

ANNUAL REPORT

Extension Education

Year : 2012-13



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EXTENSION EDUCATION

● ANNUAL REPORT 2012-2013 ●

1. INTRODUCTION

Navsari Agricultural University is a pioneer institute in the South Gujarat region for transferring the agricultural technology to the farmers to increase their agricultural production. The Directorate of Extension Education is actively involved in transfer of latest technologies to the farmer's field and giving its feed back to the research workers. The Directorate of Extension Education has started functioning in 1972 during erstwhile Gujarat Agricultural University. Later on, as a consequence of the separation of Gujarat Agricultural University into four new universities in the State, Navsari Agricultural University (NAU) has come into existence on May 1, 2004. NAU encompasses seven districts, viz., Valsad, Navsari, Dangs, Surat, Tapi, Bharuch and Narmada of South Gujarat.

Geographically, the jurisdiction is stretched over 170 km. seashore on the western side and hilly terrain with dense forest on the eastern side enclosed with high fertile land and ample natural resources. Thus, presently the NAU serves to 4 districts of hills and 3 districts of plains in South Gujarat region. With varied geographical, biophysical and socio economic conditions of the region, the work of validation of newly developed technologies and transfer of technology has become very challenging. The Directorate undertakes extension activities through 5 KVKs (working at grass root level), Training Units (Sardar Smruti Kendra & Training and Visit System) at head quarter, ATIC, extension departments at different colleges along with the State Agricultural Management and Extension Training Institute (SAMETI), Gujarat assisting in extension reform programme.

2. VISION

To make the extension system 'Farmer-Driven' and 'Market-led' for augmenting production, productivity and income of the farming community.

3. MISSION

- To bridge up the agricultural technology gap at grass root level.
- To educate rural people to attain/participate in development.
- To create awareness about health, hygiene, environment and bio-diversity conservation for sustainable development.
- To link farmer with newly emerging globalized world by providing them information and guidance.
- To develop a system of effective research and extension linkages.
- To generate employment in the field of agriculture and allied disciplines.
- To integrate IT in rural system for their development.

4. MANDATE

- Facilitating planning, implementation, execution and monitoring of extension programmes carried out in South Gujarat region.
- Emphasizing participatory technology generation, dissemination and utilization.
- Offering training and field services to public, private, NGOs and corporate sectors.
- Enhancing the agricultural vocations in the region.
- Promoting the 'Market-led Extension'.
- Organizing farm advisory services at the doorsteps of the farmers.
- Encouraging women to work in groups at the grass root level.
- Networking of extension and development systems through ICT-mode.

5. FUNCTIONS AND ACTIVITIES

- To plan, coordinate, organize, guide, implement and supervise the extension education programmes in the University.
- To assist and complement to state government department of agriculture, public sector and voluntary organizations in effective management of extension education systems.
- To transfer the innovative technology through Krishi Vigyan Kendras.
- To organize training programmes at headquarters.
- To serve as single window system for providing all information regarding agriculture, providing inputs like seeds & planting material through Agricultural Technology Information Center (ATIC).
- To act as mediator for researchers by updating them with field problems of farmers and to help them in developing "Demand Driven Technology."
- To publish extension literature and its distribution among farmers & extension functionaries.
- To handle various collaborative extension projects for transfer of technology.

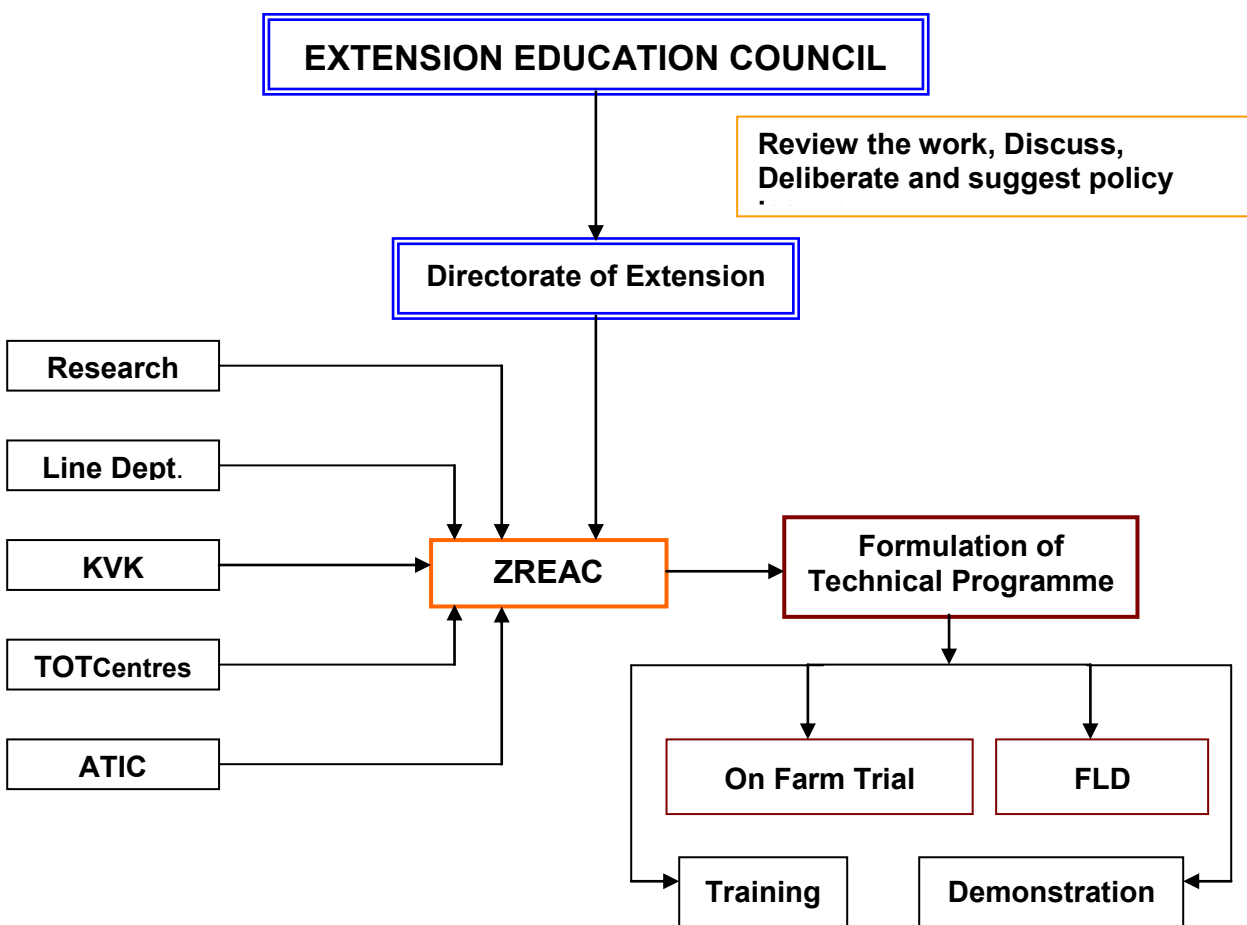
6. ORGANIZATIONAL STRUCTURE & STAFF STRENGTH

6.1 Organizational Structure of Directorate of Extension Education:

The Directorate of Extension Education headed by Director Extension Education is functioning on the suggestions and recommendations of Extension Education Council. The Vice Chancellor is the Chairman of Extension Education Council. The flow chart shown in figure 1 provides in detail organizational set up of the Directorate of Extension Education at the University level.

6.2 Extension Education Council:

Extension Education Council is a statutory body consisting of the Vice-Chancellor as its chairman and Director of Extension, Director of Research, Deans, University Officers, Heads of the Line Departments, Extension Educationist, Innovative Farmer and Experts in the field of extension as the members. The council meets at least once in a year to review the work, discuss and deliberate the policy issues on extension system and formulate the technical programme for different units of the Directorate of Extension Education.



Flow chart showing the mechanism to formulate the technical programme for extension activities.

► **List of Members of Extension Education Council is given below.**

SN	Name	Designation	Membership
1	Dr. A.R. Pathak	Vice Chancellor Navsari Agricultural University, Navsari	Chairman
2	Dr. A.N. Sabalpara	Director of Research Navsari Agricultural University, Navsari.	Member
3	Dr. A.M. Arvadia	Principal & Dean (Agriculture), N.M.College of Agriculture, NAU, Navsari	Member
4	Dr. N.L. Patel	Principal & Dean (Horticulture), Aspee College of Horti. & Foresry, NAU, Navsari	Member
5	Dr. A.M. Bafna	Dean, ASPEE Agri Business Management Institute, NAU, Navsari	Member
6	Dr. N.H. Kelawala	Principal & Dean, Vanbandhu Veterinary College, NAU, Navsari	Member
7	Dr. B.R. Shah	Director of Agriculture Krushibhavan, Sector-10-A, Gandhinagar	Member
8	Shri M.B. Patel	Joint Director of Agriculture (Ext.) Athwa line, Lal Bungalow, Surat	Member
9	Prof. V.P. Vejpara	Programme Organiser Sardar Smruti Kendra, NAU, Navsari	Member
10	Dr. J.J. Pastagia	Programme Coordinator KVK, NAU, Athwa line, Surat	Member
11	Dr. C.K. Timbadia	Programme Coordinator KVK, NAU, Navsari. Dist: Navsari.	Member
12	Dr. C.B. Patel	Former Research Scientist At. Mora, Po. Mogar, Ta & Dist: Navsari	Member
13	Dr. R.C. Gandhi	Director, Naranlala Management Institue, Eru Char Rasta, Navsari	Member
14	Dr. Jayantibhai Ravjibhai Patel	Administrative Officer, BAIF, Van Manav Vikas Kendra, Lachhakadi, Ta. Vansada,	Member
15	Dr. G.R. Desai	Director of Extension (Agri.Extn.) MANAGE, Rajendranagar Hyderabad, A.P.	Member
16	Shri Narendrabhai Vashi	Managing Director, Vasudhara Dairy, Alipore, Ta.Gandevi	Member
17	Dr. A.K. Maheta	ADG (EXT) I.C.A.R., PUSA, New Delhi	Member
18	Dr. R.B. Patel	Former Director of Extension Education At.& Po. Chandravasan Supa, Ta.-Navsari	Member
19	Shri Dilipbhai Bhakat	President, Surat District Cooperative Bank, J.P.Road, Nr. Krushimangal, Surat	Member
20	Shri Mahavirbhai Joshi	At & Po. Changa, Ta. Gandevi. Dist: Navsari.	Member
21	Shri Satishbhai G. Chaudhary	At.& Po. Pankhalla Ta. Sagbara, Dist: Narmada	Member
22	Dr. H.J. Derashri	Director of Extension Education Navsari Agricultural University, Navsari	Member Secretary

Organizational Structure of Directorate of Extension Education:

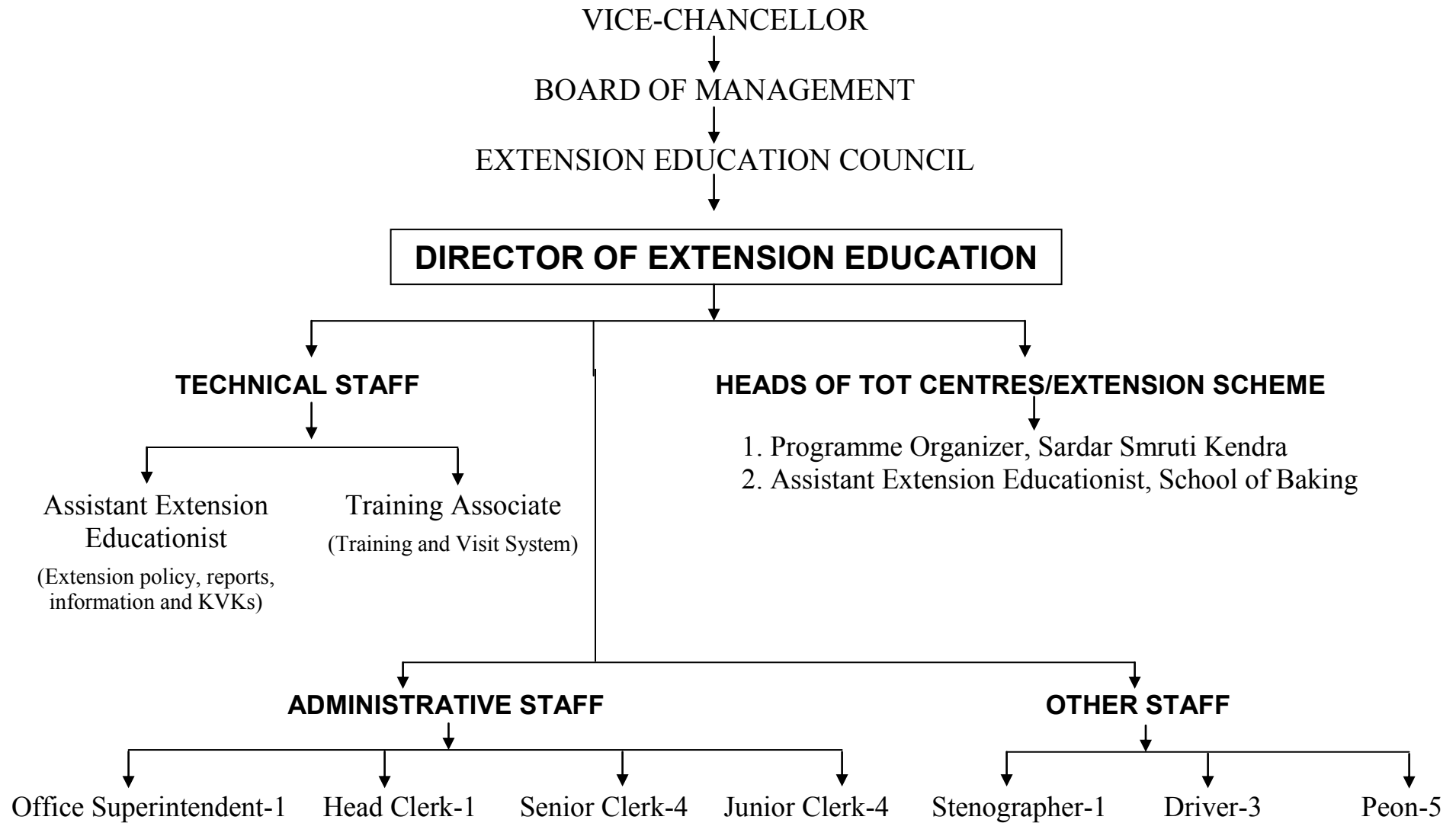


Figure 1: Organizational Structure of Directorate of Extension Education

6.3 Technical Staff Strength of DEE Unit : (DEE, T&V, SSK and Bakery)

S.N.	Designation	No. of Posts		
		Sanctioned	Filled	Vacant
1	Director of Extension Education	1	1	-
2	Training Associate	1	1	-
3	Assistant Extension Educationist	4	4	-
4	Agricultural Officer	5	2	3
	Total	11	8	3

7. TRANSFER OF TECHNOLOGY (ToT) CENTRES & EXTENSION SCHEMES

7.1 ToT Centres: NAU Transfers agricultural technology to the farmers

Type	Name of Centre	Location
▶ Training Centres for Farmers/Farm Women /Rural Youths	● Sardar Smruti Kendra	Navsari
	● Advance Training Centre for Soil and Water Management	Navsari
	● Demonstration-cum-Training Centre for Inland Fisheries	Navsari
	● Vegetable and Fruit Demonstration Scheme for Tribal Upliftment	Pariya
	● Tribal Women Training Centre	Dediyapada
	● Extension Wing	Navsari
▶ Training Centres for Extension Workers	● Training and Visit System	Navsari
▶ Advisory Services	● Farm Advisory Services	Navsari
	● Agricultural Technology Information Centre (ATIC)	Navsari
	● Centre of Agricultural Extension Information System	Navsari
	● Farm Publication	All Centres
▶ 1. On-farm testing 2. Frontline demonstrations 3. Training of farmers 4. Resource and knowledge centre of the district.	● Krushi Vigyan Kendra	Vyara, Waghai, Navsari, Surat, Dediyapada



Sardar Smruti Kendra



ATIC

7.2 School/Centres for Certificate Courses:

S.N.	Centre/School	Duration	Intake capacity
1	Livestock Inspector Training Centre : Navsari	01 Year	33
2	Landscaping and Gardening : Navsari	6 Months	20
3	School of Baking : Navsari	20 Weeks	32

7.3 Short duration Agro ITI courses for Rural Youths:

1. Seed production
2. Organic farming
3. Kitchen gardening
4. Farm management
5. Dairy farming
6. Flower dehydration
7. Tissue culture
8. Poultry farming
9. Gender friendly equipments for farm women
10. Farm power machinery: Selection, Operation and Maintenance
11. Bio-fertilizers & Bio-pesticides
12. Soil-Water-Plant analysis
13. Productive & beneficial insects
14. Commercial Mushroom production technology
15. Artificial insemination
16. Micro irrigation system

Photographs of KVKs Building run under NAU



KVK, Waghai



KVK, Navsari



KVK, Dediapada



KVK, Vyara



KVK, Surat

7.4 Extension Schemes run Under NAU: Extension activities through 30 Schemes

S.N.	Plan Schemes (16)	B.H.
1	Strengthening of the Directorate of Extension Education, Navsari	12505
2	Upgrading of the Existing Sardar Smruti Kendra, Navsari	12507
3	Establishment of Soil and Water Management Training Centre, Navsari	12509
4	Establishment of Centre for Agri. Extension Information System, Navsari	12940
5	Agricultural Technology Information Centre (ATIC), Navsari	12941
6	Demonstration-cum-Training Centre for Inland Fisheries, Navsari	12943
7	Establishment of Livestock Inspector Training Centre, Navsari	12253
8	Strengthening of Mobile Ambulatory Clinic Navsari	12318
9	Vegetable & Fruit Crops Demon. Scheme for Tribal Upliftment, Paria	12014-06
10	Landscaping & Gardening Training Centre, Navsari	12712
11	Strengthening of Agricultural Technology Information Centre, Navsari	12132
12	Testing of Uni. technologies on farmers' fields through adaptive trials	12133
13	Esta. of Agro ITI Centre for Agricultural & Horticulture, Navsari	12240
14	Esta. of Agro ITI Centre for Veterinary, Dairy, Poultry & Fisheries	12241
15	Establishment of Tribal Women Training Centre, Dediapada	12146
16	Establishment of University Education Museum, Navsari	12304
S.N.	Non-Plan Schemes (07)	B.H.
1	Directorate of Extension Education	4505
2	Extension of VC and Zonal Office, Navsari	4573-6
3	Establishment of Sardar Smruti Kendra, Navsari	5116
4	Establishment of Farm Advisory Services, Navsari	6221
5	Establishment of School of Baking, Navsari	7228-1
6	Upgrading of School of Baking, Navsari	6228-1
7	Bal Mandir, Navsari	5710-A
S.N.	Other Agency (02)	B.H.
1	Training & Visit System, Navsari (Non-Plan)	18246-3
2	Training & Visit System, Navsari (Plan)	18246
S.N.	ICAR (05)	B.H.
1	Krusha Vigyan Kendra, NAU, Vyara, Dist.-Tapi	2704-1
2	Krusha Vigyan Kendra, NAU, Navsari	2704-2
3	Krusha Vigyan Kendra, NAU, Dediapada, Dist.-Narmada	2704-3
4	Krusha Vigyan Kendra, NAU, Surat	2704-5
5	Krusha Vigyan Kendra, NAU, Waghai, Dist.-Dangs	2704-6
6	Providing support to DEE for knowledge empowerment, technological backstopping, HRD and overseeing of KVKs, Navsari	2033

8. SALIENT EXTENSION ACTIVITIES & ACHIEVEMENTS

8.1 Extension activities carried out: for dissemination of new technology to farmers

S. N.	Extension Programmes	No. of activities	No. of Beneficiaries			
			Farmers	Women	Youths	Total
1.	Farmers training class (On Campus)	289	4510	3508	2005	10023
2.	Farmers training class (Off Campus)	166	2673	2079	1189	5941
3.	Farmers' day/ Field day	23	2859	3676	1634	8169
4.	Agril. Exhibition/ Agril. Fair	18	11042	12882	6749	30673
5.	Farmers/Farm women shibir	41	1506	3739	987	6232
6.	Seminar/Symposium/ Interface for farmers	80	2329	1811	1037	5177
7.	Farmers' meeting/ Krishi gosthi	32	886	872	802	2560
8.	Front Line Demonstrations	3529	12351	1765	3529	17645
9.	On Farm Trials	15	82	6	68	156
10.	Field trip/ Exposure visit	112	1677	2704	1211	5592
11.	Diagnostic services for farmers fields	34	218	15	130	363
12.	Veterinary clinic camp /Exhibition	31	753	1516	259	2528
13.	Training/Workshop/ Interface for Ext. funct.	18	462	115	-	577
14.	Video film show for new agri practices	32	1044	1326	1112	3482
15.	Telephonic guidance/ Letter correspondence	1221	726	9	486	1221
16.	Farm Publication (Folders/Leaflets etc.)	112	114240	47040	62720	224000
17.	Popular articles/Press-notes in news papers	54	Mass	Mass	Mass	Mass
18.	Radio & TV Programmes	9	Mass	Mass	Mass	Mass

8.2 Seminar/Symposium/Interface organized for farmers:

S. N.	Subject/Topic	No. of Programmes	No. of Beneficiaries
1	Sugarcane production technology	6	388
2	Paddy production technology	6	298
3	Fruit crops cultivation (Mango, Chiku etc.)	5	281
4	High-tech Horticulture	5	327
5	Floriculture (green house, flower dehydration)	4	282
6	Vegetable crops cultivation (South Gujarat)	5	319
7	Cotton production technology	4	271
8	Soil & Water management (micro irrigation)	5	276
9	Value addition & Product of Banana pseudo stem	1	80
10	Post-harvest technology in fruit crops	7	521
11	Post-harvest technology in other crops	2	112
12	Value addition and agriculture marketing	4	213
13	Rabi crops cultivation (wheat, pulses, oilseeds)	4	232
14	Organic farming (bio-fertilizer, vermi-compost)	4	301
15	Livestock management/Animal husbandry	3	187
16	Inland Fisheries-production & marketing	3	176
17	Home Science (women empowerment, child care)	7	491
18	Tissue culture/Kitchen gardening	5	422
Total		80	5177



Dr. A.R. Pathak, Hon. Vice-Chancellor, NAU, Navsari addressing farmers in Symposium on Paddy



NAU Scientist interacting with farmers on demonstration plot

8.3 Students passed in Vocational Certificate Courses:

S. N.	Centre/School	Duration	Intake capacity	No. of Students	
				Admit.	Passed
1	Livestock Inspector Training Centre : Navsari	01 Year	33	33	33
2	Landscaping and Gardening : Navsari	06 Months	20	09	08
3	School of Baking : Navsari	20 Weeks	16+16 (Two Batch)	27	27
Total		-	-	69	68

8.4 Front-Line Demonstrations: Effective tool for dissemination of new technology to large farming community

The main objective of Front-Line Demonstrations is to demonstrate newly released crop production and protection technologies and its management practices in the farmers' field under different agro-climatic regions and farming situations. While demonstrating the technologies in the farmers' field, the scientist studies the factors contributing higher crop production; field constraints of production and thereby generates production data and feedback information.

► FLDs organized with the following special features:

3529 FLDs were conducted on **1014** hectares of farmers' fields under the close supervision of the Scientists of the National Agriculture Research System comprising of ICAR Institute, National Research Centres, Zonal Project Directorate, KVKs, State Department of Agriculture and the Navsari Agricultural University and its Regional Research Stations.

S. N.	FLDs organised by	2012-13	
		Area (ha)	No. of FLDs
1	KVK, Waghai	68	223
2	KVK, Vyara	142	448
3	KVK, Dediapada	216	703
4	KVK, Navsari	444	1657
5	KVK, Surat	92	374
6	Fruit Research, Paria	45	106
7	Rice Research S., Vyara	7	18
Total		1014	3529

- Newly released technologies or those likely to be released in near future were selected for the FLDs.
- Critical inputs and trainings were provided from the scheme budget, remaining inputs were supplied by the farmers themselves.
- FLDs were used as a source of generating data on factors contributing higher crop yields and constraints of production under various farming situations.

► FLDs organized on different crops :

SN	Crop	No. of Demon.
1	Paddy	1958
2	Sugarcane	53
3	Pigeon pea	245
4	Gram	79
5	Green gram	76
6	Nagli	258
7	Sweet corn	242
8	Okra	301
9	Elephant foot	18
10	Maize	112
11	Mango (kultarr)	19
12	Sapota	43
13	Cashew	76
14	Turmeric	49
Total		3529



NAU Scientists interacting with farmers on FLD Plots

8.5 Organization of Krishi Mahotsav-2012:

The Krishi Mahotsav-2012, an intensive and unique month-long programme was organized by the State Government during 6th to 31st May 2012 just before the onset of the monsoon to facilitate the agricultural planning and overall rural development with the theme of "Value addition & agro-infrastructure". The event was spread over the whole of rural Gujarat, covering 18,600 villages to make agriculture sustainable.

Navsari Agricultural University encompasses seven districts, viz., Valsad, Navsari, Surat, Tapi, Bharuch, Narmada and Dangs and 37 Talukas in South Gujarat. Total **37 Krishi Rath**s - a mobile agricultural exhibition, were used to launch the event and to reach out to farmers through personal contact at *Taluka Panchayat Seat Village*. The Krishi rath a mobile unit, usually a tractor or a trailer truck, were mounted with display panels, audio-video systems, loud speakers, agriculture-related material, and demonstration units. A team of agriculture, horticulture, animal husbandry and co-operation department's officers as well as agricultural scientists travelled with these units to all 3682 villages of South Gujarat.

Total **222 Scientists** and **111 P.G. Students** from NAU had gone with 37 Krishi Rath for providing guidance and demonstrating the best farming practices directly to the farmers. As the Mahotsav created a forum for the convergence of all major stakeholders, it facilitated availability of critical agricultural inputs such as fertilizers, seeds, pesticides and farm hand tools at the farmers' doorstep. With a view to interact directly with the farmers, the NAU had also organized 29 Farmers day/Farmers Shibir and 16 Seminars/Crop Symposiums in which 14708 and 3169 farmers were participated respectively.

► A Bird-view on Krishi Mahotsav-2012: Involvement of NAU Scientists

- Duration : 6th to 31st May 2012
- Theme : Value addition & agro-infrastructure
- Area coverage : 7 Districts, 37 Taluka and 3682 Villages
- No. of Krushi Rath : 37
- NAU Scientists with Krishi Rath : 222
- NAU P.G. Students with Krishi Rath : 111
- Farmers' Shibirs organized : 29 (14708 farmers benefited)
- Seminars/Symposium organized : 16 (3169 farmers benefited)



Krishi Rath - Display panels mounted with tractor



Farmers visiting Agri Exhibition

► Inaugural Function of Mahotsav-2012 : A Mega Agro-festival of South Gujarat

Gujarat Chief Minister Narendra Modi inaugurated Gujarat's fourth zonal mega Krishi Mahotsav of South Gujarat at tribal dominated Nana Pondha village, full of flora and fauna, of Valsad district on May 17, 2012 organized by Navsari Agricultural University and Valsad District Administration. He has announced that, Gujarat Government, with a view to encouraging value addition in agro-industries, has decided to set up a high level committee that will study and suggest measures for strengthening agro-infrastructure, agro marketing and preservation of agro products, food packaging and marketing, with absolute holistic approach. The committee that will consist of renowned agro experts, agro scientists, agronomists, progressive farmers and experts from Government side will ensure absolute forward linkage for agro infrastructure. This will bring about a revolution in agriculture sector and help future generation getting attracted to agriculture, he added. About 37500 farmers had participated in Inaugural Function.



CM inaugurates a Mega Agro-festival of South Gujarat at Nanapondha village of Valsad district



Dr. A.R. Pathak, Vice-Chancellor, NAU welcoming Chief Minister by honoring a memento



Chief Minister Shri Narendra Modi addressing in Krishi Mahotsav function at Nanapondha

► Krishi Mela, Fruit-Flower-Vegetable Exhibition & Cattle Show

NAU organized one day Krishi Mela & Fruit-Flower-Vegetable Exhibition and Cattle Show in collaboration with Valsad District Administration and State Agriculture and Horticulture Departments on May 17, 2012 at Nanapondha village in Valsad district.

Chief Minister Narendra Modi inaugurated Krishi Mela & Fruit-Flower-Vegetable Exhibition and Cattle Show. In Krishi Mela arena, out of total 54 stalls, NAU exhibited latest agricultural technology through 25 stalls and other agricultural agencies exhibited their technology through 29 stalls. Total 681 samples (fruits-147, flowers-171, vegetables - 275, fruit and vegetables preservation-88) were showcased in exhibition to encourage the farmers. Total 152 farmers who participated in fruit, flower, mango and vegetable competition were awarded cash incentives. About 16700 farmers visited the Krishi Mela, Fruit-Flower-Vegetable Exhibition & Animal show.

Photographs of Krushi Mela & Fruit-Flower-Mango-Vegetables Exhibition



8.6 Annual Zonal Workshop for KVKs of Zone–VI: Gujarat & Rajasthan States

The Navsari Agricultural University and Indian Council of Agricultural Research jointly organized Annual Zonal Workshop for KVKs of Zone–VI during **12-14 June, 2012** at Navsari Agricultural University, Navsari. Dr. A.R. Pathak, Vice-Chancellor, NAU, Navsari, Dr. K.D. Kokate, Deputy Director General (AE), ICAR, New Delhi, Dr. Y.V. Singh, Zonal Project Director, Zone-VI, Jodhpur, Directors of Extension Education and 70 Programme Coordinators of KVKs from Gujarat and Rajasthan States had participated in the workshop.



Dr. K.D. Kokate, Deputy Director General (AE), ICAR, New Delhi enlightening the lamp



Dr. K.D. Kokate, Deputy Director General (AE), ICAR, New Delhi addressing in inaugural function



Dr. A.R. Pathak, Vice-Chancellor, NAU, Navsari addressing in inaugural function



Directors of Extension Education and PCs of KVKs from Gujarat and Rajasthan States

8.7 Memorandum of Understanding (MoU) with New Holland Fiat (India) Pvt. Ltd., New Delhi

MoU was done between New Holland Fiat (India) Pvt. Ltd., New Delhi & Navsari Agricultural University on **26-07-2012** at Navsari Agricultural University, Navsari for joining hands for development of skill in farm mechanization. Collaboratively efforts will be made by NHFIPL and NAU to provide training to the farmers of the area and students enrolled under NAU in the field of farm mechanization.



Mr. Rakesh Malhotra, MD, NHFIPL signing the MoU Document in the presence of Dr. A.R. Pathak, Hon. Vice-Chancellor, NAU, Navsari



Dr. M.S. Purohit, DEE, Navsari signing the MoU Document in the presence of Dr. A.R. Pathak, Hon. Vice-Chancellor, NAU, Navsari

Mr. Rakesh Malhotra, Managing Director, New Holland Fiat (India) Pvt. Ltd. and Dr. M.S. Purohit, Director of Extension Education signed on MoU in the presence of Dr. A.R. Pathak, Hon. Vice-Chancellor, NAU, Navsari.

8.8 Workshop on New Approaches and Methods in Agricultural Extension:

A workshop on “New Approaches and Methods in Agricultural Extension” was organized by the Directorate of Extension Education, NAU, Navsari in collaboration with Extension Education Institute, AAU, Anand and KVK, NAU, Vyara during **29th to 31st August, 2012** at KVK, Vyara. Total 28 NAU scientists participated in the workshop.



Faculties delivering lecture in Workshop

8.9 Scientific Advisory Committee (SAC) Meetings of KVKs:

Scientific Advisory Committee Meetings of four KVKs run under NAU were held during **1-2 September, 2012** to review the progress done and prepare action plan for the next one year.

S.N.	Name of KVK	Date
1	KVK Navsari (Navsari)	01-09-2012
2	KVK Waghai (Dangs)	01-09-2012
3	KVK Vyara (Tapi)	02-09-2012
4	KVK Dediapada (Narmada)	02-09-2012



SAC Meeting at Waghai



SAC Meeting at Navsari

8.10 Peripatetic training programme on ICT Application in Extension:

Directorate of Extension Education, NAU, Navsari and Extension Education Institute, AAU, Anand jointly organised a peripatetic training programme on "ICT Application in Agricultural Extension" from **27-29 September, 2012** (3 days) at Agricultural Technology Information Centre (ATIC), NAU, Navsari. Total 29 NAU scientists participated in the workshop.



Faculties delivering lecture in in training programme

8.11 National Level Seminar For Farm Women:

A National Level Seminar on “Value Added Science Awareness to Strengthen Women’s Role in Climate Resilient Agriculture & Sustainable Development.” was organized jointly by National Council for Climate Change, Sustainable Development and Public Leadership (NCCSD), Ahmedabad and Directorate of Extension Education, NAU, Navsari on 4th January, 2013. The main objective of the seminar is to provide scientific technological support and inputs to the women farmers so as to enable them to achieve sustainable development of agriculture. Shri Bhupendrasinh Chudasama, Hon. Minister of Education, Shri Parshottam Rupala, Hon. Member of Parliament, Dr. A. R. Pathak, Hon. Vice Chancellor, NAU, Navsari, Dr. A.M. Shekh, Hon. Vice Chancellor, AAU, Anand, Dr. Kirit N Shelat, Executive Chairman, NCCSD, Ahmedabad, Shri Jitubhai Vaghani, Hon. MLA, Shihor and Shri Piyush Desai, Hon. MLA, Navsari were present in the inaugural function held at Navsari. Total 220 farm women had participated in the seminar.



Shri Bhupendrasinh Chudasama, Hon. Minister of Education inaugurates the Seminar with dignitaries



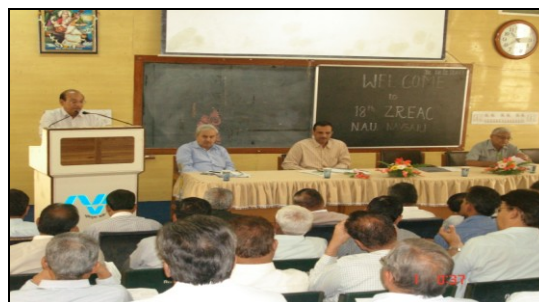
Dr. A.R. Pathak, Hon. Vice-Chancellor, NAU, Navsari addressing in inaugural function

8.12 Zonal Research and Extension Action Committee (ZREAC) Meetings:

NAU organizes two ZREAC Meetings every year during onset of *kharif* and *rabi* seasons. The Committee comprises of University Officers, Scientists, KVKs, District level officers of agriculture, Horticulture, Animal husbandry departments; and progressive framers as the members. The main objective of ZREAC is to review the work done in last season and make planning for forthcoming season in convergence mode. District wise agriculture status and feedback pertaining to problems faced by the farmers in adoption of new technology at grass root level were presented by the concerned District Officer. During the year 2012-13, the 17th and 18th ZREAC meetings were convened on **4-10-2012** and **18-02-2013** respectively.



Dr. A.R. Pathak, Hon. Vice-Chancellor, NAU, Navsari addressing in 17th ZREAC



Dr. A.R. Pathak, Vice-Chancellor, NAU, Navsari addressing in 18th ZREAC

8.13 Interface Group Meeting on Organic Farming:

An Interface Group Meeting on Organic Farming was organized on **29-12-2012** at NAU Navsari. The main objective of this meeting was to share farm based experience related to organic farming and about "Amrut Mati". Shri Dipak Sachade-A successful innovator in the field of organic farming and his team members shared their experience to the 50 NAU Scientists, 50 interested invitees and 150 progressive farmers.



8.14 International Women Day:

NAU organized an International Women Day on 9th March, 2013 at KVK, Navsari. Shrimati Lilaben Ankoliya, Chairman, Gujarat Women Commission inaugurated the function. About 3000 women were present in the programme.



Shrimati Lilaben Ankoliya, Chairman, Gujarat Women Commission & Dr. A. R. Pathak, Hon. Vice Chancellor, NAU, Navsari inaugurate and address the function

8.15 Farmers Participatory Seed Village Programme through KVKs:

Production, Procurement & supply of truthful seed in participatory mode with farmers

The main objective of Seed Village Programme (SVP) is to produce, procure and popularize the truthful seeds of high yielding varieties in participatory mode with farmers and supply quality and pure seeds to the farmers on regular basis for increasing the area and productivity of major field crops.



- Active involvement of tribal farmers in producing seeds on their farms.
- Helped in impeding un-trusted seeds being sold by some bogus marketers.
- Easy availability of quality and pure seeds to the farmers at nearer place.
- Created the trust amongst the tribal community for KVKs and NAU.



9. IMPACT OF EXTENSION PROGRAMMES ON AGRICULTURAL DEVELOPMENT AND ADOPTION BEHAVIOUR OF FARMING COMMUNITY

9.1 Spread of new technology in farming community:

1. 73.00 % farmers adopted the new recommended varieties of paddy because of higher yield as compared to old and hybrid varieties.
2. 42.00 % farmers adopted the land configuration in Gram and Pigeon pea crops.
3. 22.00 % farmers adopted the IPDM technology from total sugarcane cultivated area.
4. Knowledge about scientific cultivation of vine vegetables is increased to 83.00 % .
5. Due to training on orchard management (mango & sapota), farmers were become aware about orchard management & they got 18.00 % and 19.00 % higher yield in mango and sapota respectively.
6. Many farmers erract shed net house (0.10 ha.) for cultivation of high value vegetable crops and nursery purpose.
7. Knowledge of farmers regarding major insect-pest of sugarcane, paddy, mango, sapota, and vegetables has been increased up to 62%.
8. 12.00 % farmers have started to use bio-control.
9. Increased awareness about ill effect of pesticide, hence 22.00 % cost have been reduced in plant protection measures.
10. 61.00 % farmers have started to use the healthy seed and seed treatment for reducing seed born disease problems.
11. Through training on nutrition education, women of adopted villages became aware about themselves and their family health.
12. As an impact of training on kitchen garden, around 70.00 to 80.00 % farmers and farm women are making kitchen garden at their own backyard and around 20.00 to 30.00 % farmers are making kitchen garden on large scale and also getting income through selling the vegetables
13. 17.00 % farm women are preparing mango pulp, jam, and masalas at their home rather than buying it from market.
14. 48.00 % Livestock owners have started to adopt scientific breeding, feeding and management practices.
15. Milk production has increased around 2 lit per day and fat content about 1.00 to 1.50 % per day due to the proper feeding and scientific management of the animals.
16. Around 60.00 % of livestock owners are now feeding colostrums to their new born calves timely which resulted in healthy growth of calves and reduced calf mortality to less than 10.00 % from 16.00 %.
17. A mastitis problem in lactating animals is reducing 60% by proper management of the animals.
18. Reduction in inter calving period in crossbred cows from 18-20 month to 15-16 months.
19. Repeat breeding problems reduced around 50.00 %.

20. With the help of training and inputs distribution, fodder wastage has been reduced around 10.00 %.
21. Drip and sprinkler systems which were predominantly used in water scarce region (Saurashtra and North Gujarat) are now being adopted on large scale in South Gujarat in the crops like banana, fruit and vegetables, paired row planted sugarcane *etc.*
22. The success of “Drainage Pilot Area” under South Gujarat situation is evident from the installation of piped subsurface drainage system by more than 55 farmers (120 ha) by bearing 100.00 % cost of the system.
23. Some of the technologies adopted by the farmers on large scale are: black plastic mulching in banana, papaya, water melon, *etc.*
24. After training given by NAU to the farmers of Shri Seviyar Public Trust (NGO), Vansda Dist. Navsari, they have erected 320 naturally ventilated poly houses (100 m² each) on farmers’ fields under Tribal area Development Project.
25. Under the guidance of NAU scientists, KVKs of University have erected about 400 naturally ventilated poly houses with low energy drip system (100 m² each) and 15 net houses (1000 m² each) with minisprinklers on farmers’ fields under RKVY project in Tapi, Navsari and the Dangs districts.
26. About 545 ha. of land has been covered under HYVs of paddy replacing conventional varieties in Tapi District.
27. SRI technology in paddy was adopted by 106 farmers around Aamalgundi village Ta. Songadh.
28. About 75 per cent of farmers were adopted yellow sticky trap in okra crop in Tapi District.
29. The Benefit Cost Ratio increased from 1:1.17 to 1:1.31 due to FLDs on urea treatment to paddy straw in Tapi District.
30. The Benefit Cost Ratio increased from 1:1.15 to 1:1.28 due to FLDs on mineral mixture feeding in Tapi District.

9.2 Increase in adoption rate of new agricultural technology:

S.N.	Technology	Adoption Rate (%)		Increased as compared to 2004-5
		2004-5	2012-13	
1	New improved varieties	74.66	88.41	13.75
2	Mix and intercropping	34.32	48.78	14.16
3	Soil analysis	47.81	75.13	27.32
4	Efficient use of chemical fertilizers	43.98	56.01	12.03
5	Use of organic & bio-fertilizers	25.87	49.12	23.25
6	Precise irrigation	38.43	60.47	22.05
7	Judicious use of pesticides	27.91	45.02	17.11
8	Use of bio-control methods	4.84	14.97	10.13
9	Food processing	2.59	9.87	7.28
10	Grading, Packaging, Marketing	47.38	68.21	19.83

9.3 Successful cases of larger adoption in farming community:

1. Short duration improved varieties of major crops of the area
2. Drip irrigation
3. Organic farming, Vermi-composting
4. INM in cotton & vegetables
5. Integrated pest management - Fruit fly traps in mango & cucurbits vegetables
6. Popularized pigeon pea variety - Vaishali for dual purpose
7. SRI method in rice cultivation
8. Small scale nursery, Low cost green house
9. Inland aquaculture
10. Rejuvenation of old mango orchard
11. INM and ICM in export oriented okra cultivation
12. Sweet corn with marketing facility
13. Pitcher Irrigation
14. Short duration varieties of vegetables i.e. brinjal, chili, etc.
15. Urea treated silage feeding to animals
16. Kitchen gardening, Wadi yojana
17. Watermelon cultivation
18. Women Self Help Groups (SHGs) for economically self reliance.
19. Technology adoption through farm science club
20. Nutritional diet for prevention of anemia



10. PUBLICATIONS

10.1 Farm publications:

Directorate of Extension periodically publishes folders, leaflets and booklets on package of cultivation practices of main crops, diversified crops, newly released technology etc. of the area to make available to the farmers and extension workers as ready reference at very low cost. A list of farm literature published in vernacular language is presented below.

10.2 Other publications–news letter/reports:

- Research Accomplishments and Recommendations (Gujarati)
- Souvenirs
- Booklets on new emerging issues/technology





10.3 Distinguished Publication:

10.3.1 Farm VCD Publication: (e-farm literature for dissemination of technologies to farmers)

With a view to disseminate new agricultural technology through e-farm literature, this Directorate has prepared and published theme based VCDs on 27 subjects mainly on package of practices of major crops of south Gujarat. Total 11000 VCDs were prepared and distributed to the farmers during Krushi Mahotsav-2012.



10.3.2 Comprehensive District Agricultural Plan (C-DAP):

The Gujarat Government had assigned the task of preparing Comprehensive District Agriculture Plan (C-DAP) of seven districts of South Gujarat to NAU; and the teams of NAU scientists have completed this task to the benchmark level. C-DAP prepared and published by NAU would go a long way in guiding not only the RKVY activities, but will also be a guidelines for all the concerned, for initiating the process of planned development in the respective district. It will also serve as the basic input for the District and State authorities in realization of their vision by taking appropriate measures for achieving the underlying objectives of RKVY. The C-DAP contains various details of the seven districts viz. overall climatic conditions, soil type–structure, rainfall, human and animal population, crops and cropping pattern, infrastructure like; processing and storage facility, road and transport facility, so on and so forth.

Photographs of Front page of C-DAP of Seven Districts



11. FUTURE PROJECTIONS

11.1 Important areas that need special attention:

1. Need to strengthen prevailing Directorate of Extension in terms of staff and set-up especially with IT professionals.
2. Developing more effective communication system through electronic media, audio-visual aids, computer network between NAU and various development departments.
3. Strengthening Research and Extension link with supporting role to line departments and more emphatically with NGOs.
4. Establishing system to update information regarding price, demand and supply fluctuations, qualitative aspects of farm commodity within and outside the country to the farmers.
5. Need to popularize distant education for effective transfer of the technologies to the farming community.
6. Strong move to provide cost effective extension system to farmers, who practice commercial and high tech agriculture and commercial entrepreneurs and agro-based industries. The beneficiaries have to pay for the information.
7. Need to establish a centre for excellence of communication and publication as separate unit of extension.

11.2 Research-Extension-Farmer linkages through massive extension education programmes:

1. Emphasizing on ICT opportunities for technology transfer and linkages, this includes five interventions: policy, infrastructure, content, programme planning and development, and capacity building.
2. Ensuring more participation of women particularly in tribal area for empowering them professionally, socially and economically.
3. Enhancement of knowledge-based skills and attitude orientation programmes for professionalism of the farmers.
4. Capacity-building programmes for rural extension workers.
5. Decentralization of agricultural extension services and management through research and extension centres of concerned districts.
6. Documenting successful cases of farmers bringing about innovations and changes.
7. Documenting participatory methods in establishing better link amongst farmers, extension personnel and researchers.

12.1 Strengths:

- ## 12.2 Weaknesses:

1. Lack of new set-up of Directorate of Extension Education and insufficient staff impede the speed of works.
2. NAU has neither separate publication unit at head quarter with concerned professionals.

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