EXTENSION EDUCATION

● ANNUAL REPORT 2011-2012 ●

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 6 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 running through NAU.

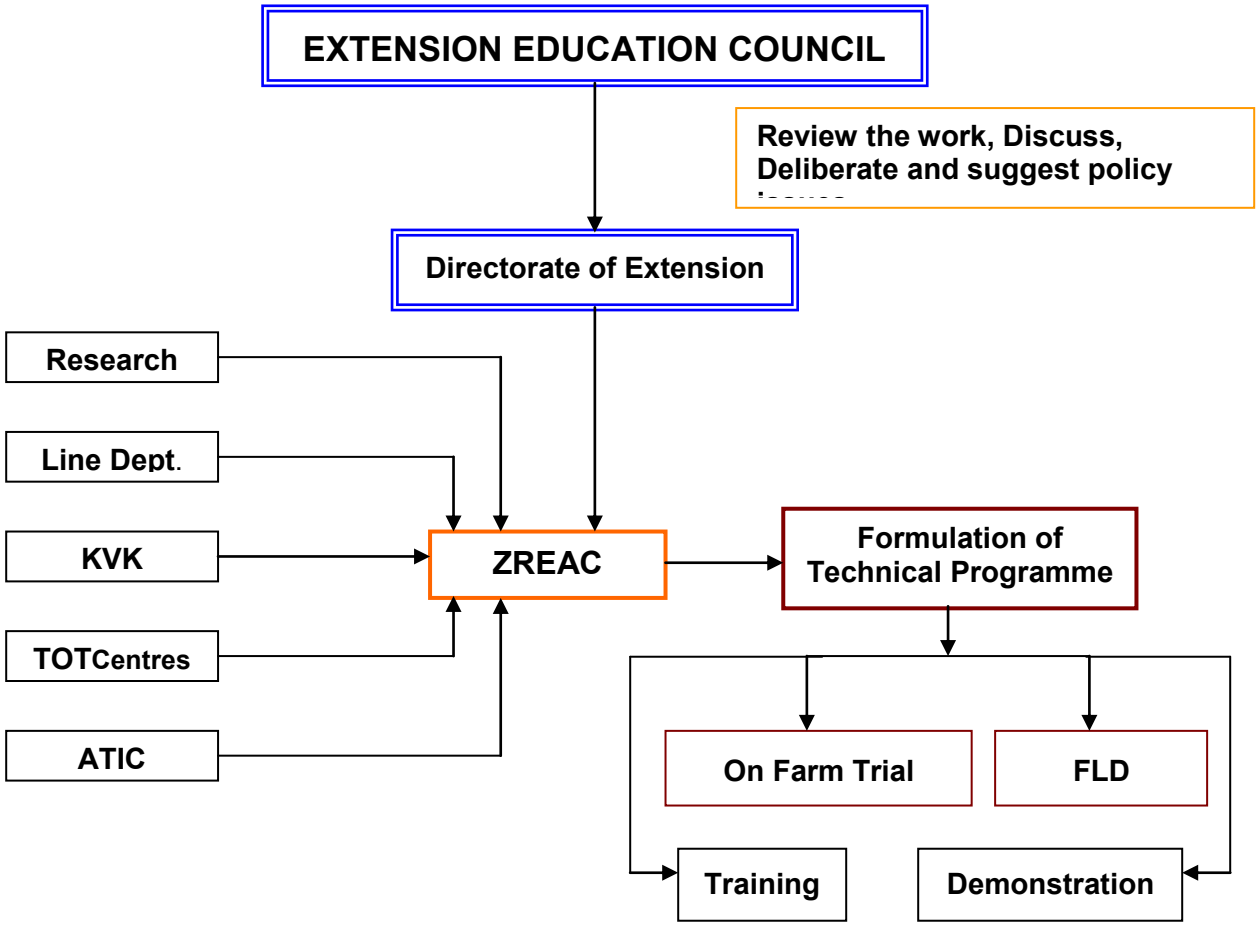
6. ORGANIZATIONAL STRUCTURE & STAFF STRENGTH

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. The fifth meeting of Extension Education Council was held on 19-12-2011 at Navsari.



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. B.K. Dhaduk	Dean, ASPEE Agri Business Management Institute, NAU, Navsari	Member
6	Dr. N.H. Kelawala	Principal & Dean, Vanbandhu Veterinary College, NAU, Navsari	Member
7	Dr. R.A. Sherasiya	Director SAMETI & State Nodal Officer-ATMA, P-7 M floor, 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:

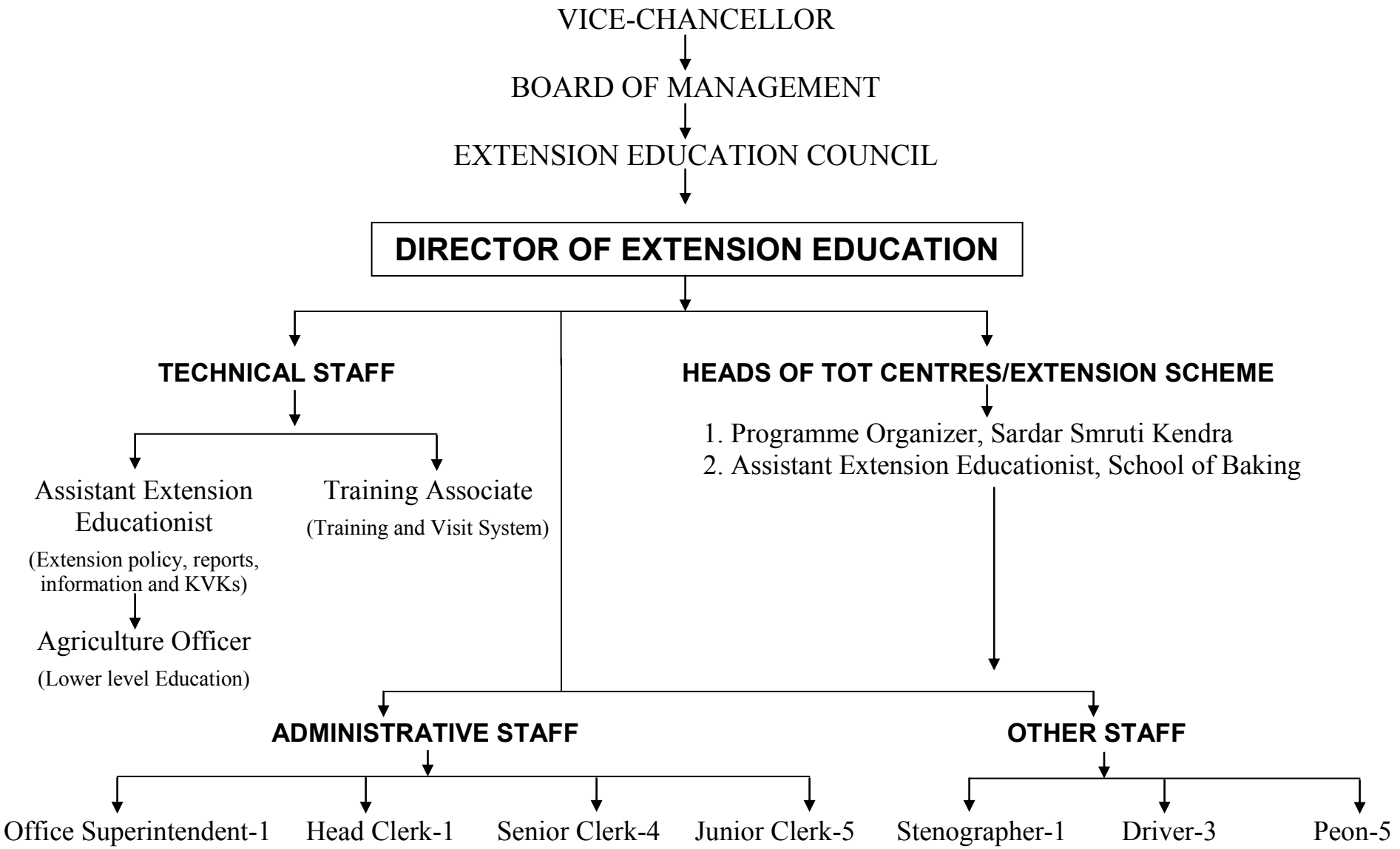


Figure 1: Organizational Structure of Directorate of Extension Education

6.3 Technical Staff Strength:

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	3	1
4	Agricultural Officer	5	2	3
	Total	**11**	**6**	**5**

7. TRANSFER OF TECHNOLOGY CENTRES & EXTENSION SCHEMES

7.1 Transfer of Technology Centres: Transfers agricultural technology to the farmers

1. Sardar Smruti Kendra: Navsari
2. Training and Visit System: Navsari
3. Farm Advisory Service: Navsari
4. Extension Wing: Navsari
5. Advance Training Centre for Soil and Water Management: Navsari
6. Vegetable and Fruit Demonstration Scheme for Tribal Upliftment: Pariya
7. Demonstration-cum-Training Centre for Inland Fisheries: Navsari
8. Agricultural Technology Information Centre (ATIC): Navsari
9. Krushi Vigyan Kendra: Vyara, Dist.-Tapi
10. Krushi Vigyan Kendra: Waghai, Dist.-Dangs
11. Krushi Vigyan Kendra: Navsari
12. Krushi Vigyan Kendra: Dediyapada, Dist.-Narmada
13. Krushi Vigyan Kendra: Surat
14. Bakery Training Unit: Navsari
15. Landscaping and Gardening Training Programme: Navsari

Sardar Smruti Kendra

ATIC

7.2 Extension Schemes run Under NAU: Extension activities through 32 Schemes

S.N.	**Plan Schemes (17)**	B.H.
1	Strengthening of the Directorate of Extension Education, Navsari	11505
2	Upgrading of the Existing Sardar Smruti Kendra, Navsari	11507
3	Establishment of Soil and Water Management Training Centre, Navsari	11509
4	Establishment of Centre for Agri. Extension Information System, Navsari	11940
5	Agricultural Technology Information Centre (ATIC), Navsari	11941
6	Establishment of Centre for Communication Network, Navsari	11942
7	Demonstration-cum-Training Centre for Inland Fisheries, Navsari	11943
8	Establishment of Livestock Inspector Training Centre, Navsari	11253
9	Strengthening of Mobile Ambulatory Clinic Navsari	11318
10	Vegetable & Fruit Crops Demon. Scheme for Tribal Upliftment, Paria	11014-06
11	Landscaping & Gardening Training Centre, Navsari	11712
12	Strengthening of Agricultural Technology Information Centre, Navsari	11132
13	Testing of Uni. technologies on farmers' fields through adaptive trials	11133
14	Esta. of Agro ITI Centre for Agricultural & Horticulture, Navsari	11240
15	Esta. of Agro ITI Centre for Veterinary, Dairy, Poultry & Fisheries	11241
16	Establishment of Tribal Women Training Centre, Dediyapada	11146
17	Establishment of University Education Museum, Navsari	11304
S.N.	**Non-Plan Schemes (08)**	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	Establishment of Livestock Inspector Training Centre, Navsari	7253
8	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	Krushi Vigyan Kendra, NAU, Waghai, Dist.-Dangs	2704-6
2	Krushi Vigyan Kendra, NAU, Vyara, Dist.-Tapi	2704-1
3	Krushi Vigyan Kendra, NAU, Dediyapada, Dist.-Narmada	2704-3
4	Krushi Vigyan Kendra, NAU, Navsari	2704-2
5	Krushi Vigyan Kendra, NAU, Surat	2704-5

8. SALIENT EXTENSION ACTIVITIES & ACHIEVEMENTS

8.1 Extension activities carried out:

S. N.	Extension Programme	No. of activities	No. of Beneficiaries			
			Farmers	Women	Youths	Total
1	On campus trainings	282	4631	2483	2587	9701
2	Off campus trainings	176	3071	1848	1245	6164
3	Farmers' day/Field day	22	1086	869	1193	3148
4	Agril. Exhibition/Agril. Fair	32	14484	7043	10283	31810
5	Farmers/Farm Women Shibir	39	1088	1020	206	2314
6	Fieldtrip/Field Visit	154	1807	3715	1707	7229
7	Farmers' Meeting/Krishi Gosthi	67	556	519	599	1674
8	Organization of FLDs	1484	4061	1430	6213	11704
9	On Farm Trials	13	60	16	55	131
10	Veterinary Clinic Camp/Exhib.	26	1189	2214	1050	4453
11	Video-Film-slide show	64	752	2298	768	3818
12	Telephonic guidance	1172	370	10	801	1181
13	Seminar/Workshop/Symposium for farmers	135	3426	1756	1425	6607
14	Training/Workshop/Interface/ Meeting for ext. functionaries	38	761	9	322	1092
15	Press-notes	127	Mass	Mass	Mass	Mass
16	Radio & T.V. Programmes	14	Mass	Mass	Mass	Mass
17	Farm literature publication	104	--	--	--	124800

8.2 Seminar/Workshop/Symposium organized for farmers:

S. N.	Subject/Topic	No. of Programmes	No. of Beneficiaries
1	Sugarcane production technology	11	792
2	Paddy production technology	6	443
3	Fruit crops cultivation (Mango, Chiku etc.)	9	404
4	High-tech Horticulture	7	276
5	Floriculture (green house, flower dehydration)	5	161
6	Vegetable crops cultivation (South Gujarat)	12	603
7	Cotton production technology	4	386
8	Soil & Water management (micro irrigation)	8	257
9	Value addition & Product of Banana pseudo stem	1	75
10	Post-harvest technology in fruit crops	12	469
11	Post-harvest technology in other crops	7	352
12	Value addition and agriculture marketing	8	206
13	Rabi crops cultivation (wheat, pulses, oilseeds)	12	503
14	Organic farming (bio-fertilizer, vermi-compost)	6	288
15	Livestock management/Animal husbandry	4	367
16	Inland Fisheries-production & marketing	5	154
17	Home Science (women empowerment, child care)	11	603
18	Tissue culture/Kitchen gardening	7	268
	Total	**135**	**6607**

8.3 Training/Workshop/Interface/Meeting for extension functionaries of line departments/NGOs/KVKs:

S. N.	Type	Subject/Topic	No. of Programmes	No. of Beneficiaries
1	Training	Integrated pest management	2	127
2	Training	Integrated nutrient management	3	89
3	Training	Bio-fertilizers - production & use	3	81
4	Training	Protected cultivation technology	2	59
5	Training	Value addition & agriculture marketing	2	73
6	Training	ASCAD training for livestock inspectors	6	42
7	Training	ASCAD training for veterinarians	6	49
8	Training	Home Science - Women and child care	2	82
9	Workshop	Capacity building for ICT application	1	21
10	Workshop	Livestock feed and fodder production	1	84
11	Workshop	Agricultural training management	1	34
12	Workshop	Leadership development	1	35
13	Workshop	Preparation and Operationalisation of Comprehensive District Agricultural Plan	1	14
14	Workshop	Effective Action Plan and scheduling of mandatory activities of KVKs	1	24
15	Interface	Conduction of systematic mandatory activities of KVKs.	1	31
16	Interface	FLDs & OFTs - Important Extension Tools of Transfer of Technology	1	32
17	Interface	Agricultural Scientists and SMS for effective organization of FLDs and OFTs	1	31
18	Interface	Zonal Research & Extension Action Committee (ZREAC)	1	72
19	Meeting	Stake holders' group meeting on water management	1	60
20	Meeting	Stake holders' group meeting on aquaculture	1	52
		Total	**38**	**1092**

ASCAD : Assistance for Control of Animal Diseases - A Govt. Progarmme

8.4 Vocational Certificate Courses:

S. N.	Centre/School	Courses	Duration	Intake capacity	No. of Students	
					Admit.	Passed
1	Livestock Inspector Training Centre : Navsari	Certifi.	01 Year	33	33	33
2	Landscaping and Gardening : Navsari	Certifi.	06 Months	20	10	09
3	School of Baking : Navsari	Certifi.	20 Weeks	16+16 (Two Batch)	28	28
	Total	**-**	**-**	**-**	**181**	**178**

8.5 Front-Line Demonstrations:

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 constrains of production and thereby generates production data and feedback information.

►FLDs organized with the following special features:

- 1484 Front-Line Demonstrations were conducted under the close supervision of the Scientists of the National Agriculture Research System comprising of ICAR Institute, National Research Centres, Zonal Project Directorate, Krishi Vigyan Kendras, State Department of Agriculture and the State Agricultural Universities and its regional Research Stations.
- Only newly released technologies or those likely to be released in near future were selected for the Front-Line Demonstrations.
- Only critical inputs and trainings were provided from the scheme budget, remaining inputs were supplied by the farmers themselves.
- Front-Line Demonstrations were used as a source of generating data on factors contributing higher crop yields and constraints of production under various farming situations.

►FLDs on different crops organized by KVKs:

SN	Crop	No.of Demon.	SN	Crop	No.of Demon.
1	Paddy	527	8	Okra	238
2	Sugarcane	18	9	Elephant foot	12
3	Pigeon pea	162	10	Maize	83
4	Gram	32	11	Mango (kultarr)	14
5	Green gram	31	12	Sapota	12
6	Nagli	152	13	Cashew	50
7	Sweet corn	126	14	Turmeric	27
		1048			**436**
Total FLDs : 1484					

8.6 Organization of Krishi Mahotsav-2011:

The Krishi Mahotsav-2011, an intensive and unique month-long programme was organized by the State Government during 6th May 2011 to 5th June 2011 just before the onset of the monsoon to facilitate the agricultural planning and overall rural development with the theme of "Drive towards better farm practices and setting Krishi Mahotsav as an ideal model for revolutionizing agrarian economy in India". 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 **41 Krishi raths** - a mobile agricultural exhibition, were used to launch the event and to reach out to farmers through personal contact in their own villages. 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 168 Scientists from NAU had gone with the Krishi raths for providing guidance and demonstration of the best farming practices directly to the farmers and also for encouraging organic farming. 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. Above all, it was a new approach in agricultural extension. With a view to interact directly with the farmers, the NAU had also organized **37 Farmers' shibirs** and **14 Seminars/Symposiums** in which **16645** and **2338** farmers were participated respectively.

► A Bird-view on Krishi Mahotsav-2011: Involvement of NAU Scientists

- Duration : Date : 06-05-2011 to 05-06-2011
- Theme : Drive towards better farm practices and setting Krishi Mahotsav as an ideal model for revolutionizing agrarian economy in India.
- Area coverage : 7 Districts, 37 Taluka and 3682 Villages covered
- No. of Krushi Rath : 41
- NAU Scientists with Krishi Rath : 168
- Farmers' Shibirs organized : 37 and 16645 farmers benefited
- Seminars/Symposium organized : 14 and 2338 farmers benefited

► Gujarat Chief Minister launched Krishi Mahotsav-2011 on May 12, 2011 from Nanapondha village in Valsad district:

Gujarat Chief Minister Shri Narendra Modi launched Krishi Mahotsav function organized by Navsari Agricultural University and Valsad District Administration on May 12, 2011 for the south Gujarat region at Nanapondha village in Valsad district. He exuded confidence that the success of Krishi Mahotsav in Gujarat would surely bring about a revolution of sorts in a predominantly agrarian country like India. Speaking at the Krishi Mahotsav function he said the Krishi Mahotsav being launched on the auspicious occasion of Akshay Tritiya every year for the seventh successive year has helped the state increase its agricultural production as well as establishing its identity as the front ranked agricultural state. In monetary term, agricultural production has increased from Rs.14,000-crore to Rs.59,000-crore and is likely to reach a record Rs.70,000-crore this year.

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

Nearly one lakh government employees, besides 700 agricultural scientists from the four state agricultural universities, brave the scorching Sun, to cover all the 18,000 villages in the state during the month-long Mahotsav, creating awareness about the advantages of standard seeds, optimum use of water and other inputs. The CM said the mega event has helped farmers increase production, especially horticulture, with the help of soil health cards, taking maximum advantage of soil conditions befitting specific crops. He asked farmers to adopt group schemes to share water from check dams, bori bunds and farm ponds. He said the state has also taken many a step in the field of animal husbandry, cropping pattern, drip irrigation, etc. The newly opened Animal Hostel at Akodara is a unique concept. He said the interaction of the officials with the farmers and other rural folks, literally at their doorsteps, indirectly help all round development of the villages.

The Chief Minister inaugurated a Milk Chilling Plant with one-lakh litre capacity at Motapondha which he said would empower the forest people and particularly the women living in the nearby areas. Forest and Environment Minister Mangubhai Patel described how the Krishi Mahotsav has helped the tribal people living in remote areas, having taken up horticulture and even floriculture.

Agriculture Minister Shri Deelip Sanghani in his speech appealed the farmers to adopt scientific approach in farming for alleviating the income of individual farmer in particular and production of State and Nation in general. State Planning Board Vice-Chairman Bhupendrasinh Chudasma said the Krishi Mahotsav manifests the government's concern for the land tillers, providing important guidelines to them. It is indirectly helping them improve their lifestyle, too. In her welcome address, State Assembly Whip Ushaben Patel said the Krishi Mahotsav is an ideal example of people's participation for agriculture-oriented growth. About 60000 farmers participated in this mega function. Navsari Agricultural University Vice-Chancellor Dr. A.R. Pathak proposed a vote of thanks.

► Krishi Mela & Fruit-Flower-Mango-Vegetable Show:

NAU organized one day Krishi Mela & Fruit-Flower-Mango-Vegetable show in collaboration with State Agriculture and Horticulture Departments on May 12**,** 2011 at Nanapondha village.

Shri Deelip Sanghani, Agriculture Minister inaugurated the Krishi Mela & Exhibition

Shri Deelip Sanghani, Agriculture Minister visiting Fruit-Flower-Mango-Vegetable & Exhibition

In Krishi Mela, out of total 53 stalls, NAU exhibited latest agricultural technology through 23 stalls and other agencies related with agriculture through 28 stalls. Total 525 samples (fruits-58, flowers-158, mango-71, vegetables-204, fruit preservation-34) were kept in exhibition to show and encourage the visitor farmers. Total 111 farmers who participated in fruit, flower, mango and vegetable competition were awarded cash incentive. About 24500 farmers visited the Krishi Mela & Fruit-Flower-Mango Exhibition.

A View of Krishi Mahotsav function at Nanapondha village

A View of Krishi Mahotsav function at Nanapondha village

A View of Krushi Mela & Fruit-Flower-Mango-Vegetables Exhibition

8.7 Organized "Western States Regional Agriculture Fair" at Vyara:

Directorate of Extension Education organized a three days "Western Regional Agricultural Fair-2012" from 20-22 January, 2012 at Regional Rice Research Station, Navsari Agricultural University, Vyara, Dist.-Tapi with the theme of "High tech Horticulture & Fisheries". This mega event was financially assisted mainly by Department of Agriculture and Cooperation, Ministry of Agriculture, Government of India, New Delhi, Surat District Cooperative Bank, Sugar factories, District Panchayat Tapi, APMC Tapi, and agro-based entrepreneurs of the area. The technical support was achieved from KVK Vyara, ATMA Tapi and line departments like; Agriculture, Horticulture, Animal husbandry, Forest, DRDA etc. of Gujarat State.

►Programmes arranged during three days Agricultural Fair:

S.N.	Date	Programmes	Dignitaries
1.	20-01-2012	● Inauguration of new adminstrative building & Farmers Hostel of KVK ● Inaugural function of Krushi Mela ● Symposium on High tech Horticulture	- Shri Tushar Chaudhari - Dr. A.R. Pathak - Shri Mavjibhai Chaudhari - Shalini Agrawal IAS - Shri J.B. Patel
2.	21-01-2012	● Stone laying ceremony of new building of Agri. Polytechnic ● Symposium on Animal Husbandry and Fisheries	- Shri Narottambhai Patel - Dr. A.R. Pathak - Shri Punajibhai Gamit - Shri Mansinhbhai Patel - Shri R.J. Patel, IAS
3.	22-01-2012	● Symposium on Women Empowerment ● Closing ceremony of Krishi Mela Event	- Shri Mangubhai Patel - Dr. A.R. Pathak - Shri Dilipbhai Bhakta - Shri Arvindbhai Chaudhary - Shri Bhupendrabhai Desai - Shri Abhesinh Chaudhary

► Stalls exhibited in Agricultural Fair:

S. N.	Type of Stalls (Product)	No. of stalls	S. N.	Type of Stalls (Product)	No. of stalls
1	Seeds	15	9	Aurvedic pharmacy product	03
2	Chemical fertilizers	05	10	Veterinary (Animal feed)	05
3	Organic fertilizers/materials	13	11	Others (Home aplliances)	10
4	Pesticides	04	12	NAU technologies	25
5	Farm machinery	16	13	State departments	61
6	Irrigation	04	14	Others SAUs of Gujarat	03
7	Plastic irrigation pipes	04	15	ICAR & Other States	04
8	Tractor	06			
	Total	**67**		**Total**	**111**
Total stalls exhibited : 178					

► Special events arranged during Agricultural Fair:

- Calf Rally : 20-01-2012 (First day)
- Fruit Flower Vegetable Exhibition & Competition : 20-01-2012 to 22-01-2012
- Krushi "Lok Dayaro"- A folk song night : 21-01-2012 (Second day)
- Farm Machinery Demonstrations : 20-01-2012 to 22-01-2012

► Farmers participated in Agricultural Fair:

S.N.	Date	No. of Farmers participated
1.	20-01-2012	69892
2.	21-01-2012	64054
3.	22-01-2012	66089
	Total	**200035**

Some Photographs of Western States Regional Agriculture Fair at Vyara













9. NEW INITIATIONS IN EXTENSION PROGRAMMES/APPROACH

9.1 Short duration Agro ITI courses started for skill development:

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

9.2 Market-led Extension: MoU with Vadilal Industries:

- Tribal Sub Plan, Vansada allotted Rs. 9 lakhs for the betterment of tribal farmers.
- NAU introduced new crop-Sweet Corn in tribal area like Vansada.
- The Sweet Corn cultivation was made on 126 farmers' fields comprising of 74 acres land of 14 villages.
- NAU made MoU with highly reputed Vadilal industries for purchasing Sweet Corn at fair price.
- Tribal farmers earned Rs. 30,000/- more income per acre.

9.3 Inland Aquaculture: Participatory extension approach:

- Pathari village of Gandevi Taluka was selected for this Project of inland aquaculture.
- The village had very old non use 9 ponds in about 4.3 hactor area, which were dig earlier by Government.
- NAU form a group of 23 members for inland aquaculture and renovated these ponds at the cost of Rs. 1.72 lakh.
- 50,000 mixed fry fish seed, 3500 fingerlings and 8850 yearlings were purchased initially.
- Total expenditure was made around 3.5 lakhs and farmers earned Rs. 8.00 lakhs from fish cultivation during first year.
- Mango, coconut tree, custard apple and teak wood planted as a part of integrated farming will give high cash remuneration in future.

9.4 e-connectivity Centre: Agriculture messages in mobile phone of large number of farmers

Communication facilities are now easily available at each corner of the world including interior villages. In each home of village, a mobile facility is there and some time it is available with the each family member. With this concept, KVK Navsari has started an e-connectivity centre at Navsari. From this centre, message related to agriculture are sending regularly to the large number of farmers through mobile SMS. During the year 2011, more than 109890 messages were sent through this centre.

9.5 Innovative Farmers' Meet Organized: Sharing experience with farmers

- ► NAU organized a mega "Innovative Farmers' Meet" on 29-30 September, 2011 at KVK Navsari.
- ► 247 Innovative farmers participated from 25 districts of Gujarat State.
- ► 75 Innovative farmers presented and shared their experience of new initiations/ investigations amongst the progressive farmers and scientists community.
- ► 18 Innovative farmers were awarded and honoured by the NAU.

9.6 Enhancement of area and production of Nagli crop in Tribal area:

The following demonstrations were organized for enhancing the area and production of Nagli crop in Dangs and Valsad districts in collaboration with State Agricultural Department & KVKs.

S N	Organizer	Area	Intervention	Area (ha.)	No.of Demon.	Increase in production (%)
1	KVK Waghai	Dangs	Gujarat Nagli-4	16.06	71	37.12
			Gujarat Nagli-5	01.60	08	39.04
			Gujarat Vari-2	14.00	65	35.81
2	DAO Valsad	Kaparada, Dharampur	Gujarat Nagli-4	26.00	130	32.61
			Total	**57.66**	**274**	**36.14**

DAO Valsad and KVK Waghai had organized demonstrations and trainings on Nagli crops in their respective jurisdiction.

9.7 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.

► Seed Village Programme undertaken by KVKs:

S.N.	KVK	Area covered (ha.)	No. of villages covered	Total seed given to farmers(qtls)	Total seed produced (qtls)	No. of Farmers involved
1	Navsari	46	23	28	526	306
2	Waghai	13	6	6	138	69
3	Vyara	46	18	29	190	126
4	Dediyapada	21	22	6	306	83
Total		**126**	**69**	**69**	**1160**	**584**

►Total seed produced (qtls) under Seed Village Programme by KVKs:

S.N.	KVK	Crop	Variety	Total seed produced (qtls)
1	Navsari	Paddy	Jaya	177
		Pigeon pea	Vaishali	0
		Turmeric	NAUT-1	249
		Green gram	Meha	100
			Total (N)	**526**
2	Waghai	Rice	IR-28	100
		Gram	GG-2	32
		Gram	DBG-72	6
			Total (W)	**138**
3	Vyara	Paddy	Gurjari	110
		Paddy	IR-28	40
		Moong	Pusa Vishal	4
		Groundnut	GG2	7
		Gram	GG2	1
		Sugarcane	CO-5071	28
			Total (V)	**190**
4	Dediyapada	Pigeon pea	Vaishali	165
		Paddy	NAUR-1	30
		Paddy	GNR-2	45
		Maize	GM-6	15
		Urid Bean	GU-1	05
		Soyabean	JS-335	15
		Gram	GG-2	30
		Green Gram	Meha	01
			Total (D)	**306**
	Total (N) + Total (W) + Total (V) + Total (D)			**1160**

9.8 Low Cost Green House :

South Gujarat belongs to heavy rainfall region in which the seedlings and planting materials are difficult to be grown particularly in rainy season. The low cost green house, in off season, had increased the possibility of extra income of 15 to 20 thousand to the tribal farmer. Keeping this view in mind, the KVKs of NAU have disseminated this time need concept amongst tribal community through erecting of low cost green house.

- The main objective is to cultivate the vegetables in off season and to increase the income of small and marginal farmers.
- Total 200 low cost green houses were erected in seven adopted villages of Tapi district.
- Seven trainings were conducted for scientific cultivation of vegetable crops under low cost green house.
- Total 200 practicing farmers were benefited.
- KVK provided seedling of leafy vegetable, hybrid tomato seed and neem cake as a primary input to all the farmers for initiating cultivation under low cost green house.
- Now Tribal farmers are just sowing these crops in green house and they are happy with small scale vegetable garden throughout the year.

► Demonstrations and trainings conducted for low cost green house in Tapi district: A case of successful endeavour

Name of Village	Demonstration		Training	
	Unit Area (Acre)	Beneficiaries	No. of Training	Beneficiaries
Kapura	25	25	1	36
Gadat	36	36	-	-
Pati	30	30	-	-
Ambach	53	53	1	50
Gatadi	25	25	-	-
Bedi	20	20	1	25
Champawadi	11	11	1	25
Total	**200**	**200**	**4**	**136**

Inputs: 100 sq.mt. low cost green house, low energy drip system and seeds of leafy vegetable.

9.9 Holistic Development of Tribal Farm Families:

If we want to change the scenario of agriculture in our district, we have to change our farmers by changing their knowledge, attitude and skill. It does not required only to focus on agricultural production and adaption of new technologies by farmers, but have to focus on the whole family of farmers like their children education, their social status and their way of thinking towards life, their real needs and interests etc. Once one can focus on all these, he may able to get desirable change in the farmer and his family. It will lead us to increase the standard of living of these rural people. Considering above holistic approach, KVK Navsari had presented project under Rashtriya Krishi Vikas Yojana (RKVY) on "Holistic Development of 20 Adopted Villages of South Gujarat". It was sanctioned by RKVY and implemented in 20 villages of South Gujarat with its 10 holistic components as under:

1. Low Cost Green House in tribal area
2. Wadi project with pitcher irrigation
3. Training and demonstration on preparation of super organic manure : compost and vermi-compost and their enrichment
4. Small Scale Nursery for generating livelihood and employment in the rural area
5. Mobile Soil & Plant Health Clinic Van
6. Inland Aquaculture
7. INM in vegetable
8. Transfer of Technology and Skill up gradation through training
9. Transfer of Technology through demonstration and
10. Tribal training cum demonstration centre.

Low Cost Green house

Small Scale Nursery

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

10.1 Spread of new technology in farming community:

1. 73% farmers adopted the new recommended varieties of paddy because of higher yield as compared to old and hybrid varieties.
2. 42% farmers adopted the land configuration in Gram and Pigeon pea crops.
3. 22% farmers adopted the IPDM technology from total sugarcane cultivated area.
4. Knowledge about scientific cultivation of vine vegetables is increased to 83% .
5. Due to training on orchard management (mango & sapota), farmers were become aware about orchard management & they got 18% and 19% higher yield in mango and sapota respectively.
6. 62 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% farmers have started to use bio-control.
9. Increased awareness about ill effect of pesticide, hence 22% cost have been reduced in plant protection measures.
10. 61% 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 70-80% farmers and farm women are making kitchen garden at their own backyard and around 20-30% farmers are making kitchen garden on large scale and also getting income through selling the vegetables
13. 17% farm women are preparing mango pulp, jam, and masalas at their home rather than buying it from market.
14. 48% 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 1-1.5% per day due to the proper feeding and scientific management of the animals.
16. Around 60% 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% from 16%.
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%.

20. With the help of training and inputs distribution, fodder wastage has been reduced around 10%.
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 % 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 m^2 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 m^2 each) and 15 net houses (1000 m^2 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.

10.2 Increase in adoption rate of new agricultural technology:

S.N.	Technology	Adoption Rate (%)
1	New improved varieties	88.09
2	Mix and intercropping	48.11
3	Soil analysis	73.28
4	Efficient use of chemical fertilizers	56.79
5	Use of organic & bio-fertilizers	43.34
6	Precise irrigation	58.72
7	Judicious use of pesticides	35.18
8	Use of bio-control methods	13.27
9	Food processing	13.31
10	Grading, Packaging, Marketing for more returns	70.22

10.3 Successful cases of larger adoption in farming community:

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

11. PUBLICATIONS

11.1 Farm publications:

Directorate of Extension is periodically publishing 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.

11.2 Other publications–news letter/reports:

- NAU Spectrum-six-monthly newsletter of the University
- Research Accomplishments and Recommendations
- NAU Annual Report
- Annual Budget
- Souvenirs
- Booklets on new emerging issues/technology

A list of farm literature published in vernacular language

(૧) ઉનાળુ ડાંગરની ખેતી
(૨) ખરીફ ડાંગરની વૈજ્ઞાનિક ખેતી
(૩) કેળની ખેતી પધ્ધતિ
(૪) જુવારની આધુનિક વૈજ્ઞાનિક ખેતી પધ્ધતિ
(૫) આંબાની ખેતી
(૬) ગુજરાતમાં કપાસની વૈજ્ઞાનિક ખેતી
(૭) શેરડીની વૈજ્ઞાનિક ખેતી પધ્ધતિ
(૮) ચીકુની ખેતી
(૯) ટામેટાની ખેતી
(૧૦) રીંગણની ખેતી
(૧૧) પરવળની ખેતી
(૧૨) ભીંડાની ખેતી
(૧૩) ફુલકોબીની ખેતી
(૧૪) કૃષિ તજજ્ઞતા માહિતી કેન્દ્ર (ATIC)
(૧૫) સરદાર સ્મૃતિ કેન્દ્ર ખેડૂતો માટેનું અનોખુ યાત્રાધામ
(૧૬) મશરૂમની ખેતી
(૧૭) રતનજયોત એક બહુહેતુક વૃક્ષ
(૧૮) નવસારી કૃષિ યુનિવર્સિટી પર એક નજર
(૧૯) સેન્દ્રીય ખેતી પધ્ધતિ
(૨૦) રાસાયણિક ખાતરોનો કાર્યક્ષમ ઉપયોગ
(૨૧) દરિયાકાંઠા વિસ્તારમાં ડાંગરની ખેતી
(૨૨) વેલાવાળા શાકભાજીની ખેતી
(૨૩) મરચીની ખેતી
(૨૪) વસ્ત્રની પસંદગી, પરિધાન અને માવજત
(૨૫) વ્યવસાયલક્ષી પશુપાલન
(૨૬) પચૌલી
(૨૭) ફૂલપાકોની ખેતી
(૨૮) ગૃહ વ્યવસ્થા અને સજાવટ
(૨૯) આહાર અને પોષણ
(૩૦) સાગની ખેતી
(૩૧) ફળ–શાકભાજી પરિરક્ષણ
(૩૨) પામારોઝાની ખેતી પધ્ધતિ
(૩૩) આંબાની સંકરજાતો
(૩૪) અનાજ સંગ્રહ
(૩૫) ખરીફ કઠોળ પાકોની સંક્ષિપ્ત ખેતી પધ્ધતિ
(૩૬) ફળ–શાકભાજીની મૂલ્યવૃધ્ધિ
(૩૭) હળદરની ખેતી
(૩૮) ગુલાબની ખેતી
(૩૯) તરબૂચની ખેતી પધ્ધતિ
(૪૦) સુરણની ખેતી

Some photographs of published farm literature

11.3 Distinguished Publication:

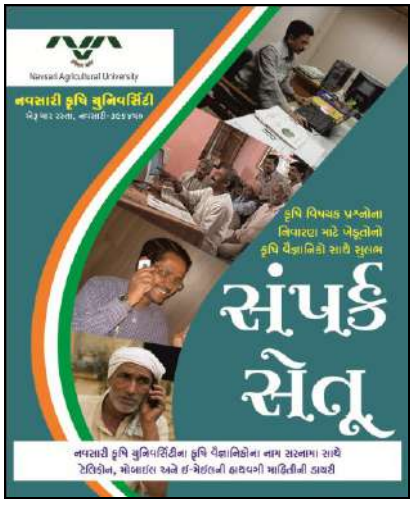
11.3.1 University Documentary Film *"Vikas ni Vate"*(વિકાસની વાટે)

A film of University Invocation Song, NAU activities and achievements in English & Gujarati.

This Directorate has prepared and published VCD of University Documentary Film "Vikas ni Vate" by procuring the service of professional film producer. This VCD contains an audio-video documentation of NAU activities and achievements in Gujarati and English. It has an important audio-video portion of University Invocation Song on the track which reflects the geography, farming, people, culture and customs of South Gujarat region.

11.3.2 *"Samprk setu"* Diary : ('સંપર્ક સેતૂ' ડાયરી) Bridges the communication gap between Farmers & NAU Scientists.

This Directorate has prepared and published a pocket diary namely; *"Samprk setu"* with a view to facilitate the speedy and effective communication between NAU Scientists and farmers of Gujarat. The pocket diary contains name, designation, telephone number and e-mail address of all the NAU Scientists which may be useful to the farmers to contact concerned scientist at their need of solution for farm problems. 15000 copies were printed and distributed amongst NAU Scientists & Farmers of South Gujarat.



11.3.2 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 major crops of south Gujarat. Total 2360 VCDs were distributed to the farmers during Krushi Mahotsav-2011.

12. KVK QUINQUENNIAL REVIEW TEAM (QRT) VISITED NAU

The KVK QRT visited NAU on June 28, 2011 for undertaking review of activities and programmes of KVKs run under NAU. The Team under chairmanship of Dr. Nawab Ali, Former DDG (Engg.), ICAR, New Delhi including other three members Dr. B.S. Hansra, Director, School of Agriculture, IGNOU, New Delhi and Dr. Y.S. Ramakrishna, Former Director, CRIDA, Hyderabad visited KVK Navsari and interacted with the Subject Matter Specialists of the KVK and farmers. The team also visited the fish pond prepared by KVK Navsari at Pathari village.

13. FUTURE PROJECTIONS

►Following are some of the important area needing 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.

► 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.

14. STRENGTHS & WEAKNESSES

14.1 Strengths:

1. The University has an ATIC at main campus.
2. The University has five KVKs, out of which four are in tribal area.
3. Technological backstopping and active involvement of NAU Scientists in different extension programmes carrying out for transfer of technology.
4. Good facility to conducts training programmes for the farmers on modern technology.
5. Provides the most reliable source of information to the farming community in the state on technology.
6. KVKs Conduct demonstrations in farmers' fields, which have helped farmers to adopt new technology and realize higher incomes.
7. Provides state of the art training to subject matter specialists of the line departments and extension workers of NGOs and cooperatives.
8. Serves as a veritable means of transfer of technology and an effective feedback mechanism of technology through KVKs & Training and Visit System.
9. Sufficient infrastructure to organize various extension activities viz. training, fieldtrip, Krishi mela, farmers day, expert advice in endemic problems etc.

14.2 Weaknesses:

1. Lack of new set-up of Directorate of Extension Education and insufficient staff impede the speed of works.
2. Service is provided free of cost even when offering technical support to commercial ventures in agri–horti business.
3. NAU has neither separate publication unit at head quarter with concerned professionals.

-:-