

GOVERNMENT COLLEGE ROPAR

(Affiliated To Punjabi University, Patiala)



Criterion 1 – Curricular Aspects

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Office of the Principal Government College, Ropar

This is to certify that Ms/Mr. **HARSHWINDER SAINI** of class **B.A.3rd Year** Roll No. **4015** has successfully completed her/ his project work of Geography for the fulfillment of practical paper of field methods in Geography and title Of Project Work was **Market Survey of Zail Singh Nagar, Ropar** during 1st Week of March 2023

During her/his project tenure, we found her/his active and competent in executing all assigned tasks and services . His/her conduct was found to be satisfactory.

We wish him/her great success in all of her/his future endeavors.



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This is to certify that Ms/Mr. **Kiran Kaur** of class **B.A.3rd Year** Roll No. **4093** has successfully completed her/ his project work of Geography for the fulfillment of practical paper of field methods in Geography and title Of Project Work was **Market Survey of Zail Singh Nagar, Ropar** during 1st Week of March 2023

During her/his project tenure, we found her/his active and competent in executing all assigned tasks and services. His/her conduct was found to be satisfactory.

We wish her great success in all of her future endeavors.



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This is to certify that Ms/Mr. **Priya** of class **B.A.3rd Year** Roll No. **4333** has successfully completed her/ his project work of **Geography** for the fulfillment of practical paper of field methods in Geography and title Of Project Work was **Market Survey of Zail Singh Nagar, Ropar** during 1st Week of March 2023

During her/his project tenure, we found her/his active and component in executing all assigned tasks and services were found to be satisfactory. We wish her great success in all of her future endeavors.



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This is to certify that Ms/Mr. **Harmanpreet Kaur** of class **B.Sc.3rd Year** Roll No. **7110** has successfully completed her/ his project work of **Botany** for the fulfillment of practical paper of field methods in Botany and title Of Project Work was **Timber and Firewood Trees** during last week of April 2023.

During her/his project tenure, we found her/his active and competent in executing all assigned tasks and services . His/her conduct was found to be satisfactory.

We wish her great success in all of her future endeavors.

Jatinder Singh

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Shikha

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This is to certify that Ms/Mr. **Simranpreet Kaur** of class **B.Sc..3rd Year** Roll No. **7109** has successfully completed her/ his project work of **Botany** and title Of Project Work was **Timber and Firewood Trees** during last week of April 2023.

During her/his project tenure, we found her/his active and competent in executing all assigned tasks and services . His/her conduct was found to be satisfactory.

We wish her great success in all of her future endeavors.

Jatinder Singh

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Shehla

Office of the Principal Government College, Ropar

This is to certify that Ms/Mr. **Anita Bangar** of class **B.Sc.1st Year** Roll No. **6504** has successfully completed her/ his project/ Field work of **Zoology** and title Of Project Work was **Visit to Chatbir Zoological Park** on 22 Nov.2022

During her/his project tenure, we found her/his active and competent in executing all assigned tasks and services . His/her conduct was found to be satisfactory.

We wish her great success in all of her future endeavors.

Jatinder Singh

Principal

Government college

Ropar
S. Singh

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This is to certify that Ms/Mr. **Bhagya Shree** of class **B.Sc.1st Year** Roll No. **6505** has successfully completed her/ his project/ Field work of **Zoology** and title Of Project Work was **Visit to Chatbir Zoological Park** on 22 Nov.2022

During her/his project tenure, we found her/his active and competent in executing all assigned tasks and services . His/her conduct was found to be satisfactory.

We wish her great success in all of her future endeavors.

Jatinder Singh

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This is to certify that Ms/Mr. **Amanjit Kaur** of class **B.A.3rd Year** Roll No. **4094** has successfully completed her/ his project work of Home Science Department and title Of Field/ Project Work was Feeding. Weaning and Child Rearing Practices in Young Mothers of Roper District during 2nd Week of March 2023

During her/his project tenure, we found her/his active and competent in executing all assigned tasks and services . His/her conduct was found to be satisfactory.

We wish her great success in all of her future endeavors.

Jatinder Kaur.

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Devi

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This is to certify that Ms/Mr. **Sakina** of class **B.A.3rd Year** Roll No. **4012** has successfully completed her/ his project work of Home Science Department and title Of Field/ Project Work was **Feeding. Weaning and Child Rearing Practices in Young Mothers of Ropar District** during 2nd Week of March 2023

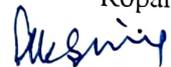
During her/his project tenure, we found her/his active and competent in executing all assigned tasks and services . His/her conduct was found to be satisfactory.

We wish her great success in all of her future endeavors.



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This is to certify that Ms/Mr. **Preeti** of class **B.A.3rd Year** Roll No. **4146** has successfully completed her/ his project work of Home Science Department and title Of Field/ Project Work was **Feeding. Weaning and Child Rearing Practices in Young Mothers of Ropar District** during 2nd Week of March 2023

During her/his project tenure, we found her/his active and competent in executing all assigned tasks and services . His/her conduct was found to be satisfactory.

We wish her great success in all of her future endeavors.

Jatinder Singh.

Principal
Government college
Ropar

Jatinder Singh

MARKET SURVEY OF GIANI ZAIL SINGH NAGAR COLONY, RUPNAGAR, PUNJAB



A Project Report
Submitted to
Department of Geography,
Government college Ropar
For the Fulfillment of Practical Paper of
Field Methods in Geography

SUBMITTED BY: HARSHWINDER SAINI

UNIV. ROLL NO. 530490

CLASS ROLL NO: 4015

SESSION: 2022-23

SUBMITTED TO:

Prof. Dimple Chie

Dimple
2/May/2023



**MARKET SURVEY OF GIANI ZAIL SINGH NAGAR
RUPNAGAR, PUNJAB
SURVEY REPORT**

SUBMITTED BY

Name HARSH WINDER SAINI

College Roll No. 4015

Univ. Roll No. 530490

This is certified that this work titled **Market Survey of Giani Zail Singh Nagar, Rupnagar, Punjab** is a bonafide record of work done by HARSH WINDER SAINI University Roll No. 530490 of Department of Geography, Government College Ropar under the supervision and guidance of Prof. Shaminder Kaur, Prof. Randeep Singh and Prof. Dimple during the year 2022-23.

Teacher's Signature

Student Signature



**DEPARTMENT OF GEOGRAPHY
GOVERNMENT COLLEGE ROPAR**

SESSION 2022-23

ACKNOWLEDGMENT

My sincere efforts have made me to accomplish the task of completing this project report. I have taken in this project.

However it would not have been possible without the kind support and help of many individuals.

I would like to express my sincere gratitude to our Principal Sir, S. Jatinder Singh Gill for providing me with facilities required to do my project work.

I am highly indebted to our HOD, Department of Geography, Prof. Shaminder Kaur for her valuable guidance which may has my efforts in all stages of this project work. I would like to convey my heartfelt gratitude to Prof. Simpre, our mentor, for her invaluable advice and assistance in completing this project. She was there to assist us in every step of the report, and her motivation is what enabled us to accomplish this task effectively.

I would also like to thank Prof Randeep Singh who helped us by providing the information that was essential and vital without we would not have been able to perform efficiently on this project. My thanks and appreciation go to my Group leader Vijay Kumar, classmates and S. Ranjit Singh Ji, SLA Department of Geography and Mrs Manpreet Kaur in developing this project report and to the people who have willingly helped me out with their abilities.

Finally, words are not sufficient to express gratitude to my cherished family members for supporting me without their encouragement and to the people who and support I would have not reached this stage.

Name - HARSHWINDER SAINI

Roll No - 4015

Uni Roll No - 530490

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CHAPTER - 1 INTRODUCTION

Rupnagar, formerly known as ROPAR, is a city and a municipal council in Rupnagar district in the Indian state of Punjab. Rupnagar is a newly created fifth divisional Headquarters of Punjab comprising Rupnagar, Mohali and its adjoining districts. It is also one of the bigger sites belonging to Indus valley civilisation. Rupnagar is nearly 43 km (27 mi) to the northwest of Chandigarh (the nearest airport and capital of Punjab). It is bordered by Himachal Pradesh to the north and Shahid Bhagat Singh Nagar district to its west.

The Ancient town of Rupnagar is said to have been named by a Raja called Rakeshwar, who ruled during the 11th century and named it after his son Rupsen.

Rupnagar is located at 30.95°N 76.53°E . It has average elevation of 260 meters (850 ft). The town lies on the bank of Sutlej and the Shivalik hill range spreads along the opposite bank of the river. The climate of Rupnagar is character

-ised by general dryness (except in the South west monsoon season); a hot summer and a cold winter.

The city has one of the three important wetlands of the Punjab state known as Rupnagar wetland or wetland. It was declared a Ramsar site in 2002. This is a man made freshwater wetland covering 1,365 hectares. It is also known as Rupnagar lake.

Giani Zail Singh Nagar is a locality in Rupnagar city in Punjab state, India.

Giani Zail Singh Nagar pincode 140001 and postal head office is Ropar. It is considered as one of the planned locality of Rupnagar district including well built houses, well constructed roads, schools, hospitals, badminton court and as well as planned market area with huge parking lot.

This market of Giani rail Singh Nagar has shop cum Flats, shop cum offices and booths for supplying goods and services to the people surrounding. A market is a place of sale and purchase of goods in both urban and rural areas. The number and size of markets have increased considerably during last few decades which have led to increase in economic activities.

1

GROUP PICTURE WITH TEACHERS AND TEAM MEMBERS



GEOGRAPHY AND FIELD STUDY

Fieldwork is an approach through which geographical knowledge and skills can be acquired practically in the field. The field is the major source of primary geographical information (data). Therefore fieldwork involves observation, interpreting what is observed and recording the relationship on the human and physical environment.

Fieldwork - In Geography is conceived as field of study, concerned with the physical and human landscape in both urban and rural setting and whose teaching ~~must be~~ based on three fold study approach namely:

- Observation
- Recording and
- Interpretation

Fieldwork involves a number of activities. It involves both technical and organization of fieldwork. The prefield work preparation

Organization of fieldwork

As the organization of fieldwork is very important to the success and failure will largely depend on how well prefield preparation were made.

Technical Decisions

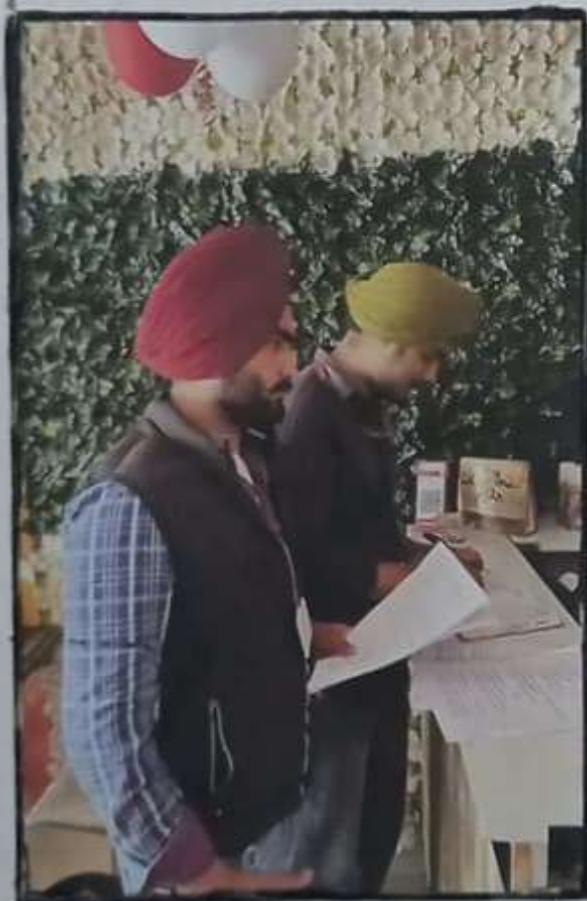
- Identify the topic to work on
- A pilot study of the fieldwork area
- The equipment to use
- Permission to carry out fieldwork.

Organizational Decision

- Route plan
- Estimate of time
- Mark particular areas of interest
- Essential equipment.

2.

One To One Questioning



3.

Surveying Team



SIGNIFICANCE OF FIELD WORK IN GEOGRAPHY

1. It is of great pedagogical importance as it lets students experience the geography of a particular region which theoretical texts can't do it.
2. Field study enables the investigator to comprehend the situation and processes in totality and at a place of their occurrence.
3. It helps you understand the theoretical concepts better.
4. It gives you a chance to enjoy a wide variety of environment and landscapes.
5. Develops an understanding and sensitivity about the culture and people of field area. This may change your biased views about that community.
6. And most importantly, it is enjoyable and gives you a great memorable experience.

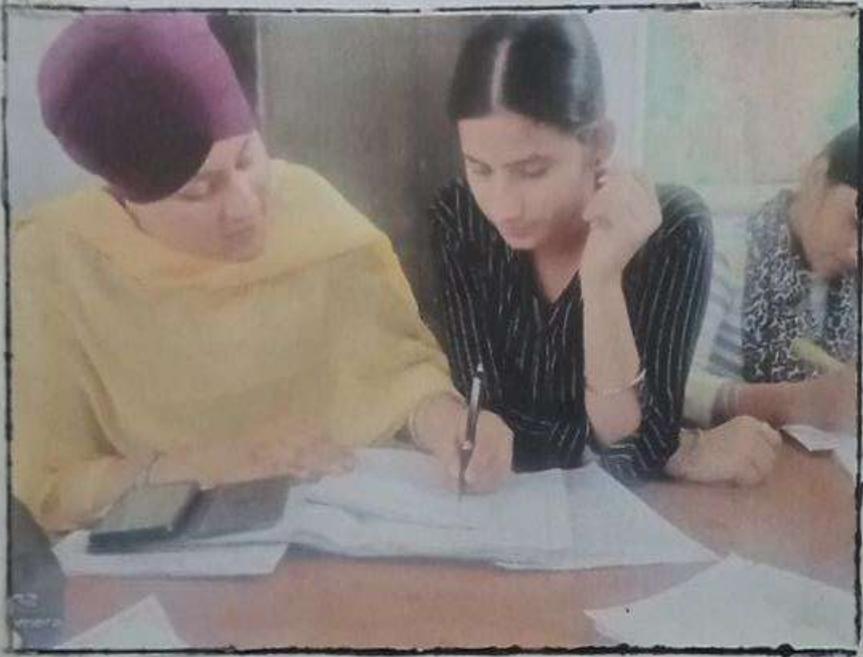
OBJECTIVES OF MARKET SURVEY

- (a) To study the commodities brought in and sold out as well as the places which are included in such transactions.
- (b) To study the number and types of shops and their arrangement or distribution in the market.
- (c) To study the status of people working in the shops.
- (d) To study the catchment area of market, describing the customers it is attracting from nearby or far places.
- (e) To know about the educational background of the shopkeepers.
- (f) To classify the shops on the basis of their size and income.

4.
A picture with Surveying
Both team



5.
COMPLITING DATA IN(GEO)
LAB



METHODOLOGY

This report is based on primary data collected by the student of geography. All the students of geography B.A final year were divided into 4 major groups. Each group had 25 students lead by a group leader. There were 4 ^{such} groups. Then the group leaders assigned two students to survey one SCS/SCF one booth of the Market, Student collected data by asking questions from the shop owners and customers.

A well framed questionnaire containing questions about shopkeepers, customers, goods was received by each student. The answers given were recorded on the paper and then compiled by the group leaders in the geography lab which included tabulation of data and preparation of graphs.

Group leaders	Teams Roll No
Vijay Kumar 4179	4015 to 4135
Subhinder Singh 4224	4137 to 4281
Simranjeet Kaur 4229	4282 to 4413
Simranjeet Kaur 4230	4415 to 4534

6. SCF/SCO OF GIANI ZAIL
SINGH NAGAR



BOOTH OF GIANI ZAIL
SINGH NAGAR



CHAPTER-2 LOCATION OF STUDY AREA

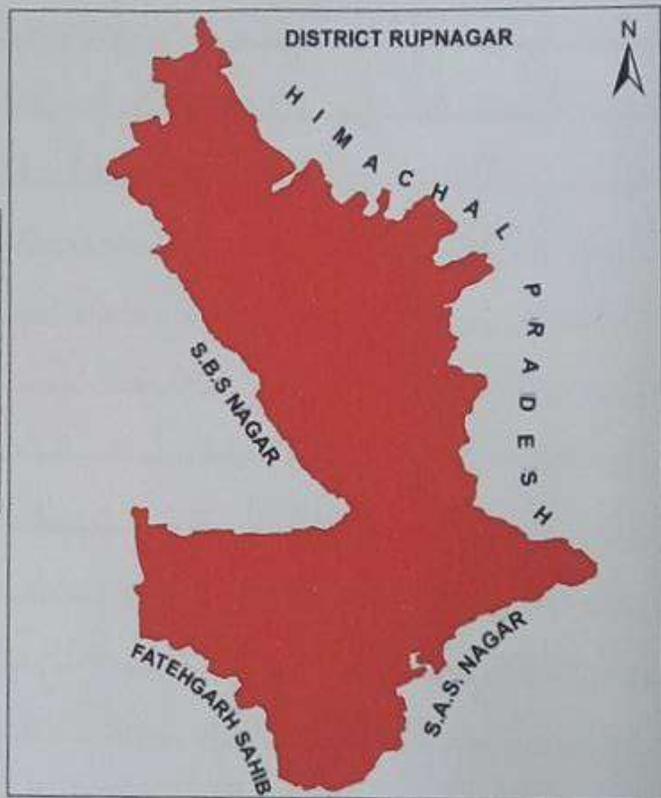
LOCATIONAL MAP DISTRICT RUPNAGAR



Legend

- PUNJAB DISTRICTS
- RUPNAGAR

0 40 80 160 240 320
Kilometers



PROBLEMS AND SUGGESTIONS

The main problems faced by people of Zail Singh Nagar is that the roads of area in bad condition during rainy season. It become very difficult to go on road because patholes fill with water which caused a lot of accidents, where as the area who also have garbage problem due to lack of dustbins people throw dust on roads which caused health problems. Further more street lights are not working properly at night. The suggestions to solve these problems building good roads to avoid accident more over, dispose it and proper and streets government have to put dustbins to solve garbage problem and install well functional street light to prevent crime at night.

CHAPTER-3

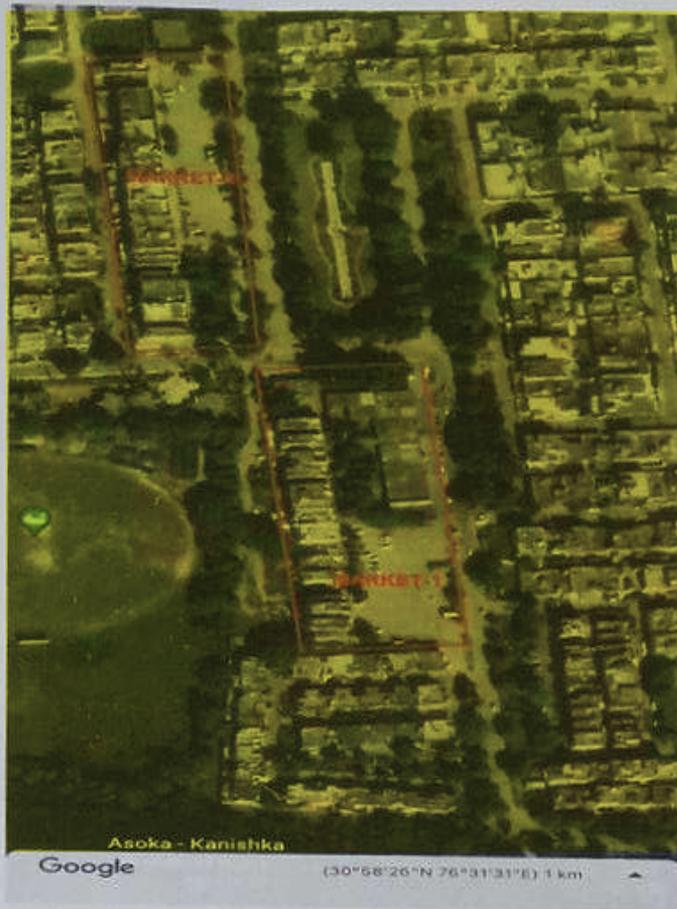
RESULTS OF THE MARKET SURVEY

All the data collected has been compiled in the Geography labs and after tabulation of all the figures, following graphs has been prepared.

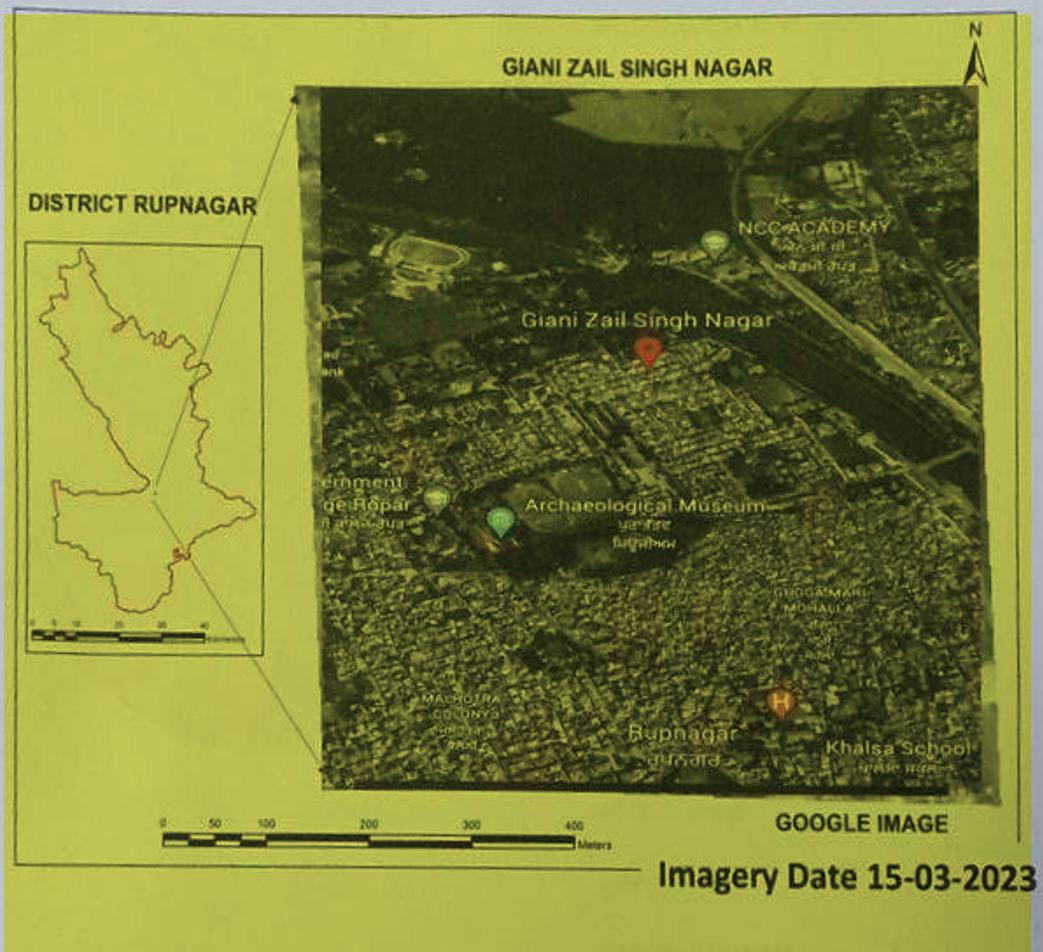
DISTRIBUTION OF SHOPS

S.NO	TYPE OF SHOP	TYPES
1	GAS SERVICE	1
2	PRIVATE COMPANY	1
3	TUITIONS/COACHING CENTRE	16
4	SWEETS/FAST FOOD/JUICE/RESTAURANT	24
5	NEWSPAPER OFFICE	2
6	CYBER CAFE/ PHOTOSTAT/COURIER SERVICE	4
7	GOVT. OFFICE	3
8	GROCERY STORE/CONFECTIONARY	7
9	BEAUTY PARLOR/SALON	3
10	MEDICAL STORE/ DENTAL CLINIC	1
11	TOUR/TRAVELS/DRIVING SCHOOL	5
12	ATM/BANK/INSURANCE COMPANY	3
13	GARMENTS READYMADE	5
14	PHOTO STUDIO	2
15	DRY CLEANERS	2
16	STATIONARY SHOPS	4
17	AUTOMOBILE REPAIR	2
18	DANCE ACADEMY	2
19	AMBUJA CEMENT STORE	2
		89

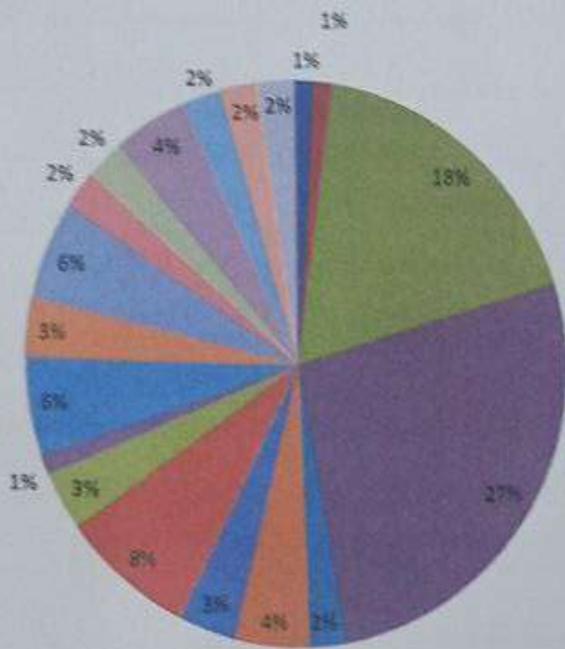
SATELLITE IMAGE OF GIANI ZAIL SINGH NAGAR MARKET



LOCATION MAP OF GIANI ZAIL SINGH NAGAR



DISTRIBUTION OF SHOPS



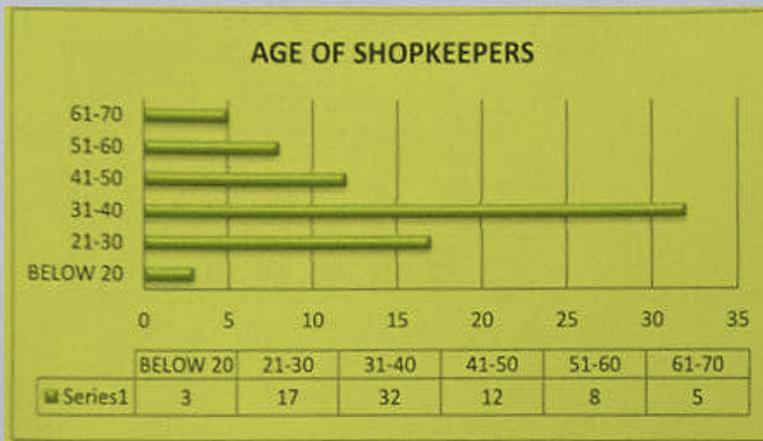
- GAS SERVICE
- PRIVATE COMPANY
- TUITIONS/COACHING CENTRE
- SWEETS/FAST FOOD/JUICE/RESTAURANT
- NEWSPAPER OFFICE
- CYBER CAFE/PHOTOSTAT/COURIER SERVICE
- GOVT. OFFICE
- GROCERY STORE/CONFECTIONARY
- BEAUTY PARLOR/SALON
- MEDICAL STORE/ DENTAL CLINIC
- TOUR/TRAVELS/DRIVING SCHOOL
- ATM/BANK/INSURANCE COMPANY
- GARMENTS READYMADE
- PHOTO STUDIO
- DRY CLEANERS
- STATIONARY SHOPS
- AUTOMOBILE REPAIR

DISTRIBUTION OF SHOPS

In this chart we are discussing about distribution of shops like Gas service shop - 1%, private company - 1%, tuition and coaching centre - 16%, Sweets/Fast food/Juice/Restaurant - 24%, Newspaper office - 2%, cycle, cafe/photostat/courier service - 4%, Govt office - 3%, Grocery store and confectionary - 7%, Beauty Parlour/Salon - 3%, Medical store/Dental clinic - 1%, Tour/Travel/Driving school - 5%, ATM/Bank/Insurance company - 3%, Garments Readymade - 5%, Photo studio - 2%, Dry cleaners - 2%, Stationary shops - 4%, Automobile Repair - 2%, Dance Academy - 2%, Ambuja cement store - 2%. Total shop percentage is 89%. Most of the shops in rail singh Nagar is Sweets/Fast food/Juice/Restaurant is about 24% total % of the shops.

AGE OF SHOPKEEPERS

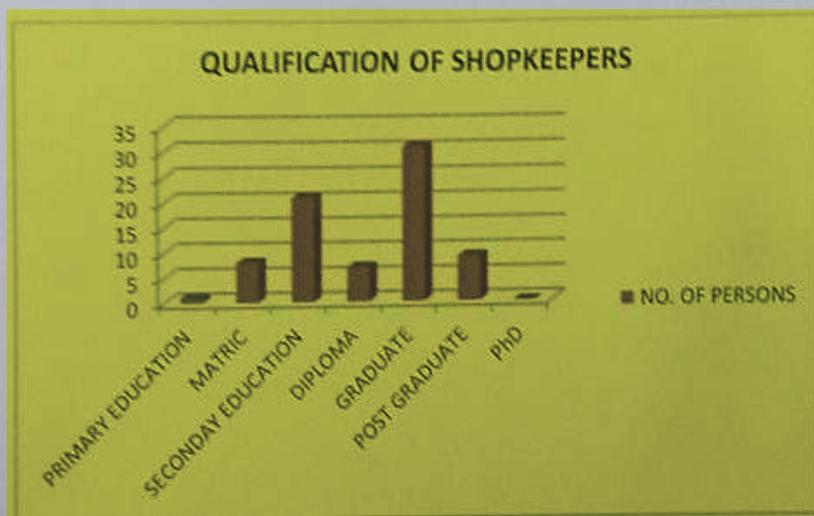
S.NO.	AGE GROUP	NUMBER OF PERSONS
1	BELOW 20	3
2	21-30	17
3	31-40	32
4	41-50	12
5	51-60	8
6	61-70	5
		77



In this table and graph are showing the Age of shopkeepers. The Highest Number (Age) of shopkeepers is 31- to 40 and the lowest number (Age) of shopkeepers is Age below 20. The total number of shopkeeper is 77 and out of 32 shopkeepers come from the age group of 31- 40.

QUALIFICATION OF SHOPKEEPERS

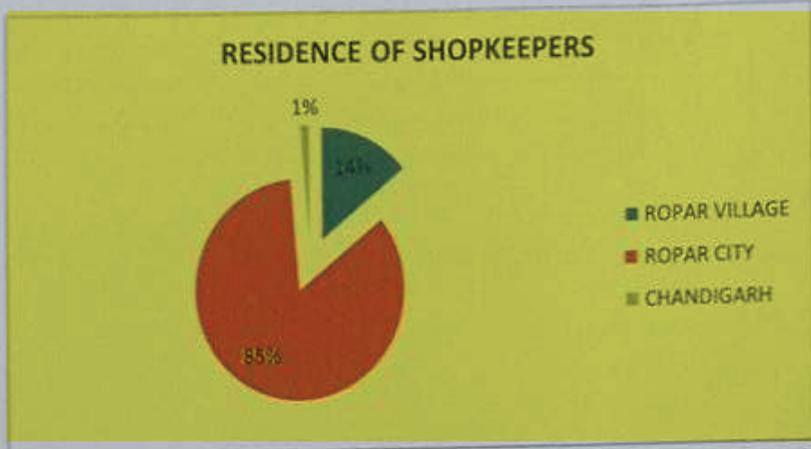
S.NO.	QUALIFICATIONS	NO. OF PERSONS
1	PRIMARY EDUCATION	1
2	MATRIC	8
3	SECONDARY EDUCATION	21
4	DIPLOMA	7
5	GRADUATE	31
6	POST GRADUATE	9
7	PHD	0
	TOTAL	77



In this table and graph are shown the qualification of shopkeepers. In the most of the shopkeepers qualified by the secondary education 21 and 31% of the shopkeepers are graduate. At the end (PHD) no one qualified by PHD. The total number of person is 77.

RESIDENCE OF SHOPKEEPERS

S.NO.	RESIDENCE	TOTAL
1	ROPAR VILLAGE	11
2	ROPAR CITY	65
3	CHANDIGARH	1
	TOTAL	77



In this given graph states that 65% of Residence shopkeepers are from Ropar city where as Residence shopkeepers in village of Ropar are 11% and rest 1% of people are residence of Chandigarh.

PLACE OF BUYING GOODS

S.NO	GOODS BROUGHT	TOTAL
1	LUDHIANA	1
2	JALANDHAR	4
3	ROPAR	52
4	CHANDIGARH	12
5	DELHI	4
6	MORINDA	2
7	MOHALI	1
8	KURALI	1
	TOTAL	77



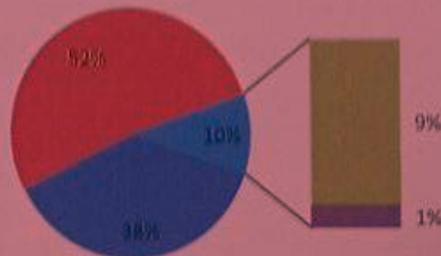
In this table shows that Ropar and Chandigarh are places where maximum goods are purchase which is 52% and 12% respectively while least purchase of goods are bought in Mohali, Kurali and Ludhiana which is just 1% each out of total 77%.

MODE OF CONVEYANCE USED FOR BRINGING GOODS

S.NO	MODE OF CONVEYANCE USED	TOTAL
1	CAR	29
2	BIKE	40
3	THREE WHEELER	7
4	BUS	1
	TOTAL	77

MODE OF CONVEYANCE USED FOR BRINGING GOODS

■ CAR ■ BIKE ■ THREE WHEELER ■ BUS



The given table show that the most conveyance mode of transportation goods are car and bike which transport 29% and 40% goods respectively. Furthermore more 1.7% and 1% of goods are convey by three wheelers and bus independently

DAILY CUSTOMER COUNT

S.NO.	CUSTOMER VISITING	TOTAL
1	BELOW 10	16
2	11-20	19
3	21-30	9
4	31-40	4
5	41-50	7
6	51-60	6
7	61-70	3
8	71-80	2
9	81-90	0
10	ABOVE 90	11
	TOTAL	77



The given table illustrates that teenagers of age 11-20 visit more customers than any age of group which is 19% after that 16% of children below age of 10. The age group of 81-90 is about 0%. This age group is least visiting customers.

MONTHLY INCOME OF SHOPKEEPERS

S.NO.	MONTHLY INCOME	TOTAL
1	BELOW 10000	
2	11000-20000	12
3	21000-30000	6
4	31000-40000	5
5	41000-50000	13
6	ABOVE 50000	41
	TOTAL	77

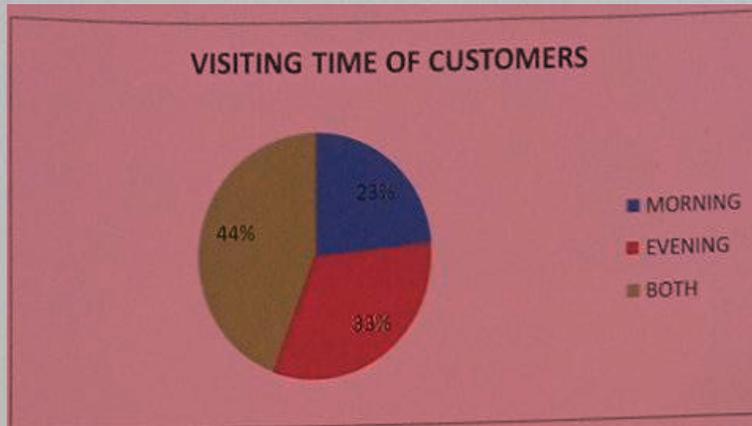
MONTHLY INCOME OF SHOPKEEPERS



In this table shows that 53% of people earn above 50,000, while 41000-50,000 income is generated by 13% of shopkeepers monthly which is almost equal amount of people earn 11000-20,000, while 21000-40,000 income earn by people about 6% to 5%.

VISITING TIME OF CUSTOMERS

S.NO.	VISITING TIME	TOTAL
1	MORNING	18
2	EVENING	25
3	BOTH	34
	TOTAL	77



The given table shows that 23% people visit shops in morning while, customers visit evening time is 33% visit shops both morning and evening times are 44%.

SHOP-2 AJIT PRESS OFFICE

HARSH WINDER

B-A III SAINT

MARKET SURVEY
(GIANI ZAIL SINGH NAGAR)
QUESTIONNAIRE

4015

- Q.1 NAME OF SHOP/TYPE OF SHOP - Ajit Press office
- Q.2 SHOP NUMBER - 3/104 Giani Zail Singh Nagar
- Q.3 NAME OF SHOPKEEPER - Satnam Singh Satti
- Q.4 AGE OF SHOPKEEPER - 54
- Q.5 OWNERSHIP OF SHOP-YES/NO ✓
- RENT-MONTHLY/ANNUAL- RS. 20,000/-
- Q.6 RESIDENCE- Ranjit Avenue
- Q.7 MODE OF CONVEYANCE USED-CAR/SCOOTER/CYCLE/ON FOOT ✓
- Q.8 NUMBER OF FAMILY MEMBERS- 5
- Q.9 QUALIFICATION-MATRIC/+2/GRADUATE/PG ✓

SHOP

- Q.1 YEAR OF STARTING SHOP/OFFICE - 2016
- Q.2 FROM WHERE GOODS ARE BROUGHT- Paper
- Q.3 MODE OF CONVEYANCE USED TO BRING GOODS-
- Q.4 HOW MANY HOURS SHOP REMAIN OPENED?

OR

TIME OF OPENING SHOP- 10:30 AM CLOSING TIME- 10:00 PM

- Q.5 FACILITY OF HOME DELIVERY OR NOT
- Q.6 HOW DO YOU INCREASE SALES OF YOUR SHOP? By No
- Q.7 WHAT FACILITIES ARE PROVIDED TO YOU BY M.C?
- Q.8 IS THIS LOCATION SUITABLE FOR YOUR BUSSINESS?

CUSTOMERS

- Q.1 NUMBER OF CUSTOMERS DAILY VISITING- ~~4~~ 4
Q.2 FROM WHERE CUSTOMERS HAIL IN-
Q.3 CUSTOMERS ARE LOCALS OR COME FROM FAR -
Q.4 MORE CUSTOMERS VISIT IN THE MORNING OR EVENING- morning
Q.5 CUSTOMER'S PROBLEMS

OR

ARE CUSTOMERS SATISFIED?

WORKERS

- Q.1 HOW MANY WORKERS ARE THERE? 4 workers
Q.2 AGE OF WORKERS- 48, 45, 32, 31
Q.3 FROM WHERE THEY COME?
Q.4 MODE OF CONVEYANCE USED BY WORKERS- TWO WHEELER/THREE WHEELER/FOUR WHEELER ✓
Q.5 DAILY WAGES/MONTHLY INCOME- Rs 20,000 ✓
Q.6 HOW MUCH DO YOU PAY?
Q.7 WORKING DAYS AND WORKING HOURS- Monday to Sunday
8 hrs

INCOME

Q.1 DAILY SALE - Rs.

Q.2 APPROXIMATE MONTHLY INCOME- 1,50,000

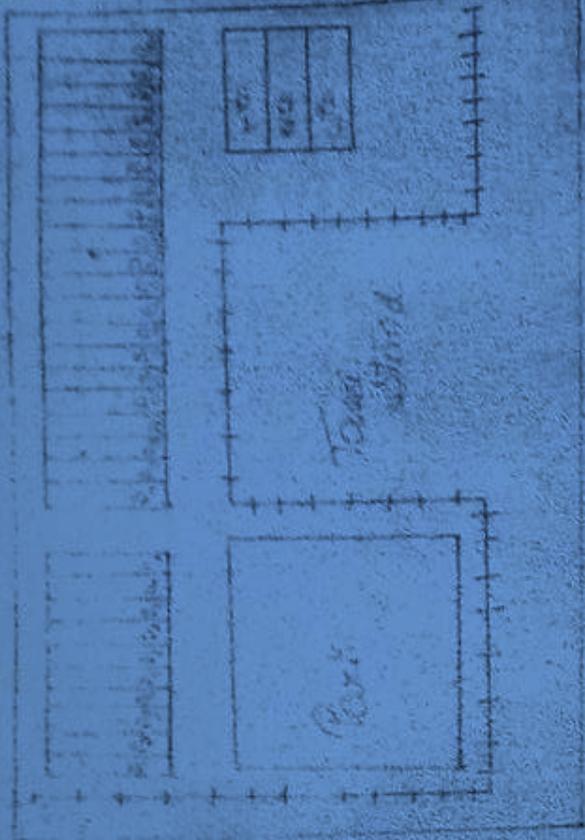
PROBLEM

Q.1 WHAT TYPE OF PROBLEM YOU FACE IN THIS MARKET?

NO problems

Q.2 WHAT REFORMS WOULD YOU SUGGEST TO BE MADE IN THIS MARKET?

NO problems



1/4 Office
magnified
kitchen



Park

Car Parking

Bus Stand

FIELD REPORT ON TIMBER-WOOD TREES

Introduction:

The purpose of this field report is to provide comprehensive information about the timber properties and uses of different tree species found in the local area of Ropar. The study aims to understand the significance of these trees in the context of timber and firewood usage, considering their characteristics and potential applications.

Timber wood:

- Timber wood, also known as lumber, is the product obtained from trees through logging and saw milling processes. It is widely used in construction, furniture-making, and various other applications. Timber wood possesses unique properties, including hardness, durability, texture, and grain pattern, which make it suitable for different purposes.
- Timber wood finds extensive use in construction for building houses, bridges, and support structures. It is also a preferred material for crafting furniture, doors, windows, and flooring. Certain species with water-resistant properties, like Teak and Mahogany, are used in boat building.
- Sustainable forestry practices are crucial to preserve timber wood resources for the future. Responsible harvesting, reforestation, and forest management ensure the long-term availability of this valuable natural resource while minimizing the impact on the environment.

Objectives:

1. To assess and document the availability and distribution of timber and firewood resources in the local area of Ropar.
2. To study the properties and characteristics of different tree species.
3. To analyze the uses and applications of timber wood obtained from various tree species, especially in construction, furniture-making, and other relevant industries.
4. To examine the traditional and modern methods of harvesting, processing, and preserving timber and firewood resources in the Ropar region.
5. To evaluate the impact of timber wood and firewood extraction on the local ecosystem, including biodiversity, soil health, and water resources.
6. To identify the challenges and opportunities in sustainable management practices for timber wood and firewood resources, promoting conservation and responsible utilization.

7. To provide recommendations and suggestions for the effective utilization and conservation of timber wood and firewood resources, considering environmental, social, and economic aspects.

Methodology:

1. Field Visits: Several field visits were conducted in and around the Ropar area to identify and collect samples of different tree species. Samples were studied in a random manner.

2. Data Collection: Data on the properties, uses, and distribution of each tree species were gathered.

The following tree species were studied for their timber properties and uses:

1. Shisham
2. Teak
3. Acacia
4. Sal
5. Eucalyptus
6. Populus
7. Siris
8. Mulberry
9. Silver Oak
10. *Toona ciliata*

Observations:

1) Shisham

Botanical Name: *Dalbergia sissoo*

Family: Fabaceae

Properties of Wood:

- Shisham, also known as Indian Rosewood, is a medium to large deciduous tree with a straight trunk and a height of up to 25-30 meters.
- The heartwood of Shisham ranges in color from golden brown to dark brown, often with darker streaks, while the sapwood is lighter in color.
- It has a moderately fine texture and a straight to interlocked grain pattern, making it attractive for woodworking.

Uses:

1. Furniture:

Shisham wood is highly prized for making high-quality furniture, including tables, chairs, cabinets, and beds. Its beautiful grain and durability make it an excellent choice for fine woodworking.

2. Flooring and Paneling:

Shisham is used for flooring and wall paneling due to its attractive appearance and resistance to wear and tear.

3. Musical Instruments:

The rich and resonant qualities of Shisham wood make it a popular choice for crafting musical instruments like guitars, sitars, and other stringed instruments.

5. Boat Building:

Shisham wood's resistance to decay and its ability to withstand moisture make it suitable for boat building and marine applications.

6. Agricultural Implements:

Shisham is used for making agricultural tools and equipment like plows, handles, and toolboxes due to its strength and durability.

7. Veneer and Plywood: Shisham wood is also used to produce veneer and plywood, providing an attractive surface for various applications



2. Teak

Botanical Name: *Tectona grandis*

Family: Verbenaceae

Properties of Wood:

- **Durability:** Teak is highly durable, and its wood is resistant to decay, rot, and termites, making it an ideal choice for outdoor applications and construction in humid environments.
- **Density:** Teak is a dense hardwood with a high weight-to-volume ratio, which contributes to its strength and durability.
- **Work ability:** The wood is relatively easy to work with, allowing for excellent finishing and smooth surfaces.
- **Stability:** Teak exhibits minimal shrinkage and warping, making it a stable wood choice for various applications.

Uses:

1. Furniture:

It is highly valued for furniture making due to its durability, attractive appearance, and resistance to weathering. It is used for outdoor furniture like garden benches, tables, and chairs, as well as indoor furniture like cabinets, tables, and bed frames.

2. Boat Building:

Teak has been traditionally used in boat and shipbuilding for its water resistance and strength. It is commonly used for decks, railings, and interior paneling in luxury yachts and boats.

3. Flooring:

Teak wood is popular for flooring due to its resistance to wear and tear, making it suitable for high-traffic areas.

4. Doors and Windows:

Teak is used for manufacturing doors and windows, providing long-lasting and aesthetically pleasing features for homes and buildings.

5. Outdoor Structures:

Teak is utilized in the construction of pergolas, gazebos, and outdoor pavilions due to its ability to withstand the elements.

6. Architectural Woodwork:

Teak is used for various architectural woodwork, such as handrails, moldings, and decorative elements.

7. Panelling and Veneer:

Teak veneer is used to enhance the appearance of interior surfaces, such as cabinets and wall panels.

8. Carvings and Sculptures:

The workability of teak makes it suitable for intricate carvings and sculptures used in art and décor.



3) BABOOL

Botanical Name: *Acacia nilotica*

Family: Fabaceae

Properties:

Acacia nilotica, commonly known as Babul or Indian Gum Arabic Tree, produces a durable and dense timber with favorable properties for various applications. The wood is known for its strength, hardness, and resistance to decay, making it suitable for various woodworking purposes.

Uses:

1. Furniture:

Babul timber is used in furniture making due to its durability and attractive appearance.

2. Construction:

The wood is employed for constructing doors, windows, and beams in buildings.

3. Fencing:

The strong and robust properties of Babul wood make it a popular choice for making fences and posts.

4. Agricultural Implements:

Babul timber is used for crafting agricultural tools, such as plows and handles, due to its strength and resilience.

5. Boat Building:

In some regions, the wood is used in boat and canoe construction, owing to its water-resistant qualities.

6. Tannin Production:

Babul bark contains tannins, which are used in leather tanning and dyeing processes.

Overall, *Acacia nilotica* is a versatile tree with valuable timber properties, making it economically and culturally significant in various regions where it grows.



4. Sal

Botanical Name: *Shorea robusta*

Family: Dipterocarpaceae

Timberwood Properties:

Sal is a tropical hardwood tree known for its strong, durable, and termite-resistant wood. The wood has a straight grain and a coarse texture, making it suitable for various woodworking applications. It has a moderate density and is relatively easy to work with hand or machine tools. Sal timber is known for its stability and ability to retain its shape even under changing environmental conditions.

Uses:

1. Construction:

Sal timber is widely used in construction for making beams, columns, flooring, and other structural elements due to its strength and durability.

2. Furniture:

The attractive appearance and durability of Sal wood make it popular for crafting furniture items like tables, chairs, cabinets, and beds.

3. Doors and Windows:

Sal wood is commonly used for making doors, window frames, and shutters due to its resistance to decay and insects.

4. Railway Sleepers:

Sal timber is highly valued for manufacturing railway sleepers as it can withstand the pressure and wear of heavy train traffic.

5. Boat Building:

Due to its water-resistant properties, Sal wood is also used in boat and shipbuilding.

6. Veneer and Plywood:

Sal wood is used for producing veneer and plywood, providing an affordable alternative for various applications.

7. Charcoal and Fuel:

Sal wood is a source of charcoal and firewood, which are used for cooking and heating purposes.

8. Resin Production:

Sal trees produce a type of resin known as 'sal gum' used in varnishes, adhesives, and incense sticks.

Sal timber has significant economic and cultural importance in various regions where it is found. Sustainable management practices are essential to ensure the continued availability of this valuable resource while protecting the natural ecosystems it supports.



5.Eucalyptus

Botanical Name:Eucalyptus species belong to the genus Eucalyptus, and there are numerous species within this genus.

Family: Myrtaceae.

Timberwood Properties:

1. Density:

Eucalyptus wood is relatively dense, which contributes to its durability and strength.

2. Color:

The heartwood color can range from light pink to reddish-brown, while the sapwood is usually paler.

3. Grain Pattern:

The wood typically displays an interlocked or wavy grain pattern.

4. Texture:

Eucalyptus wood has a moderately coarse texture.

5. Durability:

It is resistant to decay and insect attacks, making it suitable for outdoor applications.

Uses of Eucalyptus Timberwood:

1. Construction:

Eucalyptus timber is used in various construction applications, including beams, posts, and poles due to its strength and durability.

2. Furniture:

The wood's attractive appearance makes it suitable for crafting indoor and outdoor furniture.

3. Flooring:

Eucalyptus wood is used for flooring, providing a sturdy and visually appealing surface.

4. Paper Production:

Some eucalyptus species are used in the paper and pulp industry due to their high cellulose content.

5. Landscaping:

Eucalyptus timber is used for landscaping purposes, such as creating fences, decks, and garden structures.

6. Firewood: In some regions, eucalyptus wood is used as firewood due to its high energy content and efficient burning properties.

7. Essential Oils: Eucalyptus leaves contain essential oils with medicinal properties, used in aromatherapy and traditional medicine.



6. POPLAR

Botanical Name: Populus

Family:Salicaceae

Timberwood Properties:

The genus Populus includes several species commonly known as Poplar trees. Poplar wood possesses specific characteristics that make it suitable for various applications:

1. Density:

Poplar wood has a moderate density, making it lighter than many other hardwoods, which contributes to its ease of handling and processing.

2. Color:

The heartwood of Poplar trees varies in color from light yellow to light brown, while the sapwood is usually white to pale yellow.

3. Texture:

Poplar wood typically has a fine and even texture.

4. Workability:

Poplar wood is easy to work with hand and machine tools. It has good nailing and gluing properties.

5. Durability:

While Poplar wood is not highly durable when exposed to the elements, it can be treated to enhance its resistance to decay and insect attack.

Uses:

Poplar wood has a wide range of applications due to its favorable properties:

1. Furniture:

Poplar wood is commonly used in the manufacture of furniture, including cabinets, tables, and chairs, thanks to its ease of working and ability to take paint and finishes well.

2. Interior Trim:

The light color and smooth texture of Poplar wood make it a popular choice for interior trim, moldings, and millwork.

3. Plywood and Veneer:

Poplar wood is used to produce plywood and veneer for various applications.

4. Paper Production:

Poplar trees are also cultivated for the production of paper pulp, as their wood fibers are suitable for papermaking.

5. Crates and Pallets:

Poplar wood is used to construct crates and pallets due to its light weight and cost-effectiveness.

6. Carvings and Crafts:

Poplar wood's workability and fine texture make it a preferred choice for carvings and various craft projects.

7. Musical Instruments:

Some musical instruments, such as guitars and pianos, use Poplar wood for certain components due to its tonal qualities.



7. SIRIS

Botanical Name: Albizia saman

Family: Fabaceae

Timberwood Properties:

Siris, also known as Rain Tree, is a large tropical tree with distinctive fern-like leaves and a wide-spreading canopy. The wood of Albizia saman possesses certain properties that make it suitable for various applications:

1. Density:

The timber of Siris is moderately dense, making it sturdy and durable.

2. Texture:

The wood has a coarse texture and is relatively easy to work with using woodworking tools.

3. Color:

The heartwood of Siris varies in color from light to dark brown, sometimes with reddish hues, while the sapwood is paler.

4. Grain Pattern:

The grain is typically straight, though it can be interlocked or wavy in some instances.

Uses of Siris Timberwood:

Siris timberwood is valued for its versatility and used in several applications:

1. Furniture:

The durable and attractive appearance of Siris wood makes it suitable for crafting high-quality furniture, including tables, chairs, cabinets, and other indoor furniture items.

2. Construction:

Due to its moderate density and strength, Siris wood is used in various construction applications, such as beams, flooring, and structural components.

3. Joinery:

The ease of working with Siris wood makes it a favored choice for joinery work, including doors, windows, and decorative moldings.

4. Panelling:

The wood's beautiful grain pattern and color variation make it ideal for decorative wall paneling.

5. Boat Building:

In some regions, Siris timber is used for small boat construction and making paddles due to its resistance to water.

6. Carvings and Crafts:

The wood's ease of carving makes it suitable for intricate wood carvings and handicrafts.



8. MULBERRY

Botanical Name: *Morus alba*

Family: Moraceae

Timberwood Properties:

Mulberry wood is known for its fine texture, moderate hardness, and excellent workability. The heartwood of the tree is typically golden-brown in color, while the sapwood is lighter. The wood has a straight grain, making it relatively easy to work with and suitable for various woodworking applications.

Uses

1. Furniture:

Mulberry wood is used for making furniture, including chairs, tables, and cabinets. Its fine texture and attractive appearance make it a popular choice for interior design.

2. Handicrafts:

The wood's workability and smooth surface make it ideal for crafting various handicraft items like bowls, boxes, and decorative pieces.

3. Musical Instruments:

Mulberry wood is sometimes used in the construction of musical instruments like flutes and other woodwinds.

4. Carpentry:

The timber is employed in carpentry projects for frames, moldings, and other decorative elements.

5. Papermaking In some regions, the inner bark of the Mulberry tree is used to produce a type of handmade paper known as "mulberry paper" or "rice paper."

6. Firewood and Charcoal:

Mulberry wood is also utilized as firewood and for charcoal production due to its good burning properties.



9 SILVER OAK

Botanical Name: *Grevillea robusta*

Family: Proteaceae

Timberwood Properties:

1. Appearance:

Silver Oak timber has a pale to light reddish-brown color, sometimes with a silver-gray hue, hence the name "Silver Oak."

2. Grain:

It typically has an interlocked or wavy grain, which adds to its visual appeal.

3. Density:

The wood has a medium to high density, making it durable and suitable for various applications.

4. Strength:

Silver Oak is known for its good strength and stiffness properties, contributing to its usability in construction and furniture making.

5. Workability:

The wood is relatively easy to work with hand tools and machines, making it popular among craftsmen.

Uses of Silver Oak Timber:

1. Furniture:

Silver Oak timber is frequently used in furniture making, particularly for high-quality indoor and outdoor furniture due to its attractive appearance and durability.

2. Cabinetry:

The wood is used to craft cabinets, wardrobes, and other wooden storage units.

3. Interior Decor: Silver Oak is employed in flooring, paneling, and decorative veneers, adding an elegant touch to interior spaces.

4. Joinery:

It is commonly used in joinery work for doors, window frames, and moldings.

5. Construction:

Silver Oak is utilized in construction for beams, posts, and other structural elements due to its strength and resistance to decay.



10. TOON

Botanical Name: *Toona ciliata*

Family: Meliaceae

Timberwood Properties:

Toona ciliata, commonly known as Indian Mahogany or Australian Red Cedar, is a deciduous hardwood tree known for its excellent timber properties. The wood of Toona ciliata is highly valued for its durability, strength, and attractive appearance. It exhibits a straight grain with a smooth texture, making it suitable for various woodworking applications.

Uses of Toona ciliata Timberwood:

1. Furniture:

Toona ciliata is extensively used in the production of high-quality furniture, including tables, chairs, cabinets, and other indoor and outdoor pieces.

2. Doors and Windows:

Its stable and resistant nature makes it a popular choice for crafting doors, windows, and frames.

3. Panelling:

The wood of Toona ciliata is often used for interior wall panelling due to its aesthetic appeal and fine finish.

4. Cabinetry:

The timberwood is utilized in cabinetry work, providing a durable and elegant finish to kitchen cabinets and other storage units.

5. Musical Instruments:

The straight grain and resonance properties make Toona ciliata a favored choice for crafting musical instruments such as guitars, pianos, and other stringed instruments.

6. Boat Building:

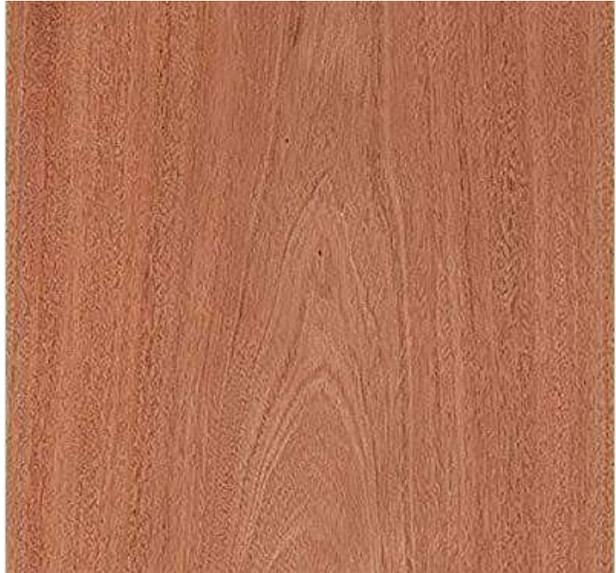
Its resistance to decay and insect attack make it suitable for boat building, particularly for decks and interior fittings.

7. Carvings and Turning:

The wood is often used for intricate carvings and woodturning projects due to its workability.

8. Joinery:

Toona ciliata is used for various joinery applications, including moldings, trims, and other architectural elements.



Based on the field study conducted on various tree species found in the local area of Ropar, the following outcomes were observed:

1. **Timber Properties:** The timber properties of different tree species varied significantly. Teak, Sal, and Toona Ciliata were found to have excellent quality timber, known for their durability and resistance to decay. These species are highly valued for construction, furniture, and other high-quality wood products
3. **Ecological Significance:** Certain tree species, such as Silver Oak and Mulberry, were found to have additional ecological benefits, including supporting biodiversity, providing habitats for wildlife, and improving soil health.
4. **Community Awareness:** The field study emphasized the need for community awareness and education regarding the proper management of timber wood resources. Local communities should be encouraged to adopt sustainable practices to ensure the long-term viability of these valuable tree species.

Outcomes:

The field study on timber wood trees of the local area of Ropar provided valuable insights into the significance of different tree species in terms of timber . It highlighted the importance of responsible logging practices and the need to balance human needs with ecological conservation. By promoting sustainable practices and community awareness, we can ensure the preservation of these valuable resources for future generations.



Government College, Ropar



**A
FIELD REPORT ON
ON
FIREWOOD TREES**

Submitted to

Prof. Shikha Chaudhary, Botany Department

Submitted by

Name – Manpreet Kaur

Roll No. - 7135

This is certified that this work entitled **Firewood Trees** is a bonafide record of work done by **Manpreet Kaur**, Roll No. **7135** Department of Botany, Govt. College, Ropar under the supervision of **Prof. Shikha Chaudhary** during the session 2022-2023.

Field Visit Report on Firewood Trees in Ropar

Location: Ropar

Introduction:

The purpose of this field visit report is to document and analyze the diverse range of firewood trees found in the region of Ropar, Punjab.

During the field visit, several areas across Ropar were explored to observe and study various firewood tree species, their ecological significance, and their importance in fulfilling the fuel and construction needs of local communities. The report aims to shed light on the different firewood tree species, their botanical details, distribution patterns, and the ecological impact of their harvesting.

Objectives:

- Identify and document the different firewood tree species present in Ropar.
- . Understand the ecological role and significance of firewood trees in the region.
- . Analyze the traditional uses of firewood and their importance in meeting local energy demands.
- . Assess the sustainability of firewood harvesting practices and their impact on the environment.
- Propose recommendations for the conservation and sustainable management of firewood trees in Ropar

Methodology:

The field visit involved visits to various areas, and agricultural landscapes in local to gather information about the different firewood tree species and their traditional uses. Data collection methods included direct observation, reference to existing literature and botanical resources

Observations

The firewood plants in Ropar are establishments engaged in the production and processing of firewood for various purposes.

Firewood trees are an essential natural resource used worldwide for domestic cooking, heating, and various traditional practices. These trees are selected for their ability to produce quality firewood and are often fast-growing species, making them readily available for harvesting.

Characteristics of Firewood Trees:

Rapid Growth:

Firewood trees are known for their fast growth rates, enabling frequent harvesting and a sustainable supply of firewood.

Energy Density:

They possess a high energy density, making them efficient fuel sources for cooking and heating.

Ease of Processing:

Firewood trees are typically easy to cut, split, and stack, making them convenient for use in households and small-scale industries.

Wide Distribution:

These trees can be found in various regions, adapting to different climates and soil types.

Calorific value :

The calorific value of firewood refers to the amount of heat energy produced when a specific quantity of firewood is burned. Well-seasoned firewood with low moisture content has a higher calorific value than green or wet wood since less energy is wasted evaporating water during combustion. Knowing the calorific value of firewood is essential for determining the efficiency and heating capacity of different types of wood when used as fuel for heating or cooking purposes.

The field visit revealed a diverse array of firewood tree species in Ropar each with unique characteristics and properties. Some of the prominent species identified.

1. Jamun

Botanical Name -*Syzygium cumini*

Family - Myrtaceae

- Description

- Also known as Indian Blackberry, Jamun is a medium-sized evergreen tree with a dense crown and dark purple, edible fruits.
- Its wood is dense and durable, making it suitable for firewood, as well as for making furniture, agricultural implements, and tool handles.
- Jamun wood's high density ensures a slow and steady burn, making it an efficient source of heat.

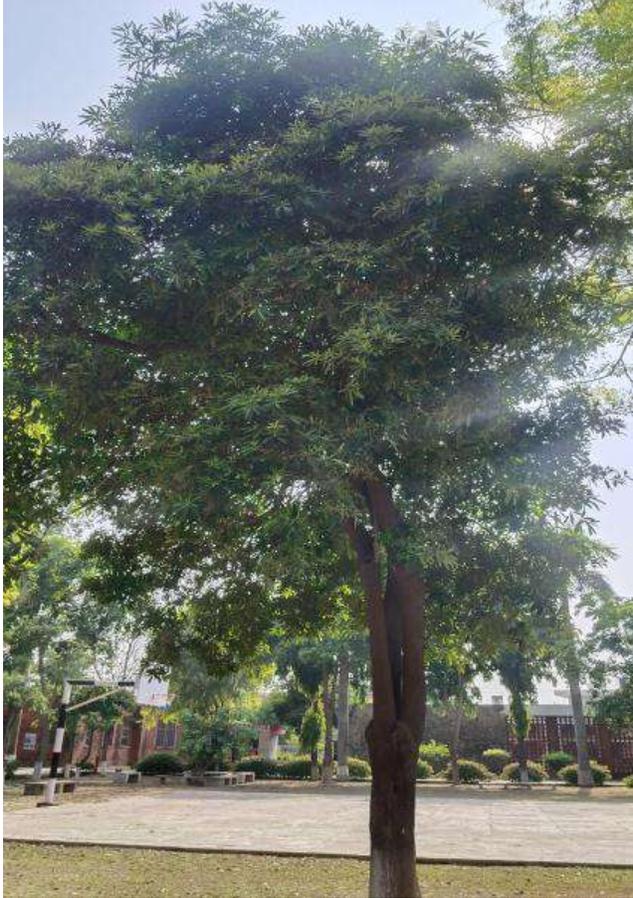


2. Devil Tree

Botanical Name - *Alstonia scholaris*

Family - Apocynaceae

- Commonly known as the Devil Tree or Indian Fir, *Alstonia* is a fast-growing, deciduous tree with straight and tall trunk.
- Its wood is lightweight and easy to work with, making it a preferred choice for making boxes, matchsticks, and of course, firewood.
- *Alstonia* wood's low density allows it to ignite quickly and produce a steady flame.



3. Milletia

Botanical Name - *Pongamia pinnata*

Family - Fabaceae

Description

- Also known as Indian Beech or Pongamia, Milletia is a medium to large-sized evergreen tree with a wide distribution in tropical regions.
- The wood of Milletia is dense, heavy, and possesses good strength, making it suitable for firewood and construction purposes.
- Milletia wood burns slowly and emits significant heat, making it a valuable firewood option.



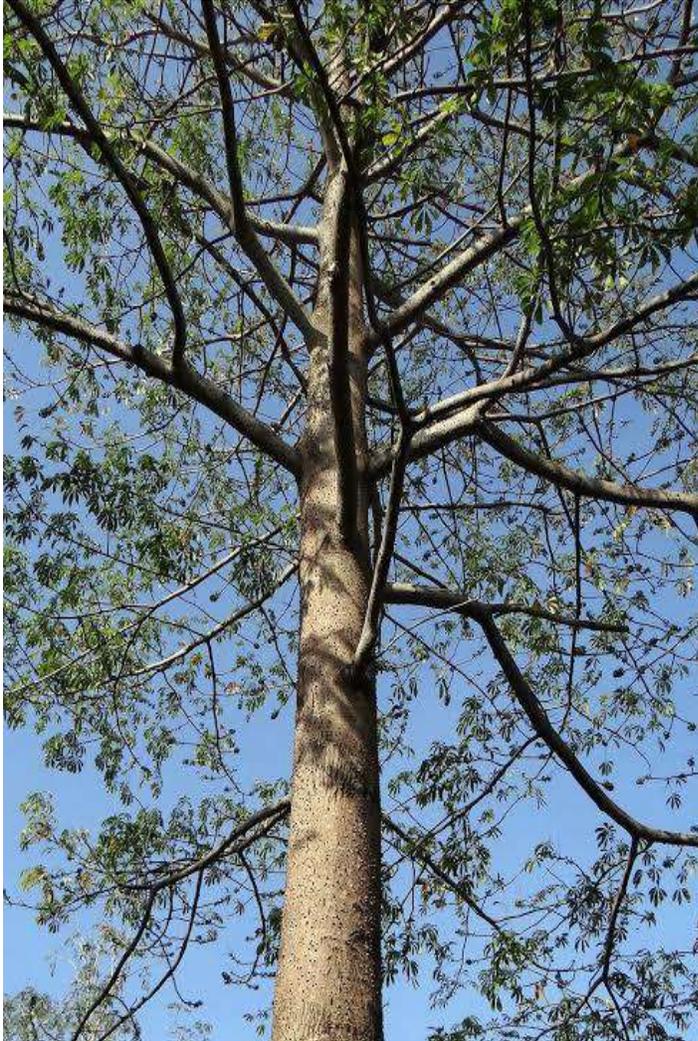
4. Semal tree

Botanical Name - *Ceiba pentandra*

Family. - Malvaceae

Description

- Commonly called the kapok tree, *Bombex Ceiba* is a large deciduous tree with a tall, straight trunk and a wide crown.
- The wood of Semal is lightweight and buoyant, which makes it useful for making canoes, floats, and, of course, firewood.
- While the wood ignites easily, it burns relatively quickly and produces moderate heat.



5. Eucalyptus

Botanical Name - Eucalyptus spp

Family. - Myrtaceae

Description

- Eucalyptus trees are native to Australia but have been widely planted in various regions for their fast growth and versatile uses.
- The wood of Eucalyptus is dense and has a high calorific value, making it an excellent choice for firewood, charcoal production, and timber.
- Eucalyptus wood burns hot and emits a pleasant aroma, which adds to its popularity as a firewood source.



6. Melia

Botanical Name - *Melia azedarach*

Family. - Meliaceae

Description

- Melia trees, also known as Melia Azedarach or Indian Lilac, are deciduous and moderately-sized with an attractive crown.
- The wood of Melia is hard, heavy, and durable, making it suitable for firewood, furniture, and construction.
- Melia wood's slow-burning properties and ability to produce good heat make it valuable for fuel purposes.



7. Kassod

Botanical Name - *Senna siamea*

Family. - Fabaceae

Description

- Kassod also called Siamese Cassia, is a medium-sized deciduous tree with a spreading canopy.
- The wood of Casia is hard, heavy, and has a high calorific value, making it a popular choice for firewood and charcoal production.
- Casia wood burns hot and evenly, making it an efficient source of heat.



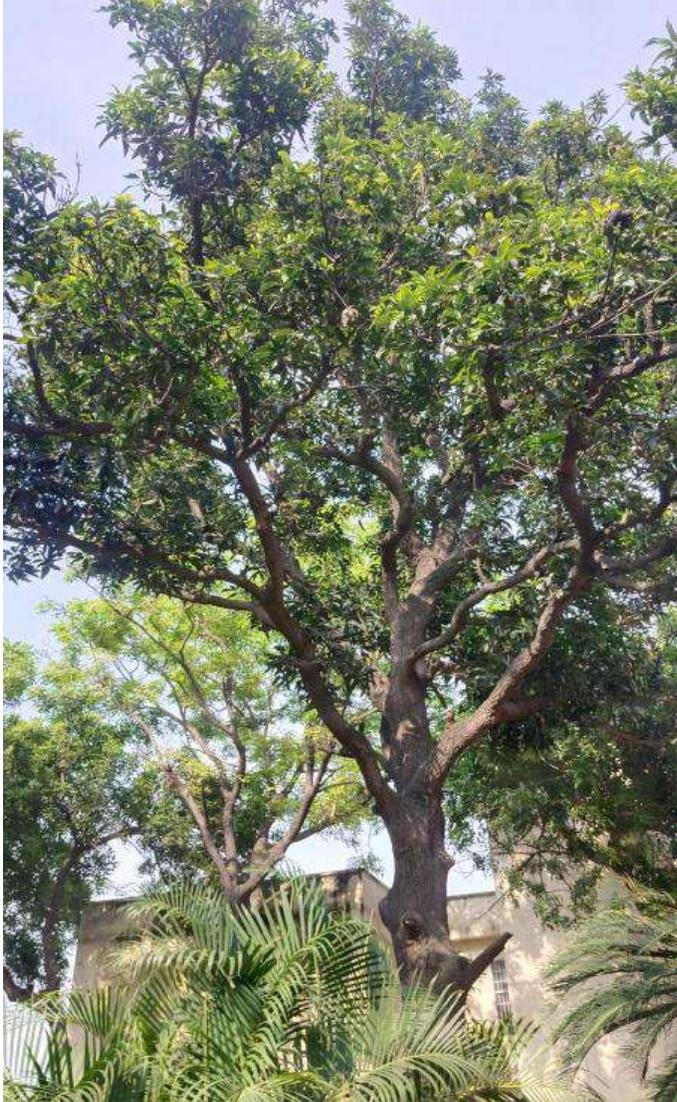
8. Mango :

Botanical Name - *Mangifera indica*

Family. - Anacardiaceae

Description

- Mango trees are well-known for their delicious fruits but are also valued for their wood.
- The wood of Mango is dense, durable, and resistant to termites, making it suitable for firewood, furniture, and construction.
- Mango wood's slow and steady burn, along with its pleasant aroma, makes it an excellent firewood option.



9. Kigelia

Botanical Name - *Kigelia africana*

Family. - Bignoniaceae

Description

- Also called Sausage Tree, Kigelia is a large, deciduous tree with distinctive sausage-shaped fruits.
- The wood of Kigelia is dense and durable, making it suitable for firewood, as well as for making tool handles and traditional carvings.
- Kigelia wood burns steadily and emits significant heat.



10. Cassia Fistula:

Botanical Name - *Cassia fistula*

Family - Fabaceae

Description

- Also known as the Golden Shower Tree, *Cassia fistula* is a medium-sized deciduous tree with beautiful golden-yellow flowers.
- The wood of *Cassia fistula* is strong, durable, and suitable for firewood, as well as for making agricultural implements and traditional furniture.
- *Cassia fistula* wood burns steadily and produces a moderate amount of heat.



Outcomes

1. **Diverse Options:** The availability of multiple firewood tree species in Ropar offers the local communities a wide range of choices to meet their specific fuel needs. Different trees have distinct burning characteristics, providing options for various uses and preferences.
2. **Sustainable Resource Management:** With the proper management and conservation of these firewood trees, the local communities can ensure a continuous supply of firewood for future generations. Sustainable harvesting practices will prevent overexploitation and preserve the ecological balance.
3. **Fuel Efficiency:** Trees like Jamun, Eucalyptus, Millettia, and Mango are known for their slow and steady burn, making them efficient sources of heat. This characteristic helps in minimizing firewood consumption and reducing the frequency of gathering fuel.

4. Economic Benefits: The utilization of firewood trees for various purposes, such as furniture, agricultural implements, and charcoal production, can generate economic opportunities for the local communities through value addition and trade.

5. Conservation Awareness: Understanding the importance of these firewood trees may promote awareness and conservation efforts to protect them from deforestation and habitat degradation.

Overall, the knowledge about these firewood trees enables informed decision-making and sustainable use of resources, benefiting both the local communities and the environment in Ropar.

Field Visit Report: Chatbir Zoological Park, Zirakpur

On 22nd November 2022, a group of 45 B.Sc Medical students from Government College Ropar embarked on an educational field visit to Chatbir Zoological Park in Zirakpur. Under the esteemed guidance of Principal Jatinder Gill and the able supervision of Prof. Shikha Chaudhary, Surinder Singh, and Pooja Verma, the students set out on an exciting journey to explore the wonders of the animal kingdom.

Objectives :

1. Educational experience outside the classroom.
2. Study and appreciation of biodiversity.
3. Observation of animal behavior in a semi-natural habitat.
4. Creating awareness about wildlife conservation.
5. Interacting with experts in the field.
6. Applying theoretical knowledge practically.
7. Stimulating curiosity and interest in zoology.
8. Promoting ethical considerations in animal care.
9. Personal development and fostering empathy towards wildlife.



Overview of Chatbir Zoological Park

Chatbir Zoological Park, also known as Mahendra Chaudhary Zoological Park, is a prominent zoological park located in Zirakpur, Punjab, India. Established in 1977, the park is named after the Maharaja Mahendra Chaudhary Zoological Park Society. It spans an area of approximately 505 acres and is dedicated to wildlife conservation, education, and research.

The park's primary focus is on housing and preserving native and endangered species of animals, birds, and reptiles from India and other parts of the world. It serves as an important center for breeding and rehabilitation of endangered species, contributing to their conservation efforts.

Visitors to Chatbir Zoological Park can explore various enclosures and exhibits that offer a glimpse into the natural habitats of the animals. The park is well-known for its diverse collection of wildlife, including big cats like the Asiatic Lion and Bengal Tiger, as well as other fascinating creatures like Indian Leopards, Indian Elephants, and Indian Rhinoceroses.

Apart from the large carnivores and herbivores, Chatbir Zoological Park also houses a variety of bird species like the Indian Peafowl, Great Indian Hornbill, and White Pelican. Reptile enthusiasts can find snakes like the Indian Python and Indian Cobra, along with other reptilian species.

In addition to being a popular destination for local and national tourists, the park plays a crucial role in educating the public about wildlife conservation and environmental protection. It offers educational programs and awareness campaigns to promote the importance of safeguarding our natural heritage and preserving biodiversity.

Chatbir Zoological Park's commitment to wildlife conservation and its impressive collection of animals make it a significant destination for nature lovers and wildlife enthusiasts in the region.



Observations:

During visit to Chatbir Zoological Park, observed the following:

1. **Animal Enclosures:** The zoo has well-designed enclosures that closely mimic the natural habitats of the animals, providing ample space for them to roam and exhibit their natural behaviors.
2. **Diverse Wildlife:** The zoo boasts an impressive collection of animals, including lions, tigers, elephants, bears, deer, and various bird species. It was heartening to witness the rich biodiversity present at the park.
3. **Educational Signage:** Throughout the zoo, there are informative boards detailing facts about the animals, their habitats, and conservation efforts, making it an excellent place for visitors to learn about wildlife.
4. **Visitor Amenities:** Chatbir Zoological Park offers a range of facilities for visitors, such as restrooms, food courts, and shaded areas, ensuring a comfortable and enjoyable experience for everyone.

Description of Animals:

Zoological Park in Zirakpur houses a diverse range of animal species.

Bengal Tiger (*Panthera tigris tigris*):

The Bengal Tiger is India's national animal and one of the most recognized symbols of the country.

It is the largest subspecies of tiger and has a striking coat with orange to reddish-orange fur covered in dark black stripes.

Tigers are solitary animals, marking and defending their territories. They are powerful predators, capable of taking down large prey such as deer, wild boar, and even gaur (Indian bison).



Bengal Tiger

Asiatic Lion (*Panthera leo persica*):

The Asiatic Lion is a subspecies of lion native to the Indian subcontinent.

It is slightly smaller than its African counterparts but shares the same regal appearance.

Males have a prominent mane that varies in color from light to dark, while females have a more compact appearance.

Asiatic Lions are social animals, often forming prides consisting of related females and their offspring. They are skilled hunters and mainly feed on herbivores like deer and wild boar



Asiatic Lion

Indian Elephant (*Elephas maximus indicus*):

The Indian Elephant is one of the largest land mammals in the world and holds immense cultural and religious significance in India.

It has long, curved tusks and large ears.

Indian Elephants are highly social animals and often live in matriarchal herds led by a dominant female.

They are herbivores, feeding on a variety of vegetation, including grasses, leaves, fruits, and roots.



Indian Elephant

White Pelican (*Pelecanus onocrotalus*):

The White Pelican is a large waterbird found in various parts of the world, including India.

It has a distinctive white plumage and a long, broad bill. White pelicans are excellent swimmers and feed on fish, scooping them up in their expandable throat pouch.

They often nest in colonies near freshwater lakes and marshes.



White Pelican

Python (*Python molurus*):

The Indian Python is a non-venomous constrictor snake and one of the largest snake species in the world.

It has a muscular body with a distinctive pattern of brown blotches on a lighter background.

Pythons ambush their prey, which can include small to medium-sized mammals and birds, and constrict them before swallowing them whole.



Python

White Peacock (Species: *Pavo cristatus*):

The White Peacock is a color variant of the Indian Peafowl (peacock) with a genetic condition called leucism, which results in the absence of pigmentation in its feathers.

As a result, it has white plumage with a slight iridescence and lacks the colorful train feathers found in the male Indian Peafowl.

White Peacocks are just as captivating as their colorful counterparts and are a sight to behold.



White peacock

Ostrich (Species: *Struthio camelus*):

The Ostrich is the largest living bird and is native to Africa.

It is flightless and has long legs, which make it the fastest running bird on land.

Ostriches have a unique appearance with a long neck and a large body covered in soft feathers.

They are omnivores, feeding on a variety of plant material, insects, and small animals.



Ostrich

Indian Rhinoceros (*Rhinoceros unicornis*):

As mentioned earlier, the Indian Rhinoceros, also known as the Greater One-Horned Rhinoceros, is a massive herbivore found in the grasslands and swamps of northern India and Nepal.

They have a single horn and thick, armor-like skin.

Indian Rhinos are primarily grazers, feeding on grasses and aquatic plants.



Indian Rhinoceros

Kangaroo:

Kangaroos are marsupials native to Australia and nearby islands.

They are well-known for their powerful hind legs and large tail, which they use for balance and propulsion.

Kangaroos are herbivorous and primarily feed on grasses and shrubs.

Female kangaroos carry their young in a pouch until they are fully developed.



Kangaroo

Chital (*Axis axis*):

Also known as the Spotted Deer, Chital is a common and easily recognizable deer species found in India and Sri Lanka.

They have a reddish-brown coat covered in white spots, which provides excellent camouflage.

Chitals are herbivorous and feed on a variety of plants, including grasses, leaves, and fruits.



Spotted Deer

Outcomes:

1. Enhanced Knowledge: The visit provided hands-on learning experiences, deepening the students' understanding of various animal species and their behavior.
2. Awe for Biodiversity: Witnessing the diverse range of animal species instilled a sense of wonder and appreciation for the rich biodiversity present in the zoological park.
3. Conservation Awareness: Interacting with experts and understanding animal care efforts raised awareness about the importance of wildlife conservation and protecting endangered species.
4. Ethical Perspective: Observing the animal's living conditions highlighted the importance of ethical considerations in ensuring their well-being and comfort.
5. Sparked Curiosity: The visit ignited curiosity and enthusiasm for zoology, inspiring students to explore further opportunities in the field of wildlife research and conservation.

6. Empathy Towards Wildlife: Interacting with animals fostered empathy and a deeper connection with nature, encouraging a sense of responsibility towards wildlife conservation.

7. Application of Knowledge: applied theoretical concepts learned in classrooms to real-world scenarios, honing their critical thinking and problem-solving skills.

8. Valuable Exposure: Witnessing conservation efforts underscored the significance of initiatives aimed at preserving biodiversity and protecting endangered species.

Survey Analysis

	Correct Answer
	Wrong Answer
	No Answer

Total number of participants=108

Range	Outcome	Total Outcomes	%
(0-30)%	Less Knowledge	8	7.4
(30-50)%	Moderate Knowledge	70	64.8
Above 50%	Sufficient Knowlegde	30	27.8

SURVEY ON FEEDING, WEANING AND CHILD REARING PRACTICES IN YOUNG MOTHERS OF DISTRICT ROPAR

SURVEY REPORT

- In the session 2022-23, as a part of curriculum in practical paper of semester -VI. A survey was conducted in District Ropar by Home Science Department of Government College, Ropar.
- This survey aimed to access the knowledge of young mothers about feeding, weaning and child rearing practices.
- A self prepared and close-ended questionnaire was used to collect the data. Total 108 young mothers from area of District Ropar participated in this survey.
- Respondents were selected through probability sampling – simple random sampling technique. Participants gave answer to 48 different questions and shared their experiences of post natal period.
- It was found that majority of women (64.8%) had moderate knowledge about feeding ,weaning and child rearing practices whereas minority of women(7.4%) had less knowledge and 27.8% of respondents had sufficient knowledge about feeding, weaning and child rearing practices.



Head

Department of Home Science



Principal

Government College Ropar