Agro-Economic Research Centre, Andhra University, Research Study No. 149

Impact Study on Agricultural Extension Services to Farmers by Agri-Clinics & Agri-Business Centres (ACABC Scheme) – A Case Study of Telangana

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Dr. P. RAMU

Report submitted to the
Ministry of Agriculture and Farmers Welfare, Government of India

Agro-Economic Research Centre
For the states of Andhra Pradesh, Telangana and Odisha
(Ministry of Agriculture & Farmers Welfare, Government of India)

Andhra University, Visakhapatnam, Andhra Pradesh
September, 2017

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PREFACE

Agricultural extension services need to be constantly updated with technological advances in crop production and training methods which would focus on timely crop management for enhancing production systems in the country. 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 teeming farmers by the more qualified and skilled manpower and to shore up 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 agricultural graduates and to provide them employment opportunities by making them entrepreneurs, the Union Finance Minister had announced a scheme for setting up of "Agri-Clinics and Agri-Business Centres" for agricultural graduates with the support of National Bank for Agriculture and Rural Development (NABARD) in the budget speech on February 28th 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 and extension services and also to provide self-employment opportunities to the technically trained persons.

The Directorate of Economics and Statistics, Government of India, Ministry of Agriculture and Farmers Welfare has entrusted Agro-Economic Research Centre, Andhra University, Visakhapatnam to conduct this study on Impact on Agricultural Extension Services to farmers by Agri-Clinics and Agri-Business Centres (ACABC) scheme. The study comprised of 100 sample beneficiary farmers and 50 non-beneficiary sample farmers.

In addition to the increase in productivity of crops and incomes, there are several other benefits which the farmers advocated to have received through the extension services in their village. The major benefit is increased agricultural productivity. About 72 percent of the farmer respondents are of the view that there has been an increase in the productivity of their crops. Other significant benefits, farmers have been able to reap include improved knowledge on safeguarding the crops farm pests. There is a need to involve private extension staff in the entire production, processing, transporting and marketing chain. The access to knowledge and inputs both have considerably increased which had directly led to an increased productivity and hence increased income, though the farmers are not satisfied with the kind of marketing support provided by these centres.

I appreciate Sri N. Ramgopal, Research Officer and Dr. P. Ramu and Dr. K. Rambabu for taking meticulous care at various stages of conducting the study. I am also grateful to the officials of the MANAGE, Hyderabad and Directorate of Economics and Statistics, Hyderabad for their help and co-operation while conducting the study. I also thank all the Agri-preneurs for their necessary co-operation and help while conducting field survey. Finally, I thank all the sample respondents for their co-operation while eliciting information during field survey. I also thank Sri K. Ramesh for neat typing.

I hope that the results of the study will be useful for the planners, policy makers and researchers.

(PROF. T. KOTESWARA RAO)
HONORARY DIRECTOR

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CONTENTS

LIST OF TABLES

Impact Study on Agricultural Extension Services to Farmers by Agri-Clinics & Agri-Business Centres (ACABC Scheme) – A Case Study of Telangana

Executive Summary

For enhancing production systems in the country, agricultural extension services need to be constantly updated with technological advances in crop production and training methods which would focus on timely crop management. Agricultural extension services throughout the country are suffering from acute 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 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. 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. The Ministry of Agriculture and Farmers welfare, Government of India in association with NABARD has launched this unique programme to take better methods of farming to each and every farmer across the country.

Objectives of the study:

1. To identify the benefits accrued to farmers through extension services by ACABCs.
2. To analyze comparative effectiveness of extension services to beneficiary farmers by ACABCs and non-beneficiary farmers of the same area.
3. To assess the extent of effects on income of beneficiary farmers through extension services by ACABCs and the income of non-beneficiary farmers.

4. To examine the problems / factors hampering the effects of extension services on farmers by ACABCs.
5. To explore measures and suggestions for strengthening extension services by ACABCs more effective to farmers.
6. To suggest changes in imparting extension services to farmers under the ACABCs Scheme.

Methodology of the study:

From the 10 Agri-ventures undertaken from the three selected districts, the list of beneficiary farmers is procured. This list is categorized further according to proper Agriculture services and Allied Agriculture services. Thereafter, the lists of the farmers were further sub-categorized into three holding size-groups. Such holding size-groups were (1) Marginal farmers (2) Small farmers and (3) Medium and Large farmers. The ultimate list of sample beneficiary farmers is prepared by selecting 10 beneficiary farmers per agri-venture making a total of 50 sample beneficiary farmers per selected district. Also as control group, 5 non-beneficiary farmers per agri-venture from the same area of the agri-ventures are selected making a total of 25 sample non-beneficiary farmers per selected district. Thus, 75 sample farmers in each selected district or150 sample farmers in each selected state are short listed for in-depth study.

Summary of Main Findings and Policy Suggestions

- Out of the 80 farmers selected under proper agricultural services, 61 are medium and large farmers, 15 are small farmers and 4 are marginal farmers. Twenty farmers were selected under allied agricultural services. Out of these 10 are medium and large farmers, 9 are small farmers and 1 is a marginal farmer. The average area of holding per beneficiary was 4.83 hectares.
- Educational status of the beneficiaries it was found that on the whole there were 20 post graduates, 32 graduates, 38 Inter & SSC and 7 were below SSC.
- The gross cropped area during kharif season was estimated as 1.78 ha. and the total irrigated area was 1.72 ha. cereals occupied 90 per cent of total kharif area. Horticultural crops like chilies, turmeric, ginger and vegetables accounted for 9.6 per cent of the total. Out of the total cropped area in kharif, 97.04 per cent is under irrigation.
- The average area under rabi-cereals was estimated 0.32 ha. per beneficiary and the 0.28 area was irrigated. The distribution under different categories of farmers it was

found that the area under rabi cereals was comparatively higher i.e. 0.73 ha per beneficiary under allied agri services against 0.22 ha under proper agri-services.

- In rabi season, 0.64 hectares in rabi season, out of which 0.49 hectares have irrigation and cereals accounted for 50 per cent followed by other horticultural crops like vegetables, chilly, cotton and groundnut with 34 per cent. Pulse area is 16 per cent. Out of the total cropped area 78 per cent is under irrigation.
- Other horticulture crops significant area is under flowers like rose, chrysanthemum, marigold. Under fruits, papaya, watermelon, guava, banana and orange are raised. These crops all most more than a season and occupy 2.94 hectares in agricultural services group and 2.24 hectares in allied agricultural services group. Again 95 per cent of this area is under irrigation.
- Average the total outputs from kharif crops was estimated to Rs. 3,91,407 per farm of which Rs. 1,22,357 was on account of cereals, Rs 10,829 and Rs 26,064 was received from other crops. While the total inputs per farm was estimated to Rs 1,91,523 of which the maximum i.e. Rs 1,58,866 was incurred on other inputs and Rs 32,256 on own inputs. outputs per farm was accounted to be comparatively higher i.e. Rs 4,39,469 in case of the beneficiary farmers of proper agricultural services against the lower i.e. Rs 1,99,162 per farm in case of the beneficiary farmers of allied agricultural services.
- The gross outputs from the rabi crops was accounted Rs. 1,55,672 per farm of which the maximum i.e. Rs 28,755 was on account of cereals crops against the minimum i.e. Rs 8,646 on account of pulses. While the total outputs from other crops was accounted as Rs 23,363 per farm. average the gross inputs perform was accounted as Rs. 62,674 of which Rs. 46,902 were incurred on other inputs and Rs. 15,722 on own inputs.
- Horticultural crops agricultural services sample group are investing more and getting more returns than the allied services group. The input costs are Rs. 5,78,007 and output is Rs. 7,99,110. On overall beneficiary sample the corresponding figures are Rs. 4,93,839 and Rs. 6,86,426.
- The category-wise analysis indicates that the maximum net income i.e. Rs.5,49,005 and minimum net income i.e., Rs. 2,31,325 on the farms under allied agri-services. Thus, the farms under proper agri. services were comparatively more profitable as the outputs per farm were comparatively much higher on the farms under proper agri. services in the area.

- The outputs from milch animals per farm was accounted as Rs. 1,25,791. While the inputs incurred in milch animals was estimated as Rs. 72,202 of which the maximum i.e. 51,672 was incurred on other inputs and Rs.20,530 on own inputs. Thus, the net income from milch animals was accounted as Rs. 53,589 from rearing animals on the farms which confirms very wells that rearing animals on the farms along with other agri- services was significantly profitable on the farms of sample beneficiaries under ACABC Scheme in the state of Telangana.
- 20 sample farmers had reported to receive extension services on dairy and animal feeds etc. 15 had reported to receive extension services relating to farm machines etc. and 59 reported to receive extension services on production trends.
- Out of 100 sample beneficiary farmers only 8 farmers had reported to receive formal training from the ventures of their area. While the other 72 sample farmers had told to receive only informal training from the agri.-ventures of their areas on an overall in the area under study. Accordingly majority of farmers 80 such farmers had reported the formal training to be useful for them.
- The beneficiary farmers in agricultural services group, 58 availed input services, 8 availed marketing facilities and 5 people have taken the support of repair and maintenance facility. Overall, all the farmers have got some kind of support. Fifty eight farmers received inputs while 8 farmers used marketing services and 5 used repairs and maintenance.
- Most of the beneficiaries in agricultural services group (60 per cent) have utilized extension services in plant protection to save their crop from pests and diseases. This is followed by receiving advice on farm technology (51 per cent) and marketing of crop produce (10 per cent). All the farmers in allied agricultural group availed services on animal health.
- Per farm charges of farm machines was found i.e. Rs. 7,500 on the farms under proper agri-services. Overall cost of farm inputs stood at Rs. 1,36,085 per farm, of which Rs. 35,289 was under proper agri-services category and Rs. 1,00,796 under allied agri- services category.
- Total Non- beneficiary sample is 50 out of which 40 are drawn from agricultural services and 10 are drawn from allied agricultural services. The average holding is 2.58 ha in agricultural services group, 1.54 ha in allied services group.
- Non-beneficiary farmers in both agricultural and allied-agricultural services groups backward castes dominate numerically with 20 and 7 respectively and 19 were non-

matric sample non-beneficiary farmers, 13 farmers were higher secondary, 7 were graduates and no farmers were post graduates on an overall average.

- Farmers in agricultural services category raised cereals and other crops like vegetables, turmeric and horticultural crops in kharif season. In the total kharif area of this group, cereals occupied 82 per cent and other crops are cultivated in the remaining 18 per cent land. Allied agricultural services group raised only cereal crop in kharif season. Eighty two per cent of cropped area in kharif is under irrigation in non-beneficiaries.
- In rabi season to the coverage under crops was 0.36 ha. of which the maximum i.e., 0.31 ha. was under rabi cereals against the minimum i.e. 0.05 ha. under pulses. Pulses are raised in 17 per cent area only by agricultural services farmers in rabi, eighty six per cent of cropped area in this season is under irrigation in non-beneficiary sample.
- Average the gross cropped area per farm was estimated as 2.73 ha. of which the maximum i.e. 1.34 ha was covered during the other horticulture crops and thereafter the total 1.03 ha. was cropped during kharif season. In rabi season was only 0.36 ha. per farm in the area under study. the gross irrigated area per farm was estimated as 2.13 ha. of which the maximum i.e., 1.01 ha was covered during the other horticulture crops and thereafter the total 0.81 ha. was cropped during kharif season.
- The gross outputs from all crops was received as Rs. 3,31,086 per farm. While the total inputs incurred per farm was estimated as Rs. 2,27,986 of which the maximum i.e. Rs 1,90,296 was incurred on other inputs and Rs. 37,690 on own inputs. the amount of net income of Rs. 1, 03,100 per farm on an average.
- Total outputs received from milch animals was accounted as Rs. 1,02,505 per farm. While the total inputs incurred were estimated as Rs 69,082 per farm of which the maximum i.e. Rs. 52,914 was on account of other inputs and Rs. 16,168 on account of own inputs. Thus, the net income per farm was estimated as Rs. 33,423.
- Only 30 per cent of them have heard about agri-clinics and 20 per cent have heard about agri-business centres. Proper agri service group, they were also asked why they could not use the services of these clinics. The reasons cited were lack of irrigation and financial crunch. Allied services group, whose main occupation is dairy, reported that they use the services of government veterinary hospital. Overall, only 34 per cent of the non-beneficiary samples are aware of agri-clinics and 16 per cent of them are aware of agri-business centres.

- Majority (67.50) of agricultural services group are buying from input dealers while 47 per cent have own sources. The rest are buying from shop keepers on loan.
- Farmers from agricultural services group replied that they did not receive any extension services from any source. In allied services sample, 80 per cent said that they are receiving extension services from government veterinary doctor.
- 37.50 per cent of the agricultural services group expressed satisfaction over the availability of inputs. 77.50 per cent of farmers were dissatisfied with the crop returns. Reasons they cited were high production costs and under performance of yield. Overall, 68.00 and 82.00 per cent of non-beneficiaries have expressed not satisfaction on the input availability and returns.
- Net cultivated area on the farms of beneficiaries was estimated as 4.57 ha per farm and on the farms of non-beneficiaries it was estimated as 1.98 ha per farm in the ACABC scheme area of Telangana state. Gross irrigated area on the sample beneficiary farms was estimated as 4.87 ha against 2.13 ha per farm on the sample non- beneficiary farms. Non-beneficiary farmers reported higher intensity of irrigation, 115.76, than beneficiaries. Overall it is 111.19.
- Average net cultivated area per farm in case of beneficiary farmers was estimated as 4.57 ha. against 1.98 ha. in case of non-beneficiary farmers. Gross cropped area per farm was also estimated to be comparatively higher in case of beneficiary farmers i.e. 5.17 ha per farm against 2.73 ha per farm in case of non-beneficiary farmers. Thus, the average cropping intensity on the farms of both types of sample farmers was similarly estimated as 113.13 and 137.88 per cent.
- Average the total inputs per farm in case of beneficiaries was estimated as Rs 748037 against Rs 227986 per farm in case of non-beneficiaries. Thus, inputs incurred on the farms of beneficiaries were slightly higher than that on the farms of non-beneficiaries. the gross outputs per farm was also higher i.e. Rs 12,33,505 in case of beneficiaries against Rs. 3,31,086 per farm in case of non-beneficiaries. Net income per farm was estimated as Rs. 4,85,468 in case of beneficiary farmers against Rs. 1,03,100 per farm in case of non-beneficiary farmers. Input output ratio on an average of agriculture service was estimated as 1:1.64 in case of beneficiaries against 1:1.44 in case of non-beneficiaries. The turnover per farm was comparatively higher on the farmers of beneficiaries which indicate that there was effect of ACABC Scheme on the farmers.

Suggestion and policy implications:

Based on the findings of the present study, the following policy prescriptions are being conveyed to the DAC, Ministry of Agriculture and Farmers welfare, Government of India.:-

Marketing: 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. Only 11% of the farmers throughout the country had access to information on marketing of the produce. There has been varied response from farmers to the services made available through these ventures.

Benefits: The access to knowledge and inputs, both have considerably increased which has directly led to an increased productivity and hence increased income, though the farmers are not satisfied with the kind of marketing support provided by these centers.

- Marketing of produce need to be improved.
- More number of agricultural graduates need to be trained to undertake agri-ventures.
- Employment at village level needs to be spruced up.
- Only large farmers are having awareness who are very limited in number. Hence it is recommended that to create awareness among all groups of farmers about the benefits and activities of agri-venture and agri-clinics. Only large farmers are having awareness are very in number. Hence it is recommended that to create awareness among all groups limited farmers about the benefits and activities of agri-venture and agri-clinics.
- Even though more number of ventures are listed on paper, in reality only very few ventures are functioning. It is suggested that to make all the listed ventures actively functioned and help the farmers.
- It is identified that the large scale farmers and landlords are only given opportunity to establish agri-ventures. The agri-preneur of agri-ventures also prefer large scale farmers and landlords to establish agri-ventures where the marginal, small and medium farmers are completely ignored. Therefore it is recommended that all farmers should be given equal opportunity to establish agri-ventures irrespective of the size of operated area by providing the technical know-how by the extension staff to small and marginal farmers.
- It is identified that the small and marginal farmers are expressing their difficulty towards paying the service fee to be paid to agri-preneur of agri-venture to get

any kind of service, counselling or suggestions. Hence it is suggested to waive out the service fee to be paid by the small and marginal farmers for getting any kind of service.

- Awareness and training programmes should be conducted by agri-preneurs to educate and assist the small and marginal farmers to receive the benefits of ACABC viz., advisory services, input support and custom hiring services etc.,
- Suitable livestock development policies should be adopted to encourage small and marginal farmers to go for livestock enterprises including dairy.
- In addition to the training programmes by MANAGE a monitoring cell is to be established to supervise overall mechanism of ACABC extending the benefits to small and marginal farmers.

Conclusions:

The scheme was launched with the intention of providing technical support and inputs to the farmers to increase the productivity of their crops and in turn their income. There are several other benefits which the farmers advocated to have received through the extension services in their village. The major benefit is increased agricultural productivity. About 72 % of the farmer respondents are of the view that there has been an increase in the productivity of their crops. Other significant benefits farmers have been able to reap include improved knowledge on safe guarding the crops from pests. There is a need to involve private extension staff in the entire production, processing, transporting and marketing chain.

* * *

Chapter - 1

1. Introduction:

1.1. Statements on the Problem under Study:

Agriculture still remains the mainstay of Indian economy. Over 70 per cent of Indians are dependent on this sector for their livelihood. Agriculture contributes 35.6 per cent to Gross National Product (GNP) and adds 39 per cent as its share towards exports. Growing population on one hand and growing needs of the farming community on the other raised the stakes for agricultural production. This can be achieved by bringing more land under cultivation or raising productivity. As the former has constraints, latter has to be explored constantly. Thanks to the Green revolution and Genetically Modified crops, productivity in agriculture could be increased manifold. Agricultural extension played a crucial role in bringing the evolving technologies to common farmers for them to adapt. For many years, extension in agriculture remained on the shoulders of agricultural officers of the government. Shortage of staff and poor training facilities beleaguered the extension efforts of the government and could not meet the growing demands of the farmers. Multimedia filled the gap to some extent. Still concerted efforts are needed to take the technological advances to the farmers' doorstep.

For enhancing production systems in the country Agricultural extension services need to be constantly updated with technological advances in crop production and training methods which would focus on timely crop management. Agricultural extension services throughout the country are suffering from acute 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 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 teeming farmers by the more qualified and skilled manpower and to shore up 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. The main objectives of the ACABCs scheme were (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 equipment on hire, sale of inputs and other services. The National Institute of Agricultural Extension Management (MANAGE) Hyderabad, will be responsible for providing 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 scheme and arrange to establish required number of units at the ground level, as envisaged to make this scheme a success.

The Ministry of Agriculture and Farmers Welfare, Government of India in association with NABARD has launched this unique programme to take better methods of farming to each and every farmer across the country. Committed to this programme, the Government is also providing start-up training to 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.

1.2 Concepts of Agri-clinics and Agri- Business Centres:

1.2.1: 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.

1.2.2: 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 in agriculture and allied areas, including post-harvest management and market linkages for income generation and entrepreneurship development.

Agri-Business units or the input suppliers are the most important link in the entire chain of agricultural activities. They become all the more important in addressing the issues related to the timely availability of inputs, their quality and proper usage. Compared to the traditional fertilizer/seed sellers, the Agri-Business Centers (ABCs) run by agriculture graduates have proved beneficial not only to themselves but also to the farmers as they have addressed the issues mentioned above. Apart from supplying inputs, the ABCs are also providing custom hiring services. Under this, they rent out pumps, sprayers and dusters to the farmers at a rental ranging from Rs. 40/- to Rs.120/- per day. This saves the poor farmers from the hazards of investment and maintenance of such implements.

1.3 Growth of ACABC Scheme:

Maharashtra state is the leader in establishing large number of Agri-Ventures (5396) and training more number of candidates (12178) since inception of the scheme. Uttar Pradesh closely follows with 5242 Agri-Clinics and training 10875 candidates. Tamil Nadu established 3001 Agri-Ventures and trained 6124 candidates. Karnataka and Bihar established 1307 and 1246 Agri-Ventures and trained 3240 and 3553 candidates in the same period.

Meanwhile Telangana state established 363 Agri–Ventures and trained 1099 candidates since the scheme started.

Table – 1.1

PROGRESS OF AGRI-CLINICS AND AGRI-BUSINESS CENTRES SCHEME

Period From: 01-04-2002 To 10-02-2017

S.No.	Name of the State	No. of Candidates Trained	No. of Agro-ventures established
1	Andhra Pradesh	846	321
2	Arunachal Pradesh	32	3
3	Assam	666	206
4	Bihar	3553	1246
5	Chandigarh	3	1
6	Chattishgarh	611	253
7	Delhi	30	3
8	Goa	10	4
9	Gujarat	1496	557
10	Haryana	646	207
11	Himachal Pradesh	418	108
12	Jammu and Kashmir	1353	176
13	Jharkhand	698	163
14	Karnataka	3240	1307
15	Kerala	185	51
16	Madhya Pradesh	1735	596
17	Maharashtra	12178	5394
18	Manipur	437	128
19	Meghalaya	11	3
20	Mizoram	34	0
21	Nagaland	184	21
22	Odisha	542	106
23	Pondicherry	132	77
24	Punjab	601	212
25	Rajasthan	2938	1040
26	Sikkim	9	1
27	**Telangana**	**1099**	**363**
28	Tamilnadu	6124	3001
29	Tripura	2	1
30	Uttar Pradesh	10875	5242
31	Uttaranchal	456	142
32	West Bengal	946	256
		52090	**21189**

Source: MANAGE

In order to respond to the needs of the Agri-preneurs and to enhance the quality of services provided to all stakeholders of the AC&ABC scheme, MANAGE launched a Toll free helpline 1800-425-1556 in October 2013. The helpline assists and provides information to callers on matters relating to eligibility, NTIs in the States, Loans, Subsidies, Refresher Programmes and other issues related to the Scheme. The Call Centre also receives feedback/suggestions on training and land holding, and updates the status of Agri-Ventures and contact details of Agri-preneurs.

Table- 1.2, the details of district-wise number of agri-ventures established during 2002-15 in Telangana state are presented in Table No. 1.2. A total number of 362 agri-ventures are established during the above said period, out of 362, 32.32 per cent ventures are established in Hyderabad district followed by Ranga Reddy and Karimnagar districts. The per cent of agri-ventures established ranged from a low of 1.93 in Nizamabad district to a high of 32.32 in Hyderabad.

1.4. Contributions of ACABC scheme in Agricultural Extension Services to the Farmers of the country:

ACABC scheme is envisaged to boost the much needed agricultural extension services in the country in a comprehensive way. Services that are made available to the farmers include; crop protection including pest surveillance, diagnostic and control services, seed production and processing units, training in vermin-culture, organic farming methods, training in poultry and fishery, using bio-fertilizers and bio-pesticides, livestock health care and feed selection, post-harvest management, storage practices, grading and marketing of agricultural produce, vegetable production and marketing. Wherever feasible, mushroom and sericulture cultivation is also being encouraged.

1.4.1 Progress of AC & ABC:

During the year, 5437 candidates were trained through 108 NTIs and 2546 Agri-ventures, have been established under 26 categories of activities, thus achieving a success rate of 46.83%.

Table -1.2

District wise Number of Agri-Ventures Established during 2002-2015 in Telangana state

Sl. No.	Telangana state (Districts)	No. of Ventures Established														
		2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Total
1	Hyderabad	15	20	2	15	13	13	5	9	3	10	5	4	2	1	117
2	Mahabubnagar	-	-	-	2	2	4	-	1	1	3	-	10	6	5	34
3	Ranga Reddy	1	2		5	5	15	5	11	6	6	7	5	1	0	69
4	Medak	-	-	-	1	1	-	-	1	-	-	2	5	-	0	10
5	Nizamabad	-	-	-	1	1	-	-	2	-	-	1	-	1	1	7
6	Adilabad	-	-	-	1	-	1	-	5	-	1	1	5	1	0	15
7	Karimnagar	2	-	-	1	-	2	1	6	2	2	2	8	8	5	39
8	Warangal	-	1	-	-	-	-	-	3	3	5	-	2	5	6	25
9	Khammam	-	2	2	-	1	-	-	3	-	4	1	-	2	0	15
10	Nalgonda	-	-	-	2	-	2	-	5	-	6	7	2	4	3	31
	Total	18	25	4	28	23	37	11	46	15	37	26	41	30	21	362

Source:- ACABCs Cell, MANAGE, Hyderabad (Telengana)

TABLE – 1. 3

AGRI-CLINICS AND AGRI-BUSINESS CENTRES CELL NATIONAL INSTITUTE OF AGRICULTURAL EXTENSION MANAGEMENT (MANAGE), HYDERABAD
ACTIVITY-WISE CATEGORISATION OF AGRI-VENTURES From 01-04-2002 To 10-02-2017

Name of the Agri-venture	AP	ARN	ASS	BHR	CHA	CHD	DEL	GOA	GUJ	HP	HRN	JAM	JHA	KAR	KER	MAN	MEG	MP	MS	NAG	ORS	PON	PUN	RAJ	SKM	TG	TN	TRI	UP	UTC	WB	Total
1. Agri-Clinic	127		21	155	20	1			39	12	20	11	72	194	16	6		69	943	1	27	16	29	146		**86**	609		642	19	25	3306
2. Agri-Clinics and Agribusiness Centres	67	2	30	494	63		1	1	253	25	97	49	26	426	7	25	2	169	1422	3	20	17	32	163	1	**87**	607		2614	26	47	6776
3. Agro-Eco Tourism								1	1					1					8								1					
4. Animal Feed Unit	1		2	1					1			2		6				1	16	1						**1**	5		9	1		47
5. Bio-fertilizer production and Marketing	3		1	3					4		1			15	1				30		2	1		9		**9**	10		14	2		105
6. Contract Farming	5				2				1	1	2			13				2	2				1			**6**	21		12	1		69
7. Cultivation of Medicinal Plant	1		1	16	3					4			2	14				3	6		2	1	1	31		**5**	10		12			112
8. Direct Marketing	1		1	6	2				6	3		3		16				4	66		4			5		**2**	8		38	2	1	168
9. Farm Machinery Unit	8		3	11	8				32	16	9	8	1	28	1	2		46	207		3	2	3	14		**8**	90		195	7	11	713
10. Fisheries Development	4		4	104	34				1	1	3	2	7	12	14	10		3	40		5	7		2		**4**	43	1	30	1	18	350
11. Floriculture					1				3	5		7		21					33				4	3		**2**	14		8	4	3	108
12. Horticulture Clinic	3			6	3					7	2	3	2	23		2		5	62			2	1	1		**11**	26		11			170
13. Landscaping + Nursery	2		1	1				2	1	1	1	4		15	3			1	46		1	4		1		**3**	24		1	1		113
14. Nursery	11		5	21	3				13	8	7	11	2	45	3	8		8	170		6	1	11	15		**10**	92		53	2	8	513
15. Organic Production/Food Chain				3	3				4					20		2		1	15		1	2	6	8			14		10	1		90
16. Pesticides Production and Marketing				1					4				1	10				2	14					3		**2**	2		2			41
17. Value Addition	4		2	38	6				5			11	1	10		2		8	122	3			4	10		**1**	22		27	3	2	281
18. Fishery clinic	1			4									1						3								6					15
19. Seed Processing and Marketing	13		1	28	10		1		19	3	12		1	56	1	1		13	25		3	2	27	14		**31**	31		39		7	338
20. Soil Testing Laboratory	2		1	23	1		1		6		1		1	12				2	17		1		1			**1**	25		5		3	103
21. Tissue Culture Unit	2													11				1	8		4						2					28
22. Vegetable Production and Marketing	1		1	1	21				3	9	7	2	8	7		2		7	33		2		17	6		**7**	22		58	3	35	252
23. Vermicomposting/Organic manure	7		5	125	3				6	1	3	2	6	39	2	2		6	82		1	2	17	71		**12**	44		53	6	1	496
24. Veterinary Clinics	2		91	66					17	2	6	23	16	11		28	1	1	323	7	2	3		83		**6**	152		22	3	10	875
25. Crop Production	3	1	1	3	11				3		1	5		27		1		11	41		11			49		**2**	13		11	2	2	197
26. Dairy/Poultry/Piggery/Goatary	50		35	107	56				130	8	18	24	13	255	3	18		230	1629	6	4	12	57	401		**65**	1056		1267	55	77	5577
27. Rural Godown				5										2				2	8					1			3		28			49
28. Prodn.&Marketing of Bio-Control Agents									1					4					4								1		9			19
29. Agriculture Journalism	1				1				2					3				1	3					1		**2**			2			16
30. Sericulture	1												1	7		19			13								7				1	49
31. Mushroom Cultivation				16	2				1	2	3	6	2	2					3		6	5		1			39		5	2	5	100
32. Apiary	1			8					1		14	3		2							1		1	2			2		65	1		101
Total:	321	3	206	1246	253	1	3	4	557	108	207	176	163	1307	51	128	3	596	5394	21	106	77	212	1040	1	**363**	3001	1	5242	142	256	21189

Source: ACABC Cell, MANAGE, Rajendra Nagar Hyderbad

TABLE – 1.4

NABARD, HEAD OFFICE MUMBAI DEPARTMENT OF REFINANCE-GOVERNMENT SPONSORED SCHEMES
PROGRESS OF SCHEME FOR SETTING UP OF AGRI-CLINICS & AGRI-BUSINESS CENTRES
STATUS AS ON 31 JANUARY, 2017 (Amount in lakhs)

Sl. No.	State	Brief Description of Type of Projects	No. of Schemes	TPO sanctioned	Bank Loan	Agri Entrepreneurs contribution	Total amount of eligible subsidy	Capital subsidy released to banks				
								Advance subsidy	Final instalment	interest subsidy I	Interest subsidy II	Total subsidy
1	2	3	4	5	6	7	8	9	10	11	12	13
1	Assam	Agri Business, Vet clinic, Poultry, Hatchery, Supply of inputs, Vermi compost, Bio-fertilisers	94	739.5800	638.7100	119.4480	300.8000	36.2960	227.6470	2.9870	1.7990	268.7290
2	Himachal Pradesh	Agri-Clinic & Agri Business	53	467.2275	360.0500	104.1175	174.7900	27.0000	113.4111	33.4969	0.0000	174.7900
3	Karnataka	Agri-Clinic input Retail Dealership, Agri-Clinic & Mineral Mixing Plant, Agri-Clinic, Agri Consultancy and Agri-input Centre, One stop shop for all Agri-Services	235	6990.4000	5052.5110	1937.8890	1302.0210	57.0600	1161.0840	0.0000	0.0000	1218.1440
4	Maharashtra	Cultivation of camation in Poly House, Agri-clinic, Agri-consultancy Agri Business, Agri Input sales	333	4347.4710	3280.9970	1014.2770	1396.8180	58.4910	1308.9970	8.1540	21.1760	1396.8180
5	Tamil Nadu	Agri Clinic	143	2118.1720	1367.7600	482.5110	547.5930	27.9900	469.9210	1.7000	6.5900	906.2010
6	Uttar Pradesh	Agri-Inputs Supply, Hiring of Agri Implements & Consultancy	458	3103.2240	2595.4760	446.6700	975.0610	21.0360	889.2930	0.0000	0.0000	910.3290
7	West Bengal	Agri-Clinic with Goatery and Broiler Unit, Agri-clinics & Agri-Business	19	159.4828	128.1468	31.3360	57.0480	1.6550	55.3828	0.3532	0.0000	57.4010
8	Madhya Pradesh	Agri-Clinic & Agri Business	35	525.4300	403.8500	121.5400	175.9357	14.3200	76.6950	1.7090	0.0000	92.7240
9	Andhra Pradesh	Agri-Clinic & Agri Business	15	291.6770	217.3760	74.3010	46.0120	2.5000	84.3120	0.0000	0.0000	85.6240
10	Rajasthan	Agri-Clinic & Agri Business	11	86.3840	66.7800	18.0050	29.7482	0.2750	29.3989	0.0743	0.0000	29.7482
11	Bihar	Agri-Clinic & Agri Business	20	134.8760	114.0560	19.8700	41.4960	2.2230	38.4330	0.2400	0.6000	41.4960
12	Punjab	Agri-Clinic & Agri Business	10	83.8670	60.5000	12.0800	25.7700	4.5700	19.7500	0.0000	0.0000	24.3200
13	Haryana	Agri-Clinic & Agri Business	51	484.9310	385.0390	99.8920	165.5010	6.8920	153.6138	0.0000	0.0000	160.5058
14	Nagaland	Agri-Clinic & Agri Business	16	119.5800	89.6900	5.3700	44.0700	4.7129	37.0671	0.9200	0.0000	42.7000
15	Chhattisgarh	Agri-Clinic & Agri Business	7	111.4860	85.5600	25.9260	40.8040	1.1250	24.2200	0.0000	1.5384	26.8834
16	Kerala	Agri-Clinic & Agri Business	14	142.1036	233.9200	51.4931	51.8148	0.0000	50.7441	1.0707	0.0000	51.8148
17	Uttara-khand	Agri-Clinic & Agri Business	11	175.6500	132.6800	39.7100	73.9300	1.6250	69.7775	1.0785	1.4490	73.9300
18	Jammy & Kashmir	Agri-Clinic & Agri Business	5	84.4500	69.1500	13.2000	32.0900	2.8435	26.3965	0.0000	0.0000	29.2400
19	Manipur	Agri-Clinic & Agri Business	1	5.0000	5.0000	0.0000	2.2000	0.0000	2.2000	0.0000	0.0000	2.2000
20	Gujarat	Agri-Clinic & Agri Business	22	296.3031	230.0600	66.2431	97.9895	0.0000	90.7895	0.0000	0.0000	90.7895
21	Jharkhand	Agri-Clinic & Agri Business	11	117.1600	99.7000	27.2300	40.1500	49720	33.0400	0.0000	0.0000	38.0120
22	Meghalaya	Agri-Clinic & Agri Business	1	10.0000	8.0000	2.0000	3.0200	1.5100	1.5100	0.0000	0.0000	3.0200
23	Arunachal Pradesh	Agri-Clinic & Agri Business	2	12.0000	11.3000	0.7000	5.2800	0.0000	5.2000	0.0000	0.0000	5.2800
24	Telangana	Agri-Clinic & Agri Business	18	333.6320	243.1500	90.1320	82.0412	4.3293	71.5678	3.0946	2.4668	81.4585
25	Goa	Agri-Clinic & Agri Business	1	43.3800	35.0000	8.3800	7.2000	0.0000	7.2000	0.0000	0.0000	7.2000
26	Odisha	Agri-Clinic & Agri Business	1	20.0000	15.8500	3.0000	7.2000	0.0000	7.1352	0.0000	0.0000	7.1352
27	Sikkim	Agri-Clinic & Agri Business	1	19.6800	15.0000	4.6800	8.6592	0.0000	8.6592	0.0000	0.0000	8.6592
	Total		1588	21023.1519	15946.2618	4820.0006	5776.9226	282.3157	5063.5255	54.8802	35.6192	5435.1525

Source: ACABC Cell, MANAGE, Rajendra Nagar Hyderabad

1.5 MANAGE and Nodal Training Centres (NTCs).

To give fillip to the wide array of agricultural extension services and start businesses in the agriculture and allied industry, unemployed agriculture and related graduates need to be properly trained and motivated in setting up Agri-Clinics and Agri-Business Centres. This responsibility was given to National Institute of Agricultural Extension Management (MANAGE). MANAGE organized two workshops for Nodal Officers of Nodal Training Institutions at URICM, Gandhinagar, Gujarat and ICM, Guwahati, Assam. The workshops focused on sensitization on revised guidelines, measures to enhance the quality of training, land holding and DPR preparation besides reviewing performance of NTIs.

Several zonal, state and district level workshops were organized by NABARD for sensitizing the stakeholders towards achieving the objectives of the Scheme. MANAGE has participated in zonal and state level workshops and highlighted the success stories and issues around pending projects. MANAGE revised the training content of AC&ABC and initiated the process of monitoring the quality of project reports prepared by Nodal Training Institutes. An exhibition on low-cost technologies was organized at the National Institute of Plant Health Management (NIPHM), Hyderabad during 4th to 6th February, 2015. Eleven innovators, trained under Agri-Clinics & Agri-Business Centres Scheme, from five states participated in the Exhibition. The themes highlighted by innovative Agri-preneurs were low cost pest control measures, high density bamboo cultivation, low cost hydroponic technique, production of growth promotors, protein formulation from human hair, fertilizer dispenser, nutritional protein drink from paneer-whey and pearl millets, low cost farm machinery, vermin-composting, foliar nutrient formulations and solar powered sprayer.

1.6 Need and scope of the study:

The Ministry of Agriculture and Farmers Welfare, Government of India in association with NABARD has launched this unique programme to take better methods of farming to each and every farmer across the country. Committed to this programme, the Government is also providing start-up training to graduates in agriculture or any subject allied and agriculture like horticulture, sericulture, veterinary science, forestry, dairy, poultry farming and fisheries etc. Those completing the training can apply for special start-up loans to set up a venture.

Keeping the above cited statements in view the Directorate of Economics and Statistics, Government of India, Ministry of Agriculture and Farmers Welfare has entrusted AERC, Visakhapatnam, to conduct this study on "Impact on Agricultural Extension Services to Farmers by Agri-Clinics & Agri-Business Centres (ACABC Scheme).

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.

1.7 Objectives of the study:

At the instance of the Ministry of Agriculture and Farmers Welfare, Government of India Agro Economic Research Centre, Visakhapatnam has taken up the study with the following main objectives:-

1. To identify the benefits accrued to farmers through extension services by ACABCs.
2. To analyze comparative effectiveness of extension services to beneficiary farmers by ACABCs and non-beneficiary farmers of the same area.
3. To assess the extent of effects on income of beneficiary farmers through extension services by ACABCs and the income of non-beneficiary farmers.
4. To examine the problems / factors hampering the effects of extension services on farmers by ACABCs.
5. To explore measures and suggestions for strengthening extension services by ACABCs more effective to farmers.
6. To suggest changes in imparting extension services to farmers under the ACABCs Scheme.

1.8 Organization of the Report:

The study is organized into six chapters. First chapter gives Introduction, statements of the problem, concepts of Agri-Clinics and Agri Business Centres, Growth in ACABC scheme since inception, contribution of the scheme to the agricultural extension services to the farmers of the country. It also deals with the coordinating organization of the ACABC scheme MANAGE, its Nodal Training Centres (NTCs) Agri ventures and Agri entrepreneurs. It elaborates on the need and scope of the study and its objectives. Second chapter deals with Literature on the subject. Third chapter discusses about the area of the study and status of Agri-Clinics and Agri–Business Centre scheme. It also focuses on Agricultural Extension services provided to farmers by Agri–Clinics and its contribution to agricultural development of the state. Method and sampling of the study, selection of Agri–Clinics and Agri–Business Centres, selection of beneficiary and non – beneficiary farmers are discussed in the fourth chapter. It also elaborates on method of field investigation, survey of area, analysis of data. Fifth chapter extensively discusses farmers' data relating to cropping pattern, production, incomes and their response to agricultural extension through Agri–Clinics and Agri–Business Centres. The last chapter summarizes findings, conclusions and policy implications. Following is the chapter wise and point wise details of chapter plan.

Chapter – I: Introduction:

1.1 Statements on the Problem under Study

1.2 Concepts of Agri-Clinics and Agri- Business Centres

1.2.1 Agri-Clinics

1.2.2 Agri-Business Centres

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Chapter - II

Review of Literature

In this chapter, an attempt has been made to present a brief review of literature relating to the search study entitled: ""Impact study on Agricultural Extension Services to Farmers by Agri-Clinics and Agri-Business Centre (ACABC scheme) in Telangana". The available concerned literature collected after consulting various reputed journals on agricultural extension of the country and abroad, reports, bulletins, magazines, periodicals, etc.,

1. R. Venkattakumar, et.al (2016), observed that the Agri-Clinics and Agri-business Centres (ACABC) is an innovative scheme implemented in India which tries to transform unemployed agricultural graduates as agripreneurs through entrepreneurship development training and appropriate financial support in order to extend broad-based extension services to the peasant community. Though, over 15,000 agricultural graduates are trained in this scheme, the success rate of establishment of agribusiness ventures by the trained graduates is only 35%. This fact necessitates identifying critical success factors (CSF) of successfully established agribusiness ventures and inculcating such CSF in the mindset of interested graduates through appropriate training. Keeping this in view, a study conducted by National Academy of Agricultural Research Management (NAARM) delineated 14 CSF through a pilot study in the first step and standardized and prioritized through a questionnaire survey among successful agripreneurs (87) by rank-based quotient (RBQ) analysis. The results of this study not only provide pointers for nodal training institutes (NTIs) to redesign the training programmes but also ideas for promoting entrepreneurship in agriculture. This paper also presents the details about the success stories of three agripreneurs that were documented during the pilot survey, which would serve as strong business lessons for the agricultural graduates who dream to become successful Agri-preneurs.

2. M. Vinaya Kumari, et.al (2016), in their study observed that the major constraints faced by trained agripreneurs in successfully running their agri-ventures are high rate of interest, lot of procedures involved in getting bank loans, fear of sale, lack of business and field experience, business runs only in seasons, heavy completion from well established and other old dealers, non-co-operation of the farmers, insufficient cash in hand, marketing and

infrastructure facilities etc., are the major constraints faced by the trained agripreneurs in running their agri-ventures. This study also advocates the need for linking between financial institutions with training institutions, agri-clinics should be treated on par with government agri-clinics especially in distribution of seeds on subsidized rates.

3. The study conducted by **Shoji Lal Bairwa, et.al (2015)** in Rajasthan state during 2011 to 2013 and based on the primary data collected through field survey by pre tested questionnaires from 150 sample agrigraduates. The statistical techniques such as frequencies, scores and percentages were used to find out the problems of agripreneurs in establishing and operating agri -ventures in Rajasthan state. In the results, it was found that lack of own money to start business, lack of proper handholding support from NTIs, lack of family support, lack of business and field experience, high rate of interest on loan and a lot of formalities in getting bank loans were the major problems in establishing agri-venture, while heavy competition from existing market players, marketing and infrastructural problems, perishability and seasonability of products, fluctuation in demand and prices of products, illiteracy and lack of knowledge of the farmers and insufficient cash in hand to run the business were the major problems faced by agripreneurs in operating agri-venture. Thus, the present study mainly focused on the major problems faced by agripreneurs in starting and operation of Agri-ventures under the Agri-Clinic and Agri-Business Centre (ACABCs) scheme in Rajasthan state.

4. Babu and Joshi (2015), observed that reforms of the extension and advisory system in India and other developing countries face new and emerging challenges. The extension systems have become pluralistic and the participation of the private sector in the provision of extension services has been increasing during the reform process as the extension systems in these countries become more demand-driven. The concentration of the new players in the extension provision has been primarily within the commercialized portion of the agriculture sector. Yet only those farmers who have the access to or ability to pay for private extension benefit at the cost of smallholder farmers. In this paper we explore opportunities for the public extension system in India to enhance its role of knowledge provision to smallholder and other marginalized farming communities particularly in the remote rural regions through new set of reforms. We take stock of the extension reforms undertaken in the last 20 years and develop a set of recommendations for further refining the reform process in agricultural extension in India.

5. Shoji Lal Bairwa, et.al (2014), in their research paper investigates that the Agri-Clinics and Agri-Business Centres scheme is a subsidy based credit linked scheme for setting up Agri-ventures by agricultural graduates launched by government of India towards strengthen technology transfer, public extension system and employment generation in rural areas. The study paper focused on the origin, objective, and progress of Agri-clinics and Agribusiness centres scheme in India after completion of more than one decade time from its inception. It is an attempt to assess the performance of Agri-clinics and agribusiness centres scheme on the basis of state wise progress, training institute wise progress and project wise progress. The present study is based on the secondary data collected from various journals, research articles and websites. In the analysis of data, it was found that southern states (Maharashtra, Tamil Nadu, Andhra Pradesh and Karnataka) have good and encouraging progress of ACABCs scheme comparison then north eastern states which have poor performance in the establishment of Agri-ventures and other aspects. The government need to special focus on the north eastern states of the country to meet the objectives of the Agri-clinics and agri-business centres scheme.

6. Shoji Lal Bairwa, et.al (2014), in their study assesses the effects of central government's sponsored scheme agri-clinics and agri-business centres scheme on women empowerment in India. Women empowerment includes the social, economical and entrepreneurial empowerment and evaluated in terms of participation, access, employment opportunities and decision making. The present study reviews the whole gamut of issues related to women empowerment for empowering women in the country through the agri-clinics and agri-business centres scheme. In analysis, it was found that southern states including Tamil Nadu, Maharashtra and Karnataka have very good status in women training and agri-preneurship comparison than north eastern states of the country. Government need to give special attention on the implementation of ACABCs in the northern eastern states of the country to improve the performance of the scheme in respect with trained women agri-graduates, agri-venture established by them and successful implementation of agri-clinics and agri-business centres scheme.

7. R. Venkatta Kumar and B. S. Sontakki (2014) observed that the services of agribusiness ventures established by agripreneurs of ACABC scheme resulted in accessibility to

free agro-advisory services, introduction of new technological innovations, creating awareness about farm innovations, increase in area under cultivation and accessibility to quality inputs at reasonable prices. The services also led to increase in cropping intensity, improvement in farm mechanization, productivity and profitability enhancement, decrease in labour engagement and reduced cost of cultivation. The agripreneurs extended technology demonstration and dissemination services such as distribution of literature, organizing exposure visits, campaigns, interaction meeting, training programmes for the farmers.

8. The study conducted by **S. Chandra Shekar, et.al (2014)** in Uttar Pradesh villages on the farmers' perceived effectiveness of paid extension services provided by Agri Clinic entrepreneurs, it was found that the effectiveness index scores were high among the beneficiary farmers. About fifty per cent respondents perceived that the paid extension services were moderately effective while the rest perceived them to be highly effective. Among the correlates, annual income, social participation, farm machinery owned were negatively and significantly associated, while family type was positively and significantly associated with effectiveness index scores. Regression analysis of effectiveness index scores revealed the positive contribution of age, education, farm size and negative contribution of farming experience, annual income and social participation. Among the four components, the contribution of extent of adoption and farmers' satisfaction was very high in farmers' perceived effectiveness of paid extension services provided by Agri Clinic entrepreneurs.

9. Shoji Lal Bairwa, et.al (2014), in their research paper observed that Agri-Clinics and Agri-Business Centres scheme is a subsidy based credit linked initiative of central government for the development of agriculture and rural sector through the employment generation and proper availability of agri-inputs, technical know-how, credit facility and market information to farming community. This package of practices and facilities are only possible through the agri-clinics and agri-business centres in rural areas and this will also generate the employment opportunities in the country. Agri-clinics and agri-business centres scheme is implementing through different governmental entities including national institute of agricultural extension management, national bank for agriculture and rural development, small farmer's agri-business consortium, directorate of agriculture and cooperation, nodal training institutes and Commercial

banks to achieve the objective of the scheme by proper implementation throughout the country. This study paper review the roles and responsibilities of different agencies involved in the implementation of agri-clinics and agri-business centres scheme in the country.

10. T. Nagalakshmi, and A. Sudhakar (2013), in their study observed that after independence, the focus of the Government of India was to frame the major policies based on equity along with growth in the agriculture sector. Being an agrarian country, many efforts been made towards economic and social stabilization over the past decades, but not much progress has been achieved in the growth of the agro industrial sector. Farmers lack access to adequate agricultural technology inputs, funding and commercial farming skills have put the quality under the threat. The productivity may be increasing, but better quality not been achieved. With the increase in agricultural production, there is a need to have the proportionate growth in the agro-processing industry. In the recent past most of the farmers are becoming real estate owners by giving their fertile land to edifice industry, because they are unable to meet the expenditure spent on cultivation, high rates of interests taken from landlords, commission agents, banks and financial institutions, few among them committed suicide, the rate of suicide cases was out of control. Government from time to time taking steps to eradicate the effects in agriculture but they confined only to paper. In Dharmapuri, Karimnagar District of Andhra Pradesh farmers came forward to start their own associations to meet their problems without government intervention. This paper focuses on the farmers those who became entrepreneurs to Agri-preneurs, studies about the profile of agricultural entrepreneurs i.e. agri-preneurs and their socio cultural background in Dharmapuri in Andhra Pradesh.

11. M. Ganesan, et.al (2013), in their research paper there are several organizations extensively using modern information technology in India to facilitate better communication between researchers, extension workers and their farmer clients to transfer technologies and information more cost effectively. But, many of these initiatives are focused on delivering generic information rather than providing the farm plot or crop specific advisories pertaining to the requirements of individual farmers. This paper through a well structured pre-tested questionnaire administered to participating farmers tried to find answers to the use of mobile Multimedia Agricultural Advisory System (MAAS). The answers to the research questions had

potential implications for refining the approach of making efficient agricultural extension services available through a call centre platform, equipped with mobile multimedia agricultural advisory system, to the rural farming communities. This study has shown that a majority of the farmers perceived information on pest and disease control as most important and they also felt that accessing information through mobile phone is easy and convenient. Although there were perceived benefits by farmers, the quality of information, and timeliness of information and reliability of information were the three important aspects that have to be considered seriously to meet their requirements and prospects in the coming years. Correlation analysis proved that irrespective of the socio-economic characteristics, farmers were utilizing the mobile multimedia agricultural advisory system.

12. Taufiq Ahmed, et.al (2011), observed that Agri-preneurship is an employment strategy that can lead to economic self-sufficiency of rural people. Training is a key element for the promotion of Micro, Small and Medium Enterprises (MSMEs) for agripreneurship development, particularly for the first generation agripreneurs. These can result in improved performance of an individual which can contribute to employment generation, poverty reduction and Human Resource Development. This study was conducted in two states of India i.e. Uttarakhand and Punjab state to assess the entrepreneurial characteristics of the agripreneurs. One training center from each state was randomly selected for the present study i.e. College of Agribusiness Management (CABM), Pantnagar and Indian Society of Agribusiness Professional (ISAP), Amritsar (Punjab). The data were collected with the help of semi structured interview schedule from 60 respondents each from selected states totalling 120 agripreneurs. The results of the study depicted that majority of the respondents (70.00%) had medium level of achievement motivation; nearly sixty percent had medium level of risk taking and leadership ability and medium level of decision making ability with percentage representation of 71.67.

13. Claire J. Glendenning, et.al (2011), in their study the results suggest that embedding advisory service in input sale in the policy-supported private extension approach of the Agri-clinics cum Mini Soil Testing Laboratories in Tamil Nadu is a useful way of reaching farmers, whose most important information needs relate to agri-inputs. The integration of services in one location increases convenience for farmers, who highlight proximity as an

important condition for selecting input vendor and advisory service. Nevertheless private extension does not substitute for public extension, as it reaches only certain clientele and focuses on specific services. Also demand for the services is required from farmers and capacity and motivation of the operator to provide quality services is needed for effective and quality operation. To prevent the Agri-clinics from becoming another input dealer, without reliable advisory service based on appropriate diagnostic tests, greater linkages of Agri-clinics to other programs of extension and advisory services, capacity building and training, and more effective continuous monitoring is needed. The results from this study can be used to help improve the Agri-clinics initiative from both demand and supply sides of the services they offer. More research is needed to understand variability in use of private Agri-Clinics and Agri-Businesses across the different states and farming systems of India.

14. Claire J. Glendenning, et.al (2010), in their research paper analyzed that despite a wide range of reform initiatives in agricultural extension in India in the past decades, the coverage of, access to, and quality of information provided to marginalized and poor farmers are uneven. This paper aims to ascertain why farmers are not accessing information and where information gaps exist, despite the variety of extension approaches in India. Using information provision and access as the basis for analysis, the paper reviews some of the major agricultural extension programs in India by considering their ability to provide information and facilitate information sharing and use in farming communities. The review gives a broad overview of the current extension scene in India while providing a synthesis of recent debates and the observations of various authors as well as working groups in the Ministry of Agriculture and the Planning Commission. The paper examines the challenges and constraints of each agricultural extension approach as it attempts to provide farmers with access to information that is relevant to their farm enterprises. As a result of this analysis, opportunities are identified for increasing extension services' effectiveness and efficiency in reaching smallholder farmers. Research gaps are also identified. The review concludes that there is an increasing need to work in partnership and to share knowledge and skills in order to provide locally relevant services that meet the information needs of marginal and small holder farmers in India.

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* * *

CHAPTER – III

General Description of the area under study and status of ACABC scheme in Telangana

3.1. Profile of the state:

3.1.1. Brief History of Telangana:

The Sate of Telangana emerged as 29th State in the Indian Union as per the Andhra Pradesh Reorganization Act, 2014 (No. 6 of 2014) of Parliament, which received the assent of the President of India on the 1st March, 2014 and came into existence with effect from 2nd June, 2014 with the city Hyderabad as its capital. The said Andhra Pradesh Reorganization Act, 2014 was received an amendment called the Andhra Pradesh Reorganization (Amendment) Act, 2014 (No. 19 of 2014) on the 17th July, 2014, transferring certain mandals and villages (327) of Khammam district to residual Andhra Pradesh, enforcing this amendment with effect from 29th May, 2014. Telangana is a State in the Southern region of India. It has an area of 1,12,077 sq. kms., after the Andhra Pradesh Reorganization (amendment) Act, 2014 (as per act No. 6 of 2014 its area was 1,14,840 kms.), and is the twelfth largest State in terms of both area and the size of the population in the country. Telangana acquired its identity as the Telugu speaking region of the princely State of Hyderabad, ruled by Nizam of Hyderabad during the British Raj, joined the Union of India in 1948. The Hyderabad State was dissolved as part of the linguistic reorganization of States, and the Telugu speaking part of Hyderabad State, known as Telangana, was merged with former Andhra State to form Andhra Pradesh. Following a popular movement of separation, Telangana was awarded Statehood on 2nd June, 2014. The State is bordered by the States of Maharashtra to the North and North-West and Chhattisgarh to the North, Karnataka to the West, and Andhra Pradesh to the South, East and North-East. The major cities in Telangana State include Hyderabad, Warangal, Mahabubnagar, Karimnagar, Nizamabad, and Khammam. The State is strategically located in the Deccan plateau in the Central stretch of the eastern seaboard of Indian Peninsula. The Climate of the State is predominantly hot and dry.

3.1.2. Population and Key Characteristics of the State:

The Government of India, in exercise of the powers conferred under the provisions of the Census Act, 1948, conducting the population census across the country once in a decade and releasing the results in different phases. Accordingly, the Government of India has

conducted the population census in the year 2011 and released the final results, up to the village level, in different classifications. An attempt is made in this chapter to present the results of the population census, 2011 conducted in Telangana State, excluding those (327) revenue villages that were transferred to the State of Andhra Pradesh (Residual) as per the Andhra Pradesh Reorganization (Amendment) Act, 2014 (No. 19 of 2014) along with certain comparisons with that of the earlier censuses. Consequently, the geographical area of the Telangana State is 1,12,077 sq. kms., with a population of 350.04 lakh consisting of 176.12 lakh males and 173.92 lakh females. The sex ratio is 988 in the State.

Table 3.1

Demographic and other Key Characteristics of the State

S.NO	Item	Unit	Quantity
1	Area	Sq.kms	112077
2	Districts	Nos.	10
3	Revenue Divisions	Nos.	42
4	Towns	Nos.	158
5	Municipal Corporations	Nos.	6
6	Mandal Praja Parishads	Nos.	438
7	Gram Panchayats	Nos.	8695
8	Revenue Mandals	Nos.	459
9	Revenue Villages	Nos.	10434
10	Households	Nos.	8303612
11	Total Population (as per 2011 Census)	Nos.	35003674
	Male	Nos.	17611633
	Female	Nos.	17392041
	Sex Ratio (Females per 1000 Males)	Ratio	988
	Density of Population (Per Sq. km.)	Nos.	312
12	Rural Population	Nos.	21395009
13	Urban Population	Nos.	13608665
14	SC Population	Nos.	5408800
15	ST Population	Nos.	3177940
16	Child Population (0-6 years)	Nos.	3899166
17	Literates	Nos.	20696778
18	Literacy Rate	Rate	66.54
19	Total Workers	Nos.	16341942
	Main Workers	Nos.	13719871
	Marginal Workers	Nos.	2622063

Source: Statistical Abstract, Directorate of Economics & Statistics, Govt. of Telangana

Literacy Rate:

A person whose age is 7 years and above and is able to read and write with understanding in any one language is defined as literate. The literacy rate is the percentage of literates in the total population excluding 0-6 years. The literacy rate of the State as per

2011 census is 66.54%. Male literacy stands at 75.04% and female literacy at 57.99%. There is a huge gap in literacy of urban areas when compared to rural area literacy.

Social Composition of Population:

The population of the State consists of scheduled castes, scheduled tribes and others. Out of the total population of the State, scheduled castes constitute 15.45% and the scheduled tribes constitute 9.08%. There has been a significant increase in scheduled tribes population from 2.81% in 1961 to 8.19% in 1981 and further to 9.08% in 2011.

Composition of Workforce:

Workforce: Persons engaged in any economically gainful activity are considered as workers or workforce. According to population Census 2011, total workforce of the State is 163.42 lakhs.

Work participation Rate: It is the percentage of economically gainful active persons to total population. Total Workers Include all main workers and marginal workers which constitute 163.42 lakhs in the State.

Main Workers: Main Workers are persons engaged in any economically gainful activity for 183 days or more in a year. There are 137.20 lakh main workers, of which 22.42 lakhs belong to scheduled castes and 14.58 lakhs belongs to scheduled tribes, as per 2011 Census.

Marginal workers: Marginal workers are persons engaged in any economically gainful activity for less than 183 days. As per 2011, Census there are 26.22 lakh marginal workers, of which 4.96 lakhs belong to scheduled castes and 2.93 Lakhs belongs to scheduled tribes.

3.1.3 Rainfall and Climate:

The rainfall in Telangana is influenced by South-West & North – East monsoon. It receives a normal rainfall of 905.3 mm in a year. The season wise breakup for the year 2014-15 is as follows:

Table - 3.2

Season wise Rainfall 2014-15

S.No	Season	Rainfall received (mm)		Percentage of Deviation
		Actual	Normal	
1	South – West Monsoon	494.7	713.5	-30.70
2	North – East Monsoon	54.4	129.50	-58.00
3	Winter Season	13.0	11.5	13.00
4	Hot Weather	120.0	50.8	136.2
	Total	682.1	905.3	-24.70

Source: Statistical Abstract, Directorate of Economics & Statistics, Govt. of Telangana

The bulk of rainfall is received in south-west monsoon period i.e. 497.7 percent followed by north-east monsoon with 54.4 percent and the balance is received during winter and hot weather. The Climate is predominantly Semi-arid to arid in Telangana.

Telangana State is geographically located in a semi-arid area and has predominantly hot and dry climate. Summer starts in March, and reaches peak in May with average high temperatures of 42°C (108°F) range. The monsoons enter into the State in June and lasts until September with about 700 mm of precipitation. A dry, mild winter starts in late November and lasts until early February with little humidity and average temperatures in the range of 22–23°C(72–73°F). The State is also prone to hailstorms in the month of April and May, occasionally.

3.1.4. Agro Climatic Zones:

Based on climatic parameters i.e. rainfall, soils and cropping pattern etc. the state is divided into 4 Agro-climatic zones.

Tables - 3.3
Agro-Climatic Zones

S.No	Name of the Zone	Districts	Geographical area (sq.km)	No. of mandals
1	Northern Telangana Zone	Karimnagar, Nizamabad, Adilabad	35.50	144
2	Central Telangana Zone	Warangal, Khammam, Medak	30.60	132
3	Southern Telangana Zone	Mahabubnagar, Nalgonda, Rangareddy	39.30	164
4	High Altitude & Tribal Areas Zone	High Altitude & Tribal Areas of Khammam and Adilabad districts	4.66	13
			110.06	453

Source: Statistical Abstract, Directorate of Economics & Statistics, Govt. of Telangana

3.1.5. Agriculture:

Agriculture plays a pivotal role in the economy of the State and the better performance of this sector is vital for inclusive growth. Sustainable growth in Agriculture continues to be core agenda of the Government and occupies center stage in state economy embodying three thrust areas viz., (i) to promote inclusive growth, (ii) to enhance rural income, and (iii) to sustain food security. About 55.49 percent of the State's population is dependent on some form or the other, on farm activity for livelihoods, it is imperative to increase the farm incomes and ensuring sustainable growth in Telangana to reduce poverty. The share of agriculture sector to the Gross State Value Added (GSVA) in 2014-15 is 8.6 percent at current prices. The pressure on agricultural land is ever increasing for industrialization, urbanization, housing, infrastructure and others. All these factors are forcing for conversion of agricultural land to non-agricultural uses. The scope for expansion of the area available for cultivation is coming down to that extent, ultimately decrease in net area sown. Paddy is the major food crop and staple food of the State. Other important crops grown are Maize, Jowar, Red gram, Green gram, Bengal gram, Groundnut, Soya bean, Mango, Cotton, Chillies, Sugarcane etc., and agriculture has been one of the important sources of income for the State's economy. During 2014-15, production of total food grains was recorded as 72.18 lakh tonnes. Of the total food grains, production of cereals and millets was 69.55 lakh tonnes, pulses 2.63 lakh tonnes. Production of oil seeds was 7.22 lakh tonnes, Chillies 2.53 lakh tonnes, Turmeric 2.16 lakh tonnes etc.

3.1.6. Land Use Pattern in Telangana State:

Agriculture is the main occupation of majority of Indian population. The share of GSDP in 2013-14 is 13.86 percent at constant prices (2004-105). The percentage of agricultural workers (2011 census) is 55.7 percent as against 54.6 % at all India level. The share of GSDP of Agriculture& allied sectors which was 18.2 % in 2006-07 has come down to 13.86 %. Rice is the major food crop and staple food of the state. Other important crops are Jowar, Bajra, Maize, Ragi, small millets, Pulses, Tobacco, Cotton and Sugarcane. Telangana is a predominant player in cotton, paddy, and maize, with a total Kharif normal area of 53.77 lakh hectares. Telangana farmers grow cotton in about 12.17 lakh hectares (normal). The other major crop which virtually dominates is Maize with a normal area of 5.75 lakh ha. The State of Telangana is endowed with immense natural resources. The total Geographical area is 114.84 lakh ha with a Gross Cropped Area of 56.90 lakh ha. The details of Cropped Area, Net Cropped Area etc., are given below:

Table - 3.4

Land Use Pattern in Telangana State

S.NO	Category	Area (in lakh ha)	Percentage
1	Total Geographical Area	114.84	100
2	Forest	27.43	23.89
3	Barren and Uncultivable Land	6.15	5.36
4	Land Put to Non-Agri. Uses		
	Water logged Area	0.06	0.05
	Social Forestry	0.07	0.06
	Land under Still Water	2.46	2.14
	Others	6.36	5.54
	Total Land put to Non-Agriculture Use (TLPNAU)	8.95	7.79
5	Culturable Waste	1.78	1.55
6	Permanent Pastures and Other Grazing Lands	3.01	2.62
7	Land under Misc. Tree crops, Groves not included in Net Area Sown	1.14	0.99
8	Other Fallow Lands	7.17	6.24
9	Current Fallow Lands	9.6	8.36
10	Gross area sown	62.88	54.76
11	Net Area Sown* (including Fish Culture)	49.61	43.20
12	Area sown more than once	13.27	11.55
13	No. of Farm holdings (Lakh Nos)	55.54	-
14	Average Farm Holding size (Ha)	1.12	-
15	Average Annual Rainfall (in mm)	906.8	-
16	Net Irrigated area	17.74	38.12
17	Gross Irrigated area	31.64	50.32
18	Cropping Intensity (%)	-	127
19	Irrigation Intensity (%)	-	138

Source: Statistical Abstract, Directorate of Economics & Statistics, Govt. of Telangana

3.1.7. Area, Production and Productivity of Main Crops Grown in Main Seasons of 2014-15 in Telangana:

Table -3.5
Season-wise Area, Production and Productivity of Main Crops Grown during 2014-15 in Telangana

Sl.No.	**Name of crops**	Area in Ha	Production in Tonnes	Productivity in Qtl./ha
1	Paddy	1415420	4544982	3211
2	Jowar	79001	83267	1054
3	Bajra	11218	10510	937
4	Maize	691471	2308051	3338
5	Total Cereals &Millets	2204599	6955572	
6	Green gram	87352	44854	513
7	Black gram	28015	16338	583
8	Red gram	220669	109279	495
9	Bengal gram	59337	81277	1370
10	Total Pulses	408167	262834	-
11	Total Food grains	2612766	7218406	-
12	Groundnut	154798	295235	1907
13	Seasamum	23804	9652	405
14	Castor	50717	29300	578
15	Soya been	242639	262353	1081
16	Total Oilseeds (except coconuts)	500258	721556	-
17	Chilies	73274	253260	3456
18	Turmeric	43475	216268	-
19	Mango	93447	565818	-
20	Cotton (lint)	1692925	3583327	360

Source: Statistical Abstract, Directorate of Economics & Statistics, Govt. of Telangana

3.1.8 State as Seed Bowl:

Telangana is the seed hub of the country for production of various crop seed. It produces about 37.00 lakh quintals of seeds in an area of 3.22 lakh acres. There is a great potential for seed production in Telangana. Hybrid Cotton Seed Production is primarily taken up in the districts of Mahabubnagar, Hybrid maize Seed production is taken up in Karimnagar, Nizamabad and Medak districts. The Hybrid paddy seed is produced in Karimnagar and Warangal districts.

The Government sector is mainly concentrating on production of high volume and low value crop seeds of notified varieties of Paddy, Jowar, Redgram, Green gram, Black gram, Bengal gram, Groundnut, Castor and Sesamum.

3.1.9 Horticulture Profile:

Area under horticulture crops 10.86 lakh Ha., Production 112.56 Lakh MTs. which 21.90% out of the net sown area is 49.61 lakh ha. Horticulture sector contributes approximately 5.16% GSDP (Rs.18, 703 crores) of the state. In India, Telangana stands 3rd in area & 8th position in production of fruits and ranks 1st in cultivation of turmeric. In vegetables Telangana stands 11th in Area & 13th in Production. Fruits and vegetables constitute 71% of the total horticulture cropped area followed by spices and flowers.

3.1.10 Livestock and Milk production:

There are a total of 92.2 lakh bovines (50.3 lakh cattle, 41.9 lakh buffaloes) in the Telangana state (2012). Of these, 48.1 lakh are breedable females (20.2 lakh cattle and 27.9 lakh buffaloes). The annual estimated milk production for the year 2014-15 stands at 4.86 MMTs. This translates into average per capita annual milk yield of 1010 kg.

Sheep & Goat Production:

Sheep and goat do not require huge capital, resources, linkages and networks under extensive grazing conditions. They are considered the moving banks of poor households, sheep/goat rearing can be easily taken up by the resource poor landless, small and marginal farmers, especially women and will be an assured livelihood provider. Dependency of small ruminant holders on the state is very minimal. Rain fed, drought prone and resource poor areas in which this state abounds are much suitable to rear small ruminants in a big way. In Telangana, Mahabubnagar tops the list with about 40 lakh sheep followed by Nalgonda, Warangal, Karimnagar and Medak districts. All the districts of Telangana have 46.75 lakh goats. This indicates the suitability of the agro climatic conditions and suitability of this enterprise to the region. There are about 2.25 lakh members in the 3467 sheep breeder's cooperative societies in the state indicating the popularity of sheep and goat rearing.

The productivity of sheep is reasonable given the conditions of rearing. However, the present average meat yield of about 10 kg can be enhanced to 15 kg per animal by genetic improvement and nutritional improvement.

Poultry Production:

In India, commercial poultry production was first introduced in Hyderabad and since then, the Hyderabad region continued its lead. Telangana state produced 1006 crore eggs and 208423 MT of broiler meat during 2013-14.

Poultry sector especially in Hyderabad region registered a phenomenal growth taking advantage of all the technological developments that took place in the spheres of breeding, feeding, healthcare and management including mechanization. Important factors which contributed to the growth of poultry industry in Hyderabad region are – a) Suitable climatic conditions (free from extreme weather conditions), b) proximity to important feed ingredient production areas (maize and soya bean), c) accessibility to infrastructure developers, d) availability of well-trained human resource and e) personal and family comfort due to proximity to metropolitan city.

Development of organized poultry has in fact masked the contribution of backyard poultry or household poultry in rural sector. As per 2012 Quinquennial livestock census, rural poultry constitute about 50% of the total poultry population at national level and about 27% in Telangana.

Buffalo Meat Production:

During 2012-13, Andhra Pradesh figured as the third largest beef exporting state in the country, accounting for a substantial 35% of the total 11.06 lakh metric tons of beef exported at a cost of Rs 17,400 crore. Uttar Pradesh followed by Maharashtra was the top two exporters. About 5,000 buffaloes are slaughtered daily in the four integrated abattoirs in the state, officially. A staggering 80% of the meat from the animals slaughtered is being exported. These privately owned abattoirs located in Telangana are exporting meat in a big way to Vietnam, Thailand, Malaysia, Saudi Arabia, Egypt and the UAE, among other countries.

Sericulture:

Sericulture in Telangana State is a sustainable farm based economic enterprise positively favouring the rural poor in the unorganized sector because of its relatively low requirement of fixed capital, and higher returns at frequent intervals on the investment. It yields regular returns of 4 to 5 times totaling to Rs. 1.00 lakh to Rs. 1.25 lakh, from one acre of mulberry in a year. The soils and weather is very much suitable for the development of Sericulture. Telangana State has the privilege of producing (2) types of silk called Mulberry & Tasar.

3.1.11. Extension:

In various for it was brought out that the extension in the state is not performing to the expected level and requires strengthening. Agri- Research is one of the primary engines of agriculture economic growth and is central for boosting farm productivity and moving to yield revolution. A strong Agri – Extension System, is the main vehicle to carry the fruits of research to the farmers and strengthen the Lab-to-Land process. Extension has two dimensions:

a) Communication and

b) Education

It assists the farmers to acquire the knowledge to use the new Agricultural Technologies and to boost crop productivities.

As per standard norms for effective extension coverage one Extension officer is required for every one thousand farm families (1000). Accordingly, the state of Telangana requires 5554 extension officers to cover 55.54 lakh farm holdings, The present strength of AEOs is 1112 whereas only 823 Agricultural Extension Officers are working in the State of Telangana.

3.2. Status of ACABCs Scheme in the Telangana state:

MANAGE is entrusted with the responsibilityof coordinating training and landholding of the selected agricultural professionals under the scheme. MANAGE has been arranging a 2-Month free residential training in Agri-entrepreneurship Development for eligible agricultural professionals in their respective states through a network of 108 Nodal Training Institutes (NTIs). The training is followed by one-year handholding support to Agri-preneurs from the NTIs for establishing agriventures. The trained Agri-preneurs are also assisted through start-up loans and credit-linked back-ended composite subsidy through banks and NABARD.

3.2.1 Salient features of the Scheme:

Graduates in agriculture and allied disciplines from State Agricultural Universities (SAUs) and Central Agricultural Universities / Universities recognized by ICAR/UGC; Diploma Holders in agriculture and allied subjects from SAUs; Biological Science Graduates with post-

graduation in agriculture and allied subjects; and candidates at intermediate level agriculture related courses with at least 55% marks are eligible to avail the benefits under the scheme.

The selection of candidates is through a screening process at the NTI level involving stakeholders such as State AgricultureDepartment, NABARD, NTI, MANAGE, KVK, Bank and Agri-Business Company. During the training, basic knowledge on Agricultural Extension & Agri-Entrepreneurship is imparted to candidates; they are exposed to agriventures, guided to choose a project based on a market survey and provided an opportunity for hands-on work experience, thus enabling them to prepare a Detailed Project Report (DPR) for submission to the banks. After completion of the training, one-year handholding support is provided through NTIs to ensure successful establishment of Agri-ventures.

The project cost ceiling under the AC& ABC scheme for the purpose of subsidy is Rs.20.00 lakhs for individual projects and Rs.100.00 lakhs for group projects (5 members). The subsidy for general candidates is 36% of the Total Financial Outlay (TFO) and 44% for women candidates/SC/ST beneficiaries and candidates from North Eastern and Hill States. The loans are provided through scheduled banks, and credit-linked back-ended composite subsidy is routed through NABARD.

3.2.2. District wise Number of Agri-Ventures Established (2002-2015) in Telangana State.

In the introductory chapter, the details of agri-ventures established are presented in Table 1.2.

3.2.3. Agricultural Extension Services Provided to Farmers by Agri.- Clinics and Agri.-Business Centres in Telangana State.

I. Unit/Project-wise Distribution of Agri-Ventures Established for Providing Agricultural Extension Services to Farmers in Telangana as on 31-12-2016.

The unit/project-wise distribution of agri-ventures established for proving agricultural extension services to farmers in Telangana as on 31.12.2016 analyzed in Table 3.6 indicates that the total number of agri-ventures established successfully during the period (2002-2016) in the whole state of Telangana has been accounted to 363 against the total 21064 agri.-ventures established successfully in the whole India. In the present table the important agri-venture projects in Telangana state and their percentage contribution to India can also be observed. Some of the agri-venture projects though they are small in number in

Telangana state but their percentage contribution to India is higher. The more number of agri-venture projects in Telangana state are 1. Agri-clinics, 2. Agri-Clinics and Agri- Business centres, 3. Dairy/Poultry/Piggery/Goatry. 4. Seed processing and marketing. The percentage contribution of agri-projects in Telangana state to India is reported to be 1.72 per cent.

Table -3.6
Unit/Project-wise Distribution of Agri-Ventures Established for providing Agri.-Extension Services to Farmers as on 31-12-2016 in Telangana

S.No.	Name of Units/Projects Providing Agri.-Extn. Services	No. of Agri.-Ventures Established		
		T.S.	India	% of T.S.
1.	Agri-Clinics	86	3247	2.65
2.	Agri-Clinics and Agribusiness Centres	87	6771	1.28
3.	Animal Feed Unit	1	47	2.13
4.	Bio-fertilizer production and Marketing	9	104	8.65
5.	Contract Farming	6	66	9.09
6.	Cultivation of Medicinal Plants	5	112	4.46
7.	Direct Mkt.	2	168	1.19
8.	Farm Machinery Unit	8	713	1.12
9.	Fisheries Development	4	350	1.14
10.	Floriculture	2	108	1.85
11.	Horticulture Clinic	11	170	6.47
12.	Landscaping + Nursery	3	113	2.65
13.	Nursery	10	507	1.97
14.	Pesticides Production and Marketing	2	41	4.88
15.	Value Addition	1	279	0.36
16.	Seed Processing and Marketing	31	337	9.20
17.	Soil Testing Laboratory	1	102	0.98
18.	Vegetable Production and Marketing	7	251	2.79
19.	Vermicomposting / Organic manure	12	496	2.42
20.	Veterinary Clinics	6	875	0.69
21.	Crop Production	2	197	1.02
22.	Dairy/Poultry/Piggary/Goatary	65	5532	1.17
23.	Agriculture Journalism	2	16	12.50
24.	Fishery clinic	0	15	0.00
25.	Tissue Culture Unit	0	28	0.00
26.	Rural Godown	0	49	0.00
27.	Production & Marketing of Bio-Control Agents	0	19	0.00
28.	Sericulture	0	49	0.00
29.	Mashroom Cultivation	0	100	0.00
30.	Apiary	0	101	0.00
31.	Agro-Eco Tourism	0	11	0.00
32.	Organic Production/ Food Chain	0	90	0.00
	Total	363	21064	1.72

Source:- ACABCs Cell, MANAGE, Hyderabad (Telangana)

3.2.4. Progress of Agri-Ventures Established under Top-Five Units of ACABCs Scheme as on 31-12-2016 in Telangana State:

The progress of Agri.-ventures under top five units of ACABCs Scheme as on 27.04.2016 in Telangana worked out in 3.7 indicates that the total numbers of agri.-ventures established under top five units in Telangana as on 31.12.2016 were accounted to 281 against 16383 in India. Thus, the state of Telangana only has covered 1.72 percent of the total agri-ventures established in India. Among the top five units of ABABCs Scheme, the agri- clinics and agri-business centres unit has been on the top wherein the total 87 agri-ventures have been established successfully against the total 6771 agri-ventures established in India. Thus, Telangana has covered. The numbers of agri-ventures established under Agri-clinic unit have been estimated to 86 against 3247 in India. While the numbers of agri-ventures established under the unit of Dairy/Poultry/Piggary/goatary have been accounted to 65 in Telangana against 5532 in India. The numbers of agri.-ventures established under Seed Processing and Marketing unit have been accounted to 31 in Telangana against 337 in India and the number of Agri-ventures established under Vermicomposting / Organic manure unit has been accounted to 12 against 496 in India. The related data are given in Table 3.7

Table - 3.7
Progress of Agri.-Ventures under Top-Five Units/Projects of ACABCs Scheme as on 31.12.2016 in Telangana

Sl.No.	Name of Units/Projects Providing Agri.-Extn. Services	No. of Agri.-Ventures Established		
		T.S.	India	% of T.S.
1	Agri-Clinics	86	3247	2.65
2	Agri-Clinics and Agribusiness Centres	87	6771	1.28
3	Seed Processing and Marketing	31	337	9.20
4	Dairy/Poultry/Piggary/Goatary	65	5532	1.17
5	Vermicomposting / Organic manure	12	496	2.42
	Total	281	16383	1.72

Source:- ACABCs Cell, MANAGE, Hyderabad (Telengana)

3.2.5. ACABCs Scheme at –A-Glance in the State of Telangana (2002-03 to 2015-16):

Table-3.8 indicates a quick momentary view of the ACABCs Scheme in the state of Telangana since inception to the latest year (2002-03 to 2015-16). This scheme was

recommended by Dr. M.S. Swaminathan Committee in India. Later on, this scheme was announced by Central Finance Minister on 28th February, 2001.

Table - 3.8
ACABCs Scheme At-A-Glance in Telangana (2002-03 to 2015-16)

S.No.	Particulars	Information
1	Committee which recommended ACABCs Scheme in India	M.S. Swaminathan Committee
2	Announcement date of ACABCs Scheme by Central Finance Minister	28th February, 2001
3	Launching date of ACABCs Scheme	2002
4	Eligibility Criteria for Training in NTIs	The scheme is open to following categories of candidates: • Graduates in agriculture and allied subjects from SAUs/ Central Agricultural Universities/ Universities recognized by ICAR/ UGC. Degree in Agriculture and allied subjects offered by other agencies are also considered subject to approval of Department of Agriculture & Cooperation, Government of India on recommendation of the State Government. • Diploma (with at least 50% marks)/ 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, Government of India on recommendation of the State Government. • Biological Science Graduates with Post Graduation in Agriculture & allied subjects. • Degree courses recognized by UGC having more than 60 percent of the course content in Agriculture and allied subjects. • Diploma/Post-graduate Diploma courses with more than 60 percent of course content in Agriculture and allied subjects, after B.Sc. with Biological Sciences, from recognized colleges and universities. 3.6. Agriculture related courses at intermediate (i.e. plus two) level, with at least 55% marks.
5	Implementing Agencies	• Agri Biotech Foundation, Hyderabad • Action for Welfare and Awakening in Rural Environment(AWARE),Telangana • Centre for Entrepreneurship Development, Hyderabad • Acharya N G Ranga Agricultural University, Hyderabad • Nagarjuna Agricultural Research and Development Institute, Hyderabad • Participatory Rural Development Initiatives, Hyderabad
6	Total Numbers of NTIs in T.S. till 2015-16	6
7	Subsidy and Margin Money under ACABCs Scheme	-
8	No. of total applications received in NTIs of T.S. during (2002-03 to 2015-16)	-
9	No. of total trained Agri-ventures in T.S. during (2002-03 to 2015-16)	1513
10	No. of total Agri-ventures established in T.S. during (2002-03 to 2015-16)	513
11	No. of total braches completed trainings from NTIs of T.S.	-
12	No. of Training Programme	53

Source:- ACABCs Cell, MANAGE, Hyderabad (Telengana)

Thereafter, the scheme of ACABCs was duly launched on 2002. The eligibility-criteria for training in Nodal Training Institutes (NTIS) was fixed as Graduates in Agriculture and Allied subjects. The implementing agencies were MANAGE, NABARD, DAC(Deptt. of Agriculture and Cooperation) NTIs (Nodal Training institutes) and Commercial Banks. Glancing over the scheme from 2002-03 to 2015-16, there were 513 total agri-ventures were established a total number of 15.13 agri-ventures are trained during the same period. The total number of NTIs in Telangana till 2015-16 was 6. The total number of training programmes is reported to be 53.

3.2.6. Growth /Progress of Nodal Training Institutes (NTIs) Under ACABCs Scheme as on 31.12.2016 in Telangana State:

The progress of the Nodal Training Institutes (NTIs) under ACABCs Scheme as on 31.12.2016 in the state of Telangana worked-out in Table 3.9 shows that total no.of 6 Nodal Training Institutes currently running in the state of Telangana since the inception of ACABCs Scheme till 31.12.2016. There are six model training institutes in Telangana state as on 31st December, 2016. The details of agri-ventures connected to respective nodal training institutes are presented in Table 3.4. The year-wise established agri-ventures connected to respective nodal training institutes are presented for the period 2002-2016 in Table 3.9.

Table - 3.9
Growth Progress of Nodal Training Institutes (NTIs) Under ACABCs Scheme as on 31.12.2016 in Telangana

S.No.	Name of Nodal Training Institution (NTIs)	No. of Agri.-Ventures Trained	No. of Agri. ventures Established	No. of Training batches completed
1	Agri Biotech Foundation, Hyderabad	33	1	1
2	Action for Welfare and Awakening in Rural Environment(AWARE),Telangana	61	0	2
3	Centre for Entrepreneurship Development, Hyderabad	490	162	19
4	Acharya N G ranga Agricultural University, Hyderabad	41	4	2
5	Nagarjuna Agricultural Research and Development Institute, Hyderabad	126	33	4
6	Participatory Rural Development Initiatives, Hyderabad	762	313	25
	Total	**1513**	**513**	**53**

Source:- ACABCs Cell, Manage, Hyderabad (Telangana)

3.2.7. Nodal Training Institute-wise Progress of Ventures Established under ACABCs in Telangana during 2002-2016.

The Nodal Training Institute-wise numbers of agri-ventures established under ACABCs in Telangana during 2002-03 to 2015-16 worked-out in Table-3.10 shows that the total number of ventures established successfully by the nodal training institutes in the whole Telangana state has been accounted to 513 from the inception year 2002-03 to the latest year 2015-16.

Table - 3.10
Nodal Training Institute-wise No. of Ventures Established under ACABCs Scheme in T.S. during 2002 to 2016

Sl. No.	NTIS in T.S.	No. of Ventures Established															
		2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Total
1.	Agri Biotech Foundation, Hyderabad	0	0	0	0	0	0	0	00	0	0	0	0	0	0	**1**	**1**
2.	Action for Welfare and Awakening in Rural Environment(AWARE),Telangana	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**0**	**0**
3.	Centre for Entrepreneurship Development, Hyderabad	2	15	1	12	11	18	13	7	16	14	25	14	14	0	**0**	**162**
4.	Acharya N G Ranga Agricultural University, Hyderabad	3	01	0	0	0	0	0	0	0	0	0	00	0	0	**0**	**4**
5.	Nagarjuna Agricultural Research and Development Institute, Hyderabad	7	17	0	8	0	0	0	1	0	0	0	0	0	0	**0**	**33**
6.	Participatory Rural Development Initiatives, Hyderabad	9	17	6	23	32	42	0	54	0	44	7	36	23	20	**0**	**313**
	Total	21	50	7	43	43	60	13	62	16	58	32	50	37	20	**1**	**513**

Source:- ACABCs Cell, MANAGE, Hyderabad (Telengana)

3.3. Success stories: compare with the original:

Few case studies of Agri-entrepreneurs who were benefited by the Agri-clinics and Agri-Business centres were given below. It also reflects the scheme's innovative approach in training rural youth in agricultural development.

3.3.1 Innovation Led Agri-Business by Agri lady:

Ms. M. Sarita Reddy has established her company, "Navaratna Crop Science Pvt. Ltd." in Hyderabad which deals with Bio-fertilizers and micro nutrients. She attributes her success to her independent spirit of decision making with accountability. She thinks that some people have an inbuilt quality to work independently and that inclination surfaces to opt for entrepreneurship. Post B.Sc. (Ag.), she worked in Nandan Bio-farms (in the area of biofuels) and has learnt different business skills like operations management, financial management, franchisee management, marketing management which are helping in her own business. She maintains continuous contact with farmers and personally monitors the field trails. Recently, her company launched a plant probiotic, named Bhoojeevan, which has become very popular among the Ridge-gourd farmers as it reduces flower drop and maintains right male female flower ratio that is very important for fruit set. Her company has products that range from Bio-fertilizers to Micro-nutrients. She attributed her success to the ongoing R&D focus by her company and strong farmer orientation by all those members. Presently, she has engaged 40 people in her team from production to marketing. Her unit has received license for manufacturing of micronutrients & bio-fertilizers. Currently, her products are available in Andhra Pradesh, Karnataka, Tamil Nadu and parts of Maharashtra. She use farm demonstration – both result & method – to promote her produce, as farmers believe in the efficacy of a product only after seeing the benefits (yield or quality produce) after using the product. She feels that private extension should reach grass-roots level and farmers should get best products that are environmentally friendly and ecologically sustainable. She opines that a part of this extension effort should be subsidized for MSMEs as some times it becomes difficult for them to compete with companies.

3.3.2 SUN of the soil:

Shri Veera Reddy, who hails from Karimnagar District of Telangana, is a rare individual who has achieved success in Agripreneurship by blending his talents with opportunities. Born in a family of farmers in Kachireddypally, a small village in Karimnagar, he has proved that backwardness of a place opens up more challenges and opportunities to

people who have the will and vision to do extraordinary things. Fulfilling his own desires and aspirations of his parents, Shri Reddy graduated in Agriculture in 1970. After graduation, he joined Land Mortgage Bank (LMB) as a Technical Assistant.

After serving for a few years in LMB, Shri Reddy realized that by being in the job mode he could not serve the farming community as much as he wished to and was capable of. Therefore, the farmers have no access to basic inputs such as seeds and fertilizers. Further, due to small holdings they cannot afford to mechanize certain farm operations. He decided to dedicate himself for solving such problems by investing his own capital and experience. He started with organizing seed growers of Chillies and then moved on to oilseeds and pulses. He taught farmer the techniques of seed production. Being a licensed dealer, he facilitated supply of quality fertilizers and seeds. Working constantly with farmers and solving their problems, he became dear to them and evolved as a leader in his own way. He served as Sarpanch of Kachireddypally village for two terms.

Not contented with what he achieved, Shri Reddy was constantly thinking of how to give a more professional business dimension to his ideas and how to expand his outreach to farmers. In the year 2007, he came to know about the AC&ABC Scheme and enrolled as a trainee with the Centre for Entrepreneurship Development (CED), a Hyderabad-based Nodal Training Institute. He underwent 2 month training and emerged as a more determined professional and a confident person to conduct Agri business. Three years after completing the training, Shri Reddy's achievements are remarkable. To quote a few, he has:

- Organized about 200 seed growers of chillies, pulses and oilseeds spread over 20 villages to whom he offered technical advice and bought back the seed.
- Introduced a tall growing and high yielding Sesamum (til) variety called Swetha
- Offered on hire, farm machinery such as tractor-mounted spraying unit, tractor, rotary tiller, cultivator etc.
- Offered free technical advice on all crops to any farmer on cell phone. With all these business initiatives, Shri Reddy has reached out to about 400 farmers in 20 villages and achieved an annual turnover of Rs. 10 lakhs with gross profit of Rs. 6 lakhs. He has employed five technical persons and ten casual labourers in seed production. To expand his business and reach out to more

farmers, Shri Reddy has submitted a loan proposal for Rs. 32 lakhs to Corporation Bank, Karimnagar.

Recognizing his efforts in promoting scientific agriculture, the Regional Agricultural Research Station, Palasa, Karimnagar District, has felicitated him. He is also the recipient of the award 'Best Advisor on Chillies' from Bayer India Ltd. This is the story of a multifaceted personality of Shri Reddy who is a farmer, Agri-preneur and a leader, whose life and achievements deserve to be complimented and to be emulated by other Agripreneurs.

3.3.3 Taji Subzi:

"I walk farming, I talk farming and I breathe farming" says Shri K. Rangareddy a 52 year old agricultural graduate with 30 years of farming experience. After undergoing AC&ABC training in 2009 from PRIDS Hyderabad he started his own high tech farming and consultancy in February, 2010 in his own farm of 20 acres near Gajwel, Medak district wherein he started high tech vegetable cultivation using pendals and shade nets. He was provided with a green bus (vegetable bus) mobile van with the help of which he transports vegetables to Rythu Bazaar at Kukatpally on daily basis where he is provided with a shop. When the production is more, he sends to AP secretariat and other offices around where all employees buy fresh vegetables in the evening while leaving their office.

He also started providing consultancy services to farmers in fruit and vegetable cultivation covering about 4000 farmers in 65 villages in and around Gajwel. At present he is a full time consultant for a society of 10 farmers in 200 acres around Moinabad and Chevella Taluk of Ranga Reddy district where Thailand variety of guava, dates and pomegranate crops are being cultivated using latest methods. Many farmers in and around the area visit his farm regularly to know the package of practices being followed by him. He has also started soil-less farming in a small way.

Further he has identified 18 youth who have passed tenth class and interested in farming but could not pursue further studies due to family problems. He is giving them one month free training on various methods of vegetable cultivation using innovative techniques. He claims with pride that few of his students trained in a previous batch have joined as farm managers in some agri firms in the area. He is providing direct employment to about 20 people on his farm and the present turnover is about Rs. 55 lakhs per year with a net profit of about Rs. 12 lakhs per year.

As a successful Agripreneur, he was sanctioned a loan of Rs. 25 lakhs by Bank of Baroda for further expansion of his farming activities.

3.3.4 Taiwan Connections:

Shri M. Nagaraju is an Agricultural Graduate and Post Graduate in Marketing and Sales Management. He worked in Seed Processing Companies and left his job and joined AC&ABC Training Programme at Participatory Rural Development Initiatives (PRIDIS), Hyderabad in the year 2003.

He started Agri-Clinics and Agri-Business Centre in the name of Veeranjaneya Agencies in Hyderabad in the year 2003 with an objective to provide Agricultural Extension Services to the farmers in the villages. In due course of time, he also established Varun Agri Biotech Company to provide training programmes to the farmers. Shri Nagaraju has provided jobs for eleven people.

He received a loan of Rs. 5 lakhs from Bank of Baroda for the Veeranjaneya Agencies in November, 2004 and Rs. 32 lakhs from Bank of Baroda under Varun Agri Biotech Company. The present annual turnover under Veeranjaneya Agencies is Rs. 80 lakhs and Rs. 60 lakhs from Varun Agri Biotech Company. The total annual income is Rs. 12 lakhs. He is also guest faculty member to SAMETI, EEI, MANAGE and NIRD.

He is providing the following services to the farmers

- Marketing of Agri inputs, promoting micro irrigation and mulching sheets for soil and water conservation.
- Establishment of Poly houses and providing marketing linkages.
- Advisory services on protective cultivation and organic farming.
- Importing of seeds, mulching sheets and crop guards from Taiwanese company.
- Providing Consultancy services to 12,000 farmers.
- Established Farmers' training centres.
- Popularizing musk melon and linking farmers to market.

Success stories of entrepreneurs of combined Andhra Pradesh are also relevant here as the scheme started in 2002.

3.3.5 Feeding Agriculture with Poultry Compost:

Haritam Horti Agri-Clinic was established in Vijayawada city by Shri R. Suresh Kumar in 2003. The clinic provides technical support to farmers of Krishna, Guntur and West Godavari districts in soil and water testing and agronomical practices besides promoting bio-pesticides at a reasonable cost. Shri Suresh Kumar has also developed a technology of aerobic fermentation of poultry litter with a selective microbial culture. The poultry compost produced by Haritam Horti Clinic, when tried on all crops, was found to be giving better results than other compost in use. "Through constant use of poultry compost for two years in paddy, the NPK chemical fertilizers can be stopped from the 3rd season. The yield is on par with the NPK-used field with a comparatively low pest incidence. The quality of the produce is also good" says a farmer Shri Y.S.S. Mukharjee. "The whole compost process takes 25 to 30 days. Recognizing the use of this technology, NABARD granted funds to establish a microbial lab for production of compost culture under Rural Innovation Fund Scheme, and Commercial Production began in 2012" said Shri Suresh Kumar. Many agriculturists and poultry farmers using compost culture are now producing their own compost at a cost of about Rs. 1,500 per ton. "A kilogram of compost culture requires a ton of poultry litter. The poultry compost application has also reduced the use of chemical fertilizers by more than 25%," he observes. "The microbial culture, when tried in poultry litter, has effectively reduced one of the major problems of bad odour of litter in layer bird sheds," says Shri Ramesh Babu, a poultry consultant. A number of poultry farmers are using it in their poultry sheds in Krishna and West Godavari districts.

Driven by a passion to make a difference in his own small way, Agriculture professional Shri R. Suresh Kumar's favourite pastime of tinkering with test tubes and bio-waste materials in his tiny lab at Haritham Horti & Agri-Clinic in Vijayawada city led to a significant breakthrough in keratin extraction in his clinic. Shri Kumar developed a technology for extraction of keratin protein from human hair and bird feathers, which could save the municipal authorities from problems of disposal of such waste that poses a huge environmental problem. He has now embarked on a mission to popularize this affordable technology. A protein formulation developed for farm sector using these two as a raw material has given striking results in improving plant metabolism and farm yard. The product has been in use since 2008 on all crops, and cultivators are happily repeating its use on their farms. "The foliar spray of this product on crops showed an increase in leaf size and thickness besides lending the leaf a glossy touch. There are a number of auxiliary buds resulting in additional side barnacles. Even the size of the flowers is comparatively large.

The presence of cysteine amino acid, the main supplier of organic sulphar, has enhanced the quality of the produce," says Shri V. Venkata Rao, former SBI Chief Manager, Sathenapalli branch in Guntur district, who is into organic farming now. Shri Suresh Kumar's find has been successfully tried on cotton, chillies and paddy crops.

3.3.6 ICT-led Aqua Extension:

Shaik Akbar Ali is an Aqua-preneur with difference. His interest and passion, coupled with efforts in promoting best practices in Aquaculture have benefited more than 2000 farmers within a Water Spread Area (WSA) of 35,000 acres in Andhra Pradesh, Karnataka and Odisha. Shri Shaik Akbar Ali graduated from College of Fisheries, Muthukar, Nellore District in Andhra Pradesh. He has undergone AC&ABC training at Bojja Venkata Reddy Agricultural Foundation, Nandyal, in 2010, with an intention to acquire entrepreneurial skills for enhancing production and income in Aquaculture. He started an Aquaculture consultancy firm viz. 'Information and Inputs for Sustainable Aquaculture (IIFSA) at Akiveedu village, West Godavari district, Andhra Pradesh, with an objective to provide advisory and laboratory services covering all Aqua cultural activities for sustainable fish farming. With his professional knowledge and entrepreneurial skills acquired during AC&ABC training, Mr. Akbar Ali is delivering the following services in Aquaculture through his consultancy firm, IIFSA.

- Pond to Lab to Pond service in which, field agents collect fortnightly Aqua samples for testing in the lab. After detailed analysis in the lab, advice is given through phone or print. This advice is also recorded in the data base.
- Farmer-wise farm record books are maintained.
- IT based services with the application of Tele Aqua Software by which fish farmers can get advice at their location itself and also get all updated information about Aquaculture practices.
- Emergency Management Information Service (EMI).
- Under this service, the fish farmer, whose ponds are affected by any disease, makes a phone call which is received and stored in the computer system. This information is then passed on to field experts, who immediately visits the infected pond on a motor cycle and tests water for parameters like dissolved oxygen, pH, salinity, temperature etc. at the pond itself, and for the remaining analysis brings the samples of water, plankton, soil to the laboratory. After the diagnosis, based on lab analysis, the fish farmer gets the advice on telephone/mobile.
- Sale and procurement of all types of fish pond inputs and outputs.

- Evaluation of ongoing Aquaculture projects for enhancement and optimization of general operations and management.
- Consultancy services in proper selection of cultivable species for monoculture or polyculture, development of low cost Aquaculture systems from excavated ponds and in identification, treatment and control of Aquaculture diseases.

The firm covers 2000 farmers under consultancy and lab services covering more than 50 villages. Currently, the annual turnover of the Firm is Rs. 64 lakhs with net income of Rs. 121 lakhs. Employment has been created for skilled workers directly and 25 people indirectly. Shri Akbar Ali envisages to open similar service centers across the country with the association of International Institute of Information Technology and involvement of State Governments, on a (public and private partnership) PPP mode. His objective is to create awareness about the importance of fisheries in the national economy, human nutrition and application of technology tools for nurturing sustainable business models in aquaculture.

* * *

CHAPTER - IV

METHOD AND PROCEDURES OF THE STUDY

4.1. Methodology:

This research study is confined to the state as a whole in Telangana. Thereafter, for representing the state well, from the distinct regions / zones two districts potential to ACABCs scheme are selected randomly on the basis of higher number of Agri-Ventures established therein. From these districts thus, five Agri-Ventures having higher number of farmers benefited are chosen randomly. Thereafter, among these five Agri-ventures, a list of beneficiary farmers are selected. This list is categorized further according to the proper agriculture services and allied agriculture services and the ultimate sample beneficiary farmers consist of 10 beneficiary farmers per venture making a total of 50 sample beneficiary farmers per district. As control group 5 non-beneficiary farmers per venture are selected from the same area of the venture making a total of 25 non-beneficiary farmers per district for studying the impact of the agricultural extension services by ACABC after comparing the income etc. of both beneficiary and non-beneficiary farmers.

4.2: Sampling design:

4.2 A: Selection of states and Districts:

Four distinct states have been identified for this study viz. (1) Maharashtra, (2) Uttar Pradesh, (3) Assam and (4) Telangana by the Government of India, Ministry of Agriculture and Farmers Welfare, New Delhi under the work plan of 2016-17. Hyderabad, Rangareddy, and Medak districts having maximum Agri-ventures from Telangana State are selected for the study.

4.2 B: Selection of Agri-ventures:

With help from MANAGE, which monitors the AC & ABC scheme, a list of all agri-ventures in the selected districts was prepared. Their progress and performance was assessed while interacting with local officials.

4.2.C: Selection of ultimate sample beneficiary and non-beneficiary farmers:

From the 10 Agri-ventures undertaken from the three selected districts, the list of beneficiary farmers is procured. This list is categorized further according to proper Agriculture services and Allied Agriculture services. Thereafter, the lists of the farmers were further sub-categorized into three holding size-groups. Such holding size-groups were (1) Marginal farmers (2) Small farmers and (3) Medium and Large farmers. The ultimate list of sample beneficiary farmers is prepared by selecting 10 beneficiary farmers per agri-venture making a total of 50 sample beneficiary farmers per selected district. Also as control group, 5 non-beneficiary farmers per agri-venture from the same area of the agri-ventures are selected making a total of 25 sample non-beneficiary farmers per selected district. Thus, 75 sample farmers in each selected district or150 sample farmers in each selected state are short listed for in-depth study. The sampling design is given in Table - 4.1 & 4.2.

TABLE - 4.1

SELECTION OF SAMPLE DATA

S.No	District	ACABC Venture Name	Type of service	Beneficiaries	Non-Beneficiaries	Total
1	Hyderabad	Venture-I	Agricultural	10	5	15
2		Venture-2	Agricultural	10	5	15
3		Venture-3	Agricultural	10	5	15
4		Venture-4	Agricultural	10	5	15
			Sub total	**40**	**20**	**60**
5	Rangareddy	Venture-I	Agricultural	10	5	15
6		Venture-2	Agricultural	10	5	15
7		Venture-3	Agricultural	10	5	15
8		Venture-4	Agricultural	10	5	15
			Sub total	**40**	**20**	**60**
9	Medak	Venture-I	Dairy	10	5	15
10		Venture-2	Dairy	10	5	15
			Sub total	**20**	**10**	**30**
	Total			**100**	**50**	**150**

Source: Field Survey

Table - 4.2

HOLDING-SIZE GROUP AND AGRI. SERVICE-WISE SAME SAMPLING DESIGN

(Grand Total)

Sl.No.	Agricultural Services of Sample Farmers	Sample Beneficiaries				Sample Non-Beneficiaries				Benefic-iary	Non-beneficia-ries
		Marginal	Small	Medium &Large	Total	Marginal	Small	Medium & Large	Total		
1	Proper Agril. Services	4	15	61	80	9	13	18	40	80	40
2	Allied Agril Services	1	9	10	20	4	4	2	10	20	10
	Total	5	24	71	100	13	17	20	50	100	50

Source: Field Survey

4.3 Method of Investigation and Survey of the Area:

4.3.1. Collection of Primary Data.

From the field experience each of four Agri-venture from Hyderabad and Rangareddy district and two agri-ventures from Medak district totaling 10. The districts were undertaken randomly on the same basis of having higher number of Agri-ventures established successfully. The districts of Hyderabad and Rangareddy are having proper Agri-ventures and the Medak district has dairy clinics. From each Agri-venture/clinic 10 beneficiary households and 5 non-beneficiary households were selected randomly. Primary data was procured with the help of structured questionnaire in the selected villages from the randomly selected farmers.

4.3.2 Collection of Secondary Data:

All the required secondary information relating to ACABC Scheme implemented in the country as well as the state of Telangana were collected from the implementing agencies i.e. MANAGE and other Agricultural offices at state, District, Block and agri.-venture levels. Personal observations were also alone during the survey and collection of information.

4.4 Reference Period:

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

* * *

CHAPTER - V

RESULTS AND DISCUSSION

In this chapter an attempt has been made here to analyze the socio-economic conditions of the sample households, crop grown during Kharif and Rabi seasons by the sample farmers, seasonal gross irrigated and gross cropped area, inputs and outputs of all crops, gross inputs, outputs and net income of all crops and also the inputs, outputs and net incomes from milch animals by beneficiary farmers, agricultural extension services received from agri-ventures by the beneficiaries, details of hiring machines and implements from agri-ventures by the beneficiaries, details of training received and expert advices from agri-ventures which increases incomes of beneficiary farmers. Attempt has been made to analyze the same in case of non-beneficiary farmers also.

5.1: Economic Status of Beneficiaries under ACABC Scheme in Telangana state:

Socio-Economic status of beneficiary farmers of the Agri-Clinics and Agri-Business Centre scheme are discussed here. Farmers' land holding size, benefits availed under agricultural extension services, membership under different agencies and their subsidiary occupations are presented here. Out of the 80 farmers selected under proper agricultural services, 61 are medium and large farmers, 15 are small farmers and 4 are marginal farmers.

Table – 5.1

Category-Wise Economic Status of the Sample Beneficiary Farmers under ACABC Scheme in Telangana state

(Area in Hect./Beneficiary)

Sl. No.	Category of Sample Beneficiary Farmers	No. of Samples	Area of Holding (Hectare)	Benefits Availed in 2014-15	Membership of Agencies		Subsidiary Occupations	
					Yes	No	Yes	No
A.	**Proper Agri. Services**							
I	Marginal Farmers	4	0.81	4	1	3	1	3
II	Small Farmers	15	1.42	15	3	12	4	11
III	Medium & Large Farmers	61	6.34	61	7	54	21	40
	Sub Total Proper Agri. Services	80	5.14	80	11	69	26	54
B.	**Allied Agri. Services**							
I	Marginal Farmers	1	1.21	1	1	0	0	1
II	Small Farmers	9	1.37	9	4	5	0	9
III	Medium & Large Farmers	10	5.87	10	6	4	5	1
	Sub Total Allied Agri. Services	20	3.61	20	11	9	5	6
	Grand Total Beneficiaries	100	4.83	100	22	78	31	69

Source: Field survey

Twenty farmers were selected under allied agricultural services. Out of these 10 are medium and large farmers, 9 are small farmers and 1 is a marginal farmer. Eleven farmers in each category of agricultural services and allied agricultural services are members of agencies like co-operatives and agri-marketing centres. Twenty six members in agricultural services and 5 members in allied agricultural services have other subsidiary occupations like business and non-agricultural employment. The average area of holding per beneficiary was 4.83 hectares.

5.2: Social and Educational status of Beneficiary farmers:

There are no scheduled caste farmers in the sample. In proper agricultural services sample, 33 are backward caste farmers. Out of these, 19 are medium and large farmers, 10 are small farmers and 4 are marginal farmers. Out of 47 other category farmers, 42 belong to medium and large category while 5 come under small farmer category. There are no marginal farmers in this category. Out of the 13 backward caste (BC) farmers in allied agricultural services sample, there are 6 farmers in each category of medium and large and small farmers. There is only one marginal farmer in this social group. In other caste (OC) farmers 3 are small farmers and 4 are medium and large farmers. There are no marginal farmers. About educational status of the beneficiaries it was found that on the whole there were 20 post graduates, 32 graduates, 38 Inter & SSC and 7 were below SSC.

Nineteen farmers under proper agricultural services category and nine farmers in allied agricultural services have undergone training in crop husbandry, storage and marketing under the AC & ABC scheme. These figures are presented in Table 5.2.

Table – 5.2
Category-Wise Social and Educational Status of the Sample Beneficiary Farmers under ACABC Scheme in Telangana State

(Major Group/Category)

Sl. No.	Category of Sample Beneficiary Farmers	No. of Samples	Social Group			Caste			Educational Status				Availed any Training	
A.	**Proper Agri. Services**		Gen.	O.B.C	S.C.& S.T.	U. Class	B. Class	S.C &S.T. Class	P.G.	Grad u-ate	Inter. & SSC	Below SSC	Yes	No
I	Marginal Farmers	4	0	4	0	0	4	0	1	0	2	1	0	4
II	Small Farmers	15	5	10	0	5	10	0	2	6	3	2	3	12
III	Medium & Large Farmers	61	42	19	0	42	19	0	12	16	27	4	16	45
	Sub Total Proper Agri. Services	80	47	33	0	47	33	0	15	24	32	7	19	61
B.	**Allied Agri. Services**													
I	Marginal Farmers	1	0	1	0	0	1	0	0	1	0	0	1	0
II	Small Farmers	9	3	6	0	3	6	0	1	3	4	0	3	6
III	Medium & Large Farmers	10	4	6	0	4	6	0	4	4	2	0	5	5
	Sub Total Allied Agri. Services	20	7	13	0	7	13	0	5	8	6	0	9	11
	Grand Total Beneficiaries	100	54	46	0	54	46	0	20	32	38	7	28	72

Source: Field survey

5.3. Details of Crops Grown by the Sample Beneficiaries under ACABC Scheme in Telangana state:

5.3.1. Category–wise details of Crops grown in Kharif Season by the Sample Beneficiaries Farmers under ACABC Scheme in Telangana state:

The area under different crop categories like cereals, pulses and horticulture is given in Table 5.3 shows that on an overall average the areas under kharif cereals was estimated as 1.61 ha and the total area was irrigated under the two categories it was higher i.e., 1.71 ha under allied agri-services. While under allied agri services it was estimated as 0.91 ha and total was irrigated. The area under other crops including horticultural crops was estimated as 0.17 ha. per beneficiary and was slightly higher on the farms under allied agri-services. Thus, the gross cropped area during kharif season was estimated as 1.78 ha. and the total irrigated area was 1.72 ha. Pulses are not grown in Kharif among the beneficiary farms. When total beneficiary category is analyzed, cereals occupied 90 per cent of total kharif area. Horticultural crops like chilies, turmeric, ginger and vegetables accounted for 9.6 per cent of the total. Out of the total cropped area in kharif, 97.04 per cent is under irrigation.

Table - 5.3

Category-wise Details of Crops Grown in Kharif Season by the Sample Beneficiary Farmers under AC&ABC Scheme in Telangana state

(Area in Hect./Beneficiary)

Sl. No.	Category of Sample Beneficiary Farmers	No. of Samples	Cereals Area		Pulses Area		Kharif Horticulture Crops Area		Total Kharif Crops Area	
			Irri.	Total	Irri.	Total	Irri.	Total	Irri.	Total
A.	**Proper Agri. Services**									
I	Marginal Farmers	4	0.71	0.71	0.00	0.00	0.00	0.00	0.71	0.71
II	Small Farmers	15	0.51	0.51	0.00	0.00	0.05	0.05	0.57	0.57
III	Medium & Large Farmers	61	2.07	2.07	0.00	0.00	0.23	0.23	2.31	2.31
	Sub Total Proper Agri. Services	80	1.71	1.71	0.00	0.00	0.19	0.19	1.90	1.90
B.	**Allied Agri. Services**									
I	Marginal Farmers	1	1.21	1.21	0.00	0.00	0.00	0.00	1.21	1.21
II	Small Farmers	9	0.18	0.45	0.00	0.00	0.00	0.00	0.18	0.45
III	Medium & Large Farmers	10	1.54	1.82	0.00	0.00	0.20	0.20	1.74	2.02
	Sub Total Allied Agri. Services	20	0.91	1.17	0.00	0.00	0.10	0.10	1.01	1.28
	Grand Total Beneficiaries	100	1.55	1.61	0.00	0.00	0.17	0.17	1.72	1.78

Source: Field survey

5.3.2. Category-wise Details of Crops grown during Rabi Season by beneficiary farmers under ACABC Scheme:

Category-wise details of crops grown in rabi season by sample beneficiary farmers under ACABC scheme in Telangana state worked out in Table 5.4 shows that on an average the area under rabi-cereals was estimated 0.32 ha. per beneficiary and the 0.28 area was irrigated. The distribution under different categories of farmers it was found that the area under rabi cereals was comparatively higher i.e. 0.73 ha per beneficiary under allied agri services against 0.22 ha under proper agri-services. While the area under rabi pulses was estimated slightly higher on the farms under allied agri-services and was estimated as 0.20 ha per beneficiary on an average in the area under study. The area under other crops including horticultural crops was estimated as 0.21 ha. per farm on an average.

Table – 5.4

Category-Wise Details of Crops Grown in Rabi Season by the Sample Beneficiary Farmers under ACABC Scheme in Telangana state

(Area in Hect./Beneficiary)

Sl. No.	Category of Sample Beneficiary Farmers	No. of Samples	Cereals Area		Pulses Area		Rabi Others including Horticulture Crops Area		Total Rabi Crops Area	
			Irri.	Total	Irri.	Total	Irri.	Total	Irri.	Total
A.	**Proper Agri. Services**									
I	Marginal Farmers	4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
II	Small Farmers	15	0.27	0.27	0.00	0.00	0.19	0.19	0.46	0.46
III	Medium & Large Farmers	61	0.22	0.22	0.00	0.10	0.31	0.31	0.52	0.62
	Sub Total Proper Agri. Services	80	0.22	0.22	0.00	0.08	0.27	0.27	0.49	0.56
B.	**Allied Agri. Services**									
I	Marginal Farmers	1	1.21	1.21	0.00	0.00	0.00	0.00	1.21	1.21
II	Small Farmers	9	0.09	0.36	0.00	0.00	0.00	0.00	0.09	0.36
III	Medium & Large Farmers	10	0.85	1.01	0.00	0.41	0.00	0.00	0.85	1.42
	Sub Total Allied Agri. Services	20	0.53	0.73	0.00	0.20	0.00	0.00	0.53	0.93
	Grand Total Beneficiaries	100	0.28	0.32	0.00	0.10	0.21	0.21	0.49	0.64

Source: Field survey

Cereals and pulses are raised in rabi season among sample beneficiary farmers of both agricultural and allied sector services. Horticultural crops are raised only by agricultural services farmers in rabi. In fact area under these crops is more than area under cereals. These farmers reported 0.64 hectares in rabi season, out of which 0.49 hectares have irrigation. The corresponding figure for allied agricultural services beneficiaries is 0.93. Out of this 0.53 ha are irrigated. On the whole beneficiary farmers have 0.64 ha under rabi crops. In Rabi, cereals accounted for 50 per cent followed by other horticultural crops like vegetables, chilly, cotton and groundnut with 34 per cent. Pulse area is 16 per cent in total cropped area in Rabi in beneficiary group. Out of the total cropped area 78 per cent is under irrigation (Table 5.4).

5.3.3 Category-wise Details of Crops grown in Others including Horticulture Crops by Beneficiary Farmers under ACABC Scheme:

Table – 5.5

Category-Wise Details of Crops Grown in Others including Horticulture Crops by the Sample Beneficiary Farmers under ACABC Scheme in Telangana state

(Area in Hect./Beneficiary)

Sl. No.	Category of Sample Beneficiary Farmers	No. of Samples	Total Others including Horticulture Crops Area	
			Irri.	Total
A.	**Proper Agri. Services**			
I	Marginal Farmers	4	0.10	0.10
II	Small Farmers	15	0.53	0.53
III	Medium & Large Farmers	61	3.72	3.72
	Sub Total Proper Agri. Services	80	2.94	2.94
B.	**Allied Agri. Services (**Gross+fruits)			
I	Marginal Farmers	1	0.00	0.00
II	Small Farmers	9	0.92	0.92
III	Medium & Large Farmers	10	2.19	3.64
	Sub Total Allied Agri. Services	20	1.51	2.24
	Grand Total Beneficiaries	100	2.65	2.80

Source: Field survey

Significant area is under flowers like Rose, Chrysanthemum, Marigold. Under fruits, Papaya, Watermelon, Guava, Banana and Orange are raised. These crops all most more than a season and occupy 2.94 hectares in agricultural services group and 2.24 hectares in allied agricultural services group. Again 95 per cent of this area is under irrigation.

5.4 Details of Seasonal Gross Irrigated and Gross Cropped Area on the Farms of Beneficiary Farms under ACABC Scheme in Telangana state:

Table -5.6

Category-Wise Details of Seasonal Total Irrigated and Cropped Area on the Farms of Sample Beneficiary Farmers under ACABC Scheme in Telangana state

(Area in Hect./Beneficiary)

Sl. No.	Category of Sample Beneficiary Farmers	No. of Samples	Total Irrigated Area			Gross Irrigated Area	Total Cropped Area			Gross Cropped Area
			Kharif	Rabi	Other Horti-culture		Kharif	Rabi	Other Horti-culture	
A.	**Proper Agri. Services**									
I	Marginal Farmers	4	0.71	0.00	0.10	0.81	0.71	0.00	0.10	0.81
II	Small Farmers	15	0.57	0.46	0.53	1.55	0.57	0.46	0.53	1.55
III	Medium & Large Farmers	61	2.31	0.52	3.72	6.55	2.31	0.62	3.72	6.65
	Sub Total Proper Agri. Services	80	1.90	0.49	2.94	5.33	1.90	0.56	2.94	5.40
B.	**Allied Agri. Services**									
I	Marginal Farmers	1	1.21	1.21	0.00	2.42	1.21	1.21	0.00	2.42
II	Small Farmers	9	0.18	0.09	0.92	1.19	0.45	0.36	0.92	1.73
III	Medium & Large Farmers	10	1.74	0.85	2.19	4.78	2.02	1.01	3.64	6.68
	Sub Total Allied Agri. Services	20	1.01	0.53	1.51	3.05	1.28	0.73	2.24	4.24
	Grand Total Beneficiaries	100	1.72	0.49	2.65	4.87	1.78	0.60	2.80	5.17

Source: Field survey

Seasonal components in gross irrigated area and grossed cropped area are discussed in Table 5.6 indicates that on an average the total irrigated area during kharif as 1.72 ha per beneficiary farm, in rabi season each was estimated as 0.49 ha per beneficiary farm. While other horticulture crops it was estimated as 2.65 ha. per farm. Thus, the gross irrigated area on an overall average was estimated as 4.87 ha. which was estimated to be highest i.e., 5.33 ha on the farms of proper agri-services against 3.05 ha. per farm under allied agri-services in the area under irrigation.

5.5. Details of Inputs and Outputs of Crops in All the Seasons on the Farms of Beneficiary Farmers under ACABC Scheme in Telangana state:

5.5.1. Category-Wise Details of Inputs, Outputs of Kharif Crops on the Farms of the Beneficiary Farmers under ACABC Scheme in Telangana state:

The categories-wise details of inputs and outputs of kharif crops on the farms of sample beneficiary farmers under ACABC Scheme in Telangana state analyzed in Table 5-7 indicates that on an overall average the total outputs from kharif crops was estimated to Rs. 3,91,407 per farm of which Rs. 1,22,357 was on account of cereals, Rs 10,829 and Rs 26,064 was received from other crops. While the total inputs per farm was estimated to Rs 1,91,523 of which the maximum i.e. Rs 1,58,866 was incurred on other inputs and Rs 32,256 on own inputs. Thus, among the kharif crops the maximum output was received from cereal crops against the minimum outputs from other crops. Accordingly the inputs were also incurred maximum on cereal crops on an overall average on the farms of sample beneficiary farmers. Thus, cereals were more profitable among crops. While the category-wise analysis indicates that outputs per farm was accounted to be comparatively higher i.e. Rs 4,39,469 in case of the beneficiary farmers of proper agricultural services against the lower i.e. Rs 1,99,162 per farm in case of the beneficiary farmers of allied agricultural services. Thus, beneficiary farmers of proper agricultural services had received comparatively higher outputs as well as profit and as such ACABC Scheme performed better in cases of allied agri-services to the farmers. The related data are given in Table 5.7.

Table – 5.7
Category-Wise Details of Inputs and Outputs of *Kharif* Crops on the Farms of Sample Beneficiary Farmers under ACABC Scheme in Telangana state

(Inputs in Rs, Outputs in Rs/Beneficiary)

Sl.No	Category of Beneficiary Farmers	No. of Samples	Cereals				Pulses				Others				Total Kharif Crops			
			Inputs (Rs)			Outputs (Rs)	Inputs (Rs)			Outputs (Rs)	Inputs (Rs)			Outputs (Rs)	Inputs (Rs)			Outputs (Rs)
			Own	Others	Total		Own	Others	Total		Own	Others	Total		Own	Others	Total	
A.	**Proper Agri. Services**																	
I	Marginal Farmers	4	4670	30140	34809	58581	0	0	0	0	0	0	0	0	4670	30140	34809	58581
II	Small Farmers	15	4368	17410	24198	40876	0	0	0	0	432	4363	4795	8424	9361	65031	77067	133583
III	Medium & Large Farmers	61	21838	64712	86550	162745	0	0	0	0	1896	14607	16502	36127	43104	216985	260089	539663
	Sub Total Proper Agri. Services	80	17704	54114	72272	134687	0	0	0	0	1526	11956	13482	29126	34855	179152	214509	439469
B.	**Allied Agri. Services**																	
I	Marginal Farmers	1	9293	53724	63017	85668	0	0	0	0	0	0	0	0	0	0	0	0
II	Small Farmers	9	3240	17280	20520	31320	0	0	0	0	0	0	0	0	0	0	0	0
III	Medium & Large Farmers	10	17491	52474	69965	109320	0	0	0	0	2424	9696	12120	27634	43718	155443	199162	398323
	Sub Total Allied Agri. Services	20	10668	36699	47367	73037	0	0	0	0	1212	4848	6060	13817	21859	77722	99581	199162
	Grand Total Beneficiaries	100	16297	50631	67291	122357	0	0	0	0	1463	10534	11998	26064	32256	158866	191523	391407

Source: Field study

5.5.2: Category-Wise Details of Inputs, Outputs of Rabi Crops on the Farms of the Beneficiary Farmers under ACABC Scheme in Telangana state:

The category-wise details of inputs and outputs of rabi crops on the farms of sample beneficiary farmers under ACABC Scheme in Telangana state analyzed in Table 5.8 indicates that on an overall average the gross outputs from the rabi crops was accounted Rs. 1,55,672 per farm of which the maximum i.e. Rs 28,755 was on account of cereals crops against the minimum i.e. Rs 8,646 on account of pulses. While the total outputs from other crops was accounted as Rs 23,363 per farm. Thus, the outputs in case of Rabi crops was found to be comparatively much higher from the cereals crops which shows that during rabi season cereals crops were paid more attention by the sample beneficiary farmers under ACABC Scheme in the area under study. Regarding inputs incurred on rabi crops it was found that on an overall average the gross inputs perform was accounted as Rs. 62,674 of which Rs. 46,902 were incurred on other inputs and Rs. 15,722 on own inputs. Thus, it is clarified that beneficiary farmers had invested more on other inputs which were purchased from the agri-ventures established in their areas under ACABC Scheme in Telangana state. The crop-wise analysis of inputs shows that on an overall average the maximum inputs i.e. Rs. 15,643.

Table – 5.8
Category-Wise Details of Inputs and Outputs of *Rabi* Crops on the Farms of Sample Beneficiary Farmers under ACABC Scheme in Telangana state

(Inputs in Rs, Outputs in Rs/Beneficiary)

Sl.No	Category of Beneficiary Farmers	No. of Samples	Cereals				Pulses				Others				Total Rabi Crops			
			Inputs (Rs)			Output (Rs)	Inputs (Rs)			Outputs (Rs)	Inputs (Rs)			Outputs (Rs)	Inputs (Rs)			Out-puts (Rs)
			Own	Others	Total		Own	Others	Total		Own	Others	Total		Own	Others	Total	
A.	**Proper Agri. Services**																	
I	Marginal Farmers	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
II	Small Farmers	15	2592	8424	11016	22248	0	0	0	0	1585	6792	8377	14490	8256	30822	39078	73019
III	Medium & Large Farmers	61	2628	8542	11170	23522	478	716	1194	9553	3541	12088	15628	34737	17719	53534	71253	197912
	Sub Total Proper Agri. Services	80	2490	8093	10583	22107	364	546	911	7284	2997	10490	13487	29204	15059	46599	61657	164599
B.	**Allied Agri. Services**																	
I	Marginal Farmers	1	13068	36300	49368	81312	0	0	0	0	0	0	0	0	13068	36300	49368	81312
II	Small Farmers	9	3283	12960	16243	28944	0	0	0	0	0	0	0	0	3283	12960	16243	28944
III	Medium & Large Farmers	10	12630	39589	52219	76507	4374	7290	11664	28188	0	0	0	0	32988	80939	113927	205748
	Sub Total Allied Agri. Services	20	8446	27442	35887	55344	2187	3645	5832	14094	0	0	0	0	18625	48117	66741	119965
	Grand Total Beneficiaries	100	3681	11962	15643	28755	729	1166	1895	8646	2397	8392	10790	23363	15772	46902	62674	155672

Source - Field study

5.5.3. Category- Wise Details of Inputs and Outputs of other horticulture Crops on the Farms of the Sample Beneficiary Farmers under ACABC Scheme in Telangana state:

For horticultural crops agricultural services sample group are investing more and getting more returns than the allied services group. The input costs are Rs. 5,78,007 and output is Rs. 7,99,110. On overall beneficiary sample the corresponding figures are Rs. 4,93,839 and Rs. 6,86,426 (Table 5.9).

Table - 5.9
Category-Wise Details of Inputs and Outputs of Others including Horticulture Crops on the Farms of Sample Beneficiary Farmers under ACABC Scheme in Telangana state

(Inputs in Rs, Outputs in Rs/Beneficiary)

Sl.No	Category of Beneficiary Farmers	No. of Samples	**Total Others including Horticulture Crops**			
			Inputs (Rs)			Outputs (Rs)
			Own	Others	Total	
A.	**Proper Agri. Services**					
I	Marginal Farmers	4	1680	13920	15600	42000
II	Small Farmers	15	6493	113706	120198	206567
III	Medium & Large Farmers	61	74727	652735	727462	994464
	Sub Total Proper Agri. Services	80	58281	519726	578007	799110
B.	**Allied Agri. services**					
I	Marginal Farmers	1	0	0	0	0
II	Small Farmers	9	11067	99600	110667	177067
III	Medium & Large Farmers	10	17456	197280	214736	312016
	Sub Total Allied Agri. Services	20	13708	143460	157168	235688
	Grand Total Beneficiaries	100	49366	444473	493839	686426

Source: Field survey

5.5.4 Category-Wise Details of total Inputs, Outputs and Net Incomes from All Crops on the Farms of the Sample Beneficiary Farmers under ACABC Scheme in Telangana state:

Category-wise details of total inputs, outputs and net incomes from all crops on the farms of the sample beneficiary farmers under ACABC scheme in Telangana state worked out in Table 5.10 shows that on an overall average the gross output from all crops was accounted as Rs. 12, 42,806. While the gross inputs from all crops was accounted to Rs. 7, 48,037 per farm.

Table - 5.10

Category-Wise Details of total Inputs, Outputs and Net Incomes from All Crops on the Farms of the Sample Beneficiary Farmers under ACABC Scheme in Telangana state

(Inputs in Rs, Outputs in Rs/Beneficiary)

Sl. No.	Category of Sample Beneficiary Farmers	No. of Samples	Gross Inputs (Rs)			Gross Outputs (Rs)	Net Incomes (Rs)
			Own	Others	Total		
A.	**Proper Agri. Services**						
I	Marginal Farmers	4	6350	44060	50409	100581	50172
II	Small Farmers	15	24109	209559	236344	413169	176825
III	Medium & Large Farmers	61	135550	923254	1058804	1732039	673235
	Sub Total Proper Agri. Services	80	108195	745477	854173	1403178	549005
B.	**Allied Agri. Services**						
I	Marginal Farmers	1	13068	36300	49368	81312	31944
II	Small Farmers	9	14350	112560	126910	206011	79101
III	Medium & Large Farmers	10	94162	433662	527824	916087	388263
	Sub Total Allied Agri. Services	20	54192	269298	323490	554815	231325
	Grand Total Beneficiaries	100	97394	650241	748037	1233505	485468

Source: Field survey

Thus, the net income per farm was accounted as Rs. 4,85,468 on an overall average. Among the inputs, the other inputs procured from agri. ventures or elsewhere was higher than the own inputs. This confirms that the sample farmers had availed the services of agri.-ventures in their area. The category-wise analysis indicates that the maximum net income i.e. Rs.5,49,005 Per farm was accounted on the farms under proper agri. services against the minimum net income i.e., Rs. 2,31,325 on the farms under allied agri. services. Thus, the farms under proper agri. services were comparatively more profitable as the outputs per farm were comparatively much higher on the farms under proper agri. services in the area under study. The related data are given in Table 5.10.

5.5.5 Category-Wise Details of Inputs, Outputs and Net Incomes from Milch Animals Reared by Sample Beneficiary Farmers under ACABC Scheme in Telangana state:

Table - 5.11

Category-Wise Details of Inputs, Outputs and Net Incomes fromMilch Animals Reared by Sample Beneficiary Farmers under ACABC Scheme in Telangana state

(Inputs in Rs. &Outputs in Rs/Beneficiary)

Sl. No.	Category of Sample Beneficiary Farmers	No. of Samples	Inputs Incurred (Rs)			Outputs Received (Rs)	Net Incomes (Rs)
			Own Sources	Others Sources	Total (Rs)		
A.	**Proper Agri. Services**						
I	Marginal Farmers	4	12000	2500	14500	25000	10500
II	Small Farmers	15	4364	16000	20364	44500	24136
III	Medium & Large Farmers	61	11250	21333	32583	56250	23667
	Sub Total Proper Agri. Services	80	9996	19391	29388	52484	23097
B.	**Allied Agri. Services**						
I	Marginal Farmers	1	48000	67200	115200	185000	69800
II	Small Farmers	9	67250	192080	259330	414222	154892
III	Medium & Large Farmers	10	60000	182000	242000	446737	204737
	Sub Total Allied Agri. Services	20	62663	180796	243459	419018	175560
	Grand Total Beneficiaries	100	20530	51672	72202	125791	53589

Source: Field survey

Income from milch animals is quite significant for beneficiary farmers (Table 5.11). medium & large farmers are spending more and receiving more than the other groups in both agricultural services and allied agricultural services sample. The average the outputs from milch animals per farm was accounted as Rs. 1,25,791. While the inputs incurred in milch animals was estimated as Rs. 72,202 of which the maximum i.e. 51,672 was incurred on other inputs and Rs.20,530 on own inputs. Thus, the net income from milch animals was accounted as Rs. 53,589. The category-wise analysis indicates that the maximum outputs i.e. Rs. 4,19,018 per farm was received under the category of allied agri-services against the outputs of Rs. 52,484 per farm under the category of proper agri-services. Thus, the farms under allied agri-services were more productive and profitable in comparison of the farms under proper agri-services in milch animals in the area under the study, because the net income per farm was estimated maximum i.e., Rs. 1,75,560 under the category of allied agri-services. Accordingly the total inputs per farm were incurred maximum i.e., Rs. 2,43,459 per farm against the minimum i.e. Rs. 29,388 per farm on the farms under proper agri-services in the area under study. Therefore, it is safely concluded that milch animals on the farms along with the other services was considerably profitable in the area under study.

5.5.6. Category-Wise Details of Inputs, Outputs from Drought Animals Reared by sample Beneficiary Farmers under ACABC Scheme in Telangana state

Table -5.12

Category-Wise Details of Inputs and Outputs from Draught Animals Reared by sample Beneficiary Farmers under ACABC Scheme in Telangana state

(Inputs in Rs. &Outputs in Rs/Beneficiary)

Sl. No.	Category of Sample Beneficiary Farmers	No. of Samples	Inputs Incurred (Rs)			Outputs Received (Rs)	Net Incomes (Rs)
			Own	Others	Total		
A.	**Proper Agri. Services**						
I	Marginal Farmers	4	-	-	-	-	-
II	Small Farmers	15	-	-	-	-	-
III	Medium & Large Farmers	61	-	-	-	-	-
	Sub Total Proper Agri. Services	80	-	-	-	-	-
B.	**Allied Agri. Services**						
I	Marginal Farmers	1	-	-	-	-	-
II	Small Farmers	9	-	-	-	-	-
III	Medium & Large Farmers	10	-	-	-	-	-
	Sub Total Allied Agri. Services	20	-	-	-	-	-
	Grand Total Beneficiaries	100	-	-	-	-	-

Note: since the sample farmers are not having drought animals accordingly the data is not presented

5.5.7 Category-Wise Details of Inputs and Outputs from other Animals Reared by sample Beneficiary Farmers under ACABC Scheme in Telangana state

Table – 5.13
Category-Wise Details of Inputs and Outputs from other Animals Reared by sample Beneficiary Farmers under ACABC Scheme in Telangana state

(Inputs in Rs. &Outputs in Rs/Beneficiary)

Sl. No.	Category of Sample Beneficiary Farmers	No. of Samples	Inputs Incurred (Rs)			Outputs Received (Rs)	Net Incomes (Rs)
			Own	Others	Total		
A.	**Proper Agri. Services**						
I	Marginal Farmers	4	-	-	-	-	-
II	Small Farmers	15	-	-	-	-	-
III	Medium & Large Farmers	61	-	-	-	-	-
	Sub Total Proper Agri. Services	80	-	-	-	-	-
B.	**Allied Agri. Services**						
I	Marginal Farmers	1	-	-	-	-	-
II	Small Farmers	9	-	-	-	-	-
III	Medium & Large Farmers	10	-	-	-	-	-
	Sub Total Allied Agri. Services	20	-	-	-	-	-
	Grand Total Beneficiaries	100	-	-	-	-	-

Note: since the sample farmers are not having other animals accordingly the data could not be presented

5.5.8. Category-Wise Details of Inputs, Outputs and Net Incomes from total Animals reared by Sample Beneficiary Farmers under ACABC Scheme in Telangana state

Table – 5.14

Category-Wise Details of Inputs, Outputs and Net Incomes from total Animals Reared by Sample Beneficiary Farmers under ACABC Scheme in T.S. Per household income

(Inputs in Rs. & Outputs in Rs/Beneficiary)

Sl. No.	Category of Sample Beneficiary Farmers	No. of Samples	Inputs Incurred (Rs)			Outputs Received (Rs)	Net Incomes (Rs)
			Own	Others	Total		
A.	**Proper Agri. Services**						
I	Marginal Farmers	4	12000	2500	14500	25000	10500
II	Small Farmers	15	4364	16000	20364	44500	24136
III	Medium & Large Farmers	61	11250	21333	32583	56250	23667
	Sub Total Proper Agri. Services	80	9996	19391	29388	52484	23097
B.	**Allied Agri. Services**						
I	Marginal Farmers	1	48000	67200	115200	185000	69800
II	Small Farmers	9	67250	192080	259330	414222	154892
III	Medium & Large Farmers	10	60000	182000	242000	446737	204737
	Sub Total Allied Agri. Services	20	62663	180796	243459	419018	175560
	Grand Total Beneficiaries	100	20530	51672	72202	125791	53589

Source: Field survey

Category-wise details of inputs, outputs and net incomes from total animals reared by sample beneficiary farmers under ACABC scheme in Telangana state worked out in Table 5.14 indicates that on an overall average the outputs from milch animals per farm was accounted as Rs. 1,25,791. While the inputs incurred in milch animals was estimated as Rs. 72,202 of which the maximum i.e. 51,672 was incurred on other inputs and Rs.20,530 on own inputs. Thus, the net income from milch animals was accounted as Rs. 53,589 from rearing animals on the farms which confirms very wells that rearing animals on the farms along with other agri-services was significantly profitable on the farms of sample beneficiaries under ACABC Scheme in the State of Telangana state. Also, the higher amount of other inputs incurred in rearing animals in comparison of own inputs indicates that agri-ventures established in the area under study under ACABC scheme have been found supplying other inputs on payment to the sample beneficiary farmers in the area under study.

5.6: Category-wise Details of Extension services received from Agri. Ventures by the sample Beneficiary Farmers under ACABC Scheme in Telangana state:

Table – 5.15
Category-Wise Details of Extension Services received from Agri. Ventures by the sample Beneficiary Farmers under ACABC Scheme in Telangana state

(In No. of Beneficiaries)

Sl. No.	Category of Sample Beneficiary Farmers	No. of Sam-ples	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**						
I	Marginal Farmers	4	4	0	0	4	0
II	Small Farmers	15	5	0	0	9	0
III	Medium & Large Farmers	61	6	0	0	46	0
	Sub Total Proper Agri. Services	80	15 (18.75)	0	0	59 (73.75)	0
B.	**Allied Agri. Services**						
I	Marginal Farmers	1	0	1	0	0	0
II	Small Farmers	9	0	9	0	0	0
III	Medium & Large Farmers	10	0	10	0	0	0
	Sub Total Allied Agri. Services	20	0	20 (100.00)	0	0	0
	Grand Total Beneficiaries	100	15 (15.00)	20 (20.00)	0	59 (59.00)	0

Source: Field survey

The category-wise details of extension services received from Agri-ventures by the sample beneficiary farmers under ACABC Scheme in Telangana state worked out in Table 5.15 shows that out of total 100 sample beneficiary farmers no one has reported to receive all extension services from the agri. ventures of their areas. Out of 100 sample farmers who had received extension services, the maximum i.e. 20 sample farmers had reported to receive extension services on dairy and animal feeds etc. 15 had reported to receive extension services relating to farm machines etc. and 59 reported to receive extension services on production trends etc. on an overall in the area under study. Thus, it is evidently clear that majority of beneficiary farmers had received extension services from the agri. ventures established successfully in their areas and maximum of the farmers had received extension services on farm machines and dairy etc. in the area under study. The related data are given in Table 5.15.

5.7 Details of Hiring Machines from Agri. Ventures by Sample Beneficiary farmers under ACABC Scheme in Telangana state:

Table – 5.16
Category-Wise Details of Hiring Machines from Ventures by the Sample Beneficiary Farmers under ACABC Scheme in Telangana state

(Charges in Rs)

Sl. No.	Category of Sample Beneficiary Farmers	No. of Samples	Hired Machine from ventures		Details of Hiring Machines from Ventures									
					Machine (I)		Machine (II)		Machine (III)		Machine (IV)		All Machines	
					Type	Charges (Rs)	Type	Charges (Rs)	Type	Charges (Rs)	Type	Charges (Rs)	Type	Charges (Rs)
A.	**Proper Agri. Services**		**Yes**	**No**										
I	Marginal Farmers	4	4		Weeder	800	Rotavater	0	0	0	0	0	Weeder, Rotavater	800 (10.67)
II	Small Farmers	15	5		Weeder	1000	Rotavater	2700	0	0	0	0	Weeder, Rotavater	3700 (49.33)
III	Medium & Large Farmers	61	6		Weeder	1000	Rotavater	2000	0	0	0	0	Weeder, Rotavater	3000 (40)
	Sub Total Proper Agri. Services	80	15		Weeder	2800	Rotavater	4700	0	0	0	0	Weeder, Rotavater	7500
B.	**Allied Agri. Services**													
I	Marginal Farmers	1	0		0	0	0	0	0	0	0	0	0	0
II	Small Farmers	9	0		0	0	0	0	0	0	0	0	0	0
III	Medium & Large Farmers	10	0		0	0	0	0	0	0	0	0	0	0
	Sub Total Allied Agri. Services	20	0		0	0	0	0	0	0	0	0	0	0
	Grand Total Beneficiaries	100	15		8	2800	7	4700	0	0	0	0	15	7500

Source: Field survey

5.8. Category-Wise Details of Hiring Implements from Ventures by the Sample Beneficiary Farmers under ACABC Scheme in Telangana state:

The category-wise details of hiring implements from ventures by the sample beneficiary farmers under ACABC scheme in Telangana state worked out in Table 5-17 shows that none of the sample beneficiary farmers had been found hiring any implement from any of the agri-ventures just established in their areas. Thus, it is obviously clear that ACABC Scheme was just started in the area under study. The established agri-ventures were in nascent stage and therefore they had not yet started hiring machine as well as implements to their beneficiaries in the area under study. The Table 5-17 shows that all the entries on hiring implements are nil in it.

Table – 5.17
Category-Wise Details of Hiring Implements from Ventures by the Sample Beneficiary Farmers under ACABC Scheme in Telangana state

(Charges in Rs)

Sl. No.	Category of Sample Beneficiary Farmers	No. of Samples	Details of Hiring Implements from Ventures									
			Implement (I)		Implement (II)		Implement (III)		Implement (IV)		All Implements	
			Type	Charges (Rs)	Type	Charges (Rs)	Type	Charges (Rs)	Type	Charges (Rs)	Type	Charges (Rs)
A.	**Proper Agri. Services**											
I	Marginal Farmers	4	0	0	0	0	0	0	0	0	0	0
II	Small Farmers	15	0	0	0	0	0	0	0	0	0	0
III	Medium & Large Farmers	61	0	0	0	0	0	0	0	0	0	0
	Sub Total Proper Agri. Services	80	0	0	0	0	0	0	0	0	0	0
B.	**Allied Agri. Services**											
I	Marginal Farmers	1	0	0	0	0	0	0	0	0	0	0
II	Small Farmers	9	0	0	0	0	0	0	0	0	0	0
III	Medium & Large Farmers	10	0	0	0	0	0	0	0	0	0	0
	Sub Total Allied Agri. Services	20	0	0	0	0	0	0	0	0	0	0
	Grand Total Beneficiaries	100	0	0	0	0	0	0	0	0	0	0

Source: Field survey

5.9. Details of Inputs on Payment Received from Ventures by the Sample Beneficiary Farmers under ACABC Scheme in Telangana state:

The category-wise details of inputs on payment received from ventures by the sample beneficiary farmers under ACABC scheme in Telangana state worked out in Table 5.18 shows that on an overall average the total inputs per farm was accounted as Rs 136085 of which the maximum i.e. Rs. 1,00,796 was on account of other inputs, Rs. 22,860 on account of seeds and Rs. 12,429 on account of fertilizers per farm. The related data are given in Table 5.18.

Table – 5.18

Category-Wise Details of Inputs on Payment Received from Ventures by the Sample Beneficiary Farmers under ACABC Scheme in Telangana state

(Input Costs in Rs/Beneficiary)

Sl. No.	Category of Sample Beneficiary Farmers	No. of Samples	Seeds		Fertilizers		Others		Total Inputs	
			Crops	Costs (Rs)	Crops	Costs (Rs)	Crops	Costs (Rs)	Crops	Costs (Rs)
A.	**Proper Agri. Services**									
I	Marginal Farmers	4	Paddy+Maize+ Veg	2250	Paddy+Maize+ horticultural crops, Veg	5800	0	0	Paddy+Maize+ horticultural crops, Veg	8050
II	Small Farmers	15	Paddy+Maize+ horticultural crops, Veg	16400	Paddy+Maize+ horticultural crops, Veg	10250	0	0	Paddy+Maize+ horticultural crops, Veg	26650
III	Medium & Large Farmers	61	Paddy+Maize+ horticultural crops, Veg	25800	Paddy+Maize+ horticultural crops, Veg +	13400	0	0	Paddy+Maize+ horticultural crops, Veg +	39200
	Sub Total Proper Agri. Services	80	Paddy+Maize+ horticultural crops, Veg e+	22860	Paddy+Maize+ horticultural crops, Veg	12429	0	0	Paddy+Maize+ horticultural crops, Veg	35289
B.	**Allied Agri. Services**									
I	Marginal Farmers	1	0		0		Fodder, medicines	42200	Fodder, medicines	42200
II	Small Farmers	9	0		0		Fodder, medicines	135080	Fodder, medicines	135080
III	Medium & Large Farmers	10	0		0		Fodder, medicines	112000	Fodder, medicines	112000
	Sub Total Allied Agri. Services	20	0		0		Fodder, medicines	100796	Fodder, medicines	100796
	Grand Total Beneficiaries	100		22860		12429		100796		136085

Source: Field survey

5.10. Category-Wise Details of Training Received from Ventures by the Sample Beneficiary Farmers under ACABC Scheme in Telangana state:

The category-wise details of training received from ventures by the sample beneficiary farmers under ACABC scheme in Telangana state worked out in Table 5.19 indicates that out of 100 sample beneficiary farmers only 8 farmers had reported to receive formal training from the ventures of their area.

Table – 5.19
Category-Wise Details of Training Received from Ventures by the Sample Beneficiary Farmers under ACABC Scheme in Telangana state

(In Numbers)

Sl. No.	Category of Sample Beneficiary Farmers	No. of Samples	Nature of Training		Was it Useful	
			Formal	Informal	Yes	No
A.	**Proper Agri. Services**					
I	Marginal Farmers	4	0	2	2	0
II	Small Farmers	15	3	8	11	0
III	Medium & Large Farmers	61	5	42	47	0
	Sub Total Proper Agri. Services	80	8	52	60	0
B.	**Allied Agri. Services**					
I	Marginal Farmers	1	0	1	1	0
II	Small Farmers	9	0	9	9	0
III	Medium & Large Farmers	10	0	10	10	0
	Sub Total Allied Agri. Services	20	0	20	20	0
	Grand Total Beneficiaries	100	08	72	80	0

Source: Field survey

While the other 72 sample farmers had told to receive only informal training from the agri-ventures of their areas on an overall in the area under study. Accordingly majority of farmers 80 such farmers had reported the formal training to be useful for them. The category-wise distribution of training details shows that the maximum number of farmers i.e. 60 under the category of proper agri-services had told that training (informal) was useful for them. While all allied agri services farmers had told that formal training was useful for them. The related data are given in Table 5.19

5.11. Details of Supports Received from Ventures by the Sample Beneficiary Farmers under ACABC Scheme in Telangana state

Table - 5.20

Category-Wise Details of Supports Received from Ventures by the Sample Beneficiary Farmers under ACABC Scheme in Telangana state

(In Numbers)

Sl. No.	Category of Sample Beneficiary Farmers	No. of Samples	Availability of Inputs	Marketing of Outputs	Repairs & Maintenance	Others Supports
A.	**Proper Agri. Services**					
I	Marginal Farmers	4	1	0	1	4
II	Small Farmers	15	7	2	2	15
III	Medium & Large Farmers	61	50	6	2	61
	Sub Total Proper Agri. Services	80	58	8	5	80
B.	**Allied Agri. Services**					
I	Marginal Farmers	1	0	0	0	1
II	Small Farmers	9	0	0	0	9
III	Medium & Large Farmers	10	0	0	0	10
	Sub Total Allied Agri. Services	20	0	0	0	20
	Grand Total Beneficiaries	100	58	8	5	100

Source: Field survey

Among the wide spectrum of services made available to the farmers by Agri-clinics and Agri-business centres, some are supply of agricultural inputs in time, providing marketing facilities, making available agricultural equipment and machinery and providing repair and maintenance services. Among the beneficiary farmers in agricultural services group, 58 availed input services, 8 availed marketing facilities and 5 people have taken the support of repair and maintenance facility. Overall, all the farmers have got some kind of support. Fifty eight farmers received inputs while 8 farmers used marketing services and 5 used repairs and maintenance (Table 5.20).

5.12. Details of Extension Services and Expert Advices from Ventures which increased Income of Beneficiary Farmers under ACABC Scheme in Telangana state:

Table – 5.21

Category-Wise Details of Extension Services and Expert Advice from Ventures which increased Income of Beneficiary Farmers under ACABC Scheme in Telangana state

(In Number of Farmers)

Sl. No.	Category of Sample Beneficiary Farmers	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**						
I	Marginal Farmers	4	3	4	3	0	0
II	Small Farmers	15	7	15	11	3	0
III	Medium & Large Farmers	61	31	61	34	5	0
	Sub Total Proper Agri. Services	80	41 (51.25)	80 (100.00)	48 (60.00)	8 (10.00)	0 ()
B.	**Allied Agri. Services**						
I	Marginal Farmers	1	0	0	0	0	1
II	Small Farmers	9	0	0	0	0	9
III	Medium & Large Farmers	10	0	0	0	0	10
	Sub Total Allied Agri. Services	20	0	0	0	0	20 (100)

Source: Field survey

As the main aim of the Agri-clinics and Agri-business centre scheme is providing extension services and advice in cropping practices, provision is made in the questionnaire to elicit farmers' response with respect to these extension services. Most of the beneficiaries in agricultural services group (60 per cent) have utilized extension services in plant protection to save their crop from pests and diseases. This is followed by receiving advice on farm technology (51 per cent) and marketing of crop produce (10 per cent). All the farmers in allied agricultural group availed services on animal health (Table 5.21).

5.13. Details on Increase in incomes through Production of Crops and Animals on the Farms of Beneficiary Farmers under ACABC Scheme in Telangana state:

Table – 5.22
Category-Wise Details on Increase incomes through Production of Crops and Animals on the Farms of Beneficiary Farmers under ACABC Scheme in Telangana state

(Names of Crops and Animals)

Sl. No.	Category of Sample Beneficiary Farmers	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**							
I	Marginal Farmers	4	Paddy	-	Fruits,	-	-	-
II	Small Farmers	15	Paddy, Maize	-	Vege-tables, Fruits, flowers	-	-	-
III	Medium & Large Farmers	61	Paddy, Maize	-	Vege-tables, Fruits, flowers	-	-	-
	Sub Total Proper Agri. Services	80	Paddy, Maize	-	Vege-tables, Fruits, flowers	-	-	-
B.	**Allied Agri. Services**							
I	Marginal Farmers	1	-	-	-	Murra, jercy	-	-
II	Small Farmers	9	-	-	-	Murra, jercy	-	-
III	Medium & Large Farmers	10	-	-	-	Murra, jercy	-	-
	Sub Total Allied Agri. Services	20	-	-	-	Murra, jercy	-	-
	Grand Total Beneficiaries	100				Murra, jercy		

Source: Field survey

Beneficiary farmers reported increased production in cereals crops like paddy and Maize resulting in increased income to the household. Similarly, vegetables, fruits and flowers have also given increased income to the farmers due to input supply, crop practices and marketing facilities provided by Agri-clinics and Agri-business centres. allied agricultural services sample farmers reported increased production of milk due to timely advice on animal health and feed (Table 5.22).

5.14. Details of Inputs Sales and Charges of Other Services provided by Ventures to the Beneficiary Farmers under ACABC Scheme in Telangana state:

Category-wise details of inputs sales and charges of other services provided by ventures to the beneficiary farmers under ACABC scheme in Telangana state worked out in Table 5.23 shows that only the inputs such as seeds, fertilizers, pesticides, farm machines and animal feeds were made available to the needy farmers on payment by the farmers. It is seen from the table per farm charges of farm machines was found i.e. Rs. 7,500 on the farms under proper agri-services. Overall cost of farm inputs stood at Rs. 1,36,085 per farm, of which Rs. 35,289 was under proper agri. services category and Rs. 1,00,796 under allied agri-services category. The details of inputs costs are contained in the Table 5.23.

Table – 5.23

Category-Wise Details of Inputs Sales and Charges of Other Services provided by Ventures to the Beneficiary Farmers under ACABC Scheme in Telangana state

(Costs of Inputs in Rs, Charges of Services in Rs./Beneficiary)

Sl. No.	Category of Sample Beneficiary Farmers	No. of Samples	Charges of Farm Machines (Rs)	Charges of Farm Equipments	Costs of Farm Inputs (Rs.)	Charges of Other Services
A.	**Proper Agri. Services**					
I	Marginal Farmers	4	800	0	8050	0
II	Small Farmers	15	3700	0	26650	0
III	Medium & Large Farmers	61	3000	0	39200	0
	Sub Total Proper Agri. Services	80	7500	0	35289	0
B.	**Allied Agri. Services**					
I	Marginal Farmers	1	0	0	42200	0
II	Small Farmers	9	0	0	135080	0
III	Medium & Large Farmers	10	0	0	112000	0
	Sub Total Allied Agri. Services	20	0	0	100796	0
	Grand Total Beneficiaries	100	7500	0	136085	0

Source: Field survey

5.15. Category-wise Details of the Economic Status of Sample Non-Beneficiary Farmers of the ACABC Scheme Area of Telangana state:

Table – 5.24
Category-wise Details of the Economic Status of Sample Non-Beneficiary Farmers of the ACABC Scheme Telangana state

(Area in Hect./Non-Beneficiary)
(Main Group/Category)

Sl.No.	Category of Non-Beneficiary Farmers	No. of Samples	Area of Holding (in Hect.)	Membership of Agencies if Any		Subsidiary Occupation	
A.	**Proper Agri. Services**			Yes	No	Yes	No
I	Marginal Farmers	9	0.81	2	7	9	0
II	Small Farmers	13	1.63	3	10	6	7
III	Medium & Large Farmers	18	4.14	6	12	4	14
	Sub Total Proper Agri. Services	40	2.58	11	29	19	21
B.	**Allied Agri. Services**						
I	Marginal Farmers	4	0.63	1	3	1	3
II	Small Farmers	4	1.56	1	3	0	4
III	Medium & Large Farmers	2	3.33	1	1	0	2
	Sub Total Allied Agri. Services	10	1.54	3	7	1	9
	Grand Total Non-Beneficiaries	50	2.37	14	36	20	30

Source: Field survey

Socio-economic status of non- beneficiary farmers of the Agri-clinics and Agri-business centre scheme are discussed in Table 5.24. total sample is 50 out of which 40 are drawn from agricultural services and 10 are drawn from allied agricultural services. Again the farmers sample is divided in to marginal, small, medium and large farmers. The average holding is 2.58 ha in agricultural services group, 1.54 ha in allied services group. Overall, the average holding is 2.37 ha. eleven farmers in agricultural services group and 3 farmers in allied services group have membership in cooperative and marketing societies. Similarly, 19 in agricultural services and 1 in allied services have subsidiary occupations.

5. 16. Social and Educational Status of the Sample Non- Beneficiary Farmers of the ACABC Scheme Area of Telangana state:

Table - 5.25
Category-wise Details of Social and Educational Status of the Sample Non-Beneficiary Farmers of the ACABC Scheme Area of Telangana state

Sl.No.	Category of Non-Beneficiary Farmers	No. of Samples	Social Groups			Caste			Educational Status			
A.	**Proper Agri. Services**		Gen.	OBC	SC	U. class	B. Class	L. Class	PG	Grag.	H.S.	Non-M.
I	Marginal Farmers	9	3	4	2	3	4	2	0	0	2	6
II	Small Farmers	13	3	8	2	3	8	2	0	0	4	6
III	Medium & Large Farmers	18	9	8	1	9	8	1	0	5	4	5
	Sub Total Proper Agri. Services	40	15	20	5	15	20	5	0	5	10	17
B.	**Allied Agri. Services**											
I	Marginal Farmers	4	2	1	1	2	1	1	0	1	1	0
II	Small Farmers	4	0	4	0	0	4	0	0	0	1	2
III	Medium & Large Farmers	2	0	2	0	0	2	0	0	1	1	0
	Sub Total Allied Agri. Services	10	2	7	1	2	7	1	0	2	3	2
	Grand Total Non-Beneficiaries	50	17	27	6	17	27	6	0	7	13	19

Source: Field Survey

Table 5.25 presents data regarding social and educational status of the non-beneficiary farmers in both agricultural and allied-agricultural services groups backward castes dominate numerically with 20 and 7 respectively. They are followed by general group with 15 and 2. The remaining 5 in agricultural services group and 1 in allied agricultural services group belong to scheduled castes. Thus, there are 27 in backward caste, 17 in other caste and 6 in scheduled caste in the total sample of 50. As regards the educational status, it was found that the maximum i.e., 19 were non-matric sample non-beneficiary farmers, 13 farmers were higher secondary, 7 were graduates and no farmers were post graduates on an overall average.

5. 16.1. Details of Crops Grown in Kharif Season by the Sample Non-Beneficiary Farmers of ACABC Scheme Area of Telangana state:

Farmers in agricultural services category raised cereals and other crops like vegetables, turmeric and horticultural crops in kharif season. In the total kharif area of this group, cereals occupied 82 per cent and other crops are cultivated in the remaining 18 per cent land. Allied agricultural services group raised only cereal crop in kharif season. Pulses are not raised both in

agricultural and allied agricultural sample in kharif. Eighty two per cent of cropped area in kharif is under Irrigation in non-beneficiaries (Table 5.26).

Table – 5.26

Category-Wise Details of Crops Grown in Kharif Season by the Sample Non-Beneficiary Farmers of ACABC Scheme Area of Telangana state

(Area in Hect./Non-Beneficiary)

Sl. No.	Category of Sample Non-Beneficiary Farmers	No. of Samples	Cereals Area		Pulses Area		Others including Horticulture Crops Area		Total Kharif Crops Area	
			Irri.	Total	Irri.	Total	Irri.	Total	Irri.	Total
A.	**Proper Agri. Services**									
I	Marginal Farmers	9	0.63	0.72	0.00	0.00	0.09	0.09	0.72	0.81
II	Small Farmers	13	0.51	0.77	0.00	0.00	0.54	0.54	1.06	1.31
III	Medium & Large Farmers	18	0.51	0.83	0.00	0.00	0.32	0.37	0.83	1.20
	Sub Total Proper Agri. Services	40	0.54	0.79	0.00	0.00	0.34	0.36	0.88	1.15
B.	**Allied Agri. Services**									
I	Marginal Farmers	4	0.21	0.21	0.00	0.00	0.00	0.00	0.21	0.21
II	Small Farmers	4	0.42	0.42	0.00	0.00	0.00	0.00	0.42	0.42
III	Medium & Large Farmers	2	1.46	1.46	0.00	0.00	0.00	0.00	1.46	1.46
	Sub Total Allied Agri. Services	10	0.54	0.54	0.00	0.00	0.00	0.00	0.54	0.54
	Grand Total Non-Beneficiaries	50	0.54	0.74	0.00	0.00	0.28	0.29	0.81	1.03

Source: Field Survey

An overall average the area under total kharif crops was estimated as 1.03 ha. per farm and the total was irrigated. The maximum of the area under kharif crops i.e. 0.74 ha. was under cereal crops and the area under other kharif crops including horticultural crops was estimated as 0.29 ha. per farm in the area under study. Thus, during kharif season the maximum of the cropped area was under cereals and under other crops in the area under study.

5.16.2. Details of Crops Grown in Rabi Season by the Sample Non-Beneficiary Farmers of ACABC Scheme Area of Telangana state:

Category-wise details of crops grown in rabi season by the sample non-beneficiary farmers of ACABC scheme area of Telangana state worked-out in Table 5.27 shows that in rabi season to the coverage under crops was 0.36 ha. of which the maximum i.e., 0.31 ha. was under rabi cereals against the minimum i.e. 0.05 ha. under pulses. Thus, during rabi season to the maximum coverage was under the rabi cereals.

Table – 5.27

Category-Wise Details of Crops Grown in Rabi Season by the Sample Non-Beneficiary Farmers of ACABC Scheme Area of Telangana state

(Area in Hect./Non-Beneficiary)

Sl. No.	Category of Sample Non-Beneficiary Farmers	No. of Samples	Cereals Area		Pulses Area		Others including Horticulture Crops Area		Total Rabi Crops Area	
			Irri.	Total	Irri.	Total	Irri.	Total	Irri.	Total
A.	**Proper Agri. Services**									
I	Marginal Farmers	9	0.37	0.37	0.00	0.00	0.00	0.00	0.37	0.37
II	Small Farmers	13	0.22	0.22	0.00	0.19	0.00	0.00	0.22	0.42
III	Medium & Large Farmers	18	0.32	0.32	0.00	0.00	0.00	0.00	0.32	0.32
	Sub Total Proper Agri. Services	40	0.30	0.30	0.00	0.06	0.00	0.00	0.30	0.36
B.	**Allied Agri. Services**									
I	Marginal Farmers	4	0.21	0.21	0.00	0.00	0.00	0.00	0.21	0.21
II	Small Farmers	4	0.42	0.42	0.00	0.00	0.00	0.00	0.42	0.42
III	Medium & Large Farmers	2	0.42	0.42	0.00	0.00	0.00	0.00	0.42	0.42
	Sub Total Allied Agri. Services	10	0.33	0.33	0.00	0.00	0.00	0.00	0.33	0.33
	Grand Total Non-Beneficiaries	50	0.31	0.31	0.00	0.05	0.00	0.00	0.31	0.36

Source: Field Survey

Cereal crops are raised by both agricultural and allied agricultural services farmers in rabi season. Pulses are raised in 17 per cent area only by agricultural services farmers in rabi. Eighty six per cent of cropped area in this season is under irrigation in non-beneficiary sample.

5.16.3. Details of Crops Grown in Total other Horticulture crops by the Sample Non-Beneficiary Farmers of ACABC Scheme Area of Telangana state:

Table - 5.28

Category-Wise Details of Crops Grown in Total other Horticulture crops by the Sample Non-Beneficiary Farmers of ACABC Scheme Area of Telangana state

(Area in Hect./Non-Beneficiary)

Sl. No.	Category of Sample Non-Beneficiary Farmers	No. of Samples	Total Horticulture Crops Area		Total Horticulture Crops Area	
			Irri.	Total	Irri.	Total
A.	**Proper Agri. Services**					
I	Marginal Farmers	9	0.00	0.00	0.00	0.00
II	Small Farmers	13	0.32	0.32	0.32	0.32
III	Medium & Large Farmers	18	2.01	2.94	2.01	2.94
	Sub Total Proper Agri. Services	40	1.01	1.43	1.01	1.43
B.	**Allied Agri. Services**					
I	Marginal Farmers	4	0.42	0.42	0.42	0.42
II	Small Farmers	4	1.15	1.15	1.15	1.15
III	Medium & Large Farmers	2	1.88	1.88	1.88	1.88
	Sub Total Allied Agri. Services	10	1.00	1.00	1.00	1.00
	Grand Total Non-Beneficiaries	50	1.01	1.34	1.01	1.34

Source: Field Survey

Category-wise details of crops grown in other horticulture crops by the sample non-beneficiary farmers of ACABC scheme area of Telangana state analyzed in Table 5.28 shows that on an overall average it was found that the total area under other horticulture crops was estimated as 1.34 ha. per farm and the total was irrigated of 1.01 ha. was covered under other horticulture crops in the area under study.

5.17. Details of Seasonal Gross Irrigated and Cropped Area on the Farms of Sample Non-Beneficiary Farmers of ACABC Scheme Area of Telangana state

Category-wise details of seasonal gross irrigated and cropped area on the farms of sample non-beneficiary farmers of ACABC scheme Area of Telangana state analyzed in Table 5.29 shows that on an overall average the gross cropped area per farm was estimated as 2.73

ha. of which the maximum i.e. 1.34 ha was covered during the other horticulture crops and thereafter the total 1.03 ha. was cropped during kharif season While the coverage during rabi season was only 0.36 ha. per farm in the area under study. On the other hand the distribution of gross irrigated area as well as season wise irrigated area shows that on an overall average the gross irrigated area per farm was estimated as 2.13 ha. of which the maximum i.e., 1.01 ha was covered during the other horticulture crops and thereafter the total 0.81 ha. was cropped during kharif season. While the coverage during rabi season was only 0.31 ha. per farm in the area under study. The related data are given in Table 5.29.

Table -5.29

Category-Wise Details of Seasonal Total Irrigated and Cropped Area on the Farms of Sample Non-Beneficiary Farmers of ACABC Scheme Area of Telangana state

(Area in Hect./Non-Beneficiary)

Sl. No.	Category of Sample Non-Beneficiary Farmers	No. of Samples	Total Irrigated Area			Gross Irrigated Area	Total Cropped Area			Gross Cropped Area
			Kharif	Rabi	Zaid		Kharif	Rabi	Zaid	
A.	**Proper Agri. Services**									
I	Marginal Farmers	9	0.72	0.37	0.00	1.09	0.81	0.37	0.00	1.18
II	Small Farmers	13	1.06	0.22	0.32	1.60	1.31	0.42	0.32	2.05
III	Medium & Large Farmers	18	0.83	0.32	2.01	3.17	1.20	0.32	2.94	4.47
	Sub Total Proper Agri. Services	40	0.88	0.30	1.01	2.19	1.15	0.36	1.43	2.94
B.	**Allied Agri. Services**									
I	Marginal Farmers	4	0.21	0.21	0.42	0.83	0.21	0.21	0.42	0.83
II	Small Farmers	4	0.42	0.42	1.15	1.98	0.42	0.42	1.15	1.98
III	Medium & Large Farmers	2	1.46	0.42	1.88	3.75	1.46	0.42	1.88	3.75
	Sub Total Allied Agri. Services	10	0.54	0.33	1.00	1.88	0.54	0.33	1.00	1.88
	Grand Total Non-Beneficiaries	50	0.81	0.31	1.01	2.13	1.03	0.36	1.34	2.73

Source: Field Survey

5.18. Details of Inputs and Outputs of Kharif Crops on the Farms of Non-Beneficiaries of ACABC Scheme Area of Telangana state:

Category-wise details of inputs and outputs of kharif crops on the farms of sample non-beneficiary farmers of ACABC scheme area of Telangana state analyzed in Table 5.30 indicates

that on an overall average the gross outputs from kharif crops was accounted as Rs. 77,896 per farm. While the total inputs per farm was estimated as Rs. 48,660 of which the maximum i.e. Rs. 38,390 was an account of other inputs and Rs. 10,270 was on account of own input. Among the crops, the maximum outputs i.e. Rs. 53200 were received from kharif cereals against the outputs from other kharif crops were estimated as Rs. 33,300 on an average. Thus, the maximum outputs were received from kharif cereals. Accordingly the maximum inputs i.e. Rs.33,060 per farm was incurred on kharif cereals only. On the other hand, the amount of other inputs incurred on all the kharif crops was found higher than the own inputs incurred on all the crops. In the total expenditure of kharif of Non-beneficiaries, cereals have a share of 46 per cent and other crops have 54 per cent. In the returns of the crop in the same season, cereals have 41 per cent share while other crops have 59 per cent share. The related data are given in Table 5-30.

5.18.1. Details of Inputs and Outputs of Rabi Crops on the Farms of Non-Beneficiaries of ACABC Scheme Area of Telangana state:

Categories–wise details of inputs and outputs of rabi crops on the farms of non-beneficiary farmers of ACABC scheme area of Telangana state analyzed in Table 5.31 indicates that on an overall average the gross output received from the rabi crops was accounted as Rs. 36,120 per farm. While the total inputs on rabi crops was incurred as Rs. 20,160 per farm of which the maximum i.e. Rs. 15,580 was incurred on other inputs and Rs 4,580 on own inputs per farm. Further among the rabi crops the output per farm was estimated as maximum i.e. Rs. 28,240 from rabi cereals crops against the minimum as Rs 3,360 from rabi pulses. While cereals are raised by both agricultural and allied services group farmers, pulses are grown in rabi only by agricultural services group. In the input costs, cereals have 67 per cent share while the remaining 33 per cent belongs to pulses. The related data are given in Table 5.31.

Table -5.30

Category-Wise Details of Inputs and Outputs of Kharif Crops on the Farms of Sample Non-Beneficiary Farmers of the ACABC Scheme in Telangana state

(Inputs in Rs, Outputs in Rs/Non- Beneficiary)

Sl.No	Category of Non-Beneficiary Farmers	No. of Sampl-es	Cereals				Pulses				Others				Total Kharif Crops			
			Inputs (Rs)			Output s (Rs)	Inputs (Rs)			Output s (Rs)	Inputs (Rs)			Output s (Rs)	Inputs (Rs)			Output s (Rs)
			Own	Others	Total		Own	Others	Total		Own	Others	Total		Own	Others	Total	
A.	**Proper Agri. Services**																	
I	Marginal Farmers	9	8611	22389	31000	55111	0	0	0	0	889	3556	4444	7778	9500	25945	35444	57889
II	Small Farmers	13	9231	27692	36923	58154	0	0	0	0	2615	23538	26154	56231	11846	51230	63077	94385
III	Medium & Large Farmers	18	8000	28000	36000	58000	0	0	0	0	4444	17778	22222	48000	12444	45778	58222	99600
	Sub Total Proper Agri. Services	40	8538	26638	35175	57400	0	0	0	0	3050	16450	19500	41625	11588	43088	54675	88520
B.	**Allied Agri. Services**																	
I	Marginal Farmers	4	2500	6000	8500	15000	0	0	0	0	0	0	0	0	2500	6000	8500	12500
II	Small Farmers	4	3000	15000	18000	27000	0	0	0	0	0	0	0	0	3000	15000	18000	27000
III	Medium & Large Farmers	2	14000	56000	70000	98000	0	0	0	0	0	0	0	0	14000	56000	70000	98000
	Sub Total Allied Agri. Services	10	5000	19600	24600	36400	0	0	0	0	0	0	0	0	5000	19600	24600	35400
	Grand Total Non-Beneficiaries	50	7830	25230	33060	53200	0	0	0	0	2440	13160	15600	33300	10270	38390	48660	77896

Source: Field Survey

Table -5.31

Category-Wise Details of Inputs and Outputs of Rabi Crops on the Farms of Sample Non-Beneficiary Farmers of the ACABC Scheme in Telangana state

(Inputs in Rs, Outputs in Rs/Non- Beneficiary)

Sl.No	Category of Non-Beneficiary Farmers	No. of Samples	Cereals				Pulses				Others				Total Rabi Crops			
			Inputs (Rs)			Output (Rs)	Inputs (Rs)			Outputs (Rs)	Inputs (Rs)			Outputs (Rs)	Inputs (Rs)			Out-puts (Rs)
			Own	Others	Total		Own	Others	Total		Own	Others	Total		Own	Others	Total	
A.	**Proper Agri. Services**																	
I	Marginal Farmers	9	4444	13333	17778	35556	0	0	0	0	0	0	0	0	4444	13333	17778	29556
II	Small Farmers	13	2154	8615	10769	20462	1846	2769	4615	12923	0	0	0	0	8000	22000	30000	56000
III	Medium & Large Farmers	18	2722	13611	16333	30333	0	0	0	0	0	0	0	0	2722	13611	16333	30333
	Sub Total Proper Agri. Services	40	2925	11925	14850	28300	600	900	1500	4200	0	0	0	0	4825	16275	21100	38500
B.	**Allied Agri. Services**																	
I	Marginal Farmers	4	2500	7500	10000	18500	0	0	0	0	0	0	0	0	2500	7500	10000	15000
II	Small Farmers	4	4500	16500	21000	35000	0	0	0	0	0	0	0	0	4500	16500	21000	35000
III	Medium & Large Farmers	2	4000	16000	20000	33000	0	0	0	0	0	0	0	0	4000	16000	20000	33000
	Sub Total Allied Agri. Services	10	3600	12800	16400	28000	0	0	0	0	0	0	0	0	3600	12800	16400	26600
	Grand Total Non-Beneficiaries	50	3060	12100	15160	28240	480	720	1200	3360	0	0	0	0	4580	15580	20160	36120

Source: Field Survey

5.18.2. Details of Inputs and Outputs of Other Horticulture Crops on the Farms of Non-Beneficiaries of ACABC Scheme Area of Telangana state:

The category-wise details of inputs and outputs of other horticulture crops on the farms of non-beneficiaries of ACABC scheme area of Telangana state. Input costs and returns of other horticultural crops of non-beneficiaries are discussed in Table 5-32. While the input costs of agricultural services farmers are Rs. 1,95,400, allied services farmers reported only Rs. 14,230. Corresponding per farm returns of these groups are Rs. 1,59,225 and Rs. 29,620.

Table -5.32

Category-Wise Details of Inputs and Outputs of Other Horticultural Crops on the Farms of Sample Non-Beneficiary Farmers of the ACABC Scheme Area in Telangana state

(Inputs in Rs, Outputs in Rs/Non- Beneficiary)

Sl.No	Category of Non-Beneficiary Farmers	No. of Samples	Other Horticultural Crops			
			Inputs (Rs)			Outputs (Rs)
			Own	Others	Total	
A.	**Proper Agri. Services**					
I	Marginal Farmers	9	0	0	0	0
II	Small Farmers	13	3846	30769	34615	65385
III	Medium & Large Farmers	18	56444	352778	409222	540833
	Sub Total Proper Agri. Services	40	26650	168750	195400	264625
B.	**Allied Agri. Services**					
I	Marginal Farmers	4	4000	1000	5000	18000
II	Small Farmers	4	8250	7700	15950	39875
III	Medium & Large Farmers	2	13500	15750	29250	63500
	Sub Total Allied Agri. Services	10	7600	6630	14230	35850
	Grand Total Non-Beneficiaries	50	22840	136326	159166	218870

Source: Field Survey

5.19. Details of Inputs, Outputs and Net Incomes from All Crops on the Farms of the Sample Non-Beneficiary Farmers of ACABC Scheme Area of Telangana state:

Category-wise details of inputs, outputs and net incomes from all crops on the farms of the sample non-beneficiary farmers of ACABC scheme area of Telangana state worked out in Table 5.33 indicates that on an overall the gross outputs from all crops was received as Rs. 3,31,086 per farm. While the total inputs incurred per farm was estimated as Rs. 2,27,986 of which the maximum i.e. Rs 1,90,296 was incurred on other inputs and Rs. 37,690 on own inputs. The highest amount of other inputs indicates that on an aggregate level, the farms of non-beneficiaries were productive significantly. This fact is confirmed by the amount of net income of Rs. 1, 03,100 per farm on an average.

Table -5.33

Category-Wise Details of total Inputs, Outputs and Net Incomes from All Crops on the Farms of the Sample Non-Beneficiary Farmers of ACABC Scheme Area of Telangana state

(Inputs in Rs, Outputs in Rs/Non- Beneficiary)

Sl. No.	Category of Sample Non-Beneficiary Farmers	No. of Samples	Gross Inputs (Rs)			Gross Outputs (Rs)	Net Incomes (Rs)
			Own	Others	Total		
A.	**Proper Agri. Services**						
I	Marginal Farmers	9	13944	39278	53222	87445	34223
II	Small Farmers	13	23692	103999	127692	215770	88078
III	Medium & Large Farmers	18	71610	412167	483777	670766	186989
	Sub Total Proper Agri. Services	40	43063	228113	271175	391645	120470
B.	**Allied Agri. Services**						
I	Marginal Farmers	4	9000	14500	23500	45500	22000
II	Small Farmers	4	15750	39200	54950	101875	46925
III	Medium & Large Farmers	2	31500	87750	119250	194500	75250
	Sub Total Allied Agri. Services	10	16200	39030	55230	97850	42620
	Grand Total Non-Beneficiaries	50	37690	190296	227986	331086	103100

Source: Field Survey

5.20. Details of Inputs, Outputs and Net Incomes from Milch Animals reared by Sample Non-Beneficiary Farmers of ACABC Scheme Area of Telangana state:

Category-wise details of inputs, outputs and net incomes from milch animals reared by sample non-beneficiary farmers of ACABC scheme area of Telangana state worked out in Table 5.34 indicates that on an overall average the total outputs received from milch animals was accounted as Rs. 1,02,505 per farm. While the total inputs incurred were estimated as Rs

69,082 per farm of which the maximum i.e. Rs. 52,914 was on account of other inputs and Rs. 16,168 on account of own inputs. Thus, the net income per farm was estimated as Rs. 33,423.

Table - 5.34

Category-Wise Details of Inputs, Outputs and Net Incomes from Milch Animals Reared by Sample Non-Beneficiary Farmers of ACABC Scheme Area of Telangana state

(Inputs in Rs, Outputs in Rs/Non- Beneficiary)

Sl. No.	Category of Sample Non-Beneficiary Farmers	No. of Sam-ples	Inputs Incurred (Rs)			Outputs Received (Rs)	Net Incomes (Rs)
			Own Sources	Others Sources	Total (Rs)		
A.	**Proper Agri. Services**						
I	Marginal Farmers	9	11667	6667	18334	40000	21666
II	Small Farmers	13	15556	23056	38612	58333	19721
III	Medium & Large Farmers	18	14927	27664	42591	75246	32655
	Sub Total Proper Agri. Services	40	14398	21442	35840	61819	25978
B.	**Allied Agri. Services**						
I	Marginal Farmers	4	21875	124500	146375	198125	51750
II	Small Farmers	4	25000	190000	215000	280000	65000
III	Medium & Large Farmers	2	22500	265000	287500	370000	82500
	Sub Total Allied Agri. Services	10	23250	178800	202050	265250	63200
	Grand Total Non-Beneficiaries	50	16168	52914	69082	102505	33423

Source: Field Survey

5.20.1. Details of Inputs, Outputs and Net Income from Draught Animals Reared by Non-Beneficiary Farmers of ACABC Scheme Area of Telangana state:

Table – 5.35

Category-Wise Details of Inputs and Outputs from Draught Animals Reared by Sample Non-Beneficiary Farmers of ACABC Scheme Area of Telangana state

(Inputs in Rs, Outputs in Rs/Non- Beneficiary)

Sl. No.	Category of Sample Non-Beneficiary Farmers	No. of Samples	Inputs Incurred (Rs)			Outputs Received (Rs)	Net Incomes (Rs)
			Own	Others	Total		
A.	**Proper Agri. Services**						
I	Marginal Farmers	9	-	-	-	-	-
II	Small Farmers	13	-	-	-	-	-
III	Medium & Large Farmers	18	-	-	-	-	-
	Sub Total Proper Agri. Services	40	-	-	-	-	-
B.	**Allied Agri. Services**		-	-	-	-	-
I	Marginal Farmers	4	-	-	-	-	-
II	Small Farmers	4	-	-	-	-	-
III	Medium & Large Farmers	2	-	-	-	-	-
	Sub Total Allied Agri. Services	10	-	-	-	-	-
	Grand Total Non-Beneficiaries	50	-	-	-	-	-

5.20.2. Details of Inputs, Outputs and Net Income from other Animals Reared by Non-Beneficiary Farmers of ACABC Scheme Area of Telangana state:

Table – 5.36

Category-Wise Details of Inputs and Outputs from other Animals Reared by Sample Non-Beneficiary Farmers of ACABC Scheme Area of Telangana state

(Inputs in Rs, Outputs in Rs/Non- Beneficiary)

Sl. No.	Category of Sample Non-Beneficiary Farmers	No. of Samples	Inputs Incurred (Rs)			Outputs Received (Rs)	Net Incomes (Rs)
			Own	Others	Total		
A.	**Proper Agri. Services**						
I	Marginal Farmers	9	-	-	-	-	-
II	Small Farmers	13	-	-	-	-	-
III	Medium & Large Farmers	18	-	-	-	-	-
	Sub Total Proper Agri. Services	40	-	-	-	-	-
B.	**Allied Agri. Services**		-	-	-	-	-
I	Marginal Farmers	4	-	-	-	-	-
II	Small Farmers	4	-	-	-	-	-
III	Medium & Large Farmers	2	-	-	-	-	-
	Sub Total Allied Agri. Services	10	-	-	-	-	-
	Grand Total Non-Beneficiary	50	-	-	-	-	-

5.20.3. Details of Inputs, Outputs and Net Incomes from total Animals Reared by Non-Beneficiary Farmers of ACABC Scheme Area of Telangana state:

Category-wise details of inputs, outputs and net incomes from total animals reared by sample non-beneficiary farmers of ACABC scheme area of Telangana state worked -out in Table 5.37 indicates that on an overall average the total outputs received from milch animals was accounted as Rs. 1,02,505 per farm. While the total inputs incurred were estimated as Rs.69,082 per farm of which the maximum i.e., Rs. 52,914 was on account of other inputs and Rs 16,168 on account of own inputs. Thus, the net income per farm was estimated as Rs. 33,423 from rearing animals on the farms which confirms very wells that rearing animals on the farms along with other agri. services was significantly profitable on the farms of sample non-beneficiaries under ACABC scheme in the state of Telangana. The data are given in Table 5.37.

Table – 5.37
Category-Wise Details of Inputs, Outputs and Net Incomes from total Animals Reared by Sample Non-Beneficiary Farmers of ACABC Scheme Area of Telangana state

(Inputs in Rs, Outputs in Rs/Non- Beneficiary)

Sl. No.	Category of Sample Non-Beneficiary Farmers	No. of Sam-ples	Inputs Incurred (Rs)			Outputs Received (Rs)	Net Incomes (Rs)
			Own	Others	Total		
A.	**Proper Agri. Services**						
I	Marginal Farmers	9	11667	6667	18334	40000	21666
II	Small Farmers	13	15556	23056	38612	58333	19721
III	Medium & Large Farmers	18	14927	27664	42591	75246	32655
	Sub Total Proper Agri. Services	40	14398	21442	35840	61819	25978
B.	**Allied Agri. Services**						
I	Marginal Farmers	4	21875	124500	146375	198125	51750
II	Small Farmers	4	25000	190000	215000	280000	65000
III	Medium & Large Farmers	2	22500	265000	287500	370000	82500
	Sub Total Allied Agri. Services	10	23250	178800	202050	265250	63200
	Grand Total Non-Beneficiaries	50	16168	52914	69082	102505	33423

Source: Field Survey

5.21. Details of Answers against the Questions from Non- Beneficiary Farmers of the ACABC Scheme Area in Telangana state:

Table - 5.38
Category-wise Details of Answers against the Questions from Non- Beneficiary Farmers of the Same Area of ACABC Scheme in Telangana state

(In Numbers)

Sl.No.	Category of Non-Beneficiary Farmers	No. of Sam p-les	Heard about Agri-Clinic		If yes reasons for not Availing Services			Heard about the Agri-Business Centers		If yes reasons for not Purchasing Inputs		
			Yes	No	(1)	(2)	(3)	Yes	No	(1)	(2)	(3)
A.	**Proper Agri. Services**											
I	Marginal Farmers	9	2	7	1	1	0	2	7	2	0	0
II	Small Farmers	13	5	8	2	3	0	1	12	1	0	0
III	Medium & Large Farmers	18	5	13	2	3	0	5	13	5	0	0
	Sub Total Proper Agri. Services	40	12 (30.00)	28 (70.00)	5	7	0	8 (20.00)	32 (80.00)	8	0	0
B.	**Allied Agri. Services**											
I	Marginal Farmers	4	1	3	1	0	0	0	4	0	0	0
II	Small Farmers	4	3	1	3	0	0	0	4	0	0	0
III	Medium & Large Farmers	2	1	1	1	0	0	0	2	0	0	0
	Sub Total Allied Agri. Services	10	5 (50.00)	5 (50.00)	5	0	0	0 (0.00)	10 (100.0)	0	0	0
	Grand Total Non-Beneficiaries	50	17 (34.00)	33 (66.00)	10	7	0	8 (16.00)	42 (84.00)	0	0	0

Source: Field Survey

The sample non-beneficiaries of the study were asked about their awareness of the Agri-clinics and Agri-business centre scheme. Only 30 per cent of them have heard about Agri-clinics and 20 per cent have heard about Agri-business centres. Proper agri service group, they were also asked why they could not use the services of these clinics. The reasons cited were lack of irrigation and financial crunch. They also reported that they could not purchase inputs due to long distance location of these centres. Allied services group, whose main occupation is dairy, reported that they use the services of government veterinary hospital. Overall, only 34 per cent of the non-beneficiary samples are aware of Agri-clinics and 16 per cent of them are aware of Agri-business centres (Table 5.38).

5.22. Details of the Sources of procuring Inputs by the Sample Non-Beneficiary Farmers of the Area of ACABC Scheme in Telangana state:

Non-beneficiary farmers were asked how they are meeting their needs of inputs. Majority (67.50) of agricultural services group are buying from input dealers while 47 per cent have own sources. The rest are buying from shop keepers on loan (Table 5.39).

Table 5.39

Category-wise Details of the Sources of Procuring Inputs by the Sample Non-Beneficiary Farmers of the Area of ACABC Scheme in Telangana state

(In Numbers)

Sl.No.	Category of Non-Beneficiary Farmers	No. of Samples	Own Sources	On Hire from Shopkeepers	As Subsidy by Govt. Dept.	Other Sources (input dealer)
A.	**Proper Agri. Services**					
I	Marginal Farmers	9	0	7	0	2
II	Small Farmers	13	6	6	0	7
III	Medium & Large Farmers	18	13	0	0	18
	Sub Total Proper Agri. Services	40	19 (47.50)	13 (32.50)	0 (0.00)	27 (67.50)
B.	**Allied Agri. Services**					
I	Marginal Farmers	4	0	0	0	4
II	Small Farmers	4	0	0	0	4
III	Medium & Large Farmers	2	0	0	0	2
	Sub Total Allied Agri. Services	10	0 (0.00)	0 (0.00)	0 (0.00)	10 (100.00)
	Grand Total Non-Beneficiaries	50	19 (38.00)	13 (26.00)	0 ()	37 (74.00)

Source: Field Survey

5.23. Details of Extension Services Received by Non-Beneficiary Farmers of the Same Area of ACABC Scheme in Telangana state:

Table 5.40 indicates that non-beneficiary farmers were queried about availability of extension services from other sources. Farmers from agricultural services group replied that they did not receive any extension services from any source. In allied services sample, 80 per cent said that they are receiving extension services from government veterinary doctor.

Table - 5.40
Category-wise Details of Extension Services Received by Non-Beneficiary Farmers of the Same Area of ACABC Scheme in Telangana state

(In Numbers)

Sl.No.	Category of Non-Beneficiary Farmers	No. of Samples	Received any Extension Services		If yes Received from whom		
			Yes	No	(1)	(2)	(3)
A.	**Proper Agri. Services**						
I	Marginal Farmers	9	0	9	-	-	-
II	Small Farmers	13	0	13	-	-	-
III	Medium & Large Farmers	18	0	18	-	-	-
	Sub Total Proper Agri. Services	40	0 (0.00)	40 (100.00)	-	-	-
B.	**Allied Agri. Services**						
I	Marginal Farmers	4	2	2	Govt. Veterinary Doctor		
II	Small Farmers	4	4	0			
III	Medium & Large Farmers	2	2	0			
	Sub Total Allied Agri. Services	10	8 (80.00)	2 (20.00)			
	Grand Total Non-Beneficiaries	50	8 (16.00)	42 (84.00)			

Source: Field Survey

5.24. Details about Satisfaction with the Availability of Inputs and Outputs to the Non-Beneficiary Farmers of the Area of ACABC Scheme in Telangana state:

An attempt was made to gauge the level of satisfaction of non-beneficiary farmers of the study regarding the availability of inputs and the returns on crops and other allied activities. 37.50 per cent of the agricultural services group expressed satisfaction over the availability of inputs. 77.50 per cent of farmers were dissatisfied with the crop returns. Reasons they cited were high production costs and under performance of yield (Table 5.41). On the other hand, farmers in the allied agricultural services group are 32.00 per cent well satisfied with quality input supply and 18.00 per cent resultant returns on mainly diary. Overall, 68.00 and 82.00 per cent of non-beneficiaries have expressed not satisfaction on the input availability and returns.

Reasons proper agriculture service input side 1. Low quality of seed 2. Pesticides. Output side. High Production Cost 2. Low Yielding. Reasons from allied agriculture service input side 1. not availability of good and green feed for animals. Output side. Low Yielding

Table - 5.41

Category-wise Details about Satisfaction with the Availability of Inputs and Outputs to the Non-Beneficiary Farmers of the Area of ACABC Scheme in Telangana state

(In Numbers)

Sl. No.	Category of Non-Beneficiary Farmers	No. of Samples	Satisfied with Availability of Inputs		If No Give Reasons			Satisfied with Output of Crops		If No Give Reasons		
A.	**Proper Agri. Services**		Yes	No	(1)	(2)	(3)	Yes	No	(1)	(2)	(3)
I	Marginal Farmers	9	3	6	4	2	0	7	2	2	0	0
II	Small Farmers	13	5	8	6	2	0	2	11	8	3	0
III	Medium & Large Farmers	18	7	11	7	4	0	0	18	14	4	0
	Sub Total Proper Agri. Services	40	15 (37.50)	25 (62.50)	17	8	0	9 (22.50)	31 (77.50)	24	7	0
B.	**Allied Agri. Services**											
I	Marginal Farmers	4	1	3	3	0	0	0	4	0	4	0
II	Small Farmers	4	0	4	4	0	0	0	4	0	4	0
III	Medium & Large Farmers	2	0	2	2	0	0	0	2	0	2	0
	Sub Total Allied Agri. Services	10	1 (10.00)	9 (90.00)	9	0	0	0	10 (100.0)	0	4	0
	Grand Total Non-Beneficiaries	50	16 (32.00)	34 (68.00)	26	8	0	9 (18.00)	41 (82.00)	0	10	0

Source: Field Survey

5.25. Category-Wise Comparative Cultivated and Irrigated Area with Irrigation Intensity on the Farms of Sample Beneficiary and Non-Beneficiary Farmers under ACABC Scheme in Telangana state:

Category-wise comparative cultivated and irrigated area with irrigation intensity on the farms of sample beneficiary and non-beneficiary farmers under ACABC scheme in Telangana state analyzed in Table 5.42 indicates that the net cultivated area on the farms of beneficiaries was estimated as 4.57 ha per farm and on the farms of non-beneficiaries it was estimated as 1.98 ha per farm in the ACABC scheme area of Telangana state. The total net cultivated area in cases of both types of sample farmers was reported to be irrigated under the two categories of sample farmers. While, the gross irrigated area on the sample beneficiary farms was estimated

as 4.87 ha against 2.13 ha per farm on the sample non- beneficiary farms. Allied agricultural services group farmers reported higher intensity of irrigation than the agricultural services sample farmers. Again non-beneficiary farmers reported higher intensity of irrigation, 115.76, than beneficiaries. Overall it is 111.19.

Category-wise comparative cultivated and irrigated area with irrigation intensity on the farms of sample beneficiary and non-beneficiary farmers under ACABC scheme in Telangana state analyzed in Table 5-43 indicates that the overall average net cultivated area per farm in case of beneficiary farmers was estimated as 4.57 ha. against 1.98 ha. in case of non-beneficiary farmers. Thus, average size of farms was larger in case of beneficiary farmers than that in case of the non-beneficiary farmers in the area under study. Accordingly the gross cropped area per farm was also estimated to be comparatively higher in case of beneficiary farmers i.e. 5.17 ha per farm against 2.73 ha per farm in case of non-beneficiary farmers. Thus, the average cropping intensity on the farms of both types of sample farmers was similarly estimated as 113.13 and 137.88 per cent which very well clarified that almost all the farms were total cultivated during kharif and rabi seasons and partly during horticulture season too.

Table – 5.42
Category-Wise Comparative Cultivated Area and Irrigation Intensity on the Farms of Sample Beneficiary and Non-Beneficiary Farmers under ACABC Scheme in Telangana state

(Area in Hect. Per farm, Irri. Intensity in %)

Sl.No	Category of Beneficiary & Non-Beneficiary Farmers	No. of Samples		Net -Cultivated Area		Net -Irrigated Area		Gross Irrigated Area		Irrigated Intensity (%)	
		Beneficiary Farmers	Non-Beneficiary Farmers	Beneficiary Farmers	Non-Beneficiary Farmers	Beneficiary Farmers	Non-Beneficiary Farmers	Beneficiary Farmers	Non-Beneficiary Farmers	Beneficiary Farmers	Non-Beneficiary Farmers
A.	**Proper Agri. Services**										
I	Marginal Farmers	4	9	0.81	0.81	0.81	0.72	0.81	1.09	100.00	151.39
II	Small Farmers	15	13	1.09	1.63	1.09	1.38	1.55	1.60	142.20	115.94
III	Medium & Large Farmers	61	18	6.03	4.10	6.03	2.89	6.55	3.17	108.62	109.69
	Sub Total Proper Agri. Services	80	40	4.84	2.56	4.84	1.91	5.33	2.19	110.12	114.66
B.	**Allied Agri. Services**										
I	Marginal Farmers	1	4	1.22	0.63	1.22	0.63	2.42	0.83	198.36	131.75
II	Small Farmers	9	4	1.37	1.56	1.10	1.56	1.19	1.98	108.18	126.92
III	Medium & Large Farmers	10	2	5.67	3.13	3.93	3.33	4.78	3.75	121.63	112.61
	Sub Total Allied Agri. Services	20	10	3.51	1.54	2.52	1.54	3.05	1.88	121.03	122.08
	Grand Total Beneficiary& Non Beneficiary Farmers	100	50	4.57	1.98	4.38	1.84	4.87	2.13	111.19	115.76

Source: Field Survey

5.25.1. Comparative Cultivated and Irrigated Area with Irrigation Intensity on the Farms of Sample Beneficiary and Non-Beneficiary Farmers under ACABC Scheme in Telangana state:

Table – 5.43
Category-Wise Comparative Cultivated Area, Gross- Cropped Area and Cropping Intensity on the Farms of Sample Beneficiary and Non-Beneficiary Farmers under ACABC Scheme in Telangana state

(Area in Hect. Per farm, Cropping Intensity in %)

Sl.No	Category of Beneficiary& Non-Beneficiary Farmers	No. of Samples		Net -Cultivated Area		Gross Cropped Area		Cropping Intensity (%)	
		Beneficiary Farmers	Non-Beneficiary Farmers	Beneficiary Farmers	Non-Beneficiary Farmers	Beneficiary Farmers	Non-Beneficiary Farmers	Beneficiary Farmers	Non-Beneficiary Farmers
A.	**Proper Agri. Services**								
I	Marginal Farmers	23	9	0.81	0.81	0.81	1.18	100.00	145.68
II	Small Farmers	7	13	1.09	1.63	1.55	2.05	142.20	125.77
III	Medium & Large Farmers	3	18	6.03	4.1	6.65	4.47	110.28	109.02
	Sub Total Proper Agri. Services	33	40	4.84	2.56	5.40	2.94	111.57	114.84
B.	**Allied Agri. Services**								
I	Marginal Farmers	3	4	1.22	0.63	2.42	0.83	198.36	131.75
II	Small Farmers	1	4	1.37	1.56	1.73	1.98	126.28	126.92
III	Medium & Large Farmers	3	2	5.67	3.13	6.68	3.75	117.81	119.81
	Sub Total Allied Agri. Services	7	10	3.51	1.54	4.24	1.88	120.80	122.08
	Grand Total Beneficiary& Non Beneficiary Farmers	100	50	4.57	1.98	5.17	2.73	113.13	137.88

Source: Field Survey

5.25.2. Comparative Inputs, Outputs, Net Income and Input- Output Ratios on the Farms of Sample Beneficiary and Non-Beneficiary Farmers under ACABC Scheme in Telangana state:

Table - 5.44

Category-Wise Comparative Inputs, Outputs, Net Income and Input- Output Ratios on the Farms of Sample Beneficiary and Non-Beneficiary Farmers under ACABC Scheme in Telangana state

Sl.No	Category of Beneficiary & Non-Beneficiary Farmers	No. of Samples		Total Inputs (Rs/Farm)		Gross Output (Rs/Farm)		Net-Income (Rs/Farm)		Input-Output Ratios	
		Beneficiary Farmers	Non-Beneficiary Farmers	Beneficiary Farmers	Non-Beneficiary Farmers	Beneficiary Farmers	Non-Beneficiary Farmers	Beneficiary Farmers	Non-Beneficiary Farmers	Beneficiary Farmers	Non-Beneficiary Farmers
A.	**Proper Agri. Services**										
I	Marginal Farmers	4	9	50409	53222	100581	87445	50172	34223	1:1.99	1:1.64
II	Small Farmers	15	13	236344	127692	413169	215770	176825	88078	1:1.75	1:1.69
III	Medium & Large Farmers	61	18	1058804	483777	1732039	670766	673235	186989	1:1.63	1:1.39
	Sub Total Proper Agri. Services	80	40	854173	271175	1403178	391645	549005	120470	1:1.64	1:1.44
B.	**Allied Agri. Services**										
I	Marginal Farmers	1	4	115200	146375	185000	198125	69800	51750	1:1.27	1:1.07
II	Small Farmers	9	4	259330	215000	414222	280000	154892	65000	1:0.83	1:0.68
III	Medium & Large Farmers	10	2	242000	287500	446737	370000	204737	82500	1:1.19	1:0.83
	Sub Total Allied Agri. Services	20	10	243459	202050	419018	265250	175560	63200	1:0.83	1:0.63

Source: Field Survey

Note: S.No. A. only for Agri .Incomes
S.No. B. only for Dairy .Incomes

Category-wise comparative inputs, outputs, net income and input- output ratios on the farms of sample beneficiary and non-beneficiary farmers under ACABC scheme in Telangana state analyzed in Table 5.44 indicate that on an overall average the total inputs per farm in case of beneficiaries was estimated as Rs 748037 against Rs 227986 per farm in case of non-beneficiaries. Thus, inputs incurred on the farms of beneficiaries were slightly higher than that on the farms of non-beneficiaries. Accordingly the gross outputs per farm was also higher i.e. Rs 12,33,505 in case of beneficiaries against Rs. 3,31,086 per farm in case of non-beneficiaries. Therefore, the net income per farm was estimated as Rs. 4,85,468 in case of beneficiary farmers against Rs. 1,03,100 per farm in case of non-beneficiary farmers. Thus, the input output ratio on an average of agriculture service was estimated as 1:1.64 in case of beneficiaries against 1:1.44 in case of non-beneficiaries. Hence, the turnover per farm was comparatively higher on the farmers of beneficiaries which indicate that there was effect of ACABC Scheme on the farmers. But the input output ratio on an average of dairy farm is more or similar both beneficiary and non-beneficiary farmers which indicate that there is little bit effect of ACABC scheme on the dairy farmers.

* * *

CHAPTER - VI

6.1. Introduction:

For enhancing production systems in the country, agricultural extension services need to be constantly updated with technological advances in crop production and training methods which would focus on timely crop management. Agricultural extension services throughout the country are suffering from acute 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 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 teeming farmers by the more qualified and skilled manpower and to shore up 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. The main objectives of the ACABCs scheme were (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 equipment on hire, sale of inputs and other services. The National Institute of Agricultural Extension Management (MANAGE) will be responsible for providing 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 scheme and arrange to establish required number of units at the ground level, as envisaged to make this scheme a success.

The Ministry of Agriculture and Farmers welfare, Government of India in association with NABARD has launched this unique programme to take better methods of farming to each and every farmer across the country. Committed to this programme, the Government is also providing start-up training to 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.

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. The scheme is envisaged to boost the much needed agricultural extension services in the country in a comprehensive way. Services that are made available to the farmers include; crop protection including pest surveillance, diagnostic and control services, seed production and processing units, training in vermin-culture, organic farming methods, training in poultry and fishery, using bio-fertilizers and bio-pesticides, livestock health care and feed selection, post-harvest management, storage practices, grading and marketing of agricultural produce, vegetable production and marketing. Wherever feasible, mushroom and sericulture cultivation are also being encouraged.

6.2. Summary of Main Findings and Conclusion

- Out of the 80 farmers selected under proper agricultural services, 61 are medium and large farmers, 15 are small farmers and 4 are marginal farmers.
- Twenty farmers were selected under allied agricultural services. Out of these 10 are medium and large farmers, 9 are small farmers and 1 is a marginal farmer. The average area of holding per beneficiary was 4.83 hectares.
- There are no scheduled caste farmers in the sample. In proper agricultural services sample, 33 are backward caste farmers, 47 other category farmers.
- 13 backward caste, other caste farmers 3 farmers in allied agricultural services sample.
- Educational status of the beneficiaries it was found that on the whole there were 20 post graduates, 32 graduates, 38 Inter & SSC and 7 were below SSC.
- Nineteen farmers under proper agricultural services category and nine farmers in allied agricultural services have undergone training in crop husbandry, storage and marketing under the AC & ABC scheme.
- The gross cropped area during kharif season was estimated as 1.78 ha. and the total irrigated area was 1.72 ha. Pulses are not grown in Kharif among the beneficiary farms. When total beneficiary category is analyzed, cereals occupied 90 per cent of total kharif area. Horticultural crops like chilies, turmeric, ginger and vegetables accounted for 9.6 per cent of the total. Out of the total cropped area in kharif, 97.04 per cent is under irrigation.
- The average area under rabi-cereals was estimated 0.32 ha. per beneficiary and the 0.28 area was irrigated. The distribution under different categories of farmers it was found that the area under rabi cereals was comparatively higher i.e. 0.73 ha per beneficiary under allied agri services against 0.22 ha under proper agri-services.
- In rabi season, 0.64 hectares in rabi season, out of which 0.49 hectares have irrigation and cereals accounted for 50 per cent followed by other horticultural crops like vegetables, chilly, cotton and groundnut with 34 per cent. Pulse area is 16 per cent in total cropped area in rabi in beneficiary group. Out of the total cropped area 78 per cent is under irrigation.
- Other horticulture crops significant area is under flowers like rose, chrysanthemum, marigold. Under fruits, papaya, watermelon, guava, banana and orange are raised. These crops all most more than a season and occupy 2.94 hectares in agricultural

services group and 2.24 hectares in allied agricultural services group. Again 95 per cent of this area is under irrigation.

- The average total irrigated area during kharif as 1.72 ha per beneficiary farm, in rabi season each was estimated as 0.49 ha per beneficiary farm. While other horticulture crops it was estimated as 2.65 ha. per farm. Thus, the gross irrigated area on an overall average was estimated as 4.87 ha.
- Average the total outputs from kharif crops was estimated to Rs. 3,91,407 per farm of which Rs. 1,22,357 was on account of cereals, Rs 10,829 and Rs 26,064 was received from other crops. While the total inputs per farm was estimated to Rs 1,91,523 of which the maximum i.e. Rs 1,58,866 was incurred on other inputs and Rs 32,256 on own inputs. outputs per farm was accounted to be comparatively higher i.e. Rs 4,39,469 in case of the beneficiary farmers of proper agricultural services against the lower i.e. Rs 1,99,162 per farm in case of the beneficiary farmers of allied agricultural services.
- The gross outputs from the rabi crops was accounted Rs. 1,55,672 per farm of which the maximum i.e. Rs 28,755 was on account of cereals crops against the minimum i.e. Rs 8,646 on account of pulses. While the total outputs from other crops was accounted as Rs 23,363 per farm. average the gross inputs perform was accounted as Rs. 62,674 of which Rs. 46,902 were incurred on other inputs and Rs. 15,722 on own inputs.
- Horticultural crops agricultural services sample group are investing more and getting more returns than the allied services group. The input costs are Rs. 5,78,007 and output is Rs. 7,99,110. On overall beneficiary sample the corresponding figures are Rs. 4,93,839 and Rs. 6,86,426.
- Average the gross output from all crops was accounted as Rs. 12, 42,806. While the gross inputs from all crops was accounted to Rs. 7, 48,037 per farm. the net income per farm was accounted as Rs. 4,85,468 on an overall average.
- The category-wise analysis indicates that the maximum net income i.e. Rs.5,49,005 Per farm was accounted on the farms under proper agri-services against the minimum net income i.e., Rs. 2,31,325 on the farms under allied agri-services. Thus, the farms under proper agri. services were comparatively more profitable as the outputs per farm were comparatively much higher on the farms under proper agri. services in the area.
- The outputs from milch animals per farm was accounted as Rs. 1,25,791. While the inputs incurred in milch animals was estimated as Rs. 72,202 of which the maximum i.e. 51,672 was incurred on other inputs and Rs.20,530 on own inputs. Thus, the net income

from milch animals was accounted as Rs. 53,589 from rearing animals on the farms which confirms very wells that rearing animals on the farms along with other agri-services was significantly profitable on the farms of sample beneficiaries under ACABC Scheme in the state of Telangana.

- Out of total 100 sample beneficiary farmers no one has reported to receive all extension services from the agri. ventures of their areas. Out of 100 sample farmers who had received extension services, the maximum i.e. 20 sample farmers had reported to receive extension services on dairy and animal feeds etc. 15 had reported to receive extension services relating to farm machines etc. and 59 reported to receive extension services on production trends.
- The total inputs per farm was accounted as Rs 136085 of which the maximum i.e. Rs. 1,00,796 was on account of other inputs, Rs. 22,860 on account of seeds and Rs. 12,429 on account of fertilizers per farm.
- Out of 100 sample beneficiary farmers only 8 farmers had reported to receive formal training from the ventures of their area. While the other 72 sample farmers had told to receive only informal training from the agri.-ventures of their areas on an overall in the area under study. Accordingly majority of farmers 80 such farmers had reported the formal training to be useful for them.
- The beneficiary farmers in agricultural services group, 58 availed input services, 8 availed marketing facilities and 5 people have taken the support of repair and maintenance facility. Overall, all the farmers have got some kind of support. Fifty eight farmers received inputs while 8 farmers used marketing services and 5 used repairs and maintenance.
- Most of the beneficiaries in agricultural services group (60 per cent) have utilized extension services in plant protection to save their crop from pests and diseases. This is followed by receiving advice on farm technology (51 per cent) and marketing of crop produce (10 per cent). All the farmers in allied agricultural group availed services on animal health.
- Per farm charges of farm machines was found i.e. Rs. 7,500 on the farms under proper agri-services. Overall cost of farm inputs stood at Rs. 1,36,085 per farm, of which Rs. 35,289 was under proper agri-services category and Rs. 1,00,796 under allied agri-services category.

- Total Non- beneficiary sample is 50 out of which 40 are drawn from agricultural services and 10 are drawn from allied agricultural services. The average holding is 2.58 ha in agricultural services group, 1.54 ha in allied services group. Overall, the average holding is 2.37 ha. Eleven farmers in agricultural services group and 3 farmers in allied services group have membership in cooperative and marketing societies. Similarly, 19 in agricultural services and 1 in allied services have subsidiary occupations.
- Non-beneficiary farmers in both agricultural and allied-agricultural services groups backward castes dominate numerically with 20 and 7 respectively. They are followed by general group with 15 and 2. The remaining 5 in agricultural services group and 1 in allied agricultural services group belong to scheduled castes. 19 were non-matric sample non-beneficiary farmers, 13 farmers were higher secondary, 7 were graduates and no farmers were post graduates on an overall average.
- Farmers in agricultural services category raised cereals and other crops like vegetables, turmeric and horticultural crops in kharif season. In the total kharif area of this group, cereals occupied 82 per cent and other crops are cultivated in the remaining 18 per cent land. Allied agricultural services group raised only cereal crop in kharif season. Eighty two per cent of cropped area in kharif is under irrigation in non-beneficiaries.
- The area under total kharif crops was estimated as 1.03 ha. per farm and the total was irrigated. The maximum of the area under kharif crops i.e. 0.74 ha. was under cereal crops and the area under other kharif crops including horticultural crops was estimated as 0.29 ha. per farm in the study area.
- In rabi season to the coverage under crops was 0.36 ha. of which the maximum i.e., 0.31 ha. was under rabi cereals against the minimum i.e. 0.05 ha. under pulses. Pulses are raised in 17 per cent area only by agricultural services farmers in rabi, eighty six per cent of cropped area in this season is under irrigation in non-beneficiary sample.
- Total area under other horticulture crops was estimated as 1.34 ha. per farm and the total was irrigated of 1.01 ha.
- Average the gross cropped area per farm was estimated as 2.73 ha. of which the maximum i.e. 1.34 ha was covered during the other horticulture crops and thereafter the total 1.03 ha. was cropped during kharif season. In rabi season was only 0.36 ha. per farm in the area under study. the gross irrigated area per farm was estimated as 2.13 ha. of which the maximum i.e., 1.01 ha was covered during the other horticulture crops and thereafter the total 0.81 ha. was cropped during kharif season.

- The gross outputs from kharif crops were accounted as Rs. 77,896 per farm. While the total inputs per farm was estimated as Rs. 48,660 of which the maximum i.e. Rs. 38,390 was an account of other inputs and Rs. 10,270 was on account of own input. Among the crops, the maximum outputs i.e. Rs. 53200 were received from kharif cereals against the outputs from other kharif crops were estimated as Rs. 33,300 on an average.
- The gross output received from the rabi crops was accounted as Rs. 36,120 per farm. While the total inputs on rabi crops was incurred as Rs. 20,160 per farm of which the maximum i.e. Rs. 15,580 was incurred on other inputs and Rs 4,580 on own inputs per farm. Further among the rabi crops the output per farm was estimated as maximum i.e. Rs. 28,240 from rabi cereals crops against the minimum as Rs 3,360 from rabi pulses. In the input costs, cereals have 67 per cent share while the remaining 33 per cent belongs to pulses.
- The category-wise details of inputs and outputs of other horticulture crops on the farms of non-beneficiaries. input costs of agricultural services farmers are Rs. 1,95,400, allied services farmers reported only Rs. 14,230. Corresponding per farm returns of these groups are Rs. 1,59,225 and Rs. 29,620.
- The gross outputs from all crops was received as Rs. 3,31,086 per farm. While the total inputs incurred per farm was estimated as Rs. 2,27,986 of which the maximum i.e. Rs 1,90,296 was incurred on other inputs and Rs. 37,690 on own inputs. the amount of net income of Rs. 1, 03,100 per farm on an average.
- Total outputs received from milch animals was accounted as Rs. 1,02,505 per farm. While the total inputs incurred were estimated as Rs 69,082 per farm of which the maximum i.e. Rs. 52,914 was on account of other inputs and Rs. 16,168 on account of own inputs. Thus, the net income per farm was estimated as Rs. 33,423.
- Only 30 per cent of them have heard about agri-clinics and 20 per cent have heard about agri-business centres. Proper agri service group, they were also asked why they could not use the services of these clinics. The reasons cited were lack of irrigation and financial crunch. They also reported that they could not purchase inputs due to long distance location of these centres. Allied services group, whose main occupation is dairy, reported that they use the services of government veterinary hospital. Overall, only 34 per cent of the non-beneficiary samples are aware of agri-clinics and 16 per cent of them are aware of agri-business centres.

- Majority (67.50) of agricultural services group are buying from input dealers while 47 per cent have own sources. The rest are buying from shop keepers on loan.
- Farmers from agricultural services group replied that they did not receive any extension services from any source. In allied services sample, 80 per cent said that they are receiving extension services from government veterinary doctor.
- 37.50 per cent of the agricultural services group expressed satisfaction over the availability of inputs. 77.50 per cent of farmers were dissatisfied with the crop returns. Reasons they cited were high production costs and under performance of yield. On the other hand, farmers in the allied agricultural services group are 32.00 per cent well satisfied with quality input supply and 18.00 per cent resultant returns on mainly dairy. Overall, 68.00 and 82.00 per cent of non-beneficiaries have expressed not satisfaction on the input availability and returns.
- Net cultivated area on the farms of beneficiaries was estimated as 4.57 ha per farm and on the farms of non-beneficiaries it was estimated as 1.98 ha per farm in the ACABC scheme area of Telangana state. Gross irrigated area on the sample beneficiary farms was estimated as 4.87 ha against 2.13 ha per farm on the sample non- beneficiary farms. Non-beneficiary farmers reported higher intensity of irrigation, 115.76, than beneficiaries. Overall it is 111.19.
- Average net cultivated area per farm in case of beneficiary farmers was estimated as 4.57 ha. against 1.98 ha. in case of non-beneficiary farmers. Gross cropped area per farm was also estimated to be comparatively higher in case of beneficiary farmers i.e. 5.17 ha per farm against 2.73 ha per farm in case of non-beneficiary farmers. Thus, the average cropping intensity on the farms of both types of sample farmers was similarly estimated as 113.13 and 137.88 per cent.
- Average the total inputs per farm in case of beneficiaries was estimated as Rs 748037 against Rs 227986 per farm in case of non-beneficiaries. Thus, inputs incurred on the farms of beneficiaries were slightly higher than that on the farms of non-beneficiaries. the gross outputs per farm was also higher i.e. Rs 12,33,505 in case of beneficiaries against Rs. 3,31,086 per farm in case of non-beneficiaries. Net income per farm was estimated as Rs. 4,85,468 in case of beneficiary farmers against Rs. 1,03,100 per farm in case of non-beneficiary farmers. Input output ratio on an average of agriculture service was estimated as 1:1.64 in case of beneficiaries against 1:1.44 in case of non-

beneficiaries. The turnover per farm was comparatively higher on the farmers of beneficiaries which indicate that there was effect of ACABC Scheme on the farmers.

Suggestion and policy implications:

Based on the findings of the present study, the following policy prescriptions are being conveyed to the DAC, Ministry of Agriculture and Farmers welfare, Government of India.:-

Marketing:

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. Only 11% of the farmers throughout the country had access to information on marketing of the produce. There has been varied response from farmers to the services made available through these ventures.

Benefits:

The access to knowledge and inputs, both have considerably increased which has directly led to an increased productivity and hence increased income, though the farmers are not satisfied with the kind of marketing support provided by these centers.

- Marketing of produce need to be improved.
- More number of agricultural graduates need to be trained to undertake agri-ventures.
- Employment at village level needs to be spruced up.
- Only large farmers are having awareness who are very limited in number. Hence it is recommended that to create awareness among all groups of farmers about the benefits and activities of agri-venture and agri-clinics. Only large farmers are having awareness are very in number. Hence it is recommended that to create awareness among all groups limited farmers about the benefits and activities of agri-venture and agri-clinics.
- Even though more number of ventures are listed on paper, in reality only very few ventures are functioning. It is suggested that to make all the listed ventures actively functioned and help the farmers.

- It is identified that the large scale farmers and landlords are only given opportunity to establish agri-ventures. The agri-preneur of agri-ventures also prefer large scale farmers and landlords to establish agri-ventures where the marginal, small and medium farmers are completely ignored. Therefore it is recommended that all farmers should be given equal opportunity to establish agri-ventures irrespective of the size of operated area by providing the technical know how by the extension staff to small and marginal farmers.
- It is identified that the small and marginal farmers are expressing their difficulty towards paying the service fee to be paid to agri-preneur of agri-venture to get any kind of service, counselling or suggestions. Hence it is suggested to waive out the service fee to be paid by the small and marginal farmers for getting any kind of service.
- Awareness and training programmes should be conducted by agri-preneurs to educate and assist the small and marginal farmers to receive the benefits of ACABC viz., advisory services, input support and custom hiring services etc.,
- Suitable livestock development policies should be adopted to encourage small and marginal farmers to go for livestock enterprises including dairy.
- In addition to the training programmes by MANAGE a monitoring cell is to be established to supervise overall mechanism of ACABC extending the benefits to small and marginal farmers.

Conclusions:

The scheme was launched with the intention of providing technical support and inputs to the farmers to increase the productivity of their crops and in turn their income. There are several other benefits which the farmers advocated to have received through the extension services in their village. The major benefit is increased agricultural productivity. About 72 % of the farmer respondents are of the view that there has been an increase in the productivity of their crops. Other significant benefits farmers have been able to reap include improved knowledge on safe guarding the crops from pests. There is a need to involve private extension staff in the entire production, processing, transporting and marketing chain.

* * *

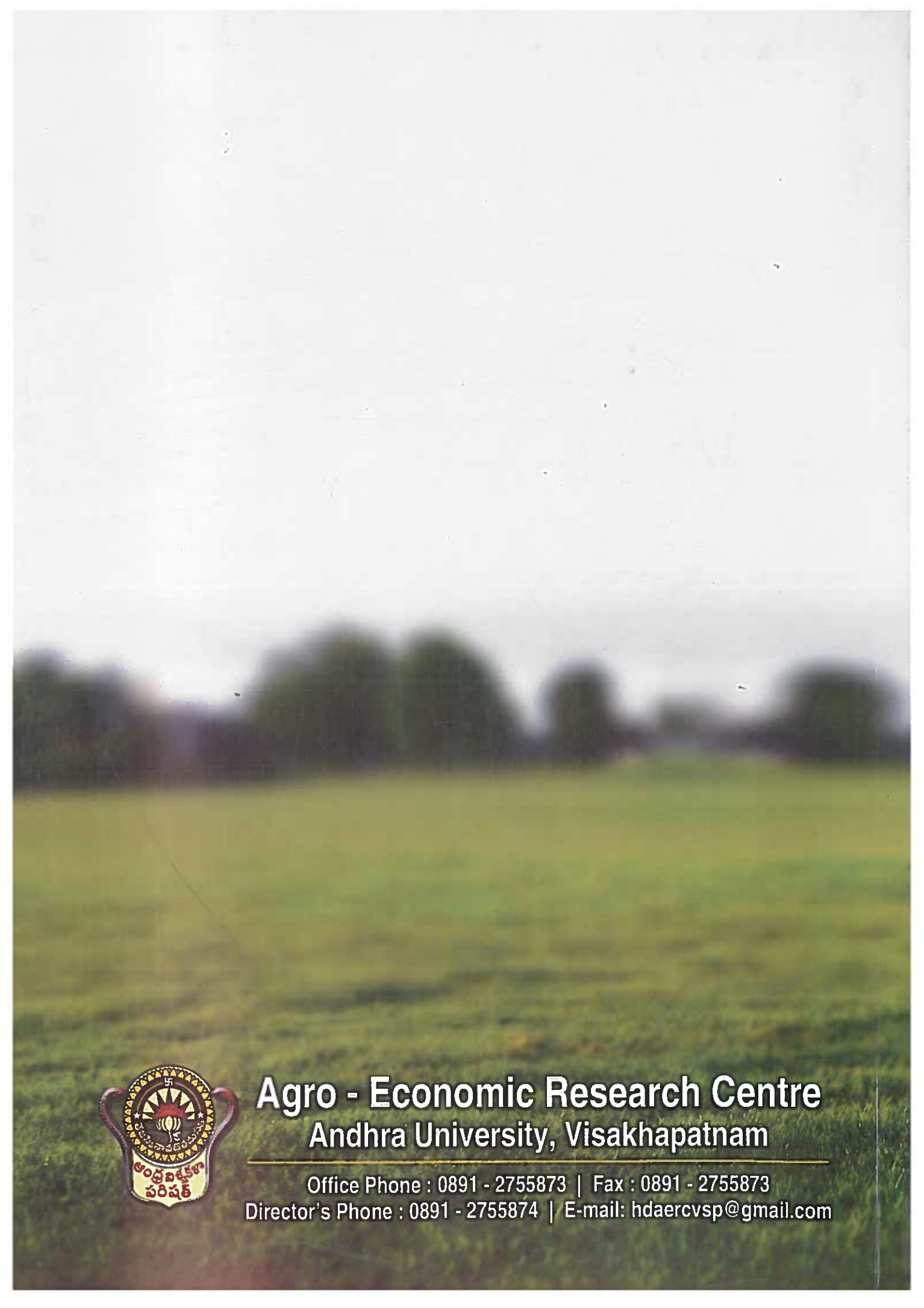
Action Taken Report

Draft Report on ACABCs Scheme study in Telangana from AERC, Visakhapatnam, Andhra University

Date of Despatch of Draft Report from Visakhapatnam – 24/07/2017.
Date of Receipt at Allahabad – 24/07/2017
Date of Despatch of Comments – 01/08/2017

Chapter-wise valuable comments from co-ordinating AERC, University of Allahabad prepared by the AERC, Allahabad

Chapter – I	On page 4 Growth under ACABCs scheme in Telangana state district-wise or region-wise during 2002-2016 is not included in the report. Therefore, please include the same for similarity in consolidated report.
Action	Suggestions Incorporated in appropriate place in the main report.
	On page 7 the organization of the report is detailed in a paragraph only. Therefore, please detail it item-wise in each chapter for similarity.
Action	Done as per suggestion.
Chapter – II	No comments needed.
Chapter – III	Progress in ACABCs in Telangana during 2014-15onward district-wise is needed instead of all India data. Please include the same appropriately.
Action	Suggestions Incorporated in appropriate place in the main report.
Chapter – IV	On page 38 the selection of ultimate sample beneficiaries as well as non-beneficiaries as per Agriculture Extension Services and holding size-groups is not clarified in Table-4.1. Please clear it to be included cleanly in the consolidated report.
Action	Suggestions Incorporated.
Chapter – V	On page 42 and 43 the units are not given on the top of the table-5.2
Action	Suggestions Incorporated.
	On page 48 in table-5.7 the total is not tallying and No. of NTIs is also not included in the report.
Action	Corrections and Suggestions incorporated.
	On page 54 in table-5.12 and table-5.13 the figures of inputs outputs from animals are noted as nil. Please give footnote for it.
Action	Suggestions incorporated.
Chapter – VI	No comments needed.



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