



ICAR ACCREDITED



MANUAL FOR
RURAL AGRICULTURAL & WORK EXPERIENCE (RAWE)
AGRO INDUSTRIAL ATTACHMENT (AIA)
SESSION : 2026-27

MANUAL

FOR

RURAL AGRICULTURAL WORK EXPERIENCE (RAWE)

&

AGRO-INDUSTRIAL ATTACHMENT (AIA)



Teerthanker Mahaveer College of Agriculture Sciences

Teerthanker Mahaveer University,

Moradabad-244001, Uttar Pradesh, India

Information Sheet

Enroll. No. : TAG _____ Session : _____

Year / Sem. : _____

Name : _____

Father Name: _____

Contact No. : _____

Email Id : _____@tmu.ac.in

Blood Group : _____

Address : _____

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 role.
6. I will bear all my expenses incurred during the course of RAWE & AIA.

Date: ____/____/____

Enrolment No.: _____

Name: _____

Signature of Student

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Work Diary for Student

1. Off Campus/In campus RAWE:.....

2. Name of village :.....

3. Block :.....

4. District :.....

S.No.	Date	Details of Work	Remarks

Work Diary for Student

1. Off Campus/In campus RAWE:.....

2. Name of village :.....

3. Block :.....

4. District :.....

S.No.	Date	Details of Work	Remarks

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S.No.	Date	Details of Work	Remarks

Work Diary for Student

1. Off Campus/In campus RAWE:.....

2. Name of village :.....

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4. District :.....

S.No.	Date	Details of Work	Remarks

Work Diary for Student

1. Off Campus/In campus RAWA:.....

2. Name of village :.....

3. Block :.....

4. District :.....

S.No.	Date	Details of Work	Remarks

Evaluation scheme of RAWE and AIA programme

S.N.	Activities	No. of weeks	Credit Hours
1	General orientation	1	14
2	Village attachment	8	
	Unit attachment in Univ./ College/KVK/ Research Station / Field Visits Attachment	5	
3	Plant clinic	2	02
	Agro-Industrial Attachment	3	04
4	Project Report Preparation, Presentation and Evaluation	1	
Total weeks for RAWE & AIA		20	20
Total Marks = 100			

Teerthanker Mahaveer College of Agriculture Sciences

Rural Agricultural Work Experience (RAWE)

&

Agro Industrial Attachment (AIA)

Introduction

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 of RAWE:

1. To develop among the students and understanding of rural community life and different situations prevailing in villages with special reference to agriculture.
2. To provide an opportunity to the students to understand the rural setting in relation with agriculture and allied activities.
3. To get the students familiar with socio-economic conditions of the farmers and their problems with reference to agricultural development.
4. To impart diagnostic and remedial knowledge to the students relevant to real field situation through practical training in plant clinic.
5. To make students to understand to agricultural technologies being followed by farmers and to prepare alternate farm plans to suit to the local situations in consultation with the farmers.
6. To develop communication skills in students using extension teaching methods in transfer of technology.
7. To develop confidence and competence to solve agricultural problems.
8. To help students to acquaint with ongoing extension rural development programs.
9. To acquaint with agro industries to get on experience of the industrial environment and working.

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 7th semester for a period of upto 3 weeks. In this training, students will have to study a problem in industrial perspective and submit the reports to the college. In-plant training program 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 the agro-industrial environment.
2. To familiarize the students with various materials, machines, processes products and their applications along with relevant aspects of market.
3. To make the students understand the psychology of the workers and approach to problems alongwith the practices followed at the industry.
4. To acquaint the students with the scope, functions and job responsibilities in various departments of an organization.
5. To aware the students of various aspects of entrepreneurship during the programme period.

Placement

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

Duration wise activities performed during RAWE (1-Semester)

S.No.	Activity	Duration
1	Orientation & Placement	1 week
2	Survey of Village	14 weeks
3	Agronomical Interventions	
4	Plant Protection Interventions	
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	4 weeks
10	Project Report Preparation, Presentation & Evaluation	1 week

Registration

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

Eligibility for registration and other requirements

- Students undergoing studies leading to the award of B.Sc. (Hon.) Agriculture at College of Agriculture Sciences (TMU) shall be eligible for a period of one semester.
- A student will be under the administrative control of the Head of the college and faculty/ staff designated by the Principal/ concerned authority.
- 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 study before its completion without any prior approval of the Head of Institute, or is irregular in attendance, the Head of Institute itself may take necessary action.
- 80 percent attendance is compulsory for students registered for RAWE programme, failing which they will have to repeat the semester.
- The students registered for RAWE are not allowed to leave the venue of their placement without written permission of Coordinator-RAWE / Dean/ Principal. Permission will be granted only under emergency.

Monitoring

1. The advisory committee for monitoring of RAWE programme will comprise of the following members:

a. Principal/Dean of the college	-	Chairman
b. Principal/ Dean's nominee	-	In-Charge
c. All component coordinators	-	Member
2. Students will be required to submit a final comprehensive report on or before the

date specified in the academic calendar in the prescribed Performa.

3. The students will be required to maintain a daily diary as per the prescribed Performa. They shall produce their diary to the visiting teacher for inspection and for recording their observations & suggestions. The visiting teachers shall verify the work and sign the diary.
4. Component coordinators shall monitor daily activities of individual student.

Evaluation

1. Students shall be evaluated component-wise under village attachment, field visit, plant clinic and agro-industrial attachment.

Implementation of the Programme

1. The students will be placed in small groups and will work in the selected villages.

Norms for Allotment of Villages

1. The students will be placed in different villages depending on availability of enterprises and innovative host-farmers.
2. Among the students placed in a village, one student nominated by college in-charge will function as a Student Group Leader (SGL) and coordinate the activities in the assigned village.

Orientation

Students have to report to the In-charge RAWE programme as per the prescribed schedule of work for orientation immediately after registration. The faculty members 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, Fruit and Vegetable Production Interventions, Animal Production Interventions and Extension and Transfer of Technology Activities and Agro-Forestry etc.

Programme of Work

The RAWE programme comprises of nine components as under:

1. Survey of Village.
2. Agronomy, Soil Science, Plant Pathology and Soil Microbiology.
3. Vegetable Science.

4. Horticulture.
5. Genetics and Plant Breeding.
6. Seed Technology.
7. Animal Science.
8. Food Processing.
9. Agricultural Economics.
10. Agro-Forestry.
11. Plant Clinic.
12. Agricultural Communication /Extension.

A. Survey of Village

1. The students shall take-up a survey of the village as per the prescribed schedule.
2. The students shall be required to collect the data on over all condition of village, resource endowment and its utilization, problems of labour and employment and other important economic aspects detailed in the schedule.
3. The students shall also conduct Participatory Rural Appraisal (PRA) activities in the village.

B. Agronomy, Soil Science, Plant Pathology, Soil Microbiology

1. Soil site description, Soil sampling and testing, interpretation of soil test report and fertilizer recommendations based on soil test.
2. Diagnosis and management of problematic soil, if any.
3. Description of symptoms based on key prepared for the identification of deficiency symptoms of various elements.
4. Identification of major and minor element deficiency symptoms in field crops.
5. Physiological disorders.
6. Major weed species and weed management.

C. Vegetable Science

1. Nursery techniques.
2. Crop management.
3. Vegetable demonstration.
4. Identification of major and minor element deficiency symptoms.
5. Vegetable production in polyhouse.

D. Horticulture

I. Fruit crops

1. Fruit regulation techniques, use of crop growth regulate crop growth and quality.
2. Identification of major and minor element deficiency symptoms.

3. Physiological disorders.

II. Floriculture

1. Management practices for flower crops.
2. Nursery techniques.
3. Commercial floriculture in polyhouse.

E. Genetics and Plant Breeding

1. Varietal demonstration.
2. Visit to crop improvement center to acquaint with:
 - a. Ongoing varietal trials.
 - b. Improve varieties and their salient features.

F. Seed Technology

1. Seed organization (Private and Public) in seed production in nearby areas.
2. Seed production on different crop under taken in the area, seed production techniques followed crops/varieties.
3. Harvest and post-harvest handling of seeds methods of harvesting, threshing, drying, cleaning, grading and storage treatments.
4. Seed quality testing.
5. Seed distribution and marketing.
6. Specific problems related to seed production.

G. Animal Science

1. Visit to progressive dairies animal breeds and their feeding, breeding and management practices.
2. Progressive poultry farms, breeds, strains, feeding and breeding practices, housing prophylactic measures against common disease, routine farm operations and economics.
3. Functioning of milk co-operative society.
4. Visit to piggery farm breed, feeding, breeding practices, housing, disease control measures, routine operations and economics.
5. Fisheries management of ponds, fish species, diseases and economics.

H. Food Processing

1. Visit to food processing unit and demonstration of value added products.
2. Visit to dairy industry.

I. Agricultural Communication /Extension

1. State organization of agricultural department.
2. Working of Block Development agencies and various schemes run by government.
3. Non-Government Organizations in agriculture development.
4. Organization and functioning of Krishi Vigyan Kendra.

J. Agricultural Economics

1. General socio-economic profiles of selected village including information regarding location and population of villages, institutional support available regarding transport, communication, education, banking, health and sanitation etc.
2. The agro-economic condition of village in terms of land use pattern, irrigation facilities, available and mechanization status of villages.
3. Farms survey related to farm family structure, family budget expenditure pattern of family and characteristics of farm, livestock position on farm and farm assets.
4. Production pattern, crop wise material used and operational expenditure, technology adoption and productivity, financing pattern, marketing pattern and non-farm sources of income.

K. Agro-Forestry

1. Nursery raising.
2. Objectives of growing forest species and suitability of different trees species under different situations.
3. Inter crops.
4. Approximate cost of cultivation and income, comparison of income from agricultural crops and forest crops.

L. Plant clinic

1. Causes of different plants and soil elements descriptions of symptoms and terminology.
2. Field plot inspection-general instructions, finding clues for diagnosis, study of field, plant pattern of damage and symptoms.
3. Preparation of case history with background information, symptoms and clinical tests.
4. Identification/diagnosis of major insect and pest damage symptoms in field, fruits, vegetables and ornamental crop plants.
5. Diagnosis of major diseases of field fruit, vegetable and ornamental crop plants.

6. Methods of pest control chemical, cultural, mechanical and biological.
7. Tips on insecticides, fungicides, bactericides and nematocides.
8. Plant protection equipments.
9. Physiological disorders in fruit and other crops, regulation of fruiting techniques.
10. Assignments and submission of reports (if any required), use of diagnostic sheets.



Accredited with NAAC **A** Grade
12-B Status from UGC

TEERTHANKER MAHAVEER COLLEGE OF AGRICULTURE SCIENCES

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SURVEY OF VILLAGE

Component– I: Rural Agricultural Work Experience (RAWE)

RECORD OF THE VILLAGE

Village & Address :
.....

PATWARI RECORD OF THE VILLAGE (To be acquainted with)

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

I. Survey of Village

VS-I: General Information

1. Name of village :
2. Tehsil :
3. District :
4. Distance in Kilometers from the nearest:
 - a) Primary/Middle School:
 - 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.	Others 1. No. of SCs 2. No. of STs 3. No. of OBCs	

VS-III: Land use pattern of village

S.N.	Item	Area in hectares	% to total Geographical area
1.	Total geographical area of village		
2.	Area under forests		
3.	Barren and uncultivable land		
4.	Land put to non-agricultural use		
5.	Cultivable waste land		
6.	Total fallow land		
7.	Net sown area		
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 up to one foot) 2. Medium soil (Depth 1to 2 ft) 3. Heavy soil(Depthmorethan2ft)		

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

VS-IV: Irrigation facilities available in the village:

S.N.	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.N.	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.N.	Crop	Varieties grown	Area in acres	Percentage to Gross Cropped Area
1.				
2.				
3.				
4.				
5.				

6.				
7.				
8.				

VS-VII: Wages rates prevalent in the village:

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

Household Schedule (HS)

Information of Selected Cultivators

Details of Farmer-1

- a) Name of the Farmer : _____
- b) Caste : _____
- c) Village : _____
- d) Block : _____
- e) Tehsil : _____
- f) Distt. : _____

HS-I: Details about Family Members

S.N.	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.N.	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)	
S.N.	Particulars	Expenditure (Rupees)
8.	Approximate value of land (per acre)	
9.	Total land revenue paid (per year)	
10.	Other taxes	

HS-III: Details of Livestock Possession

S.N.	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.N.	Name of Machine	Brand	Year and Purchase/price	Present value (Rs.)
1.				
2.				
3.				
4.				
5.				
6.				

7.				
8.				

HS-V: Inventory of Residential and Farm Building

S.N.	Type of building	Year of construction	Type of construction	Present value (Rs.)
1.	Residential			
2.	Cattle Shed			
3.	Other Shed Storage			
4.	Irrigation Structures (Pumphouse)			
5.	Tractor shed			
6.	Others			

HS-VI: Financial Position of Farmer

(I) Dues payable (Liabilities)

S.N.	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.N.	Dues receivable from	Amount in Rs.
1.	Cultivator/Relatives	
2.	Traders	
3.	Aarhatiya	
4.	Other	

(III) Net Worth=Total Assets-Total Liabilities

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

HS-VII: 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 (acre)

S.No.	Particulars	Quantity	Rate (Rs.)	Cost
1.	Seed:			
	Variety:			
2.	Fertilizer			
i.				
ii.				
iii.				
iv.				
V.				
3.	Plant protection			
i.				
ii.				
iii.				
iv.				
v.				
4.	Plot preparation			
i.				

ii.				
iii.				
iv.				
V.				
5.	Irrigation			
6.	Labor charges			
i.				
ii.				
iii.				
iv.				
v.				
7.	Others			
i.				
ii.				
iii.				

Cost of cultivation:

a. Main Produce

i. Yield:

ii. Rate:

iii. Gross income:

b. By produce:

i. Yield:

ii. Rate:

iii. Gross Income:

Gross income: (Value of M.P. + B.P.)

Net Income: Gross income - Cost of cultivation

HS-VIII: Crop Production Record

S.N.	Name of the crop with variety	Area (acre)	Quantity produced		Productivity per hectare
			Main product(Q)	By product(Q)	Main product (Q)
1.					
2.					
3.					
4.					
5.					
6.					
7.					

HS-IX: Disposal of Farm Produce

S.N.	Name of the crop	Qty. Produced	Qty. Consumed	Quantity sold		
				Q	Price/Q	Total
1.						
2.						

3.						
4.						
5.						
6.						
7.						
8.						

Details of Farmer-2

- g) Name of the Farmer : _____
- h) Caste : _____
- i) Village : _____
- j) Block : _____
- k) Tehsil : _____
- l) Distt. : _____

HS-I: Details about Family Members

S. N.	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.N.	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)	
S.N.	Particulars	Expenditure (Rupees)
8.	Approximate value of land (per acre)	
9.	Total land revenue paid(per year)	
10.	Other taxes	

HS-III: Details of Livestock Possession

S.N.	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.N.	Name of Machine	Brand	Year and Purchase/price	Present value (Rs.)
1.				

2.				
3.				
4.				
5.				
6.				
7.				
8.				

HS-V: Inventory of Residential and Farm Building

S.N.	Type of building	Year of construction	Type of construction	Present value (Rs.)
1.	Residential			
2.	Cattle Shed			
3.	Other Shed Storage			
4.	Irrigation Structures (Pump house)			
5.	Tractor shed			
6.	Others			

HS-VI: Financial Position of Farmer

(IV) Dues payable (Liabilities)

S.N.	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				

(V) Dues Receivable

S.N.	Dues receivable from	Amount in Rs.
1.	Cultivator/Relatives	

2.	Traders	
3.	Aarhatiya	
4.	Other	

(VI) Net Worth=Total Assets-Total Liabilities

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

HS-VII: 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 (acre).....

S.No.	Particulars	Quantity	Rate (Rs.)	Cost
1.	Seed: Variety:			
2.	Fertilizer			
i.				
ii.				
iii.				
iv.				
V.				
3.	Plant protection			
i.				
ii.				
iii.				
iv.				

v.				
4.	Plot preparation			
i.				
ii.				
iii.				
iv.				
V.				
5.	Irrigation			
6.	Labor charges			
i.				
ii.				
iii.				
iv.				
v.				
4.	Others			
i.				
ii.				
iii.				

Cost of cultivation:

c. Main Produce

j. Yield:

ii. Rate:

iii. Gross income:

d. By produce:

i. Yield:

ii. Rate:

iii. Gross Income:

Gross income: (Value of M.P. + B.P.)

Net Income: Gross income - Cost of cultivation

HS-VIII: Crop Production Record

S.N.	Name of the crop with variety	Area (acre)	Quantity produced		Productivity per hectare
			Main product (Q)	By product (Q)	Main product (Q)
1.					
2.					
3.					
4.					
5.					
6.					
7.					

HS-IX: Disposal of Farm Produce

S.N.	Name of the crop	Qty. Produced	Qty. Consumed	Quantity sold		
				Q	Price/Q	Total
1.						
2.						
3.						
4.						
5.						
6.						
7.						
8.						

Details of Farmer-3

m) Name of the Farmer : _____

n) Caste : _____

o) Village : _____

p) Block : _____

q) Tehsil : _____

r) Distt. : _____

HS-I: Details about Family Members

S. N.	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.N.	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)	
S.N.	Particulars	Expenditure (Rupees)
8.	Approximate value of land(per acre)	
9.	Total land revenue paid (per year)	
10.	Other taxes	

HS-III: Details of Livestock Possession

S.N.	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 homebred Present Value (Rs.)				

HS-IV: Farm Machineries

S.N.	Name of Machine	Brand	Year and Purchase/price	Present value (Rs.)
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				

HS-V: Inventory of Residential and Farm Building

S.N.	Type of building	Year of construction	Type of construction	Present value (Rs.)
1.	Residential			
2.	Cattle Shed			
3.	Other Shed Storage			
4.	Irrigation Structures (Pumphouse)			
5.	Tractor shed			
6.	Others			

HS-VI: Financial Position of Farmer**(VII) Dues payable (Liabilities)**

S.N.	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				

(VIII) Dues Receivable

S.N.	Dues receivable from	Amount in Rs.
1.	Cultivator/Relatives	
2.	Traders	
3.	Aarhatiya	
4.	Other	

(IX) Net Worth=Total Assets-Total Liabilities

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

HS-VII: 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 (acre).....

S.No.	Particulars	Quantity	Rate (Rs.)	Cost
1.	Seed: Variety:			
2.	Fertilizer			
i.				
ii.				
iii.				
iv.				

V.				
3.	Plant protection			
i.				
ii.				
iii.				
iv.				
v.				
4.	Plot preparation			
i.				
ii.				
iii.				
iv.				
V.				
5.	Irrigation			
6.	Labor charges			
i.				
ii.				
iii.				
iv.				

v.				
4.	Others			
i.				
ii.				
iii.				

Cost of cultivation:

a. Main Produce

i. Yield:

ii. Rate:

iii. Gross income:

b. By produce:

i. Yield:

ii. Rate:

iii. Gross Income:

Gross income: (Value of M.P. + B.P.)

Net Income: Gross income - Cost of cultivation

HS-VIII: Crop Production Record

S.N.	Name of the crop with variety	Area (acre)	Quantity produced		Productivity per hectare
			Main product (Q)	By product (Q)	Main product (Q)
1.					
2.					
3.					
4.					
5.					
6.					
7.					

HS-IX: Disposal of Farm Produce

S.N.	Name of the crop	Qty. Produced	Qty. Consumed	Quantity sold		
				Q	Price/Q	Total
1.						
2.						
3.						
4.						
5.						
6.						
7.						
8.						

Details of Farmer-4

- s) Name of the Farmer : _____
- t) Caste : _____
- u) Village : _____
- v) Block : _____
- w) Tehsil : _____
- x) Distt. : _____

HS-I: Details about Family Members

S. N.	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.N.	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)	
S.N.	Particulars	Expenditure (Rupees)
8.	Approximate value of land (per acre)	
9.	Total land revenue paid (per year)	
10.	Other taxes	

HS-III: Details of Livestock Possession

S.N.	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 homebred				
Present Value (Rs.)					

HS-IV: Farm Machineries

S.N.	Name of Machine	Brand	Year and Purchase/price	Present value (Rs.)
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				

HS-V: Inventory of Residential and Farm Building

S.N.	Type of building	Year of construction	Type of construction	Present value (Rs.)
1.	Residential			
2.	Cattle Shed			

3.	Other Shed Storage			
4.	Irrigation Structures (Pumphouse)			
5.	Tractor shed			
6.	Others			

HS-VI: Financial Position of Farmer

(X) Dues payable (Liabilities)

S.N.	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				

(XI) Dues Receivable

S.N.	Dues receivable from	Amount in Rs.
1.	Cultivator/Relatives	
2.	Traders	
3.	Aarhatiya	
4.	Other	

(XII) Net Worth=Total Assets-Total Liabilities

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

HS-VII: 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 (acre)

S.No.	Particulars	Quantity	Rate (Rs.)	Cost
1.	Seed:			

	Variety:			
2.	Fertilizer			
i.				
ii.				
iii.				
iv.				
V.				
3.	Plant protection			
i.				
ii.				
iii.				
iv.				
v.				
4.	Plot preparation			
i.				
ii.				
iii.				
iv.				
V.				
5.	Irrigation			
6.	Labor charges			

i.				
ii.				
iii.				
iv.				
v.				
4.	Others			
i.				
ii.				
iii.				
iii.				

Cost of cultivation:

a. Main Produce

i. Yield:

ii. Rate:

iii. Gross income:

b. By produce:

i. Yield:

ii. Rate:

iii. Gross Income:

Gross income: (Value of M.P. + B.P.)

Net Income: Gross income - Cost of cultivation

HS-VIII: Crop Production Record

S.N.	Name of the crop with variety	Area (acre)	Quantity produced		Productivity per hectare
			Main product (Q)	By product (Q)	Main product (Q)
1.					
2.					
3.					
4.					
5.					
6.					
7.					

HS-IX: Disposal of Farm Produce

S.N.	Name of the crop	Qty. Produced	Qty. Consumed	Quantity sold		
				Q	Price/Q	Total
1.						
2.						
3.						
4.						
5.						
6.						
7.						
8.						

Details of Farmer-5

y) Name of the Farmer : _____
z) Caste : _____
aa) Village : _____
bb) Block : _____
cc) Tehsil : _____
dd) Distt. : _____

HS-I: Details about Family Members

S. N.	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.N.	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)	
S.N.	Particulars	Expenditure (Rupees)
8.	Approximate value of land (per acre)	
9.	Total land revenue paid (per year)	
10.	Other taxes	

HS-III: Details of Livestock Possession

S.N.	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 homebred Present Value (Rs.)				

HS-IV: Farm Machineries

S.N.	Name of Machine	Brand	Year and Purchase/price	Present value (Rs.)
1.				
2.				
3.				
4.				
5.				

6.				
7.				
8.				

HS-V: Inventory of Residential and Farm Building

S.N.	Type of building	Year of construction	Type of construction	Present value (Rs.)
1.	Residential			
2.	Cattle Shed			
3.	Other Shed Storage			
4.	Irrigation Structures (Pumphouse)			
5.	Tractor shed			
6.	Others			

HS-VI: Financial Position of Farmer

XIII) Dues payable (Liabilities)

S.N.	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				

XIV) Dues Receivable

S.N.	Dues receivable from	Amount in Rs.
1.	Cultivator/Relatives	
2.	Traders	
3.	Aarhatiya	
4.	Other	

XV) Net Worth=Total Assets-Total Liabilities

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

HS-VII: 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 (acre)

S.No.	Particulars	Quantity	Rate (Rs.)	Cost
1.	Seed: Variety:			
2.	Fertilizer			
i.				
ii.				
iii.				
iv.				
V.				
3.	Plant protection			
i.				
ii.				
iii.				
iv.				
v.				
4.	Plot preparation			
i.				

ii.				
iii.				
iv.				
V.				
5.	Irrigation			
6.	Labor charges			
i.				
ii.				
iii.				
iv.				
v.				
4.	Others			
i.				
ii.				
iii.				
iii.				

Cost of cultivation:

a. Main Produce

i. Yield:

ii. Rate:

iii. Gross income:

b. By produce:

i. Yield:

ii. Rate:

iii. Gross Income:

Gross income: (Value of M.P. + B.P.)

Net Income: Gross income - Cost of cultivation

HS-VIII: Crop Production Record

S.N.	Name of the crop with variety	Area (acre)	Quantity produced		Productivity per hectare
			Main product (Q)	By product (Q)	Main product (Q)
1.					
2.					
3.					
4.					
5.					
6.					
7.					

HS-IX: Disposal of Farm Produce

S.N.	Name of the crop	Qty. Produced	Qty. Consumed	Quantity sold		
				Q	Price/Q	Total
1.						
2.						

3.						
4.						
5.						
6.						
7.						
8.						

Other Information Related to Village/District

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

S.N.	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.	BeeKeeping		
7.	Village pottery		
8.	Carpentry and blocksmithy		
9.	Lime manufacturing		
10.	Others		

2. Employment potential in forestry (Year... ..)

S.N.	Areas	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.N.	Particulars	Amount (Rs.)
1.	Primary agril. Credit societies	
2.	Govt. loans	

3.	Commercial bank loans	
4.	RRB loans	
	Total Short-Term Credit (1+2+3+4)	

(B)

S.N.	Particular	Amount (Rs.)
1.	Primary land Development bank	
2.	Commercial bank loans	
	Total Medium term & Long-term credit (1+2)	
	Total Direct Credit (A+B)	

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

S.N.	Cereals	Pulses	Oil Seeds	Fruits	Vegetables	Forest Product
1.						
2.						
3.						
4.						
5.						
6.						

5. Number of cold storage units prevailing in the district

S.N.	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.N.	Name of Scheme	Beneficiaries (Nos.)

--	--	--

7. Details of minor irrigation projects

S.N.	Name	Numbers	Area covered (acre)

8. Self Help Groups in the village/cluster

S.N.	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 paragraph 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/
Component Coordinator**



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TEERTHANKER MAHAVEER COLLEGE OF AGRICULTURE SCIENCES

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AGRONOMICAL INTERVENTIONS

II: Agronomical Interventions

Format - I

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

Name of the host farmer : _____

Village : _____

Block : _____

Distt. : _____

Cropping Season(s)

: _____ Year

: _____

Field No.	Field area (acre)	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 acre	
Aftercare / 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./acre)

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

Remarks & Signature

Signature of Student

Signature of Farmer

Signature of 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 (acre)	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 intercultural operations	Irrigation and drainage
1	2	3	4	5	6	7	8

Agronomic operations done during crop production				Actual Yield per acre	
Aftercare / 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./acre)

Main Produce	Main Produce	Main Produce	Estimated expenditure (Rs./acre)	Profit or loss (Rs./acre)
15	16	17	18	1 9

Remarks and Signature**Student****Farmer****Teacher**



TEERTHANKER MAHAVEER COLLEGE OF AGRICULTURE SCIENCES

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PLANT PROTECTION INTERVENTIONS

III. Plant Protection Interventions

(A) Entomology

Identification of important insects & pests of at least two major crops cultivated in the village.

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

S.N.	Common Name	Scientific Name	Systematic position
1.			
2.			
3.			
4.			
5.			

1. Principle symptoms of pest damage

S.N.	Early growth stage	Vegetative stage	Flowering /pudding /earhead	Grain etc.
1.				
2.				
3.				
4.				
5.				

2. Intensity of pest attack and degree of infestation

Nil	
Low	
Medium	
High	
Epidemic	

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

S.N .	Chemical Methods	Biological methods	Cultural methods	Mechanical/ physical methods
1.				
2.				
3.				

- (i) Commonly available insecticides in the village / local market:
- (ii) Precautions observed while using insecticides:
- (iii) Methods of preparation of insecticidal solution:

4. 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

5. Suggestion for proper storage of food grains if any.

6. Documentation of Indigenous Technology Knowledge (ITK) of Pest Management Practices (IPM) in the village along with photographs.

Signature of Student

**Signature of Component
Coordinator**

B. Plant Pathology

The following assignments have to be completed by Group (Batch)/Individual students during their stay in adopted villages under RAWA 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 causal organism
4. Locality /Place / Name
5. Date of collection
6. Collected by

II. Survey of plant disease

Each student has to submit duly filled Performa of at least 5 commonly occurring diseases from 4 to 5 locations/ fields

Identification of important diseases of at least two major crops cultivated in village.

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

S.N.	Name of crop	Disease identified	Scientific name	Stage of the crop
1.				
2.				
3.				
4.				

7. Principle symptoms of disease

S.N.	Name of disease	Causal agent	Scientific name	Symptoms & Signs	Date & time of disease occurrence	Vectors, if any
1.						
2.						
3.						
4.						

8. Disease severity

Nil	
Low	
Medium	
High	
Epidemic	

9. Methods of Control adopted by farmers & suggested by you : (2major crops) (Crop wise at different times)

S. N.	Chemical Methods	Biological methods	Cultural methods	Mechanical /physical methods
1.				
2.				
3.				

- (i) Commonly available fungicides/pesticides in the village / local market:
- (ii) Precautions observed while using fungicides/pesticides:
- (iii) Methods of preparation of fungicides/pesticides solution:

Suggestions to farmers:

10. Documentation of Indigenous Technology Knowledge (ITK) of Pest Management Practices (IPM) in the village along with photographs.

Signature of Student

**Signature of Component
Coordinator**



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FRUIT & VEGETABLE PRODUCTION INTERVENTIONS

IV. Fruit and Vegetable Production Interventions

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 (acre)/No. of trees
 - i.
 - ii.
 - iii.
 - iv.
 - v.

Crop-wise details shall be given under following heads

4. Manures/Fertilizers applied:
5. Time of application:
6. Dosage:
7. Fruit crops/inter crop Area:
8. Inter-crop taken:
9. Plant population per m²:
10. Actual yield obtained Area Quality Amount (Rate/kg)
 - i) Fruit Crop:
 - ii) Inter Crop:
11. Yield per acre/per tree:
12. Cultivation Problems:
13. Income in Rs.
 - Fruit:
 - Crops:
14. Inter Crops

15. Net Expenditure Rs. per acre: per tree:
16. Mode of transport and sale of the produce
17. Status of production technology
18. Suggestions if any
19. Total area cultivated
20. Irrigated area
21. Area in fallow
22. Area under fruit/ horticultural crop
23. Net profit per acre 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. Percent of total area under horticultural crops:

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 : _____
 No. of trees : _____
 Period of report : _____

S.N.	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.N.	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 (YEARWISE)

1. Name of Crop, No. & Age of Trees : _____
2. Crop Variety : _____
3. Date of flowering & harvest : _____
4. Production (kg) and income
Per tree : _____
Rs. Per acre : _____
Total (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)

Plot No.	Crop variety	Area (acre)
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 acre (Quintal /No.)

Main crops:

Inter crops:

6. Estimated cost: Main crop:

7. Gross Income in Rs.(value) Intercrop:

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

9. Cost/ Benefit ratio per plot per acre

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 acre :
8. Crops now grown with Plot No. :
Survey No. and area (acre)
planted or proposed
9. Remarks :

Signature of Component Coordinator

Signature of Student

Calendar of Operations

Period of report : _____

Name of crop and area (acre) : _____

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.N.	Particular	Owned/ F/B.P./1 23	Hired M/F/B. P./123	Hired Rate M/F/B.P./ 123	Machinery Hours	Tractor Rate
1.	Ploughing					
2.	Harrowing					
3.	Bed Preparation					
4.	Manuring					
5.	Sowing/Planting					
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:

Signature of Student

Signature of Farmer

**Signature of Component
Coordinator**

Net Profit

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.N.	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 through out the year.

Crops for kitchen garden with suitable rotation.

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 Component
Coordinator**



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FOOD PROCESSING & STORAGE INTERVENTIONS

V. 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.

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

S.N.	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.N.	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.N.	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.N.	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. Rodentrat cases : _____
- c. Poisonbaits : _____
- d. Rat borrow fumigation : _____

7. Storage Structure used by the farmers of the locality

- a. Kothi/Banda
- b. PAUB in (capacity1-5 to15quintal) : _____

- c. Pusa B in (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. Students have to write at least two indigenous practices used for safe grain storage adopted at village

- i)
- ii)

Signature of Student

**Signature of Component
Coordinator**



Accredited with NAAC **A** Grade
12-B Status from UGC

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ANIMAL PRODUCTION INTERVENTIONS

VI. Animal Production Interventions**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		
2. Heifers		
3. Bulls		
Sheep		
1. Youngstock		
2. Adult stock		
3. Adult rams		
4. Adult ewe		
Goat		
1. Youngstock		
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/Goat		Poultry	
	Qty.	Amt (Rs.)	Qty.	Amt (Rs.)	Qty.	Amt (Rs.)	Qty.	Amt (Rs.)
1. Labour male/female requirement								
2. Concentrates (kg)								
3. Greenroughages (kg)								
4. Dryroughages (kg)								
5. Mineralmixtures (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	Utilized for making Products	Sale	Name of Agency	Income (Rs.)
	(Cow/Buffalo/Sheep/Goat) Whole milk/Milk products	(Cow/Buffalo/Sheep/Goat) Ghee/butter/Khoa/ Curd/Others	(Raw milk) (Cow/Buffalo/Sheep/Goat)	To which sold	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. Cow dung/ 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)	

Note: Crop production record should be used from Agronomy Performa.

Final report:

1. Brief note on work done on specific practices suggested by the students-

Cow/buffalo/others/crossbred cow

- (a) Sanitation of shed 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 Component Coordinator

Signature of the Evaluator



EXTENSION & TRANSFER OF TECHNOLOGY ACTIVITIES

VII. Extension and Transfer of Technology Activities

Study of activities of various agriculture and rural development programmes, 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 acre)

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 oilseed/ pulse crop grown by the farmer. There commended 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. N.	Recommended practices	Practices followed by farmers	Extent of gap in adoption of recommended technology	Constraint s in adopting recommended practices	Action oriented suggestions
1.					
2.					

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

S.N.	Agricultural problems identified	Action oriented suggestions for solving the problems
1.		
2.		

Project-2: 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 predefined 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-3: 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-4: 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. Objective of activity
5. At what stage did you participate?
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 upon the work done by the student)

Performa for Case Study of Rural Development / Agricultural Development Programmes

1. Name of programme : _____
2. Name of Beneficiary : _____
 Village:.....Block:.....Distt.:.....
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 Component Coordinator

Signature of Student



TEERTHANKER MAHAVEER COLLEGE OF AGRICULTURE SCIENCES ICAR ACCREDITED



Kollam, Kerala, India



Gwalior, Madhya Pradesh, India

AGRO-INDUSTRIAL ATTECHMENT

Component– II**Credits: 4 (0+4)****VIII. 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 | 3. ☐ Mixed |
| 2. ☐ Private | 4. ☐ Cooperative |

Type of Organization

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

Objectives of the industry :

Mandates of the industry :

Employment :

Number of workers engaged

S.N.	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

_____m²

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 to fold 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.N.	Particulars	Value(Rs.)
1.	Land	
2.	Building & Other construction work	
3.	Transport & Other equipment	
4.	Others	

Output

S.N.	Description of main product	Unit	Exported		Locally sold	
			Quantity	Value	Quantity	Value
1.						
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 ☐

Signature of Student

Signature of Faculty

S.No.	Component Assessment	Obtained marks	Max. Marks	Signature
1.	Village Attachment		30	
2.	Unit Attachment		10	
3.	Plant Clinic		10	
4.	Agro-Industrial Attachment		10	

Total Marks

Max. Marks = 60

Obtained Marks =

Signature of Coordinator

