

## ANNUAL ACTION PLAN: April 2011-2012

### KVK, Phek, Nagaland

#### **PART – I (GENERAL INFORMATION)**

##### **1. General information about the KVK**

**Name and address of KVK with Phone, Fax and E-mail\***

Complete postal address with Pin Code	Telephone	Fax	E mail
Krishi Vigyan Kendra (NRCM), Village- Porba, P.O- Pfutsero, District- Phek, Nagaland-797107	03865-281436	03865-281436	kvkphek@gmail.com www.kvkphek.nic.in

**Name and address of host organization with Phone, Fax and E-mail\***

Complete postal address with Pin Code	Telephone	Fax	E mail
NRC on Mithun, Jharnapani, Medziphema, Nagaland	03862-247341	03862-247341	nrcmithun@mailcity.com www.nrcmithun.res.in

**Name of the Programme Coordinator with Landline & Mobile No\***

Name of PC	Contacts		
	Residence	Mobile	E mail
Dr. R. K. Singh	NRCM Colony , Porba, Pfutsero - Phek	09436606353	rksingh3@gmail.com

*\* = Mandatory and to be provided without fail.*

**Year of sanction of KVK: 2003**

**Scientific Staff Position\* (As on April 2011)**

No.	Sanctioned posts	Name of the incumbent	Designation	Discipline	Date of joining	Permanent /Temporary
1	Programme Coordinator	Dr. R.K.Singh	Programme Coordinator	Animal Science	7.12.2008	Permanent
2	Subject Matter Specialist	Mr.Rinku Bharali	SMS	Horticulture	17.8.2006	Permanent
3	Subject Matter Specialist	Miss T.Esther Longkumer	SMS	Soil Science	01-08-06	Permanent
4	Subject Matter Specialist	Miss Hannah K. Asangla	SMS	Agronomy	01-08-06	Permanent
5	Subject Matter Specialist	Er. Chitrasen Lairenjam	SMS	Agril Engg.	10-08-06	Permanent
6	Subject Matter Specialist	Debojyoti Borkotoky	SMS	Animal Science	01-11-2010	Permanent
7	Subject Matter Specialist	Liza Barua Bharali	SMS	Plant Protection	23-11-2009	Permanent
8	Programme Assistant	Mrs. Virginia Thabah	Programme Asst.	Home Science	21-08-06	Permanent
9	Computer Programmer	Er. Nukusa T. Vadeo	Computer Programmer	Computer Engg.	1.8.2006	Permanent
10	Farm Manager	Keniseto Chucha	Farm Manager	Horticulture	10.11.09	Permanent

*\* = The scientific staff position should reflect in the quantity and quality of all programmes proposed by KVK in the action plan*

## Total land with KVK (in ha):

No.	Item	Area (ha)
1	Under Buildings	0.06
2.	Under Demonstration Units	Nil
3.	Under Crops	0.2
4.	Orchard/Agro-forestry	1.8
5.	Others	14.94

## SAC meetings proposed for the year

No.	Proposed Date/Month	Expected Participants	Salient Action Points
1.	April 2011	25	<p>Popularization of high yielding variety of Maize  Introduction of HYV of potato  Introduction of HYV of vegetables  Popularization of improved bee rearing technology  Popularization of Protected cultivation technology for offseason vegetable production  Popularization of Turkey  Popularization of trichocards for stem borer management in paddy  Disease and feeding management of livestock  Post harvest management of of vegetables and fruits  Integrated pest and disease management</p>
2.	November 2011	25	<p>Popularization of rapseed  Popularization of field pea  Demonstration on integrated farming system  Demonstration on drip irrigation during winter  Training cum demonstration on water conservation technologies  Integrated pest and disease management  Integrated Nutrient Management  Disease and feeding management of livestock  Post harvest management of of vegetables and fruits</p>

## Details of district

Major farming systems existing in the district\* (based on the study made by the KVK)

No	Farming systems identified
1.	Jhum
2.	Pani kheti
3.	Zabo system
4.	Agrisilvipastoral system
5.	Alder based cropping system

\* = the programmes proposed by KVK should be matching with the identified farming systems

Description of Agro-climatic Zone (based on soil and topography)

No	Agro-climatic Zone	Characteristics
1.	Sub temperate I Hill Zone (1000-1500m MSL)	High hills to medium hills with steep slope and undulating topography. Soils are rich in organic matter and ranges from sandy loam to clay loam
2.	Sub Alpine temperate zone (1500-3500m MSL)	High hills with steep terrains and deep gorges. Soils ranges are clay to clay loam
3.	Mild temperate Hill zone (200-800m MSL)	Mid hills to low hills with gentle slopes. Soils ranges from sandy loam to clay

Description of major agro ecological situations (based on soil and topography)

No	Agro ecological situation	Characteristics
1	AES-I (500-1000 meters msl)	Foot hills with gentle slope having terraces suitable for paddy cultivation. Soil is basically clay loam to clay
2.	AES-II (1000-1500 meters msl)	Moderate hills with gentle slope have been observed. Soil is loamy in nature.
3.	AES-III (above1500 meters msl)	Topography is high hills with moderate to steep slopes. Soil is dominantly Sandy loam to clay loam

## Details of Operational area / Villages (2009-10)

No	Taluk	Name of the block	Name of the village	Major crops & enterprises	Major problem identified	Identified Thrust Areas
1	Pfutsero	Pfutsero	Porba	Paddy	Poor yield of local variety. Degrading soil fertility  Stem borer infestation More time and labour consumption in weeding and thrashing of paddy Poor viability of seeds and loss due to improper storage Soil erosion, loss of fertility and degradation	Introduction of high yielding varieties of paddy suitable for panikheti. Introduction of biofertilizers e.g. Rhizobium, Azotobacter, Azospirillum, Blue green algae, Azolla for nutrient management Use of suitable plant protection measures Introduction of improved paddy weeders and thrashers.  Introduction of improved storage structure for cereals. Proper design of terrace, water harvesting, diversion, developing irrigation and drainage system for proper management of watershed area.
				Maize	Poor yield and low quality of local variety Improper plant spacing with higher seed rate Drudgery in shelling of maize	Introduction of high yielding/hybride varieties Proper plant geometry and seed rate Use of maize shellers
				Potato	Low yield  Non availability of quality planting material Cut worm, Red ants	Use of high yielding varieties and adoption of Integrated nutrient management to maintain the fertility status of soil. Introduction of TPS technology Use of suitable plant protection measures
				Banana	Cultivation of wild type low quality banana cultivars. Improper training of plants.	Introduction of high quality of banana cultivar such as Grand naine
				Passion fruit	Improper planting, training and pruning Insect pest and disease infestation. Post harvest losses of fruits and vegetables	Improved production technology of passion fruit. Use of suitable plant protection measures Development capabilities of rural youth and women in the field of fruits and vegetables processing and value addition.
				Pear, Peach & plum	Heavy weed infestation in the orchards Low yield and quality of pear peach and plum.	Control of weeds Use of high yielding varieties with improved production technology.
				Cabbage	Improper nursery raising technique Insect and pest infestation. Mix cultivation resulting in hindrance for intercropping operations.	Proper nursery raising techniques. Use of bio-control agents Developing proper intercropping pattern
				Ginger	Rotting in field and as well as during storage	Soil and Seed treatment Proper storage of finished products
				Poultry	Low production performance of existing birds No provision of night shelter and unhygienic dwellings Improper feeding	Introduction of quality poultry germplasm. Adequate and hygienic shelter/housing Supplementary feeding for better growth and performance Vaccination
					High epidemics of RD	

				Piggery	Low production performance of local breeds Non-availability of piglets in the locality Tendency of the farmers to produce pork on zero to negligible inputs	Introduction of quality pig germplasm. Developing breeding unit of high performing breeds Creating awareness regarding performance and management of better germplasm
				Mithun	High incidence of disease occurrence like FMD Compensation of mineral deficiency in high hill fodders by providing common salt only Parasitic infestation in young calves	Vaccination and health coverage measures. Feeding of Compounded mineral mixture instead of common salt only Deworming on regular intervals
				Cattle	Poor milk production of local breed, Thotho  Epidemics of FMD Parasitic infestation in young calves	Breed improvement through selection and cross breeding Vaccination Deworming on regular intervals
				Fishery	Skin disease in local breed Poor production of local fish	Liming in fish pond Introduction of quality fish breed
2	Pfutsero	Pfutsero	Sakaraba	Paddy	Poor yield of local variety.  Degrading soil fertility  Stem borer infestation More time and labour consumption in weeding and thrashing of paddy Poor viability of seeds and loss due to improper storage Soil erosion, loss of fertility and degradation	Introduction of high yielding varieties of paddy suitable for panikheti. Introduction of biofertilizers e.g. Rhizobium, Azotobacter, Azospirillum, Blue green algae, Azolla for nutrient management Use of suitable plant protection measures Introduction of improved paddy weeders and thrashers.  Introduction of improved storage structure for cereals. Proper design of terrace, water harvesting, diversion, developing irrigation and drainage system for proper management of watershed area.
				Maize	Poor yield and low quality of local variety Improper plant spacing with higher seed rate Drudgery in shelling of maize	Introduction of high yielding/hybride varieties Proper plant geometry and seed rate Use of maize shellers
				Potato	Low yield  Non availability of quality planting material Cut worm, Red ants	Use of high yielding varieties and adoption of Integrated nutrient management to maintain the fertility status of soil. Introduction of TPS technology Use of suitable plant protection measures
				Banana	Cultivation of wild type low quality banana cultivars. Improper training of plants.	Introduction of high quality of banana cultivar such as Grand naine
				Passion fruit	Improper planting, training and pruning Insect pest and disease infestation. Post harvest losses of fruits and vegetables	Improved production technology of passion fruit. Use of suitable plant protection measures Development capabilities of rural youth and women in the field of fruits and vegetables processing and value addition.
				Pear, Peach & plum	Heavy weed infestation in the orchards Low yield and quality of pear peach and plum.	Control of weeds Use of high yielding varieties with improved production

				<p>Cabbage</p> <p>Improper nursery raising technique Insect and pest infestation. Mix cultivation resulting in hindrance for inter-cultural operations.</p> <p>Ginger</p> <p>Rotting in field and as well as during storage</p> <p>Large cardamom</p> <p>High incidence of disease occurrence resulting in dyeing of plants High energy requirement in drying</p> <p>Poultry</p> <p>Low production performance of existing birds No provision of night shelter and unhygienic dwellings Improper feeding</p> <p>High epidemics of RD</p> <p>Piggery</p> <p>Low production performance of local breeds Non-availability of piglets in the locality Tendency of the farmers to produce pork on zero to negligible inputs</p> <p>Cattle</p> <p>Poor milk production of local breed, Thotho</p> <p>Epidemics of FMD Parasitic infestation in young calves</p>	<p>technology. Proper nursery raising techniques. Use of bio-control agents Developing proper intercropping pattern</p> <p>Soil and Seed treatment Proper storage of finished products</p> <p>Use of resistant varieties</p> <p>Proper designing of driers</p> <p>Introduction of quality poultry germplasm. Adequate and hygienic shelter/housing Supplementary feeding for better growth and performance Vaccination</p> <p>Introduction of quality pig germplasm. Developing breeding unit of high performing breeds Creating awareness regarding performance and management of better germplasm</p> <p>Breed improvement through selection and cross breeding Vaccination Deworming on regular intervals</p>
3	Pfutsero	Pfutsero	Gidemi	<p>Paddy</p> <p>Poor yield of local variety. Degrading soil fertility</p> <p>Stem borer infestation More time and labour consumption in weeding and thrashing of paddy Poor viability of seeds and loss due to improper storage Soil erosion, loss of fertility and degradation</p> <p>Maize</p> <p>Poor yield and low quality of local variety Improper plant spacing with higher seed rate Drudgery in shelling of maize</p> <p>Potato</p> <p>Low yield</p> <p>Non availability of quality planting material Cut worm, Red ants</p>	<p>Introduction of high yielding varieties of paddy suitable for panikheti. Introduction of biofertilizers e.g. Rhizobium, Azotobacter, Azospirillum, Blue green algae, Azolla for nutrient management Use of suitable plant protection measures Introduction of improved paddy weeders and thrashers.</p> <p>Introduction of improved storage structure for cereals. Proper design of terrace, water harvesting, diversion, developing irrigation and drainage system for proper management of watershed area.</p> <p>Introduction of high yielding/hybride varieties Proper plant geometry and seed rate Use of maize shellers</p> <p>Use of high yielding varieties and adoption of Integrated nutrient management to maintain the fertility status of soil. Introduction of TPS technology Use of suitable plant protection measures</p>

				<p>Banana</p> <p>Cultivation of wild type low quality banana cultivars. Improper training of plants.</p> <p>Passion fruit</p> <p>Improper planting, training and pruning Insect pest and disease infestation. Post harvest losses of fruits and vegetables</p> <p>Mandarin</p> <p>Improper spacing Insect pest and disease management</p> <p>Pear, Peach &amp; plum</p> <p>Heavy weed infestation in the orchards Low yield and quality of pear peach and plum.</p> <p>Ginger</p> <p>Rotting in field and as well as during storage</p> <p>Poultry</p> <p>Low production performance of existing birds No provision of night shelter and unhygienic dwellings Improper feeding</p> <p>High epidemics of RD</p> <p>Piggery</p> <p>Low production performance of local breeds Non-availability of piglets in the locality Tendency of the farmers to produce pork on zero to negligible inputs</p> <p>Cattle</p> <p>Poor milk production of local breed, Thotho</p> <p>Epidemics of FMD Parasitic infestation in young calves</p>	<p>Introduction of high quality of banana cultivar such as Grand naine</p> <p>Improved production technology of passion fruit. Use of suitable plant protection measures Development capabilities of rural youth and women in the field of fruits and vegetables processing and value addition. Proper plant geometry Integrated pest and disease management</p> <p>Control of weeds Use of high yielding varieties with improved production technology.</p> <p>Soil and Seed treatment Proper storage of finished products</p> <p>Introduction of quality poultry germplasm. Adequate and hygienic shelter/housing Supplementary feeding for better growth and performance Vaccination</p> <p>Introduction of quality pig germplasm. Developing breeding unit of high performing breeds Creating awareness regarding performance and management of better germplasm</p> <p>Breed improvement through selection and cross breeding Vaccination Deworming on regular intervals</p>
4	Pfutsero	Pfutsero	Pfutseromi	<p>Paddy</p> <p>Poor yield of local variety. Degrading soil fertility</p> <p>Stem borer infestation More time and labour consumption in weeding and thrashing of paddy Poor viability of seeds and loss due to improper storage Soil erosion, loss of fertility and degradation</p> <p>Maize</p> <p>Poor yield and low quality of local variety Improper plant spacing with higher seed rate Drudgery in shelling of maize</p> <p>Potato</p> <p>Low yield</p>	<p>Introduction of high yielding varieties of paddy suitable for panikheti. Introduction of biofertilizers e.g. Rhizobium, Azotobacter, Azospirillum, Blue green algae, Azolla for nutrient management Use of suitable plant protection measures Introduction of improved paddy weeders and thrashers.</p> <p>Introduction of improved storage structure for cereals. Proper design of terrace, water harvesting, diversion, developing irrigation and drainage system for proper management of watershed area.</p> <p>Introduction of high yielding/hybride varieties Proper plant geometry and seed rate Use of maize shellers</p> <p>Use of high yielding varieties and adoption of</p>

				<p>Banana</p> <p>Passion fruit</p> <p>Pear, Peach &amp; plum</p> <p>Ginger</p> <p>Poultry</p> <p>Piggery</p> <p>Cattle</p>	<p>Non availability of quality planting material Cut worm, Red ants</p> <p>Cultivation of wild type low quality banana cultivars. Improper training of plants.</p> <p>Improper planting, training and pruning Insect pest and disease infestation. Post harvest losses of fruits and vegetables</p> <p>Heavy weed infestation in the orchards Low yield and quality of pear peach and plum.</p> <p>Rotting in field and as well as during storage</p> <p>Low production performance of existing birds</p> <p>No provision of night shelter and unhygienic dwellings Improper feeding</p> <p>High epidemics of RD</p> <p>Low production performance of local breeds Non-availability of piglets in the locality Tendency of the farmers to produce pork on zero to negligible inputs</p> <p>Poor milk production of local breed, Thotho</p> <p>Epidemics of FMD Parasitic infestation in young calves</p>	<p>Integrated nutrient management to maintain the fertility status of soil. Introduction of TPS technology Use of suitable plant protection measures</p> <p>Introduction of high quality of banana cultivar such as Grand naine</p> <p>Improved production technology of passion fruit. Use of suitable plant protection measures Development capabilities of rural youth and women in the field of fruits and vegetables processing and value addition. Control of weeds Use of high yielding varieties with improved production technology.</p> <p>Soil and Seed treatment Proper storage of finished products</p> <p>Introduction of quality poultry germplasm/new kind of bird like turkey Adequate and hygienic shelter/housing Supplementary feeding for better growth and performance Vaccination</p> <p>Introduction of quality pig germplasm. Developing breeding unit of high performing breeds Creating awareness regarding performance and management of better germplasm</p> <p>Breed improvement through selection and cross breeding Vaccination Deworming on regular intervals</p>
5	<b>Chazuba</b>	Kikrumba	<b>Thipuzu</b>	<p>Maize</p> <p>Paddy</p>	<p>Poor yield and low quality of local variety Improper plant spacing with higher seed rate Drudgery in shelling of maize</p> <p>Poor yield of local variety. Degrading soil fertility</p>	<p>Introduction of high yielding/hybride varieties Proper plant geometry and seed rate Use of maize shellers</p> <p>Introduction of high yielding varieties of paddy suitable for panikheti. Introduction of biofertilizers e.g. Rhizobium, Azotobacter, Azospirillum, Blue green algae, Azolla for nutrient management Use of suitable plant protection measures Introduction of improved paddy weeders and thrashers.</p> <p>Introduction of improved storage structure for cereals. Proper design of terrace, water harvesting, diversion, developing irrigation and drainage system for proper</p>



				<p>Stem borer infestation More time and labour consumption in weeding and thrashing of paddy Poor viability of seeds and loss due to improper storage Soil erosion, loss of fertility and degradation</p>	<p>management of watershed area.</p>
			Potato	<p>Low yield</p>	<p>Use of high yielding varieties and adoption of Integrated nutrient management to maintain the fertility status of soil. Introduction of TPS technology Use of suitable plant protection measures</p>
			Banana	<p>Non availability of quality planting material Cut worm, Red ants</p>	<p>Introduction of high quality of banana cultivar such as Grand naine</p>
			Passion fruit	<p>Cultivation of wild type low quality banana cultivars. Improper training of plants.</p>	<p>Improved production technology of passion fruit. Use of suitable plant protection measures Development capabilities of rural youth and women in the field of fruits and vegetables processing and value addition.</p>
			Pear, Peach & plum	<p>Improper planting, training and pruning Insect pest and disease infestation. Post harvest losses of fruits and vegetables</p>	<p>Control of weeds Use of high yielding varieties with improved production technology.</p>
			Ginger	<p>Heavy weed infestation in the orchards Low yield and quality of pear peach and plum.</p>	<p>Soil and Seed treatment Proper storage of finished products</p>
			Poultry	<p>Rotting in field and as well as during storage</p>	<p>Introduction of quality poultry germplasm/new kind of bird like turkey Adequate and hygienic shelter/housing Supplementary feeding for better growth and performance Vaccination</p>
			Piggery	<p>Low production performance of existing birds No provision of night shelter and unhygienic dwellings Improper feeding</p>	<p>Introduction of quality pig germplasm. Developing breeding unit of high performing breeds Creating awareness regarding performance and management of better germplasm</p>
			Cattle	<p>High epidemics of RD</p>	<p>Breed improvement through selection and cross breeding Vaccination</p>
			Farm implements	<p>Low production performance of local breeds Non-availability of piglets in the locality Tendency of the farmers to produce pork on zero to negligible inputs</p>	<p>Deworming on regular intervals Introduction of power tiller and other tools and implements for hill agriculture</p>
				<p>Poor milk production of local breed, Thotho Epidemics of FMD Parasitic infestation in young calves</p>	
				<p>Lack of improved tools and implements</p>	

**Priority thrust areas (prioritized in sync with thrust areas identified and given above)**

Rank	Thrust area
1.	Introduction of high yielding varieties of paddy suitable for panikheti.
2.	Introduction of QPM technology
3.	Introduction of quality poultry, rabbit and pig germplasms for egg and meat production.
4.	Adequate Livestock and poultry health coverage measures
5.	Adoption of Integrated nutrient management to maintain the fertility status of soil.
6.	Introduction of biofertilizers e.g. Rhizobium, Azotobacter, Azospirillum, Blue green algae, Azolla for nutrient management
7.	Production technology for cole crops
8.	Production technology for off-season vegetable cultivation
9.	Improved production technology on passion fruit
10.	Introduction of high quality of banana cultivar such as Grand naine
11.	Awareness on improved production technology on ginger
12.	Introduction of high quality of banana cultivar such as Grand naine
13.	Introduction of disease resistance varieties of large cardamom
14.	Improved production technology on temperate fruits
15.	Proper design of terrace, water harvesting and diversion, irrigation and drainage system for proper management of watershed area
16.	Development capabilities of rural youth and women in the field of fruits and vegetables processing and value addition.
17.	Introduction of improved storage structure for cereals and pulses

**PART – II  
(OFT AND FLD)**

**2. Technical activities proposed**

Abstract of interventions to be undertaken during 2011-12 (Target)

No	Thrust area	Crop/ Enterprise	Identified Problem	Interventions (if any)					
				Title of OFT	Title of FLD	Title of Training	Title of training for extension personnel	Extension activities	Supply of seeds, planting materials
1.	Introduction of biofertilizer for nutrient management	Bean	Low productivity	-	Rhizobium seed treatment on bean.	Use of Biofertilizer	-	Folder on Use of Biofertilizer, Field day	Seeds, biofertilizer
2.	Nutrient management	Vermi-compost	High cost for constructing vermi compost pit.	Trial on low cost bamboo vermi-composting	-	Vermicomposting production	-	Folder on Vermicomposting production and field day	Earthworms, polythene sheet
3.	Introduction of biofertilizer for nutrient management	Potato	Poor availability of soil phosphorus	-	Biofertilizer application on potato	Use of PSB (Phosphorus soluble bacteria)	-	Folder on Use of Biofertilizer, Field day	Biofertilizer, potato tubers.
4.	Popularization of QPM	Maize	Poor quality of protein in maize		Popularization of QPM var. HQPM 1	Production and management of QPM	-	Folder on Production and management of QPM, Field day	seeds
5.	Introduction of HYV in paddy	Paddy	Lack of HYV seed	To evaluate the performance of HYV of paddy		Production and management of paddy	-	Folder on Production and management on paddy, Field day	seed
6.	Introduction of rapeseed	Rapeseed	New introduction.	To evaluate the performance of rapeseed var. TS-36		Production and management of rapeseed		Folder on Production and management of rapeseed, Field day	seed

7.	Popularization of field pea	Field Pea	Non availability of quality seeds		Popularization of field pea var. Rachna	Production and management of field pea.		Folder on Production and management of field pea, Field day	seed
8.	Integrated Pest Management	Cabbage	High infestation cabbage butterfly larvae	Effect of <i>Bacillus thuringensis</i> and neem oil against cabbage butterfly larvae		Pest management in cabbage		Folder on use of <i>Bacillus thuringensis</i> and neem oil to control butterfly in cabbage, Field day	Seedlings, Bt, Neem oil
9.	Integrated Disease Management	Tomato var. Rohini	Severe late blight in tomatoes	Late blight management in Tomato through fungicides. (Mancozeb and Carbendazim)		Disease management tomato		Folder on disease management in tomatoes.	Seedlings and fungicides
10.	Integrated Pest Management	Local Paddy	Severe infestation of stem borer in paddy		Popularization of <i>Trichogramma spp.</i> For management of stem borer in paddy.	Pest management in rice		Folder on common pests of paddy and their management, Field day	Trichocards
11.	Introduction of high yielding and better quality variety.	French bean	Poor quality of local beans due to high fibre content	Performance of French bean var Sel-9 (Arka komal)		Production technology on French bean.		Folder on Package of practice of French bean, Field day	Seed
12.	Introduction of new variety	Knolkhol	New introduction	Performance of Knolkhol var. Early White Vienna		Package of practices for knolkhol cultivation		Folder on Package of practices for knolkhol , Field day	Seed

13.	Popularization of protected cultivation technology	Tomato var. Rohini	High incidence of pest and diseases during rainy season		Popularization of protected cultivation technology for offseason tomato production	Offseason vegetable production under protected condition		Booklet on cultivation of high value vegetable under protected condition, field day.	Polysheet for low cost polyhouse.
14.	Introduction of high yielding variety with improved production technology	Carrot var. Early Nantes	Not cultivated commercially, broadcasting of seeds		Popularization of carrot var. Early Nantes in line sowing	Package of practices for commercial cultivation of carrot.		Folder on Package of practices for carrot, field day	seeds
15.	Water conservation and weed control	Cauliflower	Severe drought during winter, Cut worm and ant infestation	Performance of Cauliflower under mulch during winter		Use of organic and inorganic mulch in agriculture		Folder on mulching for vegetable	Black polysheet
16.	Water conservation and weed control	Rabi vegetable	Severe drought during winter, Cut worm and ant infestation	Use of Drip and mulch on Rabi vegetable during winter		Efficient use of water using drip irrigation.		Folder on drip irrigation.	Black polysheet Drip set.
17.	Drudgery reduction	Winnower	High energy consumption by traditional method	Hand operated mechanical winnower		Use of mechanical winnower for drudgery reduction		Folder on drudgery reduction tools.	Winnower
18.	Nursery	Paddy	More space requirement in traditional type of nursery	Mat nursery for raising rice seedling.		Mat nursery for plantation of paddy		Leaflet of preparing mat type of nursery.	Frame, polythene and seeds
19.	Egg production	Poultry	Low egg production, Non availability of layer type bird	Performance of gramapriya poultry		Package of practice of Poultry rearing		Folder on management of layers under backyard system	Chicks
20.	Meat production	Pig	Low meat production	Performance of Ghungroo Pigs		Package of practice of Pig rearing		Folder on Pig rearing	Piglets

**Details of On Farm Trials be undertaken during 2011-12 (Target)**

Crop/ enterprise	Farming situation	Problem Diagnosed	Title of OFT	Assessment/ Refinement (WRITE A / R)	No. of trials*
1	2	3	4	5	6
Vermicompost	IR	High cost for constructing vermi compost pit.	Trial on low cost bamboo vermi-composting	A	3
Paddy	RF	Lack of HYV seed	To evaluate the performance of HYV of paddy	A	3
Rapeseed	RF	New introduction.	To evaluate the performance of rapeseed var. TS-36	A	3
Cabbage	RF	High infestation cabbage butterfly larvae	Effect of <i>Bacillus thuringensis</i> and neem oil against cabbage butter fly larvae	A	3
Tomato	RF	Severe late blight disease in tomato on resulting in high loss	Late blight management in Tomato through fungicides.	A	3
French bean	RF	Poor quality of local beans due to high fibre content	Performance of French bean var Sel-9 (Arka komal)	R	3
Knolkhol	RF	New introduction	Performance of Knolkhol var. Early White Vienna	A	3
Cauliflower	IR	Severe drought during winter, Cut worm and ant infestation	Performance of Cauliflower under mulch during winter	R	3
Rabi vegetable	IR	Severe drought during winter, Cut worm and ant infestation	Use of Drip and mulch on Rabi vegetable during winter	A	3
Drudgery reduction by through mechanical winnow	-	High energy consumption by traditional method	Hand operated mechanical winnow	A	3
Paddy		More space requirement in traditional type of nursery	Mat nursery for raising rice seedling.		
Poultry	-	Low egg production, Non availability of layer type bird	Performance of gramapriya poultry	A	20
Pig	-	Low meat production	Performance of Ghungroo Pigs	A	5

Technology assessed/refined	Year of release of technology	Whether the technology is latest one available? (Y/N)*	If NO, then reason for using the old technology for OFT (in detail)	Parameters of assessment
6				7
A	2002, State Agril. Dept, Nagaland	N	Not introduced in the region	Growth and yield parameters
A	ICAR , Jharnapani	N	Vermicompost are not use in this area	Analysis of compost NPK
A	-	N	Not introduced	Growth and yield parameters
A	RARS, Silongoni, AAU	N	Not introduced	Growth and yield parameters
A	2008, GBPUAT	Y	-	Percent pest infestation. Plant height, Plant spread , date of head formation, size of head, yield
A	2009	y	-	Percent disease infestation Plant height, plant spread, No. of fruits/plant, yield
R	2005, IIHR	N	Variety not yet introduced. Farmers are using the local variety as it is hardy and tolerant to high rainfall.	Plant height, plant spread, date of flowering, date of pod formation, No. of pods/plant, yield
A	2005, ICAR	N	Variety not yet introduced. Farmers follows broadcasting method for cultivation	Plant height, Plant spread, Root length, Root diameter, Yield
R	ICAR	Y	-	Soil temp. soil moisture, Yield
A		y	-	Soil temp. soil moisture, Yield, water use efficiency.
A	ICAR	Y	-	Time and labour consumption
A	ICAR	Y	-	Egg production, growth.
A	ICAR	Y	-	Growth, litter size, litter weight, feed and disease management

- = The technology should be less than 5 years old.

## Frontline Demonstrations

### Follow-up for results of FLDs implemented during previous years

List of technologies demonstrated during previous year and popularized during 2010-11 and recommended for large scale adoption in the district

No	Thematic Area*	Technology demonstrated	Details of popularization methods suggested to the Extension system	Horizontal spread of technology		
				No. of villages	No. of farmers	Area in ha
1	Nutrient management	Biofertilizer application on potato	Training cum Demonstration	3	3	0.5
2	Crop production	Production and management of QPM	Training cum Demonstration	5	3	1
3	Crop production	Production and management of potato	Training cum Demonstration	3	3	0.5
4	Pest management	Popularization of <i>trichogramma spp.</i> For stem borer management	Training cum Demonstration	2	20	7.68
5	Popularization of dwarf variety	Garden pea Dwarf var., Arkel	Training cum Demonstration	6	60	1.50
6	Mushroom production	Cultivation of Oyster mushroom	Training cum Demonstration	2 (SHG)	40	100 units
7	Value addition	Preparation of maize cake	Training cum Demonstration	2	50	2 cakes
8	Vanaraja	Performance as meat and egg	Training cum Demonstration	3	5	-
9	Poultry	Vaccination of poultry against RD	Training cum demonstration, field day	3	250	3000 Nos
10	Mithun	FMD Vaccination	Training cum demonstration, field day	3	20	200 Nos

\* Thematic areas as given in Table on Training





**C. Pulse Crops**

No.	Crop	Thematic area	Technology Demonstrated	Season and year	Whether the technology assessed/refined by KVK earlier (Y/N)?	If not, how the technology was proven as suitable for FLD in the district?	Area (ha)		No. of farmers/demonstration		
							Proposed		SC/ST	Others	Total
1.	Field pea	Crop production	Var. Rachna	Rabi, 2011	Y		1		25		25

**D. Horticultural Crops**

No.	Crop	Thematic area	Technology Demonstrated	Season and year	Whether the technology assessed/refined by KVK earlier (Y/N)?	If not, how the technology was proven as suitable for FLD in the district?	Area (ha)		No. of farmers/demonstration		
							Proposed		SC/ST	Others	Total
1.	Potato	Nutrient management	Biofertilizer application on potato	Rabi and 2012	A/Y	-	1		3		3
2.	Carrot	Crop production	Production technology of HYV	Kharif 2011	Y	-	0.05		5		5
3.	Tomato var. Rohini	Crop production	Protected cultivation technology	Kharif, 2011	Y		0.02		10		10

**Extension and Training activities proposed under FLD**

No.	Activity	No. of activities	Tentative Date	Number of participants	Remarks
1	Training and field demonstration and field day	1	25/3/11 30/7/11	25	
2	Training and field demonstration and field day	1	06/01/11	25	
3	Training and field demonstration and field day of trichocharads	1	20/6/2011 15/9/2011	25	
4.	Training and field demonstration and field day of Carrot	1	5/4/2011 20/6/2011	25	
5.	Training and field demonstration and field day of Protected cultivation of Tomato	1	25/4/2011 15/8/2011	25	
6	Training and demonstration on improved farm implements	1	20/08/2011	15	

**(i) Farm Implements:**

No.	Crop	Thematic area	Name of the implement	Season and year	Whether the technology assessed/refined by KVK earlier (Y/N)?	If not, how the technology was proven as suitable for the district?	Area (ha)	No. of farmers/demonstration		
							Proposed	SC/ST	Others	Total
1	Pea	Drudgery reduction, Crop geometry	Power tiller operated seed cum fertilizer drill	Winter	N	As pea has been tested in the area therefore sowing of seeds will be done through seed drill in terraces	0.1	5	0	5

















<b>VIII Fisheries</b>											
Integrated fish farming											
Carp breeding and hatchery management											
Carp fry and fingerling rearing											
Composite fish culture											
Hatchery management and culture of freshwater prawn											
Breeding and culture of ornamental fishes											
Portable plastic carp hatchery											
Pen culture of fish and prawn											
Shrimp farming											
Edible oyster farming											
Pearl culture											
Fish processing and value addition											
<b>IX Production of Inputs at site</b>											
Seed Production											
Planting material production											
Bio-agents production											
Bio-pesticides production											
Bio-fertilizer production											
Vermicompost production	2						30	20	50	50	
Other Organic manures production	1						10	15	25	25	
Production of fry and fingerlings											
Production of Bee-colonies and wax sheets											
Small tools and implements											
Production of livestock feed and fodder											
Production of Fish feed											
<b>X Capacity Building and Group Dynamics</b>											
Leadership development in villages											
Managing Group dynamics											
Formation and Management of SHGs											
Mobilization of social capital in villages											
Entrepreneurial development of farmers/youths											
WTO and IPR issues											
<b>XI Agro-forestry</b>											
Production technologies											
Nursery management											
Integrated Farming Systems											
<b>XII Others (Pl. Specify)</b>											
<b>TOTAL</b>	<b>57</b>						<b>760</b>	<b>640</b>	<b>1200</b>	<b>1400</b>	
<b>(B) RURAL YOUTH</b>											
Mushroom Production											
Bee-keeping	2						30	20	50	50	
Integrated farming											
Seed production	1						13	12	25	25	
Production of organic inputs	2						30	20	50	50	
Integrated Farming	1						15	10	25	25	
Planting material production											
Vermiculture	1						15	10	25	25	

Sericulture											
Protected cultivation of vegetable crops	1							15	10	25	25
Commercial fruit production	1							15	10	25	25
Repair and maintenance of farm machinery and implements	1							10	05	15	15
Nursery Management of Horticulture crops											
Training and pruning of orchards											
Value addition	1							10	25	25	25
Production of quality animal products											
Dairying											
Sheep and goat rearing	1							15	10	25	25
Quail farming											
Piggery	1							15	10	25	25
Rabbit farming	1							15	10	25	25
Poultry production	1							15	10	25	25
Ornamental fisheries											
Training as Para vets											
Training as Para extension workers											
Composite fish culture											
Freshwater prawn culture											
Fish harvest and processing technology											
Fry and fingerling rearing											
Small scale processing	2							20	30	50	50
Post Harvest Technology											
Tailoring and Stitching											
Rural Crafts	1							10	15	25	25
<b>TOTAL</b>	<b>18</b>							<b>243</b>	<b>207</b>	<b>450</b>	<b>450</b>
<b>© Extension Personnel</b>											
Productivity enhancement in field crops	1							15	10	25	25
Integrated Pest Management	1							10	05	15	15
Integrated Nutrient management											
Rejuvenation of old orchards	1							10	05	15	15
Protected cultivation technology											
Formation and Management of SHGs											
Group Dynamics and farmers organizations											
Information networking among farmers											
Capacity building for ICT application											
Care and maintenance of farm machinery and implements											
WTO and IPR issues											
Management in farm animals											
Livestock feed and fodder production											
Household food security											
Women and Child care											
Low cost and nutrient efficient diet designing											
Production and use of organic inputs	1							10	05	15	15
Gender mainstreaming through SHGs											
Any other (Pl. Specify)											
Soil and water conservation	2							15	10	25	25
<b>TOTAL</b>	<b>6</b>							<b>60</b>	<b>35</b>	<b>95</b>	<b>95</b>
<b>Grand Total</b>	<b>81</b>							<b>1073</b>	<b>897</b>	<b>1970</b>	<b>1970</b>





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### Vocational training programmes for Rural Youth

Crop / Enterprise	Identified Thrust Area	Training title*	Duration (days)	No. of Participants		
				Male	Female	Total
Rabbitry	Introduction of quality rabbit germplasms for meat production.	Commercial rabbit farming	6	10	10	20
Piggery	Introduction of quality pig germplasms for meat production.	Commercial Pig production	6	10	10	20
Goatery	Introduction of quality Goat germplasms for meat production.	Commercial Goat farming	6	10	10	20

\*training title should specify the major technology /skill transferred

### Sponsored Training Programmes

No	Title	Thematic area	Month	Duration (days)	Client PF/RY /EF	No. of courses	No. of Participants										Sponsoring Agency
							Male			Female			Total				
							Others	SC	ST	Others	SC	ST	Others	SC	ST	Total	
1	Rabbitry	Meat production	oct	4	PF	4			60			60				120	NABARD
2	Small scale processing of fruits and vegetables	Value addition	oct	4	RY	2			30			30				60	NGO
<b>Total</b>						<b>6</b>			<b>90</b>			<b>90</b>				<b>180</b>	



**Proposed production and supply of Technological products  
Seed materials**

Sl. No.	Crop	Variety	Proposed Quantity (qtl.)	Value (Rs.)	To be provided to (No. of Farmers)
<b>Cereals</b>					
<b>Oilseeds</b>					
<b>Pulses</b>					
<b>Vegetables</b>	Carrot	Early nantes	300gm	500.00	5
	Tomato	Rohini	1500seedlings	500.00	10
	Knol khol	Early white Vienna	250gm	140.00	5
	French bean	Sel-9	2kg	370.00	3
<b>Flower Crops</b>					
<b>Others (Specify)</b>					

## Planting materials

Sl. No.	Crop	Variety	Quantity (Nos.)	Value (Rs.)	To be provided to (No. of Farmers)
<b>Fruits</b>					
<b>Spices</b>					
<b>Vegetables</b>					
<b>Forest Species</b>					
<b>Ornamental Crops</b>					
<b>Plantation Crops</b>					
<b>Others (specify)</b>					

## Bioproducts

Sl. No.	Product Name	Species	Quantity		Value (Rs.)	To be provided to (No. of Farmers)
			No	(kg)		
<b>Bioagents</b>						
1						
2						
3						
4						
<b>Biofertilizers</b>						
1						
2						
3						
4						
<b>Bio Pesticides</b>						
1						
2						
3						
4						

## Livestock

SI. No.	Type	Breed	Quantity		Value (Rs.)	To be provided to (No. of Farmers)
			Nos	Kgs		
<b>Cattle</b>						
<b>Sheep and Goat</b>						
<b>Poultry</b>	<b>Layer</b>	<b>Gramapriya</b>	<b>200</b>	<b>200</b>	<b>20000</b>	<b>20</b>
<b>Fisheries</b>						
<b>Others (Specify)</b>						
<b>Rabbit</b>	<b>Meat</b>	<b>Soviet chinchilla and New Zealand white</b>	<b>250</b>	<b>-</b>	<b>37000</b>	<b>125</b>
<b>Pig</b>	<b>Meat</b>	<b>Hampshire cross</b>	<b>20</b>		<b>20000</b>	<b>10</b>

**Literature proposed to be developed/ published**

Item	Title	Number
Research papers	Rabbitry, piggery, drip irrigation, mulching, protected cultivation.	6
Technical reports	Pig, poultry, Rabbit, Drudgery, Azolla Protected cultivation technology,	6
News letters	Yirhi Dzu	2
Technical bulletins	Rabbitry, piggery, poultry, offseason tomato, mulching	5
Popular articles	-	6
Extension literature	Folders/leaflets	20
Others (Pl. specify) E Megazine	-	4
VCD (Film)		2
<b>Total</b>		<b>21</b>

**Details of Electronic Media proposed**

S. No.	Type of media (CD / VCD / DVD / Audio-Cassette)	Proposed title of the programme	Number
1	VCD	Drip irrigation	1
2		Protected cultivation	1

**Field activities proposed**

- i. Number of villages to be adopted : 2
- ii. No. of farm families to be selected : 50
- iii. No. of surveys/PRA to be conducted : 2

**Proposed activities of Soil and Water Testing Laboratory : NA**

**Status of establishment of Lab :**

- 1. Year of establishment :
- 2. Details of samples to be analyzed :

Details	No. of Samples	No. of Farmers	No. of Villages
Soil Samples	100	-	1
Water Samples			
Total			

**PART – V**  
**(LINKAGES WITH OUTSIDE ORGANISATIONS)**

**5. Proposed Linkages**

**Functional linkage with different organizations**

Name of organization	Nature of linkage
1. NABARD	Financial
2. SAU	Technical
3. NGO	Technology transfer
4. Bank	Technical
5. District Line departments	Technical

Note: The nature of linkage should be indicated in terms of joint diagnostic survey, joint implementation, and participation in meeting, contribution for infrastructural development, conducting training programmes and demonstration or any other

**List special programmes to be undertaken by the KVK, financed by State Govt./Other Agencies (if any)**

Name of the scheme	Date/ Month of initiation	Funding agency	Amount (Rs.)
Climate Change Resilient Agriculture	April 2011	ICAR	30.35lakh

**Details of proposed linkage with ATMA**

a) Is ATMA implemented in your district (Yes/No) : Yes

S. No.	Programme	Nature of linkage proposed
1	Training and demonstration	Technical and financial

**Give details of programmes implemented under National Horticultural Mission (if any)**

S. No.	Programme	Nature of linkage proposed

**Nature of linkage with National Fisheries Development Board (if any)**

S. No.	Programme	Nature of linkage proposed





**Proposed production Units (bio-agents / bio pesticides/ bio fertilizers etc.,)**

No.	Name of the Product	Qty	Amount (Rs.)	
			Cost of inputs	Gross income expected

**Performance of instructional farm (livestock and fisheries production)**

No	Name of the animal / bird / aquatics	Details of expected production		
		Breed	Type of Produce	Qty expected
1	Rabbit	New Zealand Rabbit	Meat	100 Kg
2	Fish	Common crap	Meat	25 Kg

**PART – VII  
(SUMMARY)**

**7. Summary**

Targets for 2011-12 for KVK,     Phek    

**On Farm Trials**

Thematic areas	Cereals	Pulses	Vegetables	Fruits	Fodde r	Othe rs	Total
Varietal Evaluation	1	1	2	-	-		4
Integrated Nutrient Management	-	-	2	-	-		2
Integrated Pest Management	-	-	1	-	-		1
Intregated Disease management	-	-	1	-	-		1
Biofertilisers	-	-	-	-	-		
Water Management	-	-	1	-	-		1
Fisheries							
Animal Science							
Food processing							2
Others(winnower)	1	-	-	-	-	2	1
<b>Grand total</b>	<b>2</b>	<b>1</b>	<b>7</b>				<b>12</b>

**FLDs on oilseed and pulse crops**

Name of KVK	Oilseeds		Pulses	
	Area (ha)	No. of farmers	Area (ha)	No. of farmers
KVK Phek, Nagaland	1.0	25		
<b>Total</b>	1.0	25		

**Other FLDs**

Name of KVK	Other Cops		Enterprise	
	Area (ha)	No. of farmers	Area (ha)	No. of farmers
KVK Phek, Nagaland	5.07	53	0.01	20
<b>Total</b>	5.07	53		



## Seed Production

KVK	Quantity (qtl)			
	Cereals	Oilseeds	Pulses	Vegetables
KVK Phek, Nagaland				
<b>Total</b>				

## Planting Materials

KVK	Quantity (nos)			
	Fruits	Vegetable Seedlings	Tree Species	Ornamental Plants
KVK Phek, Nagaland		1500 (tomato var.Rohini)	1000Nos( <i>Ficus hookeri</i> )	
<b>Total</b>				

\_\_\_\_\_  
Signature,  
Programme coordinator,  
KVK, \_\_\_\_\_

(Signature not needed in case of soft copy)

## Notes:

The filled in Proforma has to be emailed to [icar\\_zcu3@yahoo.co.in](mailto:icar_zcu3@yahoo.co.in) on or before **15<sup>th</sup> September, 2008**. Also the action plan has to be submitted in a CD during the Annual Zonal Workshop of KVKs to be held at Itanagar, Arunachal Pradesh during September 2008. The action plan will be verified on the spot before submission. **Incomplete and casually filled proformas not complying with the given guidelines will not be accepted.** Hence KVKs are requested to take utmost care in filling up the proforma in line with the guidelines provided at the beginning.

## Materials to be submitted at Annual Zonal Workshop of KVKs:

1. 3 hard copies of Annual Report 2007-08
2. 3 hard copies of Annual Action Plan 2008-09
3. One CD containing 3 separate folders namely Annual Action Plan 2008-09, Annual Report 2007-08 and Action Photographs.

(The folder on action photographs should contain 10 action photos in JPEG format. The photos should be as separate JPEG files and not to be pasted in a single Word file. The name of each JPEG file should indicate the activity in Photograph in detail.)