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Consolidated Report

On

Impact Study on Agricultural Extension Services to Farmers by Agri-Clinics and Agri-Business Centres (AC&ABC) Scheme in the Selected States of India

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PREFACE

The flagship and unique scheme of "Agri-Clinics and Agri-Business Centres", was launched on 9th April, 2002 under the central sector scheme provision to supplement the efforts of public extension by necessarily providing extension and other services to the farmers on payment basis or free of cost as per business model of agri-preneur, local needs and affordability of the target group of farmers was done in order to support agricultural development and to create gainful self employment opportunities for unemployed agricultural graduates by facilitating qualified agricultural professionals to set up agri-ventures who in turn can deliver value added extension services and advice to farmers at their door steps, besides providing self employment opportunities to agri-preneurs in almost all the 29 states across the country and agri-ventures under 32 categories of agriculture sectors have been established. To keep this need in view, the Directorate of Extension, Department of Agriculture, Cooperation & Farmers Welfare, Ministry of Agriculture and Farmers Welfare desired the present study to be conducted by AERCs at the instance of the Ministry of Agriculture and Farmers Welfare, Government of India being coordinated by AERC, Allahabad as an all India coordinator.

Prima-facie the results of the individual state studies conducted in the selected four states reveal that although the functioning of the Agri-Clinics and Agri-Business centres was in nascent stage in almost all these four states, the established agri-ventures were found opting only marketing of inputs such as seeds, fertilizers, animal feeds and pesticides etc. and little of expert advices as well as extension services to the beneficiary farmers. The irrigation intensity was comparatively much higher on the farms of beneficiaries in comparison of non-beneficiaries. Also there was similar irrigation intensity in all the categories of four selected states of India. The cropping intensity was higher on the farms of beneficiaries particularly in Uttar Pradesh and Maharashtra among the four selected states of India. The input-output ratio on the farms of beneficiaries was comparatively

higher which clarified that there was an obvious impact of AC&ABC scheme in the selected states of India. The results have been found quite supportive in favour of the scheme in all the four selected states of India.

This consolidated study has been conducted by Dr. Rajendra Singh Ex. Research Officer, AERC, Allahabad who prepared chapter scheme, format of analytical tables, supervised compilation and analysis and wrote combined report and executive summary. Sri Hasib Ahmad and Dr. H.C. Malviya did compilation and analysis. Typing was done by Smt. N. Nigam and Sri Ovesh Ahmad. I thank Dr. Rajendra Singh and AERC staff for this diligent task.

My thanks are also due to Dr. P. Chandrashekara, Director MANAGE, Hyderabad who facilitated in conducting this study and Sri Vijay Rajmohan, Director Extension, Sri S.K. Misra, Director Extension Management and Sri Sajith Kumar Kunhalath, Joint Director Extension Management, DAC & Farmers Welfare, Ministry of Agriculture and Farmers Welfare, Government of India, New Delhi for their valuable suggestions. My sincere thanks are due to all the Directors of participating AERCs of India. Any comments or suggestions for improvements in the report will be acknowledged thankfully.

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EXECUTIVE SUMMARY

The unique scheme of Agri-Clinics and Agri-Business Centres was launched to strengthen the transfer of technology and extension services and also to provide self employment opportunities to technically trained persons. Accordingly this scheme was designed to develop opportunities for private extension, to lower the burden on public funding, to offer a wider range of advice in specialized area than is possible through public extension and develop challenging job opportunities to teaming unemployed agriculture graduates. Thus, to tap the potential of these unemployed graduates and at the same time to strengthen the extension services provided to the farmers and to provide them employment opportunities by making them entrepreneurs. Today agriculture is also an earner of the considerable foreign exchange. This demands increased productivity of international quality at minimum possible cost.

Therefore, the study entitled as "Impact Study on Agricultural Extension Services to Farmers by Agri-Clinics and Agri-Business Centres (AC&ABC) Scheme in India" was conducted at the instance of the Ministry of Agriculture and Farmers Welfare, Government of India by AERC, Allahabad as an all India Coordinator with three participating AERCs. This special study will be of paramount importance to all who are concerned with the increased productivity of crops and animals across the country.

This study was conducted with the following main objectives:-

1. To identify the benefits accrued to farmers through extension services by AC&ABCs.
2. To analyse comparative effectiveness of extension services to beneficiary farmers by AC&ABCs and non-beneficiary farmers of the same area.
3. To assess the extent of effects on income of beneficiary farmers through extension services by AC&ABCs and the income of non-beneficiary farmers.
4. To examine the problems / factors hampering the effects of extension services on farmers by AC&ABCs.
5. To explore measures and suggestions for strengthening extension services by AC&ABCs more effective to farmers.

6. To suggest changes in imparting extension services to farmers under the AC&ABC scheme.

This study was confined to four states of India undertaken by DAC & Farmers Welfare, Ministry of Agriculture and Farmers Welfare, Government of India. The states undertaken were namely (1) Assam, (2) Maharashtra, (3) Uttar Pradesh and (4) Telangana. From the four states thus, undertaken two districts potential to AC&ABC scheme from each of the state were selected randomly on the basis of higher numbers of agri-ventures established. Such districts were namely Solapur and Ahmednagar from Maharashtra, Varanasi and Bareilly from Uttar Pradesh, Kamrup and Nagoan from Assam and Hyderabad and Rangareddi from Telangana. Thereafter, from each of these 8 districts thus, selected five agri-ventures having higher number of farmers benefited were choosen randomly. From each of the 40 agri-ventures thus, selected lists of beneficiary farmers were undertaken. These lists were further categorized into 3 size-groups of farmers i.e. (1) Marginal (upto 1 ha.), (2) Small (1.01 to 2 ha.), (3) Medium and Large (Above 2 ha.) according to (1) Proper Agri-Services, (2) Allied Agri-Services and (3) Both Agri+Dairy Services. The ultimate sample beneficiaries were undertaken @ 10 beneficiary farmers per agri-venture making 50 beneficiaries per district proportionate to total numbers in each category of agri-services. Thus, 400 sample beneficiaries from 8 districts were undertaken on an overall. Also as control group the samples of non- beneficiaries were undertaken @ of 5 samples per agri-venture of the same area making 25 non- beneficiaries per district and 200 non-beneficiaries on an overall from 8 districts of 4 states randomly to see the impact of Agriculture Extension Services through AC&ABC scheme on farmers. The reference period of this study was agricultural year 2015-16.

- The study reveals that in Telangana proper agri-services, in Assam allied agri-services and in Uttar Pradesh both agri+dairy services performed better under AC&ABC scheme in India.
- The coverage under kharif crops was higher in all the categories being highest in the category of both agri+dairy services in the selected states of India.
- Growing crops was comparatively more profitable with the support of AC&ABCs which were at nascent stage during the survey of this study.

- Allied agri-services were quite untouched by AC&ABCs. The agri+dairy services were lacking the intended supports from the AC&ABC scheme in selected states of India.
- Rearing animals was comparatively more profitable than raising crops on the farms of beneficiaries in the four selected states of India.
- Majority of beneficiaries had received extension services in production trends, farm machines, dairy, poultry apiary and sericulture etc. in the selected states of India.
- Informal training by the agri-ventures was given in improper way to the distinct beneficiaries of the four selected states and hence it was not at all useful.
- Regarding supports, Telangana under proper agri-services and Uttar Pradesh under both agri+dairy services had received maximum supports from agri-ventures in the four selected states of India.
- Maximum expert advices from ventures were received by the beneficiaries on farm technology, cropping practices and protection from pests and diseases in the four selected states of India.
- Increases in income through production of cereals and other crops was reported in Assam and Uttar Pradesh under proper agri-services and both agri+dairy services in Uttar Pradesh comparatively more than other states.
- As regards the inputs sales and charges of services, since the AC&ABCs were at nascent stage at the time of field survey, the AC&ABCs were dealing only sales of inputs. Hence, the information on other services etc. could not be available properly.
- The average size of holdings among the non-beneficiaries of all the four selected states was small being 1.84 hectares only. Proper agri-services had performed better in all the selected states.
- The performance of non-beneficiaries in AC&ABC scheme area of Maharashtra and Uttar Pradesh was comparatively better among the four selected states of India.
- The net income from animals was comparatively higher than that from crops on the farms of non-beneficiaries. Thus, rearing animals was more productive as well as profitable in the four selected states of India.
- The non-beneficiaries in the category of both agri+dairy services had received maximum net income in comparison of that in the other two categories and confirms that rearing animals was more profitable agri-services in the four selected states of India.

- The non-beneficiaries who were aware about agri-clinics gave reasons for not availing the services such as charges were vary high and agri-clinics were not faithful.
- About agri-business centres the non-beneficiaries gave reasons for not purchasing the inputs such as inputs were costly as well as adulterated in the four selected states of India.
- More than 50% of non-beneficiaries had their own sources for procuring inputs and the remaining depended on the shop-keepers of nearby places.
- About unsatisfaction with the availability of inputs the majority of non-beneficiaries complained that inputs were costly, adulterated and not available timely.
- About unsatisfaction from the outputs of crops the non-beneficiaries complained low yield, low sale prices of crop outputs.
- The irrigation intensity on the farms of beneficiaries was estimated as 76.96%. While on the farms of non-beneficiaries it was 46.91%. Thus, it was much higher in cases of beneficiaries which confirms the obvious impact of AC&ABCs in the selected states.
- The cropping intensity on the farms of beneficiaries was 172.5%. While, on the farms of non-beneficiaries it was 181.80%. Thus, cropping intensity was slightly higher on the farms of non-beneficiaries.
- The input-output ratio on an average was estimated as 1:1.83 on the farms of beneficiaries against 1:1.66 on the farms of non-beneficiaries.
- Thus, the input-output ratio on the farms of beneficiaries was comparatively higher than that on the farms of the non-beneficiaries which clarifies that there was obvious impact of AC&ABC scheme in the four selected states of India.

Policy Prescriptions based on the above cited Findings:-

- Agri-ventures must strengthen their agri-extension services more profoundly through adequate demonstrations and proper training programmes on the farms of beneficiaries.
- Coverage under Zaid crops (vegetables and cash crops) must be increased for increasing cropping intensity.
- Marginal and small farmers must be encouraged to shift to dairy enterprise for more profit from their available resources.

- Expert advices from the agri-ventures must be strengthened to attract more and more farmers to their Agri-Clinics and Agri-Business Centres.
- The concerned agencies and NTIs must envision deeply to make AC&ABC purposeful to needy farmers.
- It is also to be examined whether there is any need of increasing the number of NTIs in the country.
- To examine whether one NGO running many NTIs is justified from all angles.
- Whether, it is necessary to provide the network system of the trainees and trained candidates along with MANAGE and NABARD etc.
- Whether it will be fruitful to provide advanced learning equipments for better learning experience by the trainees.
- How to eradicate the difficulties faced by agri-preneurs to avail credit facilities from banks.

CHAPTER-I

Introduction

1.1. Statements on the Problem under Study

The scheme of Agri-Clinics and Agri- Business Centres (AC&ABCs) was launched on 9th April, 2002 under the Central Sector Scheme provision with the main objectives being as follows: (1) To supplement efforts of public extension by necessarily providing extension and other services to the farmers on payment basis or free of cost as per business model of agri-preneur, local needs and affordability of the target group of farmers, (2) To support agricultural development and (3) To create gainful self employment opportunities for unemployed agricultural graduates, agricultural diploma holders, intermediate in agriculture and biological science graduates with post-graduation in agri-related courses. These objectives are to be fulfilled by facilitating qualified agricultural professionals to set-up Agri-Ventures that can deliver value added extension services and advices to farmers at their door steps, besides providing self employment opportunities to agri-preneurs.

The National Institute of Agricultural Extension Management (MANAGE) is the sole Nodal Implementing Agency responsible for training these agricultural professionals and offering hand-holding support to establish agri-ventures in partnership with more than 100 Nodal Training Institutes (NTIs) scattered across the country. The agri-preneurs trained under the scheme of AC&ABCs become eligible to start-up loan from the scheduled banks and the subsidy distributed through NABARD. The Agricultural Technology Management Agencies (ATMAs) at district level are mandated to make use of the services of established agri-preneurs in providing value added extension services to farmers on the public and private partnership mode.

Agricultural Extension Services to the farmers of India still need ample information training and support for adopting improved production technologies, because agricultural extension services throughout the country are suffering from acute inadequate quality and quantity of skilled

manpower. Quantitatively the current farmers to extension worker ratio has been worked out as 1000:1 which means that for every 1000 farmers there is only one extension worker in the country. Under such circumstances it becomes really extremely difficult for an extension worker to provide quality agricultural extension services to a teaming and large number of farmers and as a result, the quality time of an agricultural extension worker available to each farmer becomes indeed minimum and inadequate. Apart from it, only about 20 percent of the agricultural extension workers are qualified agriculture graduates and the rest of the agricultural extension workers become quite unable and incapable to explain the complex issues of agriculture as well as agri-business to the farmers. Moreover, a large number of extension gaps have been observed in the transfer of technology processes in the country as a whole. Therefore, to provide value added agricultural extension services to the teaming farmers by the additional qualified and skilled manpower and adequate infrastructure is an urgent need of the hour in the country.

The scheme of Agri-Clinics and Agri-Business Centres was launched to strengthen the transfer of technology and extension services and also to provide self employment opportunities to technically trained persons. Accordingly this scheme was designed to help develop opportunities for private extension, to lower the burden on public funding, to offer a wider range of advice in specialized areas than is possible through public extension and to develop challenging job opportunities for about 15000 agriculture graduates produced by the State Agriculture Universities (SAUs) every year out of which nearly half of the graduates of agriculture sciences go for higher studies in Indian Universities and abroad. Only about 2000 agriculture graduates get jobs in public and private sectors leaving the rest as unemployed graduates. Thus, to tap the potential of these unemployed graduates and at the same time to strengthen the extension services provided to the farmers and to provide them with employment opportunities by making them entrepreneurs, the Union Finance Minister had announced in the Budget speech on February 28, 2001 for the year 2001-02, a scheme for setting-up Agri-Clinics and Agri-Business Centres by the agriculture graduates with the support of National Bank for Agriculture and rural Development (NABARD). Today agriculture is not only seen as means of solving food problems within the country, but also as an earner of the foreign exchange. This really demands increased productivity of international quality at minimum possible cost. To accomplish such aspirations, agriculture extension services need strengthening by providing farmers, information, training and

support for adopting improved production technologies. Extension services have kept pace with the changing times after independence.

One way of implementing such a scheme on AC&ABCs (Agri-Clinics and Agri- Business Centres) has been to extend knowledge and information to farmers located in the interiors

MANAGE is responsible for providing training to eligible candidates through its nodal institutes and motivate them for setting-up Agri-Clinics and Agri-Business Centres. MANAGE also ensures sponsoring of sufficient number of cases to the participating banks for financing under the AC&ABC Scheme and arrange to establish required number of units at the ground level as envisaged to make the scheme of AC&ABC a success.

NABARD is responsible for disbursing subsidy amounts for establishment of agri-venture by the trained candidates through the banks from which the candidates have availed credit support. The Ministry of Agriculture and Farmers Welfare, Government of India has launched this unique scheme to provide better methods of farming to each and every farmer across the country. Committed to this scheme, the Government is also providing start-up training to the graduates in agriculture or any subject allied to agriculture like horticulture, sericulture, veterinary science, forestry, dairy, poultry farming and fisheries etc. Those completing the training can apply for special start-up loans for venture.

The scheme of AC&ABCs is well linked with Agricultural Technology Management Agencies (ATMAs) constituted by the States under the scheme **"Support to State Extension Programme for Extension Reforms".** The Extension Reforms Scheme mandates that minimum 10%resources on extension activities are to be utilized through the non-governmental Sector, which also includes agri-preneurs. ATMAs are encouraged to implement extension activities through agri-preneurs.

The ventures are also utilized to provide input services like plant saplings, seeds and micronutrients under ongoing flagship schemes implemented by the department. Special emphasis is made to review the progress of involvement of the agri-preneurs in ATMA activities on half yearly basis by State Nodal Officer, Government of India and MANAGE. ATMA shall also strive to achieve establishment of at least one agri-clinic every year in each block depending on the availability of trained candidates under the scheme of AC & ABCs. For providing support

to the agri-preneurs, for making business more viable, Govt. of India institutions such as NSC (National Seeds Corporation), SFCI (State Farm Corporation of India), IFFCO (Indian Farmers Fertilizers Cooperative Ltd.), KRIBHCO (Krishak Bharti Cooperative LTD), SFAC (Small Farmers Agri-Business Consortium) and State Agro-Industries Corporation etc are advised to engage the agri-preneurs as their authorized dealers on the preferential basis without affecting their existing network. The linkages with these agro-industries are reviewed on half yearly basis.

The Indicative Activities of Agri-Ventures under AC & ABCs Scheme

The following activities are done by the agri-ventures under the AC&ABCs Scheme implemented in the country:-

(1) Extension consultancy services,
(2) Soil and water quality cum inputs testing laboratories,
(3) Crop protection services including pest surveillance, diagnostic and control services,
(4) Micro-propagation including plant tissue culture labs and hardening units,
(5) Production, maintenance and custom hiring of agricultural implements and machinery including micro irrigation systems
(6) Seed production and processing units,
(7) Vermi-culture units
(8) Production of bio-fertilizers, bio-pesticides and other bio-control agents,
(9) Apiaries (bee-keeping) and bee-products processing units,
(10) Agricultural insurance services,
(11) Agro-tourism,
(12) Agri-journalism-film production, farm publications and exhibitions,
(13) Poultry and fishery hatcheries,
(14) Livestock health covers veterinary dispensaries and services, including frozen semen banks and liquid nitrogen supply and artificial insemination,
(15) Information technology kiosks (Open fronted huts or cubicles)
(16) Feed production marketing and testing units,
(17) Value addition centres,
(18) Cool-chain including cold storage units,

(19) Post harvest management centres for sorting, grading, standardization, storage and packaging
(20) Metallic and non-metallic storage structures,
(21) Horticulture clinic, nursery landscaping, floriculture
(22) Sericulture,
(23) Vegetable production and marketing,
(24) Retail marketing outlets for processed agri-products
(25) Production and marketing of farm inputs and outputs,
(26) Contract farming,
(27) Crop-production and demonstration,
(28) Mushroom production
(29) Production, processing and marketing of medicinal and aromatic plants
(30) Production units like dairy, poultry, piggery, fisheries, sheep rearing, goat rearing, emu rearing, rabbit rearing etc.
(31) Rural godown and
(32) Direct marketing

The beginning of Agri-Clinics and Agri-Business Centres in the country to serve the farmers is really a welcome step to strengthen the support and extension services in agriculture. In the present World of liberalization and globalization, the transformation of agriculture from subsistence to commercialization is needed urgently by the country. It is certain that this unique scheme of AC&ABCs will help farmers to improve their farm income and achieve better position in the society. Thus, the Agri. Clinics and Agri. Business Centres are assumed to bring social and economic upliftments among the farming community of the country. The success of this scheme of AC&ABCs is directly proportional to the success of the agri-preneurs and the farmers. The key objective of this scheme is to provide appropriate agricultural extension services to the needy farmers on payment basis. The Agri-Clinics and Agri-Business Centres will survive and succeed only when these will perform well to provide the useful and relevant agricultural extension services to the needy farmers of the country.

This scheme aims to tap the expertise available in the large pool of agriculture graduates. Irrespective of whether they are fresh graduates or not or whether they are currently employed or

not, they can set-up their own Agri-Clinics or Agri-Business Centres and offer professional extension services to innumerable farmers. Agri-Clinics and Agri-Business Centres provide paid services for enhancement of agricultural production as well as income of farmers. These centres need to advice farmers on crop selection, farm practices, post-harvest value added options, key agricultural information, price trends, market news risk mitigation and crop insurance, credit and input access and sanitary considerations.

In this nation-wide initiative, specialized training is provided as an integral part to agricultural graduates interested in setting-up such Agri-Clinics or Agri-Business Centres. This training is provided free of cost. A two month training course is offered by the selected nodal institutes across the country. Initiated by SFAC (Small Farmers Agri-Business Consortium) and coordinated by MANAGE, the training course comprises Entrepreneurship and Business Management, as well as skill improvement modules in their chosen areas of activity.

As regards the bank loan availability for Agri-Clinics and Agri-Business Centres, a ceiling of project cost for subsidy has been fixed to Rs 20 lakhs for individual project, Rs. 25 lakhs in case of extremely successful individual projects and Rs. 100 lakhs for a group project. Depending on the type of venture one wants to set-up with a moratorium of up to 2 years, Agri-Clinics and Agri-Business Centre loans can be repaid within 5 to 10 years as per easy installment plans. The rate of interest, margin and security on loans will be decided by the respective bank as per RBI norms. Depending on his entitlement, he can even apply for margin money assistance.

Regarding incentives as per the AC&ABC scheme revised guide-lines issued in 2010, the Department of Agriculture, Cooperation & Farmers Welfare, Ministry of Agriculture and Farmers Welfare, Government of India made provision for granting an incentive of Rs. 1000/- to each Agri-preneur who established Agri-venture on or after 4th August, 2010 under the AC&ABC scheme. Accordingly AC&ABC scheme 2010 states as follows:- "**Every candidate who establishes his/her venture and submits proof to that effect is eligible to receive an incentive of Rs. 1000/- This incentive amount may be sent through demand draft or crossed cheque to the candidate through respective Nodal Training Institute (NTI) on submission of advance receipt to MANAGE**"

Thus, all the Agri-Clinics and Agri-Business Centres are the best platforms for providing empowerment to farmers in planning and implementation of extension activities. These centres are completely involved in the ATMA (Agricultural Technology Management Agency) programme and several other central and state government programmes.

The training programme is specifically designed to tone up the agri-business skills in 60 days along with the development of human being with spirituality in holistic approach and complete involvement and commitment to serve the society. Innovative training programme is conducted more through practical learning and by interaction with the successful agri-preneurs. Under handholding activities the institute has established monitoring cell headed by coordinator. The coordinator monitors regularly the progress of the trainees.

I.2:- Concept of Agri-Clinics and Agri-Business Centres

1.2.1:- Concept of Agri-Clinics:

Agri-clinics are envisaged to provide expert advice and services to farmers on various technologies including soil health, cropping practices, plant protection, crop insurance, post harvest technology and clinical services for animals, feed and fodder management, prices of various crops in the market etc. which would enhance productivity of crops/animals and ensure increased income to farmers (Revised Agri-Clinics and Agri-Business Centres (AC&ABC) Scheme-2010)

1.2.2:- Concept of Agri-Business Centres:-

Agri-Business Centres are commercial units of agri-ventures established by trained agriculture professionals. Such ventures may include maintenance and custom hiring of farm equipment, sale of inputs and other services agriculture and allied areas, including post harvest management and market linkages for income generation and entrepreneurship development. (Revised Agri-Clinics and Agri-Business Centres (AC&ABC) Scheme, 2010)

1.2.3:- Some Eligible Activities under Agri-Clinics and Agri-Business Centres:-

Apart from aforementioned indicative activities by agri-ventures under AC&ABC scheme, all other activities in agriculture, horticulture, fisheries, allied sectors or combination of two or more

of the aforementioned indicative activities selected by the candidates, which generate income to the agri-preneurs and render extension services to the farmers will also be eligible under the AC&ABC scheme. The implementing agency of AC&ABC scheme i.e. MANAGE also coordinates with the State Departments of Agriculture and Horticulture and inform them about the agri-ventures established successfully in their State. This very well helps the State Governments to network with the agri-ventures particularly the Agri-Clinics and input supplies, for involving them in their own extension programmes. Such involvement which is likely to be mutually beneficial will certainly help in addressing a key objective of the AC&ABC scheme. Also a suitable mechanism can be developed to assess the results of such association.

I.2.4:-The Structure of AC&ABC Scheme

The scheme of AC&ABC is actually operated by different entities that perform their individual task to operate the AC&ABC scheme in a successful manner. The detailed explanation of the tasks and responsibilities of each entity in the successful operation of AC&ABC scheme is explained as follows alongwith its diagrammatic structure:-

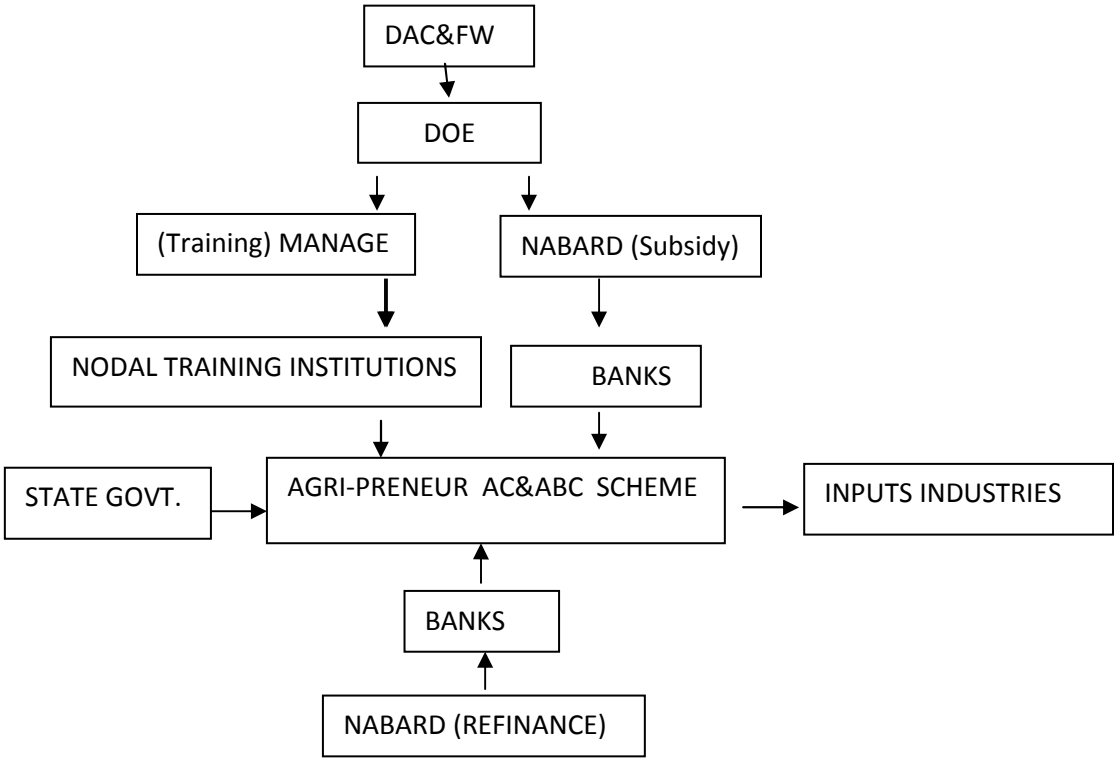

Figure-I-1
(Structure of AC&ABC Scheme)

Details of the Structure of AC&ABC Scheme:-

DAC&FW:- Department of Agriculture, Cooperation & Farmers Welfare, Ministry of Agriculture and Farmers Welfare provides the fund for AC&ABC scheme through the E.M. (Extension Management) Unit of D.O.E. (Directorate of Extension)

DOE:- Directorate of Extension looks after all the extension activities of the DAC&FW (Department of Agriculture, Cooperation & Farmers Welfare in the Ministry of Agriculture and Farmers Welfare).

MANAGE:- MANAGE as an autonomous body under the Ministry of Agriculture & Farmers Welfare, (MOA & FW) has been appointed as the implementing agency for training component of AC&ABC Scheme. It is responsible for reviewing the performance of the Nodal Training Institutes, deciding upon the training content, methodology and duration, to become a part of the selection committee for choosing the eligible candidates and setting the criteria for selection of Nodal Training Institutes. It is the monitoring agency of the AC&ABC scheme also. As the implementing agency MANAGE broadly performs the following activities:-

1. Selection of Nodal Training Institutes.
2. Preparation of Training Modules.
3. Monitoring of the performance of the Nodal Training Institutes (NTIs)
4. Managing and Releasing of Funds to NTIs.

The parameters on which the performance of MANAGE has been assessed is based on its role and responsibilities:-

1. Selection of Nodal Training Institutes:

It was observed that the Nodal Training Institutes selected on the basis of the present selection criteria have not been able to show impressive results. The Nodal Training Institutes selected under the present framework have shown dismal performance in terms of generating substantial agri-preneur, selection of non-competent nodal institutes have also led to further elimination of these Nodal Institutes at later stage.

2. Preparation of Training Modules:

The course content is designed to have 60% time allocated for building theoretical understanding and 40% for practical experience. The major courses are on personality enhancement and motivation, potential agri-business activities, business and motivation, potential agri-business activities, business and financial management skills, communication and writing skills, market research and survey, successful entrepreneurs and exposure visit, computer and hand-holding support.

Monitoring System

NTIs are regularly monitored by MANAGE. In case if any institute fails to meet the evaluation criteria it is removed from the list of the Nodal Training Institutes. If Nodal Training Institute does not meet the 35% criteria for 6 months in respect of the success rate then its name will be deleted. The national rate is 42.5% on an average.

3. Fund Disbursement

Among the States, U.P. and Maharashtra are the two leading States accounting for nearly one third of the total funds released. This calls for extensive promotional efforts for the AC&ABC scheme in other States.

Nodal Training Institute (NTI)

Nodal Training Institutes are institutes selected by MANAGE for conducting the training programmes for selected agriculture graduates and assist them in preparing bankable projects. Once the project is over, assist them in sanctioning of loan and successfully setting-up of the ventures. Nodal Training Institutes play the critical and most important role in the success or failure of the AC&ABC scheme. These are the mentors, the trainers and the guides for the agri-preneurs who take-up this training to start a venture of their own. The role of Nodal Training Institutes starts from the selection procedure till the time a venture is set-up. The contribution of Nodal Training Institute is adequate to make the scheme of AC&ABC successful. Thus, the efforts of Nodal Training Institutes have an impact on the performance of AC&ABC scheme.

Banks:- These banks may be either nationalized, commercial, cooperative or regional rural banks who would be the financing institution in the AC&ABC scheme. These banks are

responsible for processing loan proposals and provide loans on approved proposals to the trained agriculture graduates under the AC&ABC scheme. Apart from providing loans to the agri-preneurs, these banks are responsible for implementing announced policy for providing credit to such proposals.

NABARD:- NABARD is the nodal institute for disbursement of subsidy amounts through banks. The primary objective of NABARD is to provide refinancing to the banks and circulate financial guidelines pertaining to the scheme for implementation. NABARD has circulated comprehensive guidelines to the banks. However, it is found that generally the banks go by their own project appraisal norms without giving any preferential treatment to the projects under the AC&ABC scheme. The banks insist on collateral security which becomes one of the constraints for starting the agri-venture. NABARD cannot interact with each branch. Yet a system can be evolved wherein the nodal institutions in collaboration with the regional representative of NABARD may take-up specific cases with the concerned banks for according priority to the trained graduates for considering their applications for funding the projects.

Agri- Preneurs

Agri-preneurs are the ultimate beneficiaries of the AC&ABC scheme. They are agriculture graduates, post graduates and even Doctorates who undertake training under AC&ABC scheme and provide specialized extension and other services on fee-for-service basis and to supplement the efforts of public extension by providing economically viable enterprises in self employment mode. Employment generation is one of the key objectives of the AC&ABC scheme. It was launched to provide employment to agri-graduates who pass-out every year from Agri. Universities throughout the country.

Input-Industry

Input-industries are allied industries which can provide dealership, input-stocking support etc. to the agri-entrepreneurs thereby creating a regular source of income for them.

State-Government

The participation of State Governments comes in the form of providing priority to trained graduates as grant of license for agri-inputs, facilitate involvement of AC&ABCs in extension services.

I.2.5:- Eligibility Criteria for Candidates under AC&ABC Scheme:-

The AC&ABC Scheme is open to the following categories of candidates:-

(i) Graduates in agriculture and allied subjects from State Agricultural Universities, Central Agricultural Universities, Universities recognized by Indian Council of Agricultural Research and University Grants Commission. Degree in Agriculture and allied subjects offered by other agencies are also considered subject to approval of Department of Agriculture, Cooperation & Farmers Welfare, Government of India on recommendation of the State Government.

(ii) Diploma holders, Post Graduate Diploma Holders in Agriculture and allied subjects from State Agricultural Universities, State Agriculture and allied Departments and State Department of Technical Education. Diploma in Agriculture and allied subjects offered by other agencies are also considered subject to approval of Department of Agriculture, Cooperation & Farmers Welfare, Government of India on the recommendation of the State Government.

(iii) Biological Science Graduates with Post Graduation in Agriculture and allied subjects.

(iv) Degree courses recognized by UGC having more than 60% of the course content in Agriculture and allied subjects.

(v) Diploma, Post Graduate Diploma courses with more than 60% of course content in Agriculture and allied subjects, after B.Sc with Biological sciences, from recognized colleges and universities.

(vi) Agriculture related courses at Intermediate level with at least 55% marks.

The AC&ABC scheme covers full financial support for training and hand-holding, provision of loan and credit linked back ended composite subsidy. Every candidate who establishes his venture and submits proof to that effect is eligible to receive an incentive of Rs. 1000/- This

incentive amount will be sent through demand draft or crossed cheque to the candidate through respective NTI on submission of advance receipt to MANAGE.

I.2.6:- Certificates to Successful Ventures:-

Certificates are issued to trainees by MANAGE after successful completion of two months training. Such certificates are issued to ventures after verification and recommendation a committee constituting by P.D., ATMA, Programme Coordinator of KVK or head of nearest research station of State Agriculture University, ICAR Institute. This certificate entitles the agri-preneurs to be recognized by the development departments in supplementing the efforts of public extension services.

I.2.7: Credit Supports:-

The assistance under AC&ABC scheme is purely linked with credit and is subject to sanction of the project by banks based on economic viability and commercial considerations. The eligible financial institutions under the AC&ABC scheme are Commercial Banks, Regional Rural Banks, State Cooperative Banks, State Cooperative Agriculture and Rural Development Banks and other Institutions eligible for refinance from NABARD.

I.2.8: Security:-

As most of the eligible activities pertain to agricultural input supply and services and the cost of investment is less than Rs. 25 lakh in most of the cases, the security norms applicable to tiny industries as prescribed in RBI circulars dated 31.2.2000 are made applicable to these units. Accordingly, up to the loan amount of Rs. 5 lakh, the loans can be secured against hypothecation of assets created and no further security is necessary.

I.2.9: Subsidy:-

In the pre-revised AC&ABC scheme, subsidy was admissible in respect of agriculture graduates trained under AC&ABC Scheme on or after April 1, 2004, for fresh investments made after July 9th, 2006. The candidates trained under this scheme prior to April1, 2004 who have made investments after July 9, 2006, were to be considered on a case by case basis. Subject to fulfillment of all other eligibility conditions under the scheme, a committee headed by Director General (DG), MANAGE used to take a decision in such matters. However, very few such cases

have been received in MANAGE since it was set-up mainly due to ignorance among candidates and financing institutions and distance of MANAGE from their place of operation. As agreed in Review Meeting on 9-10-2010 all trained under the scheme are eligible for subsidy.

I.3. Growth in AC&ABC Scheme (2002-2016)

I.3 (a) Growth under AC&ABC Scheme in Four Selected States of India during 2002-2016

The AC&ABC scheme was introduced in 2002 and has completed almost one and half decade. In this section, therefore, the growth in this scheme with respect to candidates trained and ventures established over the years and across the selected states is mentioned as follows:-.

I.3 (a) 1. Number of Trained Candidates under AC&ABC Scheme in Four Selected States during 2002-16 in India

Table I.1 shows that the number of candidates trained in 2002, i.e. in the first year of the inception of the scheme was 1521, and till 2016 the number of trained candidates was 51196 in India. The highest number of candidates trained was in 2014 when 5669 candidates were trained. The candidates trained was highest (over the entire period) in the state of Maharashtra i.e. 11844 (23.13 percent), followed by Uttar Pradesh i.e. 10708 (20.92 percent). In other selected states i.e. Assam, Telangana, the number of trained candidates were 666 and 1065 respectively over the entire period (2002-2016).

Table I.1
Number of Trained Candidates under ACABC Scheme in four Selected States during 2002-2016 in India

Year wise Number of Trained Candidates under AC&ABC Scheme.																	
SL. No	Name of the State	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Total
1	Assam	-	16	20	12	-	74	98	60	54	56	40	60	73	34	69	666
2	Maharashtra	228	293	278	699	417	477	423	388	908	1452	707	1384	1501	1309	1380	11844
3	Uttar Pradesh	23	329	293	567	635	668	510	511	590	784	807	1243	1726	716	1306	10708
4	Telangana	139	58	53	39	62	55	39	54	49	107	55	165	48	59	83	1065
	India	1521	2595	1946	3399	2209	3309	2393	2575	3184	4432	3146	5387	5669	4071	5360	51196

Source: www.agriclinics.net

Thus, the number of trained candidates was lowest in Assam as well as Telangana as evident from Table I.1.

I.3 (a).2. State-wise Percentage Share in Number of Candidates Trained under AC&ABC Scheme in Four Selected States during 2002-16 in India

Table 1.2 indicates that the highest percentage share in the number of candidates trained under AC&ABC scheme in four selected states of India during 2002-16 was accounted as 23.13% in Maharashtra against 1.30% in Assam and 2.08% in Telangana as lowest. In U.P. it was 20.92% over the entire period. Thus, the share of trained candidates was highest in Maharashtra followed by U.P. and lowest in Assam as well as Telangana.

Table I.2
State-wise Percent share in number of candidates trained under AC&ABC Scheme in four Selected States during 2002-2016 in India

Year wise Number of Trained Candidates under AC&ABC Scheme.																	
SL. No.	Name of the State	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Avg.
1	Assam	0.00	0.62	1.03	0.35	0.00	2.24	4.10	2.33	1.70	1.26	1.27	1.11	1.29	0.84	1.29	1.30
2	Maharash -tra	14.99	11.29	14.29	20.56	18.88	14.42	17.68	15.07	28.52	32.76	22.47	25.69	26.48	32.15	25.75	23.13
3	Uttar Pradesh	1.51	12.68	15.06	16.68	28.75	20.19	21.31	19.84	18.53	17.69	25.65	23.07	30.45	17.59	24.37	20.92
4	Telangana	9.14	2.24	2.72	1.15	2.81	1.66	1.63	2.10	1.54	2.41	1.75	3.06	0.85	1.45	1.55	2.08
	India	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Source: calculated from data in - www.agriclinics.net

I.3 (a).3. Year-wise Percentage Share of Trained Candidates under AC&ABC Scheme in Four Selected States during 2002-16 in India

The data analysed in Table I.3 shows that in the whole of India, the percentage share of trained candidates increased continuously from 2.97% in the year 2002 to 11.07% till the year 2014 and thereafter it decreased to 7.95% suddenly in the year 2015 and arose to 10.47% in 2016. Thus, the growth was almost increasing. While in the selected states it was accounted that in U.P. it increased from 0.21% in 2002 to 12.20% till 2016. In Maharashtra from 1.93% in 2002 to 11.65% till 2016. In Assam from 0.0% in 2002 to 10.36% till 2016. While in Telangana it

decreased from 13.05% in 2002 to 7.79% till the year 2016. Thus, in Telangana the number of trained candidates decreased continuously but in the other selected states it increased continuously. The data are given in Table I.3.

Table 1.3
Year wise percent Share of trained candidates under AC&ABC Scheme in four Selected States during 2002-2016 in India

SL. No	Name of the State	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Tot -al
1	Assam	0.00	2.40	3.00	1.80	0.00	11.11	14.71	9.01	8.11	8.41	6.01	9.01	10.96	5.11	10.36	100
2	Maharash-tra	1.93	2.47	2.35	5.90	3.52	4.03	3.57	3.28	7.67	12.26	5.97	11.69	12.67	11.05	11.65	100
3	Uttar Pradesh	0.21	3.07	2.74	5.30	5.93	6.24	4.76	4.77	5.51	7.32	7.54	11.61	16.12	6.69	12.20	100
4	Telangana	13.05	5.45	4.98	3.66	5.82	5.16	3.66	5.07	4.60	10.05	5.16	15.49	4.51	5.54	7.79	100
	India	2.97	5.07	3.80	6.64	4.31	6.46	4.67	5.03	6.22	8.66	6.15	10.52	11.07	7.95	10.47	100

Source: calculated from data in www.agriclinics.net

I.3 (a).4. State-wise Number of Ventures Established in Four Selected States during 2002-2016 in India

Table-I.4 shows that in the entire India the number of ventures established increased from 138 in the year 2002 to 2730 till the year 2014 and thereafter it decreased gradually to 1685 till 2016. Thus, till 2014 there was continuously an increase in the number of ventures established, while among the selected states the highest number of ventures established was 5310 in Maharashtra followed by 5234 in U.P. against the lowest i.e. 205 in Assam and 363 in Telangana till the year 2016. Thus, it was evidently clear that the ventures under AC&ABC scheme were established significantly in the states of Maharashtra and Uttar Pradesh. The related data are given in Table I.4.

Table 1.4
State Wise Number of Ventures Established in four Selected States during 2002-2016 in India

Sl. No	Name of the State	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Total
1	Assam		4	4	4	3	5	28	38	28	13	20	25	14	14	5	205
2	Maharashtra	13	159	95	357	99	198	173	134	319	557	546	537	743	884	496	5310
3	Uttar Pradesh	4	23	54	263	413	327	195	382	206	251	468	637	636	799	576	5234
4	Telangana	18	25	4	28	23	37	11	46	15	37	26	41	30	21	1	363
	Total	138	675	448	1411	1101	1214	823	1176	1269	1499	1793	2399	2730	2715	1685	21075

Source: www.agriclinics.net

I.3 (a).5. State-wise Percentage Share of Ventures Established in Four Selected States during 2002-16 in India

Table I.5 shows that the highest percent share as 25.20% was estimated in case of Maharashtra followed by 24.84% in U.P. against the lowest i.e. 0.97% in Assam and 1.72% in Telangana. This fact confirms that percentage of ventures established in Maharashtra and U.P. were highest in India.

Table 1.5
State wise Percent Share of Ventures Established in Selected States during 2002-2016 in India

Sl. No	**Name of the State**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**Avg.**
1	Assam	0.00	0.59	0.89	0.28	0.27	0.41	3.40	3.23	2.21	0.87	1.12	1.04	0.51	0.52	0.30	0.97
2	Maharash-tra	9.42	23.56	21.21	25.30	8.99	16.31	21.02	11.39	25.14	37.16	30.45	22.38	27.22	32.56	29.44	25.20
3	Uttar Pradesh	2.90	3.41	12.05	18.64	37.51	26.94	23.69	32.48	16.23	16.74	26.10	26.55	23.30	29.43	34.18	24.84
4	Telangana	13.04	3.70	0.89	1.98	2.09	3.05	1.34	3.91	1.18	2.47	1.45	1.71	1.10	0.77	0.06	1.72
	India	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Source: calculated from data in www.agriclinics.net

I.3 (a).6. State-wise and Year-wise Percentage Share of Ventures Established in Four Selected States during 2002-16 in India

Table I.6 indicates that in the entire country the percentage share of ventures established increased from 0.65% in 2002 to 12.95% till the year 2014 which decreased to 8.00% till the year 2016. Thus, in India during the span of 2002-14 the growth of ventures established successfully was significant with ups and down during the middle period of the same span of 2002-2014. While among the selected states it had increased from 0.08% in 2002 to 11.00% as the highest till 2016 in Uttar Pradesh followed by 9.34% in Maharashtra till 2016 against the lowest i.e. 0.28% in Telangana followed by 2,44% in Assam till the year 2016. Thus, the percentage share of ventures established successfully was highest in Uttar Pradesh followed by Maharashtra against the lowest in Telangana. The related data are given in Table I.6.

Table 1.6
State wise and Year wise Percent share of ventures established in Selected States during 2002-2016 in India

Sl. No	Name of the State	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Total
1	Assam	0.00	1.95	1.95	1.95	1.46	2.44	13.66	18.54	13.66	6.34	9.76	12.20	6.83	6.83	2.44	100
2	Maharash-tra	0.24	2.99	1.79	6.72	1.86	3.73	3.26	2.52	6.01	10.49	10.28	10.11	13.99	16.65	9.34	100
3	Uttar Pradesh	0.08	0.44	1.03	5.02	7.89	6.25	3.73	7.30	3.94	4.80	8.94	12.17	12.15	15.27	11.00	100
4	Telangana	4.96	6.89	1.10	7.71	6.34	10.19	3.03	12.67	4.13	10.19	7.16	11.29	8.26	5.79	0.28	100
	India	0.65	3.20	2.13	6.70	5.22	5.76	3.91	5.58	6.02	7.11	8.51	11.38	12.95	12.88	8.00	100

Source: calculated from data www.agriclinics.net

I.3 (a).7. Percentage of Ventures Established to the candidates trained in Four Selected States during 2002-2016 in India

Table-I.7 shows that in India overall 41.17% candidates trained were successfully established as ventures till the year 2016. While in the selected states the highest 48.88% of trained candidates were established as ventures in U.P. followed by 44.83% in Maharashtra, 34.08% in Telangana and 30.78% in Assam. Thus, it was evidently clear that highest number of ventures were established in U.P. against lowest in Assam. The related data are given in Table I.7.

Table 1.7
Percent of Ventures established to candidates trained in Selected States during 2002-2016 in India

SL. No	Name of the State	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Total
1	Assam	0.00	25.00	20.00	33.33	0.00	6.76	28.57	63.33	51.85	23.21	50.00	41.67	19.18	41.18	7.25	30.78
2	Maharash -tra	5.70	54.27	34.17	51.07	23.74	41.51	40.90	34.54	35.13	38.36	77.23	38.80	49.50	67.53	35.94	44.83
3	Uttar Pradesh	17.39	6.99	18.43	46.38	65.04	48.95	38.24	74.76	34.92	32.02	57.99	51.25	36.85	111.59	44.10	48.88
4	Telangana	12.95	43.10	7.55	71.79	37.10	67.27	28.21	85.19	30.61	34.58	47.27	24.85	62.50	35.59	1.20	34.08
	India	9.07	26.01	23.02	41.51	49.84	36.69	34.39	45.67	39.86	33.82	56.99	44.53	48.16	66.69	31.44	41.17

Source: calculated from data in : www.agriclinics.net

I.3 (b):- Contributions of AC&ABC Scheme in Agricultural Extension Services to the Farmers of the Country

Prima-facie, the main contributions of AC&ABC scheme to the farmers of the country, through the agricultural extension services provided by successfully established agri-ventures have been reported as well as observed as follows:-

1. This unique and flagship AC&ABC scheme has been implemented in almost all the 29 States across the country and agri-ventures related to 32 categories of agriculture and allied agriculture sectors have been established. It has been observed that Southern and Western states have shown encouraging performance in terms of establishing agri-ventures.

2. The AC&ABC scheme has really created double impacts in terms of generating employment across the country. On one hand, the AC&ABC scheme has created direct impact on teaming unemployed agricultural graduates by providing them free-training and thereafter, self employment through successfully establishing their agri-ventures. On the other hand, these agri-ventures have generated employment for many individuals and input industries as well as marketing agencies across the country.

3. It has been found that every year about 15000 agriculture graduates pass out from the agriculture universities and colleges. Out of these agriculture graduates, about 23 per cent

undertake the training under AC&ABC scheme through the 109 nodal institutes established by MANAGE across the country.

4. Apart from the employment generated by agri-entrepreneurs associated with the AC&ABC scheme, considerable employment has also been generated by the agri-ventures successfully established through nodal institutes under the AC&ABC scheme across the country.

5. The prime benefit derived by the farmers from the agricultural extension services provided to them by the successfully established agri-ventures under AC&ABC scheme was the increased productivity of crops and animals and in return considerable increase in their income as observed during the survey. Thus, there was the desired impact of agricultural extension services by imparting technical knowledge to the farmers both in terms of the increased productivity and income across the country.

6. Since, Agri-Clinics and Agri-Business Centres provide advisory services accompanied by inputs supplies, the revenues are readily generated without any gestation period. Hence, these Agri-Clinics and Agri-Business Centres are more popular because of low investment and low risk.

7. Owing to few innovative agricultural extension services included under the AC&ABC scheme like agri-journalism, eco-tourism, agri-insurance, seri-culture and pisci-culture etc., the scheme of AC&ABC has facilitated more opportunities available and reduced reluctance on the part of bankers to fund innovative extension services in the agriculturally prosperous areas.

8. It has also been found that Nodal Training Institutes have succeeded mainly due to the practical training they impart to the trainees through the industry experts alongwith the experienced academicians from the stakeholders such as S.A. Us, K.V.Ks, agriculture colleges, state department of agriculture, I.C.A.R. complexes, ATMA and State farms etc. and officers of banks who make the processing of loans easier to these trainees.

9. Under the hand-holding process, the Nodal Training Institutes guide the trainees for which an amount of Rs. 5000/- is provided. The entire hand holding process usually continues for one year. The funds provided for the purpose of training include food and lodging charges.

10. The Agri-Clinics and Agri-Business Centres have been able to add value and strengthen the extension efforts of the state governments. These AC&ABCs equipped with advanced technological knowledge and input supplies have increased the access of farmers to better farming and increased productivity.

11. AC&ABC scheme through Nodal Training Institutes exposes the trainees into potential agri-ventures in their area providing additional subject matter training to refresh their knowledge and skills and facilitate the trainees to choose a venture and to prepare DPR based on the market survey, hands on experience with the support of experienced bankers.

I.4. About the MANAGE, Nodal Training Institutes (NTIs), Agri-Ventures and Agri-Entrepreneurs

I.4.1:- MANAGE

MANAGE was established in 1987 as the National Centre for Management of Agricultural Extension in Hyderabad, by the Ministry of Agriculture and Farmers Welfare, Government of India as an autonomous institute from which its acronym "MANAGE" is derived. In recognition of its importance and expansion of activities over the country, its status was elevated to that of a National Institute in 1992 and it was re-christened to its present name i.e., National Institute of Agricultural Extension Management. MANAGE is the Indian response to the challenges of agricultural extension in a rapidly growing and diverse agriculture sector. The poly - liberalization and globalization of the economy and the level of agricultural technology becoming sophisticated and complex, called for major initiatives towards reorientation and modernization of agricultural extension system. Effective ways of managing the extension system needed to be evolved by an extension organization which enabled to transform the existing set-up through professional guidance and tricritical manpower. MANAGE is the response to this imperative need.

The aim at the institute (MANAGE) is to instill managerial and technical skills to extension officers. To enable the Managers, Scientists and Administrators in the agricultural economy, to provide support and services to farmers and fisherman for practicing sustainable agriculture. In order to effectively implement and monitor AC&ABC scheme, a separate centre called Centre of Agri-Entrepreneurship Development (CAD) has been functioning at MANAGE from October,

2009. In order to give further boost to the AC&ABC scheme and to improve quality and quantity of the training programmes, hand-holding activities, resolving problems of agri-entrepreneurs etc. this exclusive centre has been established.

The centre is headed by the Director and assisted by six consultants to look-after five geographic areas of the country for effective implementation and monitoring of the scheme.

CAD is responsible for the following tasks:

General awareness, publicity, coordination and over all implementation and monitoring of the scheme liaison with NABARD, Banks, State and Central Govt. agencies in scheme implementation, selection of candidates for training, selection of Nodal Training Institutes, monitoring of the training programmes during and after the training, guiding the Nodal Training Institutes in hand-holding, funding of training and hand-holding activities, documenting the success stories and taking measures for replicating the success models.

I.4.2:- Nodal Training Institutes

Press advertisement inviting application from eligible Institutions is issued once in a year, so that selection of NTIs can be done in a time bound manner. However, additional applications may be taken during the year, if deemed necessary after initial scrutiny of applications (received in the format provided) by MANAGE. Eligible Institutions shall be visited by team comprising Director, CAD, MANAGE or any other Director nominated by the Director General, representative of ATMA, Department of Agriculture at the state level, Zilla Parishad chairman or a member of Zilla Parishad representing the chairman, Lead Bank and NABARD. Director, MANAGE will be the chairman of the team. A quorum of three members is necessary. Recommended Institutions shall make a presentation before a panel of MANAGE faculty, Representative of NABARD, Directors of Department of Agriculture of State concerned, ICAR Zonal Project Director (or his nominee) and DAC & FW representative. Selection of NTIs shall be based on the criteria given by MANAGE. In order to encourage submission of applications by organizations willing to be selected as NTIs without personally visiting MANAGE, a mechanism for submitting applications online will be made in the website.

Eligibility Criteria for NTIS:

Institutes from public and private sectors with following credentials are eligible for considering them as Nodal Training Institutes (NTIs) under the scheme:-

(i) At least one year experience in organizing training programme and implementation of central and state Government Schemes related to Agri-Entrepreneurship Development.

(ii) Either own or leased (on long-term basis) lodging, boarding and transport facilities for minimum of 35 candidates.

(iii) Availability of training infrastructure (building, teaching aid including PC and LCD Project, resource persons etc.)

(iv) Nodal officer, with degree in agriculture and allied disciplines and having at least 3 years experience in Agri-entrepreneurship development.

(v) Private firm must have an annual turnover of minimum of Rs. 5 lakh for the last 3 years.

MANAGE shall invariably inform DAC& FW about any selection process being undertaken, so that wherever deemed necessary its representative can attend as an observer.

At the time of signing agreement with MANAGE, Institutes from the private or non-government sectors will give a Bank Guarantee for an amount of Rs. 2.5 lakh so as to ensure expenditure as per norm during training and proper hand-holding after the training. All the NTIs shall install web cameras in the class-rooms for use by any of the monitoring agencies.

I.4.3:- Agri-Ventures:-

In order to strengthen the Extension services provided to the farmers and at the same time tap the potential of unemployed Agriculture Graduates to provide them with employment opportunities by making them agri-preneurs, the Scheme was launched by GOI on 9th April 2002 to supplement the efforts of public extension system in the country with the following objectives such as:-

(1). Providing extension and other services to farmers on free or payment basis (2) Supplementing Agriculture Development and Entrepreneurship (3) Promotion of self employment in agriculture sector.

Implementing Agencies

National Institute of Agricultural Extension Management (MANAGE), an apex level institute of GOI is the overall implementing agency for training component and imparting two months training to the agriculture graduates through selected Nodal Training Institutes (NTIs) across the country. National Banks for Agriculture and Rural Development (NABARD) is the Nodal Institute for banks who is responsible for monitoring the credit support to Agri-Clinics through commercial banks and is also responsible for extending refinance support to the banks and disbursement of subsidy to agri-preneurs under the scheme of AC&ABC.

Guidelines

1. MANAGE selects and appoints Nodal Training Institutes (NTIs) based on criteria for conducting the training and execution/implementation of the scheme.
2. Any unemployed graduate in agriculture and allied areas is eligible to apply (age is no bar). Only selected candidates are provided two months training free of cost keeping in view the agri-business aspect, market survey etc. NTIs also facilitate the trained graduate in preparation of a project they intend to take up.
3. The NTIs are provided with the handholding support for assisting the trained agriculture graduates up-to one year in getting the loan sanctioned from commercial banks and execution of the project agri-venture.

I.4.4:- Agri-Entrepreneurs:

Agri-entrepreneurs are the ultimate beneficiaries of the AC&ABC scheme. They are agriculture graduates, postgraduates and even doctorates who undertake training under the AC&ABC scheme and provide specialized agricultural extension services and other services on free or fee for service basis and to supplement the efforts of public extension services by providing economically viable enterprises in self-employment mode. Agri-entrepreneurs get support by the input industries for creating regular sources of income.

I.5:- Need and Scope of the Study

I.5.1:- Need of the Study:-

Agriculture is still the main source of livelihood to about two thirds of the work force in India, wherein nearly 75 per cent of the total population is dependent directly or indirectly on it. Agriculture is thus, an important economic sector accounting for 25 per cent of the GDP (Gross Domestic Product). Thus, agriculture now-a-days is not only the means of solving the food problems of the country but also as an earner of foreign exchange too. Onward independence in India, agricultural extension services to farmers still need ample information, training and support for adopting improved production technologies, because agricultural extension services through-out the country are suffering from acute inadequate quality and quantity of skilled manpower. Quantitatively the current farmers to extension worker ratio has been worked-out as 1000:1 which means that for every 1000 farmers there is only 1 extension worker in the country. Under such circumstances it becomes really extremely difficult for an extension worker to provide quality agricultural extension services to the teaming and large number of farmers and as a result, the quality time of an agricultural extension worker available to each farmer becomes indeed minimum and inadequate. Apart from it, only about 20 per cent of the agricultural extension workers are qualified agriculture graduates and the rest of the agri-cultural extension workers become quite unable and incapable to explain the complex issues of agriculture as well as business to the farmers. Moreover, large numbers of extension gaps have been absorbed in the transfer of technology processes across the country. Therefore, to provide value added agricultural extension services to the teaming farmers by the additional qualified and skilled manpower and adequate infrastructure is an urgent need of the hour.

In order to strengthen the agricultural extension services being provided to the farmers as well as to tap the potential of huge unemployed agriculture graduates and to provide them employment opportunities by making them entrepreneurs, the Union Finance Minister had announced a scheme for setting-up **"Agri-Clinics and Agri-Business Centres"** by agriculture graduates with the support of National Bank for Agriculture and Rural Development (NABARD) in the budget speech on February 28, 2001 for the year 2001-02. Accordingly the scheme of "Agri-Clinics and Agri-Business Centres" was launched on 9th April, 2002 to strengthen the transfer of technology

and agricultural extension services and also to provide self employment opportunities to the technically trained persons.

So far as the extension approach is concerned, it was production oriented support with inputs and infrastructure rather than demand driven through cost competition, quality and market reach. As a result, large extension gaps were observed in transfer of technology process. Therefore, providing value added agricultural extension services to farmers through additional qualified manpower and adequate infrastructure was needed. To fulfill this bare need, the Ministry of Agriculture and Farmers Welfare, Government of India in association with NABARD has launched this unique scheme for better methods of farming for each and every farmer across the country.

Keeping this need in view the Directorate of Extension, Department of Agriculture, Cooperation & Farmers Welfare, Ministry of Agriculture and Farmers Welfare desired the present study entitled **"Impact study on Agricultural Extension Services to Farmers by Agri-Clinics and Agri-Business Centres (AC&ABC scheme)"** to be conducted by AERCs at the instance of the Ministry of Agriculture and Farmers Welfare, Government of India under the Work-Plan 2016-17.

I.5.2:-Scope of the Study

The National Development Council had envisaged an overall growth rate of 10 percent during the 11th Five Year Plan. To achieve this target, agriculture had to be geared-up to attain a growth rate of 4.1 per cent. The projections were to be achieved by increased production through improved resource efficiency, new technologies and better farming practices. But it has been observed that the available technologies have not been adopted efficiently and effectively. Therefore, the implementation of the scheme of Agri-Clinics and Agri-Business Centres is expected to play an important role in achieving the objectives of this unique scheme. The main objectives of the AC&ABC scheme are (1) To provide extension and other services to the farmers on payment basis, (2) To support agricultural development and entrepreneurship and (3) To promote self-employment. The concept of Agri-Clinics is that Agri-Clinics are envisaged to provide expert advice and services to farmers on technology, cropping practices, protection from pests and diseases, market trends, prices of various crops in the markets and also clinical services

for animal health etc. which would enhance productivity of crops as well as animals and to increase income to farmers. While the concept of Agri-Business Centres is that Agri-Business Centres are envisaged to provide farm machines and implements on hire, sale of inputs and other services, MANAGE will be responsible for providing free training to eligible candidates through its nodal institutes and motivate them for setting-up Agri-Clinics and Agri-Business Centres. MANAGE will also ensure sponsoring of sufficient number of cases to the participating banks for financing under the AC&ABC scheme and arrange to establish required number of units at the ground level, as envisaged to make this scheme a success.

In order to make the established agri-ventures deliver the desired results, various entities associated with AC&ABC scheme will have to play a significant role in the empowerment of agri-preneurs. Those completing the training can apply for special start-up loans for venture.

Hence keeping the above cited statements in view the present study entitled **"Impact Study on Agricultural Extension Services to Farmers By Agri-Clinics & Agri-Business Centres (AC&ABC Scheme) in India",** was conducted at the instance of the Ministry of Agriculture and Farmers Welfare, Government of India by the Agro-Economic Research Centre, University of Allahabad , Allahabad as an all India Coordinator alongwith 3 participating AERCs i.e Assam, Maharashtra and Telangana, which will be of paramount importance to the Ministry of Agriculture and Farmers Welfare, and all others who are concerned with the increased productivity of crops and animals across the country. This study was conducted with the following main objectives:-

I.6.: Main Objectives of the Study:

1. To identify the benefits accrued to farmers through extension services by AC&ABC.
2. To analyse comparative effectiveness of extension services to beneficiary farmers by AC&ABC and non-beneficiary farmers of the same area.
3. To assess the extent of effects on income of beneficiary farmers through extension services by AC&ABCs and the income of non-beneficiary farmers.
4. To examine the problems / factors hampering the effects of extension services on farmers by AC&ABCs.

5. To explore measures and suggestions for strengthening extension services by AC&ABCs more effectively to farmers.
6. To suggest changes in imparting extension services to farmers under the AC&ABC scheme.

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CHAPTER-II

Review of Literature

The present chapter mainly deals with the review of available literature concerning the research study entitled **"Impact study on Agricultural Extension Services to Farmers by Agri-Clinics and Agri-Business Centres (AC&ABC Scheme) in India".** The available concerned literature collected after consulting various reputed journals on agricultural Extension of the country and abroad, reports, bulletins, magazines, periodicals, success stories and Ph.D. theses on the concerned subjects from various S.A.Us (State Agriculture Universities) I.C.A.R. complexes, agriculture colleges, MANAGE, NABARD and many other reputed Agricultural Institutions are being highlighted in the following paragraphs in chronological order of the connected past works conducted.

1. **Karjagi Rajashekhar, et.al**. (2006), reported that majority of agri-preneurs (41%) had under-taken project of rural marketing dealership of farm inputs and outputs. All the projects were found to be financially feasible and economically viable. Karnataka was highest in both number of units financed and amount of loans disbursed. All the commercial banks were being followed by the strategies governed by the RBI. High rate of sanction was the main suggestion by agri-preneurs. Although, most of the trainees were not successful in starting their AC&ABC.

2. Ayyappan, S.,et.al (2007) in their research paper reported that AC&ABC scheme for agri-graduates has resulted in setting-up of nearly 782 units. The AC&ABC scheme has facilitated in extension support through agri-graduates on commercial basis and helped farmers in getting services and technology transfer, besides employment generation for agri-graduates.

3. Karjagi Rajashekhar, et.al. (2009), in their research paper have found that 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 agri-preneurs in establishing their agri-ventures, whereas, heavy competition from the well established dealers, non-cooperation of the farmers in repaying the credits and insufficient cash in hand while starting the business were the other major

problems. The main suggestions of agri-preneurs include linking the financial institutions with the training institutions, banks should follow the guidelines of RBI and private agri-clinics should be treated at par with the Govt. agri-clinics particularly in distribution of seeds and other inputs on subsidy basis.

4. Global Agri-System PVT. Ltd (2010) in its AC&ABC scheme evaluation study conducted a survey within the sample size which gave us an insight of the implementation of the AC&ABC scheme at different levels wherein the following key observations were made:-

Key Observations:-

1. The scheme has been implemented in 23 states across the country and ventures have been established in 35 categories related to agriculture and allied sector. It was observed that various states have different success rates in implementing the scheme. States in Northern and Southern regions have very encouraging record while states in North Eastern regions have shown poor performance in terms of setting-up of ventures.

2. Some project categories have made popularity as compared to others Projects like AC&ABC, dairy, vermi-composting and crop production are amongst the most popular projects. The popularity of the agri-clinics projects is mainly because of low investment and low risk. Since, it is an advisory service accompanied by input supply, the ventures are readily generated without any gestation period. Regional analysis shows that AC&ABC has been taken up mostly in the North region accounting for 34% of the total AC&ABC in the sample size.

3. Some innovative projects like eco-tourism, agri-journalism, agri-insurance and seri-culture have also been set-up under the scheme. However, mainly due to less awareness amongst the trainees about the new opportunities available and reluctance on parts of bankers to fund innovative projects, their numbers have been negligible.

4. On an overall perspective, south and north zones have done better in establishing ventures and north east zones have not been able to implement the scheme successfully, largely because of the lack of bank funding in the region.

5. It has been observed that key factors for the success of agri-preneurs have been the marketability of their projects, the fact that they provide single window solutions to the farmers, maintaining good relations with the farmers, quality assurance and reliable information to the farmers.

6. The nodal institutes voiced that the reason for their success was primarily the practical training that they impart to the students. In fact they invite industry experts for delivering lectures in their institutes and liaison with banks that makes processing of loans easier.

7. Every year about 15000 graduates pass out from the agriculture universities and colleges. Out of these graduates about 23% undertake the training every year.

8. The AC&ABC scheme has created dual impact in terms of generating employment in the country. Direct impact has been created by the scheme by providing self employment to the agri-graduates through setting- up of the ventures. These ventures in turn have generated employment for others.

9. Out of approximately 75000 agri-graduates (15000 per year) qualified from various SAUs & colleges during the period of implementation of the scheme (2002-2003 to 2006-2007), the scheme has been able to provide employment to 4152 graduates. It accounts for 6% of the total unemployed agri-graduates. This indicates that the scheme requires more aggressive sensitization and removal of possible hindrances to bring more graduates to take benefit of the scheme.

10. In addition to the agri-preneurs, employment has also been created by the ventures set- up under the scheme. The sample size of 250 ventures indicates that 1535 persons have directly or indirectly been provided employment under various categories. Based on this average, total employment created by 4152 ventures would be in the range of more than 25000.

5. Ratnoo, A.D. (2010), in his study in Mandi district of H.P.(Himachal Pradesh) reported that out of the 32 units financed under AC&ABC scheme, 20 units were included in the samples. The units were categorized into five broad heads i.e. Agri-Business Units (Sale of fertilizers, insecticides, pesticides, seeds etc.), tractors, poultry units, dairy units and poly-houses. Further, 5 farmers per agri-preneur were contacted and their views on need and benefits were elicited. The

study revealed that agri-preneurs were able to attract farmers due to good quality inputs, expert advice and free consultancy services. All the ventures were found to be financially viable. However, the sensitivity analysis indicated that except agri-business units, all other units slipped to non-viable status. This shows that the units are surviving on narrow profit margins. The farmers have received very little support in improving the marketing of their produce which needs to be enhanced by providing better market information to the farmers.

6. Bairwa, Shojilal, et.al (2014), in their research paper reported that although, agri-clinics and agri-business centres scheme now become popular among agri-graduates due to specialized training, credit facility, subsidy and hand holding support for the establishment of agri-business/agri-ventures, but the success rate of total agri-venture establishment is low against the total trained candidates in the country. The success rate is 37 per cent against 30977 trained candidates including male and female candidates. There is need to rethink on the components of scheme such as training programme, nodal training institutes, credit assistance, subsidy and monitoring of scheme for success. The objective of scheme has been met to some extent, yet there is need to involve private extension staff and agri business experts to improve the performance of the scheme. The study revealed that Maharashtra, Tamil Nadu, Uttar Pradesh, Bihar and Karnataka were the leading states. Dairy/Poultry/Piggery farms under projects were given more emphasis. The agri-graduates engaged in agri-business should receive regular support and guidance from agriculture department, MANAGE and NABARD for the improvement of AC&ABC Scheme. There is need of a state level coordination committee between MANAGE and Nodal training institutes to ensure smooth implementation, monitoring and evaluation of training programme under the scheme.

7. **Chandra Shekara S. et.al (2014)** reported that study on effectiveness of paid extension services provided useful insights into the four components that make-up the effectiveness index. While extent of adoption was very high, the increase in yields was low and increase in profits was moderate. Yet the farmer's satisfaction was very high. The study also brought to light the felt needs of farmers for availability of appropriate agricultural technology provision of inputs and extension services locally. Generally, the input agencies are located in the cities and farmers are living in remote villages. But Agri-Clinics and Agri-Business entrepreneurs are from the grass roots of the villages having their centres in remote villages. It is, therefore, concluded that

they will better serve the needy farmers locally and timely. Doing so the cost of cultivation will be reduced to great extent and the level of income will be increased substantially. This will provide much satisfaction to both the farmers and agri-preneurs.

8. Bairwa Shojilal, et.al (2015), in their research paper found that the agri-clinics and agri-business centres scheme is empowering to rural and urban youth by providing professional and technical skill for setting up their own agri-ventures and also helping the farming community by providing inputs timely. AC&ABC scheme becomes popular among agri-graduates due to specialized training, credit facility, subsidy and hand holding support for starting agri-business. The major problems were lack of own money to start business, lack of hand holding support from NTIs, lack of family support and experience, high rate of interest on loan, marketing and infrastructural problems, illiteracy and lack of knowledge of the farmers were the major problems in operating the agri-venture. There is a need that Government should make suitable policies for the problems faced by agri-preneurs under the AC&ABC scheme, so that objectives of scheme can be achieved effectively and efficiently.

9. Venkattakumar R., et.al. (2016), In their research paper have pointed out the need of awareness among the NTPs, changes in training approach and post-training supports to agri-preneurs. If these changes are properly envisioned and systematically implemented, the success rate of AC&ABC scheme is bound to increase considerably. It may also be worthwhile to substantiate the importance of this identified C.S.F. (Critical success factors) through field oriented case study and research with successful and not-so-successful agri-preneurs.

10. Ahire *et al.* (2008) in their study, "Perception of Agri-preneurs on Centrally Sponsored Schemes of Agri-Clinics and Agri-Business Centres" wanted to know the personal profile of the trained agri-preneurs, their opinion on training components and to study the problems encountered by the agri-preneurs under AC&ABC scheme. They found that majority of the agri-preneurs were of the view that the training programme was practical oriented to a great extent. It was also rated by 94 per cent of the agri-cpreneurs as good to excellent on qualitative aspect. Regarding change in attitude of the agriculture graduates, majority (90.00%) of the agri-preneurs perceived that the training programme helped them towards the establishment of different agri-based enterprise. Majority (60.00 %) of the agri-preneurs were satisfied with the existing

duration of 60 days of training programme under the AC&ABC Scheme. More than 50 per cent of the agri-preneurs expressed their opinion that the training enhanced their skills and knowledge on management of agribusiness.

11. Chargotra, Meenakshi and K.L. Dangi (2011) conducted a study on "Aspiration Level of the Agriculture Graduates regarding Agri- Clinics and Agri Business Centres" in the state of Rajasthan. They collected data from 110 number of respondents classified them in to three categories, *viz.* successful entrepreneurs who contributed to their enterprises (EC), defaulter entrepreneurs (ED) and the trained graduates who did not start the enterprises (EN). The results of the study indicated that altogether 75 (68.20 per cent) agriculture graduates possessed medium level of aspiration towards agri-clinics and agri-business centres (AC&ABC). Another 19 (17.30 per cent) respondents expressed high aspiration and the remaining 16 (14.50 per cent) indicated low aspiration towards AC&ABC. EC comparatively visualized encouraging aspiration compared with ED. No respondents (EN) expressed high aspiration. The authors felt that the scheme of AC&ABC must be continued as majority of sample beneficiaries expressed high level of aspiration about the scheme and the young graduates are needed to be persuaded and motivated for AC&ABC during their training period.

12. Manish, K *et.al* (2011) conducted a study on attitude of the agricultural graduate towards Agri-clinic and Agri-business Centers in Arunachal Pradesh. The study was conducted in purposively selected five running centres of Agri-clinic and Agri-business namely, West Siang, Upper Subansiri, Lower Subansiri, West Kemeng and Tawang. Data were collected from three categories of respondents i.e. successful entrepreneurs, unsuccessful entrepreneurs and agricultural graduates who have not started enterprise. Results of the study revealed that majority of the respondents (75.50%) had most favourable attitude towards AC&ABC in three selected categories of respondents. Nearly 14.50 per cent of the total respondents remained undecided and the remaining 10 per cent of the respondents displayed highly unfavourable attitude towards AC&ABC. The study revealed that there was a significant difference in attitude of three above - mentioned categories of respondents. The moderately favourable attitude of the agriculture graduates led to the recommendation that there was a need to put more efforts to bring the youth under most favourable attitude toward the skill development.

13. Shekhara *et al.* (2011) viewed that the manpower available in the form of unemployed agriculture graduates could be channelized for strengthening the extension services to the farmers and at the same time spout their potential and expertise on paid service basis by making them as entrepreneurs through economically viable agri-ventures. In order to address these issues, Agri-Clinics and Agri-Business Centres Scheme (AC&ABC) was launched on 9th April, 2002 to create profitable self-employment opportunities to unemployed agricultural graduates, support agriculture development and supplement the efforts of public extension services.

14. Kumari, Vinaya (2013) conducted an evaluation study of Agri-Clinics and Agri-Business Centres Scheme in Andhra Pradesh. The results of the study indicated that, despite facing stiff competition from other similar units (with owners having non-agriculture education background), the agri-preneurs were able to attract the farmers due to expert advice regarding proper use of inputs and free consultancy services along with good quality inputs. The agri-preneurs were of the view that the agribusiness centers (input suppliers) had been successful in imparting knowledge to the farmers on the new and scientific methods of farming, thus led to an increase in production and farm income. In case of other type of agri-preneurs also, timely advice on production technology, income enhancement, reduction in production cost and increase in productivity were reported to be the major benefits. Apart from providing employment to agriculture graduates, the ventures set up by them had helped in providing gainful employment, both direct and indirect, to several people, depending on the nature of enterprise. Income of the sample farmers has gone up due to intensification, diversification, value addition and better market linkage.

15. Bairwa S.L *et.al* (2014) analysed the "Status of Agri-Clinics and Agri-Business Centers Scheme in India" based on the secondary data collected from various journals, research articles and websites. The study revealed that although, Agri-Clinics and Agri-Business Centres Scheme became popular among the agri-graduates due to specialized training, credit facility, subsidy and handholding support for the establishment of agri-business/agri-venture, the success rate of total agri-venture establishment was low against the total number of trained candidates in the country. The success rate was only 37 percent against 30,977 trained candidates including male and female candidates. The authors felt that agri-graduates engaged in the agribusiness should receive regular support and guidance from the agricultural department, MANAGE and NABARD for

improvement in the performance of AC&ABC scheme. It was also opined that there should be a state level coordination committee between MANAGE and Nodal Training Institutes in order to ensure smooth implementation, monitoring and evaluation of the training programme under the Agri-Clinics and Agri-Business Centres Scheme in India so that the objectives of scheme can be achieved effectively and efficiently.

16. T. Ravindra, and Agarwal, Sweta (2015) opined that a farmer to become a successful agri-preneur needs to be active, curious, determined, persistent, visionary, hard working, come up with ideas, communicative with strong management and organizational skills, recognize suitable marketing opportunities, manage the optimum resources or bearing the risk. Agri-preneurship is greatly influenced by three factors namely, the economic situation, education and culture. The socio-economic analysis of agri-preneurs and traditional farmers in selected districts of Uttar Pradesh clearly indicates that if the right environment is created and farmers are provided with good infrastructure, technology and timely availability of credit through financial institutions it can enhance food production and can ensure food security, income and quality of life for the farmers. Contrary to common beliefs, the skills associated with agri-business are not necessarily innate but the farmer can develop it through education and training. They need to put in continuous effort to update their skills and competencies which basically includes self initiative, good decision making, problem solving, opportunity seeking, ability to focus on customer demands, self confidence *etc*. Farmers need to acquire knowledge in each of the key areas of farm management which include planning, implementing and controlling. They also need information about primary agricultural techniques and methods like production, harvesting, processing, wholesaling and retailing, financial services, transport, packaging, promotion and advisory services. From the above analysis, it becomes clear that almost all the researchers and scholars found the AC&ABC scheme to be very effective and beneficial for the farmers. It provides value added extension services at the doorstep of the farmers through the unemployed agricultural graduates. Direct impact has been created by the scheme by providing self employment to the agriculture graduates through setting up of different ventures. The agri-preneurs trained under AC&ABC scheme are actively involved in providing advisory and extension services to the farmers on improved technologies relating to soil health, cropping practices, plant protection, post harvest technology *etc*. However, it was felt that agri graduates engaged in the agribusiness should receive regular support and guidance from the State Agricultural Department, MANAGE and

NABARD for improvement in terms of performance. There is also a need for establishment of a state level coordination committee comprising the MANAGE and the Nodal Training Institutes in order to ensure smooth implementation, monitoring and evaluation of the training programme under the AC&ABC Scheme.

Some Success Stories of Agri-Preneurs prepared and published by MANAGE Hyderabad:-

10. Parashar Rishi Ram (2009), in 2007, he joined the agri-preneurship development programme organized by Indian society of Agribusiness professionals (ISAP), Karnal, Haryana under the AC&ABC Scheme. He launched M/S Parashar Bee Farm in Karnal after training. In 2009, he produced 21 quintals of honey and sold it at the rate of Rs. 140/Kg. This translates into a net profit of Rs 80/Kg as the total cost to produce 1Kg of raw honey was Rs. 60/- It boosted his confidence and encouraged him to pursue Bee-keeping **"Says Sri Rishi Ram Parashar, a Bee Keeper and an Agriculture graduate, from Barna, district, Kurukshtra, Haryana".** Prior to Bee-keeping he was a marketing executive in a pharmaceutical company for 15 years. During the training under the AC&ABC scheme he visited on Apiary in Karnal and was impressed by the activities and benefits of Bee-keeping. His further vision is to start an Api-therapy centre in his Bee Farm and to provide services for the betterment of mankind. He has, recruited eight full time skilled workers. The annual turnover of his firm has touched Rs 20 lakhs.

11. Madghe Prashant M. (2014), established his own venture and started Innova Agro-chemical in Paratwada taluka in the year, 2007. He is a graduate in agriculture and has completed agri-clinics and agri-business training in the first batch (2007-08) at Krishi Vigyan Kendra, Durgapur, (Badnera), Amaravati, Maharashtra. After his graduation in agriculture, he worked in Godrej Agro-vet Pvt. Ltd, as a senior sales officer for seven years (1998-2005). Later he decided to start his own venture. He appointed 25 rural youth and trained them to deliver extension services as **"Krishi Doot"** among orange growers to increase orange productivity and to involve rural youth in agriculture. Innova agrochemicals special focus is on Nutrient Management in orange cultivation. He provides consultancy to orange growers in the area of water, fertilizer pest and diseases management. He has high tech and modern agri-clinic and agri-business centre which provide agri-inputs, agro-consultancy and soil testing services. Impact of these extension initiatives resulted in increased quality, productivity and improved economic status of orange

growers. The productivity increased from 9 to 10 Mt/ha. About 7000 farmers were benefited in Acholpur, Amaravati and Akola districts in Maharashtra. His turnover is more than 5 crores.

12. Somapur Shrishal (2014) He was inspired by AC&ABC scheme and underwent training at the Centre for Entrepreneurship Development (CED), Hyderabad. Later he resigned the job of Manager in Indo American Hybrid Seeds (India) Pvt. Ltd. in seed Production wing and started a seed production unit under the name **"Maxima Seeds for Better Future"** which is equipped with research and development facilities in 10 acre farm, processing and packaging facilities such as grader Gravity separator, De-stoner, Treator, automatic weighing and bagging unit with 90000 Sq.ft. storage facility on NH-7 at. Shadnagar, Mahboob Nagar district, Andhra Pradesh. He has provided employment to 30 skilled workers. Maxima seeds are extending services to 1000 farmers in 100 villages and have a turnover of 1.2 crores and a net profit of Rs. 20 lakhs.

13. Sawalakhe Ms. Sangeeta Deepak (2014), She completed post graduation in Agricultural Science and later underwent AC&ABC scheme training from Krishi Vigyan Kendra (KVK, Durgapur, Amarvathi, Maharashtra and started Vidarbha Biotech laboratory (VBL) in the year 2008. The Vidarbha Biotech Laboratory received 150-900/-2008 certificate for the best quality products manufacturing and providing the marketing services. The organization also received **"Maharashtra Udyogina Puraskar Award"** from the Maharashtra State Government, UNESCO linked women's wing Award for providing farmers services in the rural areas. She has provided employment to 30 women of 8 districts of Vidarbha region. The present sales turnover is Rs 70 lakhs and annual income of Rs 40 lakhs.

14. Dr. Kamal Brijesh (2014) Highlighted that it is well known that excessive use of organo-phosphorous pesticides and chemical fertilizers, not only depletes soil fertility but also affects human health and nature's eco-balance. Dr. Brijesh Kamal a Ph. D. in Mycology and Plant Pathology from Y.S. Parmar University of Hort. & Forestry, Solan (H.P.) established a plant clinic as Agri-preneur in Sirmour district (H.P.). He motivated the farmers for vermi-compost production and to avail subsidy at the rate of Rs. 30.000/- per pit. This attracted the farmers for producing more vermi-compost. He has employed 12 skilled and 30 unskilled employees. His annual turnover is Rs.180 lakhs with annual expenditures of Rs. 70 lakhs. Thus, his net profit is Rs. 10 lakhs per annum.

CHAPTER-III

General Description of the Area in Selected States of India under Study and Status of AC&ABC Scheme therein

III.1: Profiles of Selected States:-

III.1.1: Selected States At-A-Glance

The particulars of the four selected states at-a-glance worked-out in Table-III.1 indicates that Maharashtra acquires largest area i.e. 307713 Sq. K.M. followed by 243290 Sq. K.M. acquired by Uttar Pradesh against 7850 Sq. K.M. by Assam and 112077 Sq. K.M. by Telangana. Thus, Maharashtra had largest area and Assam Smallest area among the four selected states. While, in terms of population Uttar Pradesh had the largest i.e. 199812 thousand against the smallest i.e. 31205 thousand by Assam. Accordingly the density of population was highest i.e. 828 thousand per Sq. K.M. in Uttar Pradesh against the lowest i.e. 312 thousand per sq. K.M. in Telangana. While the sex ratio was highest i.e. 988 females per 000 males in Telangana against the lowest i.e. 908 females per 000 males in Uttar Pradesh. The numbers of Tehsils and Development Blocks were largest in Uttar Pradesh against the smallest in Assam. Accordingly the numbers of districts and Gram Panchyats were comparatively much higher in Uttar Pradesh. While the percentage of literacy was highest i.e. 82.34% in Maharashtra against the lowest i.e. 69.72% in Uttar Pradesh. The numbers of higher secondary schools, degree colleges and universities were higher in Maharashtra than in other three selected states. The percentage of farmers was highest i.e. 72.20% in Uttar Pradesh against 62 to 66% in the other three selected states of India. While the percentage of workers was estimated to be highest i.e. 46.68% in Telangana against the lowest i.e. 13.66% in Assam. In Maharashtra it was 38.88% and in Uttar Pradesh it was 29.70% respectively. Thus, the percentage of total farmers was highest in Uttar Pradesh followed by other states of India. The related data are given in Table-III.1.

Table-III-1
Selected States At -A Glance

Sl. No.	Particulars	Selected States			
		Assam	**Maharashtra**	**U.P.**	**Telangana**
1	Area in Sq K.M., 2011 Census	7850	307713	243290	112077
2	Population in 000, 2011 Census	31205	112374	199812	35003
3	Male Population in 000, 2011 Census	15939	33616	104481	17611
4	Female Population in 000, 2011 Census	15266	54131	95332	17392
5	Rural Population in 000, 2011 Census	26807	61556	155317	21315
6	Rural Male Population in 000, 2011 Census	13678	17887	81145	13609
7	Rural Female Population in 000, 2011 Census	13128	30017	74172	10708
8	Urban Population in 000, 2011 Census	4398	50818	44495	13609
9	Urban Male Population in 000, 2011 Census	4153	14729	23566	6907
10	Urban Female Population in 000, 2011 Census	3779	24114	20929	6702
11	Density of population in Per Sq.K.M. 000, 2011 Census	398	365	828	312
12	Sex Ratio Female per in 000, Male 2011 Census	962	929	908	988
13	Tehsils in Nos., 2011 Census	56	108	327	42
14	Development Blocks in No., 2011 Census	219	326	822	438
15	Gram Panchayats in No., 2011 Census	2202	28813	51914	8695
16	Districts in No., 2011 Census	27	36	75	31
17	Divisions in No., 2011 Census	NA	06	18	68
18	Literacy in %, 2011 Census	72.09	82.34	69.72	NA
19	Junior Basic Schools in No., 2011 Census	NA	66369	86361	NA
20	Higher Secondary Schools in No., 2011 Census	NA	15649	8459	1138
21	Degree colleges in No., 2011 Census	NA	1741	406	41
22	Universities in No, 2011 Census	13	41	27	12
23	Total Farmers in %, 2011 Census	66.38	62.02	72.20	63.60
24	Total Workers in %, 2011 Census	13.66	38.88	29.70	46.68
25	Police Station in No. 2011, Census	NA	NA	1366	NA

Source: Agricultural Statistics at a Glance 2015 Govt. of India, Ministry of Agriculture & farmers Welfare, Deptt. of Agri. & farmers Welfare, Deptt. of Economic & Statistics

III.1.2: Situation of Selected States:-

III.1.2.1: Situation of Assam

Assam is one of the eight states of North East India. It is situated in the sub-tropical zone lying in between 24^0 08^1 and 27^0 09^1 North latitude and 89^0 42^1 and 96^0 10^1 East longitudes. The state is bounded on the north by Bhutan and Arunachal Pradesh, on the East by Arunachal Pradesh, on the South by Nagaland, Mizoram and Meghalaya, on the West by West Bengal and on the South West by Bangladesh. Broadly, Assam consists of three physiographic divisions i.e. (1) Bramhaputra Valley, (2) Barak Valley and (3) Hills Region. Bramhaputra Valley covers an area of 56339 Sq.K.M. which is 72.00% the total geographical area. Barak Valley has an area of 6962 Sq.K.M. accounting for 9.0% and the hill region covers an area of 15222 Sq.K.M. constituting 19.00% of the total geographical area of the state.

III.1.2.2: Situation of Maharashtra

Maharashtra is situated between 16^0 4^1 and 22^0 1^1 North latitude and 72^0 6^1 and 80^0 9^1 East longitudes and located on the west abutting the Arabian Sea and carved out as a linguistic entity of Marathi speaking people. Maharashtra is the second largest state in terms of population and third largest in terms of area. Maharashtra accounted for 9.42% of the total population of India with its area of 307713 Sq.K.M. as per 2011 Census. Maharashtra holds second place in India in terms of urban population with 43% of persons residing in urban areas (cities and towns). Maharashtra has 720 K.M. long coastline stretched from Daman in the north to Goa in the south. It falls in Western Plateau an Hill Regions called a resource development zone. Maharashtra is divided in 5 broad regions i.e. (1) Greater Mumbai, (2) Western Maharashtra, (3) Marathwada, (4) Konkan and (5) Vidarbha. Maharashtra has 36 districts in all.

III.1.2.3: Situation of Uttar Pradesh

Uttar Pradesh garlanded by Ganga and Yamuna, the two pious rivers of Indian Mythology is a rainbow land which is surrounded by Bihar in the east, Madhya Pradesh in the south, Rajasthan, Delhi, Himanchal Pradesh and Hariyana in the west and Uttarakhand in the north and Nepal touches the Northern International borders of Uttar Pradesh. Its area of 242290 Sq.K.M. lies between the latitudes of 24^0 31^1, north and the longitudes of 77^0 84^1 east Uttar Pradesh is fifth largest state of India accounting 6.88% of its total area. Rich and tranquil expanses of meadows,

perennial rivers, dense forests and fertile soil of Uttar Pradesh have contributed numbers golden chapters to the annals of the Indian History. Uttar Pradesh plays important role in the polities education, culture, industry agriculture and tourism of India.

III.1.2.4: Situation of Telangana

Telangana emerged as 29th state of India w.e.f. 2nd June, 2014 with Hyderabad city as its capital. Telangana is a state in southern region of India. It has an area of 112077 Sq.K.M. It is twelfth largest state in terms of both in area and size of population in the country. Telangana has acquired its identity as the telgu speaking region of the princely state of Hyderabad. Telangana is bounded by Maharashtra to the north and north west and Chhatisgarh to the north, Karnataka to the west and Andhra Pradesh to the south, east and north east. Telangana is located in Deccan Platean in the central stretch of the eastern seaboard of Indian Peninsula. The climate of the state is predominantly hot and dry. The geographical area of Telangana is 112077 Sq.K.M. with a population of 350.04 lakh. The sex ratio is 988 in the state.

III.1.3: Climate and Rainfall in the Selected States:-

III.1.3.1: Climate and Rainfall in Assam

The soil topography, rainfall and climate of the state of Assam are quite congenial for producing a variety of crops during distinct crop seasons. However, agriculture in the state is characterized by low level of productivity due to recurring natural calamities, low level of mechanization, inadequate availability of quality inputs, poor soil health low level of assured irrigation and inadequate market infrastructure. Assam has hot and wet summer and dry and cool winter. Monsoon is characterized by cloudy weather. The annual rainfall varies from 1469 m.m. in Guwahaty to 3481 m.m. North Lakhimpur in the state of Assam.

III.1.3.2: Climate and Rainfall in Maharashtra

The entire state of Maharashtra broadly comes under tropical non-monsoonic climate. Its major portion is semi-arid with 3 distinct seasons (rainy, winter and summer). The rainfall varies from 500 to 5000 m.m. with an average of 1000 m.m. distributed over 60 to 70 days in the state of Maharashtra. In winter rain accounts for only 5 to 6% of the total rainfall confined only in the eastern districts of Maharashtra. The month of July is the heaviest rainfall month in the entire

state. The mean daily temperature is only 18^0C at most of the times of the year. In vidarbha region temperature becomes relatively higher. In winter it becomes rather low. The coastal areas and south central parts of the Maharashtra state qualify for iso-hypothermic temperature region where as rest of the state remains hypothermic.

III.1.3.3: Climate and Rainfall in Uttar Pradesh

The climate of Uttar Pradesh in general is sub-tropical monsoon type. The temperature in Uttar Pradesh varies with altitude. The average minimum temperature in January ranges around 8^0C in Saharanpur and Meerut area. The average minimum temperature in May ranges from 43^0C in southern and south-western parts to below 33^0C in the northern part. Annual relative humidity varies from 30 to 40% in Uttar Pradesh. Humidity generally increases from south-western part to the east or north. As regards the rainfall in Uttar Pradesh almost 90% of annual rainfall is received in the months from mid June to mid October and it becomes variable and erratic. The average annual rainfall ranges from 650 m.m. south western corner to 1000 m.m. in eastern and south eastern parts of the state of Uttar Pradesh.

III.1.3.4: Climate and Rainfall in Telangana

In Telangana state the rainfall is generally influenced by south-west and north-east monsoon. Telangana receives a normal rainfall of 905.3 m.m. in a year. The bulk of rainfall is received in south-west monsoon period i.e. 49.77% followed by north-east monsoon with 54.4% and the rest is received during winter and hot weather. The climate is predominantly semiarid and arid in Telangana state. The state of Telangana is geographically located in semi-arid area and has hot and dry climate. The peak temperature in May becomes 42^0C (108^0F). The monsoon comes in June and lasts in September with about 700 m.m. of precipitation.

III.2: Land Utilization in Selected States during 2012-13.

The land utilization in four selected states of India during 2012-13 analysed in table-III.2 indicates that the total reporting area was estimated as highest i.e. 307.58 lakh hectares in Maharashtra during 2012-13 against the lowest i.e. 74.44 lakh hectares in Assam. While, in Telangana it was 275.05 lakh hectares and in Uttar Pradesh it was 241.70 lakh hectares during the same span of time. Thus, reporting area was highest in Maharashtra state. Accordingly the

area under forest as well as barren and uncultivable land was also reported to be highest in Maharashtra state as compared to that in the other 3 selected states of India. The area under cultivable waste land and permanent pastures and other grazing land was also comparatively much higher in Maharashtra state. Beyond these, the area under current fallows and other fallows and net sown area was also highest in Maharashtra. But the gross cropped area was reported as highest i.e. 258.22 lakh hectares in Uttar Pradesh followed by 218.74 lakh hectares in Maharashtra against the lowest i.e. 41.97 lakh hectares in Assam and 62.88 lakh hectares in Telangana. Thus, land utilization in Uttar Pradesh was comparatively better as the gross cropped area in Uttar Pradesh was comparatively much higher during 2012-13. The related data are given in Table-III.2.

Table-III.2
Land Utilization in Four Selected States of India (2012-13)

(Area in Lakh Hect)

Sl.No.	Particulars	Selected States			
		Assam	Maharashtra	U.P.	Telangana
1	Reporting Area	78.44	307.58	241.70	275.05
2	Forest	18.53	52.07	16.58	27.43
3	Barren & Uncultivable Land	26.20	31.77	4.79	6.15
4	Land put to Non -Agriculture Uses			28.93	8.95
5	Cultivable Waste Land	0.78	9.16	4.23	1.78
6	Permanent Pastures and others grazing land	1.60	12.45	0.65	3.01
7	Land under Miscellaneous Trees, crops and groves etc.	1.96	2.51	3.50	1.14
8	Current Fallows	0.81	14.18	12.01	7.17
9	Fallows Land (other than current fallow)	0.52	12.00	5.37	9.60
10	Net Area Sown	28.11	173.44	165.65	49.61
11	Area Sown More than Once	NA	NA	92.57	13.27
12	Gross Cropped Area	41.97	218.74	258.22	62.88

Source: Statistical Diary of U.P. state, 2014 and Agri. Statistics at a glance India, 2014

III.3: Agricultural Extension Services provided to Farmers by Agri-Ventures in four Selected States of India (2002-2016):-

III.3.1: Unit/project-wise Distribution of Agri-Venture Established for Providing Agricultural Extension Services to Farmers in Selected states of India during 2002-2016:-

Table-III.3 shows that the total number of agri-ventures established during the span of 2002-16 in India under 32 prominent units was 21189 of which the maximum i.e. 5394 were established in Maharashtra against the minimum i.e. 206 in Assam. While in Uttar Pradesh there were 5242 and in Telangana three were 3001 such agri-ventures providing agriculture extension services to farmers. Thus, Maharashtra farmers were benefited comparatively more in India followed by Uttar Pradesh among the 4 selected states. While in Assam the minimum number of the farmers were benefited as the numbers of agri-ventures established were extremely low in Assam till 2016. Hence agriculture extension services to be provided to farmers by agri-ventures were low and inadequate in Assam state. Among the 32 units managed and implemented by MANAGE (Hyderabad) the maximum i.e. 6776 agri-ventures were established successfully under AC&ABCs (Agri-clinics and Agri-business centres) units followed by 5577 units under Dairy/Poultry/Pigary/Goatary and 3306 units under agri-clinics in India as a whole. In the other units the number of agri-ventures established varied from 12 under Agro-Eco-Tourism units to 875 under veterinary clinics in India. Accordingly the number of agri-ventures varied in the four selected states under prominent units. The maximum number of agri-ventures were established in Maharashtra followed by Uttar Pradesh in India as a whole. The related data are given in Table-III.3.

Table-III.3

Unit/Project-wise Distribution of Agri-Ventures Established for Providing Agricultural Extension Services to Farmers in Selected States of India during 2002 - 2016

Sl.No.	Unit/Projects providing Agri.-Extension Services	No. Agri-Ventures Established in India				
		Assam	Maharas-htra	U.P.	Telangana	India
1	Agri-Clinics	21	943	557	609	3306
2	Agri-clinics & ABCs	30	1422	2614	607	6776
3	Bio-Fertilizer Production & Marketing	01	30	14	10	105
4	Animal feed Unit	02	16	09	5	47
5	Contract Farming	00	02	12	21	69
6	Cultivation of Medicinal Plants	01	06	12	10	112
7	Direct Marketing	01	66	38	8	168
8	Farm Machinery Unit	03	207	195	90	713
9	Fisheries Development	04	40	30	43	350
10	Floriculture Unit	00	33	08	14	108
11	Horticulture Unit	00	62	11	26	170

12	Landscaping + Nursery	01	46	01	24	113
13	Nursery	05	170	53	92	513
14	Organic Production Food Chain	00	15	10	14	90
15	Pesticides Production and Marketing	00	14	02	02	41
16	Value Addition	02	122	27	22	281
17	Seed Processing and Marketing	01	25	39	31	338
18	Soil Testing Laboratory	01	17	05	25	103
19	Vegetable Production and Marketing	01	33	58	22	252
20	Vermi-compositing/Organic Manure	05	82	53	44	496
21	Veterinary Clinics	91	323	22	52	875
22	Crop-Production	01	41	11	13	197
23	Dairy/Poultry/Piggary/Goatary	35	1629	1267	1056	5577
24	Rural Godown	00	08	28	03	49
25	Production & Marketing of Bio-Control Agent	00	04	09	01	19
26	Agriculture Journalism	00	03	02	00	16
27	Mushroom Cultivation	00	03	05	39	100
28	Apiary	00	00	65	02	101
29	Fishery clinic	00	03	00	06	15
30	Tissue culture unit	00	08	00	02	28
31	Sericulture	00	13	00	07	49
32	Agro-eco. Tourism	00	08	00	01	12
	Total	206	5394	5242	3001	21189

Source:- National Institute of Agricultural extension Management (Manage) Hyderabad

III.4: AC&ABC Scheme At-A-Glance in Four selected States of India (2002-2016):-

Table-III.4 shows that M.S. Swaminathan committee had recommended AC&ABC scheme in India on 28th February, 2001 which was launched on 9th April, 2002. The eligibility criteria for training in NTIs (Nodal Training Institutes) was graduates in agriculture and allied subjects. The implementing agencies were MANAGE, NABARD, DAC & FW, NTIs and Commercial Banks. The total number of NTIs in four selected states was reported as 39. The subsidy rate for general candidates was 36% and for SC, ST and women was 44% and the margin money was as per the RBI guidelines. The total number of applications received for training in NTIs was maximum i.e. 12178 in Maharashtra followed by 10980 in Uttar Pradesh. While in Assam there were only 666 and in Telangana there were 1099. Thus, maximum applications were in Maharashtra against minimum in Assam. Accordingly the number of trained agri-ventures were higher in Maharashtra and lower in Assam. While the number of successfully established agri-ventures were also maximum in Maharashtra and minimum in Assam. This evidently clarifies that AC&ABC scheme had performed better in Maharashtra and Uttar Pradesh but not in Assam and Telangana. The related data are given in Table-III.4

Table-III.4
AC&ABC At-A-Glance in Selected States (2002-16)

Sl. No.	Particulars	Information in Selected States				
		Assam	Maharashtra	U.P.	Telangana	Total
1	Committee which recommended AC&ABC Scheme in India	M.S. Swaminathan Committee				
2	Announcement date of AC&ABC Scheme by Central Finance Minister	28th February, 2001				
3	Launching date of AC&ABC Scheme	9th April, 2002				
4	Eligibility Criteria for Training in NTIs	Graduate in Agriculture and allied subjects				
5	Implementing Agencies	MANAGE, NABARD, DAC, NTIs (Nodal Training Institutes) and Commercial Banks				
6	Total Numbers of NTIs in selected state till 2015-16	2	19	18	--	39
7	Subsidy and Margin Money under AC&ABC Scheme	36% for General candidates and 44% for SC/ST and women candidates Margin money – As per RBI Guideline				
8	No. of total applications received in NTIs of selected state during (2002-03 to 2015-16)	666	12178	10980	1099	24923
9	No. of total trained Agri-ventures in selected state during (2002-03 to 2015-16)	666	12178	10875	1099	24818
10	No. of total Agri-ventures established in selected state during (2002-03 to 2015-16)	206	5394	5242	363	11205
11	No. of total braches completed trainings from NTIs of selected state	NA	NA	260	NA	NA
12	No. of Training Programmes	NA	NA	310	NA	NA

Source:- AC&ABC Cell, MANAGE, Hyderabad (Telangana)

III.5: Season-wise area Production and Productivity of Main Crops Growth during 2012-2013 in Four Selected States of India:-

Table-III.5 indicates the Paddy and Bajra during kharif were growing in large area with higher production and productivity in Uttar Pradesh. While Jowar and Maize were grown in comparatively in larger area with higher production and productivity during kharif in Maharashtra state. During Rabi wheat and total pulses performed better in Uttar Pradesh as compared to that in other 3 states. But total oilseeds performed better in Maharashtra during the year 2012-2013. While the total food grain as well as sugarcane performed much better in Uttar

Pradesh than all the other 3 selected states of India under the study. The related data are given in Table-III.5

Table-III.5
Season-wise Area, Production and Productivity of Main Crops Grown during 2012-13 in Four Selected States of India

Sl. No.	A.P.Y. of Main Crops		Selected States			
			Assam	Maharashtra	U.P.	Telangana
1	Paddy					
		A. in Lakh Ha.	24.88	15.57	58.61	14.15
		P. in Lakh M.T.	51.28	30.57	144.16	45.45
		Y. in Qh/Ha.	20.61	19.63	24.60	32.11
2	Jowar					
		A. in Lakh Ha.	0.00	7.88	1.84	0.79
		P. in Lakh M.T.	0.00	5.02	2.48	0.83
		Y. in Qh/Ha.	0.00	6.37	13.48	10.54
3	Bajra					
		A. in Lakh Ha.	0.00	7.88	9.01	0.11
		P. in Lakh M.T.	0.00	5.02	17.58	0.11
		Y. in Qh/Ha.	0.00	6.37	19.51	9.37
4	Maize					
		A. in Lakh Ha.	0.00	8.22	7.36	6.91
		P. in Lakh M.T.	0.00	18.24	12.34	23.08
		Y. in Qh/Ha.	0.00	22.19	16.77	33.38
5	Wheat					
		A. in Lakh Ha.	0.33	7.73	97.34	0.10
		P. in Lakh M.T.	0.44	11.81	303.01	0.10
		Y. in Qh/Ha.	13.04	15.28	31.13	10.00
6	Total Oilseed					
		A. in Lakh Ha.	3.06	38.06	11.47	5.00
		P. in Lakh M.T.	1.87	50.86	10.30	7.22
		Y. in Qh/Ha.	6.10	13.37	8.98	15.02
7	Total Pulses					
		A. in Lakh Ha.	1.41	22.74	23.67	4.08
		P. in Lakh M.T.	0.08	23.06	23.32	2.62
		Y. in Qh/Ha.	5.98	7.04	9.85	6.43
8	Total Foodgrain					
		A. in Lakh Ha.	26.98	105.75	199.60	26.12
		P. in Lakh M.T.	52.80	109.73	507.45	72.18
		Y. in Qh/Ha.	19.62	10.38	25.42	27.63
9	Sugarcane					
		A. in Lakh Ha.	0.29	9.33	22.12	0.40
		P. in Lakh M.T.	10.28	996.48	1324.28	24.20
		Y. in Qh/Ha.	356.13	746.50	598.68	690.00

Source: Agri. Statistics at a glance, Directorate of Economic & Statistics, DAC, Govt. of India, New Delhi, 2014.

III.6: Average Size of Holdings in Four Selected States of India:-

Table-III.6 shows that on an overall the average size of holdings was reported comparatively higher i.e. 1.45 hectares in Maharashtra, 1.10 hectares in Assam, 1.08 in Telangana and 0.75 hectare in Uttar Pradesh. Thus, average size of holdings in Maharashtra was comparatively highest in four selected state against the lowest in Uttar Pradesh. The size-group-wise analysis shows that in Maharashtra the holdings in each size-group were comparatively larger than that in other states except in Assam where the average holdings were much larger in large-size-group of farmers. The pattern of distribution of holdings in each size-group in Uttar Pradesh and Telangana was quite similar and comparatively smaller than that in Maharashtra state. The related data are given in Table-III.6

Table-III.6
Average Size of Holdings in four Selected States of India

Sl. No.	Category-wise of Holding in Ha.	Selected States			
		Assam	Maharashtra	U.P.	Telangana
1	Marginal Holdings (Up to 1.00 Hect.)	0.42	0.47	0.37	0.44
2	Small Holdings (1.01 to 2.00 Hect.)	1.38	1.42	1.39	1.41
3	Semi Medium Holdings (2.01 to 4.00 Hect.)	2.69	2.67	2.72	2.63
4	Medium Holdings (4.01 to 10.00 Hect.)	5.15	5.62	5.52	5.56
5	Large Holdings (Above 10.00 ha.)	68.11	16.07	15.01	15.50
6	Total Holdings	1.10	1.45	0.75	1.08

Source:. Agricultural Statistics at a Glance 2015, Page No. 391, Govt. of India

III.7: Status of AC&ABC in Four Selected States of India (2002-16):-

Table-III.7 shows that since the beginning year 2002 to 2016 the number of agri-ventures successfully established were reported as highest i.e. 5309 in Maharashtra followed by 4086 in Uttar Pradesh against the lowest i.e. 209 in Assam. In Telangana the AERC Visakhapatnam has reported it N.A. in their draft report. The maximum number of agri-ventures have been reported to be established during the year 2014 and 2015 as reported by the participating AERCs in this coordinating study. The concerned information are given in Table-III.7

Table-III.7

Status of AC&ABCs in four Selected States of India (2002-2016)

Sl.No.	Years	No. of Agri. Ventures Established in Selected States			
		Assam	Maharashtra	U.P.	Telangana
1	2002	0	12	9	NA
2	2003	4	159	55	NA
3	2004	4	95	117	NA
4	2005	4	357	338	NA
5	2006	3	99	352	NA
6	2007	16	198	252	NA
7	2008	17	173	285	NA
8	2009	42	134	307	NA
9	2010	27	319	211	NA
10	2011	10	557	534	NA
11	2012	32	546	578	NA
12	2013	17	357	583	NA
13	2014	10	743	543	NA
14	2015	14	884	722	NA
15	2016	9	496	--	NA
	Total	209	5309	4086	NA

Source:. Reports AERC, Assam, Maharashtra, Allahabad and Telangana

III.8: Nodal Training Institute-wise Number of Ventures Established under AC&ABC Scheme in Four Selected States of India:-

III.8(A): Nodal Training Institute-wise Number of Ventures Established under AC&ABC Scheme in Assam:-

Table-III.8(A) shows that in the state of Assam only two NTUs namely (1) Assam Agriculture University and (2) Indian Society of Agri-Business Professionals were reported by AERC, Jorhat (Assam) wherein by the NTI in Assam Agriculture University only 17 agri-ventures were established so far during the span of 2002-16. While the other NTI as Indian Society of Agri-Business Professional total 192 agri-ventures were established during 2007- to 2016. Thus, in all only 209 agri-ventures were established in Assam showing a deplorably poor performance by the AC&ABC scheme in Assam. The data are given in Table-III.8(A).

Table-III.8(A)

Nodal Training Institute-wise No. of Ventures Established under AC&ABC Scheme in Assam during 2002-03 to 2015-16

Sl. No.	NTIS in Assam	No. of Ventures Established															
		2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Total
1	Assam Agriculture University	--	4	4	4	3	--	--	1	--	--	--	1	--	--	--	**17**
2	Indian Society of Agri-business Professionals	--	--	--	--	--	16	17	41	27	10	32	16	10	14	9	**192**

Source: Report from AERC Jorhat

III.8(B): Nodal Training Institute-wise Number of Agri-Ventures Established under AC&ABC Scheme in Maharashtra during 2002-2016:-

Table-III.8(B) indicates that in Maharashtra total 18 NTIs were registered till the year 2016 and total 5276 agri-ventures were established successfully on an overall in the state wherein the maximum agri-ventures were established during the years 2014-15 starting from 10 agri-ventures in the year 2002. The NTI-wise distribution of agri-ventures established shows that the maximum numbers of agri-ventures i.e. 1149 were established by Krishna Valley Advanced Agriculture Foundation, Sangli against the minimum i.e. 67 agri-ventures by Vasant Prakash Vasakh Pratisthan, Sangli. In other NTIs it varies from 94 by K.V.A.A.F. Shindhudurg to 764 by Miticom Consultancy Services Ltd. Pune till 2016. The related data are given in Table-III-8(B).

III.8(C): Nodal Training Institute-wise Number of Agri-Ventures Established under AC&ABC Scheme in Uttar Pradesh during 2002-2016:-

Table-III.8(C) shows that in the state of Uttar Pradesh total 18 NTIs were registered by MANAGE till the year 2016 and total 4939 agri-ventures were successfully established in all by these 18 NTIs. The highest number of NTIs i.e. 748 were established in the year 2015. The NTI-wise distribution shows that the highest number of agri-ventures i.e. 2202 were established by S.M.G.G.S. Varanasi against the minimum i.e. 1 only by S.B.P.U.A.T. Modinagar. In other NTIs it varied from 3 in N.D.U.A.T. Narendra Nagar to 977 in J.A.R.D.S. Moradabad till the year 2016. The related data are given in Table-III.8(C).

Table-III.8(B)

Nodal Training Institute-wise No.of Ventures Established under AC&ABC Scheme in Maharashtra during 2002-03 to 2015-16

Sl. No.	NTIS in Maharashtra	No. of Ventures Established															
		2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Total
1	Krishna Valley Advanced Agriculture Foundation, Sangli	1	50	44	86	22	60	74	34	120	141	140	85	150	70	72	**1149**
2	Mitcon Consultancy Services Ltd. Pune	-	19	5	92	55	78	74	62	107	157	103	11	1	-	-	**764**
3	Shriram Pratishtan Mandal, Wadala, Solapur	-	-	-	-	-	-	-	-	55	89	92	77	83	94	52	**542**
4	Krishna Valley Advanced Agriculture Foundation, Uttur	-	-	-	-	-	-	-	-	-	-	62	74	89	106	26	**357**
5	Krishi Vigyan Kendra, Babhaleshwar	-	-	12	36	5	30	-	-	-	54	20	54	65	23	27	**326**
6	Shriram Pratishtan Mandal, Osmanabad	-	-	-	-	-	-	-	-	-	19	22	80	88	52	43	**304**
7	Krishna Valley Advanced Agriculture Foundation, Nagpur	-	-	-	-	-	-	-	-	-	-	37	46	42	96	55	**276**
8	Krishi Vigyan Kendra, Durgapur, Amravati	-	-	-	-	-	-	5	20	27	34	27	41	38	48	13	**253**
9	Baramati Agriculture Development Trusts Krishi Vigyan Kendra, Baramati	-	-	-	-	-	29	20	20	12	29	25	43	30	30	15	**253**
10	Mahatma Fule Krishi Vidhyapeeth Pune	9	48	32	97	17	-	-	-	-	1	-	-	-	-	1	**205**
11	Shriram Pratishtan Mandal, Ratnagiri	-	-	-	-	-	-	-	-	-	17	17	25	61	35	31	**186**
12	Shashwat Sheti Vikas Pratishtan (SSVP)	-	-	-	-	-	-	-	-	-	-	-	-	48	66	39	**153**
13	Baramati Agriculture Development Trusts Krishi Vigyan Kendra, Pune Regional Centre	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
14	Shriram Pratishtan Mandal, Akola	-	-	-	-	-	-	-	-	-	-	-	-	4	88	19	**111**
15	Krishna Valley Advanced Agriculture Foundation, Jalgaon	-	-	-	-	-	-	-	-	-	-	-	-	-	57	39	**96**
16	Krishna Valley Advanced Agriculture Foundation, Sindhudurg	-	-	-	-	-	-	-	-	-	-	-	-	-	57	37	**94**
17	Vasant Prakash Vasakh Pratistan, Sangli	-	30		35	2		-	-	-	-	-	-	-	-	-	**67**
18	Krishna Valley Advance Agriculture Foundation Pune Regional Centre	-	-	-	-	-	-	-	-	-	-	-	-	45	64	31	**140**
	Total	**10**	**147**	**93**	**346**	**101**	**197**	**173**	**136**	**321**	**541**	**545**	**536**	**744**	**886**	**500**	**5276**

Source:- AC&ABC Cell, MANAGE, Hyderabad (Telangana)

Table-III.8(C)

Nodal Training Institute-wise No. of Ventures Established under AC&ABC Scheme in U.P. during 2002-03 to 2015-16

Sl. No.	NTIS in Uttar Pradesh	No. of Ventures Established															
		2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Total
1	N.R.C.A.F., Jhansi	9	11	2	15	-	-	-	-	-		-	-	-	-		37
2	S.M.G.G.S., Varanasi,	-	12	75	213	234	167	255	270	125	288	214	119	126	104		2202
3	N.D.U.A.T, Narendra Nagar	-	3	-	-	-	-	--	-	-	-	-	-	-	-		3
4	I.G.I. Coop..M. Lucknow	-	3	3	57	73	39	-	-	--	-	-	1	-	-		176
5	I.V.R.I., Bareilly	-	1	-	3	-	-	-	1	-	-	-	-	-	-		5
6	C.S.A.U.A.J., Kanpur	-	1	1	1	3	8	-	-	-	-	-	-	-	-		14
7	S.I.M.A .Lucknow	-		25	38	26	-	-	8	-	-	-	-	-	-		97
8	S.H.I.A.T.S., Allahabad	-	-	9	11	18	32	18	11	-	-	-	-	-	-		99
9	S.B.P.U.A.T., Modinagar	-	-	-	1	-	-	-	-	-	-	-	-	-	-		1
10	C.A.R.D., Noida	-	-	-	-	-	-	10	13	34	56	90	66	27	44		340
11	R.D.S.,K.V.K., Pratapgarh	-	-	-		--	-	-	5	-	5	-	-	-	-		10
12	J.A.R.D.S., Moradabad	-	-	-	-	-	-	-	-	47	117	190	290	228	105		977
13	S.M.G.G.S. Jhansi	-	-	-		-	-	-	-	-	94	110	5	1	-		210
14	J.A.R.D.S., Agra	-	-	-	-	-	-	-	-	-	-	-	56	57	164		277
15	C.A.R.D., Mujaffernagar	-	-	-	-	-	-	-	-	-	-	-	36	65	93		194
16	S.M.G.G.S., Lucknow, Reg. Centre	-	-	-		-	--	-	-	-	-	-	24	30	161		215
17	J.A.R.D.S., Gorakhpur	-	-	-	-	-	-	-	-	-	-	-	-	5	54		59
18	K.V.K., Kaushambi	-	-	-	-	-	-	-	-	-	-	-	-	-	23		23
	Total	9	31	115	339	354	246	283	308	206	560	604	597	539	748		4,939

Source:- AC&ABC Cell, MANAGE, Hyderabad (Telangana)

III.9: Progress of Nodal Training Institutes (NTIs) under AC&ABC Scheme in Four Selected State of India during 2002-2016:-

Table-III.9 shows that in the state of Assam total 209 agri-ventures were established. The numbers of candidates trained were N.A. in Assam. In Maharashtra the number of candidates trained were 11621 and agri-ventures established were 5276. While in Uttar Pradesh the numbers of candidates trained were 8739 and the numbers of agri-ventures established were 4611 till the year 2016. In the state of Telangana the participating AERC has reported N.A. about the progress of AC&ABC. The related data are given in Table-III.9.

Table-III.9
Progress of Nodal Training Institutes (NTIs) Under AC&ABC in Selected States of India during 2002-2016

Sl. No.	Name of Nodal Training Institute (NTI)	No. of Candidates Trained	No. of Agri-ventures Established	Sl. No.	Name of Nodal Training Institute (NTI)	No. of Candidates Trained	No. of Agri-ventures Established
	Assam			14	Shriram Pratistan Mandal, Akola	264	111
1	Assam Agriculture University	NA	17	15	Vasant Prakash Vasakh Pratistan, Sangli	187	67
2	Indian Society of Agri-business Professionals	NA	192	16	Krishna Vally Advanced Agriculture Foundation, Sindhudurg	245	94
	Total	**NA**	**209**				
	Maharashtra			17	Krishna Vally Advanced Agriculture Foundation, Jalgaon	209	96
1	Krishna Vally Advanced Agriculture Foundation, Sangli	2453	1149	18	Manjara Charitable Trust's Krishi Vigyan Kendra Latur	13	--
2	Mitcon Consultancy Services Ltd. Pune	1763	764	19	Krishi Vigyan Kendra, Narayangaon	28	--
					Total	**11621**	**5276**
3	Shriram Pratistan Mandal, Wadala Solapur	1063	542		**Uttar Pradesh**		
4	Krishna Vally Advanced Agriculture Foundation, Uttur	735	357	1	Shree Maa Guru Gramodhyog Sansthan, Varanasi,	3736	2222
5	Krishi vigyan Kendra, Durgapur, Dist. Amravati	656	253	2	Jubilant Agriculture Rural development Society, Moradabad	1791	977
6	Baramati Agriculture Development Trust Krishi Vigyan Kendra, Baramati	652	253	3	Center for Agriculture and Rural Development, Noida	666	340

7	Krishi Vigyan Kendra, Babhaleshwar	614	326	4	Jubilant Agriculture Rural development Society, Agra	583	277
8	Shriram Pratishtan Mandal, Osmanabad	615	304	5	Shree Maa Guru Gramodhyag Sansthan, Lucknow Regional Center	583	215
9	Krishna Vally Advanced Agriculture Foundation, Nagpur	556	276	6	Indira Gandhi Institute of Co-operative Management ,Lucknow	535	176
10	Mahatma Phule Krishi Vidyapeeth, Pune	461	205	7	Centre for Agricultural and Rural Development(CARD) Mujaffernagar	440	194
11	Shriram Pratishtan Mandal, Ratnagiri	389	186	8	Shree Maa Guru Gramodhyog Sansthan, Jhansi	405	210
					Total	**8739**	**4611**
12	Krishna Vally Advanced Agriculture Foundation, Pune Regional Centre	379	140		**Telangana**		
13	Shashwat Sheti Vikas Pratisthan (SSVP)	339	153			NA	NA

Source: Reports of participating AERCs of India

CHAPTER-IV

Method and Procedures of the Study

IV.1. Method of Study:-

This study was confined to four states of India undertaken by DAC (Department of Agriculture and Cooperation), Ministry of Agriculture and Farmers Welfare, Government of India. The states undertaken were namely (1) Maharashtra, (2) Uttar Pradesh, (3) Assam and (4) Telangana. This study was All India coordinated study being consolidated by Agro-Economic Research Centre, University of Allahabad, Allahabad. From the four states thus, selected two districts potential to AC&ABC scheme from each of the state were selected randomly on the basis of higher number of agri.-ventures established therein successfully. Such districts were namely (1) Solapur and (2) Ahmednagar from Maharashtra, (1) Varanasi and (2) Bareilly from Uttar Pradesh, (1) Kamrup and (2) Nagoan from Assam and (1) Hyderabad and (2) Rangareddi from Telangana. Thereafter, from each of these 8 districts, thus, selected five agri-ventures having higher numbers of farmers benefited were chosen randomly. From each of the 40 agri-venturess thus, selected the lists of beneficiary farmers were undertaken. Thereafter, these lists were further categorized into three main size-groups of farmers i.e. (1) Marginal (up to 1 ha.), (2) Small (1.01-2 ha.) and (3) Medium and Large (above 2 ha.) according to (1) Proper Agriculture Services, (2) Allied Agriculture Services and (3) Both agri+ Dairy Services. Thereafter, ultimate sample beneficiary farmers were undertaken @ 10 beneficiary farmers per agri-venture making 50 sample beneficiary farmers per district proportionate to the total numbers of farmers in each selected categories of agriculture services. Thus, 400 sample beneficiary farmers were undertaken on an overall from 8 districts of 4 states. Also as control group the samples of non-beneficiary farmers were undertaken @ 5 sample farmers per agri-venture of the same area making 25 non-beneficiary farmers per district and 200 non-beneficiaries on an overall from 8 districts of four States randomly to see the impact of agriculture extension services through AC&ABC Scheme.

IV.2. Sampling Design

IV.2.(a):- Selection of States/Districts:-

The Directorate of Extension, Ministry of Agriculture and farmers welfare, Government of India had identified four potential states for this All India coordinated study namely (1) Maharashtra, (2) Uttar Pradesh (3) Telangana and (4) Assam to be coordinated by Agro-Economic Research Centre, University of Allahabad, Allahabad. These states were potential to AC&ABC Scheme having higher numbers of agri-ventures successfully established in their districts/regions.

IV.2 (b) Selection of Districts:-

From each of the four states selected by the Ministry of Agriculture and Farmers Welfares, Government of India under the work-plan 2016-17 after considering the issue raised only by the AERC, Jorhat and the discussions held between the project in- charges of Assam, Telangana and Allahabad. AERCs as well as the four coordinators of the study alongwith the Directors AERCs Jorhat and V.V. Nagar at V.V. Nagar (Anand), on 10th of March, 2016, it was concluded and decided to undertake two districts having maximum agri-ventures established successfully from each of the selected states. Such districts were namely Solapur and Ahmednagar from Maharashtra, Varanasi and Bareilly from Uttar Pradesh, Kamrup and Ngaon from Assam and Hyderabad and Rangareddi from Telangana state undertaken randomly.

IV.2.(C) Selection of Agri.-Ventures:-

From each of the eight districts thus, selected the lists of the agri-ventures established successfully were undertaken from the concerned Nodal Training Institutes. From these lists, five agri-ventures having higher numbers of farmers benefited were chosen per district randomly making a total of 40 agri.- ventures in all from the four states of U.P.

IV.2. (d) Selection of Ultimate Sample Beneficiary and Non-Beneficiary Farmers:-

From each of the 40 agri.-ventures thus, selected lists of beneficiary farmers were procured. These lists were further categorized into 3 main categories i.e. (1) Proper Agricultural Services, (2) Allied Agricultural Services and (3) Both Agriculture+ Dairy Services. Thereafter, these lists of the beneficiary farmers were further sub-categorized into three holding size-groups (1) Marginal (up to 1 ha.), (2) Small (1.01-2 ha.) and (3) Medium and Large (above 2 ha.). From these lists so categorized the ultimate sample beneficiary farmers were undertaken @ 10 farmers

per agri-venture randomly proportionate to the total farmers in each category of agriculture services as well as sub-categories of holding size-groups making a total of 400 sample beneficiary farmers on an overall. Also as control group the samples of non-beneficiary farmers were undertaken @ of 5 farmers per agri-venture from the same area of agri-venture making a total of 200 sample non-beneficiary farmers on an overall for identifying the impact of agriculture extension services through AC&ABC scheme in India. The sampling designs are contained in Table IV-1.

IV-3. Method of Investigation and Survey of the Area under Study:

IV.3.1. Collection of Primary Data:-

The collection of primary data was done through the specially prepared and pretested schedules and questionnaires by survey method contacting the sample beneficiary and non-beneficiary farmers personally in their villages. Efforts were made to collect data on all the possible aspects such as socio-economic and educational status, crops grown, inputs incurred, output received, inputs and outputs from animals reared, extension services received from agri.-ventures and inputs as well as supports received on payment from ventures.

IV.3.2 Collection of Secondary Data:-

All the required secondary information relating to AC&ABC scheme implemented in the country as well as four selected states collected from the implementing agencies i.e. MANAGE, NABARD, DAC&FW-Ministry of Agriculture and Farmer Welfare, Directorate of Extension, N.T.Is, ATMA and other offices at state, region District, Block and agri.-venture levels. Personal observations were also alone during the survey and collection of information.

IV.4. Method of Analysis of Data

Only simple mathematical and statistical analysis was carried-out from the available data both primary and secondary data to derive the results for identifying the impact of agricultural extension services provided to the farmers by the agri.-ventures in terms of any increase in the incomes of the farmers and improvements in their farming business.

IV.5. Reference Period of the Study:-

The reference period for this study was agricultural year 2015-16.

Table-IV.1
Sampling Design of AC&ABC Scheme Study

Sl. No.	Selected states of India	Selected Districts with Maximum Agri-ventures	Agri.-Ventures Established till 24.02.2016		Sample Beneficiary Farmers @ 10 per ventures	Sample Non-Beneficiary Farmers @ 5 per ventures	Total Samples under-taken
			Total Agri-Venture	Sample Under taken			
1	Maharashtra	1. Solapur	726	5	50	25	75
		2. Ahmedna-gar	535	5	50	25	75
	Total	2	1261	10	100	50	150
2	Uttar Pradesh	1. Varanasi	319	5	50	25	75
		2. Bareilly	270	5	50	25	75
	Total	2	589	10	100	50	150
3	Telangana	1. Hyderab ad	116	5	50	25	75
		2. Rangared d	69	5	50	25	75
	Total	2	185	10	100	50	150
4	Assam	1. Kamrup	65	5	50	25	75
		2. Nahaon	20	5	50	25	75
	Total- 4	**2**	**85**	**10**	**100**	**50**	**150**
	G. Total- 4	**8**	**2140**	**40**	**400**	**200**	**600**

CHAPTER-V

Results and Discussion

This chapter mainly deals with the economic, social and educational status of the beneficiaries of selected states, details of crops grown, gross-inputs, outputs and net incomes from crops by beneficiaries of selected states, gross inputs, outputs and net incomes from total animals of beneficiaries of selected states, details of extension services received from ventures by beneficiaries of selected states, details of inputs on payment received from ventures by beneficiaries of selected states, details of training received from ventures by beneficiaries of selected states, details of supports from ventures by beneficiaries of selected states, details of expert advices and other services provided by ventures to the beneficiaries of selected states, details of economic, social and educational status of non-beneficiaries of selected states, details of crops grown, their inputs, outputs and net incomes of non-beneficiaries of selected states, details of inputs, outputs and net incomes from total animals of non-beneficiaries of selected states, details of answers, questions from non-beneficiaries of selected states, details of sources of procuring inputs, extension services received and satisfaction with availability of inputs by non-beneficiaries of selected states, comparative, cultivated and irrigated area and cropping intensity of beneficiaries and non-beneficiaries of selected states, and comparative inputs, outputs, net incomes and input, output ratios on the farms of beneficiaries and non-beneficiaries of selected states in the following paragraphs:

V.1. Economic Status of Beneficiaries under AC&ABC Scheme in Selected States of India

The category-wise economic status of the beneficiaries under AC&ABC scheme in four selected states of India analysed in Table-V.1 indicates that the average size of holdings on an overall in the four selected states was estimated as 2.6 ha. The average size of holdings among beneficiaries under proper agri-services was comparatively larger i.e. 3.19 ha. against 1.98 ha. among beneficiaries under allied agri-services and 1.63 ha per beneficiary under both agri+ dairy services in the four selected states. The state-wise analysis shows that the size of holdings was comparatively larger in Telangana as compared to that in other 3 states. About availing the benefits from AC&ABC Scheme the maximum i.e. 228 beneficiaries under proper agri-services

reported to avail the benefits, 97 under allied agri-services and minimum i.e. 75 in both agri+dairy services. In the selected states maximum i.e. 80 in Telangana under proper agri-services, maximum 40 in Assam under allied agri-services and maximum 60 in U.P. under both agri+ dairy services. Thus, in Telangana proper agri-services, in Assam allied agri-services and in U.P. both Dairy + agri-services performed better under AC&ABC scheme in India. The maximum i.e. 316 beneficiaries reported not to be member of any agencies. About the subsidiary occupation the majority of beneficiaries i.e. 240 had reported to opt subsidiary occupation along with their main occupation on an overall in the four selected states. The related data are given in Table V.1.

Table-V.1
Category-wise Economic status of Beneficiaries under AC&ABC Scheme in Selected States of India
(Area in ha./Beneficiary)
(No. of Beneficiary/Category)

Sl. No.	Category of Beneficiaries in Selected States	No. of sample	Area of holdings (ha)	Benefits Availed in 2014-15 (No.)	Members of Agencies (No.)		Subsidiary Occupation (No.)	
					Yes	No	Yes	No
A.	**Proper Agri-services**							
1.	Assam	45	1.89	45	3	42	29	16
2.	Maharashtra	70	2.71	70	70	0	40	30
3.	Uttar Pradesh	33	1.22	33	3	30	21	12
4.	Telangana	80	5.14	80	11	69	26	54
	All states of proper Agri-services	**228**	**3.19**	**228**	**87**	**141**	**116**	**112**
B	**Allied Agri-services**							
1.	Assam	40	1.32	40	4	36	31	9
2.	Maharashtra	30	1.73	30	30	0	30	0
3.	Uttar Pradesh	7	2.12	7	1	6	1	6
4.	Telangana	20	3.61	20	22	11	5	6
	All states of Allied Agri-services	**97**	**1.98**	**97**	**57**	**120**	**67**	**21**
C	**Both Agri+dairy Services**							
1.	Assam	15	0.94	15	3	12	8	7
2.	Maharashtra	0	0	0	0	0	0	0
3.	Uttar Pradesh	60	1.8	60	17	43	49	11
4.	Telangana	0	0	0	0	0	0	0
	All states of Both Agri+dairy Services	**75**	**1.63**	**75**	**20**	**55**	**57**	**18**
	Overall average of all India Beneficiaries	**400**	**2.6**	**400**	**164**	**316**	**240**	**151**

Source: Reports of participating AERCs of India

V.2. Social and Educational Status of Beneficiaries under AC&ABC Schemes in Selected States of India.

The category-wise social and educational status of the beneficiaries under AC&ABC scheme in selected states of India analysed in Table V.2 shows that out of the 400 beneficiaries the maximum i.e. 189 were of general category, 165 of O.B.C. and only 46 were of S.Cs & S.Ts category on an overall. The service category-wise analysis shows that majority 228 of beneficiaries had opted proper agri-services, 97 had opted allied agri-services and only 75 had opted both agri+dairy services. The state-wise distribution of social groups indicates that in Telangana the Generals and O.B.Cs. had opted proper agri-services, in Assam generals and S.Cs and S.Ts. had opted allied agri-services and in U.P. the majority of O.B.Cs and generals had opted both agri+ dairy services. Accordingly, the castes of upper class and backwards were in majority in Telanagana under proper agri-services, upper class and S.C. & S.T. in Assam under allied agri-services and backward and upper class in U.P. under both agri. +dairy services. The analysis on educational status shows that the maximum i.e. 137 were higher secondary and + 2, 135 were non-matric, 80 were graduates and 40 were post graduates among the total 400 beneficiaries on an overall in the four selected states. Among the various categories of beneficiaries the status of education was similar. While, among the states the level of education was higher in Telangana and Uttar Pradesh as compared to that in Assam and Maharashtra. As regards the training total 124 reported not to avail any training and 76 beneficiaries reported to avail training. The concerned data are given in Table V.2.

V.3. Crops Grown during Kharif, Rabi and Zaid Seasons by Beneficiaries of AC&ABC Scheme in Selected States of India.

Table V.3 shows that on an overall the gross cropped area per beneficiary was estimated as 2.87 ha of which, the maximum i.e. 1.35 ha. was covered during Kharif, 0.81 ha. during Rabi and 0.6 ha. was covered during Zaid season in four selected states of India. The category-wise analysis shows that the gross cropped area has been estimated higher i.e. 3.8 ha. per beneficiary in the category of both agri + dairy services. It has happened because Maharashtra as well as Telangana has excluded this category in their reports. While, the gross cropped area in the category of proper agri-services was higher i.e. 2.99 ha per beneficiary of which the maximum i.e. 1.53 ha. was covered during Kharif, 0.68 ha. in Rabi and 0.29 ha. in Zaid. While in the

Table-V.2

Category-wise social and educational status of the sample Beneficiaries under AC&ABC Scheme in Selected states of India

(No. of Beneficiary/category)

Sl. No.	Category of Beneficiaries in Selected States	No. of sample	Social Groups			Castes			Education Status			Availed any Training		
			Gen.	O.B.C.	S.C. & S.T.	U. Class	B. Class	SC & ST Class	P.G.	Graduate	H.S. & +2 Sec.	Non. Matric	Yes	No
A.	**Proper Agri-Services**													
1.	Assam	45	22	8	15	22	8	15	0	5	24	16	24	21
2.	Maharashtra	70	56	9	5	56	9	5	8	12	11	34	0	0
3.	Uttar Pradesh	33	7	23	3	7	23	3	7	12	7	7	0	0
4.	Telangana	80	47	33	0	47	33	0	15	24	32	7	19	61
	All sate (proper Agri- Services)	**228**	**132**	**73**	**23**	**132**	**73**	**23**	**30**	**53**	**74**	**64**	**43**	**82**
B	**Allied Agri- Services**													
1.	Assam	40	17	10	13	17	10	13	0	1	18	21	19	21
2.	Maharashtra	30	19	11	0	19	11	0	1	3	13	13	0	0
3.	Uttar Pradesh	7	0	6	1	0	6	1	0	2	4	1	0	0
4.	Telangana	20	7	13	0	7	13	0	5	8	6	0	9	11
	All state (Allied Agri- Services)	**97**	**43**	**40**	**14**	**43**	**40**	**14**	**6**	**14**	**41**	**35**	**28**	**32**
C	**Both Agri+Dairy Services**													
1.	Assam	15	4	5	6	4	5	6	0	0	7	8	5	10
2.	Maharashtra	0	0	0	0	0	0	0	0	0	0	0	0	0
3.	Uttar Pradesh	60	10	47	3	10	47	3	4	13	15	28	0	0
4.	Telangana	0	0	0	0	0	0	0	0	0	0	0	0	0
	All state (Both Agri+dairy Services)	**75**	**14**	**52**	**9**	**14**	**52**	**9**	**4**	**13**	**22**	**36**	**5**	**10**
	Overall average all India Beneficiaries	**400**	**189**	**165**	**46**	**189**	**165**	**46**	**40**	**80**	**137**	**135**	**76**	**124**

Source: Reports of participating AERCs of India

category of allied agri-services the maximum area i.e. 0.74 ha. was covered in Kharif, 0.56 ha. in Rabi and 0.06 ha. in Zaid season. Thus, the coverage under Kharif crops was higher in all the categories being highest in the category of both agri+dairy services. The related data are given in Table V.3.

Table-V.3
Category-wise crops grown during kharif, Rabi and zaid seasons by the Beneficiaries under AC&ABC scheme in selected state of India

(Area in ha. /Beneficiaries)

Sl. No.	Category of Beneficiaries in Selected States	No. of sample	Kharif crops area	Rabi crops area	Zaid crops area	Gross cropped area
A.	**Proper Agri-services**					
1.	Assam	45	1.77	0.17	1.14	3.08
2.	Maharashtra	70	1.13	0.9	0.02	3.28
3.	Uttar Pradesh	33	1.22	1.22	0.42	2.65
4.	Telangana	80	1.9	0.56	0	5.4
	All state average (proper Agri-services)	**228**	**1.53**	**0.68**	**0.29**	**2.99**
B	**Allied Agri-services**					
1.	Assam	40	0	0	0	0
2.	Maharashtra	30	1.03	0.7	0.04	2.2
3.	Uttar Pradesh	7	2.12	2.12	0.64	4.7
4.	Telangana	20	1.28	0.93	0	4.24
	All state average (Allied Agri-services)	**97**	**0.74**	**0.56**	**0.06**	**1.89**
C	**All state Both Agri+dairy Services**					
1.	Assam	15	0.78	0.39	0.84	2.01
2.	Maharashtra	0	0	0	0	0
3.	Uttar Pradesh	60	1.8	1.8	0.68	4.25
4.	Telangana	0	0	0	0	0
	All state average (Both Agri+dairy Services)	**75**	**1.59**	**1.52**	**0.71**	**3.8**
	Overall average all India Beneficiaries	**400**	**1.35**	**0.81**	**0.61**	**2.87**

Source: Reports of participating AERCs of India

V.4. Gross Inputs, Outputs and Net Incomes from Crops received by Beneficiaries of Selected States of India

Table V.4 indicates that on an overall the gross outputs received from all crops by a beneficiary was accounted Rs 3,88,627, while the gross inputs incurred was accounted as Rs. 2,13,076. Thus,

the net income from all crops on an overall average in the four selected states was accounted as Rs.1,74,898 per beneficiary. The category-wise analysis on inputs, outputs and net incomes from all crops in four selected states on an average shows that the maximum net income i.e. Rs. 2,55,854 was received by a beneficiary under proper agri-services by investing Rs. 3,27,958 and earning an output of Rs. 5,83,812 against the minimum net income as Rs.1,15,535 by a beneficiary under both agri+dairy services wherein the inputs incurred was estimated as Rs. 1,77,063 and output received was Rs. 2,94,598 per beneficiary. While, in the category of allied agri-services the net income of a beneficiary was estimated as Rs. 1,53,304. The inputs incurred was Rs.1,34,207 and the output received was Rs.2,87,512. Thus, growing crops was comparatively more profitable with the support of AC&ABC Scheme which was at nascent stage during the survey of the present study. Allied agri-services were quite untouched by AC&ABC Scheme. The both agri+dairy services were lacking the intended supports from the AC&ABC Scheme. The pattern of distribution of inputs, outputs and net incomes in various selected states under the three distinct categories was more or less similar on an average. The related data are given in Table V.4.

V.5. Gross Inputs, Outputs and Net Incomes from Total Animals by Beneficiaries of AC&ABC Scheme of Selected States of India.

Table V.5 shows that on an overall average the total inputs incurred on total animals was estimated as Rs. 3,04,233 of which the maximum i.e. Rs. 1,66,786 was incurred on account of other inputs purchased from the ventures. While the output received was estimated as Rs. 5,02,901 per beneficiary. Thus, from the total animals reared by a beneficiary a net income of Rs. 1,98,668 was received on an overall in the four states of India. Thus, rearing animals was comparatively more profitable than raising crops in the four selected states. The category-wise analysis shows that the maximum net income i.e. Rs. 1,07,451 was received by a beneficiary under allied agri-services against the minimum i.e. Rs. 18,277 under the proper agri-services. While under the category of both agri+dairy services it was estimated as Rs. 46,548 as net income from total animals reared. Thus, rearing animals was comparatively profitable than raising crops in the selected four states of India. The related data are given in Table V.5.

Table-V.4

Category-wise Gross Inputs, outputs and Net Incomes of crops received by Beneficiaries of four selected states of India

(Inputs, Outputs and net income in Rs./Benefi.)

Sl. No.	Category of Beneficiaries	No. of Samples	Kharif Crops				Rabi Crops				Zaid Crops				All crops		Net Income
			Inputs			Outputs	Inputs			Outputs	Inputs			Outputs	Inputs	Outputs	
			Own	Other	Total		Own	Other	Total		Own	Other	Total				
A.	**Proper Agri-Services**																
1.	Assam	45	6684	34315	40999	176107	18220	11075	29295	51517	57281	28918	86199	141832	202938	369456	166518
2.	Maharashtra	70	8467	4161	12628	35798	16163	16935	33098	64217	11157	14663	25620	80579	174183	429808	255625
3.	Uttar Pradesh	33	19450	20143	39593	64276	15777	16406	32183	56274	3715	5026	8761	12255	80537	132805	52268
4.	Telangana	80	34855	179152	214007	439469	15059	46599	61658	164599	0	0	0	0	854173	1403178	549005
	Average of 4 states (proper Agri- Services)	**228**	**17364**	**59442**	**76806**	**178912**	**16304**	**22753**	**39058**	**84151**	**24051**	**16202**	**40193**	**78223**	**327958**	**583812**	**255854**
B	**Allied Agri-Services**																
1.	Assam	40	0	0	**0**	0	0	0	0	0	0	0	0	0	0	0	
2.	Maharashtra	30	7053	6680	13733	27605	11604	14410	26014	47915	14215	9091	23306	50000	68562	144753	76191
3.	Uttar Pradesh	7	21029	25684	46713	77186	31858	14600	46458	67983	5700	7100	12800	17800	10571	162969	152398
4.	Telangana	20	21859	77722	99581	119162	18625	48117	66742	119965	0	0	0	0	323490	554815	231325
	Average of 4 states (Allied Agri- Services)	**97**	**16647**	**36695**	**53242**	**74651**	**20695**	**25709**	**46404**	**58966**	**9957**	**8095**	**18053**	**33900**	**134207**	**287512**	**153305**
C	**Both Agri+Dairy Services**																
1.	Assam	15	24634	7670	32309	48078	44087	21137	65223	107997	90035	39890	129926	208119	227458	364194	136736
2.	Maharashtra	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3.	Uttar Pradesh	60	12871	30712	43583	65063	27083	36883	63966	125445	12096	7024	19120	30494	126669	221002	94333
4.	Telangana	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Average of 4 states (Both Agri+dairy Services)	**75**	**18753**	**19191**	**37946**	**56571**	**35585**	**29010**	**64594**	**116721**	**51065**	**23457**	**74523**	**119306**	**177063**	**292598**	**115535**
	Overall average all India Beneficiaries	**400**	**17588**	**38443**	**56031**	**90170**	**24195**	**25824**	**50018**	**86612**	**28357**	**15918**	**44256**	**77143**	**213076**	**387974**	**174898**

Source: Reports of participating AERCs of India

Table-V.5

Gross Inputs, outputs and Net Incomes from total animals on the farms of Beneficiaries under AC&ABC Scheme in selected states of India.

(Inputs, Outputs and net income in Rs/ Beneficiary)

Sl. No.	Category of Sample Beneficiary Farmers in selected states	No. of Samples	Inputs Incurred (Rs)			Outputs Received (Rs)	Net Incomes (Rs)
			Own	Others	Total		
A.	**Proper Agri-services**						
1.	Assam	45	6188	2448	8636	9828	1192
2.	Maharashtra	70	10765	5152	15917	44296	28379
3.	Uttar Pradesh	33	27455	56895	84350	104789	20439
4.	Telangana	80	9996	19391	29387	52484	23097
	Average of Proper Agri-services	**228**	**13601**	**20971**	**34572**	**52849**	**18277**
B.	**Allied Agri-services**				0		0
1.	Assam	40	130932	77601	208533	363213	154680
2.	Maharashtra	30	6446	2996	9442	26814	17372
3.	Uttar Pradesh	7	42900	39550	82450	164642	82192
4.	Telangana	20	62663	180796	243459	419018	175559
	Average of Allied Agri-services	**97**	**60735**	**75236**	**135971**	**243422**	**107451**
C.	**Both Agri + Dairy Services**						0
1.	Assam	15	91720	43566	135286	199491	64205
2.	Maharashtra	0	0	0	0	0	0
3.	Uttar Pradesh	60	23273	71965	95238	124128	28890
4.	Telangana	0	0	0	0	0	0
	Average of Both Agri.+ Dairy Services	**75**	**57496**	**5776**	**115262**	**161809**	**46548**
	Overall average of all Beneficiaries (All India)	**400**	**137446**	**166786**	**304233**	**502901**	**198668**

Source: Reports of participating AERCs of India

V.6: Details of Extension Services received from Ventures by Beneficiaries under AC&ABC Scheme in Four Selected States of India.

Table-V.6 shows that on an overall total 583 extension services were received from the agri-ventures as reported by the sample beneficiaries. Out of the total 400 beneficiaries who received extension services, the maximum had reported to receive 215 extension services on other services including production trend etc., 84 farm machines, 91 dairy, poultry, apiary and sericulture etc. on an overall in the four selected states of India. Thus, it is evidently clear that maximum beneficiaries had received total 400 extension services on other services including production trends etc, farm machines and dairy as well as poultry etc in the selected states of India. The category-wise analysis shows that out of the total 400 beneficiaries who received extension services from the ventures, the maximum i.e. 228 had received total 229 extension services under the proper agri-services on production trend etc. and farm machines. While under

allied agri-services all the 97 beneficiaries had received total 97 extension services wherein, the maximum i.e. 53 were on dairy and poultry etc. and production trend. Under both agri+ dairy services all 75 beneficiaries had received 74 extension services wherein, maximum were on Machines, dairy and poultry.

Table-V.6
Details of Extension Services received from Ventures by Beneficiaries under AC&ABC Scheme in four selected states of India

(In No. of Beneficiaries)

Sl. No.	Category of Sample Beneficiary Farmers in selected states	No. of Samples	Extension Services Received From Ventures on				
			Farm Machine etc	Dairy Poultry Etc.	Apiary, Sericulture Etc.	Others including Production Trend Etc.	All Extension Services Received
A.	**Proper Agri-services**						
1.	Assam	45	22	0	0	39	61
2.	Maharashtra	70	3	0	0	67	70
3.	Uttar Pradesh	33	10	9	0	9	28
4.	Telangana	80	15	0	0	55	70
	Average of Proper Agri-services	**228**	**50**	**9**	**0**	**170**	**229**
B.	**Allied Agri-services**						
1.	Assam	40	0	20	10	10	40
2.	Maharashtra	30	0	10	0	20	30
3.	Uttar Pradesh	7	3	3	0	1	7
4.	Telangana	20	0	20	0	0	20
	Average of Allied Agri-services	**97**	**3**	**53**	**10**	**31**	**97**
C.	**Both Agri + Dairy Services**						
1.	Assam	15	7	0	0	8	15
2.	Maharashtra	0	0	0	0	0	0
3.	Uttar Pradesh	60	24	29	0	6	59
4.	Telangana	0	0	0	0	0	0
	Average of Both Agri.+ Dairy Services	**75**	**31**	**29**	**0**	**14**	**74**
	Overall average of all Beneficiaries (All India)	**400**	**84**	**91**	**10**	**215**	**400**

Source: Reports of participating AERCs of India

V.7. Details of Inputs on Payment received from Ventures by Beneficiaries under AC&ABC Scheme in Four Selected States of India.

Table V.7 indicates that on an overall average the total input cost by beneficiary i.e. Rs 48,724 was paid to ventures for receiving the inputs like seeds, fertilizers and others in the four selected

states of India, wherein, the maximum i.e. Rs. 23,805 was incurred on other inputs against the minimum i.e. Rs. 4,637 incurred on fertilizers. While on seeds a considerable amount of Rs. 12,716 was paid to ventures. Thus, other inputs supplied by ventures to beneficiaries on payment were much costly as compared to seeds and fertilizers in the four selected states of India. The category-wise analysis indicates that on an average the maximum input cost i.e. Rs. 74,180 was paid to the ventures by a beneficiary under allied agri-services against the minimum i.e. Rs. 23,210 under the proper agri-services. While under both agri + dairy services it was estimated as Rs.48,784 per beneficiary. Thus, the inputs particularly other inputs were costly items than seeds and fertilizers in all the categories of beneficiaries in selected states.

V.8. Training received from Ventures by Beneficiaries in four Selected States in India

Table V.8 shows that on an overall, out of 400 sample beneficiaries, 281 had reported to receive training from ventures established under AC&ABC Scheme in the four selected States of India, wherein, the maximum i.e. 234 beneficiaries had reported to receive only informal training and only 47 had reported to receive formal training from the ventures. On the other hand, out of 400 sample beneficiaries 200 reported that the training whether formal or informal was useful for their all sorts of agri-services. While 91 beneficiaries had reported that such training was not at all useful for their agri- services. Thus, training by ventures was not given in any organized way to be useful for the distinct beneficiaries in the four selected states of India. The category-wise distribution shows that maximum i.e. 146 beneficiaries out of 228 sample beneficiaries under proper agri-services had received training from the ventures wherein, the maximum i.e. 123 reported to receive only informal training and only 23 received formal training. While, out of 228 beneficiaries under proper agri-services 108 had reported it to be useful and 48 had reported not to be useful. Thus, training given by ventures was not in any organized way and only informal training was given to the beneficiaries. In other categories too similar pattern of the training by ventures was reported in all the selected states of India. The related data are given in Table V.8.

Table-V.7

Details of Inputs on Payment Received from Ventures by Beneficiaries under AC&ABC Scheme in four selected states of India

(Input Costs in Rs/ Beneficiary)

Sl. No.	Category of Sample Beneficiary Farmers in selected states	No. of Samples	Seeds		Fertilizers		Others		Total Inputs	
			Crops	Costs (Rs)	Crops	Costs (Rs)	Crops	Costs (Rs)	Crops	Costs (Rs)
A.	**Proper Agri- Services**									
1.	Assam	45	P + H. crop	23015	P + H. crop	1323	0	0	0	24338
2.	Maharashtra	70	0	0	0	0	0	0	0	0
3.	Uttar Pradesh	33	P + W	7442	P + W	1425	P + W	379	P + W	3245
4.	Telangana	80	P+M+Hort	22860	P+M+Hort	12429	0	0	P+M+Hort	35289
	Average of Proper Agri-Services	**228**	**P+M+Hort**	**17772**	**P+M+Hort**	**5059**	**P + W**	**379**	**P+M+Hort**	**23210**
B.	**Allied Agri- Services**									
1.	Assam	40	0	0	0	0	Fodder	109134		109134
2.	Maharashtra	30	0	0	0	0	0	0	0	0
3.	Uttar Pradesh	7	P + W	1743	P + W	2300	P + W	482	P + W	4525
4.	Telangana	20	0	0	0	0	Fodder+Med	100796	Fodder+Med	100796
	Average of Allied Agri. Services	**97**		**1745**		**2300**		**70137**		**74180**
C.	**Both Agri+ Dairy Services**									
1.	Assam	15	P + H. crop	35515	P + H. crop	10779	0	0		46294
2.	Maharashtra	0	0	0	0	0	0	0	0	0
3.	Uttar Pradesh	60	P + W	1756	P + W	2325	P + W	900	P + W	4981
4.	Telangana	0	0	0	0	0	0	0	0	0
	Average of Both Agri+ Dairy Services	**75**		**18635**		**6552**		**900**		**48784**
	Overall average of all Beneficiaries (All India)	**400**		**12716**		**4637**		**23805**		**48724**

Source: Reports of participating AERCs of India

Table-V.8

Details of Training Received from Ventures by Beneficiaries in four selected states of India

(In Numbers)

Sl. No.	Category of Sample Beneficiary Farmers in selected states	No. of Samples	Nature of Training		Was it Useful	
			Formal	Informal	Yes	No
A.	**Proper Agri-services**					
1.	Assam	45	0	38	38	0
2.	Maharashtra	70	0	5	5	0
3.	Uttar Pradesh	33	5	28	5	28
4.	Telangana	80	18	52	60	20
	Average of Proper Agri-services	**228**	**23**	**123**	**108**	**48**
B.	**Allied Agri-services**					
1.	Assam	40	0	36	36	0
2.	Maharashtra	30	0	3	3	0
3.	Uttar Pradesh	7	3	4	3	4
4.	Telangana	20	0	20	20	0
	Average of Allied Agri-services	**97**	**3**	**63**	**62**	**4**
C.	**Both Agri + Dairy Services**					
1.	Assam	15	0	9	9	0
2.	Maharashtra	0	0	0	0	0
3.	Uttar Pradesh	60	21	39	21	39
4.	Telangana	0	0	0	0	0
	Average of Both Agri.+ Dairy Services	**75**	**21**	**48**	**30**	**39**
	Overall Beneficiaries of 4 states	**400**	**47**	**234**	**200**	**91**

Source: Reports of participating AERCs of India

V.9. Supports received from Ventures by Beneficiaries in Four Selected States of India

Table V.9. shows that out of 400 sample beneficiaries, the maximum i.e. 261 had reported to receive supports in the availability of inputs, 137 beneficiaries had received supports in the marketing of outputs, 16 reported to receive supports in repairs and maintenance of machines and implements and 255 beneficiaries had reported to receive other supports for their agri-services on an overall in the four selected states of India. The category-wise distribution about supports received from ventures by the beneficiaries of four selected states shows that the maximum i.e. 169 beneficiaries, out of 228 had received other supports, 161 received supports in the availability of inputs, 69 in the marketing of outputs and only 10 in the repairs and maintenance of machines in the category of propter agri-services against the minimum i.e. only 70, out of 75 sample beneficiaries received supports in the availability of inputs in the category

of both agri+ dairy services. While in the category of allied agri-services out of 97 sample beneficiaries the maximum 57 had received other supports in the four selected states on an average. While among the states Telangana under proper agri-services and Uttar Pradesh under agri+ dairy services had received maximum supports from the agri-ventures in the four selected states of India. The related data are given in Table V.9.

Table-V.9
Details of Supports Received from Ventures by Beneficiaries in four selected states of India

(In Numbers)

Sl. No.	Category of Sample Beneficiary Farmers of selected states	No. of Samples	Availability of Inputs	Marketing of Outputs	Repairs & Maintenance	Others Supports
A.	**Proper Agri-services**					
1.	Assam	45	45	14	0	18
2.	Maharashtra	70	25	25	5	70
3.	Uttar Pradesh	33	33	22	0	1
4.	Telangana	80	58	8	5	80
	Average of Proper Agri-services	**228**	**161**	**69**	**10**	**169**
B.	**Allied Agri-services**					
1.	Assam	40	18	9	0	7
2.	Maharashtra	30	5	12	6	30
3.	Uttar Pradesh	7	7	2	0	0
4.	Telangana	20	0	0	0	20
	Average of Allied Agri-services	**97**	**30**	**23**	**6**	**57**
C.	**Both Agri + Dairy Services**					
1.	Assam	15	10	3	0	4
2.	Maharashtra	0	0	0	0	0
3.	Uttar Pradesh	60	60	42	0	25
4.	Telangana	0	0	0	0	0
	Average of Both Agri.+ Dairy Services	**75**	**70**	**45**	**0**	**29**
	Overall Beneficiaries of 4 states	**400**	**261**	**137**	**16**	**255**

Source: Reports of participating AERCs of India

V.10. Expert Advices from Ventures received by Beneficiaries in Four Selected States of India

Table V.10 indicates that on an overall the maximum i.e. 277 beneficiaries out of 400 sample beneficiaries had received advices on farm technology, 248 on cropping practices, 207 on protection from pests and diseases, 156 on prices of crop outputs in the markets and 131 beneficiaries on animal health services in the four selected states of India on the whole. Thus,

maximum expert advices were received by the beneficiaries from the ventures on farm technology, cropping practices and protection from pests and diseases in the four selected states. The category-wise analysis shows that maximum expert's advices on farm technology, cropping practices and protection from pests and diseases were received under the proper agri-services against the minimum in the category of allied agri-services. Among the four states the maximum advices were received in Telangana under proper agri- services and in Uttar Pradesh under both agri+ dairy services in. The related data are given in Table V.10.

Table-V-10

Details of Experts Advises from Ventures received by Beneficiaries in four selected states of India

(In Number of Farmers)

Sl. No.	Categories of Sample Beneficiary Farmers of selected states	No. of Samples	Advices and Extension Services on				
			Farm Technology	Cropping Practices	Protection from Pests & Diseases	Prices of Crop Outputs in Market	Animals Health Services
A.	**Proper Agri-services**						
1.	Assam	45	22	45	12	14	0
2.	Maharashtra	70	63	45	62	35	10
3.	Uttar Pradesh	33	27	27	26	22	16
4.	Telangana	80	41	80	48	8	0
	Average of Proper Agri-services	**228**	**153**	**197**	**148**	**79**	**26**
B.	**Allied Agri-services**						
1.	Assam	40	40	0	14	20	31
2.	Maharashtra	30	17	5	5	7	3
3.	Uttar Pradesh	7	6	6	6	2	5
4.	Telangana	20	0	0	0	0	20
	Average of Allied Agri-services	**97**	**63**	**11**	**25**	**29**	**59**
C.	**Both Agri + Dairy Services**						
1.	Assam	15	15	5	0	6	4
2.	Maharashtra	0	0	0	0	0	0
3.	Uttar Pradesh	60	46	35	34	42	42
4.	Telangana	0	0	0	0	0	0
	Average of Both Agri.+ Dairy Services	**75**	**61**	**40**	**34**	**48**	**46**
	Overall Beneficiaries of 4 states	**400**	**277**	**248**	**207**	**156**	**131**

Source: Reports of participating AERCs of India

V.11. Increase in Incomes of the Beneficiaries in Four Selected States of India

Table V.11 shows that on an overall out of 400 sample beneficiaries the maximum 149 beneficiaries expressed their views and told that production of cereals (paddy and wheat) has increased after the implementation of AC&ABC scheme in their areas, 104 beneficiaries told that production of other crops has also increased after the implementation of AC&ABC scheme in their states. 62 beneficiaries out of 400 sample beneficiaries had told that production of their milch animals had increased after the implementation of AC&ABC Scheme in their states. The category-wise analysis indicates that under proper agri-services the production of crops (cereals) and other crops had increased in Assam and Uttar Pradesh. In the category of agri+dairy services too the production of crops had increased told by majority of beneficiaries in the state of Uttar Pradesh comparatively more than other selected states of India. The related data are given in Table V.11.

Table-V.11
Details on Increase in Incomes of Beneficiaries in selected states of India

(Names of Crops and Animals and No. of Benef.)

Sl. No.	Category of Sample Beneficiary Farmers of selected states	No. of Samples	Names of Crops whose production increased			Names of animals whose production increased		
			Cereals	Pulses	Others	Milch Animal	Drought Animals	Other Animals
A.	**Proper Agri-services**		Paddy Wheat					
1.	Assam	45	45	0	31	0	0	0
2.	Maharashtra	70	1	1	63	2	0	0
3.	Uttar Pradesh	33	26	0	0	7	0	0
4.	Telangana	80	0	0	0	0	0	0
	Average of Proper Agri-services	**228**	**72**	**1**	**94**	**9**	**0**	**0**
B.	**Allied Agri-services**							
1.	Assam	40	0	0	0	20	0	20
2.	Maharashtra	30	3	0	3	11	7	5
3.	Uttar Pradesh	7	6	0	0	2	0	0
4.	Telangana	20	0	0	0	0	0	0
	Average of Allied Agri-services	**97**	**9**	**0**	**3**	**33**	**7**	**25**
C.	**Both Agri + Dairy Services**							
1.	Assam	15	11	0	7	8	0	5
2.	Maharashtra	0	0	0	0	0	0	0
3.	Uttar Pradesh	60	57	0	0	12	0	0
4.	Telangana	0	0	0	0	0	0	0
	Average of Both Agri.+ Dairy Services	**75**	**68**	**0**	**7**	**20**	**0**	**5**
	Overall Beneficiaries of 4 states	**400**	**149**	**1**	**104**	**62**	**7**	**30**

Source: Reports of participating AERCs of India

V.12. Inputs Sales and Charges of other Services charged by Ventures from the Beneficiaries in four Selected States of India

Table V.12 indicates that on an overall average the charges of hiring farm machines was estimated as Rs. 4,039 per beneficiary. While the cost of farm inputs was estimated as Rs. 22,693 per beneficiary in the four selected states of India Since, the AC&ABC scheme was in nascent stage during the times of the field survey of this study, the agri- business centres (AC&ABC) were dealing only farm inputs and agri. clinics had started only few farm machines and implements on hire, hence, the information on other services etc. could not be available at that time. The related data are given in Table V.12.

Table-V.12
Details of Inputs Sales and Charges of Other Services charged by Ventures from the Beneficiaries in four selected states of India

(Inputs cost and service charges in Rs./ Beneficiary)

Sl. No.	Category of Sample Beneficiary Farmers of selected states	No. of Samples	Charges of Hiring Farm Machines (Rs)	Charges of Hiring Farm Equipments	Costs of Farm Inputs (Rs.)	Charges of Other Services
A.	**Proper Agri-services**					
1.	Assam	45	7942	0	24338	0
2.	Maharashtra	70	0	0	0	0
3.	Uttar Pradesh	33	0	0	3245	0
4.	Telangana	80	7500	0	35289	0
	Average of Proper Agri-services	**228**	**7721**	**0**	**20957**	**0**
B.	**Allied Agri-services**					
1.	Assam	40	0	0	109134	0
2.	Maharashtra	30	0	0	0	0
3.	Uttar Pradesh	7	0	0	4525	0
4.	Telangana	20	0	0	100796	0
	Average of Allied Agri-services	**97**	**0**	**0**	**21485**	**0**
C.	**Both Agri + Dairy Services**					
1.	Assam	15	3508	0	46294	0
2.	Maharashtra	0	0	0	0	0
3.	Uttar Pradesh	60	0	0	4981	0
4.	Telangana	0	0	0	0	0
	Average of Both Agri.+ Dairy Services	**75**	**3508**	**0**	**25637**	**0**
	Overall Beneficiaries of 4 states	**400**	**4039**	**0**	**22693**	**0**

Source: Reports of participating AERCs of India

V.13. Economic Status of Non-Beneficiaries in Four Selected States of India

The details of economic status of non- beneficiaries of four selected states of India worked out in table V.13 indicates that on an overall 200 sample non-beneficiaries were undertaken from the four selected states under this study, wherein, the maximum i.e. 106 samples were under proper agri-services, 49 under allied agri- services and 45 under both agri+ dairy services. The overall average size of holdings in the four states was estimated as 1.84 ha. while under proper agri-services it was 2.13 ha., under allied agri-services it was 1.23 ha. and under both agri. + dairy services it was estimated as 1.80 ha.

Table V.13
Details of the Economic Status of Non-Beneficiaries in four selected states of India
(Area in Hect./ Non-Beneficiary & Number/Category)

Sl. No.	Category of Non-Beneficiaries of 4 selected states	No. of Samples	Area of Holding (in Hect.)	Membership of Agencies if Any		Subsidiary Occupation	
A.	**Proper Agri-services**			Yes	No	Yes	No
1.	Assam	17	1.2	7	10	8	9
2.	Maharashtra	35	2.55	0	0	0	35
3.	Uttar Pradesh	14	1.19	1	13	11	3
4.	Telangana	40	2.5	11	29	19	21
	Average of Proper Agri-services	**106**	**2.13**	**19**	**52**	**38**	**68**
B.	**Allied Agri-services**						
1.	Assam	20	0.73	7	13	6	14
2.	Maharashtra	15	1.71	0	0	15	0
3.	Uttar Pradesh	4	1.16	0	4	4	0
4.	Telangana	10	1.54	3	7	1	9
	Average of Allied Agri-services	**49**	**1.23**	**10**	**24**	**26**	**23**
C.	**Both Agri. + Dairy Services**						
1.	Assam	13	1.32	2	11	7	6
2.	Maharashtra	0	0	0	0	0	0
3.	Uttar Pradesh	32	1.99	5	27	29	3
4.	Telangana	0	0	0	0	0	0
	Average of Both Agri.+ Dairy Services	**45**	**1.8**	**7**	**38**	**36**	**9**
	Overall Non-Beneficiaries of 4 states	**200**	**1.84**	**36**	**114**	**100**	**100**

Source: Reports of participating AERCs of India

Thus, the average size of holdings among the samples of four selected states was small being 1.84 ha. Regarding membership of any agencies, the maximum i.e. 114 had reported not to be member of any agency. Only 36 beneficiaries had told to be members of agencies and the

maximum i.e. 19 were in the category of proper agri-services against the minimum i.e. only 7 in the category of both agri. + dairy services. About subsidiary occupation among the non-beneficiaries it was found that 100 i.e. 50% of the sample non-beneficiaries had told yes to hold subsidiary occupation and 50% had not held any subsidiary occupation being maximum i.e. 68 in the category of proper agri-services against minimum i.e. only 9 in the category of both agri+dairy services. Thus, proper agri-services had performed better in the four selected states. The related data are given in Table V.13.

V.14. Social and Educational Status of Non- Beneficiaries under AC&ABC Scheme Area in Four Selected States of India

Table V.14 indicates that on an overall, out of 200 non-beneficiaries the maximum 97 were from the general group, 75 were OBCs and 28 were S.Cs. Among the categories the number of non-beneficiaries was higher in proper agri-services. Regarding castes same pattern was there in the selected four states and in the categories of non-beneficiaries. About the educational status it was found that maximum i.e. 81 were H.S. passed, 75 were non-matric 29 were graduates and only 4 were post graduates among the 200 non-beneficiaries of four selected states. The number of non-beneficiaries was comparatively higher in the category of proper agri- services. The related data are given in Table V.14.

V.15 Details of Crops Grown by Non-Beneficiaries in the Four Selected States of India

Table V.15 shows that on an overall average the gross cropped area on the farms of non-beneficiaries was estimated as 2.44 ha. per beneficiary farm of which the maximum i.e. 1.25 ha. was covered under Kharif crops, 0.86 ha. under Rabi crops and 0.33 ha under Zaid crops in the four selected states. Thus, the maximum area was grown during Kharif season against the minimum during Zaid season in the four selected states. The category-wise analysis shows that the coverage during all the 3 seasons was higher in the category of proper agri- services against lowest in the category of both agri. +dairy services. Among the states the maximum coverage was there in Maharashtra under the categories of proper agri-services and allied agri-services and in Uttar Pradesh under the category of both agri+ dairy services. Thus, the performance of non-beneficiaries in AC&ABC Scheme area in Maharashtra and Uttar Pradesh was comparatively better among the four states of India. The related data are given in Table V.15.

Table-V-14

Category-wise Social and Educational Status of the sample Non-Beneficiary Farmers under AC&ABC Scheme in Selected state of India

(In Numbers/Category)

Sl. No.	Category of Non-Beneficiaries in Selected States	No. of sample	Social Groups			Castes			Education Status			
			Gen.	O.B.C.	S.C.	U. Class	B. Class	L. Class	P.G.	Graduate	H.S.	Non. Matric
A.	**Proper Agri- Services**											
1.	Assam	17	10	4	3	10	4	3	0	2	7	8
2.	Maharashtra	35	28	1	6	28	1	6	2	6	23	4
3.	Uttar Pradesh	14	3	9	2	3	9	2	1	2	4	7
4.	Telangana	40	15	20	5	15	20	5	0	5	10	17
	All states proper Agri-Services	**106**	**56**	**34**	**16**	**56**	**34**	**16**	**3**	**15**	**44**	**36**
B	**Allied Agri. Services**											
1.	Assam	20	14	2	4	14	2	4	0	0	10	10
2.	Maharashtra	15	8	3	4	8	3	4	0	3	6	6
3.	Uttar Pradesh	4	0	4	0	0	4	0	1	0	1	2
4.	Telangana	10	2	7	1	2	7	1	0	2	3	2
	All states Allied Agri-Services	**49**	**24**	**16**	**9**	**24**	**16**	**9**	**1**	**5**	**20**	**20**
C	**Both Agri+Dairy Services**											
1.	Assam	13	10	1	2	10	1	2	0	1	6	6
2.	Maharashtra	0	0	0	0	0	0	0	0	0	0	0
3.	Uttar Pradesh	32	7	24	1	7	24	1	0	8	11	13
4.	Telangana	0	0	0	0	0	0	0	0	0	0	0
	All states Both Agri+dairy Services	**45**	**17**	**25**	**3**	**17**	**25**	**3**	**0**	**9**	**17**	**19**
	Overall all India Non-Beneficiaries of 4 states	**200**	**97**	**75**	**28**	**97**	**75**	**28**	**4**	**29**	**81**	**75**

Source: Reports of participating AERCs of India