



# ANAND AGRICULTURAL UNIVERSITY

## A PROFILE





Historical picture - Sardar Vallabhbhai Patel at Krishi-Go-Vidhya Institute



Anand Agricultural University, Anand received re-accreditation of ICAR, New Delhi for a period of 5 years from 2016-17

## Anand Agricultural University

### Introduction

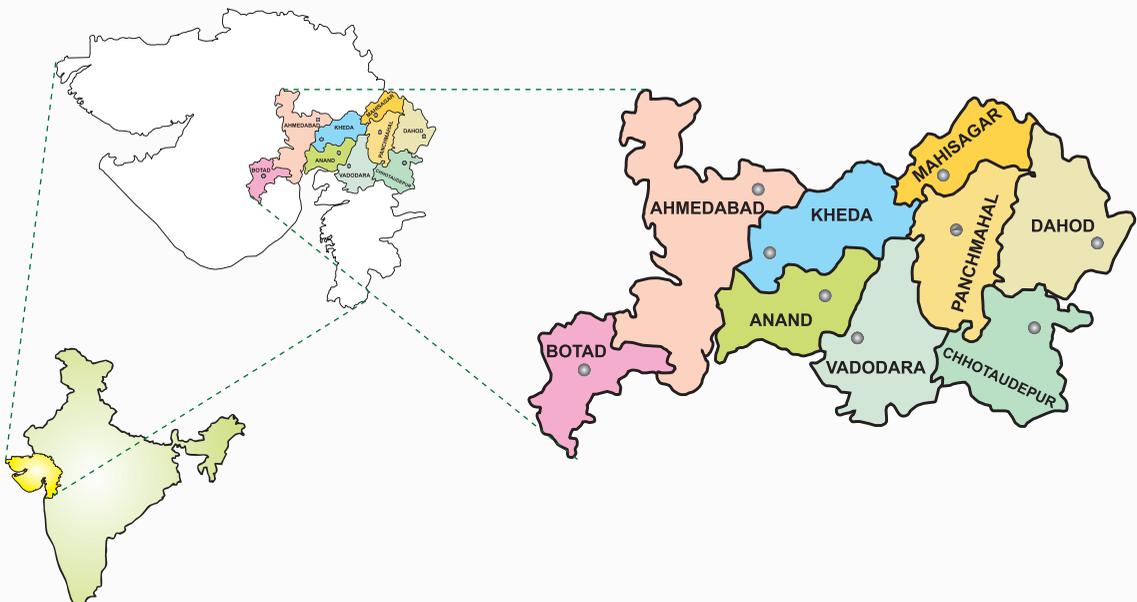
Anand Agricultural University came into existence with effect from 1-5-2004 by enactment of Gujarat Agricultural Universities Act, 2004 (Gujarat Act, No.5 of 2004).

Govt. of Gujarat has dissolved GAU, Sardar Krushinagar (Dantiwada) and established and incorporated teaching and affiliating universities for imparting education in agriculture and allied sciences in the state of Gujarat to be known as Anand Agricultural University, Navsari Agricultural University, Junagadh Agricultural University and Sardar Krushinagar Dantiwada Agricultural University.

Hon'ble the Governor of Gujarat assented the GAU Act, 2004 on 4<sup>th</sup> March, 2004 which was notified by Govt. of Gujarat in Govt. gazette on 6<sup>th</sup> March, 2004.

### Geographical Location & area

The headquarter of University is Anand, Milk City famous for the Amul Dairy located in the agro-climatic zone-III. It is on the Ahmedabad-Mumbai railway line, 65 km from Ahmedabad and 40 km from Vadodara railway station. Connected by express highway on Golden quadrilateral. The city located at 22.56 °N Latitude and 72.95 °E Longitude..



Districts covered under the jurisdiction of AAU

The university main campus is spread over an area of 284.23 ha. and has approximately 625.83 ha. of land at different regional stations, research substations and KVKs located under four different Agro-Climatic Zones (Zone III, IV, V & VIII) of the state. At present, the university has 9 degree colleges and one PG institute, five polytechnic colleges, 25 on campus and 23 off campus Research Stations spread over nine districts viz., Ahmedabad, Anand, Botad, Chhottaudepur, Dahod, Kheda, Mahisagar, Panchmahal and Vadodara comprising nearly 17.88% (3.51m ha) area of Gujarat State (19.60 m ha).



### **Vision**

Agriculturally Prosperous Gujarat and India

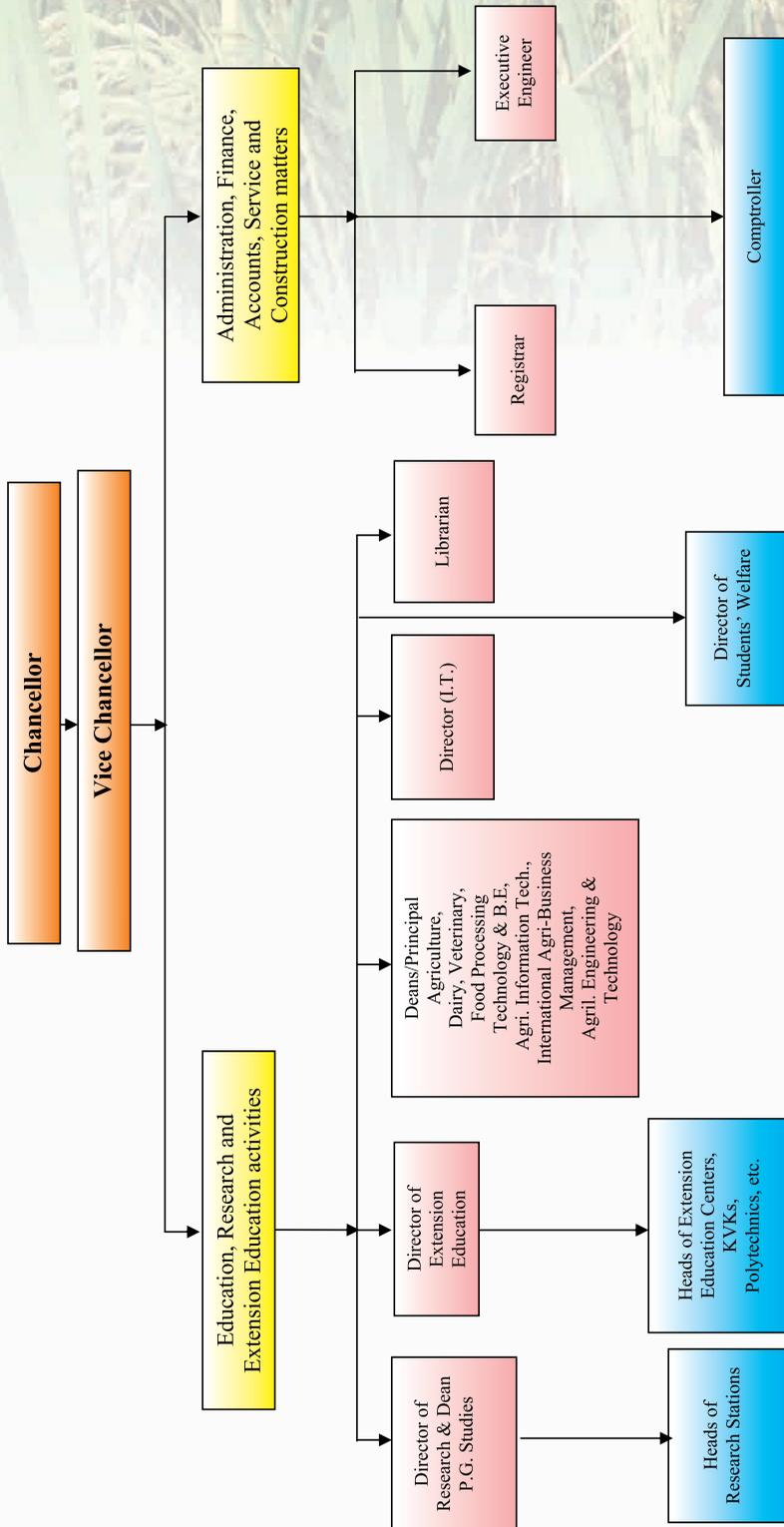
### **Mission**

The mission of the Anand Agricultural University is to provide teaching, research and extension education services related to Agriculture, Dairy, Veterinary and Allied Sciences including newer sciences like Agricultural Information Technology, Agricultural Engineering Technology, Food Processing Technology, Agricultural Business Management; etc. and thereby develop excellent human resource and innovative technologies to serve the farming community with the motto of making Gujarat and India agriculturally prosperous.

### **Mandates**

- Impart education to the students in agriculture and allied fields.
- Conduct research in order to improve the productivity of rural areas.
- Undertake basic research to breakthrough newer areas of knowledge.
- Provide opportunities to observe and understand the life of rural people.
- Enable the students to inculcate the attitudes and develop skills relevant for grass-root work.

ORGANIZATIONAL SET-UP



## EDUCATION

Presently, Anand Agricultural University has Ten degree colleges, Five Polytechnics and One Post-graduate Studies imparting education in agricultural and allied sciences.

AAU organizes various programmes and activities to expand wings of knowledge of its scientists' faculty and students. During the year under report, various programmes including conferences / trainings / workshops/ seminars/winter schools/group meetings are organized by the University.

The University has strengthened the physical facilities in terms of buildings, laboratories, modern and well equipped class rooms with CCTV cameras, computer laboratories, as well as seminar hall in all the colleges. The University has modern infrastructural and research farms, instruments and farm machineries, green houses, poly houses, net houses and guest house for accommodation.

### UG/PG courses

Sr. No.	Name of College	Degree	Duration (years)	Total Intake capacity	Year of Establishment
1	B. A. College of Agriculture, Anand	B.Sc. (Agri.)	4	133	1947
		M.Sc. (Agri)	2	94	
		Ph.D.	3	43	
2	College of Agriculture, Vaso	B.Sc. (Agri.)	4	55	2012
3	College of Agriculture, Jabugam	B.Sc.(Agri.)	4	40	2013
4	Sheth M. C. College of Dairy Science, Anand	B.Tech. (DT)	4	65	1961
		M.Tech. (DT)	2	21	
		Ph.D.	3	08	
5	College of Veterinary Science & Animal Husbandry, Anand	B.V.Sc.	5.5	82	1964
		M.V.Sc.		61	
		Ph.D.	3	25	
6	College of Food Processing Technology & Bio-energy, Anand	B.Tech. (FPT)	4	40	2009
		M.Tech. (FPT)	2	11	
		Ph.D.	3	03	
7	Institute of International Agri-business Management, Anand	MBA (AGBM)	2	30	2008
8	College of Agricultural Engineering & Technology, Godhra	B.Tech. (Agril. Engg.)	4	40	2008
		M.Tech.(AET.)	2	10	
		Ph.D.	3	04	

**Colleges & Polytechnics**



**B. A. College of Agriculture**



**Sheth M.C. College of Dairy Science**



**College of Veterinary Science & Animal Husbandry**



**College of Food Processing Technology & Bio Energy**



**The College of Agricultural Information Technology**



**International Agri-Business Management Institute**



**College of Agricultural Engineering and Technology**



**College of Agriculture, Vaso**

9	College of Agricultural Information Technology, Anand	B.Tech. (AIT)	4	40	2009
		M.Tech. (AIT)	2	06	
10	College of Horticulture, Anand	B.Sc. (Horti.)	4	55	2012
		M.Sc. (Horti.)	2	12	
		Ph.D. (Horti.)	3	02	
11	Institute of Distance Education, Anand	M.Sc. (Agri. Journalism)	2	05	2013
		M.Sc. (Agri. Marketing)	2	05	

## Polytechnic courses

Sr. No.	Name of polytechnic	Diploma offered	Intake Capacity	Year of start
1	Polytechnic in Agriculture, Anand	Diploma (Agri.)	35	2008
2	Polytechnic in Agriculture, Vaso	Diploma (Agri.)	35	2008
3	Polytechnic in Agricultural Engineering, Dahod	Diploma (Agri. Engg.)	35	2008
4	Polytechnic in Home Science, Anand	Diploma (Home Sci.)	35	2008
5	Polytechnic in Horticulture, Vadodara	Diploma (Horti.)	35	2009

## Convocation

The 12<sup>th</sup> Annual Convocation of Anand Agricultural University, was held on 5<sup>th</sup> February 2016, Thursday at 11.00 hrs at the Gymkhana Ground, Sports Complex, AAU, Anand. Hon'ble Governorshri of Gujarat and the Chancellor, Shri O. P. Kohli had presided over the Convocation. Shri Tapan Misra, Director, Space Application Centre, Indian Space Research Organization, was the Chief Guest and inspired the young graduates and post-graduates. Honorable Minister of State Food & Civil Supplies, Consumer Affair, Shri Chhatrasinh Mori, the Guest of Honour had delivered the convocation address.

In this convocation, degrees were conferred to 495 students out of total strength of about 2500. In which 301 graduates and 194 post-graduate who have completed their studies and passed their examination from various faculties. Twenty Gold Medals, 52 Medals and 13 prizes were awarded to these achievers.





Horticulture Wing, Anand



College of Agriculture, Jabugam



Institute of Distance Education, Anand (IDEA)



Sheth M.C. Polytechnic in Agriculture, Anand



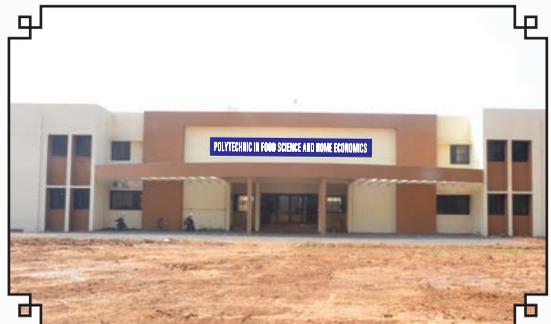
Polytechnic in Agriculture, Vaso



Polytechnic in Agricultural Engineering, Dahod



Sheth D. M. Polytechnic in Horticulture, Vadodra



Polytechnic in Food Science and Home Economics, Anand

## Students' Welfare

The University authority is always looking forward to the welfare of the students through different activities like sports, cultural, NSS, health, adventure, placement, scholarship, educational tour with a view to develop personality, character and high human values in UG & PG students of the University.



Students' Welfare activities/facilities include sports, debate, residential, recreation, health, adventure, career counseling, leadership and personality development trainings, spoken English, college magazine, cultural activities, NCC, NSS, planning forum, special day celebration, tree plantation, health checkup etc. for all around development of students. A prime attention is given to the placement cells by the university. Apart from these, Alumni Associations of three faculties are active and organize conferences, seminars, workshops, etc. from time to time so that its members and others interested can keep abreast with new developments in their chosen fields.

The campus interviews were arranged for placement of students of different colleges. Inter-collegiate sports and cultural/ literary activities are organized by the University every year. The University students have participated in All India Inter Agricultural University Sports and Games Meet from 2004-05 to 2014-15. Students also participate in SAU's (Gujarat) Inter Agril. University sports tournaments and so also in Cultural-Literacy competition at State and National level. Students also participated in Inter University National Competition, All India Agricultural Universities Youth Festival and Basic Rock Climbing Course. Under NSS, several programmes were organized like tree plantation, Gandhi Jayanti, poster competition, blood donation camp, World Food Day etc. Two to three weeks educational tours were arranged for the students of different colleges. The student magazine is published by every college with the aim to bring out the hidden quality of writing and expression of students. University provides scholarship and financial assistance to the needy students. Various scholarships were availed to the students from different sources. Spiritual and health awareness programmes were organized. Leadership and Personality development programmes were also organized by Students' Welfare Office. A sense of discipline is being inculcated in students through sports, N.C.C., N.S.S. etc.



## Student Amenities

### Hostels

All the colleges of AAU have their own hostels with good mess facility. Total 22 boys hostels and 12 girls hostels in AAU with capacity of 1078 and 333 rooms, respectively. Other facilities include availability of pure water for drinking, TV room, yoga room, water heaters, internet connectivity, etc. in the hostels. Telephones as well as STD booths with ISD facility, Bank, ATM centres, laundry, tailor shop, cycle store, etc. are also available in the university premises.



### Health Facilities

A health centre having qualified doctor provides primary health care services to employees, their families and students residing in the campus. Off campus services of special doctors are also available on specified days.



### Dr M.D. Patel Regional e-Library

The history of Dr M.D. Patel Library dates back even prior to our Independence. In 1942, this Library was an accessory to then the SMC School of Dairy Science. After the inception of the B.A. College of Agriculture in 1947, it grew as the Central Library, merging the collections of BACA and SMC College of Dairy Science. In 1983, it was named as Dr. M. D. Patel Library. Currently the Library is in possession of 33 foreign & 90 indian journals, 75746 barcoded books, 10440 reports, 4500 theses, 32 digitized rare books and several e-resources for the users of the Institution. Moreover, the e-transaction and e-circulation of books by using Web Opac and Libsys have fortified the Library system. The e-domain of Dr. M. D. Patel Regional e-Library is further enriched with online access to Consortium of e-Resources in Agriculture – the e-Journals consortium courtesy ICAR, 1000 e-books and database like Food Science & Technology Abstracts, indiastat.com, Encyclopedias and Commonwealth Agriculture Bureau International. The Cyberary is the crowning glory of the Library with 37 work stations, 2 Linux servers and 100 mbps connectivity, making the e-content search a dream-come-true, catering the educational and research needs of the users.



## Information Technology Centre, Anand

The Information Technology Center at Anand Agricultural University caters the demand for the use of Information Technology in the field of agriculture for all the State Agricultural Universities of Gujarat. On inclusion in various committees of the university, the Director, IT has taken necessary measures to carry forward the IT activities at various levels. During the year, substantial work was done not only in the technical or administrative matters of ITC, but also pertaining to Network problems at all the four universities. Most importantly, the Director, IT was given state level responsibilities regarding IT work of Soil Health Card by Agriculture and Co-operation Department, Government of Gujarat. The required activities were carried out effectively.



- AAU Website (<http://aau.in/>)
- AAU Web Mail (<http://mail.aau.in/>)
- Soil Health Card Portal for Gujarat (<http://shc.aau.in/>)
- Online Admission for state Agricultural University for PG/UG/Polytechnic (<http://gsauca.in/>)
- Online Convocation Programme
- Online Job Application System for SAUs
- Online Examination System for Anand Agricultural University (<http://oes.aau.in/>)
- Online Tour Program (<http://tour.aau.in/>)
- Web Based Online Billing System
- ikhedut Mobile Application (<http://ikhedut.aau.in/>)
- PGIS-Post Graduate Information System (<http://stud.aau.in/>)
- Annual Budget and Planning for Council of SAU
- Web Based Inward - Outward Management System for AAU



## RESEARCH

Research activities of AAU focus on productivity, sustainability and improvement of the socio-economic condition of the farming community. These goals of AAU encompass newer areas such as Biotechnology and Nano technology, Organic farming, Seed technology, Climate change, Soil Health Card, growing medicinal plants along with the conventional crops and processing of food products. It has been focused on distant hybridization on field and fruit crops including vegetable crops. High quality research like identification of genome for preventive and curative measures against infection of diseases adversely affecting higher productivity in poultry / livestock has been started in veterinary field besides different measures in animal nutrition. Emphasis is given on uplifting the standards of milk and milk products to compete at international level under the Dairy Technology research. Food Processing Technology and Bio Energy are new and promising areas in Post Harvest Technology, Food Irradiation and Bio Fuel. It has the distinction of developing an end-to-end integrated processing plant. The university has ultra modern laboratories with sophisticated instruments and excellent trained research staff besides well managed farms at different locations.

The University has 25 on campus and 23 off campus research stations including multidisciplinary main research stations, sub centres on various crops and testing centres to evolve location specific production technologies. These centres also work for the development of profitable and sustainable production technology for newly developed varieties/hybrids with its fine tuning every year. Various research schemes funded by various agencies are operational to carry out research on various aspects of agriculture and allied sciences at research stations, sub-centres and at various colleges.



**Tissue Culture Lab**



**Biofertilizer Production Unit**



**Research on Paddy, Nawagam**



**Animal Biotechnology Research**

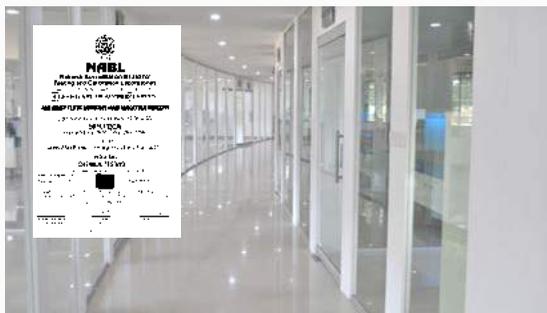
## Research Stations of Anand Agricultural University

Sr. No.	Name and location of Research Station	Activity
<b>Middle Gujarat Agroclimatic Zone-III</b>		
<b>Research Station at Main Campus, Anand</b>		
1	Bidi Tobacco Research Station, AAU, Anand - 388110	Station is involved in multidisciplinary research activities of bidi and rustica tobacco.
2	Main Forage Research Station, AAU, Anand - 388110	Main Forage Research Station is conducting the research work on cultivated forage crops under irrigated conditions to cater the needs of different regions of Gujarat state.
3	Regional Research Station, AAU, Anand - 388110	The station is involved in varietal development, research in castor, groundnut, mustard, wheat, pearl millet, cotton, irrigation requirement of crops and production of good quality seeds of different crops for farmers.
4	Main Vegetable Research Station, AAU, Anand - 388110	The research station is mainly involved in variety development, germplasm conservation, crop management and crop protection of vegetable crops.
5	Medicinal & Aromatic Plants Research Station, AAU, Anand - 388110	The station is conducting the research on medicinal & aromatic plants in crop improvement, crop production and phytochemical, maintenance of germplasms, herbal garden and supply of planting material.
6	Micronutrient Research Project, AAU, Anand - 388110	Conduct research on micronutrient status of soils of western region of India and related study to overcome micronutrient deficiency of important crops of this region. Under this programme, the heavy metal toxicity and its mitigation in industrial effluent rezone is also studied.
7	AICRP on Weed Management, AAU, Anand - 388110	This project is mainly involved in research activities for weed management in different agricultural crops.
8	AICRP on Agrometeorology, AAU, Anand - 388110	Research on various aspects of agrometeorology viz., agroclimatic resource characterization, crop weather relationship, crop growth modeling, crop-weather pest disease relationship and forewarning, remote sensing
9	Pesticide Residue Laboratory, AAU, Anand - 388110	Monitoring of milk and milk products, vegetables, edible oils, seed spices, feed and fodder and water for presence of pesticide residues and its amelioration technology. So far 109 recommendations in different crops for pesticide residue have been released.
10	Centre of Excellence in Biotechnology	
	(i) Tissue Culture Laboratory, AAU, Anand - 388110	Involved in research for the development and standardization of protocols for mass multiplication in different crops. So far, protocols for parwar, Kankoda and date palm developed.

Sr. No.	Name and location of Research Station	Activity
	(ii) Department of Agril. Biotechnology, AAU, Anand - 388110	Biotechnological research work in Agricultural Science to develop GMO for better productivity and disease resistance.
	(iii) Research Centre for Distant Hybridization in Field and Food Crops, AAU, Anand - 388110	Research related to Distant Hybridization in field and food crops
11	Dept. of Agril. Microbiology and Biofertilizer, AAU, Anand - 388110	Isolated efficient biofertilizer cultures suitable to different agro-climatic conditions of Gujarat state. Identified and studied microbes for Biological Nitrogen Fixation viz., <i>Azolla</i> , <i>Azotobacter</i> , <i>Azospirillum</i> , <i>Acetobacter</i> and <i>Rhizobium</i> .
12	Department of Nematology, AAU, Anand - 388110	Identification of nematode resistant genotypes of crops, integrated approach for nematode management, research on beneficial nematodes.
13	Centre of Organic Farming, AAU, Anand - 388110	Research on organic farming of different crops including use of vermicompost, FYM, cakes, biocontrol, bio-pesticide agents.
14	Bio-control Research laboratory, AAU, Anand - 388110	Development of integrated pest management modules for cotton, pulses, fruit crops and vegetables, refining mass production technologies of proven biological control agents and enhancing biological control by habitat manipulation.
15	Food Safety and Quality Research Centre, AAU, Anand - 388110	Economical and sustainable technology development to avoid or reduce post harvest losses and to provide comprehensive, efficient and economic technologies to farmers, entrepreneurs & food processing industry to maximize profits with commitment to quality.
16	Department of Animal Biotechnology, AAU, Anand - 388110	Involved in research for marker, biodiversity and transcriptomics, disease diagnosis and vaccine production, AI and embryo transfer technology, nutrigenomics, pharmacogenetics, bioinformatics



Sr. No.	Name and location of Research Station	Activity
17	Poultry Research Station, AAU, Anand - 388110	Research on management, nutrition, physiology, disease control and marketing of Random Bred Control Population. Genetic improvement of poultry breeds for production.
18	Animal Nutrition Research Station, AAU, Anand - 388110	Survey of different districts of Gujarat state for nutritional status of different categories of animals and to develop total mixed ration, mineral mixture and non conventional feed as per requirement. Also conduct research on different feeds and fodder for the availability of macro and micro nutrient to the animals.
19	Reproductive Biology Research Unit, AAU, Anand - 388110	Conduct research on different aspects of reproduction of farm animals to increase reproductive efficiency of the animals and thereby their productive efficiency.
20	Livestock Research Station, AAU, Anand - 388110	Research to establish a crossbred dairy herd which can thrive and produce good amount of milk in middle Gujarat Agro-Climatic zone. Research has also been taken-up to study various aspects of management, production, reproduction, nutrition, adaptation and economics of milk and animal production
21	Department of Dairy Microbiology, AAU, Anand - 388110	Research on milk and milk products and technology for small dairy holders which will be economical and sustainable compared to local traditional technology.
22	Horticultural Research Station, AAU, Anand - 388110	Research in horticultural crops and P.G. Research
23	AICRP on Agricultural Ornithology, AAU, Anand - 388110	Research on management of harmful birds and utilization of beneficial birds in agricultural ecosystem
24	AICRP on Seed Technology Research AAU, Anand - 388110	Research in the field of Plant Virology, Seed Pathology, Biological control of Plant diseases, management of plant diseases and post harvest diseases.
25	Department of Seed Science and Technology, AAU, Anand - 388110	Research related to the genetic purity, seed health and seed storage.



A state-of-art Food Quality Testing Laboratory established with all the sophisticated high-end analytical facilities of international standard with support from Ministry of Food Processing Industries, Government of India. The laboratory has been NABL-17025-2005 accredited w.e.f. 06/09/2016 (for two yrs)



Pesticide residue laboratory is NABL - 17025:2005 accredited since 2012 and has state-of-art facility

Sr. No.	Name and location of Research Station	Activity
<b>Research Stations off the main Campus</b>		
1	Main Rice Research Station, AAU, Nawagam-387 540	Mainly involved in multi disciplinary research activities of rice covering varietal development, germplasm conservation and crop management in Paddy. Breeder seed production of improved varieties. So far, 34 varieties and 40 production & protection technologies have been recommended to farmers.
2	Main Maize Research Station, AAU, Godhra-389 001	Multi disciplinary research on maize involving variety development, crop management and crop protection. Breeder seed production. Research on hybrid and value added maize.
3	Agricultural Research Station, AAU, Derol, Ta : Kalol, Dist. Panchmahal - 389 320	Mainly involved in research activities in crop production technologies for drilled paddy, oilseeds and pulse crops.
4	Agricultural Research Station for Irrigated Crops, AAU, Thasra Ta.: Kheda-388 250	Research activities in irrigated crops specifically paddy, cotton, vegetables, maize etc.
5	Agricultural Research Station, AAU, Vaso, Dist. Kheda-387 380	Teaching in Degree College and Diploma Polytechnic and Research in Agriculture
6	Krishi Vigyan Kendra, AAU, Devataj (Sojitra) Dist. Anand -387 240	KVK activities and research in inland fisheries
7	Pulse Research Station, Alembic Road, Model Farm, AAU, Vadodara- 390 003	Research on pulse crops for yield improvement and screening for disease resistance, crop production and protection technologies.
8	Paddy Research Station, Model Farm, AAU, Dabhoi Dist. Vadodara -391 110	Research activities which covers, variety development, germplasm conservation and crop management in rainfed and irrigated paddy.
9	Agricultural Research Station, AAU, Jabugam Dist: Chhotaudepur- 391155	Seed production of different crops, Research in Agricultural crops.
10	Tribal Research cum Training Centre, AAU, Devgadbaria, Dist: Panchmahal-389380	Research on soyabean and maize for developing production technology suitable to tribal area.
11	Agricultural Research Station, AAU, Dharmaj - 388430	Research on kala chopadiya tobacco. Seed production of improved varieties of tobacco for distribution.

Sr. No.	Name and location of Research Station	Activity
12	Agricultural Research Station Muvaliya Farm, AAU, Dahod-389 151	To carry out research in different millet crops, drilled paddy, pulses for developing technologies for tribal areas. Seed production of improved crop varieties for farmers.
13	Kapila Gou Sansodhan Kendra, AAU, Meenawada, Dist. Kheda	Cattle breeding farm, Research and development of Silvipasture
14	Pashupalan Sansodhan Kendra, AAU, Ramna Muvada, Dist. Kheda	Research on Surti / Marwari Goat and Buffaloes, Research and development of Silvipasture
15	Agricultural Research Station, AAU, Sansoli Dist. Kheda -387130	Castor Research, Seed production and evaluation of hybrid maize. Seed production of different crops of the region.
16	Agricultural Research Station, AAU, Nenpur Dist. Kheda - 387130	Research on Datepalm and seed production of different crops of the region.
17	Agricultural Research Station, AAU, Khambholaj, Dist. Anand	Research on Horticultural crops, potato
18	Agril. Res. Station, AAU, Kankanpur, Dist. Panchmahal	Arid fruits research, maize seed production and workshop for Agri. Engg. College, Godhra
19	Narmada Irrigation Research Station, AAU, Khandha, Dist. Vadodara - 391240	Research on water management on field and horticultural crops in Narmada command, extension activities under SSNNL.
<b>North Gujarat Agroclimatic Zone-IV</b>		
20	Castor and Seed Spices Research Station, AAU, Sanand Dist. Ahmedabad -382 110	To develop production technologies for castor and seed spices.
21	Regional Cotton Research Station, AAU, Viramgam Dist. Ahmedabad -382 150	To carry out multi disciplinary research on deshi cotton for rainfed area and also for dual/fodder purpose sorghum. Breeder seed production of deshi cotton varieties.
<b>Bhal and coastal Agroclimatic Zone-VIII</b>		
22	Agril. Research Station, Bhal & Coastal Zone, Arnej, Ta. Dholka, Dist. Ahmedabad -382 230	Research in rainfed wheat, gram, cotton, mustard and dilseed and for development of agro technology for problematic areas of Bhal zone.
23	Agricultural Research Station, AAU, Dhandhuka Dist. Ahmedabad -382 460	Varietal improvement for durum wheat, gram and cotton with suitable agro technologies. Seed production of improved varieties recommended for the region.

## Recommendations/Technologies developed

Efforts made by scientists of the university resulted in 898 technologies and recommendations during this period, which include 57 new varieties.

## Recommendations for Farmers, Scientists and Entrepreneurs

Sr. No.	Name of Committee	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Total
1	Crop Improvement	08	04	01	07	04	05	06	10	05	09	08	09	05	81*
2	Crop Production	14	12	28	14	11	16	18	13	9	14	15	29	10	203
3	Plant Protection	03	08	06	08	07	18	11	39	14	32	14	29	47	236
4	Dairy Science, Food Processing, Agril. Engg. and AIT	07	07	06	05	04	14	09	09	05	09	22	25	38	160
5	Animal Production	03	05	06	09	06	14	16	10	19	14	09	18	08	137
6	Animal Health	00	01	00	01	01	08	15	10	05	03	04	04	04	56
7	Social Science	00	01	00	00	04	03	01	02	02	02	01	03	06	25
<b>Total</b>		<b>35</b>	<b>38</b>	<b>47</b>	<b>44</b>	<b>37</b>	<b>78</b>	<b>76</b>	<b>93</b>	<b>59</b>	<b>83</b>	<b>73</b>	<b>117</b>	<b>117</b>	<b>898</b>

\* includes 57 new crop varieties released

## Varieties Released by Anand Agricultural University during 2004 to 2016

Research contribution of the university since its inception has been spectacular with the release of eight varieties in rice; five in chilli; three each in Maize, Brinjal, Sorghum (Forage) and Tobacco; two each in Pigeon pea, Tomato, Deshi Cotton, Dill Seed and guinea grass; one each in Okra, Garlic, Onion, Cucumber, Muskmelon, Ridge Gourd, Bottle Gourd, Pumpkin, Cowpea, Green gram, Pearl millet (forage), Lucerne, Marvel grass, Napier grass, Anjan grass, Oat, Kalmegh, Safed musli, Ashwagandha, Senna, Basil and Kodomillet.



Gujarat Anand Rice-13  
(GAR-13)



Mahisagar



Gujarat Anand White Maize  
Hybrid -2 (GAWMH-2)



Gujarat Anand Vegetable  
Chilli Hybrid-1 (GAVCH-1)



Gujarat Anand Brinjal  
Hybrid 3 (GABH-3)



Anand Tomato-3  
(AT-3)



Gujarat Anand Okra-5  
(GAO-5)



Gujarat Anand Garlic 6  
(GAG-6)



Gujarat Anand White Onion 2 (GAWO-2)



Gujarat Cucumber-1 (GCU-1)



Gujarat Musk Melon -3 (GMM-3)



Anand Bottle Gourd - 1 (ABG-1)



Anand Pumpkin -1 (AP-1)



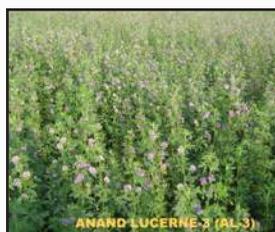
Anand Vegetable Cowpea -1 (AVCP-1)



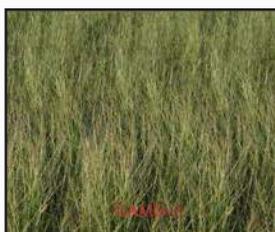
Anand Vegetable Pigeonpea - 1 (AVPP-1)



Gujarat Anand Dill Seed -1 (GAD-1)



Anand Lucerne (AL-3)



Gujarat Anand Marvel Grass-2 (GAMG-2)



Gujarat Anand Mungbean-5 (GAM-5)



Napier Hybrid grass CO 3



Coimbatore Fodder Sorghum-29 (CoFS-29)



CO (GG)-3



Gujarat Anand Bidi Tobacco -11 (GABT-11)



Gujarat Anand Desi Cotton-2 (GADC-2)



Anand Kalmegh-1



Anand Safed Musli -1 (ASM-1)



Gujarat Anand Basil 1 (GAB-1)



Gujarat Anand Ashwagandha-1 (GAA-1)

## Human Resource Development (HRD)

Sr. No.	Particulars		Years												Total
			2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	
1	Scientists participated in seminar/ conf. etc.	National	255	328	418	298	436	455	370	370	388	305	205	379	4207
		International	02	01	02	04	05	04	04	04	00	00	00	15	41
2	Programmes Organized by AAU, Anand		09	12	16	13	07	30	28	29	21	32	32	100	329

## Research Publications

Particulars	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	Total
Res. Papers published in various journals	149	133	159	136	113	218	268	268	213	319	319	395	2690
Res. Papers presented in different Seminar/ conference / workshop etc. worksymposiumetc	113	244	200	290	197	362	351	351	359	270	280	182	3199

## Seed Production



Anand Agricultural University during the very first decade of its inception (2004-05 to 2015-16) got the opportunity to develop its infrastructure for enhancing quality seed production through facilities for farm mechanisation, irrigation, farm protection, seed processing and storage under the ICAR sponsored Seed Project. Through developed infrastructure, AAU increased its area under seed production from 167 ha (2005-06) to 397 ha (2015-16). Increased availability of land, water, production and processing machineries, and storage facilities, boosted the total seed production and it reached to 7540 q. (2015-16) showing 335% increase over pre-project year production of 2248 q (2004-05). This first decade of Anand Agricultural University also witnessed shift of university seed production programme from Certified/ Truthfully labelled seed to Breeder and Foundation seed.



## Achievements in Quality Seed/ Seedling production of AAU

Sr. No.	Particulars	Year of Production (in Qtl)											
		2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
1	Nucleus seed/ Breeder seed	285	345	427	644	1107	1224	1407	1395	1485	1399	1036	760
2	Foundation Seed	-	80	84	1084	438	324	1050	2606	2482	2457	2736	1944
3	Certified/Labelled seed	1963	2173	5159	4098	4863	4456	3827	2733	2973	3684	2771	3098
<b>Total</b>		<b>2248</b>	<b>2598</b>	<b>5670</b>	<b>5826</b>	<b>6408</b>	<b>6004</b>	<b>6284</b>	<b>6734</b>	<b>6940</b>	<b>7540</b>	<b>6543</b>	<b>5802</b>
4	No. of Fruit/MAP saplings (no.in lacs)	0.98	8.54	24.21	18.12	13.58	19.60	7.96	11.67	-	3.30	2.42	2.05
5	No. of other than fruit/ MAP saplings (no.in lacs)	96.00	48.44	26.65	12.73	51.50	94.17	250.20	248.93	54.49	22.32	24.76	25.03
6	Tissue cultured seedlings (no. in lacs)	-	-	-	-	0.05	0.02	0.06	0.02	0.06	0.02	0.16	0.11
<b>Total</b>		<b>96.98</b>	<b>56.98</b>	<b>50.86</b>	<b>30.85</b>	<b>65.13</b>	<b>113.79</b>	<b>258.22</b>	<b>260.62</b>	<b>54.55</b>	<b>25.64</b>	<b>27.34</b>	<b>27.19</b>

### Geographical Indication (GI) for Bhalia Wheat

Bhalia Wheat is registered as Geographical Indication (GI) No. 192, class-31 by Registrar of Geographical Indications, Government of India, Chennai for Bhal region of Gujarat from June 2011. The advantage of the registration is that the legal protection will be provided to Bhalia Wheat, the demand and price will be increased, and the farmers growing *Bhalia* Wheat surrounding Bhal region will be given a logo for its identification, so that these farmers only can sell the Wheat as the Bhalia Wheat.



### Patent information

Sr. No.	Title of Invention	Application No.
1	Equipment and method for dehulling jatropha seeds	2286/MUM/2010
2	Method and system for preparing bio diesel from jatropha seeds	2287/MUM/2010
3	Process for manufacture of herbal probiotic fermented milk product	620/MUM/2011
4	A Tissue Culture Process For Multiplying Indian Genotypes Of Date Palm ( <i>Phoenix dactylifera</i> L.)	2260/MUM/2011
5	Technology for native plant growth promoting bacterial (pgpb) consortium formulations, useful as biofertilizer cum biopesticide	1060/DEL/2013
6	Buffalo rumen originated recombinant cel_pr1 cellulase with potent cm case activity	3928/MUM/2014

### Plant varieties registered under PPV & FR

Sr. No	Registered Variety	Crop	Registered as	Registration No.	Registration Date
1	Gujarat Makai-2	Maize	Extant plant variety	37/2009	12/02/2009
2	Gujarat Makai-3	Maize	Extant plant variety	131/2009	21/12/2009
3	Gujarat Makai-4	Maize	Extant plant variety	160/2009	21/12/2009
4	Gujarat Makai-6	Maize	Extant plant variety	130/2009	21/12/2009
5	GR-9	Rice	Extant plant variety	50/2013	06/03/2013
6	GR-12	Rice	Extant plant variety	51/2013	06/03/2013
7	Dandi	Rice	Extant plant variety	52/2013	06/03/2013
8	GR-104	Rice	Extant plant variety	53/2013	06/03/2013
9	GR-7	Rice	Extant plant variety	197/2013	11/10/2013
10	Gurjari	Rice	Extant plant variety	195/2013	14/10/2013
11	AAUDR-1	Rice	Extant plant variety	815/2014	23/12/2014
12	GR-8	Rice	Extant plant variety	819/2014	26/12/2014
13	GAR-13	Rice	Extant plant variety	827/2014	30/12/2014
14	GAR-1	Rice	Extant plant variety	829/2014	30/12/2014

### Salient Research Achievements

- ◆ DNA finger printing of crops and other bio-inputs in Agriculture has been initiated by Agri. Biotechnology Department of Anand Agricultural University under RKVY. This is the first time in the history of crop research.
- ◆ Agricultural Biotechnology has identified and cloned a gene related to colour principle from saffron.
- ◆ The data generated for pesticide residues in Cumin by Pesticide Residue Lab of Anand Agricultural University have been accepted for fixation of MRL for Dithiocarbamate group of pesticides by CODEX International Forum in China. Fully equipped A/C Sampling Van has been procured for collection of samples of agriculture as well as animal produces under the concept of field monitoring of Pesticide Residue. This is the first attempt of its kind in the country.
- ◆ In 2015-16 about 580 tons of seed of different categories for different crops have been produced as per State and National requirements for the farmers to increase production and productivity.
- ◆ Anand Agricultural University has developed eco-friendly cost effective bio-input known as 'Anubhav Liquid Biofertilizer'. This is outcome of three decades research work of Agricultural Microbiology. In 2015-16, 5400 liters of Liquid Bio-fertilizers have been supplied to farmers as well as NGOs.
- ◆ In Animal Science, first time in India, genome sequencing of *Pasturella multocida* bacteria causing *Haemorrhagic septicaemia* has been done.
- ◆ A laser unit in the Department of Veterinary Surgery has been standardized and laser surgery was applied in different clinical cases in small animals.

- ♦ Ultrasonography of eyes was performed in dogs as well as in horses. This is for the first time in India.
- ♦ Whole genome sequencing of many bacteria and viruses has been submitted to Gen Bank, USA.
- ♦ Animal Nutrition Research Station has developed Area Specific Mineral Mixture for large animals of different districts of Gujarat. This will help to improve the health, reproduction and production of the animals leading to improvement of socio-economic status of animal keepers.

### Technologies Developed

- ♦ Technology for production of instant tur dal powder
- ♦ Roughage block making machine
- ♦ Seed extractor for Tomato / Lime
- ♦ Seed pelletizer for small & irregular seeds
- ♦ Mechanized roughage baler
- ♦ Aonla stone extracting-cum-shredding machine
- ♦ Seed extractor for Brinjal
- ♦ Seed extractor for Chilly seeds
- ♦ Development of low cost evaporative cooling storage structure
- ♦ Vanaspati kachara gas plant
- ♦ Family size vegetative waste biogas plant
- ♦ Compact model of biogas plant
- ♦ Recovery of water from spent *gobargas* slurry
- ♦ Simpler and cheaper biogas plant based on KVIC design
- ♦ Improved compost technique for decomposition of biomass and its comparison with NADEP compost method
- ♦ Technology for production of dehydrated spinach coriander leaves
- ♦ Technology for production of dehydrated fenugreek leaves
- ♦ Tractor operated multi utility elevator platform attachment
- ♦ Technology for production of dehydrated aonla flakes
- ♦ Controlled environment green house for hot and dry climatic conditions
- ♦ Seed Dehuller for Jatropha
- ♦ Improved oil extraction technology for maximum recovery of oil from Jatropha seeds
- ♦ Precision weight based grader for selected fruits.



**PUMPKIN ENRICHED BISCUITS**

- ◆ Pre-cooling protocol for banana for extension of shelf-life.
- ◆ Technology for production of dehydrated coriander leaves
- ◆ Pricking machine for Aonla fruits
- ◆ Earth tube heat exchanger assisted low humidity seed storage system
- ◆ Technology for production of basil powder
- ◆ Pre-cooling Protocol to maximize shelf life of Mango fruits
- ◆ On farm post harvest activity hut
- ◆ Evaporative cooling system for transportation of perishable commodities
- ◆ Pre-cooling protocol to maximize shelf life of aonla fruits
- ◆ Production technology of ready-to- serve unripe mango beverage (*pana*)
- ◆ Production technology of pumpkin powder and its utilization for various food products
- ◆ Value added (high fibre) bun.
- ◆ PGPB consortium as biofertilizer cum bio pesticide
- ◆ Vacuum dried ginger flakes
- ◆ Low fat- sugar free Shrikhand
- ◆ Freeze dried aonla slice
- ◆ Extraction of volatile oil from Basil leaves
- ◆ Production technology of wheat grass juice
- ◆ Precooling technology to maximize shelf life of tomato fruits
- ◆ Production technology for bottle gourd juice

### **MoUs Signed by Anand Agricultural University**

Forty four MoUs have been signed by the University with national and international organizations for collaborative work in Education, Research and Extension Education as below.

- 1 National Dairy Development Board
- 2 The Department of Science & Technology of Guangxi Zhuang Autonomous Region, China
- 3 Jain Irrigation Systems Ltd., Jalgaon
- 4 Tinna Oils & Chemicals Ltd., New Delhi
- 5 Charutar Arogya Mandal, V. V. Nagar
- 6 Indian Knowledge Corporation, Pune
- 7 Lund Institute of Technology, Sweeden
- 8 Erasmus Mundus External Cooperation Window, Europe
- 9 Sardar Sarovar Narmada Nigam Ltd., Gandhinagar
- 10 Gujarat State Biotechnology Mission, Gandhinagar
- 11 M/S Marshal breeders Pvt. Ltd.

- 12 J. S. Ayurved Mahavidyalaya, Nadiad
- 13 Dharmsinh Desai University, Nadiad
- 14 Kemrock Agritech Pvt. Ltd.
- 15 Abellon CleanEnergy Ltd., Ahmedabad
- 16 GSFC Ltd.
- 17 Shree Nijanand dairy Farm, Petlad
- 18 Central Institute of Fresh Water Aquaculture, Odisha
- 19 Bayer CropScience Ltd., Mumbai
- 20 CCS Haryana Agril University
- 21 Gujarat Agro Industries Corporation Ltd., Ahmedabad
- 22 Care Group India, Vadodara
- 23 Dhanuka Agritech Ltd., Gurgaon
- 24 Panchamrut Dairy, The Panchmahal district cooperative milk producer union, Godhra
- 25 Monsanto Holdings Pvt. Ltd., Mumbai
- 26 Greenfield Hydroponics System Inc., Canada and Samrkha Village Dairy Cooperative Society, Samrkha
- 27 Orchem Industries Pvt. Ltd.
- 28 Entrepreneurship development Institute of India
- 29 CIIE initiatives, IIM Ahmedabad
- 30 Dr. Baboo's Food Science and Biotechnology Pvt. Ltd.
- 31 Prakriti Biocare, Thiruvanthapuram
- 32 Rural development foundation
- 33 International Crops Research Institute for the Semi Arid Tropics (ICRISAT), A.P., Telangana
- 34 United Phosphorous Limited, Mumbai
- 35 Food development Centre (FDC), Gov. of Manitoba, Canada
- 36 M/S Pushaki Impex
- 37 University of Agricultural Sciences, Dharwad
- 38 Vasundhara Agribiotech, Rajkot
- 39 Central Potato Research Institute(CPRI), Shimla
- 40 Ashok and Rita Patel Institute of Integrated Study & Research in Biotechnology and Allied Sciences (ARIBAS), New V. V. Nagar
- 41 National Dairy Development Board (NDDDB), Anand
- 42 GIPCL, Vadodara
- 43 NCCSD, Ahmedabad
- 44 NRCM, Hyderabad

## Thrust Areas of Research

### Crop Improvement

- Development of non-aromatic rice varieties for export purpose having long slender grain with better cooking quality
- Genetic enhancement of yield with fine grain quality in drilled paddy, durum wheat and minor millets
- QPM maize varieties/hybrids
- Breeding of maize varieties/hybrids for industrial uses and high oil content
- Development of high yielding arhar varieties with multiple disease (Wilt, PSB and SMD) resistance
- Development of drought and salt tolerant varieties of gram coupled with resistance to biotic stresses
- Breeding for alternative use of tobacco with less nicotine content
- Yield and quality improvement in deshi cotton
- Heterosis breeding in vegetable crops, viz., chilli, brinjal, tomato and okra with resistance/tolerance to major diseases / pests
- Development of high yielding varieties / hybrids of important vegetable crops with better nutritional quality and wide consumer preferences



### Bio-technology

- Identification, molecular characterization and cloning of genes for resistance / tolerance to important biotic and abiotic stresses of major crops of the region – viz., rice, wheat, pearl millet, pigeon pea, gram, cumin, cotton and major vegetables
- Development of technologies for mass multiplication of elite material of important horticultural crops of the region

### Production Technology

- To identify and develop varieties of green manuring crops for better N fixation
- To develop strategy for precision farming for enhancement of productivity of the major crops of the region
- Development of technology for reduction of water use in paddy
- Promotion of organic farming for export quality produce and its certification for marketing



- Use of Geographical Information System (GIS) and Remote Sensing for forecasting weather parameters, climate base animal/crop diseases as well as agro-advisory services
- Integrated crop management through IPM, IDM and INM in major crops for sustainable cropping system.
- Biological control of nematodes and important diseases of major crops
- Development of bio-pesticides for control of pests of major crops
- Development of crop production technologies for efficient use of conserved moisture by important rabi crops wheat (durum) and gram in Bhal area



## Horticulture

- Introduction of remunerative new horticultural cropping systems in respect to array planting
- Potato research for Anand region
- Organic ginger and garlic production in tribal areas
- Enhancing production and plantation of cashew nut and custard apple in tribal areas
- Protective cultivation technology of Vegetables and Horticultural crops



## Animal Science

- Molecular characterization of genes for milk/egg production, growth, reproduction and diseases resistance
- Development of DNA vaccine and DNA based diagnostic technique for important diseases of cattle
- Conservation of the indigenous breeds of cow, buffalo and poultry of the State
- Development of poultry strains adapted to local climate as well as for high feed conversion efficiency



## Dairy Science / Food Processing

- Development of functional food/pro-biotics for enhancement of nutritional status
- Development of probe and sensors for detecting the quality and safety of food products
- Bio-processing of food industry waste for control of pollution and generation of energy
- Application of radiation technique for extension of shelf life of food products

### Agricultural Engineering

- Research on management practices for efficient utilization and recycling using RS and GIS
- Rainwater harvesting and management for higher water productivity
- Artificial ground water recharge to enhance ground water development potential.
- Development of improved farm equipments for timely operation and higher input use efficiency with safety and comfort to operators
- Development of crop, site and gender specific farm equipment.
- Mechanization of horticulture and MAP crops
- Development of climate resilient engineering techniques
- Techniques for efficient utilization of non conventional energy (renewable) in agriculture
- Agricultural product processing and post harvest management
- Agricultural Information Technology



### Sensor Networks

Optimize agriculture production and reducing human intervention in :

- Monitoring pest and diseases in field
- controlling moisture in the cropped area
- Better handling / monitoring live-stock
- Bio Informatics
- Simulation and Modeling using software looks like SIMUL8, VisSim etc.
- Geographical Information System, Data warehousing and Data Mining using tools like SPSS and MATLAB with be initiated
- Interactive Voice Response System (IRV)

### Food Processing Technology & Bio Energy

- Increase keeping quality of fresh and processed foods – shelf-life extension and innovative packaging
- Bio sensors, new additions (Natural sources) as preservative and colour
- Simple and indigenous process control for food processing lines
- Traditional and ethnic food standardization
- Development of better post harvest technologies and equipment for cereals, oilseeds, pulses and horticultural crops
- Value addition and quality product development
- Development of technologies for effective utilization of various renewable energy sources and biomass



## EXTENSION EDUCATION

The Directorate of Extension Education is planning, coordinating, organizing and guiding the extension education programmes in the University and ensures efficient working of the extension education activities in close coordination with the development departments, voluntary and private organizations.

### Extension Education Council

It is a statutory body consisting of the Vice-Chancellor as its Chairman, Director of Extension Education (Member secretary), Director of Research, Deans, Heads of the Divisions, Heads of the Line Departments, progressive farmers, farm women, voluntary organizations and experts in the field of extension as members. The council meets at least once in a year to review the work, discuss and deliberate the policy issues in extension education system.

### Zonal Research And Extension Advisory Committee (ZREAC)

The Committee consisted of Director of Research, Deans of the faculty representative of development departments, Centres of extension education, Crop and Subject Matter Specialists, co-operative sector, industries and progressive farmers. Meetings are conducted regularly twice in the year (*kharif* and *rabi* season). The committee discusses in depth the adoption and its feed backs on research recommendations and existing transfer of technology programs. The approved recommendations are then passed to the concerned bodies of the university.

### Extension Education Centres

The Anand Agricultural University performs diversified extension education activities with the following extension education centers

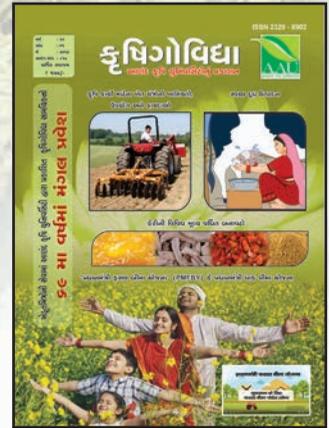
Sr. No.	Type	Name of Centre / Training	Location
1	Certificate Course	Training in Baking Technology	Anand
		Training in Commercial Poultry Farming / Advanced Training in Commercial Poultry Technology	
		Training in Gardening, Landscaping and Nursery Management	
2	Special Training Programmes for farmers	Training Programme on Food Processing Technology	Anand
		Training Programme on Organic Farming	
		Training Programme on Weed Management	
		Training Programme on Integrated Pest Management	
		Training Programme on Medicinal and Aromatic Plants	
3	Training Centres for Extension Workers	Extension Education Institute (EEI)	Anand
		Training and Visit Scheme / Centre	
4	Training Centres for Farmers/ Farm Women/ Rural Youth	Sardar Smruti Kendra (SSK)	Anand

Sr. No.	Type	Name of Centre / Training	Location
		Krushi Vigyan Kendra (KVK)	Arnej (Dist. Ahmedabad)
		Krushi Vigyan Kendra (KVK)	Dahod
		Krushi Vigyan Kendra (KVK)	Devataj (Dist. Anand)
		Tribal Training Centre (TTC)	Dahod
		Tribal Research cum Training Centre (TRTC)	Devgadbaria
		Tribal Farm Women Training Centre (TFWTC)	
		Dairy Vigyan Kendra (DVK)	Vejalpur
		Pashu Vigyan Kendra (PVK)	Limkheda
		Transfer of Technology Centre (TOT)	Godhra
		Farm Technology Training Centre (FTTC)	Sansoli
		Training Center (TC)	Jabugam
		Demonstration cum Training for Inland Fish Culture (DTCIF)	Devataj
5	Advisory Services	Farm Advisory Services (FAS)	Anand
		Agricultural Technology & Information Centre (ATIC)	Anand
		Transfer of Technology Centre (TOT)	Anand
		Transfer of Technology Centre (TOT)	Arnej
		Centre for Communication Network (CCN)	Anand
		Agri Polyclinic Centre (APC)	Dahod
		Publication Unit	Anand
		Sardar Patel Agricultural Educational Museum	Anand
6	Others	NARP Extension Scheme (MMRS)	Godhra
		NARP Extension Scheme (ARS)	Arnej
		C DAP	Anand
		Kisan Call Centre (KCC)	Ahmedabad
		Seed Village Program	Anand
		<i>Krushi Mahotsav</i>	Anand
		Krushi Library	Anand



## Publication

The publication unit publishes a monthly farm magazine 'KRUSHIGOVIDYA' since May 1948. The present circulation of the farm magazine is 8200. The scientific recommendations on various subjects are published through articles in this farm magazine. It has received as immense response from the farmers. The farmers adopt the recommended technology on their farm and get more benefit by referring the articles/information. The farmers express their views that the information given in KRUSHIGOVIDHYA farm magazine and special issues/books are very useful in their farming enterprise.



Moreover, publication unit also provides guidance to farming community through telephones / correspondence. Total 61 special issues and 46 books are published for the benefit of farming community by AAU till today.



The Directorate of Extension Education publishes a quarterly "AAU Newsletter" regularly since its establishment. The AAU newsletter gives research highlights, technical events / news, extension activities, noteworthy work done by the scientists of AAU.



## Krushi Mahotsav

*Krushi Mahotsav*, conceived for the first time in the country by the then Hon'ble Chief Minister Shri Narendra Modi, Hon'ble Prime Minister of India, is a knowledge sharing rendezvous visionary unique concept for the farming community of Gujarat. It has been started from 2005-06 and onwards with an intention to double the agriculture production of farmers of the State. *Krushi Mahotsav* is an intensive convergence and mass contact strategy held every year during May-June for fortnight to one month and begins on the auspicious planetary affluence of "Akshay Tritiya (Akha Trij)", a day for worshipping *Balramji*, thou God of farmers. It brings together the farmers, scientists, government officials and many more individuals concerned in agriculture and allied fields for a month period. Its critical components include *Krushi Mela*, Exhibition, *Pashu Arogya Mela* and Seminars/Talks. Experts from agricultural universities directly interact with farmers at the village level for area specific and crop specific issues. This event facilitates the seamless flow of knowledge from agricultural research labs to land.

Every year, *Krushi Mahotsav* is celebrated with new themes and objectives for the welfare of the farmers.



### Different programmes organized by the Anand Agricultural University during mega event

#### (1) Farmers meet and Inaugural function by Hon'ble Chief Minister:

It is a special type of program wherein the Hon'ble Chief Minister addresses the farmers directly en-mass and exhorts/urges the farmers to adopt/observe the exhibition where various agricultural technologies are exhibited. The Chief Minister also lay downs/



inaugurates various premises (buildings / hostels / cells / offices / classrooms / centres of excellence/plants/projects/exhibitions/Animal health camps etc.) and distributes various awards (Sardar Patel awards, *Krusha na Rusi*, Best ATMA for Taluka, District & State etc.) to the farmers scrutinized by the University in consultation with the ATMA and various govt. departments. The Hon'ble Chief Minister also releases various publications (books/booklets/Seminar Souvenirs/ Folders/ Diary/ *Varsha Vigyan/ Krushi Mahotsav Report/ E-Literature* etc.) related to farmers written/edited by the scientists of AAU. During this inauguration, various state ministers, Members of state legislative assembly, central government, district and taluka panchayats, various organizations, delegations from foreign countries/ states, University scientists/Officers also remain/attend the function.

## (2) *Krusha* Exhibition

The *Krusha* Exhibition, a part a mega event organized on theme based different domes. The stalls are set with different agricultural technologies by progressive farmers, Anand Agricultural University and different line Departments of the state government. The live demonstration of agricultural practices is also arranged. This exhibition is kept open for two days and a large numbers of farmers take the advantage of this exhibition.

This program is also live telecasted by Information Technology Center of AAU, Anand and various professional media on various channels of Television.



## (3) *Krusha* Gosthi/ Seminars/*Pashu Arogya mela*

Anand Agricultural University also organizes *Krusha Gosthi* / seminars / Demonstrations on various topics related to agriculture and allied sectors, *mahila shibirs*/training programs/khedut shibirs in coordination with APMC/line departments etc.



The extension education activities carried out in nine districts of central Gujarat under '*Krusha Mahotsav*' program of Government of Gujarat during 2005 to 2016 are as under.

### Extension Education Activities carried out under *Krush*i Mahotsav-2005 to 2016

Year	<i>Krush</i> i Rath	<i>Krush</i> i Shibirs		No. of Publications released	No. of DVDs resleased
	No. of Beneficiaries	No.	No. of Beneficiaries		
2005	7,98,725	26	16,450	01	-
2006	3,65,424	73	15,645	18	-
2007	7,14,282	60	50,689	17	-
2008	4,89,967	47	77,330	13	-
2009	4,92,700	121	24,200	31	-
2010	5,18,389	52	28,516	24	-
2011	3,09,758	41	17,829	27	02
2012	7,23,076	41	28,778	01	07
2013	3,87,465	34	12,609	04	06
2014	3,15,428	23	21,475	01	05
2015	-	253 (seminars)	2,33,415	04	02
2016	-	16 (seminars)	1,10,151	01	-

#### ***Rabi Krishi Mahotsav***

Taking march towards Agrarian in revolution a step further, Gujarat organized “*Rabi Krushi Mahotsav*” during 2014, the winter edition of *Krush*i Mahotsav.

The maiden *Rabi Krushi Mahotsav* was held in all talukas of the state in winter season. The Anand Agricultural University has coordinated *Rabi Krushi Mahotsav* effectively by providing technical inputs through Scientists in all talukas of its jurisdiction.

Anand Agricultural University’s new research product “Anubhav Bio-NPK consortium” was launched (*Iokarpan*) with release of technical bulletin cum user manual by Hon. Chief Minister of Gujarat, Smt. Anandiben Patel on the occasion of *Rabi Krushi-Mahotsav* 2014 on 11 December 2014 at Village Chuda Dist. Surendranagar. The product is one in all solution for the macronutrients (NPK) requirement of crops and was provided free of cost by AAU as *Krush*ikit during *Rabi Krushi-Mahotsav* for demonstrations to farmers with the

support of Department of Agriculture and Co-operation, GoG at taluka level in 33 districts of Gujarat.

As a part of *Rabi Krishi Mahotsav : 2015-16*, a mega event was celebrated with combined efforts of the GoG, District Administration, Dahod and Anand Agricultural University, Anand at Devagadhbaria, district Dahod. An inaugural function of *Rabi Krishi Mahotsav : 2015-16*



mega event for entire Gujarat state was organized at Tribal Farm Women Training Centre (TFWTC), Devagadhbaria on 2<sup>nd</sup> January 2016.

The agricultural exhibition was scaled into three theme based domes. The stalls were prepared with different agricultural technologies by Anand agricultural University and different line departments of the Gujarat State. This exhibition was kept open for one day and more than 25,000 farmers took benefit of this exhibition.

The copies of special booklet named '*Mukhya Khetipako, Shakhbaji pako, Falpako tatha Pasuupalanni Vaigyanik Mahiti*' were distributed during Rabi KM 2015-16 program at all villages of central Gujarat. Two e-technology packages (Video Films) on '*Gulabi iyalnu Sankalit Vyavasthapan*' and '*Krushhi Pakoma Sankalit Krumi Vyavasthapan*' were prepared and distributed to all Villages (5133) for dissemination of the latest agricultural technologies to the farming community of central Gujarat through District Agricultural Officers.

Total 58 seminars were organized and about 67000 farmers participated in these seminars.

### **Krushhi Library**

The main objective of the scheme is to establish the *Krushhi* Libraries in selected villages of central Gujarat for disseminating the farm literature ie. Books, Booklets, folders, diary, farm magazine etc. Total 250 *Krushhi* libraries are established and 9410 farm literature were distributed during 2015-16 for the benefit of farming community.

### **Mass Media**

#### **Radio & TV Programs**

Radio talks on different topics related to agriculture, horticulture, agricultural engineering, animal husbandry are broadcasted by AIR, Vadodara. The scientists of the University deliver the radio talks. Doordarshan Programs on different aspects covering agriculture, animal science, agricultural engineering, horticulture, home science etc. are

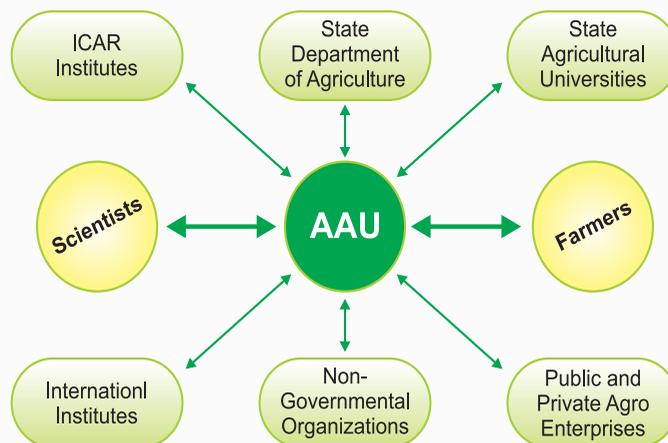
telecasted through Doordarshan Kendra, Ahmedabad in 'Gram Jagat' programme for the benefit of the farming community. Moreover, phone – in - live programmes through Doordarshan are also telecasted. In addition to this, some important programmes are also telecasted on Vande Gujarat Channel through BISAG, Gandhinagar.

### Agricultural Fairs

To communicate the agricultural technologies to many farmers at a time, AAU organizes and participates in different agricultural fairs and exhibitions. The latest technologies developed by the University and profile of AAU are also displayed. The interactions between scientists and the farmers are also arranged. The literature on the latest agricultural technologies is distributed during such agricultural fairs and exhibitions.

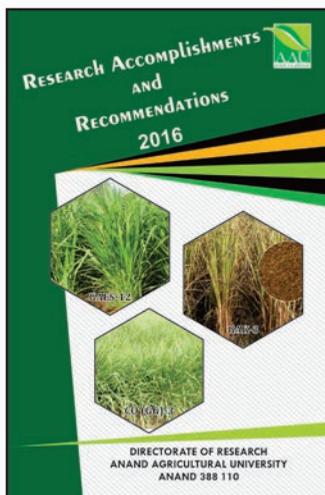
### Transfer of Technology and Linkages

AAU has time tested mechanism for dissemination of technology through various linkages at the door-step of the farmers. It has well-developed linkages among research and extension scientists, farmers, agro-based industries and government development departments.



Extension Education Activities of AAU												
Year	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
<b>Sardar Smruti Kendra</b>												
No. of Visitors	14596	24736	1681	14924	21304	22368	23033	21645	24984	24363	22486	25544
<b>Krushi Vigyan Kendra</b>												
Training for Farmers / Extension workers	113 (3340)	62 (1823)	102 (2729)	190 (4976)	231 (5430)	343 (8841)	306 (6911)	347 (8019)	340 (8265)	324 (8433)	306 (7378)	281 (8497)
FLDs	163	145	258	387	356	791	706	2117	1499	969	860	1919
<b>Training Programmes</b>												
Training & Visit scheme	13 (326)	22 (724)	13 (395)	21 (593)	24 (983)	18 (763)	141 (474)	14 (449)	11 (350)	14 (461)	10 (367)	11 (411)
Extension Education Institute	26 (530)	36 (842)	44 (894)	62 (1290)	55 (1791)	72 (2164)	76 (2497)	79 (2421)	13 (403)	66 (1822)	67 (1837)	81 (2243)
TOT Centers	136 (4703)	122 (4873)	146 (4795)	133 (4668)	173 (4566)	200 (6672)	192 (6545)	177 (6996)	231 (8816)	363 (14766)	285 (11568)	341 (16637)
<b>Diploma Courses</b>												
Diploma Course	05 (29)	05 (185)	05 (210)	05 (187)	05 (212)	05 (155)	03 (49)	03 (81)	06 (65)	06 (82)	06 (118)	05 (77)
<b>Certificate Courses</b>												
Certificate Courses	Commencement year 2011-12							10 (367)	16 (521)	26 (859)	32 (1284)	41 (1726)
<b>Mass Media</b>												
Agri Fairs & Exhibitions	04	07	03	07	16	08	08	17	09	11	05	11
Publication of Literature	10	32	16	12	32	91	31	57	57	97	53	73
Video Film	-	-	-	-	-	-	-	02	09	06	05	07
Radio talks		09	10	12	12	12	08	10	13	08	11	09
TV Talks	45	18	30	22	18	22	33	18	34	36	47	37

Note : Figures in parenthesis indicate no. of beneficiaries



## International Visitors during last 2 years

Name	Date of Visit
Dr. Chandra Varia, Gynaecologist, Vet. Surgeon, USA	11/02/2015
Mr. Carl Rallings, Deputy Vice Chancellor, University of Southern Queensland, Australia	17/06/2015
Mr. Satya Shah, Relationship Manager, University of Southern Queensland, Australia	17/06/2015
Odemari Stephen Mbuya, Faculty Director, Florida A & M University (FAMU), Tallahassee, USA	23-24/07/2015
Dr. Mehboob B. Sheikh, Professor and Plant Biochemist, Centre for viticulture and small fruit research, Florida A & M University (FAMU), Tallahassee, USA	23-24/07/2015
Mr. Filipe Nyusi, President of Mozambique	07/08/2015
International Delegation from Malawi, Kenya	17/08/2015
Mr. Joachim Rocha, Trade Commissioner, Canadian trade office	28/10/2015
Dr. Winthrop Harewood, FMS, UWI, Trinidad, West Indies	30/11/2015
Dr. Albert Schram, Vice Chancellor, Papua New Guinea University of Technology (UNITECH)	16/12/2015
Delegation of Guinea Conakry - Africa	01/06/2016



Prof. Mark Harvey (Research and Innovation) and Mr. Carl Rallings (Students and Communities) Hon'ble Deputy Vice Chancellors of University of Southern Queensland, Australia	21/06/ 2016
South Korean Youth Delegation	24/09/2016
Delegation from FAMU, USA; USG, Australia	14-16/10/2016
Professor Steven Raine, Executive director USG, Australia	15/11/2016
Dr. Peter Shewry, Rothamsted Research UK; Dr. Rajinder S. Ranu, CSU, USA; Dr. Makolm Hawkesford, UK; Dr. Galani Yamdu Joseph Hubert Universite des Montganes, Camroon	06-08/12/2016



- Dr. Trilochan Mohapatra, Secretary, DARE & Director General, ICAR, New Delhi and Dr. T. Jankiram, Asstt. Director General (HS-II), ICAR, New Delhi visited Anand Agricultural University, Anand on 03 September 2016. He had an interaction



meeting with Dr. N. C. Patel, Hon. VC, AAU and all the University Officers and Deans which was followed by a brief presentation of various research, education and extension activities by AAU & visit to Sardar Patel Educational Museum. Dr. Trilochan Mohapatra, Secretary, DARE & Director General, ICAR, New Delhi was impressed by the facilities and activities of AAU.

## Various Awards Received by Anand Agricultural University

- ◆ Bronze Icon Award to AAU for e-Governance (Year 2008-09)
- ◆ FGI Award for Excellent Developmental Work in Agriculture (Year 2012)
- ◆ Certificate of Appreciation to BPD Unit (Year 2012)
- ◆ Best Centre (AICRP on Agro-Meteorology) in Performance (Year 2012)
- ◆ Times of India JP Morgan Social Impact Award (Year 2013)
- ◆ Mahindra Krishi Sanman Award (Year 2013)
- ◆ India Education Excellence Award for Best Veterinary College (Year 2013)
- ◆ India Education Excellence Award for Best Dairy College (Year 2013)
- ◆ Life Time Achievement Award to Dr. A.M. Shekh, Hon. VC of AAU (Year 2013)
- ◆ Best Government to Citizens Initiatives of the Year Award (Year 2013)
- ◆ National Education Leadership Award (Year 2013)
- ◆ Award for Educational Excellence (Year 2013)
- ◆ Certificate of Appreciation for BPD Unit (Year 2013)
- ◆ Best performing SAU BPD unit (Year 2013)
- ◆ Best Veterinary College of the year Award (Year 2014)
- ◆ National Education Excellence Award (Year 2014)
- ◆ Meritorious Service Award to Dr. N.C. Patel, Hon. VC of AAU (Year 2014)
- ◆ elets Knowledge Exchange Award for e-Krishi Kiran Programme (Year 2015)
- ◆ Best Personality of the Year (Agriculture) 2015 Award to Dr. N.C. Patel, Hon. VC of AAU (Year 2015)
- ◆ Dewang Mehta National Education Award to Dr. N.C. Patel, Hon. VC of AAU (Year 2016)



FGI Award for Excellent  
Developmental Work  
in Agriculture



Bronze Icon Award to AAU for  
e-Governance  
Year 2008-09



elets Knowledge Exchange  
Award 2015

## Finance and Accounts

Major sources of finance to the University are Govt. of Gujarat, Govt. of India, ICAR & other agencies which sanction grant through different schemes.

### Year wise Expenditure

(₹ in lakhs)

Particulars	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
Education	1603.35	1953.29	1988.57	2146.31	2724.93	4036.22	3630.63	6757.58	7522.16	8153.04	6247.47	6760.21
Research	1019.48	1152.03	1221.82	1184.73	1742.97	585.60	2962.09	1711.77	1609.38	1801.32	3533.17	4418.59
Extension Education	62.55	63.68	64.26	82.94	499.33	1036.06	484.62	347.47	786.32	604.15	588.14	476.99
Administration	648.06	846.22	903.57	1140.60	1358.61	1480.62	2089.34	3524.55	4149.16	4344.61	4417.28	4745.41
Construction	45.13	70.21	204.82	231.61	150.06	2884.00	2802.78	2489.55	2902.09	2671.93	1849.82	2108.34
<b>Total</b>	<b>3378.57</b>	<b>4085.43</b>	<b>4383.04</b>	<b>4786.19</b>	<b>6475.90</b>	<b>10022.50</b>	<b>11969.46</b>	<b>14830.92</b>	<b>16969.11</b>	<b>17575.05</b>	<b>16635.88</b>	<b>18509.54</b>

## Manpower

Manpower sanctioned for Teaching, Research and Extension Education of the University

### Manpower Details

(As on 31-12-2016)

Particulars	Faculty	Technical	Administrative	Class-IV	Total
Education	392	264	184	402	1242
Research	144	201	67	150	562
Extension Education	59	61	33	45	198
<b>Total</b>	<b>595</b>	<b>526</b>	<b>284</b>	<b>597</b>	<b>2002</b>
Filled	458	332	168	240	1198
Vacant	137	194	116	357	804
<b>Total</b>	<b>595</b>	<b>526</b>	<b>284</b>	<b>597</b>	<b>2002</b>

**ANAND AGRICULTURAL UNIVERSITY**  
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**SARDAR PATEL AGRICULTURAL EDUCATIONAL MUSEUM**

**[www.aau.in](http://www.aau.in)**

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