the study. He coined these problems as firms internal problems and similarly pointed to the firms external problems such as government’s pricing policies.

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Brahmprakash and Dineshkumar (1997) in his study an infrastructural requirements for establishment of development and operation of agro-based industries in rural areas opined that lack of market information systems, storage and transportation system, timely and adequate financial support and post-harvest technology as the major problems to realize the rural projects in India.

Okey Chikwendu (1997) determined the impact of different extension systems in six states representing south-east and north-west agro-ecological zones of the country. Both descriptive and quantitative statistical tools were employed in data analysis. The results indicate that the T and V system employed by the government extension agency impacted less than the participatory system used by NGOs and private extension agencies in terms of positive changes in cropping pattern, food quality, farm income, crop yield, livestock productivity and number of livestock.

Mesare et al. (2001) observed in Konkan region of Maharashtra that non-availability of required inputs in time from social forestry department (88.60%), non-availability of designed type of seeds (86.07%), delay in sale of seedlings (79.74%) and low rate of seedlings (69.62%) were the major constraints Other major constraints were lack of irrigation facilities (60.75%), non-availability of guidance in time (50.63%) and stray cattle menace (31.64%).

Tarde and Nirban (2001) observed that majority (85%) of the local leaders in selected districts of Maharashtra had the problem of “orthodox” nature of the farmers and 79 per cent had the problem of “factions in the village”. Three fourth (75%) of the leaders perceived “low economic status of the farmers” as a problem. Drug addiction of the farmers” and service support from the concerned development agencies were the constraints reported by 70 per cent and 60 per cent of the leaders respectively.

Lokesha et al. (2002) discussed the strengths, weaknesses, opportunities and threats of agribusiness activities in and around rural areas in India.

Rao and Rupkumar (2005) studied the problems faced by the trained agripreneurs in Maharashtra. The results shown that, lack of funds and risk aversion are the most important
pre-start problems faced by SAEs. Other problems faced by them are non-availability of inputs (56.25%) and inadequate technical facilities (43.75%), problems such as lack of own funds was reported much severe (100%) in case of agro-service centre and consultancy compare to vermicomposting and cut-flower production. As of problems faced in marketing, competition from well established traders and high transportation costs turned out to most important followed by non-availability of market, lack of storage facility and poor market intelligence.

Birner et al. (2006) revealed that Agricultural extension, or agricultural advisory services, comprises the entire set of organizations that support people engaged in agricultural production and facilitate their efforts to solve problems; link to markets and other players in the agricultural value chain; and obtain information, skills, and technologies to improve their livelihoods.

Global AgriSystem (2008) Discussion with officials in Maharashtra, Andhra Pradesh, and Rajasthan suggested increased productivity of crops in areas where agriclinics are available. According to the farmers, benefits obtained from agriclinics included optimum usage of farm inputs, plant protection, and increased productivity. With reference to the satisfaction level of farmers, the majority of farmers were “very satisfied” with the services provided.

Davis (2009) stated that Agricultural extension, or agricultural advisory services, comprises the entire set of organizations that support people engaged in agricultural production and facilitate their efforts to solve problems; link to markets and other players in the agricultural value chain; and obtain information, skills, and technologies to improve their livelihoods.

Karjagi et al. (2009) studies that Those who had started a business considered competition from established dealers as the major problem faced, followed by farmers asking for products on a credit basis and noncooperation of the farmers in repaying their credit.

Rajashekhar, et al. (2009) examined that problems faced by trained agribusiness entrepreneurs in establishing and running their agribusiness ventures. Data were collected in south India from 99 trained agribusiness entrepreneurs who have not started their venture and 46 who have already established theirs. High rate of interest, lack of subsidy component and lack of hand holding support from the training institutes were the major problems faced by the
agribusiness entrepreneurs in establishing their agribusiness ventures. On the other hand, heavy competition from the well-established dealers, non-cooperation of the farmers in repaying credit and insufficient cash on hand while starting the business are the major problems in running the start-up ventures.

Glendenning et al. (2010) the Agriclinics and Agribusiness Centres (ACABC) provide agricultural advisory services to farmers through agricultural graduates known as ‘agripreneurs’. While returning mixed reviews on different aspects of the scheme, studies indicate that the agripreneurs can be a solution with greater ability to meet farmers’ needs than the public extension system.

2.4 Association among independent and dependent variables and impact of independent variables on dependent variables.

Okey Chikwenu (1997) The analysis showed that being an NGO/PAE system farmer was more strongly correlated to income from livestock and crop production and crop yield than a contact or non-contact farmer under the public operated T and V system. Constraints to effective extension delivery within the systems were also identified. The study concludes with recommending that the participatory extension system used by the NGOs/PAE should be incorporated into the public extension system.

Adesope and Agumagu (2002) examined the correlation between socio-economic factors such as age, marital status, work experience, monthly income, educational attainment and job stress of extension agents in the Akwa Ibom state Agricultural Development programme. A structured questionnaire was administered to 75 randomly selected respondents from the study area and data were analyzed using descriptive statistics such as frequencies, percentages and Pearson correlation. Findings of the study revealed that the level of work experience is significantly correlated with job stress. Other factors like gender, age, marital status, work experience, monthly income, educational attainment did not correlate significantly with job stress.

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This chapter deals with the research methodology adopted for the fulfilment of the objective of study. The analytical tools and statistical programmes used for analysis of collected data are also discussed in this chapter.

3.1 Locale of the study

The study was conducted in the Community Development Blocks in the Varanasi District of Uttar Pradesh. Some background information about the area is given below.

**Varanasi an overview:**

Varanasi is one of the oldest living cities of the world. It has rich tradition of learning, philosophy and religion. Varanasi is a holy city for the Hindus; it represents a way of life. “Contributing to the growth of unique Banarasi culture” A name that almost a faith stands that the holist of the holy cities, Varanasi. Varanasi is popularly known as “city of banks” and secondly popular as a place of pilgrimage, famous for its art and crafts.

3.2 Selection of district

Varanasi district has been selected purposively. The district has been divided into 8 blocks namely pindra, Badagaon, Chiraigaon, Cholapur, Sevapuri, Harahua, Kshiidhypit and Araziline. All blocks were selected for present study since the respondents belong to all the blocks.
Fig. 1 Map of Uttar Pradesh showing Varanasi District
3.2 Sampling Procedure

The ACABC centres proportionately selected from the each block of the Varanasi districts. The information related to all established ACABC centre of Varanasi district, were collected from shree ma guru gramodhyog sansthan (training institute of agriclinic and agribusiness centre), bharlai, shivpur, Varanasi. Then ACABC centres were arranged according to the blocks, in which they were established. The selection of the ACABC centres were done in proportion of the established ACABC in blocks (fig no.-2)

3.3 Selection of the ACABC Centre

The 60% ACABC centres were proportionately selected from each block from Varanasi district. The data about no. of operating ACABC in each block has been collected from shree ma guru gramodhyog sansthan (ACABC training institute) then ACABCs selected with the help of proportionate sampling method. 41 ACABC centre has been selected by using random no. table. These ACABC centres were considered to study socio-economic personal- psychological profiles of agri-preneures, agribusiness performance, seriousness and diversification for agri-ventures, problems faced by them in establishing and running the agriventure.
Research methodology

Diagrammatical Representation of Sampling

VARANASI

Purposely Selection

Total ACABC presented in different blocks

60% of total ACABCs from each block

Arazil
Pindra
Badagaon
Chiraigaon
Cholapur
Sevapuri
Harahua
Kashividy apeeth

6 5 4 5 7 3 5 6

SAMPLE SIZE
41 ACABCs

~ 25 ~
Fig. no. 2

3.4 Instrument for data collection

3.4.1 Pre-testing of Questionnaire

The questionnaire were developed in consultation with the members of advisory committee, ACABC training institutes experts, extension scientists, resource persons and fellow students. The instruments were pre-tested with a sample of 10 ACABC’s trainees in the same study area but other than the non-sample. Pre-testing of instruments was done to know whether the contents and forms of the questions/items were satisfactory i.e., valid, reliable and easily understandable by the respondents or not. The instruments were finalized after making necessary modifications, deletions and addition based on the pre-testing. The final questionnaire was used for the study as given in the Appendix I (page no.-).

3.4.2 Collection of data

The data with respect to general aspects of training such as information about the training programmes, place of training, diversification of agri-venture, means of finance for ACABC centre, coverage area of ACABC centre were collected from the sample of agripreneurs. The other aspects of the agri-venture like, seriousness of candidate about training and final feedback of the trainees were collected from the pre-tested questionnaires.

The aspects related to profile of the agri-preneurs such as, age, education, stream, sex, marital status, social group means of livelihood, annual income and family size were collected from sample agri-preneurs as these aspects play an important role in the success of their Agriclinics. Similarly, details of agriventure, problems faced after establishing the agriclinics, and suggestions for successful operation of agriclinics were collected from selected (41) agri-preneurs in Varanasi. All questions in the scheduled were filled through direct interview of agri-preneur.
### 3.5 Variables and measurements

To study the socio-economic conditions of agri-preneurs were studied on the following parameters for which the schedule was developed. Different scores have been used for different variables. Those variables and scores as follows:

| i. Age |
|---|---|
| Age of the respondent | Score |
| <30 | 1 |
| 30-40 | 2 |
| 41-50 | 3 |
| >50 | 4 |

| ii. Education |
|---|---|
| Education level | Score |
| Intermediate (agriculture) | 1 |
| Graduate | 2 |
| Post-Graduate | 3 |
| Doctoral | 4 |

| iii. Stream. |
|---|---|
| Stream | Score |
| Agriculture | 1 |
| Horticulture | 2 |
| Engineering | 3 |
| Veterinary | 4 |
| Others | 5 |

| iv. Sex |
|---|---|
| Sex | Score |
| Male | 1 |
| Female | 2 |

| v. Marital status |
|---|---|
| Marital status | Score |
| Married | 1 |
vi. Caste category

<table>
<thead>
<tr>
<th>Social group</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>ST</td>
<td>1</td>
</tr>
<tr>
<td>SC</td>
<td>2</td>
</tr>
<tr>
<td>OBC</td>
<td>3</td>
</tr>
<tr>
<td>General</td>
<td>4</td>
</tr>
</tbody>
</table>

vii. Annual income

<table>
<thead>
<tr>
<th>Annual income</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 1 lakh</td>
<td>1</td>
</tr>
<tr>
<td>1-2 lakh</td>
<td>2</td>
</tr>
<tr>
<td>2-3 lakh</td>
<td>3</td>
</tr>
<tr>
<td>&gt;3 lakh</td>
<td>4</td>
</tr>
</tbody>
</table>

viii. Family size

<table>
<thead>
<tr>
<th>Family size</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 5 members</td>
<td>1</td>
</tr>
<tr>
<td>5-8 members</td>
<td>2</td>
</tr>
<tr>
<td>&gt;8 members</td>
<td>3</td>
</tr>
</tbody>
</table>

3.6 Formulation of hypothesis

According to George, A. Lundberg “a Hypothesis is a tentative generalization, validity of which remains to be tested. In its most ordinary stage the hypothesis may be any hunch, guess, imagination, idea, while become the basis for action and investigation. Considering the importance of the factors selected to the studies with reference to the objective of the present study mentioned in chapter 1 the hypothesis formed for his this study have been described below.

Hypotheses

1. Income of trained agricultural graduates has a significant effect on the progress of their agri-clinics and agribusiness centres.
2. Educational qualification of agripreneur has a significant effect on the progress of their agri-clinics and agribusiness centres.
3. Age of trained agricultural graduates has a significant effect on the progress of their agri-clinics and agribusiness centres.

3.7 Statistical tools and technique used

One of the most important aspects of research methodology is analysis and interpretation of the quantitative data collected. The data was tabulated and classified according to the objectives of the study. The scores, frequencies, averages and percentages were used with respect to profile of the agri-preneurs, factors responsible for starting the agri-venture and facilities available with the agri-preneurs. Ranks were assigned after calculating the percentages by using the following formula:

$$\text{No. of respondents}$$

$$\text{Percentage} (\text{frequency}) = \frac{\text{Scores obtained}}{\text{Total No. of respondents}} \times 100$$

Similarly, to study the feedback of the agri-preneurs about their ACABC centre, percentage weights for each components (both training and infrastructure) were used. The percentage of weights worked out with the help of the following formula:

$$\text{Scores obtained}$$

$$\text{Percentage weight} = \frac{\text{Total No. of scores}}{100}$$

3.5.2 Chi Square Test

Chi-square is a non-parametric test used to see the association between two qualitative variables. It can be analyzed with the help of following formula:
\[ \chi^2 = \sum_{i=1}^{n} \frac{(O_i - E_i)^2}{E_i} \]

Where,

Oi - Observed frequency

Ei - Expected frequency

i - Any definite value (i = 0, 1, 2, 3……n) Degrees of Freedom

df = (r – 1) (c – 1)

If chi-square calculated value is less than the chi-square table value or theoretical value, then we conclude that test not significant and vice versa.

3.5.3 Multiple Regression Analysis

Multiple linear regression model was used to analyze the progress/non-progress of Agriclinics and Agribusiness Centres. The empirical model of the following type was used.

\[ Y = a + b_1x_1 + b_2x_2 + b_3x_3 + b_4x_4 + b_5x_5 + b_6x_6 + b_7x_7 + b_8x_8 + b_9x_9 + b_{10}x_{10} + E \]

Where,

a = intercept

b_1, b_2…… b_{10} are regression coefficients

E = residual.

Y = Progress/non progress of AC and ABCs.

The value of progress was ‘1’ and value of non progress was‘0’.

X_1 - Age of the respondents (1, 2, 3 and 4)
<table>
<thead>
<tr>
<th>X2</th>
<th>Education of the respondents (1, 2, 3 and 4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>intermediate</td>
<td>1</td>
</tr>
<tr>
<td>Graduate</td>
<td>2</td>
</tr>
<tr>
<td>Post Graduate</td>
<td>3</td>
</tr>
<tr>
<td>Ph.D.</td>
<td>4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>X3</th>
<th>Stream for which the respondent belongs to (1, 2, 3, 4, 5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>1</td>
</tr>
<tr>
<td>Horticulture</td>
<td>2</td>
</tr>
<tr>
<td>Engineering</td>
<td>3</td>
</tr>
<tr>
<td>Veterinary</td>
<td>4</td>
</tr>
<tr>
<td>Others</td>
<td>5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>X4</th>
<th>Sex of the respondent (1, 2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>1</td>
</tr>
<tr>
<td>Female</td>
<td>2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>X5</th>
<th>Marital status of the respondents (1, 2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Married</td>
<td>1</td>
</tr>
<tr>
<td>Single</td>
<td>2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>X6</th>
<th>Social group for which the respondents belongs (1, 2, 3, 4, 5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 – SC</td>
<td>2 – ST,</td>
</tr>
<tr>
<td>3 – OBC</td>
<td></td>
</tr>
<tr>
<td>4 – PH</td>
<td>5 – General</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>X7</th>
<th>Land holding of the respondents (1, 2, 3)</th>
</tr>
</thead>
</table>

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landless (0 ha) - 1
marginal (<1 ha) - 2
Small (1- 2ha) - 3
Medium (2.0 – 5 ha) - 4
Large (>5 ha) - 5

X8 - Annual income of the respondents (1, 2, 3)
<1 lakh - 1
1-2 lakh - 2
2-3 lakh - 3
>3 lakh - 4

X9 - Family size of the respondents (1, 2, 3)
< 5 members - 1
5-8 members - 2
>8 members - 3

3.5.4 Simple Tabular Analysis

Simple conventional method of tabular analysis was used to study the document the successful model projects those are undertaken by the sample agripreneurs, constraints faced in running their AC and ABCs, and risk given by the trained agripreneurs for the successful operation of AC and ABCs were worked out by using simple tabular analysis.

3.5.5 Weighted Averages
To analyze the seriousness of trainees about the AC and ABCs training programme, weighted averages were worked out for different factors with the help of following formula

\[ W_1X_1 ± W_2X_2 ± W_3X_3 ± W_4X_4 ± W_5X_5 \]

Total seriousness = \[ \frac{X_1 ± X_2 ± X_3 ± X_4 ± X_5}{\text{Total}} \]

Where,

\( W_1 = \) Weight of the first factor (regularity in opening ACABC)

\( W_2 = \) Weight of the second factor (regularity in timing of ACABC)

\( W_3 = \) Weight of the third factor (wish to expand the business of ACABC)

\( W_4 = \) Weight of the third factor (Regularity in visit of training institution)

\( W_5 = \) Weight of the fourth factor (regularity in visit to the expert of the field)

\( X_1, X_2, X_3, X_4 \) and \( X_5 \) are respective percentages.

3.6 Definitions of terms and concepts used in the study

1. Agriclinics: Agriclinics are envisaged to provide expert services and advice to farmers on cropping practices, technology dissemination, crop protection from pest and diseases, market trends and prices of various crops in the markets and also clinical services for animal health etc. which would enhance the productivity of crops and animals.

2. Agribusiness Centres: Agribusiness Centres are envisaged to provide input supply equipment on hire and other services. In order to enhance viability of the ventures, agricultural graduates may also take up activities and allied areas along with Agriclinics and Agribusiness Centres.

3. Margin Money: Margin money is nothing but the down payment made by the investor to
start the business. Margin money is as per the RBI norms, under the scheme of AC and ABC upto Rs. 10,000/- no margin and over Rs. 10,000/-, 15 per cent to 25 per cent of the project cost.

4. Rate of Interest: It is the interest rate to be charged by financing banks to ultimate beneficiaries.

5. Security: Hypothecation of assets, mortgage of land or third party guarantee has to be pledged as a security to the financing bank in response to loan issued to the beneficiary.

6. Repayment Period: It is the time period to repay the loan amount. The period of loan will vary between 5 to 10 years depending upon the activity. Repayment period may include a grace period (to be decided by the financing bank as per individual scheme) of a maximum of two years.

7. Hand Holding: The scheme of AC and ABCs ensures hand holding facility for a period of 10 months for agriculture graduates who undergo training programme. A task force consisting of nodal officer, state and central government representatives of MANAGE, SFAC, NABARD, leading banks, media/IT, successful agripreneurs and all representatives of graduates who pass out of the training programmes take up responsibility of hand holding facility.

8. Agri-preneurs: An individual who takes an agri-enterprise is called as an agri-preneur. The agricultural graduates who have undergone the AC and ABCs training programme are generally referred to as agri-preneurs in the present study.

*****
In consistence with the objectives the data collected from different sources were analyzed with appropriate techniques. The results are presented under the following heads.

4.1 Socio-economic personal-psychological profiles of the agri-preneurs.

4.1.1 Sources of information about ACABC training program.

4.2 Profile of ACABCs, diversification of activities and seriousness.

4.2.1 Facility provided by ACABCs to the farmers.

4.3 To see the association among some selected independent variables with dependent variables and impact of some selected independent variables with dependent variables.

4.3.1 Relationship among socio-economic factors and progress of ACABCs (chi-square test).

4.3.2 Impact of socio-economic factors on progress of ACABCs (Multiple regression test).

4.4 Problems faced by the agri-preneurs.

In addition to the above findings the suggestion of the agri-preneurs are also collected for the reference of the study.

4.1 Socio-economic profile of the agri-preneurs

Socio-economic characteristics play a vital role in resource use and decision making in bringing transformation. These profiles are expected to throw light on socio-economic causes of progress or non-progress of sample agri-preneurs. The details of socio-economic profile and other related aspects were covered under broad categories such as, Socio-economic profile of the trained agri-preneurs, Status of agri-venture taken, and impact of socio-economic characteristics on the progress of ACABCs.
4.1 Socio-economic profile of agri-preneurs  
(N=41)

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Total sample size of agri-preneurs</th>
<th>Total no. of respondent</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>&lt;30</td>
<td>16</td>
<td>39.02</td>
</tr>
<tr>
<td></td>
<td>31-40</td>
<td>21</td>
<td>51.22</td>
</tr>
<tr>
<td></td>
<td>41-50</td>
<td>4</td>
<td>9.76</td>
</tr>
<tr>
<td></td>
<td>&gt;50</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>2.</td>
<td>Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>intermediate</td>
<td>2</td>
<td>7.67</td>
</tr>
<tr>
<td></td>
<td>Graduate</td>
<td>31</td>
<td>75.60</td>
</tr>
<tr>
<td></td>
<td>Post graduate</td>
<td>8</td>
<td>19.51</td>
</tr>
<tr>
<td></td>
<td>Doctorate</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>3.</td>
<td>Stream</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Agriculture</td>
<td>41</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>Horticulture</td>
<td>00</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Ag.Engineering</td>
<td>00</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Veterinary</td>
<td>00</td>
<td>0</td>
</tr>
<tr>
<td>4.</td>
<td>Sex</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>41</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>00</td>
<td>0</td>
</tr>
<tr>
<td>5.</td>
<td>Marital status</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Married</td>
<td>32</td>
<td>78.05</td>
</tr>
<tr>
<td></td>
<td>Single</td>
<td>09</td>
<td>21.95</td>
</tr>
<tr>
<td>6.</td>
<td>Social group</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>SC</td>
<td>00</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>ST</td>
<td>00</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>OBC</td>
<td>17</td>
<td>41.46</td>
</tr>
<tr>
<td></td>
<td>General</td>
<td>24</td>
<td>58.54</td>
</tr>
<tr>
<td>7.</td>
<td>Annual income</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>&lt;1 lac</td>
<td>01</td>
<td>2.44</td>
</tr>
<tr>
<td></td>
<td>1-2 lac</td>
<td>09</td>
<td>21.95</td>
</tr>
<tr>
<td></td>
<td>2-3 lac</td>
<td>15</td>
<td>36.59</td>
</tr>
<tr>
<td></td>
<td>&gt;3 lac</td>
<td>16</td>
<td>39.02</td>
</tr>
<tr>
<td>8.</td>
<td>Family size</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>&lt;5 members</td>
<td>16</td>
<td>39.02</td>
</tr>
<tr>
<td></td>
<td>5-8 members</td>
<td>19</td>
<td>46.34</td>
</tr>
<tr>
<td></td>
<td>&gt;8 members</td>
<td>06</td>
<td>14.36</td>
</tr>
</tbody>
</table>
To study the socio-economic profile of agripreneurs, the data on different socio-economic characteristics like age, education, stream, sex, marital status, social group, annual income, family size and progress of ACABC was collected from sample agripreneurs in the study area. The data so collected were subjected to analysis based on averages and percentages and are presented in Table 3.

1. Age: It was found that 51.22 percent of the respondents belonged to the age group of 31-40 years followed by 39.02 percent and 9.6 per cent belonged to the age group of below 30 years and 41-50 years, respectively. This finding is not similar to the findings of Karjagi he stated that 61.48 per cent of the respondents belonged to the age group of below 30 years followed by 22.96 per cent and 12.59 per cent belonged to the age group of 31-40 years and 41-50 years, respectively.

2. Education: The results revealed that more than 75.61 percent of the respondents were graduates, 19.51 percent were Post-Graduates in the study sample. This finding is not similar to the findings of Karjagi, his study revealed that more than 63 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.

3. Stream: all the respondents belonged to the stream of agriculture. This finding is not similar to the findings of Karjagi, his study revealed that More than 65 per cent of the respondents belonged to the stream of agriculture followed by engineering (13.33%) whereas, 8.15 per cent of the respondents belonged to horticulture and veterinary each. But only 4.45 per cent of the respondents belong to other stream like MBA (Agribusiness) etc.

4. Sex: All the respondents were found to be male. There was no any female agri-preneur. This finding is not similar to the findings of Karjagi, his study revealed that Majority of the respondents were found to be male (85.18%) followed by female (14.%).

5. Marital status: Majority of the respondents was married (78.05%) and remaining was unmarried (21.95). This finding is not similar to the findings of Karjagi, his study revealed that Majority of the respondents was bachelors (59.25%) and remaining were married.
6. Social group: Majority of the respondents (58.54%) belonged to general category followed by OBC (41.46%). There was no any SC or ST candidate operating ACABC in the selected area of study. This finding is not similar to the findings of Karjagi, his study revealed that Majority of the respondents (42.96%) belonged to OBC category followed by General and SC category accounted for 26.67 per cent and 22.97 per cent, respectively. Only 3.70 per cent of each respondents belongs to ST and PH categories.

7. Annual income: More than 3 lac rupees income group was 39.02% of the total respondents followed by 2-3 lac income group (36.59) and 1-2 lac income group and less than 1 lac income group accounted for 21.95 percent and 2.44 per cent, respectively. This finding is not similar to the findings of Karjagi, he stated that the annual income of majority of the respondents (66.67%) was below Rupees one lakh followed by 1-3 lakh group and Rs. less than 3 lakh group accounted for 31.11 per cent and 2.22 per cent, respectively.

8. Family size: It was found that 46.34 percent of the respondents belonged to 5-8 member family followed by less than 5 members and more than eight members accounting to 31.11 per cent and 5.93 per cent, respectively. This finding is not similar to the findings of Karjagi, he stated 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.

4.1.1 Sources of Information about ACABC Training Program

To study the sources of information about ACABCs training program, the data on different sources of information was collected from 41 sample agripreneurs in the study area. The data so collected was subjected to analysis for calculations of averages and percentages and are presented in Table 4.1.1
Table: 4.1.1. Sources of information about ACABC training program (N=41)

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Information sources</th>
<th>No. of respondents</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Newspaper</td>
<td>17</td>
<td>41.46</td>
</tr>
<tr>
<td>2.</td>
<td>Friends</td>
<td>24</td>
<td>58.54</td>
</tr>
<tr>
<td>3.</td>
<td>Electronic media</td>
<td>00</td>
<td>00</td>
</tr>
<tr>
<td>4.</td>
<td>Others (University Notice Board, etc.)</td>
<td>00</td>
<td>00</td>
</tr>
</tbody>
</table>

The sample agri-preneurs in the study area were used the sources of information like newspapers, friends, electronic media and others. It could be seen from Table 4.1 that the information about the ACABCs training program from friends was found to be a major source of information as it was responded by 58.54% agri-preneurs followed by newspaper 41.46% by respondents. Similar finding was also revealed by Karjagi where he has reported that the information about the AC and ABCs training programme from friends was found to be a major source of information as it was responded by 101 (74.81%) agri-preneurs followed by others.

4.2 profile of ACABCs, diversification of activities and seriousness

To assess the seriousness of the agri-preneurs about their ACABC, the data on some of the factors like no. of village coverage, no. of farmer serving, facilities providing by ACABCs, punctuality in opening of ACABC, no. of person engaged with ACABC centre, thinking about expansion of the agri-business and timing of operation of the ACABC are considered. The total seriousness about the ACABC was calculated with the help of weighted averages and percentages and the results are presented in Table 4.5.
### Table: 4.2. Seriousness of trainees about the ACABCs

(N=41)

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Various factors of Seriousness</th>
<th>No. of respondents</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>No. of person getting employment</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>&lt;3</td>
<td>13</td>
<td>31.71</td>
</tr>
<tr>
<td></td>
<td>3-6</td>
<td>17</td>
<td>41.46</td>
</tr>
<tr>
<td></td>
<td>7-10</td>
<td>9</td>
<td>21.95</td>
</tr>
<tr>
<td></td>
<td>&gt;10</td>
<td>2</td>
<td>4.88</td>
</tr>
<tr>
<td>2.</td>
<td>Villages cover under ACABC</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>&lt;5</td>
<td>2</td>
<td>4.88</td>
</tr>
<tr>
<td></td>
<td>5-10</td>
<td>24</td>
<td>58.54</td>
</tr>
<tr>
<td></td>
<td>10-15</td>
<td>13</td>
<td>31.71</td>
</tr>
<tr>
<td></td>
<td>&gt;15</td>
<td>2</td>
<td>4.88</td>
</tr>
<tr>
<td>3.</td>
<td>Monthly frequency of visit to village</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>&lt;5</td>
<td>14</td>
<td>34.15</td>
</tr>
<tr>
<td></td>
<td>5-10</td>
<td>25</td>
<td>60.98</td>
</tr>
<tr>
<td></td>
<td>10-15</td>
<td>2</td>
<td>4.88</td>
</tr>
<tr>
<td></td>
<td>&gt;15</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>4.</td>
<td>Regularity of opening ACABC</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Always</td>
<td>36</td>
<td>87.8</td>
</tr>
<tr>
<td></td>
<td>Sometimes</td>
<td>5</td>
<td>12.2</td>
</tr>
<tr>
<td></td>
<td>Never</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>5.</td>
<td>Punctuality of timing of ACABC</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Always</td>
<td>28</td>
<td>68.29</td>
</tr>
<tr>
<td></td>
<td>Sometimes</td>
<td>11</td>
<td>26.83</td>
</tr>
<tr>
<td></td>
<td>Never</td>
<td>2</td>
<td>4.88</td>
</tr>
<tr>
<td>6.</td>
<td>Want to make expansion of ACABC</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Always</td>
<td>34</td>
<td>82.93</td>
</tr>
<tr>
<td></td>
<td>Sometimes</td>
<td>7</td>
<td>17.07</td>
</tr>
<tr>
<td></td>
<td>Never</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>7.</td>
<td>Frequently visit to training centre</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Always</td>
<td>5</td>
<td>12.2</td>
</tr>
<tr>
<td></td>
<td>Sometimes</td>
<td>21</td>
<td>51.22</td>
</tr>
<tr>
<td></td>
<td>Never</td>
<td>15</td>
<td>36.59</td>
</tr>
<tr>
<td>8.</td>
<td>Frequently visit to experts</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Always</td>
<td>8</td>
<td>19.51</td>
</tr>
<tr>
<td></td>
<td>Sometimes</td>
<td>13</td>
<td>31.71</td>
</tr>
<tr>
<td></td>
<td>Never</td>
<td>20</td>
<td>48.78</td>
</tr>
</tbody>
</table>

Source: Field study

Data collected from the various agripreneurs are shown in fig 4.6. On the basis of weighted average means it is found that W1=82, W2=97, W3=70, W4=118, W5=108, W6=116,
W7=72, W8=70, and X1=X2=X3=X4=X5=X6=X7=X8=100. The weighted means worked out is 91.625 which show the seriousness of agripreneurs.

4.2.1 Facilities provided by the ACABC to the farmers and diversification of the agri-venture

Facility and consultation plays a crucial role in determining the success or failure of any ACABC. As per the training given to the agri-preneurs, they are supposed to provide better facilities, services and consultancy to the farmers. In this context, facilities provided by the ACABCs were evaluated and results are presented in table no. 4.4.

Table: 4.2.1 Facilities provided by the ACABC to the farmers (N=41)

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Nature Of Activity Adopted By Agri-Preneurs</th>
<th>No. Of Agri-Preneur</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Rural marketing dealership of farm inputs and outputs</td>
<td>41</td>
<td>100</td>
</tr>
<tr>
<td>2.</td>
<td>Value addition and processing</td>
<td>3</td>
<td>19.51</td>
</tr>
<tr>
<td>3.</td>
<td>Horticulture clinic</td>
<td>3</td>
<td>7.32</td>
</tr>
<tr>
<td>4.</td>
<td>Herbal plantation</td>
<td>1</td>
<td>4.88</td>
</tr>
<tr>
<td>5.</td>
<td>Mushroom cultivation</td>
<td>2</td>
<td>12.2</td>
</tr>
<tr>
<td>6.</td>
<td>Goat farming</td>
<td>2</td>
<td>9.76</td>
</tr>
<tr>
<td>7.</td>
<td>Seed processing</td>
<td>5</td>
<td>14.63</td>
</tr>
<tr>
<td>8.</td>
<td>Poultry farming</td>
<td>4</td>
<td>12.20</td>
</tr>
<tr>
<td>9.</td>
<td>Dairy unit</td>
<td>9</td>
<td>21.95</td>
</tr>
<tr>
<td>10.</td>
<td>Vegetable seed processing</td>
<td>1</td>
<td>2.44</td>
</tr>
<tr>
<td>11.</td>
<td>Vermi-composting and bio fertilizers</td>
<td>5</td>
<td>12.2</td>
</tr>
<tr>
<td>12.</td>
<td>Bee keeping</td>
<td>1</td>
<td>2.44</td>
</tr>
<tr>
<td></td>
<td>Activity</td>
<td>Count</td>
<td>Percentage</td>
</tr>
<tr>
<td>---</td>
<td>-----------------------------------------------</td>
<td>-------</td>
<td>------------</td>
</tr>
<tr>
<td>13.</td>
<td>Rural godowns</td>
<td>3</td>
<td>7.32</td>
</tr>
<tr>
<td>14.</td>
<td>Fisheries</td>
<td>2</td>
<td>4.88</td>
</tr>
<tr>
<td>15.</td>
<td>Bio control agents</td>
<td>1</td>
<td>2.44</td>
</tr>
<tr>
<td>16.</td>
<td>Farm machinery</td>
<td>1</td>
<td>2.44</td>
</tr>
</tbody>
</table>

Source: field study

It could be seen from Table 4.4, that the ranking of different areas in which the ACABCs are operating. Rural marketing dealership of farm inputs and outputs has got top priority as all agri-preneurs have taken it in the first phase of establishment of ACABCs. Rural marketing dealership of farm inputs and outputs is taken by all sampled agri-preneurs followed by dairy units and value addition and processing 21.95 and 19.51 respectively. The other agri-ventures are mushroom cultivation (12.20), vermi-composting and bio-fertilizers (12.20), Goat farming (9.76), rural godowns (7.32). Bee keeping, Bio control agents, Farm machinery, Vegetable seed processing are in equal percent. i.e. 2.44%. Similar finding was also revealed by Karjagi where he has reported that from 46 agri-preneurs the rural marketing dealership of farm inputs and outputs was takenup by 19 agri-preneurs followed by provision of extension consultancy services was takenup by 14 agri-preneurs which were accounted to 41.39 per cent and 30.43 per cent, respectively.

Plant protection service centres (pest surveillance, diagnostic and control services including integrated pest management), setting up of vermi-culture units, production of bio fertilizers, bio pesticides, bio control agents and provision of livestock health care, setting up of veterinary dispensaries and services including frozen semen banks and liquid nitrogen supply were taken up by three agri-preneurs each which were accounted to 6.53 per cent each, whereas, setting up of apiaries (bee keeping), honey bee products, processing units and hatcheries and production of fish finger-lings for aquaculture were taken by one agri-preneurs each, which accounted for 2.17 per cent each.
4.3. Association and impact of some independent variable and dependent variable

4.3.1 Relationship between socio-economic factors and progress of ACABCs (chi-square test)

To study the relationship between socio-economic factors and the progress of ACABCs the data on various socio-economic factors were collected and the data so collected were subjected to analysis with the help of chi-square test. The results obtained are presented in Table 4.5.

Table 4.3.1 Relationship between socio-economic factors and progress of ACABC (N=41)

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Variables</th>
<th>Degrees of freedom</th>
<th>$\chi^2$</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Age</td>
<td>3</td>
<td>29.739*</td>
<td>0.00</td>
</tr>
<tr>
<td>2.</td>
<td>Education</td>
<td>3</td>
<td>5.312*</td>
<td>0.04</td>
</tr>
<tr>
<td>3.</td>
<td>Stream</td>
<td>3</td>
<td>11.15*</td>
<td>0.05</td>
</tr>
<tr>
<td>4.</td>
<td>Sex</td>
<td>1</td>
<td>5.127 NS</td>
<td>0.062</td>
</tr>
<tr>
<td>5.</td>
<td>Marital status</td>
<td>1</td>
<td>20.28*</td>
<td>0.000</td>
</tr>
<tr>
<td>6.</td>
<td>Social group</td>
<td>3</td>
<td>16.44*</td>
<td>0.003</td>
</tr>
<tr>
<td>8.</td>
<td>Land holding</td>
<td>3</td>
<td>55.34*</td>
<td>0.000</td>
</tr>
<tr>
<td>9.</td>
<td>Annual income</td>
<td>3</td>
<td>18.09*</td>
<td>0.000</td>
</tr>
<tr>
<td>10.</td>
<td>Family size</td>
<td>2</td>
<td>1.21 NS</td>
<td>0.409</td>
</tr>
</tbody>
</table>

NS = Non significant

* significant at 5% level.

It is clear from Table 4.13 that, except sex and family size, all the socio-economic variables under the study were significant at 5 per cent level that, except sex and family size, all the socio-economic variables under the study were significant at 5 per cent level. Similar finding was also revealed by Karjagi where he has reported that except sex and family size, all the socio-economic variables under the study were significant at 5 per cent level.
4.3.2 **Contribution of Socio-Economic Factors on Progress of ACABCs (Multiple Regression Test).**

To study the impact of socio-economic variables on progress of ACABCs multiple regression test was used. The results of regression analysis are presented in Table 4.14.

**Table: 4.3.2 Impact of socio-economic conditions of agri-preneurs on the progress of ac and ACABCs (N=41)**

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Independent Variables</th>
<th>Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Age of the respondents (X1)</td>
<td>0.165&lt;sup&gt;NS&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.041)</td>
</tr>
<tr>
<td>2.</td>
<td>Education (X2)</td>
<td>0.101*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.045)</td>
</tr>
<tr>
<td>3.</td>
<td>Stream (X3)</td>
<td>0.004&lt;sup&gt;NS&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.021)</td>
</tr>
<tr>
<td>4.</td>
<td>Sex (X4)</td>
<td>-0.000&lt;sup&gt;NS&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.000)</td>
</tr>
<tr>
<td>5.</td>
<td>Marital status (X5)</td>
<td>-0.217**</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.089)</td>
</tr>
<tr>
<td>6.</td>
<td>Social group (X6)</td>
<td>-0.004&lt;sup&gt;NS&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.023)</td>
</tr>
<tr>
<td>7.</td>
<td>Means of livelihood (X7)</td>
<td>0.021&lt;sup&gt;NS&lt;/sup&gt;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.025)</td>
</tr>
<tr>
<td>8.</td>
<td>Annual Income (X8)</td>
<td>0.142*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.058)</td>
</tr>
<tr>
<td>9.</td>
<td>Family Size (X9)</td>
<td>-0.260**</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.068)</td>
</tr>
<tr>
<td></td>
<td>Intercept</td>
<td>0.0802</td>
</tr>
<tr>
<td></td>
<td>R&lt;sup&gt;2&lt;/sup&gt;</td>
<td>0.4976</td>
</tr>
<tr>
<td></td>
<td>‘F’ value</td>
<td>12.2832</td>
</tr>
</tbody>
</table>
** Significant at 1 per cent level
* Significant at 5 per cent level
NS Non significant

Note: Figures in the parentheses indicate the standard errors of the corresponding coefficients.

The results revealed that, marital status and family size were found to be significant at one per cent level of probability, but marital status and family size were negatively significant. However, education and annual income have a significant at five per cent level of probability with the progress of ACABCs in Varanasi with $R^2$ and F value of 0.4976 and 12.2832, respectively. The findings are in conformity with Karjagi where he has also reported that marital status, land holding and family size were found to be significant at one per cent level of probability, but marital status and family size were negatively significant. However, education and annual income have a significant at five per cent level of probability with the progress of AC and ABCs in south India with $R^2$ and F value of 0.4976 and 12.2832, respectively.

**4.4 Problems Faced By Agri-Preneurs:** To study the problems faced by the trained agri-preneurs in establishing and running their agri-venture, the data was collected from sampled agri-preneurs. The details of problems faced by the agri-preneurs were presented under the broad headings in table 4.7.
<table>
<thead>
<tr>
<th>Problems faced by agripreneurs:-</th>
<th>No. of respondents</th>
<th>% of respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Lack of business and field experience</td>
<td>37</td>
<td>90.24</td>
</tr>
<tr>
<td>2. Heavy competition from well-established and other old dealers in business</td>
<td>29</td>
<td>70.73</td>
</tr>
<tr>
<td>3. Farmers asking the products on credit basis</td>
<td>11</td>
<td>26.83</td>
</tr>
<tr>
<td>4. A lot of procedure is involved in getting bank loans</td>
<td>41</td>
<td>100</td>
</tr>
<tr>
<td>5. Insufficient cash in hand while starting the business</td>
<td>35</td>
<td>85.37</td>
</tr>
<tr>
<td>6. Illiteracy and lack of knowledge of the farmers</td>
<td>16</td>
<td>39.02</td>
</tr>
<tr>
<td>7. Average support from family (risk involved and new activity)</td>
<td>14</td>
<td>34.15</td>
</tr>
<tr>
<td>8. Marketing and infrastructure</td>
<td>11</td>
<td>26.83</td>
</tr>
<tr>
<td>9. Low investment</td>
<td>9</td>
<td>21.95</td>
</tr>
<tr>
<td>10. High rate of interest and lack of subsidy component in the scheme</td>
<td>38</td>
<td>92.68</td>
</tr>
<tr>
<td>11. Many banks do not know about the scheme of ACABCs</td>
<td>24</td>
<td>58.54</td>
</tr>
<tr>
<td>12. Fear of collection of money from the farmers</td>
<td>16</td>
<td>39.02</td>
</tr>
<tr>
<td>13. Business runs only in seasons</td>
<td>17</td>
<td>41.46</td>
</tr>
</tbody>
</table>

Source: field study

It could be seen from Table 4.7 that a lot of procedure is involved in getting bank loans and High rate of interest and lack of subsidy component in the scheme followed by Lack of business and field experience, Insufficient cash in hand while starting the business, and heavy competition from well-established and other old dealers in business were the major
problems faced by 41, 38, 37, 35 and 29 agri-preneurs which accounts to 100 percent. 92.68 percent, 90.24 percent, 85.37 percent, and 70.73, respectively. Quote others findings?

The second order problems faced by these agri-preneurs in establishing their agriventure, many banks do not know about the scheme of ACABCs (58.54%), business runs only in seasons (41.46%), fear of collection of money from the farmers (39.02), illiteracy and lack of knowledge of the farmers (39.02), average support from family (risk involved and new activity) (34.15%), farmers asking the products on credit basis (26.83%), marketing and infrastructure (26.83%) and low investment (21.95). Similar finding was also revealed by Karjagi where he has reported that high rate of interest and lack of subsidy component in the scheme followed by lack of hand holding support from the training institutes, bankers hesitate to finance, and NABARD and commercial banks will not give correct picture about the rate of interest, subsidy and collateral security were the major problems faced by 83, 72, 71 and 70 agripreneurs which accounts to 93.25 per cent, 80.89 per cent, 79.77 per cent and 78.65 per cent, respectively.

The second order problems faced by these agri-preneurs in establishing their agriventure were bankers not responding to the proposals (77.52%), many banks do not know about the scheme of AC and ABCs (75.28%), lack of collateral security (73.03%), high margin money (68.53%), lack of support from the family (67.41%) and fear of collection of money from the farmers (66.29%). The other problems like lack of business and field experience, fear of sales, long procedures involved in getting the bank loans, huge risk involved, dryland areas business runs only in seasons and employment in private/government sectors were responded by 64.04, 61.79, 59.55, 58.42, 56.17 and 7.86 per cent of the agri-preneurs, respectively.

4.1. Problems faced by agri-preneurs in running their agriventure

Table 4.1 revealed that at the over all, heavy competition from well-established and other old dealers in the business was the major problem faced as responded by 39 agri-preneurs (84.78%) followed by farmers ask the products on credit basis, non-cooperation of the farmers and insufficient cash in hand while starting the business as responded by 36, 34 and 31 agri-preneurs which accounts to 78.26 per cent, 73.91 per cent and 67.39 per cent, respectively. The other problems faced by the agri-preneurs were illiteracy and lack of knowledge of farmers (54.34%). Lack of support from the family (45.65%), marketing and infrastructure (43.47%), low investment (41.30%), no direct dealership from the company (39.13%) and non-possession of land for demonstration (6.52%).
**Suggestion given by the agri-preneurs for the success of ACABCs**

Various suggestions given by selected agri-preneurs are listed in table 4.8. The suggestions are helpful to improve the scheme of ACABC. Various shortcomings which they face during the operation of their agri-business can be avoided to follow their suggestion.

**Table 4.5. Suggestions given by the agri-preneurs for the success of agriclinics and agribusiness centres**

(N=41)

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Suggestions</th>
<th>No. of respondents</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Link the training institute with financial institutions for loan sanction</td>
<td>41</td>
<td>100</td>
</tr>
<tr>
<td>2</td>
<td>ACABCs should be treated on par with govt. Agriclinics in distribution of seeds and other inputs to the farmers at subsidized rates</td>
<td>25</td>
<td>60.97</td>
</tr>
<tr>
<td>3</td>
<td>Concentrate more on providing training on need based and economically viable projects by putting trainees under in plant training for 15-20 days</td>
<td>12</td>
<td>29.26</td>
</tr>
<tr>
<td>4</td>
<td>Training should not be given free of cost</td>
<td>11</td>
<td>26.82</td>
</tr>
<tr>
<td>5</td>
<td>Govt. should promote agricultural graduates to start agriclinic at every gram panchayat level</td>
<td>8</td>
<td>19.51</td>
</tr>
<tr>
<td>6</td>
<td>Increase the duration of training program</td>
<td>18</td>
<td>43.90</td>
</tr>
</tbody>
</table>
It could be seen from Table 4.8 that the most important suggestion given by the trained agripreneurs were link the training institute with financial institutions for loan sanction followed by ACABCs should be treated on par with govt. Agriclinics in distribution of seeds and other inputs to the farmers at subsidized rates, Increase the duration of training program, Concentrate more on providing training on need based and economically viable projects by putting trainees under in plant training for 15-20 days, Training should not be given free of cost and Govt. should promote agricultural graduates to start agriclinic at every gram panchayat level as these things were suggested by 41, 25, 18, 12, 11, and 8 agri-preneurs which amounts to 100, 60.97, 43.90, 29.26, 26.82 and 19.5 percent of the total respondents respectively.

*****
The agricultural sector is knowledge intensive. To improve and sustain farm productivity, farmers require information on new technologies, best practices, inputs, and postharvest information related to marketing and prices. In past few decades public-sector extension has received much criticism due to limited reach and relevance, and high cost of operation. Privatization of extension services is a popular agricultural extension reform option in many countries, including developed countries such as the Netherlands and New Zealand. This is partly because privatization addresses the issues of fiscal sustainability and poor accountability faced by public-sector agricultural extension. A draft policy frame work for Agricultural Extension (2001) envisages a multi-agency, pluralistic extension system for the future. Draft policy stated the need of other extension services from farmers organizations, farmers cooperatives and agricultural graduates along with public extension system for the future. Further progressive reduction of unemployment has been another objective of economic planning in India. About 10,000 skilled manpower of agri-graduates are added to the pool of educated unemployed in a single year. Thus an urgent need was felt by the policy makers to tackle this serious problem and constituted a committee under the chairmanship of Prof. M.S. Swaminathan. The committee suggested creation of agriclinics and agribusiness centres managed by agri-graduates so as to provide consultancy services to the farming community in the rural areas.

Subsequently, a scheme for setting up of agriclinics and agribusiness centres by agricultural graduates was announced by then finance minister on February 28, 2001 to NABARD to formulate a model scheme for financing AC and ABCs. In the meanwhile, NABARD in consultation with Ministry of Agriculture and selected banks formulated a scheme for this purpose while, MANAGE identified 67 training institutes throughout the country for imparting training to agri-graduates. The scheme is being implemented with the help of SFAC. The scheme was later approved by the parliamentary consultative committee of Ministry of Agriculture on August 22, 2001. The scheme has the objectives of supplementing the efforts of government extension system, to make available supplementary
sources of input supply and services to needy farmers and to provide gainful employment to agricultural graduates in emerging areas of agricultural sector. The following objectives have been taken for present study:

1. To study the socio-economic personal- psychological profiles of agri-preneurs.
2. To document the profile of selected ACABCs, diversification in the enterprises and seriousness towards the own ACABC’s.
3. To study and analyze the problems faced by the agriclinic and agribusiness centre operators.
4. To see the association among some selected independent variables with dependent variables and impact of some selected independent variables with dependent variables.

**Methodology**

The present study pertains to Varanasi district of Uttar Pradesh. The primary data was collected from the 10 trained agricultural graduates by using pre-tested questionnaires with respect to socio-economic profile and status of their agribusiness venture. Then 8 blocks of Varanasi selected for study and 60% of ACABCs selected randomly from each block. 41 ACABC got selected from whole Varanasi district.

**Findings of the study**

1.1 **Socio-economic profile of the agri-preneurs**

The socio-economic profile of agri-preneurs, the data on different socio-economic characteristics like age, education, stream, sex, marital status, social group, annual income, family size and progress of ACABC

1. Age: It was found that 51.22 percent of the respondents belonged to the age group of 31-40 years followed by 39.02 percent and 9.6 per cent belonged to the age group of below 30 years and 41-50 years, respectively.

2. Education: The results revealed that more than 75.61 percent of the respondents were graduates, 19.51 percent were Post-Graduates in the study sample.

3. Stream: all the respondents belonged to the stream of agriculture.
4. Sex: All the respondents were found to be male. There was no any female agri-preneur.

5. Marital status: Majority of the respondents was married (78.05%) and remaining was unmarried (21.95).

6. Social group: Majority of the respondents (58.54%) belonged to general category followed by OBC (41.46%). There was no any SC or ST candidate operating ACABC in the selected area of study.

7. Annual income: More than 3 lac rupees income group was 39.02% of the total respondents followed by 2-3 lac income group (36.59) and 1-2 lac income group and less than 1 lac income group accounted for 21.95 percent and 2.44 per cent, respectively.

8. Family size: It was found that 46.34 percent of the respondents belonged to 5-8 member family followed by less than 5 members and more than eight members accounting to 31.11 per cent and 5.93 per cent, respectively.

1.2. Sources of Information about ACABC Training Programme

The sample agri-preneurs in the study area were used the sources of information like newspapers, friends, electronic media and others. The information about the ACABCs training programme from friends was found to be a major source of information as it was responded by 58.54% agri-preneurs followed by newspaper 41.46% by respondents.

2.1 Seriousness of trainees about the ACABCs training programme

It is found that 79% of the agri-preneurs are seriously engaged with their agri business.

2.2 Facilities provided by the ACABC to the farmers and diversification of the agri-venture

Rural marketing dealership of farm inputs and outputs has got top priority as all agri-preneurs have taken it in the first phase of establishment of ACABCs. Rural marketing dealership of farm inputs and outputs is taken by all sampled agri-preneurs followed by dairy units and value addition and processing 21.95 and 19.51 respectively. The other agri-ventures are mushroom cultivation (12.20), vermi-composting and bio-fertilizers (12.20), Goat farming (9.76), rural godowns (7.32). Bee keeping, Bio control agents, Farm machinery, Vegetable seed processing are in equal percent. i.e. 2.44%.
3.1 Relationship between socio-economic factors and progress of ACABCs (chi-square test)

Except sex and family size, all the socio-economic variables under the study were significant at 5 per cent level.

3.2 Impact of Socio-Economic Factors on Progress of ACABCs (Multiple Regression Test).

Marital status and family size were found to be significant at one per cent level of probability, but marital status and family size were negatively significant. However, education and annual income have a significant at five per cent level of probability with the progress of ACABCs in varanasi with $R^2$ and F value of 0.4976 and 12.2832, respectively.

4. Problems Faced By Agri-Preneurs

Lot of procedure is involved in getting bank loans and High rate of interest and lack of subsidy component in the scheme followed by Lack of business and field experience, Insufficient cash in hand while starting the business, and heavy competition from well-established and other old dealers in business were the major problems faced by 41, 38, 37, 35 and 29 agri-preneurs which accounts to 100 percent, 92.68 percent, 90.24 percent, 85.37 percent, and 70.73, respectively.

The second order problems faced by these agri-preneurs in establishing their agriventure, many banks do not know about the scheme of ACABCs (58.54%), business runs only in seasons (41.46%), fear of collection of money from the farmers (39.02), illiteracy and lack of knowledge of the farmers (39.02), average support from family (risk involved and new activity) (34.15%), farmers asking the products on credit basis (26.83%), marketing and infrastructure (26.83%) and low investment (21.95).

Suggestion given by the agri-preneurs for the success of ACABCs

Link the training institute with financial institutions for loan sanction followed by ACABCs should be treated on par with govt. Agriclinics in distribution of seeds and other
inputs to the farmers at subsidized rates. Increase the duration of training programme, Concentrate more on providing training on need based and economically viable projects by putting trainees under in plant training for 15-20 days. Training should not be given free of cost and Govt. should promote agricultural graduates to start agriclinic at every gram panchayat level as these things were suggested by 41, 25, 18, 12, 11, and 8 agripreneurs which accounts to 100, 60.97, 43.90, 29.26, 26.82 and 19.5 percent of the total respondents respectively.

Testing of Hypothesis

1. Income of trained agricultural graduates has a significant effect on the progress of their agri-clinics and agribusiness centres.

2. Educational qualification of agripreneuer has a significant effect on the progress of their agri-clinics and agribusiness centres.

3. Age of trained agricultural graduates has a significant effect on the progress of their agri-clinics and agribusiness centres it is concluded that the income, educational qualification and age of agripreneurs are significant at 5%.

Conclusion

The study on ACABCs conducted by the researcher through the light on the agriclinic and agribusiness centre performance in Varanasi district of Uttar Pradesh, the findings revealed that the ACABC operators are seriously engaged in the activity with the diversification in their business. However, they have faced different problems to get the finance at right place and at right time to expand their activities on one hand and they face farmer unawareness about modern agricultural technology, high interest rate on the other hand. Hence we can conclude that availability of finance a major contributor for expansion of agriclinic and agribusiness and their performance.

Recommendations

1. Agriculture graduates engaged in agri-business need regular support and guidance from agriculture universities, research institutions and various support organizations. Concerned institutes/agencies should be aware of this and also encourage in this matter.

2. While allotting government schemes or implementing development programmes,
priority should be given to trained agripreneurs.

3. Trained agripreneurs should be nomenclated as a “registered agriclinic practitioners” (RAP). The ID number provided under AC and ABCs training should be treated as RAP number Certificate be issued after successful completion of training should be declared as “License for Agriclinics”.

4. At the backdrop of present amendable problems and prospects and need of AC and ABCs in future, present study strongly recommends continuation of AC and ABCs not only for betterment of agripreneurs but also for farming community as a whole.

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A Study on Agriclinics & Agribusiness Centers in District Varanasi

Questionnaire

Institute of Agricultural Sciences, BHU, Varanasi-221005

I. Socio-economic -personal- psychological profile of agri-preneures of ACABCs.

1. Name of the Agripreneur: .................................................................
2. Address with contact number: ............................................................
   ........................................................................................................
   ........................................................................................................
3. Age: ...........................................
4. Sex: ..................................................
5. Marital status: Single / Married
6. Education: i) Intermediate (+2) in Agriculture ii) Graduate
   iii) Post graduate iv) Doctoral
7. Stream: i) Agriculture ii) Horticulture iii) Agricultural Engineering
   iv) Veterinary v) Others
8. Caste Category General / OBC / SC / ST
9. Family size : (i) <5 (ii) 5-8 (iii) >8
10. Monthly income of family from all sources: ..............................................
11. Estimated monthly family expenditure: ...................................................
12. No. of family member involve in income generation: ..............................
13. Landholding (ha): i) Land Less ii) Marginal (<1ha)
   (iii) Small (<2 ha) (iv) Medium (2.0–5.0 ha) (v) Large (>5 ha)
14. Number of family members who are dependent on you ............................
15. What was your wish to be after completion of under graduate programme?
   ........................................................................................................
16. Did you have fear of failure in this business? Yes/ No
17. If Yes, How did you overcome the fear of failure? ………………………………
………………………………………………………………………………………………
……………………………………………………………………………………………….
………………………………………………………………………………………………
19. In most of the cases it is seen that the loan for ACABC is diverted for different purposes.
   Can you please name some purposes for which the loan of ACABC is used?
………………………………………………………………………………………………
………………………………………………………………………………………………
……………………………………………………………………………………………….
20. Whether ACABC is generating sufficient income? Yes/No
21. Whether ACABC is generating sufficient employment to sustain the families?
………………………………………………………………………………………………
………………………………………………………………………………………………
22. Have any trained member of your group is not operating the ACABC. Can you be kind
   enough to tell their number and the reasons for failure? ……………………………
………………………………………………………………………………………………
………………………………………………………………………………………………
23. Have you taken membership of any organization? Kindly mention it. …………………
………………………………………………………………………………………………
………………………………………………………………………………………………
II. Documentation of Profile of ACABCs, Diversification of the enterprise and
seriousness of the agripreneurs towards the enterprise:
1. Where did you get the information about this training programme?
   i) Newspaper, ii) Friends, iii) Electronic media
   iv) Others (Universities, notice boards etc.) Please mention. ……………………………
2. Where did you complete your training programme? …………………………………
………………………………………………………………………………………………
3. What kind of infrastructure was provided by training institute?
4. How much the trainers were serious to impart the training?  
   i) Good  ii) average  iii) poor

5. How much effective the training was in establishing your ACABC?  
   i) Good  ii) average  iii) poor

6. Year of completion of training: .................................................................

7. Year of establishment of own ACABC: ...................................................

8. What are the enterprises you have selected for your ACABC? ..................

9. Why did you select these enterprises for your ACABC? ...........

10. How many persons are engaged with your ACABC? .......................  

11. No. of villages covered under your ACABC: ........................................

12. Timing of the operation of your ACABC: ................................................

13. What is the monthly frequency of your visit to the field? .....................

14. What kinds of inputs are provided by your centre? ..........................

15. Nature of service provided by your center:  
   i) Input supply  ii) Product supply  iii) Consultancy  
   iv) Combination of any  v) any other (mention).................................

16. How much monthly income do you generate through your ACABC? .......

17. How regular are you to open your ACABC?  
   i) Always  ii) sometimes  iii) never

18. How punctual are you to the timing of the ACABC:  
   i) Always  ii) sometimes  iii) never

19. Do you want to make the expansion of your ACABC?  
   i) Always  ii) sometimes  iii) never

20. How frequently you visit to the training centre?
21. How frequently you visit to the experts of respected agriventure?
   i) Always   ii) sometimes   iii) never

22. How do you consider your own ACABC?
   a. Main   b. Secondary   c. Other

23. How much money have you invested to establish your ACABC? ……………………..

24. From which sources you got financial help for starting the ACABC? ……………………..
   a. Bank   b. Private money lenders
   b. Friend and Relatives   d. Self financed

25. If you are paying any interest on borrowed capital, kindly mention the annual rate of
   interests …………………………………………………………………………………………………

III. Problems faced by the agripreneurs:

i) Financial problems:-
1. What are the problems faced by you in getting finance from the financial institutions?
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2. Do you get the support from your family? Kindly mention it: …………………
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ii) Technical problems:-
1. What are the problems faced by you in relation to technical know how about a particular
   service? ………………………………………………………………………………………………………
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2. What are the problems faced by you in getting inputs? …………………………………
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3. What are the problems you face in making the farmers aware about new/ advanced technologies? ……………………………………………………………………………………………………….
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iii) Other problems:-

1. What are the problems faced by you in getting license for the centre? …………………
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2. What are the reasons of low income generation? ………………………………………
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3. What kind of problems did you face for creating infrastructure to start ACABC?
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4. Do you have any social problem related to ACABC? If yes kindly mention. …………
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Suggestions:-
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