



Agro-Economic Research Centre

For the states of Gujarat and Rajasthan

(Ministry of Agriculture & Farmers Welfare, GOI)

H.M. Patel Institute of Rural Development

Opp. Nandalaya Temple, Post Box No. 24

Sardar Patel University

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ANNUAL REPORT

2017-18



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AERC
Established in 1961

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Annual Report 2017-18

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The Director

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CONTENTS

Page No.

• Vice Chancellor's/Chairman's Statement	05
• From the Director's Desk	07
• Highlights of the Year	09
• About the Governing Body	11
• About the Centre	13
• Cost of Cultivation Scheme	15
• Teaching/Academic Staff/Faculty Members	17
• Projects Completed	19
• Projects in Progress	36
• Publications	42
• Participation in Conferences, Seminars, Workshops, Teaching, Work on Committees, Experts, other Academic Activities, etc	46
• Academic Events held and Visitors at the Centre	58
• Details of Field Visits for Project Work/CCS	76
• Administrative Assignment / Handled	90
• Guidance to the Ph. D./ M. Phil Student	92
• Awards won, Election/ Nomination to Professional, Educational, Non-academic bodies, etc	94
• Professional Affiliation	96
• Meetings of the Governing body	98
• Research Support Services (Library, Computer Centre)	100
• Committees	102
• Appointments, Retirements, Resignations, etc.	108
• Infrastructure	110
• Staff Members as on March 31, 2018	111
• Audited Statement of Accounts (2017-18)	114



Dr. Shirsh R. Kulkarni, Vice Chancellor of our University delivering inaugural address at National Seminar on "AERC Coordinated Research Projects on Dairy" on May 16, 2017



Felicitation of Shri Nitin Desai (Former Secretary & Chief Economic Advisor, Ministry of Finance, GOI; Former Under Secretary General for Economic and Social Affairs, UN) by Hon. Vice Chancellor, Prof. Shirish Kulkarni & Dr. Mahesh Pathak on March 13, 2018.



VICE CHANCELLOR'S / CHAIRMAN'S STATEMENT

It gives me immense pleasure to take note of the achievements of the Agro-Economic Research Centre (AERC) of this University for the year 2017-18. I am pleased to note that the Centre has continued the tempo of academic activities for the 57th year in succession. The Annual Report 2017-18 presents a fairly comprehensive account of the various academic activities of the Centre. It also describes the activities of the faculty members and researchers at the Centre. Right from its inception, this Centre has undertaken a number of research studies on major agriculture development programmes enjoying high national priority. This centre has, in its own modest way, strived to build bridges of understanding between ground realities and macro public policies. It has provided worthwhile feedback in the formulation of policies relating to agriculture and rural development in the states of Gujarat and Rajasthan. Collection of high quality field data has been a widely recognized hallmark of our field research.

The year was marked by some important events such as organization of National Seminars on 'Assessment of the Status of Dairying and Potential to Improve Socio-Economic Status of the Milk Producers in India: Special Focus on Eastern States of India', & 'Water Governance in India: Sustainable Management of Water Resources in Agriculture'; Workshop cum training program for field staff of Cost of Cultivation Scheme; AERC Foundation day Lecture 2017; H. M. Patel Memorial Lecture 2018 and many other academic activities. The Centre has completed three research projects for Ministry of Agriculture and Farmers Welfare, GOI and nine projects are in progress.

Apart from undertaking the research studies, the faculty of Centre participated in seminars, conferences, workshops, group discussions on field and various meetings. The wide ranging activities of the Centre as summarized in the report are truly gratifying. I congratulate the Director, faculty as well as office and field staff of the Centre for their excellent performance and sincere efforts in realizing the objectives of the Centre.

I hope that the Ministry of Agriculture and Farmers Welfare, GOI will ensure regular funding to this Centre on permanent basis. This Centre, I am sure, will make efforts to upgrade the quality of its research output and publications, ensure more effective communications and undertake more collaborative work.

Prof . (Dr) Shirish R Kulkarni

Vice Chancellor,
Sardar Patel University, Vallabh Vidyanagar &
Chairman, Governing Body AERC



Presenting memento to respected Prof. Ramesh Chand, Member, National Institution for Transforming India (NITI) Aayog, GOI during his visit to Centre on July 3, 2017



Meeting with Prof. S. Mahendra Dev (Director/Vice Chancellor, Indira Gandhi Institute of Development Research, Mumbai) and Prof (Mrs) Alaknanda Patel at International Seminar on held at N.S. Patel Arts College, Anand, Gujarat on 6th March 2018.



FROM THE DIRECTOR'S DESK

I am happy to present before you annual report of the Centre for the period from April 2017 to March 2018. The report serves the twin objectives of self appraisal of our performance and of sharing information about the academic activities of the Centre with our well wishers, supporters and other interested groups and individuals. A wider circulation of this document helps us in getting valuable feedback from our well-wishers and policy makers for making our studies and dialogues more relevant to the emerging needs.

I feel privileged to prepare this document and present it before you. The activities of the Centre during the year under report include both research programmes and other academic activities aimed at the dissemination of knowledge gained through research. The faculty members have participated in several academic activities. During the year under report, Centre has submitted three research study reports to the Ministry. Besides, the Centre has organized two national seminars, training workshop for field staff in CCS, AERC Foundation day Lecture; H. M. Patel Memorial Lecture; organization of Blood Donation Camp and many other academic and staff recreational activities.

We continue to strive for attaining new goals and open up new avenues for our academic endeavors. This is possible only through the hard work of all staff members, guidance received from the esteemed members of the Governing Body of AERC, and the support as well as appreciation from a number of individuals as well as organizations within and outside the country.

I wish to express my grateful thanks to the Honorable Vice Chancellor of our University/ Chairman and members of the Governing Body; Economic and Statistical Adviser, Advisers and officers of (AER & CS Divisions) of Directorate of Economics and Statistics, Ministry of Agriculture, Government of India, New Delhi; Agriculture Department, Government of Gujarat, Gandhinagar; Agriculture Department, Government of Rajasthan, Jaipur; research Institutions like IASRI, New Delhi, ISEC, Bengaluru, IWMI, Anand, NDRI, Karnal, GEART, Vadodara; Officers of our University, several government and non-government organizations and individuals for their support in various ways to the Centre. I wish to place on record my appreciation of the excellent work done by the faculty and useful support provided by the supporting staff of the AERC and CCS, who worked hard during the year for achieving greater heights of academic attainments.

Prof. (Dr.) S.S. Kalamkar
Director & Professor



Glimpses of National Conference of AERC Network held at IEG, Delhi during January 30-31, 2018

HIGHLIGHTS OF THE YEAR

- The faculty and the research staff members of the Centre completed three research projects and nine research projects are under progress.
- Organized National Seminar on 'Assessment of the Status of Dairying and Potential to Improve Socio-Economic Status of the Milk Producers in India: Special Focus on Eastern States of India' during May 16-17, 2017. **Prof. Shirish Kulkarni**, Vice Chancellor of our University inaugurated the seminar in the gracious presence of Dr. Amrita Patel, Chairman, National Dairy Development Board (NDDB), Anand, and Dr. Mahesh Pathak, Hon. Adviser, of the centre.
- Organized National Seminar on 'Water Governance in India: Sustainable Management of Water Resources in Agriculture' during June 16-17, 2017. **Shri B. N. Navalawala**, Advisor to Hon'ble Chief Minister, Government of Gujarat and Chairman, Taskforce for Interlinking of Rivers, Government of India, New Delhi has inaugurated and delivered the key note address on 'Water Governance in Indian Perspective' on June 16, 2017.
- **Prof. Ramesh Chand**, Member, National Institution for Transforming India (NITI) Aayog, Govt. of India, New Delhi delivered AERC Foundation Day Lecture 2017 on "Agricultural Income and Farmers Needs and Aspirations" on July 3, 2017.
- **Shri Nitin Desai**, (Former Secretary & Chief Economic Advisor, Ministry of Finance, GOI; Former under Secretary General for Economic and Social Affairs, UN) delivered the 5th H.M. Patel Memorial Lecture on "Water and Welfare" on March 13, 2018.
- **Dr. Ravindra H. Dholakiya**, Professor (Economics) Indian Institute of Management (IIM) Vastrapur, Ahmedabad delivered a talk on "Shaping A Good Researcher: My Experience" on March 5, 2018
- Organized three days Training Workshop on "Field Data Collection and Data Imputing in New Record Types (RTs) & FARMAP 2.0 Computer Software", for the technical/field staff of CCS at the Centre from July 01, 2017 to July 3, 2017.
- The Best Fieldman Award for the year 2016-17 was awarded to **Shri S.C.Bhoi**, Fieldman, Cost of Cultivation Scheme of the Centre on July 3, 2018.
- Blood Donation camp was organized on July 01, 2017 as a part of AERC Foundation Day Celebrations.
- Society of Economics and Development (SOED) Best Paper Award' received by the staff of the Centre for a paper on 'Impact of Tarakpur Check Dam in Khambhat Area of Gujarat' published in Indian Journal of Economics and Development (Volume 13, No 2, 2017 pp. 229-242).
- Sardar Patel Research Award (2017-18) received by staff of Centre for the best research paper (under Teacher category) on "Adoption of Recommended Doses of

Fertilizers on Soil Test basis by Farmers in Gujarat” at the 60th Convocation of Sardar Patel University, Vallabh Vidyanagar on 24.01.2018.

- National Conference on Agro-Economic Research organized by the 15 Agro-Economic Research Centres & Units under

the Ministry of Agriculture and Farmers Welfare, Government of India during January 30-31, 2018 at Institute of Economic Growth, Delhi.

- Celebrated "Kite festival" on March 6, 2018 and Sport Day of AERC & CCS on February 14, 2018.



ABOUT THE GOVERNING BODY

The Governing Body meets once a year under the Chairmanship of Vice Chancellor to discuss wide ranging issues including technical administrative and financial matters of the Centre.

Composition of the Governing Body (as on March 31, 2018)

- **Prof. (Dr.) Shirish R. Kulkarni** (Chairman)
Vice Chancellor,
Sardar Patel University,
Vallabh Vidyanagar -388120, Anand, Gujarat.



- **The Economic and Statistical Adviser**
Directorate of Economics & Statistics,
Department of Agriculture and Cooperation,
Ministry of Agriculture, Government of India,
Krishi Bhavan, New Delhi -110 001.

- **Dr. V. S. Vyas**
Professor Emeritus, Institute of Development Studies, Jaipur, Rajasthan;
Former Member, Economic Advisory Council to the Prime Minister



- **Dr. Y. K. Alagh**
Professor Emeritus,
Sardar Patel Institute of Economic and Social Research, Ahmedabad,
& Chancellor, Central University of Gujarat, Gandhinagar.



- **Dr. Amrita Patel**
Former Chairman, NDDB &
Chairman, Charutar Arogya Mandal
Gokal Nagar, Karamsad – 388 325, Anand, Gujarat.



- **Shri Sanjay Prasad**
Principal Secretary, Department of Agriculture and Cooperation,
Government of Gujarat, New Sachivalaya,
Gandhinagar – 382010, Gujarat.



- **Mrs. Neel Kamal Darbari**
Principal Secretary, Department of Agriculture,
Government of Rajasthan,
Sachivalaya, Jaipur 302 005, Rajasthan.
- **Dr. Tushaar Shah**
International Water Management Institute (IWMI),
C/o Indian Natural Resources Economics and Management (INREM)
Foundation, Behind IRMA Mangalpura
Anand 388 001, Gujarat, India.
- **Dr. Sudarshan Iyengar**
Former Vice Chancellor,
Gujarat Vidyapith,
Ahmedabad - 380 014, Gujarat.
- **Dr. S. S. Acharya**
Professor Emeritus, Institute of Development Studies, Jaipur (Raj.)
Former Chairman, Commission for Agriculture,
Cost and Prices (CACP), Govt. of India.
- **Dr. H. P. Trivedi**
Professor and Head, Post Graduate Department of Economics,
Sardar Patel University,
Vallabh Vidyanagar 388 120, Anand, Gujarat
- **Dr. Mahesh Pathak**
Honorary Advisor, Agro-Economic Research Centre
Sardar Patel University,
Vallabh Vidyanagar 388 120, Anand, Gujarat.
- **Dr. S.S. Kalamkar**
Director & Professor, Agro-Economic Research Centre,
Sardar Patel University,
Vallabh Vidyanagar 388 120, Anand, Gujarat.



ABOUT THE CENTRE

The Agro-Economic Research Centre (AERC) for the states of Gujarat and Rajasthan was established in July 1961 at the Sardar Patel University, Vallabh Vidyanagar by the Directorate of Economics and Statistics, Ministry of Agriculture, Government of India, New Delhi. It was late Shri H.M. Patel (ICS ret'd.) who not only provided the vision for establishing such an Institute but also ensured the much needed support and encouragement for its growth at Vallabh Vidyanagar. AERC as a part of University has now completed 57 glorious years (1961-2018) of its journey marked by both achievements and challenges. During these years, the Centre has emerged as a strong policy feedback centre of the Ministry of Agriculture, Government of India due to hard work and strong commitment of the staff in the Centre. The focus of research effort in the initial stage was on comprehensive village surveys and resurveys in order to understand the process and direction of change at the village level. Subsequently, the emphasis of research has shifted to problem oriented studies. The Centre has by now completed 170 problem-oriented studies, 21 village surveys and 4 village resurveys. Most of these research projects have been taken up by Centre on the recommendation of the Government of India and State Governments of Gujarat and Rajasthan. Some of the projects have also been sponsored by other national and international organizations. During its long journey, the Centre has brought remarkable improvement in every aspect of research including methodological base of the studies. The studies have come out with useful findings and policy implications for agricultural and rural development of the states of Gujarat and Rajasthan. Many seminars and conferences were organized by the Centre (jointly with Department of Economics) during these years. Ever since its inception, the Centre has been working in close collaboration with the Post-graduate Department of Economics of the S. P. University and so far it has helped/supported about 40 scholars to successfully complete their Ph. D. work in agricultural economics. The principle objectives of the Centre have been as follows:

1. To make continuous study of the change in rural economy by means of surveys of villages each year, to be repeated after an interval of five years.
2. To conduct ad-hoc investigation on problems of interest to the Ministry of Agriculture and Irrigation and the State Governments under their jurisdiction.
3. To undertake research on fundamental problems relating to the agricultural economy of the country, and
4. To give technical advice to the Government of India and to the State Governments on such important issues as, with mutual agreement, may be referred to the Centre.

Since 1970, the Centre has been also organizing the work of *Comprehensive Scheme to Study Cost of Cultivation of Principal Crops in Gujarat* entrusted to the University by the Ministry of Agriculture, Govt. of India.



Booklet on CCS Gujarat released at the inaugural session of National Workshop on Cost of Cultivation Scheme organized by Cost Scheme, Directorate of Economics and Statistics, Ministry of Agriculture and Farmers Welfare, Government of India at Rajasthan College of Agriculture, Maharana Pratap University of Agriculture and Technology, Udaipur on August 17, 2017.



CCS Cluster Visit (Cluster No. 36, Choki- Sorath, Junagadh) on March 26, 2018

COST OF CULTIVATION SCHEME

Studies on cost of production of agricultural commodities have been of interest to research workers and policy-makers. The need for reliable and representative estimates about cost of production of agricultural crops is obvious for formulating an appropriate strategy for planned agricultural development.

In a vast country like India with marked variations in agro-climatic conditions, it becomes essential to collect State-wise, region-wise data on cost of production of various crops on a continuous basis. Recognizing the importance of such studies, the Directorate of Economics and Statistics, Ministry of Agriculture, Government of India, evolved a permanent arrangement for collection of cost of cultivation data on a continuous and uniform basis for all important crops in the country. The Directorate of Economics & Statistics decided to establish the Comprehensive Scheme for studying the cost of cultivation of principal crops in different states of India in 1968-69. The Directorate entrusted one such cost scheme to the Sardar Patel University for collecting cost of cultivation data in Gujarat. The University entrusted this Scheme to the Agro-Economic Research Centre. Since 1970, the Agro Centre and the Comprehensive Scheme are working together in close collaboration for serving the needs of the Directorate of Economics and Statistics of MoA, Government of India.

The data base generated through the "Comprehensive Scheme for Studying Cost of Cultivation of Principal Crops" is used not only for the primary purpose of providing cost estimates for determination of Minimum Support Prices (MSP) but for a wide variety of other important purposes like 'Compilation of National Accounts Statistics', Wholesale Price Indices (WPI) and research studies relating to cost of cultivation and farm income.

Up to 1982, cost of cultivation data in Gujarat were collected from 480 sample cultivators spread over 40 clusters of villages through cost accounting method. Under the old arrangement (known as single crop approach) the clusters were changed every year retaining only a sub-sample of 10 to 20 clusters. Since 1983, the single crop approach has been replaced by crop complex approach under which the number of clusters has been increased from 40 to 60 thereby providing a wider and varied base for generation of reliable estimates. Now sixteen principal crops of Gujarat viz., Paddy, Bajra, Maize, Ragi, Wheat, Tur, Moong, Urad, Gram, Groundnut, Sesamum, Rapeseed Mustard, Cotton and Sugarcane, Onion, Potato are being studied continuously and simultaneously for three consecutive years in the same clusters of villages. At present, there is a sample of 600 cultivators (10 each from selected clusters) drawn from different size groups of holdings. The five size groups are: below 1.0 hectare, 1.0 to 2.0 hectare, 2.0 to 4.0 hectare, 4.0 to 6.0 hectare, 6.0 hectare and above. The work of Scheme is being looked after by 78 persons of which 60 are permanently posted in the villages spread over entire State of Gujarat. This Scheme is being fully financed by the Ministry of Agriculture & Farmers Welfare, Government of India.



Our participation in the group meeting (Group 1.1: Waste to Wealth & Policy Reforms) on 'Agriculture 2022' organised by the Ministry of Agriculture and Farmers Welfare, Government of India at NASC Complex, New Delhi during February 18-20, 2018

TEACHING/ACADEMIC STAFF / FACULTY MEMBERS

(A) AERC

Name	Post	Qualification	Specialization
Dr. S. S. Kalamkar (dearshri@gmail.com, director.aerc@gmail.com)	Director & Professor	M. Sc. (Agri. Econ), Ph. D. in Agricultural Economics DIT, MSCIT	Agricultural Production and Resource Economics, Agricultural Development Policy, Food Security and Sustainable Development, Biotechnology in Agriculture, Contract farming, Organic Farming
Dr. Kinjal V. Ahir (kinjalahir@gmail.com) (w.e.f. 01.09.2017)	Hon. Deputy-Director/ Associate Professor	M.A (Eco.Gold Medal), NET, PhD	Agricultural Economics, Organic Farming, Solar Seawater Desalination
Dr. Mrutyunjay Swain (mrutyunjay77@gmail.com)	Assistant Professor/ Research Officer	M.A. (Eco.), M. Phil. (Eco.), Ph.D. (Eco.), UGC (NET)	Agricultural and Resource Economics, Food Security and Sustainable Development, Climate Change, Disaster Management.
Dr. Hemant Sharma (sharmah007@gmail.com)	Assistant Professor/ Research Officer	M.Sc. (Agri), Ph. D. in Agricultural Economics	Agriculture Marketing and Production Economics.
(B) CCS			
Dr. S.R. Bhaiya (focccsguj@gmail.com)	Field Officer/ Assistant Professor	M.A. (Eco.), M. Phil. (Eco.), Ph.D. (Eco.)	Agricultural Economics, Cost of Cultivation, Research Methodology



Our participation in Policy Dialogue on 'Innovations in Emerging Remunerative Prices (MSP) to farmers: Challenges and Strategies' and 'Launch of Global Food Policy Report 2018' organized by IFPRI, New Delhi Office, New Delhi on March 23, 2018



Visit to Agro-Economic Research Centre, Himachal Pradesh University, Shimla (Himachal Pradesh) to act as discussant on study "Village Study of Malan of District Kullu in Himachal Pradesh" at AERC Shimla on December 27, 2017.

PROJECTS COMPLETED

(i) Title of the Project	:	Assessment of the Status of Dairying and Potential to Improve Socio-Economic status of the Milk Producers & Convergence of all Central & State Schemes at district level in Gujarat
Principal Investigators	:	S. S. Kalamkar, H. Sharma & M. Makwana
Entrusted/Sponsored by	:	Directorate of Economics and Statistics, Ministry of Agriculture & Farmers Welfare, GOI
Coordinating Centre	:	AERC, SPU, Vallabh Vidyanagar
Date of Completion	:	June 2017

Summary:

Gujarat has been consistently clocking impressive agricultural growth rates and accounts for 7.9 per cent share to total milk production in our country. This has been possible because the government has focused on improving not only irrigation, quality of seeds and power but also tertiary sectors like animal husbandry. The growth of the animal husbandry sector has resulted not only in increased milk production but has also provided a boost to the overall agro-economy of the state. The cooperative sector has been the key driver of the tremendous increase in Gujarat's milk production during last three decades. It is no surprise that Gujarat, the birthplace of India's white revolution, has a thriving milk cooperative sector. "Amul" pattern is well known and accepted by all the states in our country and some of the other countries also.

The institutions of national importance such as National Dairy Development Board and National Cooperative Dairy Federation of India Limited are established and located in Anand district of Gujarat. Though the area coverage of these institutions is all India level, but it helped the Gujarat state in developing its dairy sector. Gujarat has total 18149 milk cooperative societies attached to 18 district level milk unions with 3.42 million milk producers

(2015-16) contributing milk twice a day. Maahi Milk Producer Company Limited was incorporated on June 7, 2012, as a Producer Company under the provisions of Part-IXA of the Companies Act, 1956, in the State of Gujarat, to undertake the business of pooling, purchasing, processing of milk and milk products.

The present study was undertaken in the state of Gujarat to study the various types of constraints faced by the both cooperative and non-cooperative dairy producers. The study is based on both, secondary and primary level data. The secondary data were compiled from the offices of NDDDB and from government publications. The primary data were collected from the selected 240 Milk producers from four milk unions of Gujarat, i.e., Mehsana (North Gujarat), Bharuch (South Gujarat), Junagadh (West Gujarat/Saurashtra) and Panchmahal (East Gujarat).

Findings from Field Survey:

DCS households recorded the adequate supply of cattle feed which was also made available on credit by cooperative society, however most of households mentioned that cost of cattle feed and mineral mixtures was high. Though the emergency veterinary services were available, the EVS charges of dairy cooperative were medium as compared to

high charges by private agents. Not only the availability of vaccines and semen at the AI centre at dairy cooperatives as well as at private dairy agents was inadequate but also the delivery & applications of quality & requisite quantity of vaccines was very poor. It was observed that there was no provision of loan in society or government for the purchase of cattle and no technical guidance was available to them. Most of the households mentioned that premium for insurance was medium, however, very few dairy producer had taken animal insurance.

In case of output delivery, DCS households mentioned that the milk price received by them was adequate and they get fortnightly payment. Two third of households mentioned that incentives or bonus for supplying milk were adequate, while one fourth of selected households mentioned that cross bred cow milk is not acceptable in family. Dairy cooperatives do not have system of advance payment for milk while agent or private agency has provided this facility in selected area.

In case of NDCS households, these households did not have facility to get any support from the dairy cooperatives existing in their area, they are fully depend on the agent or private agency to get support for input and output service systems. Though the supply of cattle feed and fodder was adequate with agents and private agency, which was available on credit for half of the households. Almost three fourth of households mentioned about non availability of emergency veterinary services and whatever is available was availed at very high charges. The poor availability of vaccines and semen was also noted by NDCS households. More than 90 per cent of households mentioned that charges for premium are very high and no technical support is available to them. As expected, three fourth of selected NDCS households mentioned that milk price received by them are low. The two third of households received payment after 15 days while one third received within 15 days time after sale of milk. Almost all the selected households

mentioned about no incentives or bonus for supplying milk and no advance payment was provided by vendors/private agency. Three fourth of selected households mentioned about non acceptability of cross bred cows milk in home consumption.

The four major infrastructural constraints faced by the selected DCS household were unavailability of emergency veterinary services, infrequent visit of veterinary staff, unavailability of cattle feed and fodder seed on credit, and low average milk yield of the milk animals, while NDCS households faced constrains such as infrequent visit of veterinary staff, lack of training facilities, unavailability of emergency veterinary services and lack of improved equipments.

The four major economic constraints faced were low price of milk offered, high cost of fodder seed, high cost of cattle feed and miner mixtures and high charges of emergency veterinary services. The underlying causes behind the major economic constraints faced by NDCS were high cost of veterinary services, high charges of emergency veterinary services, high cost of cattle feed and mineral mixtures, low price of milk offered, high cost of fodder seed, low provision of loan in society or government for purchasing of cattle and low incentives or bonus for supplying milk and high charges for insurance.

The major economic constraints faced by the selected household were less knowledge about marketing strategies and low risk taking behaviour were constraints faced by DCS households while NDCS households had faced four marketing constraints viz., less knowledge about marketing strategies, no or less advance payment for milk by society/vendors, lack of time for marketing and low risk taking behaviour.

The two main marketing constraints faced by the DCS households were less knowledge about marketing strategies and low risk taking behaviour. The NDCS households has faced four marketing

constraints viz., less knowledge about marketing strategies, no or less advance payment for milk by society/vendors, lack of time for marketing and low risk taking behaviour. The two main socio-psychological constraints reported by DCS as well as NDCS households were lack of purchasing power and lower socio-economic conditions. Lack of time due to busy in domestic/agricultural work was another problems faced by them.

The common constraints faced by the both households were poor knowledge about scientific animal husbandry practises and dairy farming, poor livestock extension services, lack of awareness about quality of milk, lack of veterinary services in village for quality milk production, and poor housing to milch animals. Besides these constraints, NDCS households faced constraints such as lack of marketing facility for dairy business, unavailability of chilling facilities at village level for milk preservation, unavailability of medicine and equipments required for quality milk production.

About 48 per cent of DCS households have suggested that veterinary literature should be provided in village, 46 per cent households mentioned that marketing facilities should be provided at village level for the outlet of milk and milk product, while about 41 per cent households suggested that loan sanction procedure should be made easy. Besides, other suggestions were loan amount for the purchase of dairy animals need to be increased; need to improve service deliver, enhance the milk price for producers, and technical knowledge for management of dairy enterprise. The main suggestions made by NDCS households were need to marketing facilities at village level for sale of milk and milk products, improvement in service delivery, need of veterinary literature at village level and need to make easy process of loan sanction.

Conclusions and Recommendations:

- The major constraint in milk marketing is the involvement of the unorganized sector. Changing the dairy-cooperative laws and

regulations can reduce the unorganized sector's role in milk marketing. Strengthening the infrastructure for milk collection, transportation, processing, packaging, pricing, and marketing through dairy co-operatives can also change the minds of the milk producers.

- Shortage of quality fodder and feeds is major constraint for livestock sector growth. Therefore, there is a need to work out the strategies for sufficient good quality feed and fodder for efficient utilisation of genetic potential; of the various livestock species and for sustainable improvement in productivity.
- The awareness about the dairy schemes among selected households was very poor. Therefore, there is a need to increase use advanced technology such as mobile phones in dairying for effective dissemination of livestock related information in general and dairying in particular.
- The selected households seldom aware about the livestock insurance. As insurance of livestock is the best safeguard for minimising the risk especially small holder producers, there is a need to increase the awareness and mandatory provision of the companies to undertaken livestock insurance of interested milk producers.
- Though livestock health situation in India is improving, Foot and Mouth Disease remains the issue of concern. There is a serious need for protection of animals against diseases and parasite which is one of the pre-requisites for sustainable livestock production and milk production.
- The four major infrastructural constraints faced by selected households were unavailability of emergency veterinary services, infrequent visit of veterinary staff, unavailability of cattle feed and fodder seed

- on credit, and low average milk yield of the milk animals.
- Non availability of veterinary services at the village level in time is the major constraints. The animal husbandry departments must be rejuvenated to act as drivers of growth for dairy sector.
- Given the fact that stress due to climate variability and availability of feed will be increasing constraints, more emphasis is required in promoting indigenous breeds. The data on animal genetic resources need to be generated and preserved properly for future use.
- The role of institutions in dairy farming especially district dairy cooperatives need to

be strengthened and there should be less bureaucratic and political interference in managing cooperative run dairies in India.

- The environmental security and sustainability must be made integral measures taken in the Indian dairy sector in arena of increase in milk production, storage, value addition, improving the genetics of local breed and reducing the risk in operation.
- The co-operative structure is very weak in Saurashtra and Kachchh regions of the state. Therefore, there is a need to support the presence of Milk Producer Company in all the areas for balanced development of dairy sector.



Mr. Samuel Johnson (General Manager, Department of Economic Analysis and Research, NABARD, Ahmedabad) delivering address the gathering of 'National Seminar on Water Governance in India' organized by the Centre on June 16, 2017

(ii) **Title of the Project** : **Assessment of the Status of Dairying and Potential to Improve Socio-Economic status of the Milk Producers and Convergence of all Central & State Schemes at District level in Rajasthan**

Principal Investigators : H. Sharma & S. S. Kalamkar
 Entrusted/Sponsored by : Directorate of Economics and Statistics, Ministry of Agriculture & Farmers Welfare, GOI
 Coordinating Centre : AERC, SPU, Vallabh Vidyanagar
 Date of Completion : June 2017

Summary:

Animal Husbandry in Rajasthan is a major economic activity contributing approximately 10.21 per cent to the total GDP of the state.. Rajasthan is rich in agro-ecological diversity and has a wide range of unique livestock production systems that have evolved in different regions in tune with the naturally available resources and needs of the people. Rajasthan state has three native cattle breeds viz Rathi, Tharparker and Nagori, having great deal of endurance. Tharparker is also known as "White Sindhi". "Cutchi" or "Thari" cattle breed reared for dual purpose of draught and milk production as it can produce milk under rigorous feeding and unfavourable environmental conditions. Nagori cattle breed has been named after the Nagaur district which is in central part of the state. The Nagori cattle are sturdy and used for ploughing, cultivation, drawing water from wells as well as transportation of field produce to markets. Earlier they were used as trotters in light iron- wheeled carts for quick transportation. There was a good demand of Nagori animals in Bihar but after implementation of Rajasthan Bovine Animal (Prohibition on Slaughter and Regulation of Temporary Migration or Export) Act, the demand has tapered off. In addition to native breeds, Gir, Malvi, Kankrej and Hariana cattle are found in large numbers in the State. In case of buffalo, there is no native breed. However, enormous numbers of Murrah, Surti buffaloes are reared in the region.

Rajasthan ranks second among the milk producing states in India, achieving 185 lakh MT in 2015-16, which has increased from the 41.46 lakh MT in 1985-86. The numbers of initiatives were taken by the government which could help in improving the milk productivity over the period. During the year 2015-16, per capita milk availability was very high of 704 gm/day against 337 gm/day of national availability and 208 grams of milk requirement per head per day as per ICMR norms. Out of total milk production, about 53.72 per cent of the milk production is contributed by Indigenous buffaloes followed by indigenous cattle (23.75%), crossbreed cattle (12.08%) and Goat (10.45%). However, the productivity of cross breed cows was maximum at 7.93 liters/day among all dairy animals. The indigenous cattle is also contributing significantly in milk production, especially in arid and semiarid areas of the state, though its productivity is much lower than the crossbreed cows and buffaloes (5.84 ltr/day). While the productivity of cows and buffalo in term of daily milk yield is increasing continuously. Among all cow breeds in Rajasthan, Tharparker has the highest yield of 1800 to 2600 kilograms of milk per lactation. Despite of increase in milk yield, there is still a wide scope for improving milk yield of milch animals.

There are 21 milk unions in Rajasthan State. The total milk procurement capacity and drying capacity are 1955 TL per day and 65 MT per day; of these Jaipur



unions are highest procurement capacity 500 Lt per day followed by Bhilwara. The federation having 22 chilling centre operating in the state with total capacity 565 and 10 chilling centre hired. Out of the 21 milk union, 7 are having training centre. CDF has adopted quality management and food safety system at member milk unions. Bhilwara and Bikaner milk union have obtained IS:22000:2005 and milk unions namely Ajmer, Alwar, Hanumangarh, Jaipur, Kota & Udaipur are ISO 9001 and IS 15000 (HACCP) certified. Rest other milk unions are also in process to obtain ISO certification.

PAAYAS Milk Producer Company limited was incorporated on 19th May 2012 under Part IX A of the Companies Act 1956. At present, the company has its operations in eight districts of Rajasthan and daily procured average 650 thousand litres of fresh raw milk from its producer-members spread over 2,400 villages of Rajasthan. The company organized 694 Milk Pooling Point taking its tally to 3,009, an increase of 30 per cent over the previous year. There remained an overwhelming response during membership drive resulting in addition of 19,031 new members. Average milk procurement grew to all time high of 570 Thousand Kilos per Day, registering a growth of 38 per cent over the previous year. A Milk Chilling Centre each at Bassi (Jaipur) and Beawar (Ajmer) was created to aid to milk procurement. The Paayas Milk Producer Company implemented different programmes like Village Based milk procurement System (VBMPS), Rational Balancing Programme (RBP), Fodder Development (FD), Pilot model for viable artificial Insemination Delivery (AI) are facilitated by National Dairy Services Supported under NDP.

It is a well known fact that for a sustainable development in any sector, there must be a definite policy so that a systematic approach can be made in the right direction. The policy so adopted should also similitude with the policy framed for the country as a whole. Considering the above factor, the department of A.H. and Veterinary as a central as

well as state has taken up various programmes for an overall development in this sector. For the proper management and care of both livestock animals and dairy produce, a number of government policies and schemes have been developed to improve the standard of control of animal diseases, scientific management and up gradation of genetic resources, increasing availability of nutritious feed and fodder, sustainable development of processing and marketing facilities and enhancement of production and profitability. Apart from the Central and State government programs, the state milk federations and the milk unions have evolved a variety of schemes that provide incentives to the milk producers.

The restructured Scheme National Programme for Bovine Breeding and Dairy Development (NPBBDD) was launched by merging four existing schemes i.e. Intensive Dairy Development Programme (IDDP), Strengthening Infrastructure for Quality & Clean Milk Production (SIQ&CMP), Assistant to Cooperatives and National Project for Cattle & Buffalo Breeding. In order to meet the growing demand for milk with a focus to improve milch animal productivity and increase milk production, the Government has approved National Dairy Plan Phase-I (NDP-I) in February, 2012 with a total investment of about Rs.2242 crore to be implemented from 2011-12 to 2018-19 with an aim to increase domestic production through productivity enhancement, strengthening and expanding village level infrastructure for milk procurement and provide producers with greater access to markets. The strategy involves improving genetic potential of bovines, producing required number of quality bulls, and superior quality frozen semen and adopting adequate bio-security measures etc. The scheme is implemented by NDDDB through end implementing agencies like state Dairy Cooperative Federations/Unions/Milk Producers Companies.

The overall performance of most of the schemes has not been to the desired levels (GOI, 2012). Problems



lied with funding pattern, poor flexibility, etc. Most of the schemes were stand alone with meagre financial outlay. Their implementation across all the state resulted in dilution of the focus. As states have their own specific needs and problems but are not able to address them comprehensively due to inadequate financial resources of their own and therefore they have to essentially look forward to the Central assistance. In fact it would be beneficial to harness the regional strengths using a regionally differentiated approach for exploiting the potential. Rajasthan has witnessed the impressive growth in milk production during the operation flood programmes (OF). On the line of suggestion made by the Working Group for 12th five year plan (GOI, 2012), all the ongoing schemes should be converged and put under three mega schemes; a) Animal Production, b) Livestock Health and c) Dairy Development.

The performance of the dairy sector in depends on many factors includes input supply (particularly feed) and service provision (veterinary service and Artificial Insemination (AI) or breed) or output services. DCS and NDCS households are fully depend on the agent or private agency to get support for emergency veterinary services. DCS households recorded the adequate supply of cattle feed while NDCS households did not have facility to get any support from the dairy cooperatives existing in their area, they are fully depend on the agent or private agency to get support for input and output service systems.

About 90 per cent of DCS milk producers reported that supply of cattle feed under input delivery systems was adequate and also got credit facility for cattle feed and fodder. Majority of milk producer (92 per cent) reported that the cost of cattle feed and mineral mixture was high. About 75 per cent of milk producer responded that EVS (Emergency Veterinary Services) was not available from PDCS but this facility were provided by private agent (private vet. doctors) and charge of EVS was very

high (average Rs. 1200/visit with medicines). About 70 per cent of milk producer responded that the vaccines availability was adequate and provided by government on the demands of PDCS in the village. More than 75 per cent household responded positively for quality and requisite quantity of vaccines. About 75 per cent milk producer told that the semen at the AI centre was adequate.

The lack of training facility was the major constraint faced by both the categories. About more than 50 per cent of milk producers under DCS as well as NDCS respondent had never faced the constraints such as irregular & inadequate supply of cattle feed, unsuitability of the time of delivery of milk during winters due to bitter cold in early hours of the day. The vaccines were in plenty as reported by milk producer of DCS and more than 70 per cent never faced the problem, but 29.17 per cent NDCS respondent had faced this problem always while 26.67 per cent had faced same sometime. More than 40 per cent of milk producer of both categories sometime faced the constraints of unavailability of green/ dry fodder throughout the year and low average milk yield of milk animals.

About 73.33 per cent of milk producer of DCS reported of having always low price of milk offered by Milk union. Also 44.17 per cent in NDCS and 41.67 per cent in DCS categories had reported that high cost for crossbred cow. Besides, there was high cost of cattle feed and mineral mixture. Thus, the rearing of milch animals was more costly for NDCS as compared to DCS due to high cost of cattle feed and mineral mixture. On the other hand almost all the milk producers under DCS and NDCS categories had responded that there were always, high charges of emergency veterinary services and low provision of loan in society or govt. for purchasing of milch animals in state.

About 60 per cent responded of NDCS having less knowledge about marketing strategies was major constraint followed by low risk taking behaviour and no or less advance payment for milk by

society/vendors. On an average more than 75 per cent of milk producer in both categories had responded that there was always lack of technical guidance. Also 61.67 per cent in NDCS and 41.67 per cent in DCS household reported that they poor knowledge about feeding and health care. The lack of purchasing power is serious social constraint followed by milk produces in study area. Most of households reported the constraints such as lack of awareness about quality milk production, poor housing to milch animals, poor knowledge about scientific animal husbandry practices and dairy farming. Also lack of finance, necessary space, marketing facility, lack of water supply and labour, storage access to AI and disease control were faced by milk producers in the State.

The constraints (such as milk supply related, infrastructure related and marketing related) were also faced by the selected primary dairy cooperative societies and private dairy units. In case of milk supply related constraints, top three constraints faced by both the groups are high numbers of small producers, irregular and inadequate supply of milk, unavailability of fodder throughout the years and low average milk yield of milk animals in area. Regarding infrastructure related constraints were unavailability of chilling facilities at village level for milk preservation and lack of training facilities. Few of them also faced Lack of necessary space required for dairy operation. Selected milk unions have also faced the constraints, they faced the problem of shortage of man power and technical constraint like veterinary doctor and maximum work is conducted by contract labours in selected all milk union. Besides, during lean season, this dairy faces the problems of working capital. Overall, all the dairy unions have bright future subject to no political interfere in the working of unions.

Conclusions and Recommendations:

- It was pronounced that the productivity of the buffaloes and local cows maintained by the all category of dairy farms were lower than

crossbred cows across all categories of dairy farms, therefore there is a need to make efforts to increase the productivity of buffaloes and local cows by upgrading the animals and scientific dairy farming practices should be disseminate to milk producer.

- Feed cost represented one of the major cost components within dairy farming and was an obvious cost to be reduced. Arrangement to provide green and dry fodder in adequate quantity and at a reasonable price to the milk producers particularly during off seasons be made.
- The major constraint in milk marketing is the involvement of the unorganized sector. Changing the dairy-cooperative laws and regulations can reduce the unorganized sector's role in milk marketing. Strengthening the infrastructure for milk collection, transportation, processing, packaging, pricing, and marketing through dairy co-operatives can also change the minds of the milk producers.
- The livestock services like artificial insemination/natural service, vaccination, deworming, etc are time-sensitive and government institutions are not able to deliver in time due to financial as well as bureaucratic constraints. Therefore, there is a need to re-orient the government policy for delivery of livestock services and involve major stakeholder.
- The public provisioning of veterinary inputs delivery system should be strengthened by invigorating the extension machineries, so that the needy farmers could benefit from it. There is a need to make greater efforts to educate and assist the milk producers in respect to latest breeding, feeding and animal management technique.
- It was observed that the awareness about the dairy schemes among selected households was very poor. Therefore, there is a need to increase

use advanced technology such as mobile phones in dairying for effective dissemination of livestock related information in general and dairying in particular.

- The selected households seldom aware about the livestock insurance. As insurance of livestock is the best safeguard for minimising the risk especially small holder producers, there is a need to increase the awareness and mandatory provision of the companies to undertaken livestock insurance of interested milk producers.
- The role of institutions in dairy farming especially district dairy cooperatives need to be strengthened and there should be less bureaucratic and political interference in managing cooperative run dairies.
- The co-operative structure is very weak in Bharatpur regions of the state. Therefore, there is a need to support the MPCs as well as union in this the areas for balanced development of dairy sector.
- The major constraints faced by the selected primary dairy cooperative societies and private dairy units were high numbers of small producers, irregular and inadequate supply of milk, unavailability of fodder throughout the years and low average milk yield of milk animals in area. Regarding infrastructure related constraints were unavailability of chilling facilities at village level for milk preservation and lack of training facilities. Few of them also faced Lack of necessary space required for dairy operation.
- The milk Unions are primarily engaged in manufacturing value added milk, butter, ice cream, peda, dehi, etc., in addition to milk sale. These milk produce are aimed at urban consumers whereas the attention of the dairy management should be focused to the welfare of the farmers' members. The union dairy

should revised milk procurement price so as to factors like cost variation and seasonality in milk production could be taken into account.

- There are number of schemes that provide incentives to the milk producers, however most of the schemes were stand alone with meagre financial outlay. In fact it would be beneficial to harness the regional strengths using a regionally differentiated approach for exploiting the potential. On the line of suggestion made by the Working Group for 12th five year plan (GOI, 2012), all the ongoing schemes should be converged and put under three mega schemes; a) Animal Production, b) Livestock Health and c) Dairy Development.





Dr. Ranjan Ghosh & Team of Centre for Management in Agriculture, Indian institute of Ahmedabad –meeting with staff of Our Centre on March 9, 2018



Shri Nitin Desai, (Former Secretary & Chief Economic Advisor, Ministry of Finance, GOI (Former Under Secretary General for Economic and Social Affairs, UN) at exhibition of AERC publications during his visit to Centre on March 13, 2018

(iii) **Title of the Project** : **Working of Pressurized Irrigation Network Systems (PINS) in India (Consolidated Report)**

Principal Investigators : M. Swain, S. S. Kalamkar & H. Sharma
 Entrusted/Sponsored by : Directorate of Economics and Statistics, Ministry of Agriculture & Farmers Welfare, GOI
 Coordinating Centre : AERC, SPU, Vallabh Vidyanagar
 Date of Completion : October 2017

Summary:

Water scarcity for agriculture has been growing year after year due to various reasons, for which the government has been very keen to increase the water use efficiency with its new slogan 'more crops per drop'. The government has envisaged promoting MIS and increasing the area under these water saving technologies. The Pressurised Irrigation Network System (PINS) is one such new innovative concept that acts as interface between water source and MIS in farm plots and increases the area under irrigation through adoption of MIS. It comprises of pipe network with controls, pumping installations, power supply, filtration, intake well/diggy. It is a common and shared infrastructure (by group of farmers) facilitating individual beneficiary for installing and operating MIS.

The present study was undertaken with major objectives as (i) to undertake a broad situation analysis of various PINS programs implemented in select states of India; (ii) to assess the extent of adoption and performance of PINS in different scenarios in the country; (iii) to analyse the institutional arrangements for management, operation and maintenance of PINS in the country; and (iv) to identify the major constraints in adoption, management, operation and maintenance of PINS in the country. The study covers four major states (Rajasthan, Gujarat, Maharashtra and Telangana) of the country promoting PINS with MIS. The data were collected from sample households as well as PINS-WUAs of selected states.

In Gujarat and Telangana, all the selected PINS were tube well PINS where as in Rajasthan, all the selected PINS were canal PINS. In Maharashtra, three types of PINS were observed: Government PINS (100% government funded), Cooperatives PINS (partially funded by government and managed by group of farmers) and private PINS (owned and managed by individual farmers).

Policy Implications: Gujarat

The water resources for irrigating more area have been a challenge for the country. It is desirable to utilize the available water resources more judiciously, so that the 'more crops per drop' slogan of the Govt can be realized and farmers income can be doubled within the stipulated time period. Thus, PINS infrastructure with MIS is inevitable for the farmers since it saves the water and the collected water can be used for further increase in area under irrigation. The present study has examined some aspects of working of PINS at different levels. During the survey, the sample farmers have also given some useful feedbacks which have been discussed earlier. Besides, some additional suggestions on different types of PINS those are drawn from the study are presented below.

Suggestions on Canal PINS

- Though the State Government has followed an innovative approach by developing and implementing the concept of PINS, the existing practices of farmers such as relying more on conventional flow method for irrigation did not

- change much due to some specific reasons. The farmers did not want to change the cropping pattern which was highly water intensive. Thus, it is necessary to discourage more water consuming cropping pattern, by encouraging suitable cropping pattern through some incentive structure.
- It was found that the farmers did not want to spend any amount on MIS since canal water was available to them almost free of cost. Thus, it is suggested to revise the water rates which are very less and strict rules and regulations should be enforced to check the illegal use of canal water and water theft.
 - Farmers having land at favourable locations (canal vicinity) do not find it to be a lucrative proposition. One of the major factors that contributed to less adoption of canal PINS in the state was that, PINS Projects were located very close to minors or sub minors, from where farmers are able to get water in alternative ways. Thus, it is suggested to re-launch this canal PINS programme with required amendments by locating these projects at far off places where farmers are struggling to get irrigation water. Though it involves little more investments in term of infrastructure expenditure, the adaptation and long-term sustainability would be surely achieved just like the success of PINS projects in Sanchore region in Rajasthan.
 - The areas where PINS+MIS is techno-economically not feasible, normal/conventional flow irrigation as per present SSNNL policy may be allowed to continue.
 - Majority of sample farmers were marginal with small land holdings who faced difficulties in getting bank loans due to incomplete land documents and other outstanding debts. The measures may be taken to provide affordable credit facilities to small and marginal farmers.

Suggestions on Tube well PINS:

- The study finds that maintenance and electricity cost for beneficiaries of tube well PINS is a major part of their expenses which is reasonably high, thus the subsidy may be given on electricity provided to farm plots.
- Drip system is damaged at some cases due to animal attack (pig, rat, squirrel, rabbit, blue bulls) and sometimes due to poor awareness of agricultural workers. Thus better quality systems should be provided. The fencing subsidy may be provided to encourage fencing by farmers.
- The quality of MIS components and services provided by some promoting companies were unsatisfactory; frequency of their visits was insufficient. Thus there is a need to take measures to regulate these promoting agencies supplying MIS to the farmers and check their adherence of standard norms on maintaining quality and providing proper and regular services for the repairing of the PINS-MIS within reasonable time limits. There is also a need to have more testing facilities for quality checking of equipments.
- Farmers are unaware, uneducated about use of PINS and MIS. So the required extension advisory services should be provided to the farmers, especially on maintenance and applicability of PINS-MIS for different crops. The training and awareness programmes should be regularly conducted to impart training to farmers on need, importance and use of MIS with PINS and also to promote fertigation and chemigation.

Suggestions on UGPL with PINS:

- Since underground pipeline system (UGPL) is used as PINS as well as for conventional irrigation, the new scheme has been well adopted by some farmers in Gujarat. However, there are some issues in implementation of

- UGPL in Sub-Minors. Farmers were not willing to pay 10 per cent, their contribution, which was later on reduced to 2.5 per cent. Farmers are continuously growing some crops and hence not willing to allow laying of UGPL. There is a need of strict adherence of Government guidelines so as to complete the implementation work in a time bound manner. Provisions should be made to pay required compensation for crop loss for laying of UGPL.
- Due to poor maintenance of field channels, the nearby lands are affected by water logging. Thus, it is suggested to arrange regular repairing and maintenance of minors and field channels, which are used by UGPL.
 - Due to poor management culture in WUAs, the maintenance and distribution of water was badly affected in some cases. In so many cases, WUAs were not formed that affected to regulate the proper supply of water among water users. Thus, there is need to strengthen existing WUAs and to form WUAs in a time bound manner, where they are not available.
 - The combination of UGPLs and PINS replacing Minors, Sub-Minors and FCs need to be systematically promoted to help saving land as well as water. The UGPL system with PINS should gradually focus on more adoption of MIS with appropriate financial incentives for effective management of irrigation water while taking care of farmers' preferences for different cropping pattern. The services of NGOs and model WUAs may be taken as motivators for more adoption of water saving technologies under UGPL with PINS.

Policy Implications: Rajasthan

- The ever-increasing difference between water availability and consumption is causing severe shortage of water in many fields. This is a growing concern all over the world but India is most vulnerable because of the growing

demand and in-disciplined lifestyle. The water resources for irrigating more area have been a challenge for the country. It is desirable to utilize the available water resources more judiciously, so that the 'more crops per drop' slogan of Govt can be realized and farmers' income can be doubled within the stipulated time period. Thus, PINS infrastructure with MIS is inevitable for the farmers since it saves water and collected water can be utilised for further increase in irrigation & farmers' income.

- The study finds that PINS with MIS has been highly successful in Narmada Project in Sanchore and Indira Gandhi Nahar Project (IGNP) in Bikaner district. The impact of these PINS projects on water saving, irrigated area expansion, crop yield and farmers' income has been praiseworthy. On the same time, it is necessary to strengthen these projects further by considering the inputs provided by the different stakeholders so as to enhance the irrigation benefits. Some of the observations were made during the study which are summarised below.
- The average size of WUA in Rajasthan is usually high, sometimes covered about 900 ha under one PINS project with more than 200 beneficiary farmers. Very large size of WUA becomes very difficult to manage. Among these large number of water users, the equitable distribution of water also becomes very difficult. As a result, the tail end beneficiaries turned out to be non-beneficiaries in real sense, since they don't get irrigation water. Thus, it is suggested to install more number of PINS and reduce the number of farmers per PINS-WUA, which would help in proper distribution of water among the farmers irrespective of location of plots in the command area of PINS.
- It was recommended to provide 15 sprinkler points to each outlet provided at farmer's field.

However, due to larger size of PINS command area and large number of beneficiaries, the number of outlets has not been provided in proportion to size of plots. A large size of plot with less number of outlets fails to discharge required amount of water to the crops in the entire plot. Moreover, sometimes, more number of sprinkler points were found in a smaller plot, while less number of sprinkler points in large plot size affected the irrigation provision. Thus, it is suggested to provide more outlet points in larger size plots, so that required number of sprinklers can be used.

- Moreover, same time is allotted to all plots irrespective of their location. However, due to lower pressure at tail end region, the tail end farmers did not get enough water compared to head region farmers.
- Due to scarcity of irrigation water, some of the non-beneficiary farmers depend only on rain water. Thus they demand to expand the coverage of PINS to their area. Thus, it is necessary to expand PINS coverage so as to ensure proper water distribution among the farmers.
- In some cases, due to close vicinity to canal, some farmers didn't install MIS in their farm plot, and they used to irrigate by flood method. Thus, the measures need to be taken to check water theft. More stringent policy should be implemented to check the same.
- In case of IGNP, it was observed that, on side of canal, PINS systems have been promoted, while on the other side, farmers are irrigating using flow method. It is necessary to discourage the flow irrigation and encourage the MIS with suitable incentives, so that more water scarce areas can be irrigated in Rajasthan.
- In some cases, the condition of minor canal was not in proper state. It is suggested to cement/renovate the minors/sub-minors

regularly for supplying water to PINS in better way which would expand their irrigation efficiency.

- It was observed that some promoting companies supplying the irrigation infrastructures and servicing are not functioning genuinely. As a result, the farmers are facing repeated troubles. Due to low quality of materials, frequent repair happens to be inevitable. On the other hand, much more time is being consumed for repairing and high charge is being imposed since the technician covers a long distance to reach the farmer's village.
- There is urgent need to provide more number of servicing centres, at least one at taluka level. On the other hand, local people should be trained to cater the need of the farmers.
- Some instances were found, where there were a large number of incomplete diggies (mainly in Gudha malani, Barmer district) since the promoting agency left the scene in between without completing the work. Thus, it is suggested to examine the performance of these promoting companies and treat them with appropriate incentives/disincentives.
- The farmers have expressed concern over less subsidy on sprinkler as it is evident that only about 15 per cent subsidy has been realised by the farmers. It is suggested to relook at the subsidy policy of the government on MIS, particularly on sprinklers.
- As suggested by some promoting companies, submersible pump sets should be promoted, which can reduce the requirement of separate pump house, reduce the maintenance requirement and are convenient to use.
- PINS programme in the command area of IGNP was started on pilot basis in Bikaner district since 2012-13. This project area was not covered fully in many areas due to some

reasons, may be, the financial constraints. As a result, some diggies could not be made functional properly. Moreover, IGNP system is operating since last 20 years and farmers were habituated and benefited through flood irrigation till then. With the changed situation, farmers were worried about the technical problems related to PINS. Thus it is necessary to provide training and counseling to the needy farmers.

- During first two years of installation of PINS and formation WUA, the WUA members and implementing agency/promoting companies work together. During this period, all maintenance cost are borne by the implementing agency/promoting companies. There is provision to provide proper training to WUAs to manage the PINS system. However, the quality of such training programme needs improvement. The promoting companies that work closely with the PINS system and the water users should be allowed to take part in training provided to the farmers.
- The cost of electricity has been a major share of total cost of crop cultivation. Farmers often requested to provide more subsidy on electricity or to provide solar pump sets to lift the water. At some places, electricity infrastructures have been damaged since a long time, for which more than 500 hectares of land failed to be irrigated. In spite of repeated requests of the farmers, the electricity facilities could not be restored. Thus, it is suggested to take up the farmers' concern in a time bound manner. On the other hand, fully automated solar systems need to be promoted in order to meet the farmers need. At some places, the outlets were kept open, when not in use. This resulted in choking of outlet pipes during regular storms/ sand dunes in the state. Thus, it is suggested to provide outlet covers to keep it closed while not in use.

Policy Implications: Maharashtra:

- It is realised that, if the financial assistance is made available to the lifts Schemes, they would get converted from PINS + Flow into PINS+MIS rapidly, as the trend is already set by 15 schemes in the state.
- The distribution systems of lift projects will also be converted into PINS+MIS, though not envisaged at the conceptual stages. There is an advantage for lifts, that on the way from pumps to the delivery point, there can be sufficient head available to use MIS by directly hooking up to the rising/pumping main.
- There is a large scope for PINS+MINS for (i)Co-operative lifts, (ii)lifts on Other Govt Projects with lift as distribution System, (iii)Govt. Lift irrigation projects themselves, (iv)individual lifts including lifts on Minor Irrigation Schemes, and in the long run of pipe distribution systems in place of flow irrigations.
- The costs of the drip systems were higher under coop and pvt PINS than the govt norms. Therefore it is suggested that the cost norms for drip irrigation system may be revised so that the farmers can afford the drip irrigation system.
- Extension activities for increasing the awareness about efficient use of water under the MIS, water requirement of the crops as per the crops critical growth stages and season wise are recommended.
- There is a lack of awareness about ISO standards, training and testing facility for PINS and MIS. Therefore, there is a scope for providing these facilities for farmers at the block level.
- We observe that some sort of refresher training etc. need to be arranged at different levels for WUA office-bearers, member farmers etc. Such training should be co-operative,

new technologies in irrigation and agriculture-cultivation, processing, post harvesting issues. There is also a need of a body such as federation, which can put forth the issues faced by these WUAs.

- We feel that for Maharashtra, being a leading state in MIS, comprehensive testing facilities for MIS components need to be developed in the state Agricultural Universities.

Policy Implications: Telangana:

- Though the PINS-MIS scheme is being implemented by private agencies, the subsidy is being provided by Telangana State Micro-Irrigation Project (TSMIP). Due to delay in release of funds from Central Government the release of subsidy to farmers is accordingly delayed. As a result the farmer could not receive the benefit in time and could not proceed further. Thus, it is requested to release the funds by Central Government in time.
- In recent years, tanks in Telangana are being renovated through the programme of Mission Kakatiya. This renovation should be extended to all other tanks which in turn will be useful to

irrigate more land in various parts of Telangana. PINS-MIS programme be initiated through tank irrigation also.

- The amount of subsidy for all inputs and also to the machinery should be enhanced as the input prices has increase many fold.
- Awareness generation programme on PINS-MIS should be carried out more frequently with larger scale and such programmes being carried out by NGOs should be encouraged through incentives. More training programmes should be conducted and more frequently such training programmes (i.e., once in a month in every mandal head-quarters) should be carried out.
- Training programmes to farmers to create awareness about fertigation and chemigation must be conducted.
- The implementing agencies and department officials (TS-MIP) should ensure thorough checking of MIS systems before installations and should provide timely services for any maintenance related problems.

(iv) **Title of the Project** : **Status Report on 15 Major Indicators of Agricultural Performance in Gujarat & Rajasthan**

Principal Investigators : M. Swain

Coordinating Centre : ISEC Bangalore

Date of Completion : Quarterly ongoing

Objective:

Preparation of database on 15 major indicators of agricultural performance in Gujarat and Rajasthan on quarterly basis



Visit to selected EIAs, Villages & Fields in Karnataka for fodder project



PROJECTS IN PROGRESS

(i) Title of the Project : **Assessment of the Status of Dairying and Potential to Improve Socio Economic Status of the Milk Producers and Convergence of all Central and State schemes at district level in India**
All India Report covering states of Assam, Bihar, Chhattisgarh, Jharkhand, Odisha, Eastern UP (27 districts), West Bengal, Gujarat and Rajasthan

Principal Investigators : S. S. Kalamkar and H. Sharma
 Sponsored By : Directorate of Economics and Statistics, Ministry of Agriculture & Farmers Welfare, Government of India
 Coordinating Centre : AERC, Vallabh Vidyanagar
 Date of Commencement : December 2015

Objectives of the Study:

- a) To assess the present status of dairying with reference to animal distribution, milk production, consumption and marketable surplus.
- b) To identify the constraints in dairy development from supply side, institutional deficiency and processing infrastructure.
- c) To highlight the facilitating factors that could help promoting dairy development to improve socio economic status of the milk producers.
- d) To suggest broad areas for focused interventions for promoting dairy development in the selected state and the way forward.
- e) To identify different central and state government schemes related to dairy development at district level and document technical as well as operational details of the schemes and understand how convergence is ensured.
- f) To suggest suitable policy measures to ensure compliance of effective convergence of various schemes for the benefits of dairy farmers.

(ii) Title of the Project : **Pilot study for developing state level estimates of crop area and production on the basis of sample sizes recommended by Prof. Vaidyanathan Committee report - gujarat state**

Principal Investigators : S.S. Kalamkar, S. R. Bhaiya, M. Swain & H. Sharma
 Sponsored and Coordinating Centre by : ICAR-Indian Agricultural Statistics Research Institute (IASRI), Pusa, New Delhi (funded by Ministry of Agriculture & Farmers Welfare, Govt. of India, New Delhi)
 Date of Commencement : March 2016

Objectives of the Study:

To conduct pilot study to generate reliable estimates of area and production of selected crops in gujarat, as per methodology suggested by the vaidyanathan committee.

(iii) Title of the Project : **Solarisation of Agricultural Water Pumps in Gujarat**

Principal Investigators : Sonal Bhatt and S. S. Kalamkar
 Sponsored by : Directorate of Economics and Statistics, Ministry of Agriculture & Farmers Welfare, Government of India
 Coordinating Centre : AERC, Vallabh Vidyanagar
 Date of Commencement : September 2017

Objectives of the Study:

- a) To study the coverage of solar irrigation pump in selected study area in Gujarat
- b) To study the features and relative economics of solar energy, electricity and diesel for pump operation as well as income generation
- c) To study the problems faced by the farmer in installation of solar pump
- d) To suggest suitable policy measures.



(iv) Title of the Project : Solarisation of Agricultural Water Pumps in Rajasthan

Principal Investigators : S. S. Kalamkar and H. Sharma
Sponsored By : Directorate of Economics and Statistics, Ministry of Agriculture & Farmers Welfare, Government of India
Coordinating Centre : AERC, Vallabh Vidyanagar
Date of Commencement : September 2017

Objectives of the Study:

- a) To study the coverage of solar irrigation pump in selected study area in Rajasthan
- b) To study the features and relative economics of solar energy, electricity and diesel for pump operation as well as income generation
- c) To study the problems faced by the farmer in installation of solar pump
- d) To suggest suitable policy measures.

(v) Title of the Project : Electronic National Agricultural Markets (eNAM) in Gujarat: A Review of Performance and Prospects

Principal Investigators : S.S. Kalamkar, Kinjal Ahir and S. R. Bhaiya
Sponsored By : Directorate of Economics and Statistics, Ministry of Agriculture & Farmers Welfare, Government of India
Coordinating Centre : AERU, IEG, Delhi
Date of Commencement : September 2017

Objectives of the Study:

- a) Study the extent of operation, adoption and functioning of e-NAM in some of the major markets
- b) Analyze the improvements due to e-NAMs in price discovery, quantity traded and marketing cost, among other things
- c) Assess the functioning of the assaying laboratories at the e-NAMs and acceptability of quality parameters to various stakeholders
- d) Analyze the infrastructure facilities at the e-NAMs for cleaning, sorting, grading and weighing of commodities
- e) Assess the overall impact on the ease of doing business



(vi) Title of the Project : Study of the Implementation and Enabling Conditions for the Central Crop Insurance Scheme – Pradhan Mantri Fasal Bima Yojana (PMFBY) in Gujarat

Principal Investigators : M. Swain & S.S. Kalamkar
Sponsored By : Directorate of Economics and Statistics, Ministry of Agriculture & Farmers Welfare, Government of India
Coordinating Centre : CMA, IIM, Ahmedabad
Date of Commencement : September 2017

Objective of the Study:

- To study the insurance uptake behaviour among farmers in Gujarat

(vii) Title of the Project : Impact Assessment and Evaluation of Fodder Seed Production and Sale Activities under National Dairy Plan I

Principal Investigators : S.S. Kalamkar, K. Ahir, S. R. Bhaiya, M. Swain & H. Sharma
Sponsored By : National Dairy Development Board, Anand
Coordinating Centre : AERC, Vallabh Vidyanagar
Date of Commencement : December 2017

Objectives of the Study:

- a) To estimate the per cent increase in area under green fodder with certified/truthfully labeled seeds.
- b) To evaluate the increase in green fodder yield by using certified/truthfully labeled seeds of improved genetics in comparison to local /non descript varieties seed.
- c) To estimate the reduction in cost of milk production as a results of higher green fodder yield obtained through fodder seed production and sale activities.
- d) To estimate the cost of fodder seed and green fodder production at seed growers and dairy farmers level and compare it with other competing crops.

(viii) Title of the Project : **Impact assessment of Goods and Service Tax (GST) on the use of selected inputs and adoption of Micro-Irrigation (MI) tools in selected districts of Gujarat**

Principal Investigators : S.S. Kalamkar and Kinjal Ahir

Sponsored By : Gujarat Economic Association Silver Jubilee Trust, Vadodara

Coordinating Centre : AERU, SPU, VVN

Date of Commencement : February 2018

Objectives of the Study:

- a) To inquire regarding the clarity of GST rates to be charged for the agricultural inputs and irrigation tools
- b) To observe the changes in the rates of agricultural inputs and irrigation tools in selected districts of Gujarat
- c) To analyze the impact on the use of agricultural inputs and adoption of irrigation tools before and after the implementation of GST

(ix) Title of the Project : **Price Volatility And Major Issues in Demand and Supply Management of Onion in Gujarat**

Principal Investigators : S.S. Kalamkar & H. Sharma

Sponsored By : Directorate of Economics and Statistics, Ministry of Agriculture & Farmers Welfare, GOI

Coordinating Centre : AERU, SPU, VVN

Date of Commencement : September 2017

Objectives of the Study:

- a) To analyse trends in area, production and productivity of onion in the State.
- b) To assess price volatility in major onion production and consumption markets in the State.
- c) To estimate the status and potential of onion infrastructure with specific focus on storage structures.
- d) To assess major issues/ factors affecting onion price volatility with specific focus on supply chain management and infrastructure and remedial measures from stakeholder's perspectives.

(x) Title of the Project : **Status Report on 15 Major Indicators of Agricultural Performance in Gujarat & Rajasthan**

Principal Investigators : M. Swain

Sponsored By : Ministry of Agriculture and Farmers Welfare, GOI

Coordinating Centre : ISEC Bangalore

Date of Commencement : Quarterly on going

Objective of the Study:

- Preparation of database on 15 major indicators of agricultural performance in gujarat and rajasthan on quarterly basis.



Visit to selected EIAs, Villages & Fields in Bihar for fodder project

PUBLICATIONS

A) Research Papers / Articles Published:

- "Rural Credit for Globalizing Farmers through Credit plus Approach", *Ashwattha*, (ISSN 0976-3740), Vol. 10, No. 1, January March 2016, pp.4-24, by S. S. Kalamkar and Sangeeta Shroff.
- "Assessment of Economic Losses due to Inadequate Post-Harvest infrastructure Facilities for Marine Fisheries in Gujarat", *Economic Affairs*, (ISSN: 0424-2513), Vol. 62, No. 1, pp. 1-10, March 2017, by H. Sharma, M. Swain and S.S. Kalamkar.
- "Socio-Economic Impact of Tararkar Check Dam in Khambhat area of Gujarat", *Indian Journal of Economics and Development*, (ISSN 2277-5412), Vol. 13, No. 2, April-June, pp. 229-242, by S.S. Kalamkar, H. P. Trivedi, S.R. Bhaiya and D.J. Chauhan.
- "Ration Balancing: Promising Option for Doubling Income from Dairying", *Agricultural Economics Research Review*, (ISSN: 0971-3441), Vol. 30, 2017, pp. 193-203 (Smita Sirohi, V. Sridhar, A.K. Srivastva, S.S. Kalamkar, Deepak Sharma and Vanpal Goyal).
- "Study of Credit versus Credit plus Approach for Livelihood Promotion in Maharashtra" in *Role of Cooperative Movement in Inclusive Development of India* (proceedings and papers of 32nd Annual National Convention), Indian Society for Studies in Cooperation (ISBN 9788193365601), 2017, pp. 81-92, by S.S. Kalamkar and S. Shroff.
- "Socio-Economic Impact Analysis of Introduction of Renewable Energy Technologies in Five Tribal Villages of Gujarat (India)" *Indian Journal of Economics and Development* (ISSN 2277-5412), 2018, Vol. 14 No. 1, pp. 16-34, by S.S. Kalamkar, M. Swain and S. Vahora.
- "Prospects and Constraints in Implementation of Soil Health Card Programme in Gujarat" Niti Mehta and Anita Arya (Eds) *Role of Public Policy in Development Process*, Academic Foundation, New Delhi (ISSN 9789332704213), 2018, Chapter 7, pp. 137-154, by M. Swain, S.S. Kalamkar and K.Kapadia.
- "Political Economy of Drought and Farmers Distress: Special Reference to Western Odisha, India" M. Swain and Chittaranjan Nayak (eds) *Agrarian Distress and Farmers' Suicides in India*, S.K. Books Agency, New Delhi (ISBN 9789383158393), 2018, Chapter 5, pp. 65-77, by M. Swain.
- "Human Development in India – A View in the World Contest" *SPET Research Journal of Social Science*, (ISSN 2348 2982), 2017, Vol. 5, pp. 108-122, by S. R. Bhaiya and J. P. Parmar.
- "Agro Climatic Zone, Season and Crop wise changes in Cultivated area during a decade in Gujarat – Economic Analysis" *Arthvikas* (ISSN 0004-3567), 2017, Vol. LIII, No. 1, by S. R. Bhaiya.
- "Growth and Instability of Inland Fish Production in India" *Fishery Technology*

(ISSN 0015-3001), 2017, Vol. 54, pp. 155-161, by Hemant Sharma.

- "Market co-Integration and Casualty Analysis of Barley in Rajasthan" *International Journal of Agriculture Sciences* (ISSN 0975-3710), 2017, Vol. 9, No. 53, pp. 4915-4917, by Indira, Kumawat R.C and Hemant Sharma.
- "Export of Dairy Products from India" *Agricultural Situation in India* (ISSN 0002-1679), 2018, Vol. LXXVI No.9, pp. 16-22, by Hemant Sharma and S.S. Burark.
- "Study on Marketing Cost and Margins of Cluster bean in Bikaner District of Rajasthan" *Economic Affairs* (ISSN 0424-2513), 2018, Vol. 63, No. 1, pp. 53-56, by Mukesh Jyani, Hemant Sharma and Meera.
- "Agricultural Extension Services by Agri-Clinic and Agri-Business Centres (ACABCs) Scheme in Rajasthan" *International Journal of Advanced Scientific Research and Management* (ISSN 24455-6378), 2018, Special Issue I, Jan 2018, pp. 188-193, by T. B. Parihar and V. K. Boyal.

B) Working Papers:

Nil

C) Publication released by the Centre:

- "Cost of Cultivation Scheme in Gujarat – A Reference Book" Lajja publication, Vallabh Vidyanagar, Anand (ISSN 978-93-81286-65-4), 2017, Pages 196, prepared by S. R. Bhaiya.

D) Rapporteurs Report/Book Reviews/ Articles/Abstracts in Magazines

- Rapporteur Report on Technical Session III of National Seminar on Assessment of the Status of Dairy and Potential to Improve Socio-Economic Status of the Milk Producers in India: Special Focus on Eastern States of India' organized by Agro-Economic Research Centre, Sardar Patel University, Vallabh Vidyanagar during May 16-17, 2017.
- Repporteur Report on Technical Session III of National Seminar on Water Governance in India – Water Management in Agriculture in India' organized by Agro-Economic Research Centre, Sardar Patel University, Vallabh Vidyanagar. During June 16-17, 2017.

E) Policy Briefs and Policy Alerts

- Submitted to Hon'ble Prime Minister's Office, the Ministry of Agriculture and Farmers Welfare, GOI & others [Compiled and Edited by Center for Management in Agriculture (CMA), Indian Institute of Management Ahmedabad (based on Research & Contributions of: 15 Agro-Economic Research Centers and Units, supported by Ministry of Agriculture & Farmers Welfare)

a) Agro-Economic Policy Briefs

- "Study of Pressurised Irrigation Network Systems (PINS) in Rajasthan", Agro-Economic Policy Briefs, Issue 1, September 2017, pp. 9-10, by S.S. Kalamkar.
- "Pressurised Irrigation Network Systems (PINS) in Gujarat", Agro-Economic Policy Briefs, Issue 2, December 2017, pp. 9-10, by

S.S. Kalamkar.

b) Agro-Economic Policy Alerts

- "Heavy Rain hit kharif crops in Gujarat", *Agro-Economic Alerts*, Issue 1, July 2017, pp. 3-4, by S.S. Kalamkar.
- "Price Volatility hurts Onion Farmers", *Agro-Economic Alerts*, Issue 2, November 2017, p 4, by S.S. Kalamkar.
- "Obstacles to eNAM in Gujarat" *Agro-Economic Alerts*, Issue 4, March 2018, pp. 4-5, By S.S. Kalamkar.



Bhaikaka Library Orientation Programme at Centre on July 11, 2018



Visit to selected EIA and Villages in Andhra Pradesh for fodder project



PARTICIPATION IN CONFERENCES, SEMINARS, WORKSHOPS, TEACHING, WORK ON COMMITTEES, EXPERTS, OTHER ACADEMIC ACTIVITIES, ETC

Dr. S.S. Kalamkar

- Participated in the group meeting (Group 1.1: Waste to Wealth & Policy Reforms) on 'Agriculture 2022' organised by the Ministry of Agriculture and Farmers Welfare, Government of India at NASC Complex, New Delhi during Feb. 18-20, 2018. The conference was inaugurated by Hon Union Minister of Agriculture, GOI in the august presence of Vice Chairman of Niti Ayog and other dignitaries. The finale shape was given to the points emerged from discussion on 20.02.2018 afternoon in the present of Hon State Minister of Agriculture and Secretary (Agriculture), GOI which were presented before Hon. Prime Minister of India.
- Acted as a resource person for the 41st Faculty Development Program (Economics) organized by Knowledge Consortium of Gujarat, Department of Education, Government of Gujarat, Ahmedabad on 22.03.2018 and delivered lecture on "Food Security and Sustainable Development: Status & Challenges".
- Participated in 'National Conference on Agro-Economic Research' organized by the 15 Agro-Economic Research Centres & Units under the Ministry of Agriculture and Framers Welfare, Government of India during January 30-31, 2018 at Institute of Economic Growth, Delhi and presented eight research papers.
- Participated in the 31st National Conference of the Indian Society of Agricultural Marketing (ISAM) held at Nabarkrushna Choudhury Centre for Development Studies, Bhubaneshwar (Odisha) during November 23-25, 2017 and presented paper on "Performance and Prospects of eNAM in Gujarat".
- Participated in the Silver Jubilee Conference of Agricultural Economics Research Association (AERA) on "Doubling Farmers' Income" Options and Strategies", at ICAR- National Academy of Agricultural Research Management, during 7-9 November 2017 Hyderabad and presented paper on "Ration Balancing: Promising Option for Doubling Income from Dairying" (with Dr Smita Sirohi). Also acted as Co-Chair of Technical Session of said conference.
- Participated at the National Workshop on Cost of Cultivation Scheme organized by Cost Scheme, Directorate of Economics and Statistics, Ministry of Agriculture and Farmers Welfare, Government of India at Rajasthan College of Agriculture, Maharana Pratap University of Agriculture and Technology, Udaipur during August 17-19, 2017 and made presentation on 'Cost of Cultivation Scheme in Gujarat'.
- Participated at the National Seminar on 'Water Governance in India: Sustainable Management of Water Resources in



- Agriculture' during June 16-17, 2017 organized by the Centre and presented papers on " Development and Management of Water Resources in Gujarat"; "Working and Performance of Pressurized Irrigation Network System (PINS)in Gujarat; and "renewal Energy Use of irrigation : Study of Solar Irrigation Cooperative in Gujarat".
- Participated at the National Seminar on 'Assessment of the Status of Dairying and Potential to Improve Socio-Economic Status of the Milk Producers in India: Special Focus on Eastern States of India' during May 16-17, 2017 organized by the Centre and presented papers on "Assessment of the Status of Dairying and Potential to Improve Socio-Economic Status of the Milk Producers in Gujarat and Rajasthan"; "Impact Evaluation of RBP on Dairy Development in Gujarat.
 - Participated at 'TAAS-IFPRI-ICAR National Conference on Sustainable Development Goals: India's Preparedness and Role of Agriculture', held at NASC, Pusa, New Delhi during May 11-12, 2017 and presented a paper on "Adoption of Soil Health Card for Sustainable Agriculture in Gujarat".
 - Acted as a resource person and delivered four lectures on June 8 & 10, 2017 at UGC sponsored 42nd Refresher Course on Economics organized by UGC Human Resource Development Centre, Sardar Patel University, Vallabh Vidyanagar, Gujarat during 29/05/2017 to 18/06/2017.
 - Acted as an External Expert in the one of the Project Evaluation Committees of International Agri-Business Management

Institute, Anand Agricultural University, Anand, Gujarat on June 12, 2017.

- Participated in AERC Director/Staff's meeting held at Indian Institute of Management, Ahmedabad on May 5, 2017 to have preliminary discussion and think of strategy on AERC Funding issue
- Participated in the meeting to finalize the plan for quick study to provide advance policy prescriptions/alerts to address onion prices in Rajasthan, MP, Gujarat, Maharashtra and Bihar at Krishi Bhavan, New Delhi on September 20, 2017.
- Acted as a subject expert as nominated by the Hon Vice Chancellor, Solapur University, Solapur for the interview of Professor under CAS at Sangola College, Sangola, Dist. Solapur on 16.09.2017.
- Acted as an External Expert and evaluated a Ph.D. thesis submitted by candidate for the degree of Ph.D. (Economics) of Savitribai Phule Pune University, Pune (Maharashtra), June 13, 2017 for Ph. D. Degree in Economics).
- Acted as an External Expert for Ph.D. thesis Final Viva-Voce examination of candidate for the degree of Ph.D. (Business Economics) under Faculty of Commerce of Savitribai Phule Pune University, Pune, on July 7, 2017.
- Acted as an External Expert and evaluated a Ph.D. thesis submitted by candidate for the degree of Ph.D. (Economics) of Savitribai Phule Pune University, Pune (Maharashtra), for Ph. D. Degree in Management), July 19, 2017.



- Acted as an External Expert and evaluated a Ph.D. thesis submitted by candidate for the degree of Ph.D. (Economics) of Savitribai Phule Pune University, Pune (Maharashtra), for Ph. D. Degree of your university in the in the Faculty of Mental, Moral and Social Sciences) July 25, 2017.
- Acted as an External Expert and evaluated a Ph.D. thesis submitted by candidate for the degree of Ph.D. (Commerce) of Savitribai Phule Pune University, Pune (Maharashtra), for Ph. D. Degree Commerce), August 14, 2017.
- Acted as an External Expert and evaluated a Ph.D. thesis submitted by candidate for the degree of Ph.D. (Agricultural Economics) of DR. Panjabrao Deshmukh Krishi Vidyapeeth (MS), for Ph. D. Agricultural Economics) August 14, 2017.
- Acted as an External Expert and evaluated a Ph.D. thesis submitted by candidate for the degree of Ph.D. (Commerce) of Dr. Babasaheb Ambedkar Marathwada University, Aurangabad, (MS) for Ph.D. Degree in Economics) August 21, 2017.
- Acted as an External Expert and evaluated a Ph.D. thesis submitted by candidate for the degree of Ph.D. (Economics) of Dr. Babasaheb Ambedkar Marathwada University, Aurangabad (MS) for Ph. D. Degree, September 25, 2017.
- Acted as a Reviewer for a Research Paper submitted for publication in Journal 'Agricultural Research', Official Publication of National Academy of Agricultural Sciences (NAAS), New Delhi.

- Acted as a Resource Person and delivered guest lecture as a part of Lecture series 2017-18 to MCOM students of BJVM, VVN on July 29, 2017.
- Acted as a resource person and delivered lecture at one-day workshop on "How to write a Research Paper?" organized jointly by the Gujarat Economic Association, N. S. Patel Arts College, Anand and Agro-Economic Research Centre, Sardar Patel University, Vallabh Vidyanagar on September 23, 2017.
- Acted as a Referee for an article received by Indian Society of Agricultural Marketing submitted for consideration of publication in Indian Journal of Agricultural Marketing (IJAM).
- Acted as an External Expert and evaluated a Ph.D. thesis submitted by candidate for the degree of Ph.D. (Economics) of University of Mumbai, January and February 2018.
- Participated in "Action Seminar on Inclusive Agriculture and Doubling Farmer Income" a held at Mahtama Mandir Gandhinagar and organized by the Department of Agriculture, Government of Gujarat on 15.02.2018.
- Participated in the meeting of Research Advisory Committee/ Directors/Incharge of AERCs/Us (organized by the AER Division of Department of Agriculture, Cooperation and Farmers Welfare, Ministry of Agriculture and Farmers Welfare, Government of India, New Delhi) held at Institute of Economic Growth (IEG), Delhi on 5th of August 2017 to review of



- performance of AERCs/Us work and considering new research proposals to be allotted.
- Visited the Tissue Culture unit of Vitigold Biotech Private Limited, Hadgud, Anand on August 8, 2017 and for discussion on seedless lemon and Kazi lemon varieties and its plantations.
- Visited the 'Water and Land Management Institute (WALMI)' located on Hadgud Vadod road, Anand on August 8, 2017 and discussed with officers of WALCMI about collaborative farmers training programme in future.
- Participated in Consultation Workshop on 'Doubling farmers Income by 2022- a Strategic Initiative', organized by the Anand Agricultural University, Anand on June 1-2, 2018.
- Delivered talk on the topic "Agribusiness in Gujarat", as a part of orientation programme for the new students of MBA at International Agri Business Management Institute, Anand Agricultural University, Anand on August 23, 2017.
- Acted as a discussant for a study entrusted by Ministry of Agriculture and Farmers Welfare, Government of India to Agro-Economic Research Centre, Himachal Pradesh University, Shimla (Himachal Pradesh) on study "Village Study of Malan of District Kullu in Himachal Pradesh" at AERC Shimla on December 27, 2017.
- Acted as a referee for the papers submitted for presentation at EURAM (European

- Academy of Management) 2018 Conference and ICAE (International Conference of Agricultural Economist) 2018.
- Participated in the International Seminar on "Towards a Better Global Economy: Policy Implications for the Welfare of the World in the 21st Century" held at N.S. Patel Arts College, Anand, Gujarat on 6th March 2018 and presented paper on "Frees Trade Agreement on dairy Products: Implication for Indian Dairy Sector". Also acted as Chairman of one of the sessions of seminar.
- Acted as an External Expert for Preliminary Viva Voce of student of Ph.D. at PF Institute of ABM, Junagarh Agricultural University, Junagadh on March 25, 2018..
- Acted as an External Expert for PG Thesis Viva Voce Examination of Ph.D. Student of Department of Agricultural Economics, Junagarh Agricultural University, Junagadh on March 26, 2018.
- Participated Policy Dialogue on 'Innovations in Emerging Remunerative Prices (MSP) to farmers: Challenges and Strategies' and 'Launch of Global Food Policy Report 2018' organized by IFPRI, New Delhi Office, New Delhi on March 23, 2018 at National Agricultural Science Complex, Pusa, New Delhi & presented a paper on "Price Support and Market Intervention Scheme in Rajasthan".
- Participated in the INREM (India Natural Resource Economics and Management (INREM) Foundation) board meeting held on March 31, 2018.



Visit to selected EIA and Villages in Maharashtra for fodder project

Dr. M. Swain

- Participated at International Seminar on "Towards a Better Global Economy: Policy Implications for the Welfare of the World in the 21st Century", held at N. S. Patel Arts College, Anand on March 6, 2018 and presented a paper on "Salinity Ingress and Agricultural Development in Gujarat: Implications for Better Agricultural Practices" and "SHC Programme in Gujarat".
- Participated at International Conference on Development, Agrarian Change, and Gender in India: Exploring Interdisciplinary Approaches', held at Gujarat Institute of Development Research, Ahmedabad during February 6-7, 2018 and presented a paper on "Impact of MGNREGA on Employment, Wages and Migration of Rural Women: Evidence from Rajasthan, India".
- Participated at AERC National Conference 2018' held at Institute of Economic Growth, Delhi during January 30- 31, 2018 and presented papers on "Socio-Economic Impact Analysis of Introduction of Renewable Energy Technologies in Five Tribal Villages of Gujarat", "Working of PINS in India" and "Assessing the Agricultural Marketing Policies and Programmes in Odisha".
- Participated at National Seminar on Challenges of Growing Inequalities in India', held at CSD, India International Centre (Main), New Delhi during 14-15 July, 2017 and presented a paper on "MGNREGA Effects on Income Inequality, Employment

and Migration of Disadvantaged Groups in Rajasthan".

- Participated at National Seminar on 'Water Governance in India: Sustainable Management of Water Resources in Agriculture', organized by our Centre during June 15- 16, 2017 and presented a paper on "Working and Performance of PINS in Gujarat" , "Working and Performance of PINS in Rajasthan" and "Water Scarcity, Drought and Agricultural Insurance in India".
- Participated at National Seminar on 'Assessment of the Status of Dairying and Potential to Improve Socio-Economic Status of the Milk Producers in India', organized by the Centre during May 15- 16, 2017and presented a paper on "Pros and Cons of Opening up Indian Dairy Industry for External Competition".

Dr. S. R. Bhaiya

- Participated at National Seminar on 'Assessment of the Status of Dairying and Potential to Improve Socio-Economic Status of the Milk Producers in India', organized by the Centre during May 15- 16, 2017and presented a paper on "Economic Study of Livestock Farming Pattern and Role of Village Milk Producing Cooperative Society".
- Participated at 'National Workshop, held at ICAR, IASRI, Pusa on July 7, 2017 organised by CS Division of Ministry for discussion on data reporting in CCS..
- Participated at the National Workshop on Cost of Cultivation Scheme organized by

Cost Scheme, Directorate of Economics and Statistics, Ministry of Agriculture and Farmers Welfare, Government of India at Rajasthan College of Agriculture, Maharana Pratap University of Agriculture and Technology, Udaipur during August 17-19, 2017.

- Participated at Gujarat Economic Conference on "Recent Trends in the Development of Agriculture in Gujarat: Issues & Challenges", held at Maharaja Bhagvatsinhji Arts & Commerce College, Gondal, Gujarat during Feb. 8-10, 2018 and present key paper on "Recent Trends in the Development of Agriculture in Gujarat: Issues & Challenges".

Dr. Hemant Sharma

- Participated at National Conference on 'Sustainable Development Goals: Preparedness and Role of Indian Agriculture', held at IFPRI, New Delhi, during May 11- 12, 2017 and presented poster paper on "Sustainable Development of Fisheries Sector in Gujarat".
- Participated at National Seminar on 'Assessment of the Status of Dairying and Potential to Improve Socio-Economic Status of the Milk Producers in India', organized by the Centre during May 16- 17, 2017, Chair of the Session and presented a paper on "Assessment of the Status of Dairying and Potential to Improve Socio-Economic Status of the Milk Producers in Rajasthan".
- Participated at National Seminar on 'Water Governance in India: Sustainable Management of Water Resources in

Agriculture', held at Agro-Economic Research Centre, Sardar Patel University, during June 16- 17, 2017 and presented a paper on "Status of Water Resources in Rajasthan".

- Participated in training programme on CAPI, held at AERU, Institute of Economic Growth, Delhi during October 03-07, 2017.
- Participated at International Seminar on 'Conservation & Management of Agricultural and Natural Resources: Strategies for food security in developing Countries', held at Carrier Point University, Kota, during November 8-9, 2017 Chair of the Session and presented a paper on "Food security in India: Status and Challenges".
- Participated at National Conference on 'Agricultural Marketing of Indian Society of Agricultural Marketing', held at NCCDS, Bhubaneswar, during November 22- 24, 2017 and presented a paper on "Role of Agriculture Market Intelligence in uplifting Farmers Income".
- Participated at National Conference on 'Agro Economic Research', held at IEG, Delhi, during January 30- 31, 2017.
- Participated at the National Workshop on Cost of Cultivation Scheme organized by Cost Scheme, Directorate of Economics and Statistics, Ministry of Agriculture and Farmers Welfare, Government of India at Rajasthan College of Agriculture, Maharana Pratap University of Agriculture and Technology, Udaipur during August 17-19, 2017.



Visit to selected EIA and Villages in Gujarat for fodder project

Shri Manishkant Ojha

- Participated at National Seminar on 'Water Governance in India: Sustainable Management of Water Resources in Agriculture', held at our Centre during June 16- 17, 2017 and presented a paper on "Status of Water Resources and Its Utilization in Rajasthan"..
- Participated in training programme on CAPI, held at AERU, Institute of Economic Growth, Delhi during October 03-07, 2017.

Ms. Kalpana Kapadia

- Participated at National Conference on 'Sustainable Development Goals: Preparedness and Role of Indian Agriculture', held at IFPRI, New Delhi, during May 11- 12, 2017 and Poster Presented of Paper on "Performance of National Agricultural Insurance Scheme in Gujarat".
- Participated at National Seminar on 'Assessment of the Status of Dairying and Potential to Improve Socio-Economic Status of the Milk Producers in India', held at Centre during May 16- 17, 2017 and presented paper on "Livestock Insurance as a Risk Management Tool on Dairy Farm".
- Participated at National Seminar on 'Water Governance in India: Sustainable Management of Water Resources in Agriculture', held at Centre during June 16- 17, 2017 and presented a paper on "Drought, Climate Change-Impact On Agricultural Insurance".
- Participated in training programme on CAPI, held at AERU, Institute of Economic

Growth, Delhi during October 03-07, 2017.

- Participated at National Conference on 'Agro Economic Research', held at IEG, Delhi, during January 30- 31, 2017 and paper presented on "Prospect and Problems of Oilseeds Cultivation in Gujarat".

Shri Thansingh Parihar

- Participated in training programme on CAPI, held at AERU, Institute of Economic Growth, Delhi during October 03-07, 2017.

Shri Deep Patel

- Participated in Workshop on 'Role of Libraries in Making Digital India', held at Charotar University of Science and Technology, Changa, on June 5, 2017.
- Participated in 18th Short Term Course on 'Research methodology', held at Human Resource Development Centre (HRDC), Sardar Patel University, during June 12- 17, 2017.
- Participated at Seminar on 'Future Librarianship', held at Central Library, Parul University, Vadodara & CIVOM, Indore, Vadodara, on August 10, 2017.
- Participated at National Conference on 'Advancements and Challenges in Health Science Librarianship: Need of Transformation of medical & Allied Sciences Librarianship in Digital Era', held at Health Science Library Association & Central Library Pandit Dindayal Upadhyay Medical College, Rajkot on November 18, 2017.

- Participated at Conference on 'Technical Conference on Open', held at H. M. Patel English Medium School & Council of Library and Information Science, Gandhinagar, Dharmah during March 17, 2018.

Shri D. N. Thakkar

- Participated at the National Workshop on Cost of Cultivation Scheme organized by Cost Scheme, Directorate of Economics and Statistics, Ministry of Agriculture and Farmers Welfare, GOI at Rajasthan College of Agriculture, Maharana Pratap University of Agriculture and Technology, Udaipur during August 17-19, 2017.

Shri Brijesh Pandya

- Participated at the National Workshop on Cost of Cultivation Scheme organized by Cost Scheme, Directorate of Economics and Statistics, Ministry of Agriculture and Farmers Welfare, GOI at Rajasthan College of Agriculture, Maharana Pratap University of Agriculture and Technology, Udaipur during August 17-19, 2017.

Shri Hemal Padhiyar

- Participated at the National Workshop on Cost of Cultivation Scheme organized by Cost Scheme, Directorate of Economics and Statistics, Ministry of Agriculture and Farmers Welfare, GOI at Rajasthan College of Agriculture, Maharana Pratap University of Agriculture and Technology, Udaipur during August 17-19, 2017.

Shri Hitesh Makwana

- Participated at the National Workshop on Cost of Cultivation Scheme organized by Cost Scheme, Directorate of Economics and Statistics, Ministry of Agriculture and Farmers Welfare, GOI at Rajasthan College of Agriculture, Maharana Pratap University of Agriculture and Technology, Udaipur during August 17-19, 2017.

Shri Vishal Chudasama

- Participated at the National Workshop on Cost of Cultivation Scheme organized by Cost Scheme, Directorate of Economics and Statistics, Ministry of Agriculture and Farmers Welfare, Government of India at Rajasthan College of Agriculture, Maharana Pratap University of Agriculture and Technology, Udaipur during August 17-19, 2017.





Visit to selected EIA and Villages in Punjab for fodder project



Visit to selected EIA and Villages in Rajasthan for fodder project

ACADEMIC EVENTS AND VISITORS AT THE CENTRE

(A) National Seminar on AERC Coordinated Projects:

- Two day National Seminar on AERC Coordinated Research Projects on "Assessment of the Status of Dairying and Potential to Improve Socio-Economic Status of the Milk Producers in India: Special Focus on Eastern States of India" was organized at the Centre during May 16-17, 2017.

- On the occasion of inauguration of two days National Seminar, Dr. Shirish Kulkarni, Vice Chancellor of our University, Dr. Amrita Patel (Former Chairman, NDDDB, Anand) and Dr. Mahesh Pathak (Advisor, AERC) were the distinguished dignitaries of the session.



Inauguration of seminar by Dr. Shirish Kulkarni, Vice Chancellor of our University



Welcome of Dr. Shirish R. Kulkarni, Vice Chancellor of our University

Dr. Shirsh R. Kulkarni, Vice Chancellor of our University in his presidential remarks highlighted the importance of livestock for Indian agriculture and rural economy. He made mention about the households without land and thus requirement of knowing households without livestock. He asserted that the role and interference of politicians in day to day business of primary milk cooperative societies at village level is very less. He highlighted the magnificent growth that the Indian dairy sector has achieved since independence. He mentioned about shift dietary practices in various parts of the country. In Eastern and North Eastern states non-vegetaries are in large proportions where the role of milk is negligible in their dietary habits. On the other hand, there are supply side bottlenecks that inhibit the growth of dairy sector in these parts of the country.



Dr. Amrita Patel addressing the gathering

Dr. Amrita Patel in her guest address made mention about the constraints faced by the dairy sector in India, explained how the political factors influence the functioning of the dairy cooperatives and the dairy development in the country. Further, the need and strategy adopted in formation of milk producer companies for strengthening the dairy sector in the country was presented. Dr. Patel mentioned how the ecological security is essential for sustainable economic development in the country.



Glimpses of National Seminar on Dairy held during May 16-17, 2017

- Two day National Seminar on AERC Coordinated Research Project on 'Water Governance in India: Sustainable Management of Water Resources in Agriculture' was organized at the Centre during June 16-17, 2017. National Bank for Agriculture and Rural Development (NABARD) had provided financial support for publication of research papers/seminar proceedings in edited book form.

On the occasion of inauguration of two day National Seminar, **Shri B. N. Navalawala**, Advisor to Hon'ble Chief Minister, Government of Gujarat and Chairman, Taskforce for interlinking of Rivers, Government of India, New Delhi has delivered the key note address on **"Water Governance in Indian Perspective"**.



Inauguration of seminar by Shri B. N. Navalawala

Shri B. N. Navalawala in his presidential remarks highlighted the importance of water saving for Indian agriculture and he reminded that the proper management of water resources was even mentioned in Atharva Ved in 1500BC. He discussed about various facets of water governance in India including emerging concerns and water stress scenarios for various countries in future. He expressed concerns that some people - notably the poor - are systematically excluded from access by their poverty, by their limited legal rights or by public policies that limit access to the infrastructures that provide water for life and for livelihoods. He also showed his unhappiness over the undesirable political interference in water management issues in the country.

Dr. R. C. Jain, Advisor, GWRDC, GOG & Former Chairman, CGWB, GOI in his guest address made mention about the need of paradigm shift in india's water policy so as to ensure a water-secure future in india. Further, he emphasized on the sustainable management of groundwater, which is our single most important water resource. Dr. Jain pointed out that reform in water policy needs to be

supplemented by a fundamental change in our agriculture policies, which continue to incentivise the growing of water-intensive crops like rice and wheat, as these are the only two crops procurement operations focus on.



Welcome of Dr. R.C. Jain, , GWRDC, GOG & Former Chairman, CGWB, GOI

Prof. A. P. Ganpatye, Former Executive Engineer, SSNNL, Govt of Gujarat in his presentation provided the backdrop of PINS programme in the country and in Gujarat in particular. He provided the conceptual clarifications on PINS installation and implementation and discussed various scenarios for successful operation of PINS projects in the Gujarat state. He explained the usefulness of this programme for expansion of area under MIS in the state as well as in the country. He discussed the various reasons those contributed to failure of pilot PINS programme in the Sardar Sarovar Narmada Canal Command in the state and also suggested some measures for successful implementation of the programme in the country.

Shri Samuel Johnson, General Manager, Department of Economic Analysis and Research (DEAR), NABARD, Ahmedabad in his presentation on NABARD's Initiatives for Water Conservation expressed that NABARD has been supporting improvement in irrigation facilities under funds like Rural Infrastructure Development Fund (RIDF) and Long Term Irrigation Fund (LITF). He also presented how nabard has been supporting water conservation measures through successful implementation of projects in watershed areas, projects to small and marginal farmers under Umbrella Programme on Natural Resource Management, development of wadi (orchards) in tribal areas, extending refinance to banks for on-lending to beneficiaries, supporting research in this area, etc. The NABARD's Major Areas of Interventions for Water Conservation and Sustainable Use of Water Resources such as RIDF, Water Shed Management, WADI Projects, UPNRM projects and Water Campaign.

(B) AERC Foundation Day Lecture 2017:

AERC celebrated its 56th Foundation Day on July 3, 2017. AERC Foundation Lecture 2017 was delivered by Prof. Ramesh Chand, Member, National Institution for Transforming India (NITI) Aayog, Govt. of India, New Delhi delivered AERC Foundation Day Lecture 2017 on "Agricultural Income and Farmers Needs and Aspirations" on July 3, 2017 at M.P. Patel Auditorium of the University.



Dr. Mahesh Pathak, Advisor of our Centre felicitating Prof. Ramesh Chand on July 03, 2017

Prof Chand in his lecture mentioned that agriculture income did not keep pace with increase in needs and aspirations of farmers after 1991. He cited three main reasons for same which were sectoral growth stuck; price realization did not improve and shift to non farm jobs remained slow. Besides, lack of reforms as a main reasons led to loss of faith in market, rise in demand for support and relief measures. There is a need to balance subsidy and development measures. Growth in agri-output has some scope to raise agri income and therefore emphasis needs to be laid on other sources which help in higher price realisation by farmers for which reforms are must. The rural economy is now more non agricultural (62%); agricultural (38%). Even in best phase of agriculture, growth of non agri was more than 2 times agri growth. But expansion of non farm sector did little to attract labour from agri. Among various sectors manufacturing shows highest growth in rural economy but, without jobs for rural workforce. Manufacturing sector adopting more capital intensive production in rural areas compared to urban areas and need to get answer for same. There is very low percentage of rural youth having vocational training and skill and therefore most of the

labour shift from agriculture is absorbed in low paid construction sector. This is the reason for persistent income inequality between rural and urban non farm workers. Non-farm income opportunities and job creation particularly in manufacturing is the only way, particularly for small holders, to raise farmer income that meet needs and aspiration of farmers. There is a need to improve employability and change labour law for labour intensive manufacturing.



Distinguished Audience at AERC Foundation Day Lecture on July 03, 2017



Prof. Ramesh Chand delivering AERC Foundation Day Lecture on July 03, 2017



Release of special issue of our monthly magazine 'Agricultural Production and Market Outlook (on the occasion of completion of two years of its release) at the hand of Prof. Ramesh Chand, Member, NITI & Prof Mahesh Pathak on July 3, 2017.



A reference book prepared for our Fieldsmen (useful in data collection and feeding in new FARMAP 2.0 Software) was released on this occasion (prepared by Dr S. R. Bhaiya, Field Officer, CCS) at the hand of Prof. Ramesh Chand, Member, NITI & Prof Mahesh Pathak on July 3, 2017.

(C) Workshop cum Training Programme for the Technical/Field Staff of CCS Gujarat:

The Cost of Cultivation Scheme (CCS) for Gujarat had organized three days Training Workshop on "Field Data Collection and Data Imputing in New Record Types (RTs) & FARMAP 2.0 Computer Software", for the technical/field staff of CCS at the Centre from July 01, 2017 to July 3, 2017.



Welcome of Dr. Shirsh R. Kulkarni, Vice Chancellor of our University



Dr. Shirsh R. Kulkarni, Vice Chancellor of our University inaugurated the workshop on July 1, 2017



CCS staff at Workshop

(D) The 5th H. M. Patel Memorial Lecture:

With the help of generous endowment grant given by Dr. Mahesh Pathak (Former Professor and Head, Department of Economics; Former Honorary Director, AERC and presently Hon. Adviser, AERC), the H.M. Patel Memorial Lecture Series has been instituted in the year 2014. The Post Graduate Department of Economics and Agro-Economic Research Centre, H. M. Patel Institute of Rural Development, Sardar Patel University, Vallabh Vidyanagar jointly organize this lecture every year.

Shri Nitin Desai, (Former Secretary & Chief Economic Advisor, Ministry of Finance, GOII Former Under Secretary General for Economic and Social Affairs, UN) delivered the 5th H.M. Patel Memorial Lecture on "Water and Welfare" on March 13, 2018.



Shri Nitin Desai delivering the H. M. Patel Memorial Lecture



Prof. H.P Trivedi and Dr. S.S. Kalamkar presenting books to Shri Nitin Desai

Shri Nitin Desai in his lecture mentioned present water resources available in the country and emerging stresses in the same. He mentioned that crisis that is looming in india's water systems is not just one of demand supply imbalance. It is crisis that is the product of short-term considerations dominating political discourse and economic policy. It is crisis because one group of people can pass on the costs of meeting their needs some other group of people. It is crisis that has arisen because the people who will be victims of our collective mistakes, the generations to come, do not have a vote in our elections or a voice in the policy debates. It is crisis that is the product of an instrumental view of nature instead of seeing humans and their needs as part of nature so that anything which hurts nature also hurts humans now and in the future. Nature will protect us and look after us if we protect and look after nature.



Distinguished audience at the Memorial Lecture

(E) The Shaping A Good Researcher : My Experience:

Dr. Ravindra H. Dholakiya, Professor (Economics) Indian Institute of Management (IIM) Vastrapur, Ahmedabad delivered the "4th Shaping A Good Researcher: My Experience" on March 05, 2018.



Felicitation of Dr. Ravindra H. Dholakiya by Dr. Mahesh Pathak.



Dr. Ravindra H. Dholakiya sharing his experiences



Distinguished audience in the lecture



Dr. Ravindra H. Dholakiya at AERC Publication Display at the Centre.

(F) Blood Donation Programme:

On the occasion of celebration of 56th foundation day, Agro-Economic Research Centre, S. P. University, Vallabh Vidyanagar had organized a blood Donation Camp on July 1, 2017. In the morning session, blood donation camp organized at the Centre. All together, 31 people had donated the blood.

(G) Faculty Seminar:

- Faculty Seminar on 'Working of Pressurized Irrigation Network Systems in Rajasthan' held was delivered by by Dr. M. Swain, Dr. Hemant Sharma & Shri Manish Kant Ojha on April 13, 2017 at Agro-Economic Research Centre, Sardar Patel University, Vallabh Vidyanagar, Anand, Gujarat
- Faculty Seminar on "Digital Data Collection Tools for Researchers: Survey CTO Experiences" held on September 07, 2017 at Agro-Economic Research Centre, Sardar Patel University, Vallabh Vidyanagar, Anand, Gujarat by Mr. Maulik Chauhan, Associate Director, (India Operations), Survey CTO (Debility India Pvt. Ltd.)



(H) Visit of Students of B. A. College Agriculture, Anand Agricultural University, Anand:

Total 51 Students batch of B. A. College of Agriculture, Anand Agricultural University, Anand visited Centre during November 13-15, 2017 under Rural Agricultural Work Experience Programme of Seventh Semester. The another batch of 71 Student of B. A. College of Agriculture, Anand Agricultural University, Anand visited Centre during November 13-15, 2017 under Rural Agricultural Work Experience Programme of Seventh Semester.



Dr. Swain, Dr. S. R. Bhaiya and Dr. Hemant Sharma addressing the students of AAU on their visit to Centre during 13-15/11/2017

(I) Other Visitors:

- Dr. Amrita Patel, Former Chairman, NDDDB, Anand visited during May 16-17, 2017.
- Shri Sriram Singh, Executive Director, NDDDB Dairy Services, New Delhi visited on May 16, 2017.
- Shri Mukesh Dave, Sr, Manager (International Marketing), Gujarat Milk Marketing Federation (GCMMF), Anand visited during May 16, 2017.
- Dr. Jignesh Shah, NDDDB, Anand visited during May 16-17, 2017.
- Dr. Anil Patel, NDDDB, Anand visited during May 16-17, 2017.
- Dr. V. Bhattacharya, NDDDB, Anand visited during May 16-17, 2017.
- Prof. I. Maruthi & Dr. B. G. Venkatarreddy, ADRTC Institute for Social and Economic Change, Baglore (Karnataka) visited during May 16-17, 2017.
- Dr. M. Nageswara Rao & Dr. P. Ramu, AERC, Visakhapatnam (Telengana) visited during May 16-17, 2017.
- Dr. Deepak Rathi, Dy. Director, AERC, Jablpur visited during May 16-17, 2017.
- Dr. S. N. Shukla & Dr. R. Singh, AERC, Allhabad (UP) visited during May 16-17, 2017.
- Dr. Gautam Kakty, Research Officer, AERC, Jorhat (Assam) visited during May 16-17, 2017.
- Dr. Debanshu Majumdar, Dy. Director, AERC, Vishwabharati (WB) visited during May 16-17, 2017.
- Dr. R. N. Mishra, GIDR, Ahmedabad visited during May 16-17, 2017.
- Dr. Gautam Kakty, AERC, Jorhat (Assam) visited during May 16-17, 2017.

- Shri B. N. Navalawala, Advisor, to Hon. Chief Minister, Government of Gujarat & Chairman, Taskforce for Interlinking of Rivers, Government of India, New Delhi visited centre on June 16, 2017.
- Dr. R. C. Jain, Advisor, GWRDC, GOG & Former Chairman, CGWB, GOI visited during June 16 & 17, 2017.
- Dr. Haribhai Desai, CVM, V.V.Nagar visited on June 16, 2017.
- Prof. A. P. Ganpatye, Former Executive Engineer, SSNNL, Govt. of Gujarat visited during June 16-17, 2017.
- Shri P. K. Dave, General Manager (PIM), SSNNL, Govt. of Gujarat visited on June 16, 2017.
- Shri Shilp Verma, IWMI, Colombo, Anand Office visited during June 16-17, 2017.
- Shri Samuel Johnson, General Manager, Department of Economic Analysis and Research (DEAR), NABARD, Ahmedabad visited on 16, 2017.
- Dr. Chndra Sekhar Bahinipati & P.IK. Viswanathan, GIDR, Ahmedabad visited on June 16, 2017.
- Dr. Archana Sinha, ISI, New Delhi visited centre during National Seminar held during 16-17 June, 2017.
- Dr. M. Srinivasa Reddy, AERC, Andhra Pradesh visited centre during National Seminar held during 16-17 June, 2017.
- Dr. Ghanshyam Pandey, Sr. Research Analyst, New Delhi visited centre during National Seminar held during 16-17 June, 2017.
- Shri Rudra Narayan Mishra & Dr. Jharna Pathak, GIDR, Ahmedabad visited centre during National Seminar held during 16-17 June, 2017.
- Dr. D. K. Dobariya, Water and Land Management Institute, Anand, Gujarat visited during 16-17 June, 2017.
- Dr Tushan Shah, Senior Fellow, IWMI, Colombo, Anand Office visited on June 17, 2017
- Prof. Ramesh Chand, Member, National Institution for Transforming India (NITI) Aayog, Govt. of India, New Delhi visited on July 3, 2017.
- Dr. Shishir Mandalia, University Librarian and Hemant P. Takle Technical Assistant visited on July 19, 2017.
- Shri Nitin Desai, (Former Secretary & Chief Economic Advisor, Ministry of Finance, GOI Former Under Secretary General for Economic and Social Affairs, UN) visited on March 13, 2018.
- Mr. Maulik Chauhan, Associate Director, (India Operations) Survey CTO (Debility India Pvt. Ltd.) visited on September 07, 2017.
- Dr. S.S. Burak, Director of Research, MPUAT, Udaipur, Rajasthan visited on September 15, 2017.
- Prof. N. Lalitha, Professor, Gujarat Institute of Development Research, Ahmedabad visited on September 25, 2017.

- Shri D. Moses Shyam, Visiting Scientist (Agricultural Economics) ICRISAT Development Centre Research Programme Asia visited on October 30, 2017.
- Dr. K. Ramesh Kumar, Assistant Professor, Economics & Rural Development, Alagappa University, Karaikudi, Tamil Nadu visited on January 02, 2018.
- Shri Rutam Vora, Business Line, Ahmedabad visited on February 02, 2018.
- Dr. Ashok Kumar, Principal Scientist (Agricultural Economics) & Dr. Kuldeep Kumar, Scientist (Agronomy), Indian Institute of Soil & Water Conservation Research Centre, Kota, Rajasthan visited on February 03, 2018.
- Dr. Amarnath Tripathi, Indian Economic Growth (IEG), Delhi visited on February 20, 2018.
- Dr. Rudra Narayan Mishra, Gujarat Institute of Development Research, Ahmedabad visited on February 20, 2018.
- Dr. Ranjan Ghosh & Ms. Diana Frenchman, Indian Institute of Management, Ahmedabad visited on March 09, 2018.
- Shri Parag Sane, Viewfinder Technologies Pvt. Ltd., Vadodara visited on March 10, 2018.



CCS Gujarat Fieldsmen visit to AAU, Anand on July 1, 2017



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Dr. Ashok Kumar, Principal Scientist (Agri. Eco.) & Dr. Kuldeep Kumar, Kota Rajasthan visited Centre on February 3, 2018

DETAILS OF FIELD VISITS FOR PROJECT WORK/CCS

(A) Cost of Cultivation in Gujarat Selected CCS Village Cluster (block 2017-2020) as on March 31, 2018

Zone	CL No.	AF/FS	Fieldman	Taluka	District	Village Name
SS	37	HPM	Baldha K M	Talala	Gir Somnath	Borvav
CG	13	HPM	Bariya C G	Kalol	Panchmahal	Pingadi
SS	27	ABC	Bhoi H D	Botad	Botad	Sirvaniya
BCA	26	RIP	Bhoi S C	Dholka	Ahmedabad	Sahij
NWA	58	BPP	Bhoi Sanjay V	Lakhani	Banaskantha	Vasana (vatam)
NWA	59	BPP	Bhoi Vishnu B	Dantiwada	Banaskantha	Vaghrol
NS	46	HUP	Bhoraniya K J	Jamnagar	Jamnagar	Theba
NWA	54	BPP	Chaudhari S R	Deesa	Banaskantha	Nava
NWA	55	BPP	Chaudhari S R I/c	Deodar	Banaskantha	Lundra
SS	35	HPM	Chaudhariy V H	Visavadar	Junagadh	Bardiya
NG	18	RIP	Chauhan J D	Daskroi	Ahmedabad	Vanch
NWA	52	ABC	Chauhan Jasmat D	Halvad	Morbi	Ghansyampur
NS	51	HUP	Dabhi L C	Kalyanpur	Dev. Dwarka	Suryovadar
SS	31	ABC	Karmata Sanjay H	Rajula	Amreli	Dhareswar
SG (HR)	2	RIP	Machhi R S	Navsari	Navsari	Nagdharma
CG	9	HUP	Machhi S C	Sinor	Vadodara	Sadhli
NS	49	HUP	Makwana P M	Jamjodhpur	Jamnagar	Satapar
NS	50	HUP	Makwana P M I/c	Khambhalia	Dev. Dwarka	Bhinda
SG (HR)	3	RIP	Mistry A K	Khergam	Navsari	Vad
SG	5	RIP	Mistry A K I/c	Mahuva	Surat	Karcheliya
SS	29	ABC	Mobha B B	Mahuva	Bhavnagar	Aohta
NG	25	VCC	Nai U B	Vijaynagar	Sabarkantha	Kanadara
NWA	56	BPP	Padhiyar S C	Dhanera	Banaskantha	Voda
SS	28	ABC	Panchal S A	Talaja	Bhavnagar	Kundheli
NG	22	VCC	Pandya H M	Modasa	Arvalli	Dugharvada
CG	10	HPM	Parekh T P	Balasinor	Mahisagar	Bajarvada
CG	12	HPM	Parmar K G	Bodeli	Chhotaudepur	Alhadpura
NG	15	ABC	Parmar M S	Khambhat	Anand	Vatadra
SG (HR)	1	RIP	Parmar S B	Songadh	Tapi	Kikakui

NG	21	BPP	Patel G A	Becharaji	Mahesana	Gambhu
NG	19	BPP	Patel P S	Dehgam	Gandhinagar	Harsonli
NG	23	VCC	Patel B M	Bayad	Arvalli	Tenpur
NS	43	VCC	Patel Bhadres R	Gondal	Rajkot	Anida (Bhasedi)
NG	20	BPP	Patel Bharat K	Kadi	Mahesana	Thol
NG	16	RIP	Patel Bhaskar K	Mahudha	Kheda	Heranj
NS	45	VCC	Patel D G	Upleta	Rajkot	Kolki
NWA	57	BPP	Patel G B	Tharad	Banaskantha	Moti Pavad
NG	17	RIP	Patel H B	Kapadvanj	Kheda	Savali
CG	8	HUP	Patel J J	Dabhoi	Vadodara	Kundela
NWA	53	BPP	Patel J K	Sidhpur	Patan	Chandravati
NS	41	VCC	Patel J N	Rajkot	Rajkot	Jadiya
NS	39	ABC	Patel J V	Limbdi	Surendranagar	Bodiya
SS	38	HPM	Patel N P	Girgadhada	Gir Somnath	Vadviyla
SG	6	HUP	Patel P C	Jambusar	Bharuch	Kahanva
NWA	60	HUP	Patel R B	Mandvi	Kachchh	Mota Ansaliya
NG	24	VCC	Prajapati A B	Bhiloda	Arvalli	Wankaner
NS	48	HUP	Rabadiya A P	Dhrol	Jamnagar	Haripar
SS	30	ABC	Rathava Vijay C	Babra	Amreli	Lunki
CG	14	HPM	Sharma S J	Jhalod	Dahod	Limadiya
SS	36	HPM	Sherathiya A J	Junagadh	Junagadh	Choki (Sorath)
SS	33	HPM	Singhada M N	Mangrol	Junagadh	Darshali
SS	34	HPM	Singhada M N I/c	Keshod	Junagadh	Moti Ghansari
NS	40	ABC	Tadvi Kamlesh	Thangadh	Surendranagar	Vijaliya
CG	11	VCC	Vaghela A D	Khanpur	Mahisagar	Janod
NS	47	HUP	Vaghela D S	Kalawad	Jamnagar	Vodisang (Devpur)
NS	42	VCC	Vanvi D D	Lodhika	Rajkot	Sanganva
NS	44	VCC	Vanvi D D I/c	Kotda sangani	Rajkot	Ardoi
SS	32	ABC	Velari P D	Liliya	Amreli	Putaliya
SG	4	RIP	Vidja L S	Olpad	Surat	Kumbhari
SG	7	RIP	Vohra A I	Jhagadia	Bharuch	Umalla



CCS Cluster visit Waghrol village of Dantiwada Taluka of Banaskanth District on 25/03/2018



CCS Cluster visit of Moti Pavad village of Tharad Taluka of Banaskantha District on 22/03/2018



Sanad APMC of Ahmedabad District visit on 07/12/2017



Patan APMC of Patan district visit on 08/12/2017



CCS Cluster visit of Moti Ghansari of Keshod Taluka on 26/01/2018



CCS Cluster visit of Darshali of Mangrol Taluka on 28/01/2018

(B) Research Team Visits to field- Ministry's entrusted projects

Sr. No.	Project title	Field Team	Duration of Visit	Name of Villages/ Places of Visit
1	Assessment of the Status of Dairying and Potential to Improve Socio-Economic status of the Milk Producers and Convergence of all Central & State Schemes at District level in Rajasthan	Dr. Hemant Sharma	May 19-24, 2017	Selected Villages Jaipur district of Rajasthan.
		Shri Manish Kant Ojha & Shri Hitesh Rohit.	July 11-17, 2016.	Selected Villages Bhavnagar, Amreli & Panchmahal district of Gujarat.
		Ms. Kalpana Kapadia		Selected Villages Surat & Panchmahal district of Gujarat.
2	Assessment of the Status of Dairying and Potential to Improve Socio-Economic status of the Milk Producers and Convergence of all Central & State Schemes at District level in Gujarat	Shri Manish Makwana	May 22, 2017 & July 17, 2017	To collect data on dairy form Directorate of Animal Husbandary, GoG, Gandhinagar.
3	Electronic National Agricultural Markets (eNAM) in Gujarat: A Review of Performance and Prospects	Dr. Hemant Sharma, Shri Manish Makwana, Shri T. B. Parihar	Sept. 25, 2017	To collect secondary data and useful information at Petlad of Anand district.
		Shri Manish Makwana & Shri V.D. Parmar	Sept. 27, 2017	To collect information /data on list of farmers/traders/commission agents registered at Jetalpur APMC of Ahmedabad district.
		Shri V.D. Parmar	Nov 6-11, 2018	
		Shri Manish Kant Ojha & Shri T. B. Parihar	Sept. 27, 2017	To collect information /data on list of farmers/traders/ Commission agents registered at Sanad APMC of Ahmedabad district.
		Dr. S. S. Kalamkar, Dr. Kinjal V. Ahir & Shri Brijesh Pandya	Sept. 7-9, 2017	To visit CCS clusters and APMC's of Gandhinagar, Ahmedabad, Mehesana and Patan district.
		Ms. Kalpana Kapadia	Sept. 27, 2017	To collect information /data on list of farmers/traders/commission agents registered at APMC of Vadodara district.

4	Solarisation of Agricultural Water Pumps in Gujarat	Dr. S.S. Kalamkar Dr. Sonal Bhatt Shi V.D. Parmar	Oct. 04, 2017	Pilot visit to the Solar Irrigation Pumps site nearby Anand district.
		Shri Manish Makwana, Ms. Kalpana Kapadia Ms. Archita Gupta & Shri Amit Pandya	Nov. 20-30 2017	To collect data visited Sabarkantha Dahod & Narmada district of Gujarat.
		Shri Manish Makwana, Ms. Kalpana Kapadia & Shri Amit Pandya	Dec. 04-07, 2017	
5	Solarisation of Agricultural Water Pumps in Rajasthan	Dr. Hemant Sharma, Dr. Manish Kant Ojha, Shri T. B. Parihar, Shri Selvin Macwan & Shri Sagar Sharma	Nov. 26 to Dec. 9, 2017; Dec, 6-9, 2017	To collect secondary and primary data at Jaipur, Sri Gandhinagar, Bikaner and Udaipur districts of Rajasthan.
6	Study of the Implementation and Enabling Conditions for the Central Crop Insurance Scheme – Pradhan Mantri Fasal Bima Yojana (PMFBY) in Gujarat	Dr. M. Swain, Shri D. N. Thakkar, Ms. N. J. Trivedi, Shri Bhavesh Solanki & Shri D. K. Patel	Nov. 13, 2017: Nov. 21, 2017 & Dec. 19, 2017	To collect data on PMFBY & Shri R. M. Mehta at Gandhinagar and Ahmedabad.
		Dr. M. Swain, Ms. Kalpana Kapadia & Ms. Prachi Patel	Jan. 10, 2017	To discuss about the project of PMFBY at Ahmedabad and Gandhinagar.
		Shri Manish Makwana & Shri Rakesh Parmar	Jan. 18-21, 2018	Selected villages of Sabarkantha district.
		Dr. M. Swain, Ms. Kalpana Kapadia & Ms. Prachi Patel	Jan. 18-22, 2018	To collect data on PMFBY from Vadodara district.
		Ms. Kalpana Kapadia & Shri Sagar Sharma	March 03, 2018	Visit of Dena village of Vadodara district.
		Ms. Kalpana Kapadia, Ms. Prachi Patel, Shri Sagar Sharma & Rakesh Parmar	Feb.27 to March 01, 2018	To collect data on PMFBY from Kambhat Taluka of Anand district.
		Ms. Kalpana Kapadia, Ms. Prachi Patel, Shri Sagar Sharma & Diana Frenchman	March 17-20, 2018	Field visit of Anand district.
7	Impact Assessment and Evaluation of Fodder Seed Production and Sale activities under National Dairy Plan I	Dr. S. S. Kalamkar, Dr. Kinjal V. Ahir & Dr. M. Swain	Nov. 13, 2017: Nov. 21, 2017	To discuss about the project
		Dr. M. Swain	Feb. 20-23, 2018	Field visits of Vijaywada and Guntur (Sangam & Krishna Dairy) district of Andhra Pradesh.

		Dr. Hemant Shrama	March 03-10, 2018	To identification of village in Ropar, Ludhiana, Jalandhar district of Punjab.
8	Price Volatility and Major Issues in Demand and Supply Management of Onion in Gujarat	Dr. Hemant Shrama, Shri Manish Makwana	Dec. 26-28,2017: Jan. 03,2017	Selected villages of Mahuva & Bhavnagar district. APMC Ahmedabad & G'nagar.

(C) Research Team Visits to field- NDDB Fodder Project

Sl	States	Officers	Date of Visit	EIAS
1	Gujarat	Dr. S.S. Kalamkar Dr.S.R. Bhaiya	18.01.2018 to 19.01.2018	Baroda, Surat
2	Rajasthan	Dr. S.R. Bhaiya Dr. Hemant Sharma	17.02.2018 to 22.02.2018	Kota, Chittorghrh
3	Andhra Pradesh	Dr. M. Swain	20.02.2018 to 23.02.2018	Vijaywada, Guntur
4	Karnataka	Dr. S.S. Kalamkar	21.02.2018 to 24.02.2018	Kolar, Bellary, Bengaluru
5	Maharashtra	Dr. S.S. Kalamkar	14.03.2018 to 18.03.2018	Kolhapur, Solapur
6	Punjab	Dr. Hemant Sharma	07.03.2018 to 10.03.2018	Ropar, Jalandhar, Ludhiana
7	Uttar Pradesh	Dr. S. R. Bhaiya	19.03.2018 to 21.03.2018	Lucknow, Ambedkarnagar
8	Bihar	Dr. M. Swain	19.03.2018 to 22.03.2018	Mithila, Barauni



CCS Cluster Bhinda Village of Khambhaliya Taluka of Devbhumi Dwarka District on 25/11/2017



CCS Cluster visit of Mota Ansabiya village of Mandvi Taluka of Kutch District on 29/3/2018



CCS Cluster visit of Satapar village of Jam-Jodhpur Taluka of Jamnagar District on 22,23 & 24/11/2017



CCS Cluster visit of Suryavadar village of Kalyanpur Taluka of Devbhumi Dwarka District on 28/03/2018



CCS Cluster visit Haripur Village of Dhrol Taluka of Jamnagar district on 24/03/2018



CCS cluster visit of Vijaynagar village of Sabarkantha District on 17/03/2018



CCS cluster visit of Kotada Sangani village of Rajkot District on 03/10/2018



Visit of Prof. Ramesh Chand, Member, NITI, GOI to Centre on July 3, 2017



Participation at 48th Gujarat Economic Conference, Gujarat Economic Association, organized by Maharaja Bhagavatsinhji Arts & Commerce College, Gondal, Dist. Rajkot on Feb 9-11, 2018.



AERC Review Committee Meeting at IEG, Delhi on February 6, 2018

(D) DETAILS OF FIELD VISITS FOR CCS

Dr. S. S. Kalamkar

- CCS Cluster (Cluster No. 54) Sahij village in Dholka taluka of Ahmedabad district on 07.12.2017
- CCS Cluster (Cluster No. 20) Thol village in Kadi taluka of Mehasana district on 07.12.2017.
- Cluster No. (Cluster No. 54) Nava village in Deesa taluka of Banaskantha district on 08.12.2017
- CCS Cluster (Cluster No. 52) Chandravati village in Siddhapaur taluka of Patan district on 08.12.2017
- CCS Cluster (Cluster No. 29) Otha village in Mahua, Talaja taluka of Bhavnagar district 06.12.2017
- Cluster HQ (Cluster No. 28) Kundheli of Talaja taluka of Bhavnagar district 06.12.2017.
- CCS Cluster Visit (Cluster No. 36, Choki- Sorath, Junagadh) on March 26, 2018

Dr. S. R. Bhaiya

- Conducted CCS Cluster Surprise Visits as follows:

Team	FO visit	Zone	Cl. No.	Village	TALUKA
FO, HD, AII Sup, AS, OS	16.08.2017	NG	22	Dugharvada	Modasa
FO, HD, AII Sup, AS, OS	16.08.2017	NG	24	Vankaner	Bhiloda
FO, AS, OS	31.8.2017	CG	8	Kundela	Dabhoi
FO, AS, OS	31.08.2017	CG	12	Alhadpura	Bodeli
FO, AII Sup, AS, OS Mela	02.09.2017	NG	17	Savali	Kapadvanj
FO, HD, NDDP	18.01.2018	SG	7	Umalla	Jhagadia
FO, HD, NDDP	18.01.2018	CG	9	Sadhli	Sinor
FO, HD, NDDP	25.1.18	SG (HR)	1	Kikakui	Songadh
FO, HD, NDDP	25.1.18	SG (HR)	2	Nagdhara	Navsari
FO, HD, NDDP	25.1.18	SG (HR)	3	Vad	Khergam
FO, HD, NDDP	25.1.18	SG	4	Kumbhari	Olpad
FO, HD, NDDP	25.1.18	SG	5	Karcheliya	Mahuva
FO, AS visit -19 Meeting	29.1.18	NG	18	Vanch	Daskroi
FO, Advisor, IASRI team, FSs, OS	23-25.4.18	SS	33	Darshali	Mangrol
FO, Advisor, IASRI team, FSs, OS	23-25.4.18	SS	34	Moti Ghansari	Keshod
FO, Advisor, IASRI team, FSs, OS	23-25.4.18	NS	39	Bodiya	Limbdi
FO, Advisor, IASRI team, FSs, OS	23-25.4.18	NS	42	Sanganva	Lodhika
FO, Advisor, IASRI team, FSs, OS	23-25.4.18	NS	44	Ardoi	Kotda sangani
FO, Advisor, IASRI team, FSs, OS	23-25.4.18	NS	46	Theba	Jamnagar
FO, Advisor, IASRI team, FSs, OS	23-25.4.18	NS	48	Haripar	Dhrol

Shri R. I. Patel

Zone	Cl. No.	Cluster	Visit I	Visit II	Visit III
SG (HR)	1	Songadh	16,17/09/2017	24,25/10/2017	12,13/03/2018
SG (HR)	2	Navsari	14,15/09/2017	22,23/11/2017	10,11/03/2018
SG (HR)	3	Khergam	11,12/09/2017	19,20/11/2017	06,07/03/2018
SG	4	Olpad	18,19/09/2017	14,15,16/03/2018	
SG	5	Mahuva	13/09/2017	21/11/2017	08,09/03/2018
SG	7	Jhagadia	20,21/09/2017	17,18/11/2017	17,18/03/2018
NG	16	Mahudha	11,12/10/2017	10,11/02/2018	
NG	17	Kapadvanj	09,10/10/2017		
NG	18	Daskroi	07,08/10/2017	08,09/02/2018	
BCA	26	Dholka	05,06/10/2017	06,07/02/2018	

Additional Cluster Visit:

NG	22	Modasa	16/08/2017		
NG	24	Bhiloda	16/08/2017		

Shri Brijesh Pandya

Zone	Cl. No.	Cluster	Visit I	Visit II	Visit III	Visit IV	Visit V
NG	19	Dehgam	5,6/10/17	30,31/1/17	18/4/18		
NG	20	Kadi	7,8/10/17	7/12/18	1,2/2/18	17/4/18	
NG	21	Bechraji	9,10/10/17	3,4/2/18	16/4/18		
NWA	53	Siddhpur	11,12/10/17	8/12/18	5,6/2/18		
NWA	54	Deesa	14,15/9/17	18/11/17	14,15,16/3/18		
NWA	55	Deodar	17/11/17	17,18/3/18			
NWA	56	Dhanera	16,17/9/17	14/11/17	23,24/3/18		
NWA	57	Tharad	18,19/9/17	15/11/17	19,20/3/18		
NWA	58	Lakhani	20,21/9/17	16/11/17	21,22/3/18		
NWA	59	Dantiwada	11,12,13/9/17	13/11/17	25,26/3/18		
NS	39	Limbdi	09/06/2017	-	-	-	-
NS	40	Thangadh	10/06/2017	-	-	-	-
NS	41	Jadiya	11/06/2017	-	-	-	-
NS	42	Lodhika	12/06/2017	-	-	-	-
NG	22	Modasa	16/08/2017	-	-	-	-
NG	24	Bhiloda	16/08/2017	-	-	-	-
BCA	26	Dholka	7/12/2017	-	-	-	-



Shri Hemal Padhiyar

Zone	Cl. No.	Cluster	Visit I	Visit II	Visit III	Visit IV
SG	06	Jambusar	06,07/10/17	23,24/02/18	22,23/03/18	
CG	08	Dabhoi	08,09/10/17	25,26/02/18	15/11/2017	14,15/03/18
CG	09	Sinor	10,11/10/17	27,28/02/18	20,21/03/18	
NS	46	Jamnagar	12,13/09/17	17/11/17	23/03/18	14,15/03/18
NS	47	Kalavad	07,08,09/09/17	21/11/17	25/03/18	
NS	48	Dhrol	18,19,20/11/17	24/03/18		
NS	49	JamJodhpur	22,23,24/11/17	26/03/18		
NS	50	Khambhaliya	25/11/17	27/03/18		
NS	51	Kalyanpur	10,11/09/17	26/11/17	28/03/18	
NWA	60	Mandavi	24-27/01/17	29/03/18		
NG	16	Mahudha	09/06/17	-	-	-
NG	20	Kadi	10/06/17	-	-	-
NG	18	Dadkroi	11/06/17	-	-	-
BCA	26	Dholka	12/06/17	-	-	-
NG	17	Kapadvanj	02/09/2017	-	-	-
SS	29	Sutrapada	28/04/17	-	-	-
SS	30	Visavadar	26/04/17	-	-	-
SS	31	Mangrol	26/04/17	-	-	-
SS	32	Talala	27/04/17	-	-	-
SS	33	Manavadar	25/04/17	-	-	-
SS	36	Babara	24/04/2017	-	-	-
SS	35	Lathi	24/04/2017	-	-	-
NG	22	Modasa	16/08/17	-	-	-
NG	24	Bhiloda	16/08/17	-	-	-

Shri Hitesh Makwana

Zone	Cl. No.	Cluster	Visit I	Visit II	Visit III	Visit IV
CG	10	Balasinor	10/06/2017	04,05/10/2017	01/12/2017	16,17/03/2018
	12	Bodeli	27-29/11/2017			
	13	Kalol	12/06/2017	06,07/10/2017	30/11/2017	14,15/03/2018
	14	Zalod	08,09/10/2017	02/12/2017	18-19/03/2018	
SS	33	Mangrol	09,10/09/2017	28,29/01/2018		
	34	Keshod	25-27/11/2018			
	35	Visavadar	07-09/2017			
	36	Junagadh	05,06/09/2017	22-24/01/2018		
	37	Talala	11,12/09/2017	30,31/01/2018		
	38	Gir-Gadhada	13,14/09/2017	01,02/02/2018		
<i>Additional Cluster visit:</i>						
8	59	Bhachau	15-16/4/16	-	-	-
8	44	Kalavad	5,6/12/16	-	-	-
8	47	Lalpur	8,9,10/12/16	-	-	-
8	45	Jodiya	11,12,13/12/16	-	-	-
8	48	Khambhadiya	14,15,16/12/16	-	-	-
8	49	Kalyanpur	17,18,19/12/16	-	-	-

Shri Vishal Chudasama

Zone	Cl. No.	Cluster	Visit I	Visit II	Visit III	Visit IV
CG	11	Khanpur	14,15/09/17	17/11/17	22,23/03/18	
NG	22	Modasa	16/08/17	10,11/09/17	15/11/2017	14,15/03/18
NG	23	Bayad	12,13/09/17	16/11/17	20,21/03/18	
NG	24	Bhiloda	16/08/17	06,07/09/17	14/11/17	14,15/03/18
NG	25	Vijaynagar	08,09/09/17	16,17/03/18		
NS	41	Rajkot	04,05/10/17	04,05/02/18		
NS	42	Lodhika	06,07/10/17	30,31/01/18		
NS	43	I/c Kotada Sanghani	02,03/02/17			
NS	44	Gondal	08,09/10/17	01/02/18		
NS	45	Upleta	10,11/10/17	06,07/02/18		
SS	27	Botad	12/06/17	-	-	-
SS	28	Talaja	09/06/17	-	-	-
SS	29	Mahuva	10/06/17	-	-	-
SS	30	Babra	11/06/17	-	-	-
NG	17	Kapadvanj	02/09/17			
07	44	Kalavad				
07	45	Jodia				
07	46	Dhrol				
07	47	Khambhadia				

Shri Atishesh Chaudhary

Zone	Cl.No.	Cluster	Visit I	Visit II	Visit III
CG	08	Dabhoi	10/06/17		
CG	09	Sinor	11/06/17		
CG	12	Bodeli	12/06/17		
NG	15	Khambhat	09/06/17	18,19/09/17	27,28/02/18 01/03/18
SS	27	Botad	06,07/09/17	06,07/04/18	
NS	28	Talaja	16,17/09/18	06/11/17	27,28/03/18
NS	29	Mahuva	14,15/09/17	07/11/17	29,30/03/18
NS	30	Babra	08,09/09/17	10/11/17	04,05/04/18
NS	31	Rajula	12,13/09/17	08/11/17	31,01/04/18
NS	32	Lilya	10,11/09/17	09/11/17	02,03/04/18
SS	39	Limbdi	08,09/10/17	08,09/03/18	-
SS	40	Thangadh	06,07/10/17	10,11/03/18	-
NWA	52	Halvad	04,05/10/17	12,13/03/18	-

Shri D. N. Thakkar

- Visited SG – zone, Cluster No. 12 Alhadpura and CG zone Cluster No. 08 Kundela visited on 31.08.2017.

Administrative Assignment/s Handled (Name of the Post held; Duration, nature of duties, etc.)

Dr. S. S. Kalamkar

- Honorary Director, Cost of Cultivation Scheme- w.e.f. July 5, 2012- Administrative work.
- Public Information Officer, AERC, S.P. University, Vallabh Vidyanagar since July 19, 2012.
- Public Information Officer, CCS, S.P. University, Vallabh Vidyanagar since July 19, 2012.
- Member, Advisory Committee, H.M. Patel Memorial Lecture, Sardar Patel University, Vallabh Vidyanagar since November 12, 2013.
- Organizing Secretary- National Seminar on 'Assessment of the Status of Dairying and Potential to Improve Socio-Economic Status of the Milk Producers in India: Special Focus on Eastern States of India' during May 16-17, 2017 at AERC, Sardar Patel University, Vallabh Vidyanagar, Anand, Gujarat.

Dr. M. Swain

- Worked as Officer In-Charge, AERC and CCS, as and when required, during the absence of Director, AERC.
- Coordinator of the 'Internal Quality Assurance Cell (IQAC)' of our Centre 2017-18.
- Organizing Secretary- National Seminar on 'Water Governance in India: Sustainable Management of Water Resources in Agriculture', held during June 16-17, 2017 at AERC, Sardar Patel University, Vallabh Vidyanagar, Anand, Gujarat.

Dr. S. R. Bhaiya

- Worked as Officer In-Charge, AERC and CCS, as and when required, during the absence of Director, AERC.
- Assistant Public Information Officer in Cost of Cultivation Scheme, AERC, SPU, Vallabh Vidyanagar since July 2012.
- Secretary of 'Standing Administrative Affairs Committee of CCS, AERC, SPU, VVN since March 2013.
- Secretary for the 'Committee for Selection of Best Field man in Cost of Cultivation Scheme (CSBF)', CCS, AERC, SPU, VVN since March 2013.
- Acted as a 'Secretary Member' for the AERC 7th Pay Fixation Committee for the fixation of pay of AERC and CCS non-teaching staff (Ref. AERC1.19/333/2016 dated Sep 6, 2016).

- 'Member of Library Committee' for the Library of the Centre since February 04, 2014.
- Worked as a *Officer In-charge of Centre* when Director and RO are out of station and on leave.

Shri D N Thakkar

- Asst. Public Information Officer, AERC, S.P. University, Vallabh Vidyanagar since July 19, 2012.
- Looking after accounts and administration work of cost of cultivation scheme since 16.04.2010

Shri Vinod D Parmar

- Assisted Hon. Director for Cost of Cultivation Scheme for the State of Gujarat since April 2010.



Dr. S.S. Burak, Director of Research, MPUAT, Udaipur, Rajasthan visited our Centre on September 15, 2017

Guidance to the Ph.D / M.Phil Students

Dr. S. S. Kalamkar

Ph.D. -Work in Progress- 06

- Registered with S.P. University, Vallabh Vidyanagar Ph.D. (Economics) -03
- Registered with S.P. University, Vallabh Vidyanagar, Ph.D. (Management) -03.

Sr. No.	Name Of The Candidate	Topic	Date of Registration	Full / Part Time
a	<i>Subject: Economics</i>			
1	Pawar Vandana K.	Agricultural Growth and Crop Diversification In Gujarat	Sept 2014	Part Time
2	Yamuna Panicker	Challenges and Opportunities In Production and Marketing Of Organic Agricultural Produce In India With Special Focus on Gujarat	24.12.2014 No. 957	Part Time
3	Shri Thansingh B. Parihar	Study Of Agricultural Extension Services by Agri-Clinic and Agri Business Centres (Acabcs) Scheme in Maharashtra and Gujarat	March 2016	Part Time
b	<i>Subject: Management (MBA)</i>			
1	Ms. Mukti Patel	Understanding Attrition of Teachers in Private Schools of Anand District of Gujarat: Problems, Causes and Remedies	Sept 2014	Part Time
2	Sanjiv Kumar	Livestock Feed Value Chain Analysis in Gujarat	Sept 2014	Part Time
3	Aditya Gatne	Analysis of Supply Chain System and Export of Onion: A Study of Maharashtra and Gujarat	Sept 2014	Part Time

Dr. M. Swain

Sr. No.	Name of the Candidate	Topic	Date of Registration	Full / Part Time
1	Anjali Sureshbhai Trivedi	Financial Inclusion of Urban Women: A Study of Ahmedabad district in Gujarat	Dec, 2014	Part Time
2	Subrat Sahoo	Assessment of Vulnerability to Drought and Water Scarcity in Agriculture: Case of Drought Prone Areas in Gujarat	Jan - 2015	Part Time
3	Vaishaliben K. Makwana	Pattern and Determinants of Horticultural Development in Gujarat	Dec - 2014	Part Time
4	Kalpna Kapadia	Role of Crop Insurance in Agricultural Risk Management: Special Reference to NAIS in Gujarat	Nov - 2015	Part Time
5	Anushka Mahto	Impact of Salinity Ingress on Cropping Pattern and Agricultural Production: A Micro-level Evidence from Gujarat	2015	Full Time

Dr. S. R. Bhaiya

Sr. No.	Name of The Candidate	Topic	Date of Registration	Full / Part Time
1	Shri Hiteshkumar P. Makwana	A Study of National Food Security Mission in Gujarat	Dec, 2014	Part Time
2	Shri Hemal U. Padhiyar	The Trends in Cost of Cultivation of Principal Crops in Gujarat	Aug - 2015	Part Time
3	Shri. Sunil D. Rajput*	An economic evaluation of MGNREGA in Gujarat State (A case study of Anand District)	Aug- 2016	Part Time
4	Shri. Rajesh J. Parmar*	The problems of workers in AGATE Industry in Khemby in Gujarat	Aug - 2016	Part Time



Glimpses of Talk on "Shaping A Good Researcher: My Experience" on March 05, 2018.

AWARDS WON, ELECTION/ NOMINATION TO PROFESSIONAL, EDUCATIONAL, NON-ACADEMIC BODIES, ETC.

• Best Field man Award

Best Fieldman award for the year 2016-17 was awarded to Shri S. C. Bhoi, Fieldman, CCS working at Siyawada village of Dholka Taluka of Ahmedabad district.

Dr. S. S. Kalamkar

- Worked as a Member of Executive Council of Gujarat Economic Association (GEA), Anand.
- Worked as a Member, Board of Governors, India Natural Resource Economics and Management (INREM) Foundation, Anand 388001, Gujarat (since August 2014).
- Worked as a Member, Expert Committee on Minimum Support Prices, Directorate of Agriculture, Government of Gujarat (Ex-Officio Member) (since July 5, 2012).
- Member, Advisory Board, Artha Vikas (ISSN: 0004-3567) (Biannual Journal of Economics, Department of Economics, S P University, Vallabh Vidyanagar) (since 2014).
- Sardar Patel Research Award (2017-18) received for the best research paper (under Teacher category) on "Adoption of Recommended Doses of Fertilizers on Soil Test basis by Farmers in Gujarat" (with M. N. Swain & K. Kapadia) at the 60th Convocation of Sardar Patel University, Vallabh Vidyanagar on 24.01.2018.
- Award for the Best Paper entitled 'Socio-economic Impact of Tarakpur Check dam in Khambhat Area of Gujarat' by S. S. Kalamkar, H. P. Trivedi, S. R. Bhaiya and D. J. Chauhan (2017), Published in Indian Journal of Economics and Development (Journal of the Society of Economics and Development), Ludhiana, Punjab, Vol. 13, No. 2, April-June 2017

Dr. M. Swain

- Awarded Sardar Patel Research Award 2018 (First Prize) for Best Research Paper in the group of Agricultural Sciences and Economics by Sardar Patel University, Vallabh Vidyanagar for the research paper titled, 'Adoption of Recommended Doses of Fertilizer on Soil Test Basis by Farmers in Gujarat' (Authors: M. Swain S.S. Kalamkar and Kalpana Kapadia).
- Awarded Sardar Patel Research Award 2018 (Second Prize) for Best Research paper in the group of Agricultural Sciences and Economics by Sardar Patel University, Vallabh Vidyanagar for the research paper titled 'Adoption of Recommended Doses of Fertilizer on Soil Test Basis by Farmers in Gujarat'.

- Awarded the Certificate of Reviewing for January 2017 for World Development, an international journal published by Elsevier.
- Organizing Secretary, National Seminar on Water Governance in India: Sustainable Management of Water Resources in Agriculture" in Collaboration with International Water Management Institute (IWMI), Colombo-Anand Office during June 16 - 17, 2017 at Agro-Economic Research Centre, Sardar Patel University, Vallabh Vidyanagar, Anand, Gujarat
- Organizing Secretary, Seminar on Data Collection Tools for Researchers: Survey-CTO Experiences" on September 07, 2017 at Agro-Economic Research Centre, Sardar Patel University, Vallabh Vidyanagar, Anand, Gujarat Worked as a Member of Executive Council of Gujarat Economic Association (GEA), Anand.

Dr. S. R. Bhaiya

- Award for the Best Paper entitled 'Socio-Economic Impact of Tarakpur Check dam in Khambhat Area of Gujarat' by S. S. Kalamkar, H. P. Trivedi, S. R. Bhaiya and D. J. Chauhan (2017), Published in Indian Journal of Economics and Development (journal of the Society of Economics and Development), Ludhiana, Punjab, Vol. 13, No. 2, April-june 2017



Two day National Seminar on AERC Coordinated Research Projects on "Assessment of the Status of Dairying and Potential to Improve Socio-Economic Status of the Milk Producers in India: Special Focus on Eastern States of India" was organized at the Centre during May 16-17, 2017 .

PROFESIONAL AFFILIATION

Dr. S. S. Kalamkar

- Indian Society of Agricultural Economics (ISAE), Mumbai (Life Member)
- Indian Society of Agricultural Marketing (ISAM), Nagpur (Life Member)
- The Indian Economic Association (IEA), New Delhi (Life Member)
- Agricultural Economic Research Association (AERA), New Delhi (Life Member)
- Maharashtra Society of Agricultural Economics (MSAE), Pune (Life Member)
- Association of Asian Scholars (AAS), New Delhi (Associate Membership)
- Indian Society of Agricultural Development & Policy, Ludhiana (Life Member)
- Indian Society for Studies in Cooperation (Life Member)
- Gujarat Economic Association (Life Member)
- India Natural Resource Economics and Management Foundation (INREM), Anand(Life Member).
- Society of Economics and Development, Ludhiana, Punjab (Life member)

Dr. M. Swain

- Life Member, Indian Society of Agricultural Economics
- Life Member, Indian Economic Association
- Member, South Asian Network for Development and Environment Economics
- Member, Society of Economics and Development.

Dr. S. R. Bhaiya

- Life Member, *Gujarat Economic Association*

Dr. Hemant Sharma

- Life time member of Journal of Agricultural Development and Policy
- Life time member of Indian Society of Agricultural Economics
- Life time member of Agricultural Economics Research Association (AERA)
- Life time member of Society of Economics and Development
- Life member of Indian Society of Agricultural Development & Policy
- Life member of Indian Society of Agricultural Development & Policy
- Life time member of Rajasthan Society of Extension Education Udaipur.
- Member of Bioved Research Society.
- Member of Journal of Progressive Agriculture
- Member of Indian Journal of Dairy Science

- Member of Journal of Research, PAU
- Member of International Journal of Agricultural Economics & Statistics
- Member of Indian Journal of Agricultural Research
- Indian Journal of Agricultural Economics and Development

Shri Manish Kant Ojha

- Life Member, Indian Society of Agricultural Economics, Mumbai.
- Life Member, Rajasthan Economic Association, Jaipur.

Shri Manish Makwana

- Life Member, Indian Society of Agricultural Economics, Mumbai.
- Life Member, Indian Economic Association.
- Life Member, Agricultural Economics Research Association, New Delhi.
- Life Member, Gujarat Economic Association.

Shri T. B. Parihar

- Life Member, Indian Society of Agricultural Economics, Mumbai.
- Life Member, Indian Society of Agricultural Marketing.

Shri Deep Patel

- Gujarat Granthalaya Seva Sangh, Ahmadabad (Life Member).
- Alumni Association, Department of Library and Information Science, Sardar Patel University, Vallabh Vidyanagar. (Patron Member).
- Ahmadabad Library Network (ADINET), Ahmadabad (Life Member).
- Indian Library Association (ILA), Delhi (Life Member).
- Public Library, Anand, Gujarat (Life Member).



Visit to NABARD Office by AERC Staff

MEETING OF GOVERNING BODY

- No meeting of Governing Body was held in the calendar year 2016 in view of AERC Review Committee meetings, waiting for adoption of recommendations of AERC Review Committee by the Ministry, Assembly sessions at Delhi, pending funding issue to AERC network, etc.



Group photo during celebration of Kite Flying Day on the terrace of H. M. Patel Institute of Rural Development, SPU, VVN on January 12, 2018.



Field Visit for the project on Solarisation of Agricultural Pumps in Gujarat

RESEARCH SUPPORT SERVICES

A) Library:

- Agricultural Economics Research Review
- Agriculture Today
- Artha Vikas
- Bhumi Putra
- Cyber Safar (Gujarati)
- Down to Earth
- Economic & Political Weekly
- Indian Farming (English)
- Indian Horticulture (English)
- Indian Journal of Agricultural Economics
- Indian Journal of Agricultural Marketing
- Indian Journal of Economics and Development
- Indian Journal of Fertiliser
- India Today
- Journal of Rural Development
- Kurukshetra (English)
- Latest Facts in General Knowledge (Gujarati)
- Millennial Asia
- PC Quest
- The Economist
- The Indian Journal of Agricultural Sciences (English)
- The Indian Journal of Animal Sciences (English)
- University News
- Yojana (Gujarati)
- Yojana (English)

Gift:

- Agricultural Situation in India
- Krushi Govidya

Online dataset subscribed:

- www.indiastat.com (belongs to Datanet India Pvt. Ltd.)
- <http://www.epwrf.res.in/> - Economic and Political Weekly Research Foundation (EPWRF) Data Series on Agricultural Statistics, Price Indices and Domestic Product of States of India.

Books Purchased: 2017-18:

AERC	: 42
CCS	: 06
Total	: 48

B) Seminar Hall:-

The Seminar hall housed in the Centre is well-equipped with all facilities created with the financial support of Ministry of Agriculture, Govt. of India.

C) Computer Centre:

The Computer Centre housed in the Cost of Cultivation Scheme, AERC is well-equipped with hardware and software to support the research and training programmes of the Centre. In the computer laboratory, staff have access to the internet both for reference work and communication.



Book Exhibition at Centre During 20-22/11/2017



Exhibition of AERC publications International Seminar at N. S. Patel Arts College, Anand on 06/03/2018

COMMITTEES

Public Information Officers –

Agro-Economic Research Centre	
Appellate Public Information Officer (APIO)	Hon. Vice Chancellor and Chairman, Governing Body, AERC Sardar Patel University, Vallabh Vidyanagar 388120, Anand, Gujarat Ph. No. 02692-230009 (Telefax)/ 226800 Email-vc_spu@spuvvn.edu , vcspu@yahoo.co.in
Public Information Officer (PIO)	Director Agro-Economic Research Centre, Sardar Patel University, Vallabh Vidyanagar 388120, Anand, Gujarat Ph. No. 02692-230106 (Telefax)/230799 Email-director.aerc@gmail.com
Assistant Public Information Officer (Assit. PIO)	Office Superintendent Agro-Economic Research Centre, Sardar Patel University, Vallabh Vidyanagar 388120, Anand, Gujarat Ph. No. 02692-230106 (Telefax)/230799

Cost of Cultivation Scheme	
Appellate Public Information Officer (APIO)	Hon. Vice Chancellor and Chairman, Governing Body, AERC Sardar Patel University, Vallabh Vidyanagar 388120, Anand, Gujarat Ph. No. 02692-230009 (Telefax)/ 226800 Email-vc_spu@spuvvn.edu , vcspu@yahoo.co.in
Public Information Officer (PIO)	Honorary Director Cost of Cultivation Scheme, Agro-Economic Research Centre, Sardar Patel University, Vallabh Vidyanagar 388120, Anand, Gujarat Ph. No. 02692-230106 (Telefax)/230799 Email-director.aerc@gmail.com
Assistant Public Information Officer (Assit. PIO)	Field Officer Cost of Cultivation Scheme, Agro-Economic Research Centre, Sardar Patel University, Vallabh Vidyanagar 388120, Anand, Gujarat Ph. No. 02692-230106 (Telefax)/230799 Email- srbhaiya@yahoo.com

Technical Advisory Committee- Research (TAC-R)

Objective: To receive useful feedback on research work completed and to be undertaken at the Centre

No. of Meetings: Committee shall meet at least once in a year.

Composition	Nature of Membership	Name of the Member
1) Hon. Adviser, AERC	Ex-Officio	Dr. Mahesh Pathak
2) One Subject Expert	Ex-Officio	Dr. Tushaar Shah, IWMI
3) The Director of Agriculture, Gujarat State, Krishi Bhavan Sector 10/A, Gandhinagar 382010 or his/her nominee	Ex-Officio	Dr. S. R. Chaudharay
4) The Commissionerate of Agriculture, Rajasthan State, Department of Agriculture, Pant Kris hi Bhawan, Jaipur or his/her nominee	Ex-Officio	Shri Sudhansh Pant
5) The Director, Directorate of Economics and Statistics, Government of Gujarat, Gandhinagar, Gujarat or his /her nominee	Ex-Officio	-
6) Head, Department of Agricultural Economics, BA College of Agriculture, AAU	Ex-Officio	Dr. Y. C. Zala
7) Representative of National Dairy Development Board (NDDB), Anand	Ex-Officio	Would be deputed by the NDDB
8) Representative of National Bank for Agriculture and Rural Development (NABARD), Ahmedabad	Ex-Officio	Would be deputed by the NABARD
9) Head, PG Department of Economics, SPU	Ex-Officio	Dr. H. P. Trivedi
10) Director, AERC	Ex-Officio	Dr. S. S. Kalamkar

**“STANDING ADMINISTRATIVE AFFAIRS COMMITTEE (SAAC)”**

Objective: To create a healthy environment and work culture in Centre by addressing the various administrative issues. The Committee will also recommend the actions to address the issues such as unhealthy practice of data collection/reporting, imperfection in data collection, non compliance of office orders interfering others' work, and other related issues.

Composition	Nature of Membership	Term of Membership	Nominating /appointing authority	Name of the Member	Period of Membership
1) Director/Hon. Director	Ex-Officio	--	--	Dr. S. S. Kalamkar	--
2) Dy. Director/Hon. Dy. Director	Ex-Officio			Dr. Kinjal Ahir	
3) Field Officer	Ex-Officio	--	--	Dr. S. R. Bhaiya	--
4) Office Superintendent	Ex-Officio			Shri D. N. Thakkar	
5) Assistant Statistician	Ex-Officio	--	--	Shri Gopal Machhi	--
6) One member nominated by Hon. Vice Chancellor, SPU	Member	Two Years	Vice-Chancellor	Dr. H. P. Trivedi Dept. of Economics, SPU,VVN	21.06.2017 to 20.06.2019
7) One member from Agril. Supervisor/Field Supervisor (rotation according to seniority)	Member	Two Years	Director/Hon. Director	Shri Hemal Padhiyar	21.06.2017 to 20.06.2019
8) Two members from Field men, on the basis of their better work performance, in consultation with Field Supervisor and Field Officer, CCS.	Member	Two Years	Director/Hon. Director	Shri C. G. Bariya Shri B. B.Mobha	21.06.2017 to 20.06.2019

Note: The Director/Hon. Director shall be the Chairman and the Field Officer shall be the Secretary of the Standing Administrative Affairs Committee of the Centre; As per the case/matter/subject, Director /Hon. Director may invitee any other staff member of the Centre/University as a Special Invitee

**“COMPOSITION OF 'INTERNAL QUALITY ASSURANCE CELL (IQAC)”**

Objective: The Prime task of the IQAC is to develop a system for conscious, consistent and catalytic improvement in the overall performance of our Centre. It would also aim to promote measures for institutional functioning towards quality enhancement through internalization of quality culture and institutionalization of best practices. Besides, IQAC would certify the Academic Performance Indicators (API) required for the faculty while submitting the application in other Institutions (as per respective Institute/University adopted API format).

Composition	Nature of Membership	Term of Membership	Nominating /appointing authority	Name of the Member	Period of Membership
1) Chairperson Head of the Institution / Centre • Director / Hon. Director	Ex-Officio	--	--	Dr. S. S. Kalamkar	--
2) A few senior administrative officers • FO, CCS • OS, AERC	Ex-Officio	--	--	Dr. S. S. Kalamkar Dr. S. R. Bhaiya Shri D. N. Thakkar, OS	--
3) Three to eight teachers (all faculty members of AERC CCS) • Deputy Director • Research Officer • Field Officer, CCS	Ex-Officio	--	--	Dr. S. S. Kalamkar Dr. Kinjal Ahir Dr. M. N. Swain Dr. S. R. Bhaiya Dr. Hemant Sharma	--
4) One member from the Management • Head, PG Dept. of Econ, SPU	Member	Two Years	Vice-Chancellor	Dr. H. P. Trivedi	Sept. 9, 2017 to Sept 8, 2019
5) One/two nominees from local society, Students and Alumni (PhD Student)	Member	Two Years	Director/Hon. Director	Ms. V. K. Makwana Ms. Pawar Vandana K.	Sept. 9, 2017 to Sept 8, 2019
6) One/two nominees from Employers/ Industrialists stakeholders	Member	Two Years	Vice-Chancellor	Prof. Yogesh Joshi	Sept. 9, 2017 to Sept 8, 2019
7) One of the senior teachers as the coordinator /Director of IQAC	Member	Two Years	Director/Hon. Director	Dr. Mrutyunjay Swain Research Officer (SS), AERC	Sept. 9, 2017 to Sept 8, 2019

The membership of nominated members shall be for a period of two years. The IQAC should meet at least once in every quarter. The quorum for the meeting shall be two-third of the total number of members.

AERC LIBRARY COMMITTEE

Objective: Centre has its own small library which is being used by the insider as well as outside researchers. In order to address the various issues related to Library, AERC Library Committee was constituted in 2013.

Composition	Nature of Membership	Name of the Member
1) Hon. Adviser, AERC	Ex-Officio Chairman	Dr. Mahesh Pathak
2) Director/Hon. Director (AERC/CCS)	Ex-Officio	Dr. S. S. Kalamkar
3) Hon. Dy. Director, AERC	Ex-Officio	Dr. Kinjal Ahir (w.e.f 01.09.2017)
4) Field Officer, CCS	Ex-Officio	Dr. S. R. Bhaiya
5) Research & Ref. Asstt. – Library, AERC	Ex-Officio	Shri Deep K. Patel



Visit to fodder field, Vadodara, Gujarat

WOMEN CELL

Objective: With an aim of creating awareness of women's right and duties as well as to take up women's issues and problems. It also provides a platform for women to share their experiences and views regarding their status in the society and to suggest ways to improve and empower themselves. Aiming at intellectual and social upliftment of the female students, the cell stands for facilitating women's empowerment through guest lectures, seminars, awareness programmes life skill training programmes, entrepreneur training and other welfare activities.

Composition	Nature of Membership	Nominating /appointing authority	Name of the Member
1) Director/Hon. Director	Ex-Officio	--	Dr. S. S. Kalamkar
2) One Female Lady Faculty	Member	Director/ Hon. Director	Dr. Kinjal Ahir
3) One female non-teaching staff representative from AERC	Member	Director/ Hon. Director	Ms. Kalpana Kapadia
4) One female non-teaching staff representative from CCS	Member	Director/ Hon. Director	Ms. Kena H. Patel

'AERC CCS RECREATIONAL CLUB'

The major aim of club is to arrange/organise cultural/sport/social activity in a group manner for and by the staff of the Centre. The following staff members are unanimously nominated on the organising body of this club by the staff.

Members	
1)	Shri Deep K Patel
2)	Shri D. N. Thakkar
3)	Ms. Kalpana Kapadia
4)	Shri Mihir R Rana
5)	Shri Thansigh Parihar
6)	Shri Bhavesh M. Solanki
7)	Shri Bhoomika S. Padhiyar
8)	Shri Faruq G. Vahora
9)	Shri Selvin Macwan

APPOINTMENTS, RETIREMENT, RESIGNATION, EXPIRED & CONTRACT COMPLETION ETC.

AERC Staff	Post	Date
Joined		
Ms. Archita Gupta	Research Fellow*	12.06.2017
Ms. Rinku Rathod	Research Fellow*	06.06.2017
Ms. Viral K Dhobi	Research Assistant*	09.06.2017
Ms. Ankita B Parmar	Research Assistant*	08.01.2018
Mr. Selvin Frances Macwan	Research Assistant*	13.09.2017
Mr. Rakesh Rameshbhai Vankarsadhu	Research Fellow*	08.01.2018
Ms. Pranchi S Patel	Research Fellow*	08.01.2018
Resigned		
Ms. Archita Gupta	Research Fellow*	12.12.2017
Ms. Rinku Rathod	Research Fellow*	21.08.2017
Ms. Viral K Dhobi	Research Assistant*	10.08.2017
Retired		
-	-	-
Contract Completion		
Ms. Ankita B Parmar	Research Assistant*	31.03.2018
Mr. Selvin Frances Macwan	Research Assistant*	31.03.2018
Mr. Rakesh Rameshbhai Vankarsadhu	Research Fellow*	31.03.2018
Ms. Pranchi S Patel	Research Fellow*	31.03.2018

CCS Staff	Post	Date
Joined		
Ms. Renuka J Machhi	Jr clerk/Typist*	26.04.2017
Shri Bhavesh M solanki	Jr clerk/Typist*	01.05.2017
Ms. Kena Patel	Jr clerk/Typist*	08.05.2017
Mrs. Nishita J Trivedi	Jr clerk/Typist* (ad hoc)	15.05.2017
Shri Mihir R Rana	Computer*	15.05.2017
Mrs. Bhoomika N Patel	Computer*	15.05.2017
Shri Rupesh C Mistry	Computer*	23.05.2017
Shri Jaswant N Singh	Computer*	03.06.2017
Shri Faruk G Vohra	Computer*	10.07.2017
Shri V C Harijan	Peon*	24.07.2017
Shri Manindar R Rohit	Research Assistant*	08.01.2018
Ms. Renuka J Machhi	Jr clerk/Typist*	26.04.2017
Shri Bhavesh M Solanki	Jr clerk/Typist*	01.05.2017

Resigned		
Shri Maheshbhai R Parmar	Fieldman	20.05.2017
Shri Naginkumar P Parmar	Fieldman	24.05.2017
Retired		
Srhi Jashvantsinh S Raj	Fieldman	14.06.2017
Contract Completion		
Ms. Renuka J Machhi	Jr clerk/Typist*	25.03.2018
Shri Bhavesh M Solanki	Jr clerk/Typist*	31.03.2018
Shri Manindar R Rohit	Research Assistant*	31.03.2018

* Indicate temporary/ad-hoc post.



Handing over retiral benefits to retired staff (Shri J. S. Raj, Agriculture Assistant)



Sport Day Celebration on February 15, 2018

INFRASTRUCTURE

The Centre is located at the H.M. Patel Institute of Rural Development, Opp. Nandalaya Temple, Sardar Patel University, Vallabh Vidyanagar 388120. In the same building, Department of Economics is housed on ground and first floor while AERC and CCS are working from second floor of the same building. (Purchase of items in Financial Year i.e. April 2017 to March 2018)

AERC:

During the year 2017-18, the following equipments/hardware/software/office materials were purchased from the grant-in-aid received: (1) Beetal phone-1 (2) HP desktop -02 (3)HP Printer - 02 (4) Office Software -10 (5) Sand Disk memory card -06 (6) Samsung Mobile Tablets – 06 (7) Tablet Software -06 (8) Survey CTO Standard Service - 06 (9)USB hub and cables - 04 (10)Website Redesign and Develop -01.

CCS:

During the year 2017-18, the following equipments/hardware/software/office materials were purchased from the grant-in-aid received: (1) HP 280 G2 MT Class Desktop -03 (2) HP elite one 800 g2 23 Nich Touch AIO PC - 01 (3)HP LaserJet Printer - 01 (4) HP 1108 Printer -01 (5) Data Dongle with annual advance rental plan (5 GB per month with throttling) - 44 (6) HP wireless keyboard & mouse combo – 01 (7) Idea data & dongle with data plan(3g/4G) - 25 (8) Data card & dongle - 25 (9) HP tonercart - 04 (10) Office proplus 2016 sngl olp nl acdme -10



Group photo with Farmers of CCS selected cluster visited on 01.07.2017.

STAFF MEMBERS AS ON MARCH 31, 2018

AERC STAFF:

Sr. No.	Name	Designation
1	Dr. Mahesh Pathak	Hon. Adviser
2	Dr. S. S. Kalamkar	Director & Professor
3	Dr. Kinjal V. Ahir	Hon. Deputy Director/Asst. Prof.
4	Dr. M. N. Swain	Research Officer (SS)/Asst. Prof.
5	Dr. Hemant Sharma	Research Officer/Asst. Prof.
6	Shri M. R. Ojha	Research Associate
7	Shri M C Makwana	Research Associate
8	Shri Kalpana Kapadia	Research Associate
9	Shri Thansingh Parihar	Research Associate
10	Shri Deep K Patel	Res. & Ref. Asstt. Lib.
11	Shri D.N. Thakkar	Office Superintendent
12	Shri Vinod D Parmar	P.A. to Director
13	Shri P. J. Patel	Account Assistant
14	Shri N. J. Amin	Jr. Clerk/Typist
15	Shri Rakesh Vankarsadhu	Research Fellow*
16	Ms. Prachi S. Patel	Research Fellow*
17	Shri Selvin Macwan	Research Assistant*
18	Shri Sagar Sharma	Research Assistant*
19	Ms. Ankita Parmar	Research Assistant*



Group photo during Workshop cum Training Programme for Agriculture Assistant/Fieldmen and present selected clusters farmer of CCS on Data Collection and Data Inputting in New Record Types (RTs) & FARMAP Computer Software' on July 01, 2017.

COST OF CULTIVATION SCHEME

Staffing as on March 31, 2018

OFFICE STAFF

Sr. No.	Name	Designation
1	Dr. S. S. Kalamkar	Hon. Director
2	Dr S R Bhaiya	Field Officer / Asst. Prof.
3	Shri G S Machhi	Assistant Statistician
4	Shri R I Patel	Agri. Supervisor
5	Shri B P Pandya	Field Supervisor
6	Shri H P Makwana	Field Supervisor
7	Shri H U Padhiyar	Field Supervisor
8	Shri V C Chudasama	Field Supervisor
9	Shri A B Chaudhary	Field Supervisor
10	Shri B M Solanki	Jr.Clerk/Typ.*
11	Ms. R J Machhi	Jr.Clerk/Typ.*
12	Ms. K H Patel	Jr.Clerk/Typ.*
13	Ms. N J Trivedi	Jr.Clerk/Typ.*
14	Shri J N Singh	Computer*
15	Shri F G Vohra	Computer*
16	Shri R C Mistry	Computer*
17	Shri Ms. B N Patel	Computer*
18	Shri M R Rana	Computer*
19	Shri V C Harijan	Peon*
20	Shri Amit Pandya	Res. Asst.*
21	Shri Maninder Rohit	Res. Asst.*
FIELD STAFF		
21	Shri J S Raj	Agriculture Assistant
22	Shri P C Patel	Agriculture Assistant
23	Shri C G Baria	Agriculture Assistant
24	Shri G A Patel	Agriculture Assistant
25	Shri A J Sherathiya	Agriculture Assistant
26	Shri L S Vidja	Agriculture Assistant
27	Jashmat D Chauhan	Agriculture Assistant
28	Shri A I Vora	Agriculture Assistant
29	Shri G B Patel	Agriculture Assistant
30	Shri B K Patel	Agriculture Assistant
31	Shri A D Vaghela	Agriculture Assistant
32	Shri J V Patel	Agriculture Assistant
33	Shri Bharat K Patel	Agriculture Assistant
34	Shri H M Pandya	Agriculture Assistant
35	Shri Shri D G Patel	Agriculture Assistant
36	Shri M N Singala	Agriculture Assistant

37	Shri S R Chaudhary	Agriculture Assistant
38	Shri J K Patel	Agriculture Assistant
39	Shri S B Parmar	Agriculture Assistant
40	Shri J N Patel	Agriculture Assistant
41	Shri S C Padhiyar	Agriculture Assistant
42	Shri A K Mistry	Agriculture Assistant
43	Shri S A Panchal	Agriculture Assistant
44	Shri K J Bhoraniya	Agriculture Assistant
45	Shri Juvansinh D Chauhan	Agriculture Assistant
46	Shri D D Vanvi	Field Man
47	Shri P M Makwana	Field Man
48	Shri M S Parmar	Field Man
49	Shri S C Bhoi	Field Man
50	Shri K M Baldha	Field Man
51	Shri H B Patel	Field Man
52	Shri P S Patel	Field Man
53	Shri S C Machhi	Field Man
54	Shri H D Bhoi	Field Man
55	Shri D S Vaghela	Field Man
56	Shri A P Rabadia	Field Man
57	Shri A B Prajapaati	Field Man
58	Shri V H Chaudhary	Field Man
59	Shri R B Patel	Field Man
60	Shri B M Patel	Field Man
61	Shri B B Mobh	Field Man
62	Shri T P Parekh	Field Man
63	Shri Nirav P Patel	Field Man
64	Shri B R Patel	Field Man
65	Shri J J Patel	Field Man
66	Shri R S Machhi	Field Man
67	Shri L C Dabhi	Field Man
68	Shri S J Sharma	Field Man
69	Shri P D Velari	Field Man
70	Shri K G Parmar	Field Man
71	Shri V B Bhoi	Field Man
72	Shri V C Rathava	Field Man
73	Shri M R Parmar	Field Man
74	Shri S H Karamata	Field Man
75	Shri S V Bhoi	Field Man
76	Shri N P Parmar	Field Man
77	Shri K P Tadvi	Field Man
78	Shri U M Nai	Field Man

AUDITED STATEMENT OF ACCOUNTS

The grant-in-aid received from the Directorate of Economics and Statistics, Ministry of Agriculture, Govt. of India and other agencies and Expenditure incurred during 2017-18 is presented below. The audited utilization certificate is submitted to the Ministry in the first week of April, 2018.

AERC	Amount in Rs.
i) Unspent Balance as on April 1, 2017	49,27,836.18
ii) Grant-in-aid received during 2017-18	1,00,00,000.00
Total	1,49,27,836.18
Total Expenditure during 2017-18	1,33,31,925.20
Unspent Balance as on March 31, 2018	15,95,910.98

CCS	Amount in Rs.
i) Unspent Balance as on April 1, 2017	1,34,57,441.37
ii) Grant-in-aid received during 2017-18	3,34,55,000.00
Total	4,69,12,441.37
Total Expenditure during 2017-18	3,98,62,153.15
Unspent Balance as on March 31, 2018	70,50,288.22



Staff with Prof Ramesh Chand, Member, NITI, GOI, on July 3, 2017



Audience at AERC Foundation day July 3, 2017



