Rural Agricultural Work Experience (RAWE)

Practical Manual

B.Sc. Agriculture

School of Agriculture and Allied Sciences

The Neotia University

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This is really a good news that our 2nd batch of B.Sc. (Ag) students have completed their Rural Agriculture Working Experience (RAWE) program successfully. The RAWE program has particular significance in hands on training experiences and it is the backbone for 'Translation of Knowledge' which is an integration on 'Actor', 'Action' and 'Performance'. In the RAWE program the Actors is our faculty members. Their Action is represented how they trained the student to cope up with the field conditions and Performance is represented from their RAWE report.

Agriculture is the backbone of our economy and it brought the food security of our nation. About 70' o of our population are engaged in agriculture and its allied activities. Our aim is to push down the **poverty** line at the 'Zero' level and this can be done if we can look at the 70% of population those are living on agriculture.

With advancement artificial intelligence (AI) and machine learning (ML) muscle power has been converted into machine power. We are in the position of integrating AI and ML in agriculture sectors. Apart from food production there need also food preservation and marketing which will help in developing the rural economy. In the RAWE program students have also get the idea on how to enhance the rural economy in ceasing the migration from rural to urban.

I certainly thank the students, faculty members and the entire University community in encouraging the students to have detailed idea in translating their knowledge from 'Lab to Land'

Biswajit Ghosh.

Higher Agriculture Education in India is on the cusp of major transformation with inclusion of Student Ready program in the B.Sc.Ag course curriculum as recommended by Agriculture Education Division 5th Deans' Committee Report of Indian Council of Agriculture Research (ICAR). As part of Student Ready program, the final year undergraduate students undergo Village Attachment Training Program to get adequate exposure and Rural Agriculture Work Experience (RAWE) for eight weeks. They are made to work in villages and learn various activities like, survey of villages, agronomical interventions, plant protection interventions, soil improvement interventions, fruit and vegetable production interventions, food processing and storage interventions, animal production interventions, extension and transfer of technology activities, etc. In order to achieve desired goals of the program, sound planning is required on the part of each of the assigned faculty member associated with the task of implementing and guiding the students during the training period. Therefore, the faculty members were advised to prepare a manual giving details of various interventions. As part of each intervention, students shall be made to first collect information from the farmers defining existing scenario in terms of their cropping practices, yield, market, economics, etc. along with the problems faced by them related to livelihood and crop production. The second phase consist of understanding the problems through analysis of collected data and planning strategies to address them. In the final phase the students shall be discussing the probable solutions with the farmers and intervene in their field with their consent. In this process the students beside getting opportunity to acquaint with village life and agriculture also develop clear understanding of the present-day farmers, their problems and required technological interventions. I am confident of its utility from the viewpoint of both faculty members and students. Thus, publication of this RAWE manual is a very prudent and conscious decision. I congratulate the team of faculty members associated with this voluminous work and the management of The Neotia University. Periodical updating of this manual is recommended looking at its immense benefits to the students

Prof. Sushil Kumar Kothari

Dean, School of Agriculture & Allied Sciences, The Neotia University

Introduction

Agricultural education is a dynamics one, which is undergoing change in a very rapid manner to meet the need of the society.

The students of agriculture are learning well on basic and applied issues of agricultural science and technology which include laboratory exercises and field practical training and acquisition of skills, however, they do not possess adequate self-confidence in starting their own commercial farming or agri-business.

In order to further sharpen the knowledge and skills of agricultural students, Rural Agricultural/Horticultural Work Experience Programme (RAWE/RHWE) is offered in final year of the B.Sc. (Agri/Hori) degree programme which includes, training, demonstration, observation, practice and participation in purposeful activities, and to orient our agricultural graduates for participation in various rural developmental programme. his programme is for providing work experience to the students in rural setting. Someone very rightly pointed out that -

This experiential system in agricultural education has a strong potential to prepare a better agricultural technocrats with high level of skill in combination with the modern out-look and management capacity. RAWE is one of the best means to produce well trained agricultural graduates with broad based knowledge and techniques to meet the emerging challenges.

In India, Randhawa Committee of ICAR (1992) recommended the Rural Agriculture Work Experience (RAWE) Programme for imparting quality, practical and productive oriented education for the agriculture degree programme. Getting do how practical hands-on training during higher education towards self-employment, is very essential. It provides significant hands - on experience in acquiring skills, which are mainly aimed at creating a product or providing a service to those who demand. In fact, RAWEP/RHWEP is basic to develop graduate competence as a teacher, researcher and extension specialist.

The Rural Agricultural Work Experience (RAWE) is a compulsory course offered in Vital Semester to B. Sc. (Hons.) Agriculture students primarily to understand the rural situations, status of Agricultural technologies adopted by farmers, prioritize the farmers problems and to develop skills & attitude of working with farm families for alround development in rural area.

Objectives of RAWEP/RHWEP

1. To provide an opportunity to the students to understand the life situations in the villages, rural institutions, socio-economic conditions and constraints faced by the farming community.

2. To get the students familiar with the socio-economic conditions of the farmers and their problems with reference to agricultural development.

3. To impart diagnostic and remedial practical training and skills in crop production/horticulture/plant protection through work experience.

4. To develop the understanding regarding agricultural technologies being followed by farmers and to prepare alternate farm plans according to the local situation in consultation with the farmers.

5. To help the students to acquaint with ongoing thrust on rural development and programmers related to transfer of technology (TOT) programme related to agriculture and allied aspects.

6. To provide an opportunity to work with KVK's/Research Stations and Agro/Horti-based industries.

7. To develop the communication skills, confidence and competence among the students to interact with the farmers so as to prepare Project Reports on “Village Development Plan”.

Programme under on-station training

A. Agronomy

1. Input use efficiency, crop productivity trends.

2. Crop diversification possibilities

3. On-farm water management, watershed management

4. Integrated farming system, precision agriculture, conservation Agriculture.

B. Soil Science

1. Natural resource management

2. Diagnosis and management of problem soils

3. Problems & Prospects of Organic farming.

4. Identification of major and minor element deficiency symptoms in field crops/horticultural crops.

5. Soil & water quality, residue management.

6. SSNM & Nutrient Expert.

7. Soil Fertility mapping.

C. Plant Physiology

1. Physiological disorders in crops..

D. Horticulture

a) Vegetables

I. Nursery techniques

2. Crop Management — Vegetables and spices**.**

b) Fruit crops

1. Layout and planting techniques of major crops. Training and pruning of crops.

2. Marketing and value addition.

3. Orchard management.

4. Fruit based land use system; Multi-layer cropping.

c) Floriculture

1. Management practices of flower crops Rose,. gladiolus, chrysanthemum.

2. Landscape gardening.

E. Plant Breeding and Genetics and Seed Technology

1. FLD

2. Visit to crop improvement experiments to get acquainted with -

a) On-going varietal trails.

b) Breeding methods.

c) Screening techniques

d) Methods of recording data

e) Improved varieties, their salient features.

3. Seed organizations (public and private) in seed production.

4. Seed production of different crops undertaken by the University, seed production techniques.

5. Harvest and post-harvest handling of seeds, methods of harvesting, threshing, drying, cleaning, grading and storage.

6. Seed quality testing/Seed certification.

7. Seed distribution and marketing.

8. Hybrid seed production.

F. Entomology

1. Field-plot inspection-general instructions finding out clues for diagnosis. Study of symptoms of major plant crop diseases.

2. Identification/diagnosis of major insect-pests, damage symptoms in field, fruit, vegetable and ornamental crop plants.

3. Biopesticides & their use.

G. Plant Pathology

1. Field-plot inspection –general instructions finding out clues for diagnosis study of field and plant pattern of damage and symptoms.

2. Diagnosis of major diseases of field, fruit, vegetable and ornamental crop plants & control.

3. Mushroom cultivation & value addition.

H. Agricultural Engineering

1. Farm machinery and equipments.

2. Setting up and maintenance of irrigation systems and farm ponds.

3. On-farm water management

4. Watershed management.

5. Poly-house construction and maintenance etc.

6. Postharvest processing & storage techniques.

7. Laser-levelling

I. Agricultural Physics

1. Weather based crop planning, Disaster management.

2. Remote sensing and GIS.

J. Agricultural Economics

1. Socio- economic survey

2. Co-operative and marketing

3. Agricultural Insurance

4. IPR, WTO & its implications

K. Agricultural Extension

1. Organization and functioning of the Directorate of Extension Education.

2. Organization of State Department of Agriculture, Central & State sponsored schemes.

3. Innovations in Technology Dissemination.

4. Extension Reforms

5. Organizing extension activities/ programmes

6. Different approaches to Extension Education.

7. Agro-ecosystem diagnostic analysis

8. IT-based transfer of technologies

9. State Agricultural Plan & its implementation.

L. Agricultural Statistics & computer application: Statistical tools & their application.

Distribution of credit hours Credit

1. Socio-economic survey and on-campus training

2. Village attachment

3. Industrial attachment

4. Report writing, Group discussion &

Presentation & Viva-voce

TOTAL

Grading ------ 10 point scale

Attendance ----- 85% is essential

Break up of workload for a semester of 20 weeks

1.	**Registration and Orientation 10 days**	**10 days**
2.	**Training on agro-ecosystem diagnostic analysis, conduct of PRA exercise On-campus training, Visit to local institutions of State/ICAR**	**20 days**
3.	**Visit and stay at villages around Zonal Research Station /KVK/NGO**	**60 days**
4.	**Placement in Agro-industries, processing centres, progressive farmers & other rural enterprises**	**30 days**

5.	**Preparation of group reports &. individual reports**	**10 days**
6.	**Group discussion, report presentation & Viva-voce**	**10 days**
	TOTAL	**140 days**

Principles of RAWE/RHWE Programme

- Go to the people and live with them
- Learn from them and Serve them
- Work and plan with them
- Start with what they know.

Expected Outcome of RAWE/RHWE Programme

1. Personality development
2. Art of listening and art of negotiation
3. Confidence building
4. Develop skill of joint effort (community management)
5. Developing art of creative thinking
6. Effective decision-making

7. Life's real experiences

8. Time and relationship management

9. Observe problem and possible solution (crisis management)

10. Understanding and practicing local (ITK) and scientific methods

11. Working of local institution/organization

Chapter-II

Registration, Guidance and Evaluation

1. Registration and Eligibility

As per the provision of academic rules approved by IGKV from time to time, students are eligible for promotion to 7th semester shall register for RAWE/RHWE programme. Once the students are registered for RAWE/RHWE programme, they will not be allowed to register for any other courses. The registration of RAWEP/RHWEP courses shall be done at the respective colleges within three days. At least two senior subject matter specialist (course teachers) of the below mentioned subjects will be designated and time table of RAWE/RHWE programme be notified well before the date of registration. Besides, course teachers, Dean/Principal should also designate one Programme Officer and one Coordinator preferably from Agronomy/Horticulture and Extension discipline as the case may be for overall supervision and monitoring of the programme as per the Manual. The students shall register for the following subjects (20 credits) of RAWEP/RHWEP in the first semester from 2013-14 session coinciding with the monsoon (kharif) season.

(A) The distribution of Courses for RAWE programme for B.Sc.(Agri) degree

Sr.No.	Course No.	Name of the Course	Credits	T	P

(B) The distribution of Courses for RHWE programme for B.Sc.(Horti.) degree

Sr.No.	Course No.	Name of the Course	Credits	T	P

T = Theory, P = Practicals

After orientation programme at College, the students along with teachers shall proceed to the respective villages/KVK's to which they are allotted. Participation in orientation programme is mandatory and compulsory to each students, failing which they will not allowed to proceed further in RAWE/RHWE programme.

2. Attendance

The attendance of a student shall be maintained by the concerned Subject Matter Specialist (Course Teachers) of the RAWE/RHWP and particulars are furnished to the Programme Officer (Coordinator) after every fortnight who

will in turn communicate to the Dean/Principal of the college concerned. The minimum attendance required for this programme is 85 percent. The students registered under RAWEP/RHWEP are not allowed to leave the placement (village/KVK etc) on official/personal work or on account of illness or unforeseen reasons without the written permission from Dean/Principal/Programme Officer. They may be permitted only in case of serious illness duly certified by Government Doctors. However, such students should make up the curricular requirement for the period of absence and to make up the days lost by doing extra work.

Attendance particulars of students shall be displayed in the notice board by the Programme Officer under intimation to the Dean/Principal of the college. The student shall be eligible to appear for the final evaluation/ examination, only if attendance requirement is met with. The period of stay in the village/attachment to KVK/RS/ABI shall never be extended to make up the shortage of attendance.

In the event of falling short of attendance, the student has to register the RAWEP/RHWEP courses when offered next. However, during the period of next registered semester, the student shall not be eligible for RAWEP/RHWEP stipend.

3. Student discipline

All students should maintained good harmony with farmers/villagers/workers during their stay or attachment to village/KVK's/RS/ABI. No other persons/friends or relatives are allowed to stay in the village/KVK's along with RAWEP/RHWEP students. The students shall maintain good discipline during RAWE/RHWE activities and prove as worthy students of THE NEOTIA UNIVERSITY, DIAMOND HARBOUR. Students whose activities are prejudicial to the interest of the programme /village/institution or subject to indulging in any unethical practices/malpractices shall be suspended from RAWEP/RHWEP. Such students shall not be permitted to register

RAWEP/RHWEP courses further in any semester until the stipend is recovered.

4. Supervision and Guidance

The designated RAWEP/RHWEP course teachers of the college are responsible to monitor, supervise and guide the students as per the procedure laid down in this Manual and directives of the Dean/Principal/Programme Officer. Each designated teacher shall reach the village in time as per scheduled time table to help the students and supervise the work. It is mandatory for all the teachers offering RAWEP/RAWEP courses to stay in the identified RAWEP/RHWEP village along with students as per the weekly schedule (Time Table) fixed by the Dean/Principal. In case of illness or any other reason, the Head of the concerned department will make the alternate arrangement of teacher to attend the subject. The Programme officer and or Assistant programme officer will visit and stay in the village once in a week preferably on Saturday/Sunday to guide and resolve the student's problem, if any. Students will submit their work diary for their weekly remarks and signature.

5. Evaluation

Student shall maintain daily record of work in the form of Work Diary based on daily field observation and got verified the work done by concerned course teachers and later submitted to Programme Officer (Coordinator) for further certification (Annexure-l). The student may use printed typed material/photographs in the preparation of RAWEP reports. The report shall be duly verified and certified by the designated teachers and RAWE Programme Officer (Coordinator).

Evaluation Procedure

The students shall be evaluated by internal as well as an external evaluation committee.

Marks distribution pattern of RAWE

Sl. No.	Internal evaluation (50 marks)			External evaluation (50 marks)		
	Evaluator	**Component**	**Marks**	**Evaluator**	**Component**	**Marks**
1	Supervisor	Attendance	10	External	Presentation cum viva	25
2		Daily record	10		Report evaluation	25
3		**Host farmers feedback	10			
4	Advisor	Report and Presentation	10			
5		Viva	10			
Total			**50**			**50**

Note- ** In case of online mode, this weightage will be added to report and presentation

Marks distribution pattern of AIA

Sl. No.	Internal evaluation (50 marks)		External evaluation (50 marks)	
	Items	**Marks**	**Items**	**Marks**
1	Daily report	20	Presentation cum viva	25
2	Attendance	5	Report evaluation	25
3	Task performed	15		
4	Final report submission	10		
Total		**50**		**50**

Credit wise marks distribution of RAWE and AIA

Sl. no.	Programme	Credit	Component wise marks	Reduced to
1	RAWE	10	100	50
2	AIA	10	100	50
Total				**100**

Chapter-III

Components of RAWE Programme

1. The RAWE for B.Sc. (Ag) programme will be offered during 7 semester to coincide with the main cropping season of West Bengal i.e. Kharif season.

2. It will be mandatory for the students to stay in the Village for 12 weeks and to complete other requirements.

Details of RAWE Components

Orientation of Students

This phase is meant to introduce the RAWE to the faculty and the student and to sensitize them towards the changed attitude required in the whole programme. The Dean/Principal of the respective college shall organize orientation programme for the students registered for RAWE programme.

The Chairman, Programme Officer, NSS Coordinator, Subject matter specialist (Course Teachers) and Heads of the concerned departments will participate in orientation programme. During the orientation programme Programme Coordinator of concerned KVK's/RS and Deputy Director Agriculture of concerned district and nominees from Rural Development Department will be invited to provide the feed back information related to agriculture and rural development. During the orientation programme, the following aspects shall be explained.

Dress Code

There will be common dress code for all the students offering RAWEP. They will have to bear white apron.

Criteria for Selection of Village

The RAWE/RHWE Programme Officer/Coordinator and subject matter teachers nominated by Dean/Principal of the College will submit the list of villages to the Dean/Principal of the College for finalization of the village. Stay or attachment with private farm houses is strictly prohibited. Village to be selected should be well connected by road preferably within the radius of 5-6 KM of the college. The village to be selected should have minimum middle School, Panchyat Bhavan and Primary Health Center. The village so selected should have as many enterprises as possible, viz. crop production, horticulture, dairy, goat rearing, poultry, fishery, sericulture, mushroom farming, apiculture, etc. Village should be changed after two year.

Placement of Students in Villages

On completion of orientation programme at the respective college a batch of 20-25 students shall be allotted by the Programme Officer (Coordinator) to the selected village with due intimation to the Dean/Principal of the college. Normally one student shall be attached to one identified host farmer in the village with whom he has to work for the entire programme.

Selection of Host Farmers

The host farmers are the contact farmers with whom the students of RAWE/RHWE programme are attached for studying various aspects of agricultural/horticultural activities and farm enterprise. Such farmers should be intellect to understand issues, identify problem, cooperative, willing to work as

host farmers for RAWE/RHWE programme and ready to work unselfishly with other farmers. He should be educated, reliable, innovative and willing to try out new ideas/technologies. He should be trusted and liked by his fellow farmers. Contact farmers should grow at least two major crops of the region and should have maximum number of enterprises on their farms. They should allow the students to observe the farm operations, take part in carrying out the agricultural/horticultural operations and provide all the requisite information to the students. Progressive farmers shall be selected as host farmers in each village by the students in consultation with Programme Officer/Coordinator and course teachers with the intimation to the Dean/Principal of the college. However very big farmers should not be selected as the host farmer. The Programme Officer in consultation with Teachers shall submit the village wise list of the host farmers to the Dean/Principal of the College within a week after the orientation programme.

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.

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 of Visitors
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				

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 (^{o}C)	Min (^{0}C)	Morning	Evening		

Survey of Village

Credit: 1 (0+1)

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	

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)		

VS-IV: Irrigation facilities available in the village:

S.No.	Source of Irrigation	Number	Area irrigated in Hectare	
			Seasonal	Perennial
	Total Wells a) Well in use b) Not in use			
	Canal			
	Tube wells			
	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	

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**

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 a) Sowing time b) Interculture c) Harvesting d) Threshing				

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

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 construction	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.	Others	

(III) Net Worth = Total Assets - Total Liabilities

Assets – HS- III, + HS -IV, HS-V Liabilities- HS-VII+I

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) Farm business income b) Family labour income c) Net income d) Farm investment income				

Cost Concept:

The cost concepts approach to farm costing is widely used in India. These cost concept, in brief, are Cost- A_1; Cost-A_2; Cost-B and Cost-C. The different cost items that are to be included under each cost concept are detailed below with their imputational procedures and examples.

Cost A1: It includes the value of:

1. Casual hired labour
2. Attached labour
3. Hired bullock labour
4. Imputed value of own bullock labour
5. Hired machine labour

6. Imputed value of owned machine labour
7. Seeds
8. Manures and Fertilizers
9. Plant Protection Chemicals
10. Irrigation charges
11. Interest on working capital
12. Depreciation
13. Land revenue

The total of all these cost items make up Cost-A1.

Cost A_2: Cost A_1 + rent paid for leased in land, if any

Cost B: Cost A_2+ imputed rental value of own land + interest on owned fixed capital.

Cost-C: Cost B + imputed value of family labour.

Cost C is the total cost of cultivation or gross cost.

The following measures of returns over different concepts are measured:

a) Gross return: Value of main product plus by-product
b) Farm business income: Gross Return - Cost A_1
c) Farm labour income: Gross Return – Cost B
d) Net income: Gross return – Cost C
e) Farm investment income: Farm business income – Wages of family labour.

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	Quantiy 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 others				
II.	Pulses True 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 Officer In-charge**

Agronomical Interventions
Credits: 3(0+3)

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 farmer……

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

Signature of Student **Signature of the Teacher**

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 production				Actual Yield per ha	
After care / plant protection	Harves-ting	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

Signature of the Student Signature of the Teache

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) :

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

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 :
(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 :

Summary of the work by the student done on the farmer's field : (Attach separate sheet of paper, if necessary)

Suggestions to farmers for future work (Attach separate sheet)

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

Remarks and Signature of Examiner

Plant Protection Interventions

Credits: 2 (0+2)

1. Past experience of the farmers regarding the incidence and infestations of insect pests and diseases.

Name of the farmer ……. Name of the village …… Contact no. ……

Sl. No.	Name of the crop	Season of cultivation	Area cultivated (bigha/acre/hectare)	Name of insect pests/diseases	Extent of damage	Control measures practiced	Remarks (Level of satisfaction)
1							
2							

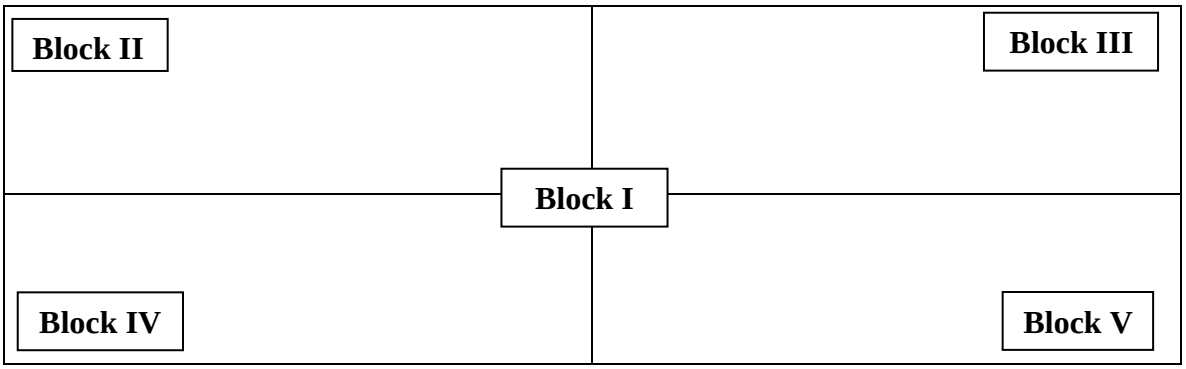
3							
4							

Full Signature of Student **Signature of Teacher In-charge**

2. Survey on cultivated crops regarding pest population and beneficial insects. Methods to record observation in field.

Cereals (Rice)

i) When you enter in to the field of the farmer, divide the field in five blocks first in following manner.



ii) From each block select randomly three plants per meter row length of plants for observation from each field and have the sample of 15 plants/spots.

iii) For GLH, WRH and grasshopper, count the number of insects (nymphs and adults) on plants.

iv) For horn caterpillar, count the number of larvae on plants and for rice hispa, count the number of adults on plants.

v) For leaf folder, count the number of folded leaves.

vi) For case worm and whorl maggot, count the number of damaged leaves.

vii) For hispa, count the number of damaged leaves by grubs and adults.

viii) For stem borers, count the number of tillers and dead hearts / number of panicles and white earheads.

ix) For BPH and WBPH, count the number of nymphs and adults at the basal region of the plant.

x) For gall midge, count the number of onion leaves or silver shoots.

xi) Count the number of spiders, carabid beetles, rove beetles, coccinellids, dragonflies and damselflies.

xii) Calculation should be done to find out percent dead heart or white earheads and percent silver shoots.

Vegetables (Okra, Brinjal, Chilli, Cucurbits, Cabbage, Cauliflower)

1. **Brinjal:** Randomly select three plant per block for observation of insect pests.
   i) For brinjal shoot and fruit borer, count the number of healthy shoots and damaged shoots as well as number of healthy fruits and damaged fruits.
   ii) For epilachna beetles, aphids, jassids, thrips, mealybugs and whiteflies, select three leaves per plant and count the number of insects on the basis of visual observations.
2. **Okra:** Randomly select three plant per block for observation of insect pests.
   i) For okra shoot and fruit borer, count the number of healthy shoots and damaged shoots as well as number of healthy fruits and damaged fruits.
   ii) For **sucking pests**, observations on number of nymphs and adults from one leaf each from the top, middle, and bottom portion of plant from three randomly selected plants per block should be noted.
3. **Chilli:** Randomly select three plant per block for observation of insect pests.
   i) For mites, count the number of leaves showing downward curling.
   ii) For thrips, count the number of leaves showing upward curling.
4. **Cucurbits:** Randomly select the plants in 1 sq.m. area.
   i) Count the number of red and blue pumpkin beetles and epilachna beetles (*Epilachna* sp.) per plant through visually observed on upper and lower surfaces of leaves (five leaves).
   ii) Collect five leaves for taking observations of aphids, whiteflies and thrips.
   iii) Count the number of larvae of cucumber moth per plant.
   iv) For fruit fly infestation in cucurbits, collect the infested fruits in the plants and fallen fruits and observe the maggot infestation. Number of infested fruits should be recorded.

5. **Cabbage and Cauliflower:** Randomly select three plant per block for observation of insect pests.

   i) The larvae and pupae of diamondback moth and the larvae of *Spodoptera litura* and *Helicoverpa armigera* should be counted from randomly selected three plants per block.

   ii) Observation of aphids should be noted from two leaves /plant covering three regions /leaf using one square inch template made of card board.

Fruits (Citrus, Mango, Guava, Banana)

1. Citrus

i) Observation on number of **citrus psylla** per 10 cm shoot may be recorded on four selected shoots per tree, four each from E, S, W and N of the tree. While observing the pest population, both nymphs and adults of the pest may be taken into account and total number on 4 shoots (10 cm size) per tree need to be noted.

ii) Observation on number of **white fly** and **black fly** (both nymphs and adults) per 5 leaves from each direction (E, S, W, N) of the tree and the number per 5 leaves in one direction of the tree need to be noted. Total number (white fly/black fly) on 20 leaves per tree need to be recorded.

iii) Observation on number of mined leaves by **leaf miner** per 5 leaves from each direction (E, S, W, N) of the tree may be recorded. Record total number of mined leaves per 20 leaves per tree.

iv) To record the observations on **thrips** population one terminal branch from each direction (E, S, W, N) should be selected. Each selected branch should be tapped under white paper and number of thrips fallen should be recorded. From each tree 4 branches should be tapped.

v) Observe and collect total drop fruit from each tree and count the fruit damaged by **fruit sucking moth** on the basis of punctured fruits.

2. Mango

i) For leaf cutting weevil, randomly observe 10 twigs in each direction (E, S, W, N) of selected tree to see cut tender leaves.

ii) Observe older leaves for counting the number of galls on the leaf.

iii) Observe the tree trunk and count the number of silken galleries for mango stem borer.

3. Guava

i) For mealybug, randomly observe 5 twigs and each twig containing three leaves in each direction (E, S, W, N) of selected tree to count the number of insects.

ii) For fruit fly infestation, collect all the dropped fruit, cut them and count the number of maggots. On the tree, observe fruits for oviposition puncture and record the data.

4. Banana

i) For leaf scarring beetle, carefully observe the bunches and count the number of infested bunches.

ii) For pseudostem weevil, carefully observe the pseudostem for bored holes with frass coming out and count the number.

Name of the farmer ……. Name of the village ……. Contact no. ……..

Sl. No.	Name of the crop	Date of sowing	Insect Species		Status (harmful or beneficial)	Type of beneficial insect	Damaging stage of the insect	Plant parts affected	Population density	Percent damage	Degree of infestation (Nil-0, Low- <10%, Medium- 10-30%, High- >30%)
			Common Name & Scientific Name	Local Name							
1.											
2.											

3.											
4.											

Full Signature of Student **Signature of Teacher In-charge**

3. Field survey for detection and scoring of plant diseases.

Name of the farmer ……. Name of the village ……. Contact no. ……..

Sl. No.	Name of the crop	Date of sowing	Plant Diseases		Disease incidence and Disease severity value	Symptoms	Susceptible stage of the pathogen	Plant parts affected	Primary source of infection	Secondary source of infection	Degree of infection based on 0-9 disease grading scale (R-1-2, MR-3, MS-4-5, S-6-9)
			Common Name of disease	Name of the pathogen							
1.											

2.											
3.											

4.											

Full Signature of Student **Signature of Teacher In-charge**

4. Herbarium collection of insect pests and beneficial insects of cultivated crops in the village.

Each student has to submit at least 10 insect species specimens along with damage symptoms on infested plant parts properly pressed/ dried and labelled in file cover by giving following information.

i) Name of the crop:

ii) Name of the variety:

iii) Common Name:

iv) Scientific Name:

v) Order:

vi) Family:

vii) Main identifying character:

viii) Place of collection:

ix) Date of collection:

x) Collected by:

Full Signature of Student **Signature of Teacher In-charge**

5. Preparation of Herbarium of plant disease sample of cultivated crops in the village.

Each student has to submit at least 10 plant disease specimens properly pressed/ dried and labelled in file cover by giving following information.

i) **Name of the crop:**
ii) **Name of the variety:**
iii) **Name of Disease:**
iv) **Name of the casual organism:**
v) **Place of collection:**
vi) **Date of collection:**
vii) **Collected by:**

Full Signature of Student **Signature of Teacher In-charge**

6. Study of plant protection status and programmes related to insect pests and diseases in the village.

Name of the farmer ……. Name of the village ……. Contact no. ……..

Sl. No.	Name of the crop	Season	Crop stage	Name of insect pest/ disease	Control methods practiced by farmer		Control measures suggested to host farmers on the basis of pest population/damage or disease severity		Adapted/not adopted by the farmers along with the reasons
					Preventive	Curative	Preventive	Curative	
1.									
2.									
3.									

4.									

Full Signature of Student **Signature of Teacher In-charge**

7. Study of rodent management in the village.

Name of the farmer ……. Name of the village ……. Contact no. ……..

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

Sl. No.	Farmers Practices						Recommended Practices					
	Name of the crop	Strategies		Field		Storage	Strategies		Field		Storage	Remarks
		Trapping	Poison Baiting	Crop stage	Dose	Dose	Trapping	Poison Baiting	Crop stage	Dose	Dose	
1.												
2.												
3.												
4.												
5.												

Full Signature of Student **Signature of Teacher In-charge**

8. Use of different pesticide appliances and study of pesticides consumption pattern of the village.

Name of the village ……..

Pesticide appliances

Sl. No.	Type of pesticide appliance	Manual/ Power operated	Capacity (litre/kg)	Used for which type of pesticide	Cost per unit (Rs.)	Manufacturer's name
1						
2						
3						
4						
5						

Consumption pattern of pesticides

Sl. No.	Name of pesticides used by the farmers with formulation	Trade name	Toxicity label	Manufacturer's name	Dose applied	Price (Rs.) per unit	Availability in local market (yes/no)
1.							
2.							
3.							
4.							

5.							

Full Signature of Student **Signature of Teacher In-charge**

9. Farmer's perception, practice of plant protection with particular reference to ITK

Name of the farmer ……. Name of the village ……. Contact no. ……..

Farmers all over the world have developed their indigenous system of farming and have evolved indigenous techniques for crop production/farming. Each student shall record at least two **Indigenous Traditional Knowledge Practices (ITKs)** adopted by the farmers in the village.

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

Sl. No.	Name of the crop	Name of the practice	Purpose	Method of application	Dosage	Time of application	Rationale behind ITK	Extent of adoption	Constraints in adoption	Opinion of the farmers towards ITKs

1.										
2.										

Full Signature of Student **Signature of Teacher In-charge**

10. Report Making.

Name of the student……

Last Three digits of UID…… Name of the village……..

i. **Total number of farmers communicated:**
ii. **Name of the crops cultivated:**
iii. **Name of the pests and diseases associated with the cultivated crops:**
iv. **Name of the beneficial insects observed:**
v. **Mention the interventions practiced by the farmers to control pests and diseases:**
vi. **Suggested interventions to the farmers for pest and disease control:**
vii. **Rodent management practiced by the farmers:**
viii. **Rodent management suggested to host farmers:**
ix. **Name the different pesticide appliances used by the farmers:**
x. **Name the different pesticides used by the farmers for pest and disease control:**
xi. **Name the Indigenous Traditional Knowledge Practices (ITKs) for pest and disease control which were adopted and practiced by most of the farmers:**
xii. **Write in brief your learning outcomes during the plant protection interventions:**

Full Signature of Student **Signature of Teacher In-charge**

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

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

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 Officer In-charge**

Fruit and Vegetable Production Interventions

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) Area Crop 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:

Kharif

Summer

Crop
-
-
-
-

Rabi

Area

4.	Actual yield obtained: Main vegetable Inter crops	Quantity (No./Q)	Rate Rs.	Value Rs.
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.	Supervising					
12.	Transport to market					

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

Total Income **Net Profit**

Signature of Student

Signature of Farmer **Signature of Officer In-charge**

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 In-charge**

Food Processing and Storage Interventions

Credit: 1 (0+1)

IV. 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 find out the details of particulars mentioned below.

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 Officer In-charge**

Animal Production Interventions

V. 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

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 Officer In-charge **Signature of the Evaluator**

Extension and Transfer of Technology Activities

V. 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, 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 Officer In-Charge **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 Officer-In-Charge **Signature of Student**

Agricultural Industrial Attachment (AIA) / In-Plant training

Credits: 4 (0+4)

Component – II **Credits: 4 (0+4)**

VI. 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/N

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 Yes No

controlled

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 ☐

Signature of Student **Signature of Officer In-Charge**

UNDERTAKING

1. I express my willingness to participate in the RAWE programme commencing from …….
2. I abide to follow all the guidelines and instructions given to me from time to time by my supervisor
3. I will be fully responsible for any loss or injury, which I may suffer while or in consequence of my stay in the village or traveling etc.
4. I will depict good conduct & behavior during my village stay and will not indulge in any conflict or coercive activities, which may tarnish of the institution of which I am student.
5. I will devote my complete RAWE tenure in the activities assigned to me, If any deviations from the norms are reported, I may be dropped from the roll.

Date:
No…….

Signature of Student & Enrolment

Name…….

Father's Name ……