MANUAL

Rural Agricultural Work Experience (RAWE) Programme

B.Sc. (Hons.) Agriculture

Prepared by

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Manual for
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PREFACE

The Student READY Programme includes two major components viz. Rural Agricultural Work Experience Programme (RAWEP) and Experiential Learning Programme (ELP). The RAWE Programme has been designed with the objective of developing the students' understanding of rural life and to acquaint them from the different situations prevailing in villages with special reference to Agriculture. As per the recommendations of 5th Deans Committee Report, the RAWE Programme is consisting of three sub-components (village attachment, industrial attachment and educational tour). Village attachment provides themthe insights of farmers' local situations and use of various Agricultural technologies while industrial attachment gives them hand-on experience of value addition and quality control of horticultural products under professional guidance. Educational tour to well-known institutions and organizations and interactions with their faculty, helps students broaden their knowledge and skills. I am sure that the manual will guide the students in accomplishing the set objectives of RAWE Programme and will help the faculty members as well for successful implementation of the programme.

The tireless efforts of Dr. B.P. Mishra, Head, Department of Agricultural Extension and members of RAWE programme committee for bringing out this precious learning manual are highly appreciated. I extend my regards to Dr. S.K. Singh, Registrar, BUAT for his suggestions and support. I gratefully acknowledgethe financial assistance received from the ICAR Development Grant for publication of this manual.

With best wishes,

Dr. G.S. Panwar
Dean
College of Agriculture

ACKNOWLEDGEMENTS

It is very pleasant for us to bring out this manual which would act as a guiding document to the students undergoing RAWE programme. We extend ourregards and sincere gratitude to Dr. N.P. Singh, Hon'ble Vice Chancellor, BAUT for his generous support and guidance. We extend our cordial thanks to Dr. G.S. Panwar, Dean, College of Agriculture and Chairman of RAWE Programme Advisory Committee for showing confidence in us and also for his guidance and vital suggestions. We offer our heartfelt gratitude to Dr. S.K. Singh, Registrar, BUAT for kind support. We also wish to acknowledge all the heads of the departments and faculty members who have provided the technical support in preparation of this manual.

We are hopeful that this manual would help the students for improving their communication and technical skills, and developing their competence in problem solving as well as report preparation during their READY Programme.

B.P. Mishra
Head
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Banda University of Agriculture and Technology, Banda
Rural Agricultural Work Experience (RAWE)

and

Agro Industrial Attachment (AIA)

Credits: 20 (0+20)

The Hon'ble Prime Minister of India launched 'Student READY' programme on 25th July 2015. The term 'READY' refers to "Rural Entrepreneurship Awareness Development Yojana".

To reorient graduates of agriculture and allied subjects for ensuring and assuring employability and develop entrepreneurs for emerging knowledge intensive agriculture, the component envisages the introduction of the programme as an essential prerequisite for the award of degree to ensure hands on experience and practical training.

The components:

- Rural Agricultural Work Experience (RAWE) &
  In-Plant Training/Agro Industrial Attachment
- (AIA)

The Rural Agricultural Work Experience (RAWE) helps the students primarily to understand the rural situations, status of Agricultural technologies adopted by farmers, prioritize the farmer's problems and to develop skills & attitude of working with farm families for overall development in rural area.

The students will undertake this program during the seventh semester for a total duration of 20 weeks with a weightage of 0+20 credit hours in two parts namely RAWE and AIA. It will consist of general orientation and on campus training by different faculties followed by village attachment/unit attachment in University/ College/ KVK or a research station. The students would be attached with the agro-industries to get an experience of the industrial environment and working**.** Due weightage in terms of credit hours will be given depending upon the duration of stay of students in villages/agro-industries. At the end of RAWE & AIA, the students will be given one week for project report preparation, presentation and evaluation. The students would be required to record their observations in field and agro-industries on daily basis and will prepare their project report based on these observations.

Component- I

Rural Agricultural Work Experience (RAWE) **Credits: 16 (0+16)**

Objectives

1. To provide an opportunity to the students to understand the rural setting in relation to agriculture and allied activities.
2. To make the students familiar with socio-economic conditions of the farmers and their problems.
3. To impart diagnostic and remedial knowledge to the students relevant to real field situations through practical training.
4. To develop communication skills in students using extension teaching methods in transfer of technology.
5. To develop confidence and competence to solve agricultural problems.
6. To acquaint students with on-going extension and rural development programmes.

Component- II

Agro-Industrial Attachment (AIA) **Credits: 4 (0+4)**

Technology and globalization are ushering an era of unprecedented change. The need and pressure for change and innovation is immense. To enrich the practical knowledge of the students, in- plant training shall be mandatory in the last semester for a period of up to 3 weeks. In this training, students will have to study a problem in industrial perspective and submit the reports to the college. Such in-plant trainings will provide an industrial exposure to the students as well as to develop their career in the high tech industrial requirements. In- Plant training is meant to correlate theory and actual practices in the industries. It is expected that sense of running an industry may be articulated in right way through this type of industrial attachment mode.

Objectives

1. To expose the students to Industrial environment, this cannot be simulated in the university.
2. To familiarize the students with various Materials, Machines, Processes, Products and their applications along with relevant aspects of shop management.

3. To make the students understand the psychology of the workers, and approach to problems along with the practices followed at factory
4. To understand the scope, functions and job responsibilities in various departments of an organization.
5. To expose various aspects of entrepreneurship during the programme period.

Placement

- Students shall be placed in Agro-and Cottage industries and Commodities Boards for three weeks.
- Industries include Seed/Sapling production, Pesticides-insecticides, Post harvest-processing-value addition, Agri-finance institutions, etc.

Duration wise activities performed during RAWE (1 Semester)

S. No.	Activity	Duration
1	Orientation & Placement	2 weeks
2	Survey of Village	18 weeks
3	Agronomical Interventions	
4	Plant Protection Interventions	
5	Soil Improvement Interventions (Soil sampling and testing)	
6	Fruit and Vegetable Production Interventions	
7	Food Processing and Storage Interventions	
8	Animal Production Interventions	
9	Extension and Transfer of Technology Activities	
10	Agro-Industrial Attachment	3 weeks
11	Project Report Preparation, Presentation & Evaluation	2 weeks

Registration

- The students shall register for RAWE programme during VII semester in B.Sc. Hon's (Agri.) degree programme.

Eligibility for registration and other requirements

- Students undergoing studies leading to the award of B.Sc. or B. Tech and its equivalent a degree at Agricultural Sciences at Agricultural University shall be eligible for a period of one semester.
- The stipend will be admissible to persons of Indian Nationality as defined in the Constitution of India or persons domiciled in India; irrespective of sex, race or religion.
- A student will be under the administrative control of the Head of the Institution as he joins. The Head of the Institution will ensure that all the rules and regulations of ICAR are strictly adhered to.
- A student will devote his whole time to the approved training and will not be allowed to accept or hold another appointment paid or otherwise.
- If a student shows unsatisfactory progress during the course of his training or gives up the chosen course of studies before its completion without any prior approval of the Head of Institution, or is irregular in attendance, the Head of Institute itself will cancel the stipend. The stipend once cancelled will not be restored, no matter whatever the reasons adduced.
- 85 per cent attendance is compulsory for students registered for RAWE programme, failing which they will have to repeat the programme at their own cost.
- The students registered for RAWE are not allowed to leave the venue of their placement without written permission of Coordinator RAWE / Dean, College of Agriculture. Permission will be granted only under emergency.
- Good conduct and regularity in attendance are also implied conditions for the continuance of stipend.
- The Head of the Institution is expected to bring to the notice of the Council any adverse report that may have been necessitated due to habitual/ irregularity, misbehaviour, participation in strikes etc. suggesting suspension/ cancellation of stipend. The student will not be paid their stipend during the period of strike or during the period the trainee remains on conduct probation.
- A student undergoing RAWE will not be allowed to avail of any other fellowship/ scholarship during tenure of stipend of the Council. In case a candidate is already receiving any other fellowship/ Scholarship it will be surrendered by him before accepting stipend of the Council. Merit cum means scholarship, Freeship is, however, not covered under the above conditions.

Monitoring

1. The advisory committee for monitoring of RAWE programme will comprise of the following members:
   a. Principal Scientist/Senior Scientist /Senior Scientist and Head (KVK) of concerned station (Chairman).

b. Dean's nominee (Dean will be the overall in-charge of the programme).
c. Head/representative of the departments involved in the RAWE programme.

2. Students will be required to submit a final comprehensive report on or before the date specified in the academic calendar.
3. The students will be required to maintain a daily diary as per the prescribed proforma. They shall produce their diary to the visiting teacher for inspection and for recording their observation & suggestions. The visiting teachers shall verify the work and sign the diary.
4. The Chairman of the committee shall monitor daily activities of individual student.

Evaluation

1. Students shall be evaluated component-wise under village attachment/ agro-industrial attachment.
2. Each College of the University will designate a Student READY Program Coordinator and component wise evaluation committees. These committees will evolve a method of evaluation depending upon the component undertaken giving due weightage to the observations made by the Scientists/Agro-industrial Officer and the Senior Scientist and Head (KVK) with whom they are attached.
3. Since the Credit Hours allotted to the Student READY programme are gradial, the minimum condition of attendance and grading system will apply for the program as will be applicable to other courses.
4. It is expected that at the end of Student READY program, the students should gain competency for entrepreneurship, which should be innovative and creative in nature. The evaluation committee must ensure percentage increase in this competency at the end & successful organization of all Student READY programmes.
5. The 50 marks allotted to each activity will be awarded by considering the performance of student viz. work done in respective subject with the host farmer, observation of the teacher recorded during the visits, punctuality, enthusiasm, rapport with the host farmer and any other significant achievements of the student. The entire course teacher will evaluate the comprehensive report, submitted by the student and conduct viva-voce examination as per their course.

S.No.	Activity	Credit(s)	Maximum Marks
Component - I	**Rural Agricultural Work Experience (RAWE)**		
1	Survey of Village	0+1	50
2	Agronomical Interventions	0+3	50
3	Plant Protection Interventions	0+2	50
4	Soil Improvement Interventions (Soil sampling and testing)	0+2	50
5	Fruit and Vegetable production interventions	0+3	50
6	Food Processing and Storage interventions	0+1	50
7	Animal Production Interventions	0+1	50
8	Extension and Transfer of Technology activities	0+3	50
Component - II	**Agro-Industrial Attachment (AIA)**		
9	Agro-Industrial Attachment	0+4	50
	Total	**0+20**	**450**

Thus, a student registered for RAWE will have to obtain 225 marks, i.e. 50% to pass RAWE; OGPA will be worked as University prescribed procedures. In case, a student failed to secure the required marks will have to repeat the programme at their own cost, in the next year as and when RAWE will be offered.

Implementation of the Programme

The students from each College will be placed in Krishi Vigyan Kendra/ Research Station under the jurisdiction of BUAT and a small group of 4-5 students will work in the selected villages.

Norms for Allotment of Villages

1. The students will be placed in KVK or Research Station and they will be equally distributed in different villages depending on availability of enterprising and innovative host-farmers. The ADR/Senior Scientist / Senior Scientist and Head (KVK) must satisfy themselves with regard to suitability of selected farmers / villages for fulfilling the overall objectives of RAWE programme.
2. Among the student placed in a village, one student nominated by Station In-charge will function as a student group leader and coordinate the activities in the assigned village.

Orientation

Students have to report to the In-charge RAWE programme in their respective colleges as per the prescribed schedule of work for orientation immediately after registration. The Heads of concerned departments will ensure that the students are well exposed to the latest practices / technologies available in their respective fields before undergoing training on Agronomical Interventions, Plant Protection Interventions, Soil Improvement Interventions, Fruit and Vegetable production interventions, Animal Production Interventions and Extension and Transfer of Technology activities.

Programme of Work

The RAWE programme comprises of nine components as under:

1. Survey of Village
2. Agronomical Interventions
3. Plant Protections
4. Soil Improvement Interventions (Soil sampling and testing)
5. Fruit and Vegetable production interventions
6. Food Processing and Storage interventions
7. Animal Production Interventions
8. Extension and Transfer of Technology activities
9. Agro-Industrial Attachment

1. Survey of Village

The students shall take-up a survey of the village as per the prescribed scheduled. The students shall be required to collect the data on overall condition of village, resource endowment and its utilization, problems of labour and employment and other important economic aspect detailed in the schedule. The student shall also conduct a PRA of the village.

2. Agronomical Interventions

In agronomical interventions, the students will be exposed to various crops and different agronomical practices in farmer's field. He /She will also involve in production technology and management of various crops. The student shall maintain a record of work done in prescribed proforma.

3. Plant Protection Interventions

Under this the students will be exposed to various plant diseases, insect-pests, and physiological disorders prevailing in the area and prescribe remedial measures.

4. Soil Improvement Interventions (Soil sampling and testing)

Under this component the students shall involve in activities i.e. Soil Testing, Collection of soil sample by using Geo positioning system (GPS). Students shall

study the Use of soil health card for fertilizer schedule, Integrated Nutrient Management (INM) and its importance in soil quality improvement, role and importance of micronutrients in crop production, soil salinity, alkalinity and acidity and its reclamation. Natural Resource Management (NRM), role of Bio-fertilizer in improving soil health, soil properties important for soil health, Quality control in fertilizer, Soil degradation, improvement of soil health for sustainable agriculture, vermi-compost and its role in improving soil health, classification of green manures & role in improving soil health, Water management, Crop rotation.

5. Fruit and Vegetable production interventions

In fruits and vegetables crops, the students shall involve themselves in field operation viz., seedbed preparation, nursery management, propagation etc. along with their host farmers. The student shall maintain a record of work done and will submit it at the end of the semester.

6. Food Processing and Storage interventions

Students shall involve themselves to study and collect the information i.e. methods of food processing and preservation, Importance of processing of fruits and vegetables, spices, condiments and flowers, Packaging of horticultural commodities, Common methods of storage, Post harvest management and equipment for spices and flowers, Quality control in Fruit and vegetable processing industry, Storage structure and methods of grain storage, Traditional and modern storage structures, Indigenous Technological Knowledge used for food storage.

7. Animal Production Interventions

Under this, the students shall collect the information of livestock on various aspects i.e. daily maintenance and feed expenses, milk production, milk disposal, dairy products, egg and birds, pig etc.

8. Extension and Transfer of Technology activities

The students shall involve themselves in the following activities i.e. Participatory Rural Appraisal, Identification of agricultural problems of the village and training needs of the farmers, Conducting method demonstrations of improved practices, Organization of short duration farmers training camp, field visits and agricultural exhibitions, Study of the on-going rural and agriculture development programme in the villages, Arrange farmers meeting to discuss agricultural aspects, Visit to various village institutions and study their role in development programmes and other extension activities, Motivate farmers through different extension teaching methods, Documentation of success stories.

Each student will prepare a report with respect to the activities indicated above and submit it to the Chairman of Advisory Committee for its evaluation. The students shall be given an opportunity to acquaint themselves with on-going

programme and activities of research, development, marketing, extension agencies and organizations in the village. The students will submit report on the institutions he/she has visited.

9. Agro-Industrial Attachment

The students shall involve themselves in the activities and tasks during Agro-Industrial attachment for 3 Weeks duration viz. acquaintance with industry and staff, study of structure, functioning, objective and mandates of the industry, study of various processing units and hands-on trainings under supervision of industry staff, ethics of industry, employment generated by the industry, contribution of the industry promoting environment, learning business network including outlets of the industry, skill development in all crucial tasks of the industry, documentation of the activities and task performed by the students.

Component – I: Rural Agricultural Work Experience (RAWE)

PROFORMA FOR DAILY DIARY OF STUDENT

(To be maintained by the student in ruled notebook)

1. Name of the student :
2. Enrolment No. :
3. Name of the College :
4. Name & address of the contact farmer :
5. Research Station / KVK :
6. Abstract of work :

Work days & Date	Abstract of work done	Signature & Designation of Visitors / Contact Farmer
Monday		
Tuesday		
Wednesday		
Thursday		
Friday		
Saturday		
Sunday		

*Daily diary will be maintained in a separate ruled book Register showing work report on daily basis for each month of stay in the village.

Fortnightly Progress Report

Number of Fortnight	Date	Remarks about the performance	Signature of officers Incharge
1			

2				
3				
4				
5				

Note: Fortnightly / Monthly verification will be done on the basis of daily diary.

WEATHER RECORD

Village:…… Taluka: ……..

(if the data at the place is not available, the data of the research station can be given)

Month	Met. Week	Temperature		Humidity %		Rainfall (mm)	No. of Rainy Days
		Max ^{0}C	Min ^{0}C	Morning	Evening		

PATWARI RECORD OF THE VILLAGE (To be acquainted with)

1. Khasara
2. Khatauni
3. Zamabandi
4. Village Map

I. Survey of Village Credit: 1 (0+1)

VS-I: General Information

1. Name of village: …….
2. Tehsil: …….
3. District…….
4. Distance in Kilometers from the nearest:
   a) Primary/Middle Scholl: …….
   b) High School/ Higher Secondary/College: ……
   c) Post Office: …….
   d) Telegraph Office: …….
   e) Railway Station: …….
   f) Bus Stand: …….
   g) Tehsil Place: …….
   h) Krishi Upaj Mandi: …….
5. Transport facilities available in the village: ……
6. Nearest village (weekly) market:
   a) Place : ……
   b) Distance: ……

VS-II: Population of Village

S.No.	Item	Population as per Census
1.	Total Population	
2.	Total Male 1. Literate 2. Illiterate	
3.	Total Female 1. Literate 2. Illiterate	
4.	Number of Cultivators	
5.	Number of Agricultural Labourers 1. Male 2. Female	
6.	Other Nos. of Scheduled Castes Nos. of Scheduled Tribes Nos. of Scheduled Backwards	

Note: Information of village population to be obtained from the Gram Panchayat Officer /Patwari

VS-III: Land use pattern of village

S.No.	Item	Area in hectares	% to total Geographical area
1.	Total Geographical area of Village		
2.	Area under forest		
3.	Barren and uncultivable land		
4.	Land put to non-agricultural use		
5.	Cultivable waste land		
6.	Total fallow land		
7.	Net area sown		
8.	Net irrigated area		
9.	Area sown more than once		
10.	Gross cropped area (S.No. 7+9)		
11.	Area under 1. Light soil (Depth upto one foot) 2. Medium soil (Depth 1 to 2 ft) 3. Heavy soil (Depth more than 2ft)		

Note: Information on land use pattern of the village to be obtained from the Patwari.

VS-IV: Irrigation facilities available in the village:

S.No.	Source of Irrigation	Number	Area irrigated in Hectare	
			Seasonal	Perennial
1.	Total Wells a) Well in use b) Not in use			
2.	Canal			
3.	Tube wells			
4.	Tank			
5.	Other Sources (specify)			

VS-V: Implements and machinery available in village:

S.No.	Particulars	Number
1.	Bullock drawn implements	
2.	Hand drawn implements	
3.	Tractors	
4.	Power thresher	
5.	Electric pump/oil engine	
6.	Sprayers	
7.	Dusters	

Note: Information on irrigation facilities and implements and machinery can be obtained from the Patwari and Village Development Officer (V.D.O) working in Gram Panchyat.

VS-VI: Cropping pattern of village (use data for current/latest year):

S.No.	Crop	Varieties grown	Area in hectares	Percentage to gross cropped area
1.	Soybean a) Yellow b) Black			
2.	Jowar a) HYV b) Local			
3.	Maize a) HYV b) Local			
4.	Cotton a) HYV b) BT c) Other			
5.	Paddy a) HYV b) Improve c) Other			
6.	Tur a) HYV b) Local			
7.	Moong a) HYV b) Local			
8.	Urid a) HYV b) Local			
9.	Wheat a) HYV b) Improve c) Local			
10.	Gram a) HYV b) Local			
11.	Oilseeds (Safflower, Groundnut, Sunflower, Linseed, Seasmum, Nizer etc.			
12.	Other crops (Vegetables)			
13.	Gross cropped area of village			

Note: Data on Cropping Pattern of the village to be obtained from the village Patwari.

VS-VII: Wages rates prevalent in the village:

S.No.	Period	Wages Rate (Rs.) per day			
		Man	Women	Bullock pair	Tractor/hr.
1.	Khairf Season a) Sowing time b) Interculture c) Harvesting d) Threshing				
2.	Rabi Season a) Sowing time b) Interculture c) Harvesting d) Threshing				
3.	Summer Season				

Household Schedule (HS)

Information of Selected Cultivators

a) Name of the Farmer :……

b) Caste :……

c) Village :……

d) Block Tehsil…… District……..

HS-I: Details about Family Members

S. No.	Name	Age (Yrs)	Education					Relation with head	Occupation	
			IL	P	M	S	G		Main	Subsidiary
1.										
2.										
3.										
4.										
5.										
6.										

IL - Illiterate, P - Primary Level, M - Middle Standard, S - Secondary Level, G- Graduate & above.

HS-II: Details about land possessed by the cultivator

S.No.	Particulars	Area (hectare)
1.	Total land area	
2.	Permanent fallow	
3.	Current fallow	
4.	Net sown area	
5.	Area under irrigation	
6.	Area sown more than once	
7.	Gross cropped area (4+6)	
8.	Approximate value of land (Rs./ha)	
9.	Total land revenue paid (Rs.) per year	
10.	Other taxes	

HS-III: Details of Livestock Position

S. No.	Particulars	Type of Animal			Others
		Bullock Pairs	Milch Animal		
			Buffaloes	Cows	
1.	No. of animals				
2.	Age of animals				
3.	If purchased Year of purchase Price (Rs.)				
4.	If home bred Present Value (Rs.)				

HS-IV: Farm Machineries

S.No.	Name of Machine	Machine's make	Year and Purchase/price	Present value (Rs.)
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				

HS-V: Inventory of Residential and Farm Building

S.No.	Type of building	Year of constriction	Type of construction	Present value (Rs.)
1.	Type of building			
2.	Residential			
3.	Cattle Shed			
4.	Other Shed Storage			
5.	Irrigation Structures (Pump house)			
6.	Tractor shed			
7.	Others			

HS-VI: Financial Position of Farmer

(I) Dues payable (Liabilities)

S.No.	Particulars	Loan No.			
		I	II	III	IV
1.	Amount of loan				
2.	Date of borrowing				
3.	Source of loan				
4.	Purpose of loan				
5.	Amount of loan outstanding at the end of year				

(II) Dues Receivable

S.No.	Dues receivable from	Amount in Rs.
1.	Cultivator/Relatives	
2.	Traders	
3.	Aarhata	
4.	Other	

(III)Net Worth = Total Assets - Total Liabilities Assets –

HS- III, + HS -IV, HS-V Liabilities- HS-VII+II

HS-VII: Details of labour used for one important crop grown by the selected farmer:

I) Name of Crop…….. II) Area (ha)…….

S.No.	Name of Operation	Frequency of use	Human Labour				Bullock Labour				Machine Labour			
			Family		Hired		Owned		Hired		Owned		Hired	
			Hrs.	Val.	Hrs.	Val.	Hrs.	Val.	Hrs.	Val.	Hrs.	Val.	Hrs.	Val.
1.	Ploughing													
2.	Harrowing													
3.	Leveling													
4.	Manuring													
5.	Seed raising													
6.	Sowing/ Transplanting													
7.	Fertilizer application													
8.	Weeding													
9.	Hoeing													
10.	Fertilizer application (Second dose)													
11.	Plant protection													
12.	Irrigation													
13.	Harvesting													
14.	Threshing and winnowing													
15.	Transportation of produce to home													
16.	Other operation													

HS-VIII: Details of Material used and Estimation of the cost of cultivation of one important crop grown by the selected farmer:

I) Name of the Crop…….. II) Area (ha)……

S.No	Particulars	Quantity Used	Price per unit	Total cost	Per cent to total cost
1.	Family labour a) Man (day) b) Woman (day)				
2.	Hired Human labour owned/Hire a) Male (day) b) Woman (day)				
3.	Bullock labour Pair (day) a) Owned b) Hired				
4.	Machine Labour a) Owned (Hrs.) b) Hired (Hrs.)				
5.	Seed (Kg)				
6.	Manures (Q.)				
7.	Fertilizer a) N b) P c) K				
8.	Insecticides				
9.	Irrigation charges (Rs.)				
10.	Land Revenue				
11.	Other taxes				
12.	**Total S.No. 2 to 11**				
13.	Interest on working capital on S.No.12 @10%				
14.	Rent paid for leased in land				
15.	Rental value of owned land prevailing rate in the village or 1/6th of the gross value of produce				
16	Interest on fixed capital @ of 10% per annum (Excluding land)				
	Total Cost (S.No. 12 to 16)				
	PRODUCTION a) Main produce (Q.) b) By produce (Q.)				
	Gross Income = (Value of M.P.+B.P.)				
	Net Income over				
	Net income over a) Cost A2 = GI-Cost A2 b) Cost B2 = GI-Cost B2 c) Cost C2 = GI-Cost C2 d) Cost C3 = GI-Cost C3				

Cost Concept:

Cost A1 = S.No. 2 to 13 (Except S. No. 12)

Cost A2 – Cost A1 + Rent paid for leased in land if any

Cost B1= Cost A1+ Interest on fixed capital (Excluding land value)

+ Rental value of owned land + rent paid for leased in

Cost B2 = Cost B1 land

Cost C1 = Cost B1 = Imputed value of family labour i.e. S. No. 1

Cost C2 = Cost B2 + Imputed value of family labour (i.e. S. No. 1)

Cost C3 = Cost C2 + 10% of Cost C2 (Treated as managerial cost)

Cost of Production Rs./q = (Total Cost – Value By Product) / (Yield/ha)

HS-IX: Crop Production Record

S.No.	Name of the crop with variety	Area (ha)	Quantity produced		Productivity per hectare
			Main product (Q)	By product (Q)	Main product (Q)
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					

HS-X: Disposal of Farm Produce

S.No.	Name of the crop	Quantity Produced	Quantity Consumed	Quantity sold		
				Q	Price/Q	Total
1.						
2.						
3.						
4.						
5.						
6.						
7.						
8.						
9.						
10.						
11.						
12.						

HS-XI: Family Budget of the Farmer

S.No.	Item	Consumed during the year		Total Value	% of total
		Home Produced	Purchase		
I.	Cereals Jowar Wheat Rice Other				
II.	Pulses Tue Gram Mung Urid Other Pulses				
III.	Edible Oil Groundnut/Linseed/Til /Safflower Vegetable oil				
IV.	Non Vegetarian Mutton/Chicken Eggs Other				
V.	Milk and Milk Products Milk Ghee/Butter				
VI.	Condiments and Spices 1. Condiments 2. Chilies 3. Turmeric 4. Other				
VII.	Beverages 1. Tea 2. Coffee 3. Other				
IX.	Fuel and Light				
X.	Clothing and Footwear				
XI.	Education				
XII.	Medicine and Medical Services				
XIII.	Other				
	TOTAL				

Other Information Related to Village / District

1. Industry wise progress in Production and employment (Year …….)

S.No.	Village industry	Production in Rs.	Employment in days
1.	Processing of cereals and pulses		
2.	Ghani Oil		
3.	Village leather		
4.	Cottage Match		
5.	Sugar Cane and Khandsari		
6.	Bee Keeping		
7.	Village pottery		
8.	Carpentry and block smithy		
9.	Lime manufacturing		
10.	Others		

2. Employment potential in forestry (Year……)

S.No.	Head of Development	Employment (Man hours)
1.	Production forestry	
2.	Regeneration operation	
3.	Road construction	
4.	Social Forestry	
5.	Minor Forest Product	

3. Institutional Finance for Agricultural Development (Year……..)

(A)

S.No.	Particular	Amount (Rs.)
1.	Primary agril. Credit societies	
2.	Govt. loans	
3.	Commercial bank loans	
4.	RRB loans (Total Short Term Credit)	

(B)

S.No.	Particular	Amount (Rs.)
1.	Primary land Development bank	
2.	Commercial bank loans	
	Total Medium term & Long term credit	
	Total Direct Credit (A+B)	

4. Prevailing Marketing Channel for cereals/pulses/oil seed/fruit and vegetable/ forests products

S. No.	Cereals	Pulses	Oil Seeds	Fruits	Vegetables	Forest Product
1.						
2.						
3.						
4.						
5.						
6.						
7.						
8.						

5. Number of cold storage prevailing in the district

S.No.	Year of Establishment	Commodity Store	Capacity (In tones)	Charges/per months

6. Rural employment generation schemes and other schemes in operation including tribal schemes

S.No.	Name of Scheme	Beneficiaries (Nos.)

7. Details of minor irrigation projects

S.No.	Name	Numbers	Area covered (ha)

8. Self Help Groups in the village/cluster

S.No.	Name of SHG	Group of Person	Activity	Employment

Final Report on Socio-economic Study of Village/Farmer:

(This is to be based on the data collected by the student for the village and selected farmer. He should write at least one para on location, institutional facilities, population composition and cropping pattern of the village. Similar report for the selected farmer should also be prepared.)

Observations on Contact Farmers:

Students will record their observation on following aspects:- (Quantity, Nature, Use Pattern)

a) Resource base of the farmer
b) Technological Status of the farmer
c) Family budget and investment pattern of farmer
d) Marketing problems of the farmer
e) Constraints in adoption on technology
f) Farmers position against poverty line of Rs. 32,000/- per year per family. (Use separate sheet if space is insufficient)

Signature of Student

Remarks of Examiner:

Signature of Examiner **Signature of Coordinator**

II: Agronomical Interventions Credits: 3 (0+3)

Format - I

Details of the Agricultural Operation Performed by the Host Farmers
(Some good photographs of important features can be attached)

Name of the host farmers ……
Village…… Block ……..……..
District …… Cropping Season(s) …….
Year ……..

Field No.	Field area (ha)	Crop(s) Variety(s) grown		Agronomic operation done by the farmer during crop production			
			Tillage	Seed rate, Sowing date seed treatment, sowing method etc.	Manuring and Fertilizer application	Weed control and inter culture operations	Irrigation And drainage
1	2	3	4	5	6	7	8

Agronomic operations done during crop				Actual Yield per ha	
After care / plant protection	Harvesting	Transportation to threshing floor	Threshing and winnowing	Main production (Grain/Tubers/ Green vegetable)	By-product (Straw/Stover/ Haulm)
9	10	11	12	13	14

Estimated value of the produce (Rs./ha)

Main produce	Main produce	Main produce	Estimated expenditure (Rs./ha)	Profit or loss (Rs./ha)
15	16	17	18	19

Remarks and Signature of the Teacher **Signature of Student** **Signature of Farmer**

Format - II

Details of the cropping programme proposed by the student to the Host Farmer (To be filled by the students as suggestions to the farmers)

Field No.	Field area (ha)	Crop(s) Variety(s) grown		Agronomical operation done by the farmer during crop production			
			Tillage	Seed rate, Date of Sowing, Seed treatment, Depth of sowing etc.	Manuring and Fertilizer application	Weed control and inter culture operations	Irrigation And drainage
1	2	3	4	5	6	7	8

Agronomic operations done during crop productio				Actual Yield per ha	
After care / plant protection	Harves-ting	Transportati-on to threshing floor	Threshing and winnowing	Main production (Grain/Tubers/ Green vegetable)	By-product (Straw/Stover/ Haulm)
9	10	11	12	13	1

Estimated value of the produce (Rs./ha)

Main Produce	Main Produce	Main Produce	Estimated expenditure (Rs./ha)	Profit or loss (Rs./ha.)
15	16	17	18	19

Remarks and Signature of the Teacher **Signature of Student** **Signature of Farmer**

Background Information of the Host Farmer

1. Name of the farmer :

(a) Total land owned by the farmer (ha) :

(b) Land suitable for cultivation (ha) :

(c) Land not suitable for cultivation :

(i) Farm Stead (ha) :

(ii) Waste land (ha) :

2. Soil Conditions :

(i) Topography :

(ii) Colour :

(iii) Texture :

(iv) Depth :

(v) Fertility Status :

4. Rainfall of the district (Weekly) :

5. Irrigation facilities available on the field :

(i) Irrigation source :

(ii) Water availability period :

(iii) Approximate irrigated area (ha) :

6. Drainage requirement :

7. Crop(s) / Variety (s) i.e. grown by the farmers

(i) During kharif :

(ii) During rabi :

(iii) During summer :

8. Existing cropping systems practiced by the farmer

(i) Cropped area during kharif :

(ii) Cropped area during rabi :

(iii) Cropped area during summer :

9. Use of seeds

(i) Own seeds :

(ii) Seeds if purchased / Procured (Source/Agency) :

(iii) Category of seed used, if purchased :

10. Use of agro-inputs (Fertilizers/Manures/Herbicides/Insecticides/Fungicides/Others) etc.

(quantity)

11. Adoption of cultivation practice by the farmer with reasoning

(i) Traditional practice :
(ii) Recommended practice :

12. Livestock / position in numbers :

(i) Bullock :
(ii) Cows :
(iii) He buffaloes :
(iv) She buffaloes :
(v) Goats :
(iv) Others :

13. Farm machinery and power

(i) Availability of electricity :
(ii) Tractor :
(iii) Trolley / bullock cart :
(iv) Plough :
(v) Harrow :
(vi) Leveler :
(vii) Seed drill :
(viii) Weeders :
(ix) Threshers / Winnowers :
(x) Chaff cutters :

14. Market facilities (Regulated/unregulated): (Mandi, Cold storage if any)

15. Transport facilities (Road, Railways):

16. Loan facilities

(Cooperative or commercial or private Banks, Government Agencies, Other sources) :

17. Technological facilities

(i) Training Centres / Charcha Mandal :
(ii) Television / Radio :
(iii) Public Library :
(iv) Krishi Vigyan Kendra :
(v) Research Centre :
(vi) NGO's :

18. Calendar of the farm operation during the crop season / year. Calendar of agricultural operations done by the farmer*

S.No.	Day and Date	Name of the operation performed by the (Attach a separate sheet, if necessary)
1.	2	3
2.		
3.		

* Calendar should be maintained for the following :

(a) Land preparation :

(i) Number of ploughing / harrowing :
(ii) Leveling :
(iii) Soil and water conservation practices :
Practices / soil amendments
(iv) Any practice to facilitate :
(irrigation/drainage)

(b) Seed and sowing

(i) Seed treatment / seed inoculation :
(ii) Raising of nursery, if needed :
(iii) Seed rate
(iv) Method of nursery raising :
(Sowing, Fertilizer Application :
Irrigation, after care), if needed
(v) Date of sowing / transplanting :
(vi) Method of sowing of Transplanting :
(if applicable)
(vii) Date of sowing / transplanting :
Plant population etc.
(viii) Thinning / gap filling :
(ix) Bird watching / aftercare after seeding
:

(c) Fertilizer application

(i) Application of organic manures :
(ii) Application of fertilizers :
(iii) Method and time of manure and fertilizer application :
(iv) Any other information pertaining to nutrient management :

(d) After care :

(i) Weed control :
(ii) Intercultural

(iii) Manual / cultural :
(iv) Mechanical / Chemical weed control measures, if any :
(v) Special cultural operations, if any:
(vi) Any other information like earthening :
stacking, wrapping, nipping etc.

(e) Irrigation

(i) Time of irrigation (s) :
(ii) Drainage, if done :

(f) Plant protection

(i) Time and stage of the occurrence: of the pests / diseases
(ii) Severity of the pest / diseases :
(iii) Extent of damage caused :

(g) Control measures adopted for the control of insects pest / diseases

(i) Type of sprayer / no…….. used by farmers:
(ii) Insecticides pesticides used, dose and frequency of application :
(iii) Any other information like bird watching etc. :

(h) Harvesting, threshing and processing

(i) Date of harvesting and duration :
(ii) Transportation to threshing floor :
(iii) Threshing (manual / animal / machinery):
(iv) Winnowing (method, time) :
(v) Storage, processing, marketing facilities:
(vi) Any other work :

III. Plant Protection Interventions Credits: 2 (0+2)

(A). Entomology

Identification of Important Insect pests of at least two major crops cultivated in village.

1. Name of Crop
2. Name of insects identified in the field

S.No.	Common Name	Local Name	Scientific Name	Systematic position
1.				
2.				
3.				
4.				
5.				

1. Principle symptoms of pest damage

S.No.	Early growth stage	Vegetative stage	Flowering / podding / earhead	Grain etc.
1.				
2.				
3.				

4.				
5.				

2. Intensity of pest attack and degree of infestation (Pest wise)

Nil	
Low	
Medium	
High	
Epidemic	

3. Collection of major insect-pests and predatory insects in the field

S.No.	Name of Insects	Stages				
		Egg	Larval	Pupa	Nymph	Adult
1.						
2.						
3.						

4. Methods of Control adopted: (2 major crops) (Crop wise at different times)

S.No.	Name of Insects	Non chemical methods	Cultural methods	Mechanical/ physical methods
1.				
2.				
3.				

5. Chemical Control:

Pest attack	Farmers Practices				Recommended practices			
	Name of Insecticides	Doses	Type of sprayers / Duster	Stages of crop	Name of Insecticides	Doses	Type of sprayer / Duster	Stages of crop

(i) Commonly available insecticides in the village / local market:
(ii) Precautions observed while using insecticides :
(iii) Methods of preparation of insecticidal solution:
(iv) Method of calibration of machines (sprayer / duster):

6. Rodent management in field as well as in House / Storage (As per recommended practice)

Farmers Practices					Recommended Practices				
Strategies		Field		Storage	Strategies		Field		Storage
Tapping	Poison Baiting	Crop stage	Dose	Dose	Tapping	Poison Baiting	Crop stage	Dose	Dose

7. Suggestion for proper storage of food grains.

S.No.	Name of Food Grain	Moisture content	Fungicide / Fumigant Treatment	Dose
1.	For Human			
2.	For storage purpose			

8. Documentation of indigenous technology knowledge (ITK) of pest management practices in the village along with photographs.

Signature of Student **Signature of Coordinator**

B. Plant Pathology

The following assignments have to be completed by Group (Batch) / Individual students during their stay in adopted Villages under RA WE programme.

I. Herbarium Collection

Each student has to submit at least 15 plant disease species specimens properly pressed / dried and labeled in file cover by giving following information.

1. Name of crop / variety
2. Name of Disease
3. Name of the casual organism
4. Locality / place / Name
5. Date of collection
6. Collected by

II. Demonstration of disease management technology

To be done by each batch of students in 0.5 (Half) acre area:

A. Seed treatment in 1. Gram, 2. Wheat, 3. Potato, 4. Seasonal vegetable (any two)

1. Gram:

(a) Bio agent (*Trichoderma*) @ 5g/kg seed
(b) Thiram + Carbendazim (2:1) 3 g/kg seed
(c) Control without treatment

2. Wheat:

(a) Carboxin @ 2.5 g/kg seed
(b) Control without any treatment

3. Potato:

(a) 0.5% (5g/liter) Mancozeb solution for 30 minutes
(b) Control without any treatment

B. Demonstration on foliar spray of fungicides: supported by Field photograph in paddy/soybean/potato/pea/chilies/mustard/lentil/tomato etc. Optional (any two).
For Powdery mildew - Sulphur(35 EC) @3g/liter water.
For Leaf spots / Blights (early / late) Mancozeb @3g/liter water.
For Downy mildew / white rust: Copper Oxychloride (Fytolan or Blue Copper) @3g/L water.

4. Soybean:

Thiram +Carbendazim (2:1) 3g/kg seed for seed & seedling diseases For YMV prone areas: Thiamethoxam 3g/kg seed

Foliar diseases: Control

Spray of carbendazim 1 g/L after 30 and 45 days after sowing.

5. Paddy:

Seed treatment:

Carbendazim 1 g +	Seed treatment
Streptocycline 0.25 g	or
Per kg/L	Seedling drip (30 ml)
Before transplanting	

Blast:

Carbendazim 1-1.5 g/L water (with sticker or soap)

Bacterial blight:

Spray Streptocycline (Pausamycine, Agrimycine 100 etc.)
2.5-3.0 g/10 L of water with sticker
(Repeat in case cloudy/raining after 7 days)

Smut/bunt:

Propiconazole 1 ml/litre spray during flowering stage.

III. Training cum Demonstration of low cost simple oyster mushroom production technology: To be done by each batch (Date wise record of data/ photos)
Specially - Farmer women/Rural Youth
Trainings to: unemployed youth/farmers and rural/tribal people on mushroom production, its nutritional and medicinal value and post harvest technology in order to generate an alternative source of employment and sustainable income.

IV. Survey of Plant Disease:
Each student has to submit duly filled proforma (as per manual/booklet) of least five commonly occurring diseases from 4-5 location/field i.e. 20 - 25 proforma. For example: brown spot/blast of paddy, yellow mosaic, blights of soybean, loose smut of wheat, wilt/root rot/collar rot of gram, powdery mildew of pea - cucurbits and disease of other crops/vegetables.

Each student will prepare a "Practical Record" giving details of above work duly verified by Station I/c Course teacher and submit the same at the Semester end.

Signature of Student **Signature of Coordinator**

IV. Soil Improvement Interventions (Soil Sampling and Testing) **Credits: 2 (0+2)**

Students have to test soil samples in respective Krishi Vigyan Kendra, for which the information should be collected according to the given format:

Information Sheet for Soil Testing

1. Full address of Farmer :
2. Sample number :
3. Number of soil samples :
4. Date of soil sampling :
5. Field name (Khasara number etc.) :
6. Whether the field is irrigated or not :
7. Source of irrigation :
8. Nature of field i.e. sloppy, depression, stony etc.:
9. Crop rotation :
10. Name of crops to be sown :
11. Amount and nature of fertilizer applied to the previous crop:
12. Visual nutrient deficiency, if any :
13. Water infiltration rate :
14. Water logging problem, if any :
15. Any other :

Signature

Preparation of Soil Health Card

Detail Information of Farmer

- Name :
- Address :
- Village :
- Tehsil :
- District :
- Aadhar Number :
- Mobile Number :

Details of Soil Sample

- Soil Sample Number :
- Date of Soil Collection :
- Khasra Number :
- GPS:
  - Longitude :
  - Latitude :
- Irrigated Soil/Rainfed Soil :

Result of Soil Testing

S.No.	Parameter	Value	Analysis	Remarks
1.	pH			
2.	EC			
3.	Organic Carbon			
4.	Available Nitrogen			
5.	Available Phosphorus			
6.	Available Potassium			
7.	Available Sulphur			
8.	Available Zinc			
9.	Available Boron			
10.	Available Iron			
11.	Available Manganese			
12.	Available Copper			

Recommendations for application of Micro nutrients		
S.No.	**Parameter**	**Recommendations for soil application**
1.	Sulphur (S)	Gypsum (18%)
2.	Zinc (Zn)	Zink Sulphate (21%): **25 Kg./ha**
3.	Boron (B)	Borex (10%)
4.	Iron (Fe)	Ferrous Sulphate (19%)
5.	Manganese (Mn)	Maganesium Sulphate (30.5%)
6.	Copper (Cu)	Copper Sulphate (24%)
General Recommendations		
1.	Organic Manure	**5 tonnes/ ha**
2.	Bio-fertilizer	
3.	Gypsum	

Integrated Nutrient Management for Major Crops

S. No.	Crop	Nutrients ($N:P_2O_5:K_2O$) kg/ha	Fertilizers (kg/ha)			
			Urea	SSP	MoP	DAP
1.	Rice	120:60:40	261	375	67	0
			210	0	67	130
2.	Maize	180:60:40	391	375	67	0
			340	0	67	130
3	Soybean	20:80:20	43	500	33	0
			0	0	33	174
4.	Wheat	120:60:40	217	375	67	0
			210	0	67	130
5.	Chickpea	20:50:20	43	313	33	0
			0	0	33	109
6.	Sugarcane	300:80:60	652	500	100	0
			584	0	100	174
7.	Mustard	80:40:20	174	250	33	0
			140	0	33	87
8.	Pigeonpea	30:60:40	65	375	67	0
			14	0	67	130
9.	Jawar	80:40:40	174	250	67	0
			140	0	67	87
10.	Hybrid Bajra	120:60:50	261	375	83	0
			210	0	83	130

- Application of FYM @ 5 t/ha reduces the requirement of Urea, SSP and MoP by 54, 63 and 42 kg/ha, respectively from given doses of fertilizers for different crops.
- Seed treatment by crop specific Rhizobium in legumes and Azotobactor/ Azospirillum in non-legume crops @ 5.0 g/kg seed and PSB @ 3.0 kg/ha as soil application for all crops is recommended.
- In case Zinc deficiency, application of Zinc Sulphate @ 25 kg/ha on alternate year is advised.
- In case of sulphur deficiency, application of S @ 40 kg/ha per year or continuous application of SSP instead of DAP is advised.

Objective and advantage of soil testing:

Objectives:

1.
2.
3.
4.
5.

Advantages:

1.
2.
3.
4.
5.

Importance of Micronutrients in Crop Production

S.No.	Name of micro nutrient	Importance
1.	Zinc	
2.	Copper	
3.	Iron	
4.	Manganese	
5.	Boron	
6.	Chlorine	
7.	Molybdenum	

Reclamation of soil salinity, alkalinity and acidity

1. Soil salinity…….
2. Soil alkalinity……
3. Soil acidity……..

Natural resource management (NRM)

(a) Role of Bio fertilizer in improving soil health

1.
2.
3.
4.

(b) Role of Vermi compost in improving soil health

1.
2.
3.
4.

(c) Role of Green manure in improving soil health

1.
2.
3.
4.

(d) Soil degradation, improvement of soil health for sustainable agriculture
Reasons:

1.
2.
3.
4.

Improvement:

1.
2.
3.
4.

(e) Role of Quality control in
fertilizer 1.
2.
3.
4.

(f) Water management for soil improvement

1.
2.
3.
4.

(g) Role of Crop rotation in soil improvement

1.
2.
3.
4.

Signature of Student **Signature of Farmer** **Signature of Coordinator**

V. Fruit and Vegetable Production Interventions Credits: 3 (0+3)

A. FRUIT PRODUCTION

Details of existing fruit trees:

(Period of the Scheme:…….)

1. Name of Village/Block/District
2. Name of the Farmer
3. Plot No. Crop & Crop Variety Area (ha)/No. of trees i.

ii.
iii.
iv.
v.

Crop-wise details shall be given under following heads

4. Manures/Fertilizers applied Time Quantity
   Fruit crops / intercrop
5. Inter-crop taken (name of the crop season) Crop Area Plant population m^2
6. Actual yield obtained

   i) Fruit Crop Area Quality Amount (Rate/kg)
   ii) Inter Crop

7. Yield per ha/per tree
8. Cultivation Problems
9. Income in Rs.
   Fruit Crops
   Inter Crops
10. Net Expenditure Rs. per ha per tree
11. Mode of transport and sale of the produce
12. Status of production technology
13. Suggestions if any
14. Total area cultivated
15. Irrigated area
16. Area in fallow
17. Area under fruit/horticultural crop
18. Net profit per ha per tree

Signature of Farmer **Signature of Student**

PLOT HISTORY
(Two important Fruit Crops)

1. Name of Student:
2. Name of Research Station/KVK to which attached:
3. Name of farmer:
4. Topography:
5. Soil type & drainage:
6. Irrigation source and irrigated area:
   Well/Canal/River/Nala/Rainfed potential available
   (Hours per day & area covered)
7. Trees planted with area and number:
8. Quality of planting material, method of planting:
9. Present survival of trees with age & condition of plants:
10. Remarks (Inter crops grown in the plot in the past):
11. Per cent of total area under horticultural corps:
12.

Area	**Crop**	**Variety**	**Number of trees**
PI			
PII			

Problems faced and techniques adopted to overcome.

Signature of Inspecting Officer **Signature of Student**

CALENDAR OF OPERATIONS

Name of Crop and No. of trees ……..…….Period of Report ……..

S.No.	**Date**	**Operation done & trees covered**		**Details of plant material used**
		Plot –I	**Plot –II**	
1.				
2.				
3.				
4.				
5.				

Operational Labour Cost (Rs)……

(only two plots)

S.No.	Particulars	Owned@	Hired @	Bullock Pair @	Tractor machinery
1.	Ploughing / harrowing				
2.	Digging, filling & planting				
3.	Manuring /Fertilizers				
4.	Weeding				
5.	Irrigation				
6.	Trining & Pruning				
7.	Spraying/Dusting				
8.	Harvesting/grading/ packing				
9.	Watching				
10.	Transport to market				

Total Cost on Labour (Rs.) ……..

Material Cost

S.No.	Particulars	Number		Value (Rs.)		Remarks
		Plot-1	Plot-2	Plot-1	Plot-2	
1.	Plant Material a) Seedling b) Layers / Grafts					
2.	Manures/Fertilizers					
3.	Irrigation					
4.	Hormone & Plant protection Chemicals					
5.	Staking cost					
6.	Packaging Material					
7.	Cultivation problem/ other problems identified					

Total cost of material (Rs.): ……

COST OF FARM PRODUCE (YEAR WISE)

1. Name of Crop, Number & Age of Trees
2. Crop Variety
3. Date of flowering & harvest
4. Production (kg) and income
   Per tree
   Rs. Per ha
   Rs.
5. Price of Produce Rs.
   Demonstration by student on:
   (a) Propagational studies
   (b) Special Horticultural Practices
   (c) Special problem & demonstration of solution (Training, Prunning, Bahar treatment, Manuring etc.)

   Plantation of fruit trees-Demonstration & Plantation of at least 5 fruit trees

   Grading and Packing

   Storage – Zero Energy Chamber

Note: Detailed note on above shall be written.

Signature of Student

B. VEGETABLE PRODUCTION

Cropping Scheme for Vegetables (period of reports)

1.	Plot No.	Crop variety	Area (ha)
	i.	Brinjal	
	i.	Potato / Tomato	
	iii.	Onion/Garlic	
	iv.	Cabbage /Cauliflower	
	v.	Chillies/Coriander/Fenugreek	
	vi.	Other	

2. Nutrient Application:

	Time	Quality	Rate	Value
Manure applied				
Fertilizer applied				
Green manure used				

3. Intercrop taken: Crop Area
   Kharif -
   Rabi -
   Summer -
   -

4. Actual yield obtained: Quantity (No./Q) Rate Rs. Value Rs.
   Main vegetable
   Inter crops

5. Yield per ha (Quintal /No.)
   Main crops
   Inter crops

6. Estimated cost: Main crop:

7. Gross Income in Rs. (value) Inter crop:

8. Net Income Rs. (value) per plot per ha

9. Cost/ Benefit ratio per plot per ha

PLOT HISTORY (two important crops)

		Field –I	Field –II
1.	Name of Student :		
2.	Name of institute to which attached :		
3.	Name of farmer :		
4.	Topography :		
5.	Soil type with drainage :		
6.	Well/Canal/River/Water: irrigation : with potential available (hours/day & area covered)		
7.	Crops grown in last year : Plot No., Survey No. and area in ha:		
8.	Crops now grown with Plot No. Survey No. and area (ha) planted or proposed :		
9.	Remarks :		

Signature of Inspection Officer In-charge **Signature of Student**

Calendar of Operations

Period of report :……

Name of crop and area (ha) :……

S. No.	Date	Operation done and area covered		Details of labour /bullock, tractor & material used
		Field - I	Field - II	

Operational cost (Labour wages) one crop only

S.No	Particular	Owned M/F/B.P./ 1 2 3	Hired M/F/B.P./ 1 2 3	Hired Rate M/F/B.P./ 1 2 3	Machinery Hours	Tractor Rate
1.	Ploughing					
2.	Harrowing					
3.	Bed Preparation					
4.	Manuring					
5.	Sowing/Planning					
6.	Fertilizers					
7.	Irrigation					
8.	Weeding Earthing Training Staking					
9.	Spraying Dusting					
10.	Harvesting Grading Packing					
11.	Watching					
12.	Transport to market					

M - Male, F - Female, B.P. - Bullock Power

Total Income **Net Profit**

Signature of Student **Signature of Farmer** **Signature of Coordinator**

Farm production cost (year …….……to……..) (at least one crop)

Name of Crops

Variety

Date of Flowering Date of Harvest

Production (Quintal)

Rate (Rs.)

Value of Produce (Rs.)

Material Cost (Area)

S.No.	Particulars	Quantity		Value		Remarks
		Crop-I	Crop II	Crop-I	Crop II	
1.	Seed/Seedling Plant					
2.	F.Y.M./ Oil cake / Fertilizer a) b) c)					
3.	Total No. Irrigation Season Irrigation Charges					
4.	Hormonal spray and plant protection charges					
	Cost of chemical					
5.	Stake cost					
6.	Packaging/Charge (Boxes or tokni) for hybrid tomato only Total cost of material					

Remarks by student on:

Vegetable Nursery raising (Crop :……)

Site selection & Nursery bed preparation

Nursery area required for one hectare

Seed rate required for different Vegetable crops

Seed and soil treatment

Type of Nursery bed raised/flat/sunken bed

After care

Economics of Nursery raising for one hectare:

Quantity & quality of certified /TL seed saved by the farmer from the previous crops (Seed Production Technology):

Special Horticultural Practices to boost vegetable production

Hot water treatment of Cole crop seed for control of Black rot (Bacterial) disease.

Potato tuber seed treatment.

Use of herbicides in weed control in vegetables.

Special method of raising cucurbits seedling & for early planting in spring-summers season.

Staking for hybrid tomato.

Use of plant growth regulators MH, Ethereal for increasing fruit set, in cucurbits.

Identification of production problems of major commercialized vegetables.

Control of major insect, pests and diseases.

Economics of vegetable production.

Layout of kitchen garden to get vegetable throughout the year.

Crops for kitchen garden with suitable rotation.

Signature of Student

Submission of brief write up by student on work done including special practices for boost up vegetable production.

Signature of Student

Remarks by Evaluator

Signature of Examiner **Signature of Officer Coordinator**

VI. Food Processing and Storage Interventions Credit: 1 (0+1)

Students shall involve themselves to study and collect the information i.e. methods of food processing and preservation, Importance of processing of fruits and vegetables, spices, condiments and flowers, Packaging of horticultural commodities, Common methods of storage, Post harvest management and equipment for spices and flowers, Quality control in Fruit and vegetable processing industry, Storage structure and methods of grain storage, Traditional and modern storage structures, Indigenous Technological Knowledge used for food storage.

Food processing methods that are used by farmer to preserve foods:

S.No.	Method	Material used (Cereals/Pulses/Vegetable/Fruits)
1.	Refrigeration and freezing	
2.	Canning	
3.	Irradiation	
4.	Dehydration	
5.	Freeze-drying	
6.	Pickling	
7.	Pasteurizing	
8.	Fermentation	

Procedures for fruit and vegetable preservation

Procedures	Practical applications (Fruits/Vegetables etc.)
Fresh storage	
Cold storage	
Freezing	
Drying/dehydration	
Concentration	
Chemical preservation	
Preservation with sugar	
Pasteurization	
Sterilization	

Packaging material Used for horticultural crops:

Students have to collect the information regarding the packaging material used for vegetables, fruits and other material at village level.

Natural material i.e. wood, bamboo, straw and synthetic bags, sacks, cardboards, plastic container, crates, etc.

S.No.	Name of article	Packaging material used
1.		
2.		
3.		
4.		
5.		

Storage Interventions

1. **Grain contamination is influenced by**
    a. Type of storage structure……
    b. Temperature……
    c. pH……
    d. Moisture……
2. **Storage losses in grains (%)**
    a. Type of structure used…….
    b. Length and purpose of storage……
    c. Grain treatment……
    d. Pre storage practices……
3. **What are the insects that are seen during storage**

S.No.	Name of Crop	Insect pests observed during storage
1.	Paddy	
2.	Wheat	
3.	Maize	
4.	Groundnut	
5.	Pulses	
6.	Coriander	
7.	Other Crop	

4. Name of the structure used for grain storage :

Outdoor structures

(1) Name .....

(2) Quantity stored .....

(3) Materials used for construction of the storage structure.....

(4) Any innovative practice that the farmer has evolved/ demesnes.....

(5) Problem observed by farm in storage shape of the structure.....

(6) Traditional or modern method.....

(7) Fumigation practices.....

(8) Time schedule.....

(9) Inter opening.....

5. Control Measures adopted by Farmers for Storage pest & Rodent

S.No.	Name of Insect	Control Measures
1.	Beetles	
2.	Weevils	
3.	Moth	
4.	Other	

6. Type of control measure used for Rodents by farmers

(Kindly □ the method used by the farmers of the locality)

a. Fumigant aluminum phosphide □

b. Rodent rat cases □

c. Poison baits □

d. Rat borrow fumigation □

7. Storage Structure used by the farmers of the locality

a. Kothi/Banda

b. PAU Bin (capacity 1-5 to 15 quintal) □

c. Pusa Bin (made from mud and bricks polythene) □

d. Cylindrical rubberized cloth structure □

e. CAP storage (cover and plinth) □

f. Silo □

g. Large scale storage □

h. Other (Specify) □

8. Student have to write at least two indigenous practices used for safe grain storage adopted at village

i)

ii)

Signature of Student **Signature of Coordinator**

VII. Animal Production Interventions Credit: 1 (0+1)

Information of Livestock

Particulars	Strength of livestock	Name of the Breed
Cow class 1. Adult cows a) Milking b) Dry		
2. Heifers		
3. Breeding bulls		
4. Bullocks		
Buffalo class 1. Adult Buffaloes a) Milking b) Dry		
3. Heifers		
4. Bulls		
Sheep		
1. Young stock		
2. Adult stock		
3. Adult rams		
4. Adult ewe		
Goat		
1. Young stock		
2. Adult stock		
3. Adult bucks		
4. Adult doe		
Poultry/ Pig/ Fish		
1. No. of chicks/piglets/fingerlings		
2. No. of layers/broilers/boar/sow		
Cost Structure	**Amount (Rs.)**	**Remarks**
1. Cost of animals (if purchased)		
2. Cost of dairy structure and paddocks		
3. Total cost of dairy structures		

Daily maintenance and feeding expenses

Particulars	Cow		Buffaloes		Sheep/Goats		Poultry	
	Qty.	Amt (Rs.)	Qty.	Amt (Rs.)	Qty.	Amt (Rs.)	Qty.	Amt (Rs.)
1. Labour male/female requirement								
2. Concentrates (kg)								
3. Green roughages (kg)								
4. Dry roughages (kg)								
5. Mineral mixtures (kg)								
6. Veterinary aids including breeding								
7. Total expenses per day								

Daily Milk Production and Disposal Record

(A) Milk Production

Date	No. of animals in milk				Milk Produced (L)				Total Milk Produced (L)
	Cow	Buffalo	Sheep	Goat	Cow	Buffalo	Sheep	Goat	

(B) Milk Disposal (L)

Date	Home consumption (Cow/Buffalo/ Sheep/Goat) Whole milk /Milk products	Utilized for making Products (Cow/Buffalo/ Sheep/Goat) Ghee/ butter/Khoa/ Curd/Others	Sale (raw milk) (Cow/Buffalo/ Sheep/Goat)	Name of agency to which sold	Income (Rs.) Rate of Dairy Milk/Unions/ Milk Vendors

Daily Production and Disposal Record

(A) Dairy Products

Date	Name of the dairy products	Quantity of dairy products (Kg)	Quantity sold (Kg)	Name of agency to which sold	Income (Rs.) Rate/kg.

(B) Eggs and Birds

Date	Breed/strains of Birds and system of keeping /rearing	Production of		Home consumption		Disposal of		Name of agency to which sold	Income (Rs.)
		Eggs	Birds/ Chicks	Eggs	Birds/ Meat	Eggs	Birds		

(C) Pig

Date	Breed & system of keeping/rearing	Production of Animals/Piglets	Disposal of Animals	Name of agency to which sold	Income (Rs.)

(D) Any Other Animals / Birds

Date	Species/Breed & system of keeping /rearing	Production of		Home consumption		Disposal of		Name of agency to which sold	Income (Rs.)
		Eggs	Birds/ Chicks	Eggs	Birds/ Meat	Eggs	Birds		

Yearly Production and Disposal Record

Particulars	Amount (Rs.)
A) Total production of – 1. Animals 2. Milk and milk product 3. Dung/F.Y.M. 4. Eggs 5. Poultry Birds/Chicks 6. Wool 7. Meat	
B) Disposal of – 1. Animals 2. Milk and milk product 3. Dung/F.Y.M. 4. Eggs 5. Poultry Birds 6. Wool	
C) Yearly income from the sale of 1. Animals 2. Milk and milk product 3. Cowdung / F.Y.M. 4. Eggs 5. Poultry Birds 6. Wool	
Total income (Rs.)	

Yearly Receipt and Expenditure Statement

Particulars	Amount (Rs.)
A) Receipt - * Total income obtained from the sale.	
B) Expenditure- 1. Cost of feeds and fodder 2. Labour cost 3. Expenditure on land revenue, energy charges etc. 4. Medicines & Vaccines (Veterinary Aids) Total expenditure	
C) Net profit (per year)	

* Crop production record should be used from Agronomy Proforma.

FINAL REPORT:

1. Brief note on work done on specific practices suggested by the students-
Cow/buffalo/ others/crossbred cow

(a) Sanitation of sheds and Design & house/Pattern adopted eg. Cage housing in layers.
(b) Balanced ration
  i. Concentrate mixture
  ii. Green roughage
  iii. Dry roughage
(c) Full hand milking practice
(d) First aid given
(e) Vaccination to R.P., H.S., B.Q. and F.M.D. & Poultry vaccination
(f) Care of pregnant animal
(g) Care of calves
(h) Care of buffalo, if any
(i) Care of bullocks
(j) Some important management practices
like grooming, clipping, stoppage of bad habits/vices like sucking of own milk, licking of own calf.
(k) Visit of cattle show if any

(1) Maintenance of Pedigree records

(2) Analysis of work and receptivity of the farmer for improved dairy practices

(3) Remarks by farmer

Signature of Student

Signature of Coordinator

Signature of the Evaluator

VIII. Extension and Transfer of Technology Activities Credits: 3 (0+3)

Study of development programme and activities of various agriculture and rural development programme, extension agencies or organization.

Project –1: Identifying problems of farmers:

For identifying the problems of the farmer, it is proposed to collect the information from individual farmers. The students will contact the farmers and collect the information in the schedule for identifying the specific and general agriculture problems.

1. Name of the farmer:

2. Village:

3. Age:

4. Education:

5. Total members in family:

   Men …….. Women …….. Children ……..

6. Total area of land owned (in ha)

   Dry …….. Irrigated …….. Fallow ……..

7. Sources of information used by farmers:

   i. How do you obtain the latest information about agricultural technology?
   ii. On which topics you feel that you are not getting information?
   iii. Do you regularly obtain farm information from the RAEO?
   iv. How many times you met the RAEO?
   v. Do you contact University Experts for obtaining information about agricultural technology?
   vi. Do you regularly listen to the 'Krishiwani' and other similar programmes of All India Radio?
   vii. Are you a subscriber of 'News Paper / Krishak Jagat / Krishi Vishwa' or other similar agricultural magazine?
   viii. How do you keep yourself update about the new agricultural technology to be adopted on your farms?

8. Adoption of farm technology:

The student is expected to collect the information about the adoption of recommended farm technology related to major crops.

S.No.	Technology Adopted	Name of Crops/ varieties
1.	Improved varieties	
2.	Seed treatment	
3.	Recommended doses of fertilizer	
4.	Irrigation method	
5.	Use of Weedicides	
6.	Insecticide	

9. Identifying specific gaps in adoption:

The student is expected to fill in this sheet about one important cereal, cash and oil seed / pulse crop grown by the farmer. The recommended practices may be based on the information collected from the research recommendation of the Department of Agriculture / Agriculture University. As regards the information with respect to the practices followed by the farmers, the information collected by student under Agronomy and Agriculture Economics may be used.

S.No.	Recommended practices	Practices followed by farmers	Extent of gap in adoption of recommended technology	Constraints in adopting recommended practices	Action oriented suggestions
1.					
2.					
3.					

10. After collecting the information in the schedule the student should record his observations in the following proforma.

S.No.	Agricultural problems identified	Action oriented suggestions for solving the problems
1.		
2.		
3.		

Project - 2: Organizing Method Demonstration (Jointly)

A method demonstration is a short time demonstration given before a group to show how to carry out an entirely new practice or an old practice in a better way.

Three students should organize a method demonstration collectively on the farmer's field and record their observation with the help of the schedule.

1. Topic of demonstration:
2. Place of demonstration:
3. How the topic was decided?
4. What equipments and materials were there on spot before starting the demonstration?
5. How publicity was given to the demonstration?
6. How were the physical arrangements for the audience on the demonstration?
7. What steps were followed while conducting the actual demonstration?
8. How many people were present and how many were given opportunity to practice the skill ?
9. Whether names of the participants and list of those who contemplate the adoption of the practices were prepared for follow up?
10. Your suggestions for improving the effectiveness of the demonstration.

Project - 3: Organizing Field Visits with Farmers (Jointly)

It is a method by which a group gets together for the purpose of seeing an improved performance or result of practice in actual situations. This requires the group to move out of the area for a considerable period with a pre decided programme.

A field visit will be organized and the students will record their observations with the help of the schedule.

1. Place of visit :
2. Purpose of visit :
3. Whether the places to be visited and the things to be seen and learnt were decided before starting the visit ?
4. What methods were used to publicize the programme of visit ?
5. Whether the date, period, transport, food and other related matters with the visit were properly planned ?
6. How many farmers participated in the visit ? Whether they were informed about the visit ?
7. Which problems of farmers were identified in the field visit ?

8. Which solutions were offered for these problems ?
9. Whether sufficient time was allowed for questions and answers ?
10. What interesting information was noted during visit ?
11. Your suggestions for improving the effectiveness of the visit.

Project - 4: Studying Ongoing Extension Programme in Village

There are number of extension programmes undertaken by various agencies in the village. These programmes may be field visits, demonstrations, family planning work, training camps and so on. The student will select extensions programme and study it on the aspects given below:

1. Name of ongoing extension programme you have studied.
2. What were the objectives of the programme?
   (i)
   (ii)
   (iii)
3. What activities were undertaken to attain these objectives; state objectives?
   (i)
   (ii)
   (iii)
   (iv)
4. How far the targets were achieved? State objective wise.
   (i)
   (ii)
   (iii)
   (iv)
5. What difficulties were faced by the executors of programme ?
   (i)
   (ii)
   (iii)
6. What efforts were made by them to overcome these difficulties?
   (i)
   (ii)
   (iii)
7. Your own remarks on achievements of the extension programme.

Project - 5: Participation in Village Social Service Activity

The student shall participate in any one of the social service activities already existing in the village. If the activity is not in existence the students will select any one social service activity from the following activities, initiate it in the village with the involvement of people, and evaluate the same and record observations in the schedule.

Social service activities

(i) Tree planting in a village
(ii) Cleaning of village
(iii) Participation in Blood Donation Camp
(iv) Participation in Health Care Camp
(v) Participation in Animal Care Camp
(vi) Use of Bleaching powder in drinking water
(vii) Adult education
(viii) Giving information about the importance of cleanliness of teeth, clothes etc.
(ix) Establishing a library in village
(x) Organizing games and sports
(xi) Organizing social service clubs
(xii) Providing agricultural information through Bulletins
(xiii) Providing agricultural information through charts, graphs and samples
(xiv) Repairing village roads
(xv) Cleaning drainage channels
(xvi) Construction of soak pits
(xvii) Social Forestry
(xviii) Recreation clubs
(xix) Bhajan Mandals

1. Name of the social service activity, place and date
2. Who organized it?
3. When was it organized?
4. Object of activity
5. At what stage did you participated?
6. What was the nature of your participation in the activity ?
7. Was it in the line with object of work ?
8. Who were the other participants ?
9. Your remarks and suggestions (a brief write up on the work done by the student)

Proforma for Case Study of Rural Development / Agricultural Development Programmes

1. Name of Programme: ……..
2. Name of Beneficiary: ……..……..……..
   Village: ……Block……. District: …….……
3. Who informed about the programme?
4. Date of participation in the programme:
5. Support of the Programme:
   Cash
   a)
   b)
   c)
   Kind
   a)
   b)
   c)
6. Subsidies Availed:
7. Achievements of the Programme :
   a)
   b)
   c)
8. Problems faced:
   a)
   b)
   c)
9. Suggestions for Improvement : a)
   b)
   c)
10. An overview of the Programme :
    a)
    b)
    c)

(Benefits, opinion of the beneficiaries and your own comments on organization and implementation)

Signature of Coordinator **Signature of Student**

Project - 6: Poverty Alleviation Programmes (Perception and Evaluation)

The students during their stay in the village will have an overview of the Poverty Alleviation and Agricultural Development Programmes implemented by various agencies. They should have clear-cut perception of the incidence and causes of poverty among the villagers. The case study of beneficiaries out of the following programmes will be necessary as per profroma appended.

(A) Agricultural Development Programmes

1. Intensive Agricultural Districts Programme (IADP)
2. High Yielding Varieties Programme (HYVP)
3. Watershed Development Programme (WOP)
4. National Agricultural Technology Project (NATP)
5. Agriculture Technology & Management Agency (ATMA)
6. Jal Dhara
7. Pulse Development Programme
8. Training and Visit System (T & V System)
9. Biogas Plants
10. National Horticulture Mission (NHM)

(B) Poverty Alleviation Programmes

1. District Poverty Initiative Programme (DPIP)
2. Integrated Tribal Development Agency (ITDA)
3. Integrated Rural Development Programme (IRDP)
4. Swarnjayanti Gram Swarojgar Yojna (SGSY)
5. Mahatma Gandhi National Gramin Rojgar Yojna
6. Indra Awas Yojna (lAY)
7. Prime Minister Employment Yojna (PMEY)
8. Panchyatiraj System
9. Madhya Pradesh Rural Livelihood Project (MPRLP)

(C) Women development Programme

1. Integrated Child Development Scheme (ICDS)
2. Rastriya Mahila Kosh (RMK)
3. Mahila Samridhi Yojna (MSY)
4. Madhya Pradesh ,Women in Agriculture
5. Mahatma Gandhi National Gramin Rojgar Yojna (MGNGRY)

(D) Indigenous Technical Knowledge (ITK)

Identification of ITK practices and mention at least one practice used by farmers. The students will acquaint themselves with this programme through the concerned agency.

Signature of Coordinator **Signature of Student**

Component – II **Credits: 4 (0+4)**

IX. Agricultural Industrial Attachment (AIA) / In-Plant training

Name of Industry_____

Location Rural ☐ Urban ☐

Mailing Address

Does the industry operate in an industrial estate Yes ☐ No ☐

Form of Ownership

1. ☐ Public
2. ☐ Private
3. ☐ Mixed
4. ☐ Cooperative

Type of Organization

1. ☐ Individual Proprietorship
2. ☐ Partnership
3. ☐ Limited Company
4. ☐ Shareholding Company
5. ☐ Other

Objectives of the industry :
Mandates of the industry :
Employment :

Number of workers engaged

S.No.	Category	Male	Female	Total
1.	Working Proprietor and Partner			
2.	Unpaid Workers			
3.	Employees a) Manager & Professional staff b) Skilled staff c) Unskilled Staff d) Others			

Number of Shifts per day_____

Number of hours worked per week for all shifts_____

Working Capital (Rs.)____

Source of Finance

a) Personal and relatives_____
b) Loans from banks and bank credit institutions_____
c) Other (Specify)

Tenure of building occupied for industry

a) Wholly owned ☐
b) Wholly rented ☐
c) Partly rented ☐

Total area occupied for business _____m^2

Contribution of the industry-promoting environment

Labour Costs

S.No.	Particular	Amount Paid (Rs.)
1.	Gross Wages & Salaries (including bonus & gratuity)	
2.	Overtime payment	
3.	Payment in kind, i.e. food, drinks, fuel, etc.	
4.	Employer's contribution to social security schemes	
5.	Training expenses	
6.	Other labour costs (Please specify)	

Purchases

Goods Purchased (Value in Rs.)

a) Purchase of goods to be sold in the same condition…….
b) Raw material & supplies purchased for transformation…….

Current Technology Status

Type of Machines	Percentage	Average Age	Expected average life span of equipment
Manual			
Automatic			
Computerized			

Does the industry have any investment plan Yes/No

If yes, please indicated whether for

a) Replacement of old equipment
b) Increasing production capacity
c) Upgrading technology

Value of Stocks (At the time of in-plant training)

Description	Value (Rs.)
Material supplies and raw materials etc	
Semi finished products	
Finished product	
Goods purchased for resale	

Value of fixed assets

S.No.	Particulars	Value (Rs.)
1.	Land	
2.	Building & Other construction work	
3.	Transport & Other equipment	
4.	Others	

Output

S.No.	Description of main product	Unit	Exported		Locally sold	
1.			Quantity	Value	Quantity	Value
2.						
3.						

Main destinations of Exports

1.
2.
3.
4.

Marketing of Final products:

Direct selling ____ %

Intermediaries ____%

Exports _____%

Is the industry a member of any association Yes No

If yes, indicate the type

Quality management

Are the products of the industry certified? Yes No

If yes, indicate type of certification

Is the quality of raw materials purchased also controlled Yes No

Does the industry have a laboratory Yes No

Total number of Quality control staff ……..

Are there any environmental regulations? Yes No

Does the industry have treatment facilities for waste?

Yes ☐ No ☐ No need ☐

Useful Information

PRACTICAL EXTENSION WORK

1. Follow the **programme planning steps** to carry out RHWE activitiesduring village visits/ village camp.
2. Carryout suitable **PRA methods** for data collection, extension programme planning and implementation.
3. Apply **SWOT analysis** for the farm production plans/ recommendations.
4. Identify **opinion leaders** in the village to carryout RHWE activities/agricultural technology transfer.
    a. Socio-metric method
    b. Key informants method
5. Employ appropriate **extension communication methods** duringvillage visits/village camp.
7. Organize **group discussions** (with atleast 10 farmers) on improvedcrop production methods.
8. Conduct **method demonstrations** on appropriate technology.
9. Organize a horticultural **exhibition** (as a team work)

A DOZEN ATTRIBUTES OF AN IDEAL EXTENSION EDUCATOR

Abounding faith -in the importance of the workInfinite tact- in meeting trying situations

Unlimited patience - in overcoming village inertia

Endless good nature - in the face of all trials

A saving sense of humour- when nothing else will meet the situationA large vision- of the work to be done

Ability to loose gracefully- and rebound after each defeat indomitable courage - in standing for the right

Grim determination - to see the work compelled contagious enthusiasm - to inspire local leadership Unquenchable optimism -in spite of all discouragements

Unreserved belief- in the importance of farm family to the nation

(Alfred Vivian)

TEN QUALIFICATIONS FOR EXTENSION EDUCATOR

1. Basic knowledge of the physical, biological and social sciences those are significant to life in the villages.
2. Familiarity with reliable sources of important information.
3. Knowing channels of communication, both up and down, and abilityto communicate effectively.
4. Understanding the background, philosophy, objectives, policies and organization of the extension system.
5. Skill in applying principles of behavioural sciences to extension teaching, supervision and administration
6. Understanding process by which village people and extension workers can co-operatively analyse local problems, arrive at potentially sound solutions and develop a local extension programme.
7. Ability to organize village people and stimulate leadership among them.
8. Knowledge of the problems and procedures of adult and out of school youth education.
9. Skill in organizing, interpreting and presenting basic economic,social, technical and scientific data to village life.
10. Understanding techniques and process of evaluating the effectiveness of an action programme.

EXTENSION EDUCATORS' ADVICE TO EXTENSION EDUCATORS

"The adviser does not hold the ultimate key to 'development".

Aim for credibility and confidence with an open mind !

"Listen, observe and say little."
"Respect the rhythm of the farm families"

Observe carefully and listen patiently !

"First get to know the conditions thoroughly and onlythen start elaborating concepts."

"Be considerate towards the language andcustoms of the farmers."

Get to know the country and its people well !

"Learn to see things with their (farmers) eyes".

"The farmer bears the consequences of any change on his farm".

Make the welfare of the farm family your centre of interest !

"Recognize the reasons for the use ofexisting techniques."

"First find out what the farmer knows better than you."

Learn from the farmer's example !

"Farmers can often explain things to other farmersbetter than extension workers can."

"Help to solve problems without imposingyour own opinion."

Recognize the farmers as independent andexperienced partners!

"Don't give contradictory advice."

"The extension worker must be able tocombine theory and practice."

Aim for professional competence!

"Discuss the innovations with the farmers andadapt them to suit their resources."

"Assess with the farmers the overallimpact of an innovation."

Adapt innovations to local conditions andAssess them within the overall context!

"Stop a while, look back and reassess with yourpartners the work done."

"Listen to the farmer's opinions."

Plan and assess together with thoseInvolved and those affected

"The counseller must ask the right questions."

What have we forgotten?

Source: Quotations from an enquiry among more than 80 extension workers in projects in Asia, Africa and Latin America, together with their recommendations (LBL, 1987 unpublished – Adoped from Bolliger *et al*, 1995).

Guiding Principles for Successful Extension Work

The following Do's and Don'ts may be taken to be a more or less comprehensive outline of the guiding principles for successful extensionwork.

1. Do be thorough and upto-date in your professional knowledge andskills.
2. Do study local conditions and practices including social backgroundof people. (You have to learn before you teach).
3. Do keep village appointments.
4. Do introduce yourself during your initial contacts and indicate thepurpose of your visit.
5. Do try to remember every villager as a person. (Develop goodmemory for faces and names).
6. Do greet every villager you know, (and do it everywhere).
7. Do make sure that you love villagers and you are sincerelyinterested in their welfare.
8. Do identify yourself with the villagers as much as possible.
9. Do be informal and polite but neither to effusive not too reserve.
10. Don't begin by giving undue promises of benefits.
11. Do look and listen. (Develop the art of listening).
12. Do use simple, natural local language which is meaningful to thevillagers.
13. Don't criticize or condemn the villagers.
14. Do avoid arguments.
15. Do give credit to villagers for their good ideas or suggestions (Don'tlet it seem that all the new ideas are yours).
16. Do admit ignorance.
17. Don't correct a colleague or chide a subordinate in the presence ofvillagers.

18. Do talk in terms of the villagers' interests.

19. Do begin with simple and common needs which can be easily fulfilled.(Don't aim too high at first).

20. Don't try to solve villagers' problems for them. (Only help the people to help themselves).

21. Do insist that villagers or their representatives take part in preparing, executing and evaluating plants at the family, villageand Block levels.

22. Do use local leaders and co-operate with all persons and organizations devoted to village improvement.

23. Do be the man behind the scenes.

24. Don't leave things half done. (Whatever you do, do it thoroughly,so as to inspire the confidence of villagers.)

25. Don't use any kind of compulsion (Emphasise the educational nature of extension work and avoid regulatory type of activities. Convince people through proper selection and combination of extension methods).

26. Do avoid giving anything free except your services.

27. Do guide the villagers in securing the needed supplies and services.

28. Do keep out of factions and politics.

29. Do try to extend the benefits of Extension to all groups and individuals. (Don't tie yourself only to a few villages or to a fewgood friends. Do show your concern for woman and youth as wellas to weaker sections.)

30. Do record all your visits to your assigned villages (while the visit is still fresh in your mind.)

(Adivi Reddy, 2001)

I. INTERVIEW AND INTERVIEW SCHEDULE

Interview: An interview is a process of social interaction. It refers to a face-to-face interpersonal role situation in which one individual (the interviewer) asks questions to another individual (the respondent) to obtain answerrelevant to the study/research problem.

An interview is an information collection technique in which a person talks with another person or group. The information gathered can be recorded on field notes, structured interview forms, summary reports, or other related forms.

Interview can be completely unstructured and spontaneous or questions can be predetermined or questions and response categories can be decided well ahead. The major advantages of interviews are that they permit in depth probes in particular subject area. The primary disadvantages are that they are usually; time consuming and costly and that interviewer must be specially trained.

Schedule: Refers to a set of questions, which are asked and filled in by an interviewer in a face-to-face situation with another individual.

KINDS OF SCHEDULE INFORMATION AND ITEMS

Structured (standardized) Interview Schedule

In this type of interview schedule, the questions, their sequence and their wordings are fixed. An interviewer may be allowed some liberty in asking questions, but relatively little. This liberty is specified in advance. Standardized interviews use the interview schedules that have been carefully prepared to obtain information pertinent to the research problem. Two types of structured interview schedule are;

1. **Fixed Alternative (or closed) items:** Fixed alternative items, as the name indicates, offer the respondent a choice among two or more alternatives. These items are also called closed or poll questions. The commonest kind of fixed alternative is dichotomous. It asks for yes-no, agree-disagree and other two alternative answers. Often a third alternative, don't know or undecided is added. The respondents are required to select their responses from a set of alternatives. For example, Organic farming is profitable to farmer: Agree/ Disagree.

2. **Funnel question/ open end items:** Open or open-end items are those that supply a frame of reference for respondents' answers, but put a minimum of restraint on the answers and their

expression. While their content is dictated by the research problem, they impose no other restriction on the content and manner of respondent answers. The open-end questions provide full freedom to respondent. For example, what is your opinion about organic farming?

SEMI-STRUCTURED INTERVIEW SCHEDULE

Semi-structured interview schedule used to neither ask the exact question nor elicit predetermined responses. This type of interviews is also used for stimulating the affective and value-laden responses, determining significance of attitudes and analyzing personal and social context of feelings and beliefs of people.

UN-STRUCTURED INTERVIEW SCHEDULE

Unstructured interviews are more flexible and open. Although the research purpose governs the question asked, their content, their sequence and their working are in the hands of the interviewer. Generally, no schedule is used.

QUESTIONNAIRE: Questionnaires are self administered survey forms that consist of a set of questions. In a questionnaire, the information one obtains is limited to the written responses of subjects to pre-arranged questions.

OBSERVATION METHODS: As a technique for gathering information, the observational method relies on a researcher's seeing and hearing things and recording these observations rather than relying on subjects' self report responses or statements. There are two types of observation methods;

1. **Participant observation:** When the observer participates with the activities of the group under study is known as participant observation.

2. **Non-participant observation:** When the observer does not actually participate in the activities of the group, but simply observes them from a distance it is known as non-participant observation.

PARTICIPATORY RURAL APPRAISAL (PRA)

Genesis: During the last three and half decades, there has been increasing awareness and appreciation of the alternative approaches to the understanding of rural systems world over. These developments were essentially based on the following premises:

- Farmer as a professional.
- Failure of conventional methods to understand farmers andfarming systems.
- Failure in tapping indigenous knowledge for technologydevelopment.
- Farm and farmer house hold as the references for technology development and transfer.

Consequently, several new approaches have been developed for comprehensive understanding and appraisal of rural systems. These include Rapid Rural appraisal (RRA), Participatory Rural Appraisal (PRA), Participatory Learning for Action Methodology (PLAM) and so on. Among these, PRA has been very widely used in the area of rural development.

Participatory Rural Appraisal initially began as RRA in 1970s and later on it became PRA in 1980s. Later on Rapid has been replaced by 'Participatory' term. Now it is a process of learning and appraising which cannot be rapid. Hence, it is also called Participatory Action Learning Methods (PAL). Now, it is widely used in the area of rural development.

These are all because of the development professionals think theirbrief filed visits to villages make them to believe that they have seen accurate picture of rural life. More specifically, extension experts observedthe biases in rural development approach. They are;

Spatial biases: In which the better off people living near roads and service institutions are visited and those who reside in remote areas and thus poor are neglected.

Time bias: In which visits are made during day according to free time of extension workers ignoring beneficiaries' free time.

People bias: In which professionals speak to rural leaders and articulate people who represent only the elite, dominant and wealthy groups.

Project bias: In which a show case village or technology is repeatedly shown to outsiders who get the impression that this is a typical one.

Further, Participatory Rural Appraisal has evolved from fallacies of top down research and many goodness's of bottom up approach sources. Someof these are:

Participatory Action Reflection Research

This emphasizes enhancement of local people awareness and confidence to empower them for action. This idea owes to the work of Paulo Freire theme that poor and exploited people should be enabled to analyze their own reality.

Agro-eco system analysis

Agro-eco system analyses system properties (productivity, stability, sustainability and equitability), which can lead to action through visuals, transacts and ranks.

Farming Systems Research

Farming systems research reveals understanding of complexity and diversity of rainfed farming by bringing out farmers unique capabilities.

Applied anthropology

Applied anthropology helped the development professionals to appreciate indigenous technical knowledge of farmers by observation, field learning and residing with farmers.

All these disciplines have contributed much to the development of PRA. **Participation and its varied dimensions:** Participation is a human need. It is a process, where people express, share, contribute and act with mutual responsibility to promote mutual set of interests. Types of participation;

- **Passive participation** where people listen to outsiders.
- **Information givers** where people answer to questions.
- **Consultation** where outsiders define both problems and solutions.
- **Material incentives** where people give their labour, for food, cash andother incentives but have no stake in activities once incentives end.
- **Functiona**l – People participate to meet project objectives.
- **Interactive** – People participate in joint analysis leading to action plans by farming local institutions or strengthening of existing ones through systematic and structured learning process. People own structure or practices.
- **Self-mobilization** where people take initiative while developing contacts with external institutions for resources and advice, but they retain control on resources too.

This outlines participation is not mere attendance in meetings but its beyond of all these.

What is PRA?

- PRA is a methodology for interacting with villagers, understandingthem and learning from them.
- PRA is a process of involving local people in the analyses andinterpretation of a rural situation.

PRA is a family of approaches and methods, which enable the local people to analyze their situation to plan and act. Thus, PRA can be defined asan intensive and systematic learning experience carried out in a community by a multi-disciplinary team of researchers and or developmental personnel including local people. The method nets, in a relatively short time, people's views about their world, along with their felt needs in addition to providing valuable insights into the dynamics of rural life. PRA as a research development methodology has primarily been evolved to appraise the rural resources, problems and requirements by the rural people themselves under the facilitations of research and development workers.

PRINCIPLES OF PRA

1. **Optimal ignorance:** In order to minimize cost and time, the principle of optimal ignorance is applied by the facilitators which means ***"Knowing what is worth knowing "*** and knowing enough to serve the purpose and not knowing the rest or not trying to find

out more.

2. **Seeking diversity:** PRA is concerned more with ***"analysis of difference"*** rather than looking for representativeness of results or data collected. it is looking for diverse rural events, different processes and forces explaining various relationships in rural communities.

3. **Offsetting biases & triangulating:** PRA is a methodology to offset biases in rural survey. It aims at offsetting biases by relaxed way of understanding and not rushing, listening & not lecturing; probing & not speeding and looking for participation of rural people.

   Triangulating – cross checking of data in different ways. It involves conscious, non-random selection in different dimensions such as; team composition, unit of observation and PRA methods.

4. **Listening & learning:** Learning rapidly and progressively, learning through participation. Knowledge of rural people constitutes the base for the socio-economic and agro – ecological information. They have their experiences, their history, culture, ideas, priorities and preferences. Listening to rural people helps them in expressing their views. The greater the interaction with rural people, the greater the learning achieved. The amount of learning can increase progressively with participation of rural people.

OBJECTIVES OF PRA

1. For greater and better involvement of the villagers by learning abouttheir perceptions, experiences and capabilities .
2. To generate information and collection of data for immediate or futureuse.
3. For estimating trends and ascertaining conditions of the issues athand.
4. For validation or cross checking of data collected from other sources.
5. For training of different categories of persons involved in the development process (persons from Governments, NGOs, Banks, donor agencies, researchers, scientists, extension agents etc)
6. Learning about the impacts of earlier or on-going policies and programme and to frame new ones.
7. For research studies on use of PRA and to suggest improvements in itsmethodology.

THE FOUNDATIONS OF PRA

I. Congenial attitude and behaviour
   - Attitude of listening, learning, respect for ruralpeople
   - Friendly behaviour
   - Friendly body language
   - Respect for knowledge & experience of rural people

II. Mutual sharing
   - Willingness to participate
   - Sharing perceptions & problems, knowledge,experience etc

III. Methods of PRA

PRA METHODS

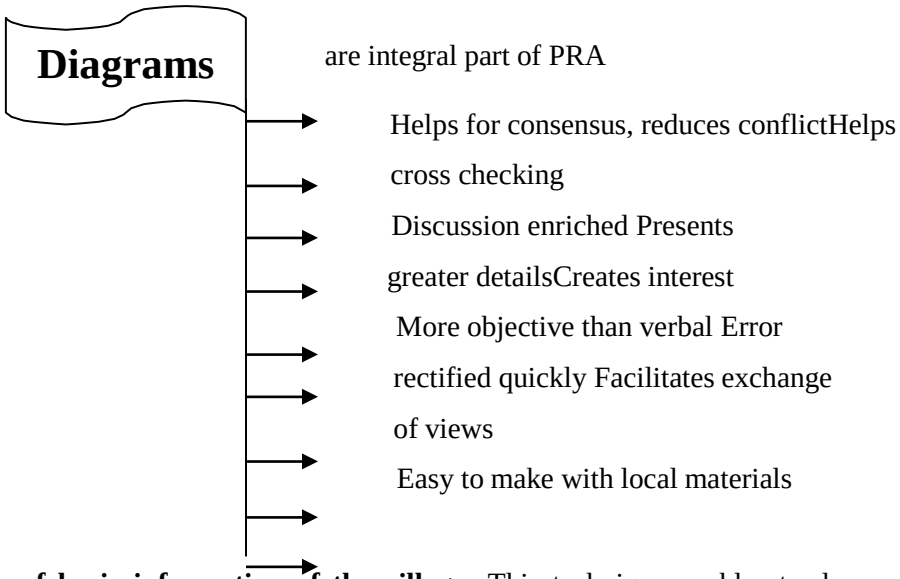
I. Methods supportive of PRA:

a. Primary – Letters, court records, minutes, memoranda notes anddiaries.

Secondary – Surveys, books, reports, plans, official record, census records, project reports, maps, aerial photographs, journalistic articles, news paper cuttings, research papers …etc.

b.Direct observation

II. Methods with direct participation



1. Collection of basic information of the village: This technique enables to document in a relatively short time the basic data of a village such as demographic, socioeconomic, agriculture and animal husbandry, pollutionand problems. In doing a PRA within a reasonable time frame, the PRA team has to collect the basic information of the village by referring to the records available in the village panchayat office and also by interacting with the Key Informants (KIs) and other villagers.

2. Agro-ecology Map

Agro-ecology map depicts the relation between agriculture and environment which includes average temperature, average rainfall, fragmentation of holdings, natural vegetation, drainage system, weeds, etc. Encourage farmers to draw this map. Identify major landmarks. Identify systems (village) and sub systems (crop land, orchards, common land etc.) boundaries, show the neighboring villages or other features like river, hillocks, government land, forests etc., where the boundary of village ends. Depict crops, animals, natural resources like soil type, water resources (wells, river, channel, ponds etc.), forest, common property resources (CPR), use of locally available resources or whatever stakeholders observe during the walk. Write in local language along with English translation. It differs from village map. Give the direction and write down the names of villagers.

3. Social Map

The Social map is map of the village drawn without scale but enablesto understand and simplify locations, and structure of houses and other social facilities. This map is made by the villagers based on their understanding, indicating their social setting on the map.

Once a social map is made by the villagers, it becomes easy for them to describe locations within the village in terms of the characteristics and conditions of the household, the ownership of houses and other key features. In addition, it provides information regarding the dependency rations, beneficiaries under state/central government programmes, health characteristics, and literacy. It is an useful basis for identifying problems in different households.

4. Resource Map

Like social map, resource map is a simple drawing indicating resource positions of the village.

It is useful to explore and understand the resource base of the village, village people's perception and experiences with regard to utilization of resources; access to public resources, constraints and opportunities.

5. Time Line/ Historical profile

Time line approach is a method of knowing a history of major recollected events in a community. It indicates a casual link between pastand present. This method is also known as historical profile. In this technique, an historical account is given by the villagers of how different aspects of village life have changed and made impact on the social, economic, and agro-ecological bases in the village under consideration.

It is useful for sensitizing the research and developmental agents tothe importance of the past for understanding the present. Historical profiles reveal important information for understanding the present situation in a community. It gives detailed account of the past on how things have changed over time, relationship and trends, the history of technology development process and like. It facilitates discussion of experiments already carried out by the villagers, crop histories; infrastructure facilities; livestock breed histories; fisheries; tree species; change in land tenure; outbreaks of epidemics; droughts and famines; changes in village administration and organization; education change; population change; major political events; ecological degradation; folklore etc. Precisely, it provides a summary of the key historical events in a community in relation to their socio-economic and political relevance for the present situation.

6. Time Trends

It is a simple technique of depicting quantitative changes over time in different aspects of rural life such as yields, price, population, livestock population and area under cultivation.

It is useful to investigate into the changes taken place over time say for the last ten years in quantitative items, which are easily amenable to line diagram or bar diagram. These aspects could be yields; area under cultivation; prices; rainfall; population; livestock population; interest rates; migration; birth and death rates; malnutrition rates; area under high yielding varieties and any such directly quantifiable factors/variables.

7. Venn Diagram

The Venn diagram is known after the man who created it. It is a diagram showing the key institutions and individuals in a village community and their relationships and importance for decision-making.

As indicated, a Venn diagram explores the relationships between and among key individuals, rural institutions, informal associations and such individuals and organizations including private and non-government which matter in the village development and up-liftment.

8. Transect/ Farm walk

A Transect is a systematic exercise conducted by a multi-disciplinary team. It is a diagram of main land use zones. It is also called as farm walk.

The purpose of a transect or a farm walk is to explore and study main land use zones. It compares the main features, resources, utilization pattern, problems and opportunities in each identified zone. The participatory transectwalks systematically involve walking with the villagers through an area and discussing about different aspects of land – use and agro – ecological zones in the village observed during the walk.

Transect walk to discuss;

-rural ecology, diversity
-soil conditions, land use patterns, crops
-livestock, microenvironments, problems etc.
-Outsider learns more – in-depth – visual exposure of physicalfeatures.

9. Mobility Map

It is both a data collection and an analysis tool. It is a tool to know the contacts of an individual or group of individuals of a particular village society with reasons, thereof. It is also used to indicate the interactions within communities.

Spatial mobility is used as an indicator for a person's contact with, andknowledge of, the outside society. The mobility-maps of rural people based on socio-economic aspects, gender, and age groups, enable us to record, compare, and analyze the interaction within communities and with other communities in a village, and to know the degree of freedom, empowerment, decision making, education, cosmopolitness, and consciousness dimensionsof a given society. Precisely, it helps us to know the degree of mobility of rural groups and communities and importance of different areas.

10. Seasonal Calendar and Seasonal Analysis:

The Seasonal calendar is an exercise of showing the main activities, problems and

opportunities through the annual cycle in simple diagrammatic form. It is a series of diagrams depicted on a single sheet of paper.

To explore and identify the days and months of relatively greatest difficulty and vulnerability. It helps identifying significant variances, which are likely to have an impact on village people's lives.

Seasonal diagramming used for:

Each season - own activities & problems, climatic conditions, crops grown, availability of water food, fuel and fodder, employment, workload, disease, food calendar, health calendar.

11. Livelihood analysis

Livelihood analysis is an analytical technique exploring and obtaining information on behaviors, decisions, and coping strategies of individual households.

It is to explore and interpret the behaviors, decisions, and coping strategies of households with different socio-economic background. Factors such as: household size and composition, number of labour migrants in the household, proportion of income by source, expenditures, livestock and land ownership, seasonality, relative income, credit and debt etc. could be included in the analysis.

12. Sustainability analysis

It is a high order analytical exercise useful for the periodic review ofdevelopment activities.

The purpose of sustainability analysis is to generate a high level ofanticipation in electing the responses pertaining to sustainability issues- like losses, deteriorations in land, water, vegetation and other elements of eco system due to biotic and abiotic factors. The sustainability matrix sharpens the group's analytical skills about identifications of determinants of sustainability and helps bringing out important issues. It encourages the PRA groups to ask a number of key questions, which in turn lead to decisions regarding the continuation and modification of the activities. Group discusses each determinant and makes an action plan for follow-up using technological information available.

13. Wealth Ranking

The 'Wealth Ranking' is an analytical exercise carried out by local villagers based on their own criteria such as income, assets, Employment status and other local measures of well-being.

The purpose of wealth ranking is to explore the village people's local wisdom, their criteria used in classifying the entire households of a village wealth ranking is based on the

assumption that community members have a good sense of who among them is more or less well-off, poor or below poverty line. The purpose is to investigate perceptions of wealth differences and inequalities in community to discover local indicators and criteria of wealth and well-being; and establish the relative position of households in a community. And, finally to know the poorest of the poor and their relative poverty.

14. Ranking

Ranking means placing items or objects or activity in order following single or joint criteria. Ranking methods include preference ranking, direct matrix ranking, and pair wise ranking. It is an analytical tool.

It is to explore preferences of individual community members; their ranking criteria, and priorities. It enables us to understand people's decision- making process according to usefulness and need. Ranking done by women enables us to understand their priorities in the development process and provides better understanding of the agro-ecosystem.

15. Semi structured interviews

- few preset questions
- further questions based on answers
- informal interview
- open end questions

16. Do-it yourself

- To understand realities, to get real experience
- For support building, to get rural taste
- Activity of rural people – outsider doing himself/herself

Eg. Ploughing a field, Fuel wood/ Drinking water or foddercollection by rural women.

Enhancing participation in PRA

Participation of people is a key to success of any programme. It is also true with PRA. Hence, it is essential to involve all the sections of village such as farmers, landless agricultural labourers, farm youth, women etc. It is also necessary to involve and enlist support of other significant constituents of thevillage-local leaders, youth, school teacher etc.

1. Protocol: Success of PRA depends upon villagers and power structure. Therefore, it is better to have preliminary meeting with the village elders, opinion leaders, chairman and youth leaders a few days before the exercise. This is an important step as it gives the sanction of legitimacy for both insiders and outsiders.

2. Village campaign is necessary in all PRA. It breaks barriers between the outsiders and villagers leading to free movement in village and free access. This in turn develops a feeling of warmth and well being and equality among people.

3. Ice breakers: Social games and entertainment are better ice breakers. Even the farm and home visits, general meetings and discussion meetings lead to better participation of people.

4. The 1:1 ratio: Representation from villagers for PRA exercise should be a minimum as many as PRA staff. For psychological security, 1:1 ratio (outsider to villagers) and still better are 1:2 or 1:3 ratios. This gives villagers confidence, numbers to volunteer and participate effectively. Because of these, villagers take pains to make us understand and cross verify information among them.

5. Friendly enquiry vs. lecture: As accurate and relevant information gathering is the objective of PRA enquiry/probing is certainly more effective. Lecturing should be eliminated. Even frequent interruptions are worse. It should be facilitation during interventions of outsiders.

6. Preliminaries/Methods: Social mapping and time line generate a great deal of interest and enthusiasm among the participants from both sides. These draw out participation besides enthusing their interest. These can be launching methods for subsequent methods

Tips on locations, organization and materials

- PRA is not an exercise of point of entry. It needs personal contact overa period of time.
- The number of households in the village should be between 30 and 100. For a bigger village, it can be restricted to one part of the village.
- There should be good acquaintance between outsiders and insidersbefore exercises.
- As far as possible, use of local materials like rangoli power, sticks,stones, seeds etc. are preferred over pens and papers etc.

Guidelines during interview

List of DON'Ts

1. Force ideas into the community
2. Interrupt/confuse
3. Give hope (expectation)
4. Talk personal issues
5. Dominating
6. Lecture
7. Focus on one person
8. Use technique, which people do not understand
9. Be too serious
10. Divert subject/issues
11. Promise

List of Dos

1. Introduce yourselves
2. Smile
3. Patience
4. Encourage participation (people)
5. Good team work (effective)
6. Talk less and talk seriously (respect, cultural consideration,understanding people)
7. Use Peoples language
8. Give examples of pilot projects
9. Flexibility
10. Follow what the people say
11. Take people seriously
12. Meet people when they are free
13. Use simple methods
14. Avoid arguments
15. Members of the group must understand their roles and responsibilities
16. Ask one question at a time
17. Be attentive.
18. have proper seating arrangement
19. Manage those who dominate in the group
20. The activities should be inspiring to the participants
21. Acknowledge the participants
22. Proper timing of visit
23. Choose an appropriate and comfortable place for participants
24. Document all activities that you do
25. Understand village protocol/dynamics
26. Visit a small/manageable group
27. Avoid side discussion/cross checking

Difference between conventional data collection methods and PRA

	PRA	**Conventional**
Developed in	Late 1980's/1990's	Very much used from many decades
Degree of formality	More informal	More formal
Key resource	Local people's knowledge & analytical capabilities	Investigator's ability to extract information
Degree of reality of information	More realistic	Always not so realistic
Elements of interest	More interest to rural people	Not so interesting(monotonous)
Mode of information gathering	Through listening and learning	Extracting information
Respondents	Active Empowered through participation	Passive
Method of information collection	Visual & participatory diagramming	Verbal & interviewing discussion method.
Investigator/outsiderrole	Initiator, catalyst and facilitator	Investigator
Insider/respondent'srole	Presenter, analyst & planners	Respondents for interview/survey.
Ideal objective	Learning from insiders by outsiders and empowermentof local people	Collection of required information from insider'sby outsiders.
Model	Participatory – interactive	Interview method
Type of study	In-depth	Superficial
Cost effectiveness	More	Less
Expertise	Requires multidisciplinary experts	Normally single investigator
Training for conducting	High expertness/training needed for the PRA team personnel	High expertness not necessary
Interpretation of situation	By local people	By investigator
Tools	Simple diagrams, semi-structured schedules	Complex structured schedules
Type of data	Qualitative & quantitative	Generally quantitative
Accuracy	More minute details also collected	Collecting accurate datais difficult.
Approach for Information collection	Generally group approach(group of respondents involved)	Generally individual approach
Validation	In-group approach, reliable &valid data is possible throughcross checking and solving difference of opinion among the group itself	Cross checking is difficult
Resources	Less time consuming and less expensive	More time consuming &more expensive.

Group psychology	Group psychology create conducive atmosphere for listening & learning facilitates group action	Not so.

PROGRAMME PLANNING AND ITS USE IN DATA COLLECTION

Planning is essential for any systematic attempt to achieve desired goals. The desired goals of the students under RHWEP are given in the chapter one of this manual as objectives. Planning helps to identify the educational objectives, facilities the selection of learning experience to attain these objectives and evaluation of the results in relation to objectives. Programme planning means that it involves the series of actions/ steps which culminate in the accomplishment of a goal. In the process, the students will get the first hand knowledge and experience of developing and implementing useful programme for the benefit of farmers. Also they will be exposed practically on how to collect data, how to identify the needs/problems of farmers. In addition, how to develop objectives and selection of technology to solve the problems.

Steps in programme Planning and implementation process

1. Collection of facts
2. Analysis of situation
3. problems identification
4. Deciding objectives
5. Developing plan of work
6. Implementing plan of work and calendar of operations
7. Evaluation at each step
8. Reconsideration

1. **Collection of facts:** It is the starting point of programme planningprocess. Pertinent data may be collected from the available records,survey and PRA methods. Information relating to the people ,their enterprises, level of technology , facilities and constraints, role of village councils/ panchayats, cooperatives and other organizations in the area.
2. **Analysis of the situation:** The data and information collected are then analyzed in an unbiased way, keeping in view the feelings expressed by the client system. This shall help in understanding the situation in its proper perspective.

3. **Identification of the problems**: A correct analysis and interpretation of the data shall help in correctly identifying the problems. There may be many problems, but only the urgent and significant ones which may be solved with the available resource and within the limits of time, should be selected. Selection of a large number of problems which can not be properly managed may lead to a failure of the programme and generate frustration among the people.

4. **Determination of objectives and goals:** The objectives are then set forth based on the significant needs identified. The objectives should bedirect and stated in clear terms.

To make the objectives realistic and actionable, there is need to state them in terms of specific goals. In the determination of goals it may be necessary again go through the data and information analysed; to find out what could actually be done in the existing situation, with the available resources and time, which will be compatible and with which the people shall cooperate. It is necessary to discuss with the local people and local institutions, which will be compatible and with which the people shall cooperate. It is necessary to discuss with the local people and local institutions, which shall also legitimize the programme planning process.

5. **Developing plan of work and calendar of operations:** The plan of work should be in written form and shall indicate who shall do what job i.e. what the change agent system and the client system shall do; which institutions, organizations, service departments shall be involved; what willbe the financial requirement and how it shall be met; what arrangements shall be made for marketing of the produce, training of the farmers and soon. The plan should have all the essential details and no important point should be left out.

The calendar of operations shall be prepared on the basis of the planof work and shall specify when a particular work shall be done, preferably mentioning date and time; how much quantity of different inputs, including credit shall be required and when these must be made available; when whereand for how many days the farmers and farm women shall be trained, who are the specialists to be involved in training and preparing the handouts, when the publications shall be ready for distribution etc. That is, the calendarof operations shall specifically state how and when all the significant activitiesshall be performed.

6. **Follow through plan of work and calendar of operation***:* This is not a routine type of work as many people may think. Training of participants, communication of information, conducting method demonstrations, making regular visits and monitoring are some of the important functions the extension agent shall perform at this stage. The work shall include solving unforeseen problems and taking corrective steps. The performance of the extension agent and the organizational support received at this stage may make the difference between success or failure of a programme. Obtaining feedback information as to what is happening to the farmers after introduction of new technology is extremely important at this stage.

7. Evaluation of progress: Evaluation is the process of determining the extent to which we have been able to attain our objectives. All programmes must have an in-built system of evaluation to know how well the work is done. It should be a continuous process. Not only to measure these end results but also to ensure that all the steps are correctly followed. Evaluation may be formal or informal, depending on the importance of the programme and also on the availability of trained manpower, funds, facilities and time. The programme evaluation involves the following three essential steps-

-Setting up of standard or criteria in relation to the objectives.

-Collection of information.

-Making judgment and drawing some unbiased and valid conclusions.

Evaluation has a number of advantages, they are;

- Evaluation helps to establish a bench mark – the situation at thestart of the programme.
- Evaluation shows how far our plans have progressed
- Evaluation shows weather we are proceeding in the right direction.It may point out omissions, recommend changes and suggest newdirections.
- Evaluation indicates the effectiveness of a programme
- Evaluation helps to locate strong and weak points in any programme or plan.
- Evaluation improves our skills in working with people.
- Evaluation helps us to determine priorities for activities in the plan of work .
- Evaluation brings confidence and satisfaction to our work

8. Reconsideration and revision of the programme: On the basis of the results of evaluation, the programme should be reconsidered andrevised if needed. This reconsideration should be done not only with the participant, but also with the scientists, administrators in extension organization and local bodies like panchayats etc.

Reconsideration shall help in making necessary corrections andmodifications in the programmatic reconsideration, emphasis should be on the removal of technical defects, if any and how to obtained more cooperation and involvement of the participants and various organizations. The purpose of such an exercise is to make the extension programme more effective by removing the defects.

SWOT

SWOT, is the acronym for the process involving documentation and analysis of strengths, weakness, opportunities and threats and has recently found favors with rural developmental practitioners. Application of SWOT analysis for agriculture development now assumes greater relevance. The allocation of finite resource – mix (men, money, material, time) for realization of agricultural and rural development calls for the application of SWOT analysis.

S- Strength is the basic asset of the enterprise/organization that would be provides competitive advantage for its growth and development.

W- Weakness is the liability of an enterprise/organization that can create a state of time and situation specific disadvantage for its growth and development.

O- Opportunity is the ability of the enterprise/organization to grow and achieve its specific objective in a given situation.

T- Threat is a situation that blocks the abilities of the enterprise/organizationto grow and develop for meeting its ultimate goal.

SWOT parameters may differ from enterprise to enterprise or organization toorganization.

LEADERSHIP IN RURAL AREAS

Leader: Leader is person who has been spontaneously considered or chosen as being influential.
Leadership: Leadership is a process through which influencing the attitudes and actions of one or more persons leading towards the achievement ofsome goal/purpose.

Types of Leaders in rural areas

1. **Operational leader:** The person who actually initiate action within thegroup, regardless of whether or not he holds an effective office.
2. **Popularity leader:** The popular person is elected to a position of leadership because he is well liked by the members.
3. **Assumed representative leader:** Refers to a person selected to work with a Committee or other leaders because the latter have assumed that he represents another group they desire to work with.He may or may not be a leader of the group.
4. **Prominent talent leader:** The person who exhibits an outstanding ability and accomplishment in respective fields. It may include experts and intellectual leaders. Eg. Artists, musicians, etc.
5. **Professional leader:** The professional leader is one who has receivedspecific specialized training in the field in which he works full time as an occupation and is paid for his work. Eg. Extension Officer.
6. **Lay leader:** Lay leader may or may not have received special training and is not paid for his work and generally works part time with local group organizations. Lay leaders also called as volunteer leaders or local leaders or natural leaders. Eg. Youth Club President.
7. **Autocratic leader:** Operates as if he cannot trust people. He thinks his subordinates are never doing what they should do: that the employee is paid to work and therefore, must work.
8. **Democratic leader:** Shares with the group members decision making and the planning of activities. The participation of all is encouraged. He works to develop a feeling of responsibility on the part of every member of the group. He attempts to understand the positionand feelings of the employee.
9. **Laissez-faire leader:** Believes that if workers left alone the work will be done. He seems to have no confidence in himself. If at all possible, he puts off decision-making.

Roles of leadership

1. Group Spokesman
2. Group Harmonizer
3. Group Planner
4. Group Executive
5. Group Educator or Teacher
6. Symbol of Group Ideals
7. Group Discussion Chairman
8. Group Supervisor

Qualities of Leader

1. Physical fitness.
2. Mental ability (intelligence)
3. Sense of purpose (having definite ideas regarding the aimsof the group).
4. Social insight (sensitivity to other person's position, problemsor points of view).
5. Communication (including good listening and speaking).
6. Love for people (friendliness without favourtism or withoutgiving scope of indiscipline)
7. Democracy (giving members equal opportunities for participation etc.).
8. Initiative
9. Enthusiasm
10. Authority (based upon mastery of knowledge and skills in aparticular field).
11. Decisiveness (ability to make good and prompt decisions orjudgement).
12. Integrity or character.
13. Teaching ability.
14. Convictions and faith.

Opinion Leadership

Opinion leadership is the degree to which an individual is able to influence informally

other individuals attitudes or overt behaviour in a desiredway with relative frequency.

Opinion Leader is a person / individual who leads in influencing other opinions in informal ways. They are also known as fashion leaders, information leaders, influencers etc.

Characteristics of Opinion leaders

1. External Communication
2. Accessibility
3. Social Status
4. Innovativeness

External Communication: Opinion leaders have greater exposure to mass media that followers because they attend to mass media channels more compared to other. They are more cosmopolite than their followers. They have greater change agent contact than followers.

Accessibility: Opinion leaders to relay their personal messages about innovations, they must have direct dialogue with their followers. Therefore, the opinion leaders must be accessible one such indicator is social participation. Opinion leaders have greater social participation than theirfollowers.

Social Status: Opinion Leaders have better social status than theirfollowers.

Innovativeness: Opinion Leaders are more innovative than their followersbecause they adopt new ideas earlier than their peers.

Identification of opinion leaders

The two important methods of identifying the opinion leaders are :

1. Sociometric method
2. Key informants rating

1. Sociometric method

It involves asking questions to the members as to whom they sought for information or advice about a given topic, issue etc. So opinion leadersare those members of a system, who receive the greatest number of sociometric choices.

It is the most valid method of identifying the opinion leaders as it is measured through the eyes of the followers. But it necessitates interrogating a large number of respondents in order to

locate a small number of leaders. And this is most applicable if all the members of a social system are interviewed rather than few in the social system.

2. **Key informants rating**

Here the judges or key informants are asked to identify the opinion leaders for a given topic. Key informants are especially knowledgeable about the patterns of influence in a system.

Types of opinion leaders

1. **Polymorphic opinion leaders:** Here opinion leader acts as a leaderfor a variety of topics.
2. **Monomorphic opinion leaders:** The tendency of an individual to actas an opinion leader for only one topic.

Role of opinion leaders in agricultural development process

1. They play important role in the diffusion of agricultural innovations.
2. They build the confidence among the followers about any practice.
3. Stimulation for the co-ordinated action, which is beneficial for thesociety.

General Meeting

Meaning

It is a mass contact method wherein a large number of heterogeneous people meet together with some purpose to share their knowledge and experience to satisfy a natural desire for social contact. Generally meeting includes such of the meetings, which are conducted to inform and to create personal contact with large number of people.

Purpose

General meeting is employed to introduce students to the villagers andto inform them about the future educational activities in the villages.

Procedure

There are three phase viz., planning conducting and follow up.

1. Planning

1. Selection of topic/theme
2. Identification of suitable time
3. Selection of place
4. Selection of speakers, chairman, etc
5. Give adequate publicity
6. Physical arrangement

Conducting

Conducting a meeting is the actual running of a meeting. The two aspects to be considered are programmed procedure and audience participation.

1. Start the meeting on time.
2. State the purpose and programme of the meeting.
3. Make brief introductions at the beginning of the meeting.
4. Focus attention on central theme.
5. Keep meeting moving on schedule
6. Use appropriate audio-visual aids.

Audience participation

1. Watch reactions of audience, encourage audience participation
2. Close meeting on time with brief summary by the Chairman
3. Give recognition to the individuals who have actively participated
4. Hand-over relevant folders or pamphlets at the time of break off
5. Take names of those interested for further information or follow up

Follow-up

A meeting should never be regarded as an end in itself. The process ofmeeting should be an integral part of the whole educational activities i.e.your extension activities in the villages.

Farm and Home Visits

Meaning

It is a direct contact by the students with the host farmer or themembers of the family at his home or on his farm for a specific purpose.

Purpose

1. To get acquaintance and get confidence of the farmer and to give acourtesy call
2. To discuss individual problems
3. To find out problems
4. To obtain or give information
5. To teach skills

Procedure

1. It should be made with a definite purpose.
2. Punctuality and consideration of the time of the farmer shouldalways be borne.
3. Schedule of visits should be worked out to save time.
4. Remote and unfrequented farms and homes should always be keptin view.
5. Use this method to reinforce other methods.

During Visits, the following points are to be followed:

a. Develop conversation on interested topics
b. Let the farmer do most of the talking and do not interrupt him
c. Speak only when he is willing to hear
d. Talk in terms of his interest
e. Use natural and easy language, speak slowly and cheerfully
f. Be accurate in your statement
g. Don't prolong arguments
h. Let the farmer take the credit for good ideas
i. Be sincere in learning as well as teaching
j. Record the visit – date, purpose ,accomplishments andcommitments
k. Hand over a folder or leaflet etc., pertaining to the topic discussed,if necessary
l. Follow up the visit

Group Discussion Meeting

Meaning

Group discussion meeting is a method of democratically arriving at certain decisions by a group of people taking into consideration the views of members.

Purpose

1. To prepare a favourable climate for discussion and help in betterunderstanding of the problem by pooling,
2. To facilitate in-depth discussion by involving a number of participants,
3. To generate new ideas and methods and select the rational onesthrough group interaction, and
4. To develop a favourable attitude and commitment for actionthrough group involvement.

Planning for conducting Group Discussion Meeting

1. Select the topic based on the needs of the people.
2. Collect enough technical information on the topic.
3. List out and collect the objects, specimens, samples, models andother materials required for effective teaching.
4. Prepare the teaching materials (slides, charts, flannel graphs, etc)
5. Decide the effective speakers for the meeting.
6. Give wide publicity for the meeting.
7. Make physical arrangements for the meeting.
8. Decide the place, time and venue of the meeting in consultationwith the villagers.

Conducting the meeting

1) Start meeting in time.
2) Physical arrangement should be proper .
3) Logical way of presentation of the topic and initiation of discussion,involvement of the farmers at each stage.
4) Use effective teaching aids to support teaching.
5) Employ model, specimen and samples during presentation.
6) Encourage the farmers to participate in discussions.
7) Identify the shy farmers and encourage them to participate in meetingactively.
8) Avoid arguments with the farmers.
9) Present the cost-benefit ratio of the new practice discussed.
10) Use local language during the presentation.
11) Distribute relevant literature at the end of the meeting.
12) Thank the audience.

Evaluation

1. Counting the farmers present in the meeting.
2. Active participation of the audience.
3. Counting the number of persons who accept the matter/ technicalknow –how discussed.

METHOD DEMONSTRATION

Meaning

A method demonstration is a short time demonstration before a groupto teach as how to carryout (skill) an entirely new practice or an old practicein a better way.

Purpose

1. It teaches skills and to stimulate people for action.
2. To build up learner's confidence and satisfaction on the practice.

Points to be considered while conducting method demonstration

1. Method demonstration should be timely
2. Give advance publicity to build up the interest and secure wideparticipation.
3. Use materials that are easily available to the rural people.
4. Clarify doubts, but avoid arguments.
5. Appreciate the methods already in use by the group.

Conducting method demonstration

The procedure of conducting method demonstration is divided intothree stages.

I. Planning stage

(a) Analyze the skills required

(b) Inform well in advance about the time, place and date of conducting method demonstration.

(c) Ensure the materials required for conducting method demonstrationwell in advance.

(d) Select the place where all the farmers could see the methoddemonstration.

II. Conducting stage

a) Be at the spot early to check up equipment and materials required forconducting method demonstration.

b) Students have to practice by themselves before carrying out methoddemonstration.

c) Make proper arrangements to facilitate all the participants to have aclear look at demonstration and to take part in the discussion.

d) Conduct demonstration systematically.

e) Give opportunity to individuals to practice the skill

f) Distribute leaflets or any other literature related to thedemonstration.

III. Evaluation Stage

(a) List out the number of participants with names

(b) Get the names of participants who come forward to take up aparticular skill shown in the method demonstration.

(c) Publish the news story on the demonstration.

(d) Follow up the participants who have practiced skills.

(e) Entrust the leaders with the task of watching the adoption of newpractice.

Result demonstration

Meaning

Result demonstration is a demonstration conducted to show the worthof a new practice over the existing one at a particular point of time in a given place and this will be conducted by the farmer himself under the direct supervision of extension worker. It needs careful planning, substantial time and record keeping.

Result demonstration can be used when a) the technology is new to the area and b) the extension worker fails to convince the farmers about the technology by using other methods.

Purpose

1. To show the worth of new technology over the existing one.
2. To create confidence about the technology in the farmer as well asextension worker.
3. To educate the other farmers about the technology.

Procedure

The different steps to be followed in conducting the result demonstrationare

1. Analyse situation and determine the need for demonstration
2. Decide upon specific purpose and write down the statement ofobjectives.
3. Work out the design of the demonstration i.e plan the resultdemonstration
4. Select the demonstrator.
    a) Consult with local leaders and select a demonstrator who commands the confidence and respect of his niegbours and whois interested improving his practices (He should be typical farmer of the area). Select the demonstrator in a meeting, if possible.
    b) Visit the prospective demonstrator to make sure that allconditions for success of demonstrations are available.
    c) The demonstrator should be convinced of his responsibility forthe successful completion of the demonstration and its effect upon the community.
    d) The demonstrator should be willing for the use of demonstrationfor teaching purposes through publicity, pictures, meeting, tour etc.

e) The demonstrator should secure the necessary physicalequipment, supplies and materials to carry out the demonstration in successful way.

f) Explain and agree upon procedure with the demonstrator andleave written instructions preferably.

Select the plot

1. The plot should be located preferably in a road side for easyaccessibility and publicity.
2. The field should be representative of the farmers in the village(neither too rich nor too poor).

Start the demonstration

b) Give wide publicity before starting the demonstration

c) Get all the materials ready.

d) Have written plan of work indicating specific tasks.

e) Start the demonstration in the presence of the villagers.

f) Arrange for a method demonstration where a skill may be involved inthe beginning of the demonstration.

g) Mark the demonstration plots with large signs, so that all can see.

Use of demonstration

- Farmers should be taken to field during the growth of the crop toexplain the difference.
- Conducting result demonstrations meeting at the time of the harvestand yields should be compared with reference to cost.
- Photographs and slides should be taken for further use (educationaluse).

CAMPAIGN

Meaning

Campaign is a well-organized plan for bringing about widespread adoption of a particular practice. It is a concerted teaching effort for a set period of time. People are repeatedly motivated to adopt a solution to a problem.

Hints to successful campaign

1. Give an appropriate solution to problems recognized by people.
2. Deal with a problem that affects large number of people
3. Offer solution that the people can and will accept.
4. Emphasize one idea at a time.

Planning

Local people be involved in planning

1. Analyze the situation.
2. Select the practice to promote
3. Set objectives.
4. Plan for evaluation.
5. Decide how to involve people
6. Prepare the schedule events.
7. Arrange for equipment and supplies.

Conducting

1. Give publicity.
2. Conduct meetings.
3. Make farm and Home Visits
4. Launch your campaign
5. Demonstrate recommended practice, through exhibits, contests, slogans, signs, posters, wall posters, newspapers, radio and television.

End campaign dramatically

1. Set a definite time to end the campaign.
2. Feature the final day so the people can share the satisfaction ofcompleting the project.
3. Encourage all the people took part in the campaign to come andrejoice its success.
4. Invite important persons.
5. Recognize community leaders for their work.
6. Report results to the people.

Evaluation

1. Counting the people who have participated.
2. Measure what changes were expected either in the knowledge or inskills or in attitudes or in the adoption after the campaign.
3. What evidences can be noticed with respect to changes?
4. Who is adopting recommended practice after the campaign?

Evaluation is a continuous process, but the final evaluation is

necessary to provide adequate guides for future programmes.

EXHIBITION

Meaning

It is a systematic display of models, charts, photographs, maps,specimens or any other materials in a predecided place and time.

Points to organize an exhibition

1. The objective of the exhibition must be clear and specific.
2. Decide the theme of exhibition based on situation and problem.
3. As far as possible local materials need to be used for exhibition.
4. The place, date and time of exhibition should be announced well inadvance.
5. All the items should be labeled in the local language.
6. Arrange the exhibition in logical sequence.
7. Use three-dimensional materials.
8. Ascertain the opinion of the visitors to exhibition to know theeffectiveness of exhibition.
9. At the end of the exhibition, furnish participants with relevantliterature.

FIELD VISITS

Meaning

It is a small group of interested farmers led by the students who visit the plots/sites to study some current problems, differences in local productionpractices etc. It is powerful teaching device, which provides scope to observe,and analyze with the guidance of the students/ extension person/ scientists.

Purpose

1. To elicit the information from the farmers.
2. To inform and convince the farmers about the problems existing in the field.
3. To educate other farmers about the demonstrated technology.
4. To diagnose the technical problems.

Procedure

The procedure varies according to the purpose

a. If it is for the identification of field problems, the field visit may either bepre-planned or spontaneous.

b. If it is to observe the difference between farmers, an element of surpriseand impartiality can be achieved by a visit without pre-planning

c. If it is to study the impact of new technology, proper preparatory work ishelpful.

In all these cases,

i) Protracted deliberations must be ensured on the pointsobserved, lessons to be drawn and utilization of these lessons.

ii) Preparedness and advance thinking on these points arenecessary.

iii) Follow-up action is an integral part of the method.

FIELD DAYS

Meaning

It is an educational opportunity, planned and organized to involve interested farmers, farm leaders and organizational representatives. Focus of attention is on the recommended new technology to highlight its impact, as well as to facilitate an exchange of views and opinions among the participants, leading to the formation of firm attitudes and opinions regardingadoption of the new technology.

Purpose

1. To observe the new technology in its application and to evaluate itssuitability and benefits.
2. To facilitate discussion among groups of participants resulting infirm views on the recommended technology
3. To create a favourable climate for a rapid diffusion of the technology.
4. To build up opinion leaders and facilitators.

Procedure

The planning, conducting and follow-up aspects of the activity are explained in detail since it is one of the most common and useful extension methods.

Planning

A field day is usually organized around a Result Demonstration.

a) An impressive Result Demonstration is selected and at an appropriate stage the field day is scheduled.

b) The participants of the field day are selected including farmers, farm leaders, organizations and extension specialists and advance intimation is given to them.

c) Events for the day are decided and planned.

d) Necessary banners, posters, support literature and extension aids arearranged.

e) The concerned demonstration-farmer is briefed and guided to conduct theactivity.

f) Local support for the field day is ensured.

Conducting

With the help of the other extension personnel and the local farmers,the field day is conducted as planned.

a) The activity is started on time.

b) The objectives of the demonstration are explained by the extensionworker.

c) The procedure followed in the demonstration, step by step isexplained by the demonstrator farmer.

d) The participants, in small groups, are led around the demonstrationplot.

e) A sample harvest is arranged, if possible.

f) Systematic discussions on all relevant aspects including the economics are arranged with demonstrator-farmer and extension specialists.

g) Main conclusions are summarized for all to know.

Follow-up

A successful field day leads to further adoption of the recommendedtechnology.

a) Farmers, who are interested in the new technology, are identified forfollow-up.

b) The demonstrator-farmer and others, who are capable, are encouragedto help other interested farmers.

Farmers training

Meaning

It is an intensive educational activity with a focus on the developmentof selected skills.

Purpose

1. To build up the interest of farmers to lead them to adoption,

2. To enable farmers, learn the new technology unhurriedly, its background, its application and its consequences,
3. To enable the farmer to learn and practice the technology undercomparable or stimulated conditions,
4. To make use of group dynamics for reinforcing learning and facilitatehorizontal learning, and
5. To make use of progressive farmers and facilitators in future extensionwork.

Procedure:

Training consists of three phases

1. Pre-training

1. Understand the situation
2. Delineate the task of people who perform it i.e. task group
3. Efforts to motivate the participants and giving more publicity

2. Training

1. Put it away more convincing to the participants.
2. Incorporate demonstrations to improve the skills.
3. Trainers should visualize the actual situations of farmers and shouldtailor it accordingly.
4. Provide opportunity to the participants to clear their doubts regardingthe subject.

3. Post -training

1. Assess the effectiveness of training
2. Ensure conditions for improved performance by participants in theirfields.
3. Plan follow up action.

Community work

It is an intensive activity involving the people of a community with acommon goal for overall development.

Example:

1. Tree planting
2. Construction/ repair of roads
3. Village sanitation

Steps to be followed while conducting community work

1. Conduct group meetings to identify the topic/need.
2. Identify the local leaders, who are interested in community work.

3. Give wide publicity about the programme to involve the people asmuch as possible.
4. Mobilize the resources needed for the community work.
5. Fix the responsibilities to the individuals to complete the work in time.
6. Start the programme in time as scheduled/ as published earlier.

AUDIO-VISUAL AIDS

The principles discussed here apply to both audio and visual materials, particularly with regard to preparation, apply more to non-projected visuals. From the viewpoint of audience appeal and interest, audio-visuals must have the following characteristics:

- Please the senses
- Be accurate
- Be understandable
- Convey upto-date ideas
- Be simple in design
- Fascinate, intrigues and stimulate to action.

Planning

Planning for preparation and selection of visual aids is the first and foremost step in effective use of Audio-visual aids. The best material is the actual object. If the actual object cannot be used, the alternative is either to select from the readymade aids available or to prepare the new ones. The following factor should be taken into consideration when ever visual aids either prepared or selected.

1. Nature of audience and their level of understanding.
2. Facilities available-help of artist, duplicating materials etc.
3. Teaching objective-what are the changes to be brought? Knowledgeattitude and skill.
4. Cost of the aid
5. Students' competency
6. Complexity of subject matter.
7. Familiarity of the audience with the subject.
8. Size of audience.
9. Availability of raw materials
10. Variety-obtained through use of different materials colours, sizesetc., to hold interest.
11. Convenience – portability etc.

PREPARATION

The following "ABC" principles are to be considered in preparation.

Attractiveness: Useful "attention getters" are; colour, size, shape andillustrations.
Brevity: The message should be brief, can easily be read in short time. **Clarity:** The message should be clear, Layout with sufficient surroundingwhite space for words, illustrations.

PRESENTATION

After selecting the place for the presentation it is necessary to arrange the setting so the best teaching can take place.

Arrange the area properly, check seating for the audience, allow adequate ventilation, reduce possible distractions and provide good lighting.

Use a variety of colourful visual aids. They help the pace of the presentation and help hold audience attention. Prepare by rehearsing in order to make a smooth presentation.

A comfortable place is important. Arrange your audio-visual aids in sequence. Make sure that all aids in good working order before the presentation. Display only one aid at a time. Keep aids out of sight untilready for it. Stand beside the aid but not in front of it. Remove all unrelated materials. Avoid any misunderstanding by discussion and application. Distribute the handouts.

TIPS FOR EFFECTIVE USE OF VIDUAL AIDS

1. More visualizations, less text-a picture is worth thousand words,the old saying goes.
2. Legible aids, the visual should give the basic idea quickly andsimply.

3. Letter should be written large enough.
4. Each visual should count.
5. Provide variety.
6. Familiarity with the use of aids.
7. Testing should be done in advance.

PREPARATION OF VISUAL AIDS

Whatever type of visual aids one wants to prepare, first and foremost thing after planning is the preparation of layout or design.

Layout or Design: is nothing but arrangement of all the elements in the available space of the visual to accomplish the desired effect. Important elements of layout are:

1. Caption	2. Lettering	3. Spacing	4. Illustration
5. Colour	6.Balance	7. Contrast	

1. Caption

Caption should be clear, brief, understandable, catchy and relevant forexample;

- MILK FOR MILLIONS
- KILL THE PEST GET THE BEST

2. Lettering

Lettering is an important visual means of imparting information to an audience. The audience has to: read fast, read little and read easily. Therefore, we must learn the kind of lettering which is easy and quick to write.

Effective lettering makes the aid more meaningful and attractive. Basically, all good lettering depends on Style, Colour, Size, Spacing between letters, shape of the letter and colour contrast.

Lettering can be arranged in many ways vertically, horizontally, diagonally and zig zag way. Height of the letter depends upon the size of audience. If the last row of audience is about 30 ft. from the place of visual,

the height should not be less that one inch in the case of non-projected aid and in ½ projected aid. Generally, the thickness of the line of the lettershould not be less than 1/5th of the height of the letter.

The following table will help in determining proper letter size.

Distance from farthest viewer (in feet)	Minimum height ofletter (in inches)	Thickness of letter(1/5 of height)
10	0.5	0.1
20	0.7	0.14
30	0.9	0.18
40	1.4	0.28
60	2.1	0.42
80	2.8	0.56
100	3.5	0.70

Shape of letter: Unusual shapes should be avoided, because they are hinderence to clear understanding of the message. Always use letter of the usual shape.

3. Spacing

Spacing of letters properly is an important item in the preparation ofvisuals.

Style: Always prefer letters having same thickness of the line throughout theletter.

4. Illustrations

Illustrations are must in the visual aids. There are many varieties of illustrations, photographs, cutouts, pictures, like drawings, symbols and stickfigures. The use of particular type of illustration depends upon many factors, like skill of students and availability of the visuals etc.

5. Colour : Colours are in visuals for :

1. Attracting attention
2. Emphasis or contrast
3. Helps to create a mod
4. Making distinctions
5. Heightening our reconstructions of reality
6. Other ways to contribute to learning process

6. Balance

To avoid top-heaviness or top-sidedness in a layout the total effect must be one of balance.

In the formal type, balance is created by symmetrical arrangements of all the elements in the layout. A more interesting often is the informal one, in which the element appears to be balance, even though each side of the arrangement is different.

7. Contrast

The contrast between letters, illustrations and their back ground is an important factor in their readability. Black and darker colours are usually stronger. They have a higher readability then the lighter shades do. It is best to select a colour which contrasts well with the background. Light coloured letters should be used on a dark back ground or dark letters on a light coloured back ground.

GRAPHIC AIDS

Graphic aids are those, which through a combination of drawings, words and pictures are designed to help an educator to communicate ideas and facts clearly and effectively.

Graphic aids that are commonly used in extension work include charts, posters, flash cards, flannel graphs, cartoons etc.

PREPARATION OF POSTERS

A poster is designed to make a public announcement of a special idea. It is so designed in colour and format as to catch the eye, with a single message. It is essential a device for drawing attention, creating awareness or triggering the desire for further action, posters can play a very useful role increating interest in the viewers.

The important features of a good poster are:

1. Simplicity – it is simple in design and colour.
2. Topical – appropriate to the season and situation.

3. Brevity – a few words conveying a single message.
4. Attractive – it stands out to catch the eye.
5. Interesting – it is related to the immediate interest of the intended audience.

A poster is a visual combination of bold design, colour and message which is intended to catch and hold the attention of the passer by long enough to implant or to reinforce a significant idea in his mind.

Outline:

i. Picture should tell the story at a glance.
ii. The information presented should be timely.
iii. Decide the audience.
iv. Put down on a sheet of paper the message and rough pictures insimple form.
v. Express the message or idea by concise, meaningful words andpicture.
vi. Make a concise, striking slogan with a central idea.
vii. Space the picture and caption for balance.
viii. Rough out the poster in small size.
ix. Work out a colour scheme.
x. Poster should set out condition and recommended action.
xi. Size of poster must be large enough to be seen easily –

22" x 28' - Small size
28" x 44" - Large size

PREPARATION OF CHART

Charts can be considered as combinations of graph and pictorial media designed for the orderly and logic visualizing of relationships between key facts and ideas.

Charts serve to highlight important points or other material in a presentation. They are visual symbols for summarizing, comparing, or performing other helpful services in explaining the subject matter. They are often referred to as "symbolized" visuals.

Out line:

i. Layout a plan for the chart on a sheet of paper with pictures andcaptions.
ii. Short and simple and appropriate caption is very important.
iii. Make the chart simple
iv. Make the chart large enough to be seen easily
v. Make it attractive using effective colour contrast.
vi. Keep margins.

vii. Achieve contrast by using dark letters against light background or *vice versa*.

viii. Avoid presentation of too many ideas.

Types of charts: There are many types of charts. The most commonly usedforms are flow, tree, outline and tabular charts.

1. **Flow charts or organizational charts:** the flow charts are shown by lines, arrows, etc. They show organizational structure of departments, institution etc.
2. **Tree charts or stream charts:** As the name suggests the tree chart is developed from a base composed of several roots which lead to a single trunk. The branches in turn representing a research study before a groupof scientists.
3. **Outline charts**: The organization of content into key points and sub points, which a communicator may do on the chalkboard, is also a useful chart form.
4. **Tabular chart:** It can be used in any studies were the relationship of time and another factor is to be shown. Here the data represented in ordinary sequence. A rail or airtime table is familiar example. One of the unique values of tabular chart is its ability to show time relationships.
5. **Graphs:** Graphs are visual representation of numerical data.Types of graph:
   Line graph, Bar graph, Pie graph/circle graph

PREPARATION OF FLASH CARDS

Flash cards are set of paper cards flashed one by one in a logical sequence before an audience to emphasize important ideas in a presentation. The message on each card is brief and simple. Flash card usually involves photographs or still pictures illustrations, captions etc, and are the simplest of graphic aids. They are very convenient and effective for communication of improved technology to the rural population.

The size of the flash cards should be such that the group can see but small enough to handle conveniently for a group of 30-50 people. Use flash cards of 15"x20" each. For a small group, say 10-25 people, we can use flashcards of 10'x12' size. The number of flash cards should be 10 to 12 usually suffice for one topic to hold the interest of audience.

Outline : Skill and experience are essential for preparation of flashcards.

i. Outline the series of pictures relating to topic on a sheet of paper and number it in sequence.

ii. Draw only one picture on each flash card, large enough to be seen.

iii. Simple meaningful sketches are attractive to farmers.

iv. Use meaningful colours for emphasis

v. Prepare short captions and points for each flash card.

vi. Write caption and points on each picture in brief on the back ofproceeding flash card for guidance.

vii. The story should be explained as each card is held before thegroup.

viii. One idea or one picture on each flash card is the best.

Principles of Rural Journalism

1. **Use simple language:** Explain the technical terms in short and simple sentences, using common words, which have, concrete meanings. Abstract ideas and 'jargon' should not be used. Avoid using textbook language.

2. **Structure and arrange arguments clearly:** Present ideas in a logical order, clearly distinguishing between the main and the side issues. Presentation must be clear, with the central theme remaining visible so that the whole message can be reviewed easily. Separate key points or sectionsof the message by use of careful layout and typography.

3. **Make main points briefly**: Restrict arguments to the main issues, clearly directed towards achieving stated goals without unnecessary use of words.

4. **Keep important information at the top:** Organize the write-up like an inverted pyramid, keeping the most important information at the top, so that if some portion from the bottom is deleted during editing, it won't affect the write-up much.

5. **Use lively pictures and photographs:** The pictures and photographs should be simple, bold, with good composition and good contrast of light and shade, so that the message intended to be conveyed is clearly brought out.

6. **Prepare a stimulating write-up:** The presentation should be interesting, inspiring and sufficiently diversified to sustain audience interest. Accuracy, Brevity and Clarity (ABC) are fundamental to a good presentationof information.

Farm Publication

FARM PUBLICATION is a class of publications prepared by the extension agency in printed form, containing information relating to the improvement of farm and home. Farm publications are of various types such as leaflet, folder, bulletin, newsletter, journal and magazine. Farmpublications may be used singly or in combination with other extension methods.

Leaflet: It is a single printed sheet of paper of small size, containing preliminary information relating to a topic. It is made as and when needed. Generally distributed free-of-cost.

Folder: It is a single printed sheet of paper of big size, folded once or twice, and gives essential information relating to a particular topic. It is printed as and when required. Generally distributed free-of-cost.

Bulletin: It is a printed, bound booklet with a number of pages, containing comprehensive information about a topic. It is made as and when necessary. A small price may be fixed on some important bulletins.

Newsletter: It is a miniature newspaper in good quality paper, containing information relating to the activities and achievements of the organization. It has a fixed periodicity of publication. Generally distributed free-of-cost.

Journal/ Magazine: These are periodicals, containing information related to various topics of interest not only for the farmers but also for the extension agents. It has a fixed periodicity of publication. Generally supplied against pre-payment of subscription for a particular period.

Farm publications are extremely useful to the literate farmers. Even illiterate farmers can make use of them with the help of literate members in their family. Farm publications are used by all types of extension functionaries, input dealers, bank personnel and media-person. These maybe used in most of the individual, group and mass methods.

GENERAL HINTS FOR WRITING LITERATURES

1. Use of understandable words
   (a) Frequently used words
   (b) Short
   (c) Non technical
2. Use of strong words
   (d) Active verb
   (e) Specific words
3. Eliminate unnecessary word(s)
4. Use of clear and short sentences
5. Use of short paragraphs
6. Use of personal or human-interest words
7. Stress the important items
8. Organize message title, headings, and subheadings properly
9. Write to express but not to impress
10. Include variety in your writing

Writing Feature Story for Newspaper/ Magazine

Feature story is factual, may be a story of explanation, interpretation and description of discussion. Its purpose may be to tell something people need to know how something is done or how some one else has done something.

Procedure:

1. Collection of facts – or information for the feature story.

While collecting the information for the story, thefollowing series of questions may be used:

(a) Does this information have value for the farmer?
(b) How much money would it cost to put recommendations into practice?
(c) How much return will accrue from the investment?
(d) How long will it take to reach the recommended goal?
(e) Is it practical and feasible?
(f) Have dependable people been the innovators?
(g) Is it possible to see, as well as to read about the results?
(h) Is the story convincing?

Writing technique

(a) **The lead**: The first paragraph of the feature story must have the readers-interest pull that is mandatory in the news story. The reader's interest must be nabbed, if the writer is to lure him through the paragraphs that follow. While writing the lead of first paragraph, remember the following steps.

Use plain statements of facts

Start with a quick round up of major factors of the story of its central idea summarized for the readers' acceptance or rejection.

-Using striking statements and cite direct quotations.

The body: After writing the lead paragraph, the writer must organize the following paragraphs (the body) into a logical and convincing narrative that will sell the reader on the value of recommendations and suggestions. The length of his story is first based on the material and the policy of the publication for which he is writing. Usually, 600 words what newspaper editors can use. There is no room in a feature story for fights or fancy, since the reader wants facts, not frictions.

Use of illustrations: Pictures have tremendous reader-interest appeal. Hence, use illustrations in the feature story.

NEWS STORY: Any new idea, event, situation or development, which creates interest among large number of people, is commonly considered as news. People are more concerned with, news that affect themselves, their families, their neighbours, their community and their village.

For example, Innovations in agriculture reduction in cost of cultivation, high yields in crops, new varieties, meetings, demonstrations, exhibitions, Krishimelas all have special interest to the farm people.

A good news writer should have interest in farm people, curiosity about them, their affairs and problems.

Writing news story – graphically follows inverted pyramid structure.

TITLE

LEAD

MAJOR DETAILS

MINOR DETAILS

Title: Should be very attractive.

Lead: Catches readers interest and briefly gives important facts.

New story also answers to the 5 W's and the H.Who - farmer/ Extension worker/ Scientist.

What - Practice/ Technology

Where- Place

When- Season/ time

Why- Net income or drought condition.How- Details of cultivation.

CHECK LIST FOR EVALUATION OF NEWS STORY

A. Has news value because:

- Interests many readers
- Information timely and localized
- Most important ideas first
- Written in third person
- No editorial opinion
- No propaganda

B Has all-important facts because:

- Includes who, what, why, where, when, how (at least those that areimportant).
- Includes full names and positions of persons mentioned in story
- Has definite time, accurate location
- Explains details when necessary.

C Has reader interest because:

- Words easily understood
- Sentences and paragraphs short

- Facts definite
- Concrete examples used
- human interest emphasized

D. Everything in story double-checked for accuracy.

Difference between news story and feature story

News Story	**Featur e Story**
1. News Value	1. Newness is not emphasized
2. No choice in topic	2. Wide Choice in selection
3. Gives less details	3. More details
4. No flexibility	4. Flexibility in writing
5. Information giving	5. Motivation
6. Author is not identified	6. Authors are identified
7. No opinion	7. Writer can give his/ her opinion

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