

Field Work at Jharadabar Gram Panchayat

Presenters

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Guide

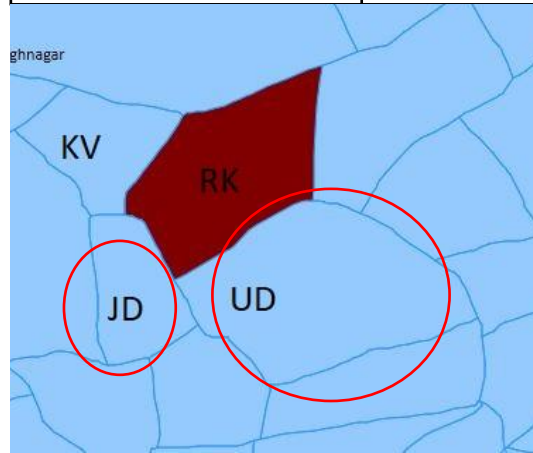
Professor Anand B.Rao

**Partner NGO - शिवगंगा समग्र ग्राम विकास परिषद,
झाबुआ**

Overview of GP

- **Location:** Tribal area in Meghnagar Janpad, Jhabua district (South West border of Madhya Pradesh)
- **Part of Aravalli Formation**
- **Prominence of quartzite, basaltic rocks and shale**

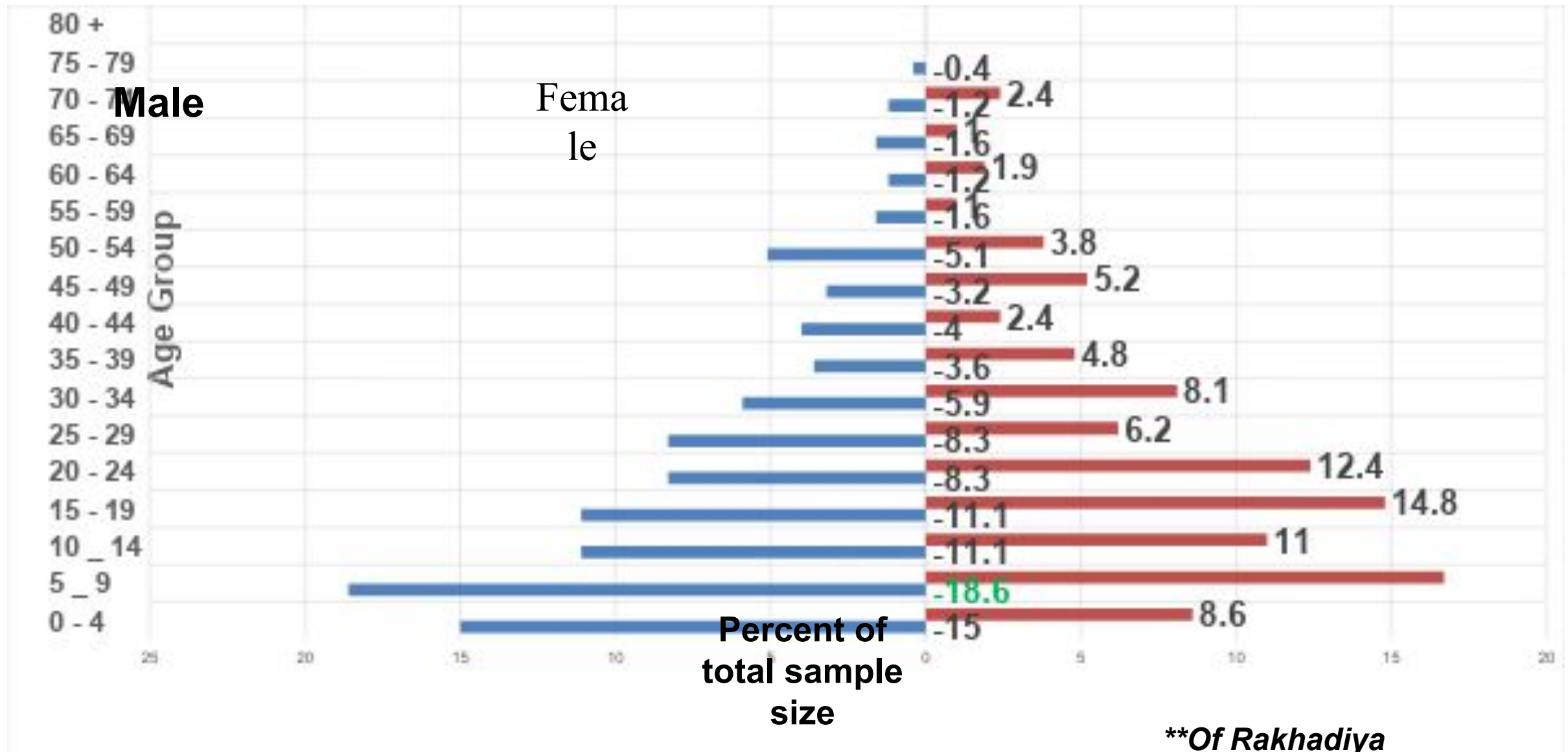
Name	Area (sq.km)	HH count	Population
Rakhadiya	1.28	85	540
Jharadabar	2.62	253	1711
Kaliya Viram	1.09	54**	331
Udepuriya	0.35	28	163
Whole Gram Panchayat	5.34	420	2745



Parameter	Jharadabar GP	Madhya Pradesh
Children population with age 0-6 years	23.06 %	17.86 %
Sex ratio	1006	929
Child sex ratio	1185	919
Literacy rate	66.32 %	63.74 %
Male Literacy	76.56 %	76.06 %
Female Literacy	58.13 %	50.29 %

*Census 2011 & MP Land Records data

Population Pyramid (Sample Estimate)**

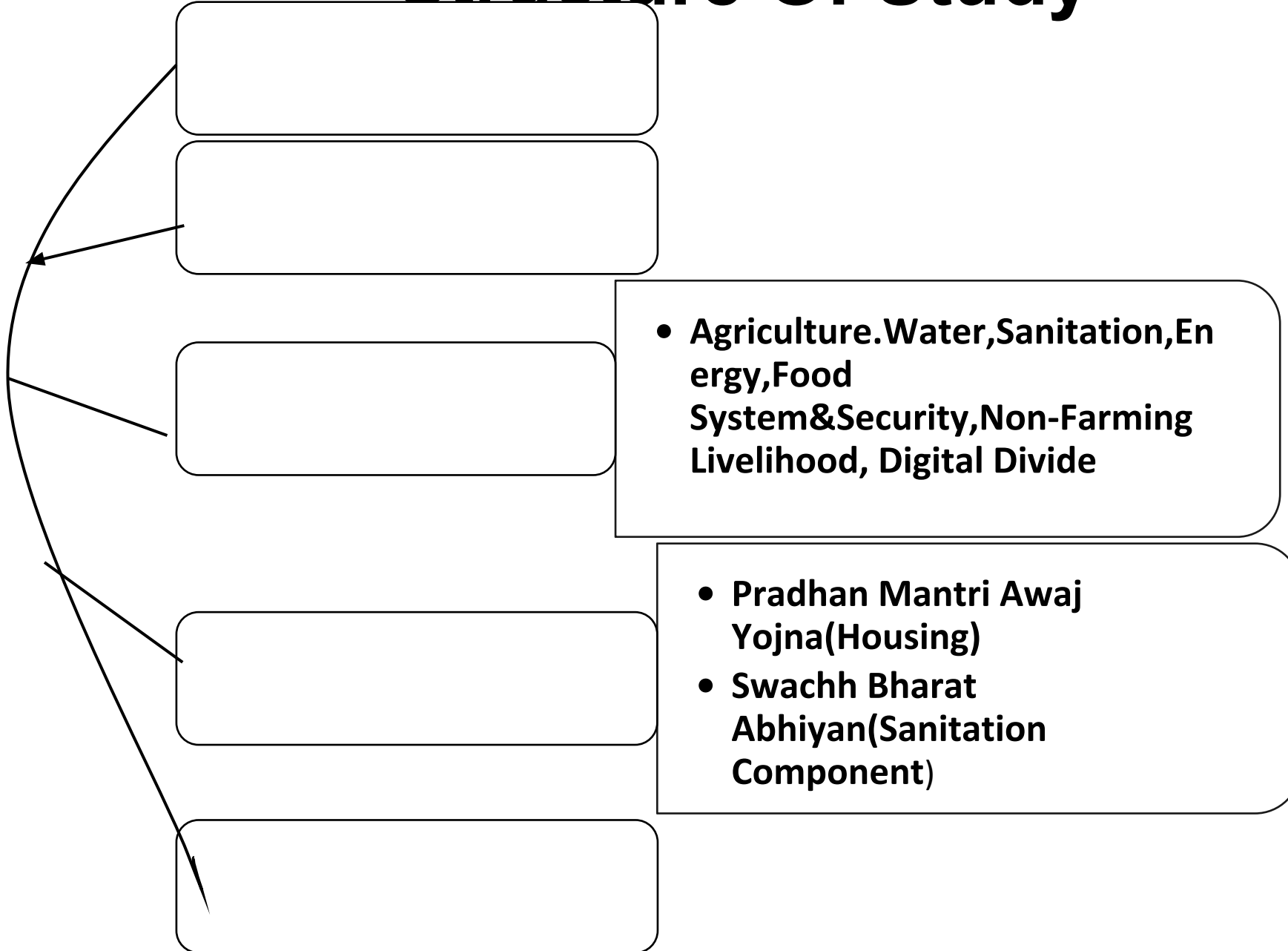


Objectives of Study

- Understanding the Bhils and their environment.
- Understanding how the developmental policies morph as they trickle down from district/block level to the village level.
- Conducting Directed Research on Energy Access and Transition scenario of the whole Gram Panchayat

Structure Of Study

Living with the Bhils and understanding them



Component of Study	Data type	Major Measure/Qualifier	Method of Collection	Source
Ground work	Qualitative	Perceptions of Bhils	Unstructured &Semi-Structured Interviews	Villagers
		Perceptions of GAs and Labanas towards Bhils		DISCOM,Panchayat,Labanas,etc
PRA	Quasi-Qualitative	Perception of ownership	Mapping,Diagramming,Discussion	Villagers
		Perception of kinship		
		Relative rank of a problem		
		Variation in Physical Space		
		Timing and Seasonality of Activities		
Sectoral Analysis	Qualitative and Quntitative	Perceptions &Accounted figures	Surveys	Villagers
			Semi-Structured Interviews	Selected Villagers,GAs
			Unstructured talk	Hosts
DR	Qualitative and Quantitative	Perceptions &Accounted figures	Surveys	Villagers
			Semi-Structured Interviews	Selected Villagers, GAs
			Unstructured talk	Hosts

Phasing Of Study

Season	Approximate Duration	Activity
Peak Summer	2 days	Organic Farming,Bamboo Craft,Entrepreneurship WorkShop of SSGP
	1 week	Familiarizing with the Villagers
	1 week	Ground Work
	3 days	PRA planning and Execution
	3 days	Questionnaire design for sectoral Analysis using ODK
	2 weeks	General Household Survey(GHS) -Includes Scheme Analysis survey part
Pre-Monsoon	3 days	Revisiting the energy part of GHS
	2 days	Design of DR Framework
Onset of Monsoon	1 day	Questionnaire design for DR using ODK
	about 3 weeks	DR Survey(DRS)

Shivganga Smagra Gram Vikas Parishad

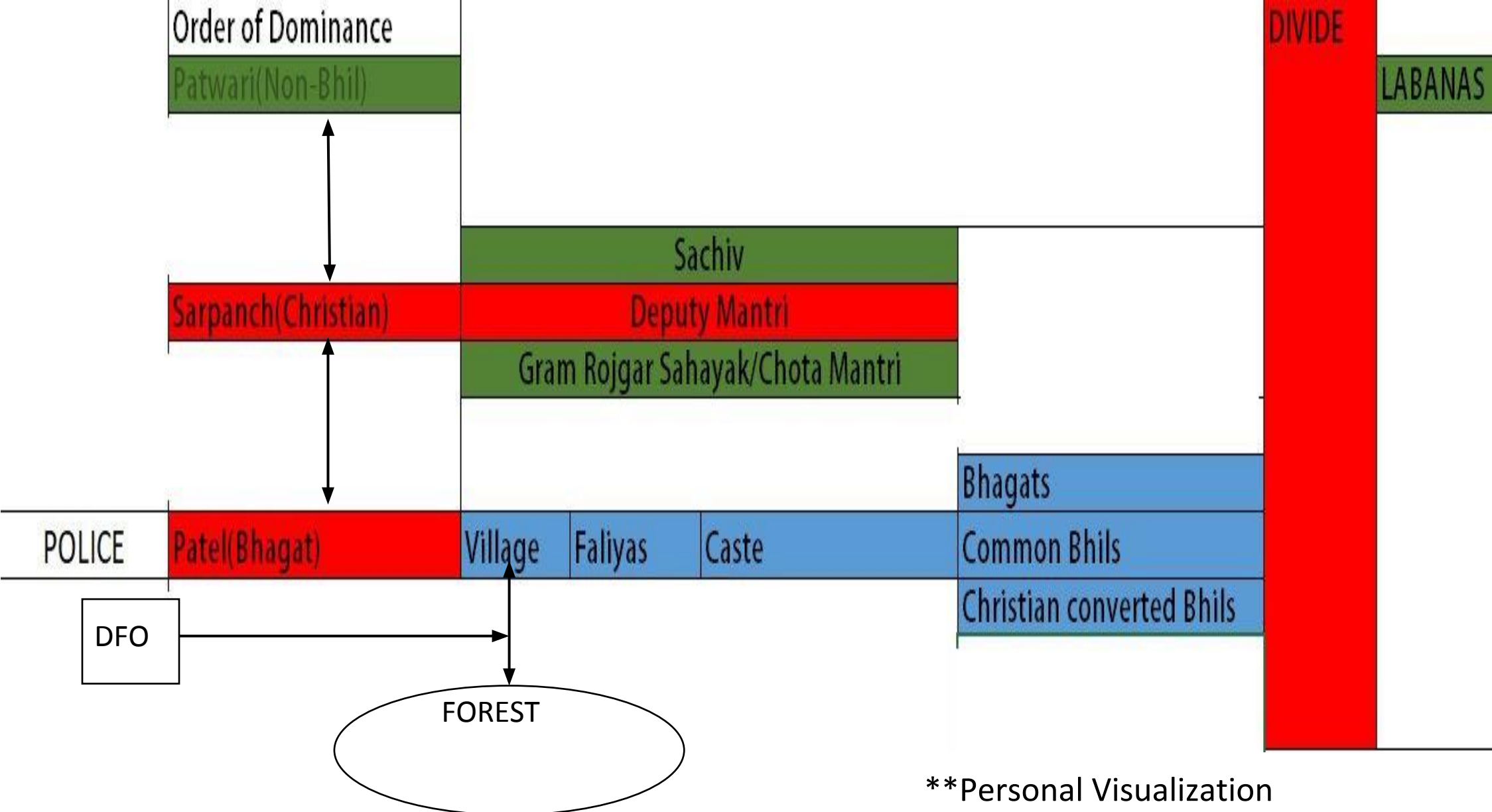
- Run by Shri Harsh ji Chauhan & Shri Mahesh ji Sharma
- 14 other leaders from the tribal community itself
- Outreach in 800 tribal villages.

Inspirational Works:

- **Crowd Funding based Matavan Tree Plantation at Kheda**
- **Halma**
- **Organic Farming Venture**
- **Bamboo Craft-Bamboom**



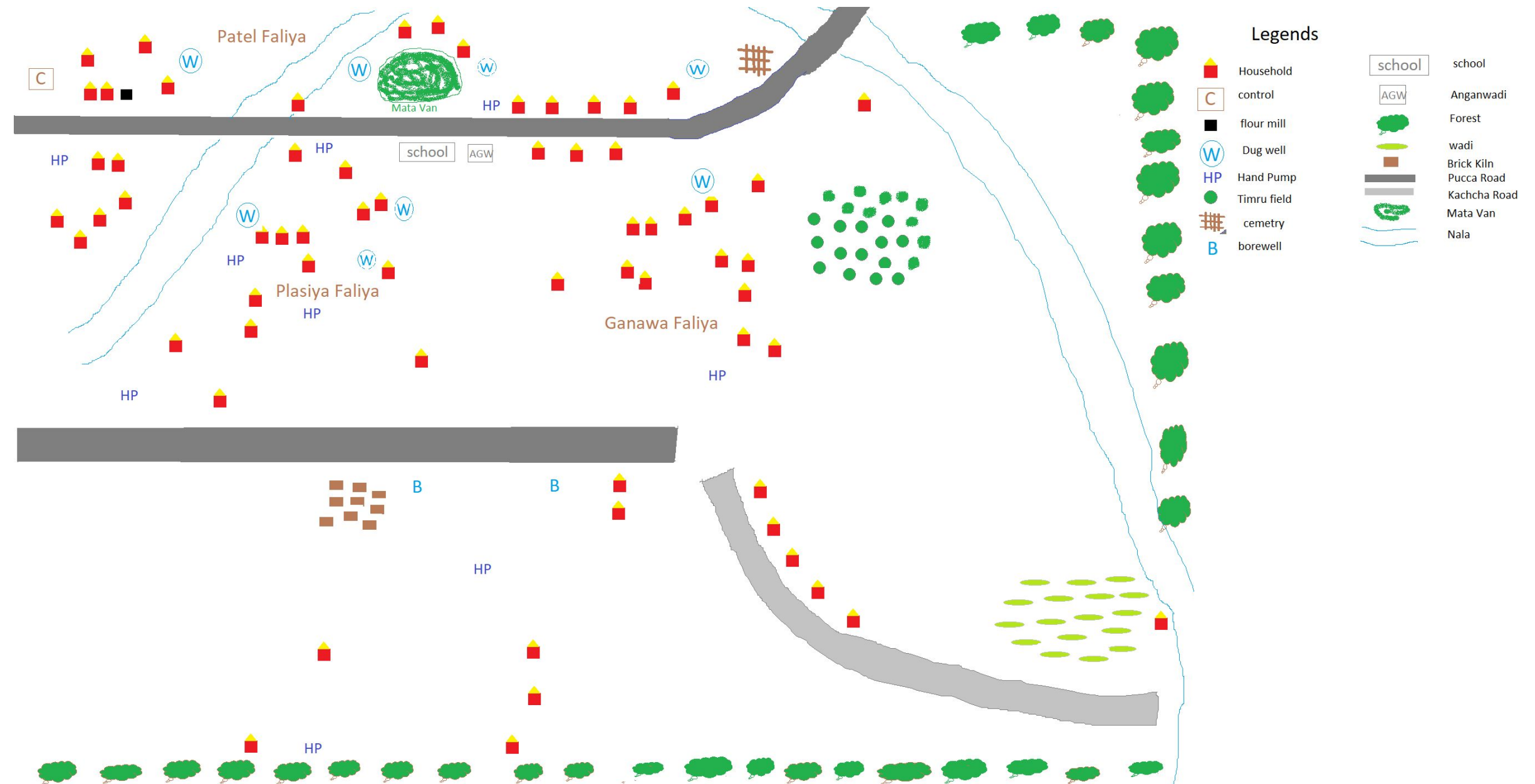
Socio-Political Organization



Participatory Rural Appraisal

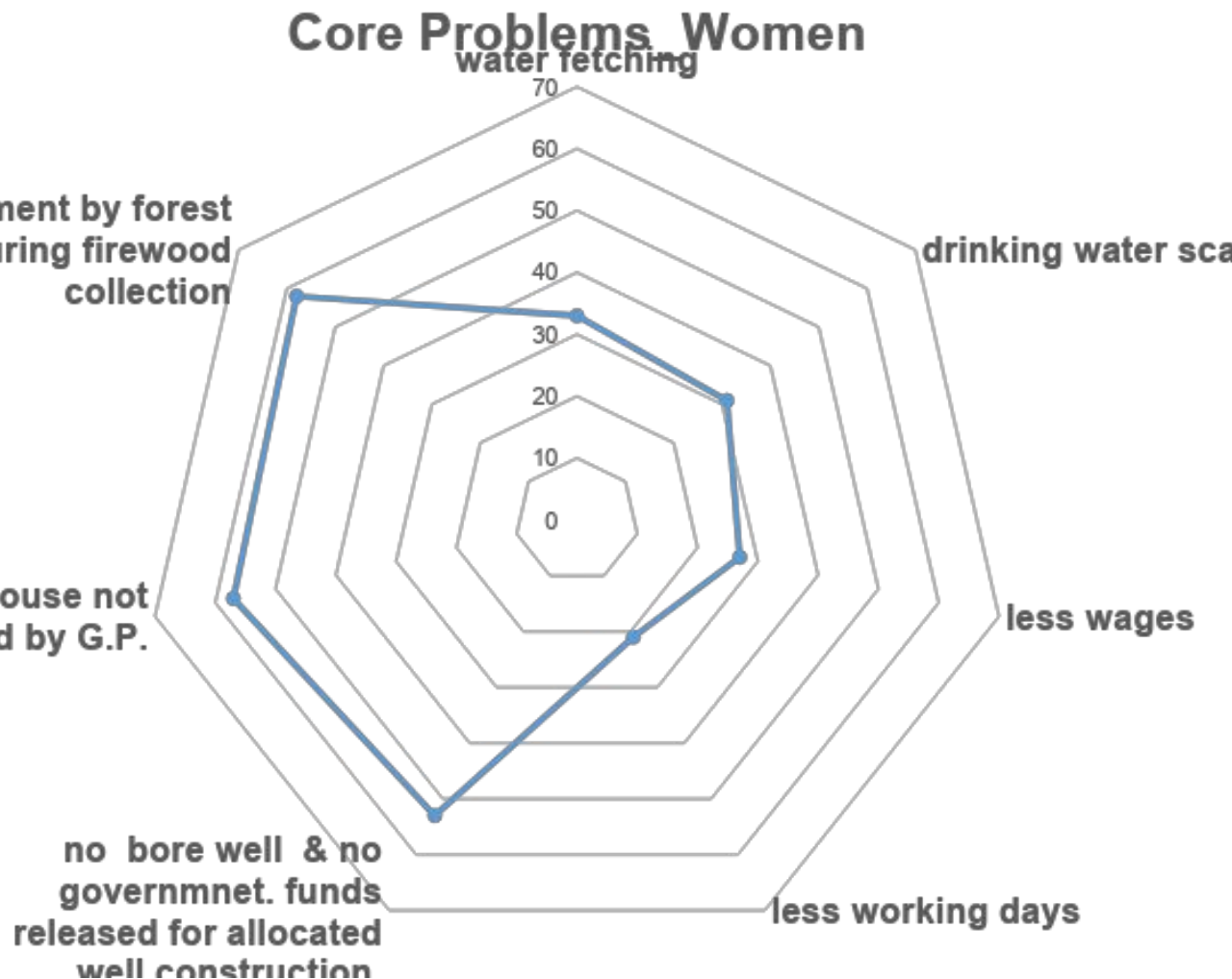
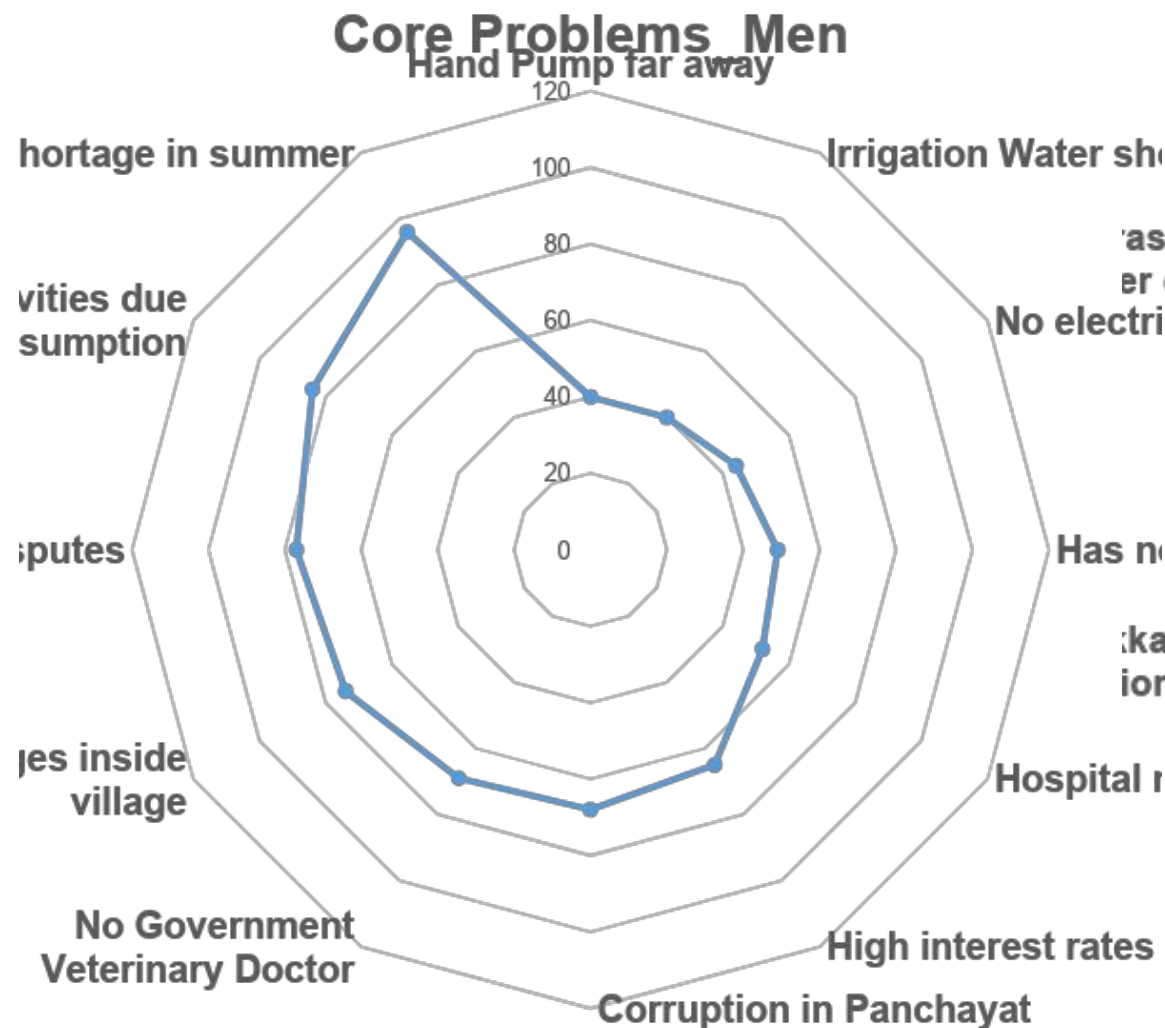
- Prep work-Invitation to about 50 HH one day before
- Site-Primary School,Rakhadiya
- Time-28th May,10 am-12 pm
- Participation-10 men,13 women

Activity	Observations	Output
Social and Resource Mapping	<ul style="list-style-type: none">• Difficulty of married women to participate freely due presence of their in law fathers• Eagerness of a woman to detail her house• Influence of Patel	<u>Conceptual Map</u>
FGD	Overlapping of Ranks	<u>Problem Radar Diagram</u> <u>Venn Diagram</u>
Transect Walk	More prominence of stones in the farms after the first shower	<u>Spatial Variation</u>
General Discussion		<u>Seasonality Diagram</u> <u>Timeline</u>



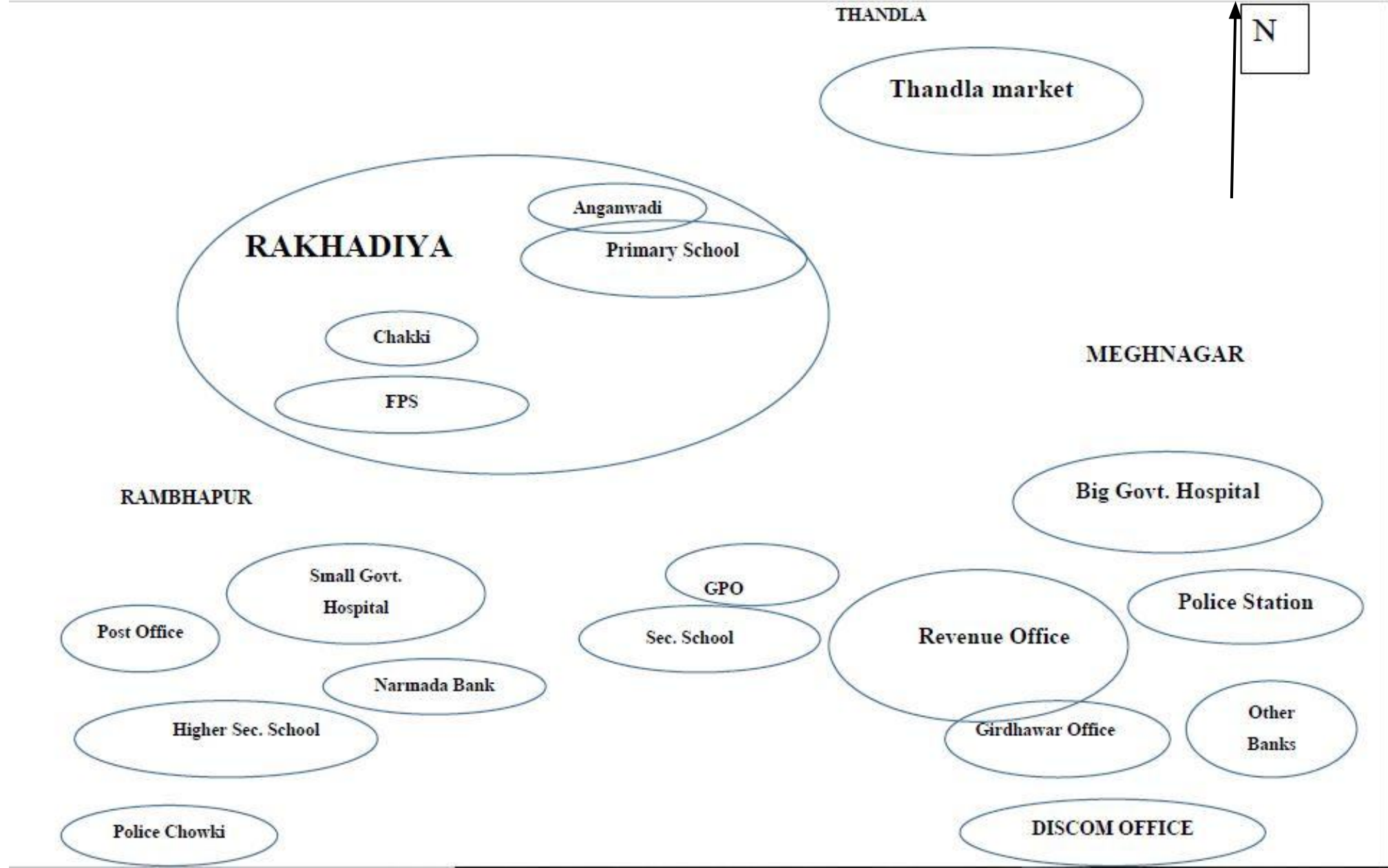
Is it that Men have more problems than Women?

[BC](#)



Institutions within the village are sparse and less.

[BC](#)



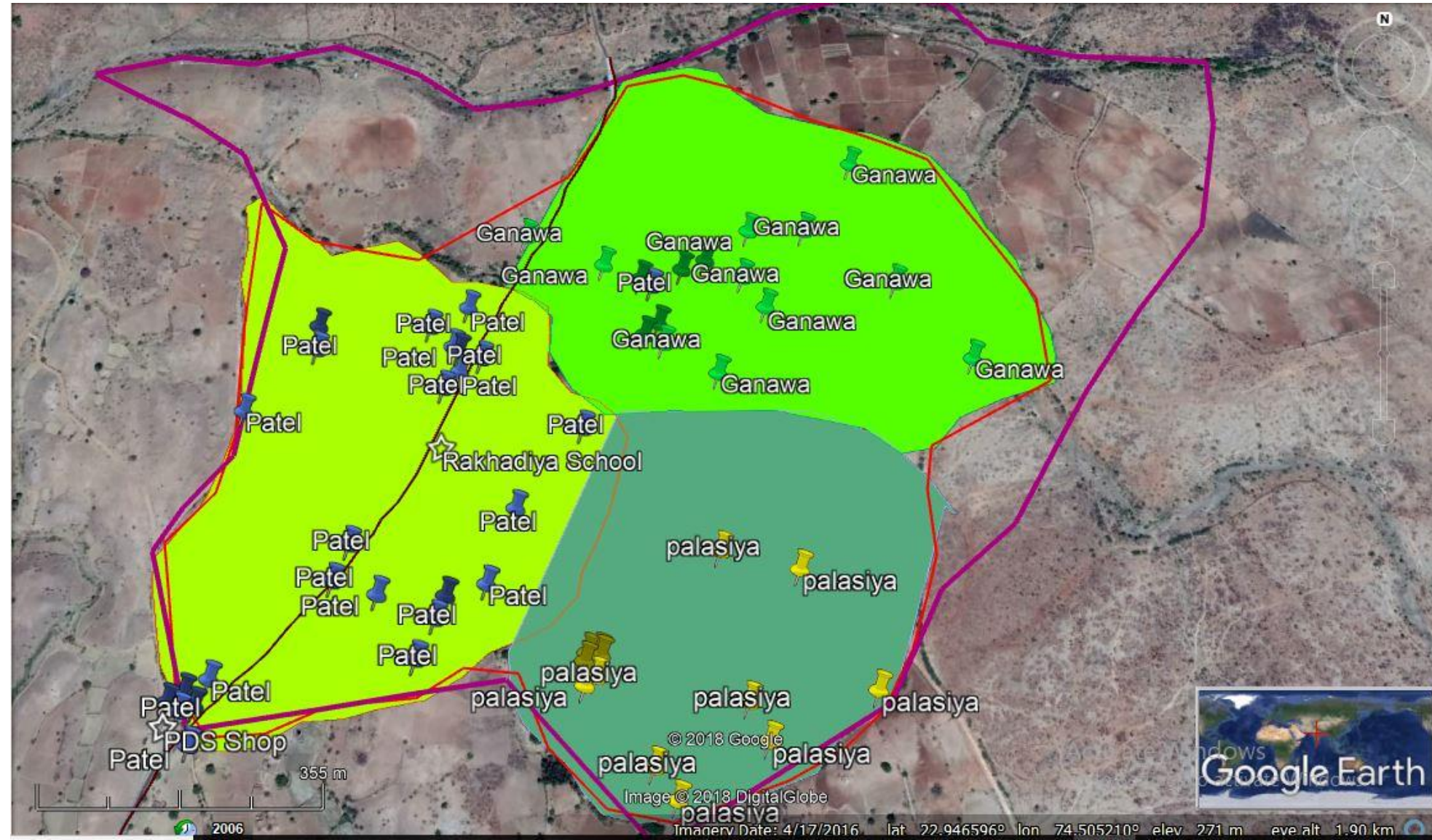
Activity	January	February	March	April	May	June	July	August	September	October	November	December
Festival			Gad dewariya, Holi		Salavandi				Navai		Diwali	
Migration	x	x	x	x	x						x	x
Sowing						Khariff				Rabi		
Harvesting		Rabi						Khariff	Khariff			
House repair								X	X			
Firewood collection	x	X	X	X	X	X				X	X	X
Marriages			X	X	X							
Rainfall							X	X	X			
Agriculture income			Khariff						Khariff	Khariff		
Diseases									Diarrhoea	Fever	Fever	
Brick making	x	X	X	X	X	X					X	X
Tendu collection					X							

Approximate Year	Event
1970	<i>First Use of Fertilizer</i>
1978	<i>First Diesel Pump</i>
1995-1998	<i>GP Office starts functioning.</i>
1998	First Electric Pump
1998	BSNL Tower comes up.
1998	<i>Rakhadiya School comes up</i>
1982	Todi in Jharadabar Village gets electricity connection
2002	Kuccha Rakhadiya road comes up
2005	<i>FPS opens up</i>
Post 2005	<i>Electricity connection spreads to Rakhadiya, Kaliya Viram and Udepuriya</i>
2008	<i>First Flour Mill</i>
2010	Fencing of Matavan by Punya Ji(Village Patel)
2011	Suyash HP Gas Agency set up
2013	<i>Conversion of Rakhadiya main road to Pucca road</i>
2017	Funeral place

Sectoral Analysis

- Geographical area under study-Rakhadiya Village,60 Sample HHs

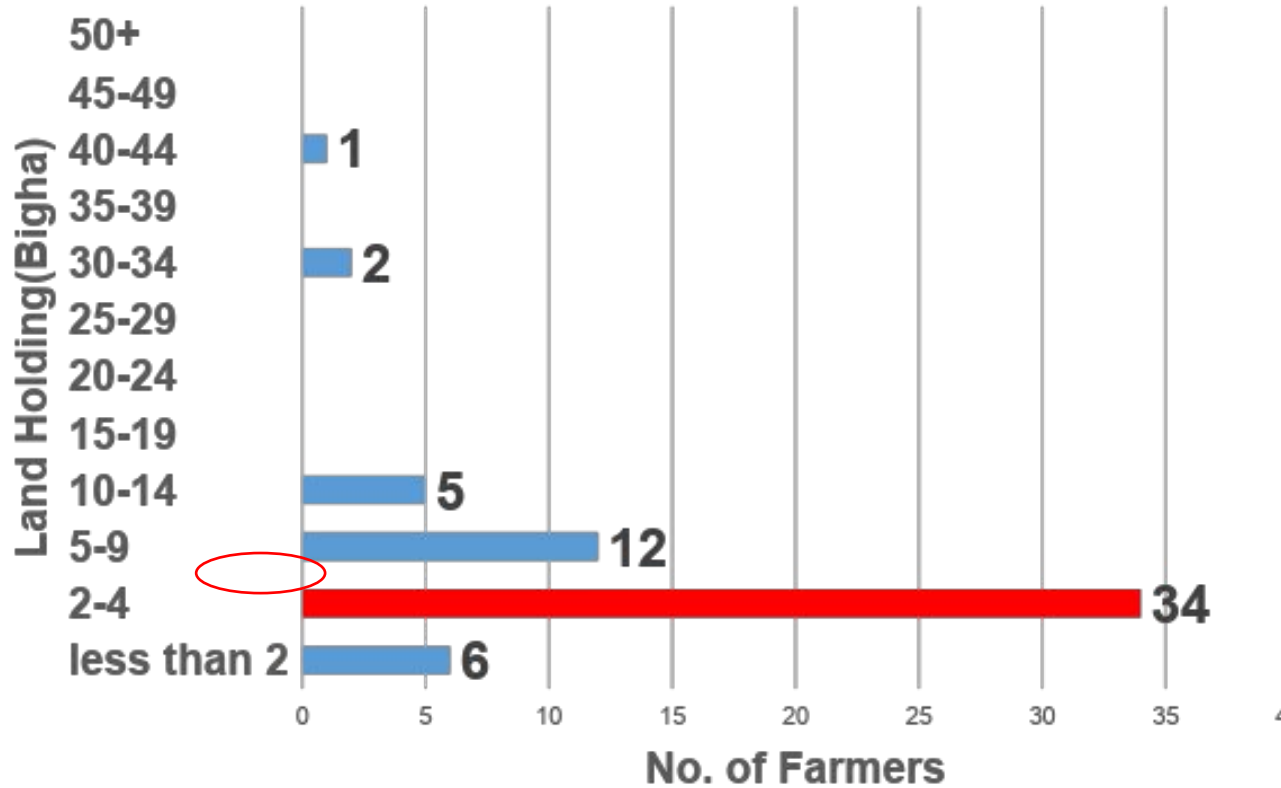
Faliya	Sample Count
Patel	28
Ganawa	16
Palasiya	16



Sector	Significance for the village / rationale for choosing	Key Points
<u>Agriculture</u>	100% of the HH indulge in Farming Activities	Only 7% of farmers sell their produce
<u>Water</u>	Less farmlands under irrigation	No water supply scheme, Hand pumps only source of drinking water
<u>Sanitation</u>	Tribal behavior towards adopting urban concept of toilets	97% Household doing open defecation
<u>Non Farming Livelihood</u>	High degree of Migration	Farming, Forest produce collection (timru), major activities along with labour work at Brick Kiln
<u>Energy</u>	100% use of kerosene as main source of lighting (census 2011)	83% HH electrification, 75% HH without LPG connections (sample estimate)
<u>Food System and Security</u>	As a part of understanding Tribal culture	Unaffordability to market fruits and vegetables

Agriculture

- Land Holding and Inheritance

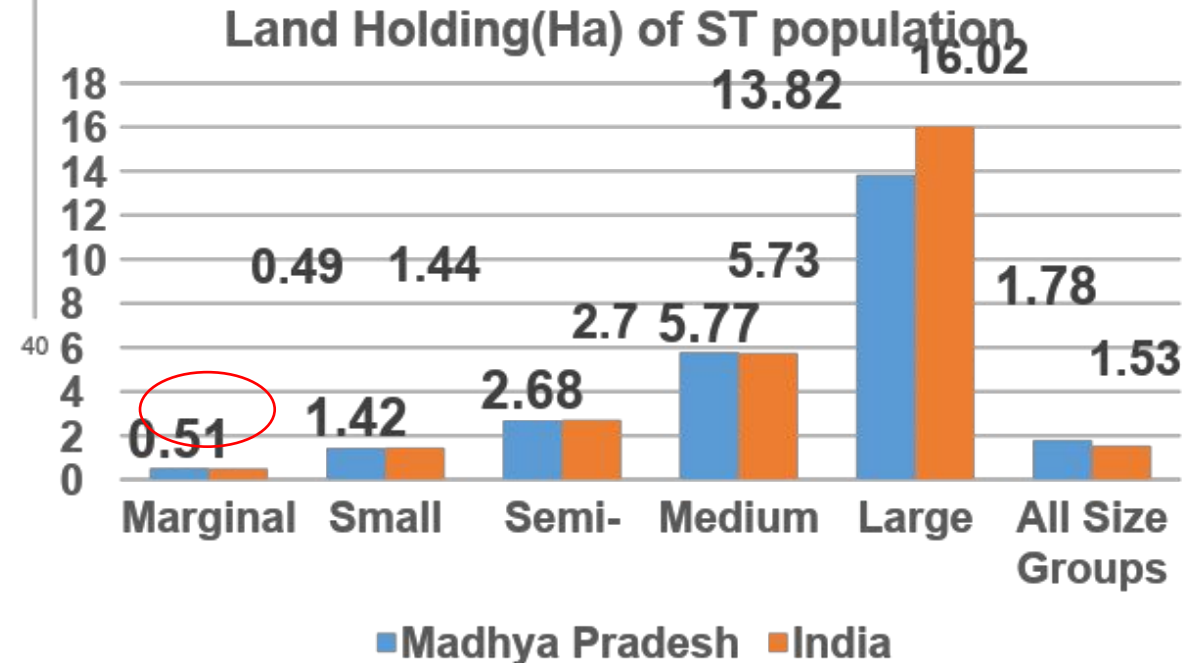


4 bighas=0.27 Ha

If the head of a joint family is still alive, a joint land holding is internally divided among the sons. In all cases, equal division of land was found.

***The graph has been drawn splitting a joint land holding into equal partitions as per the number of sons in the joint family.*

1 Bigha = 1/6 (1Acre)



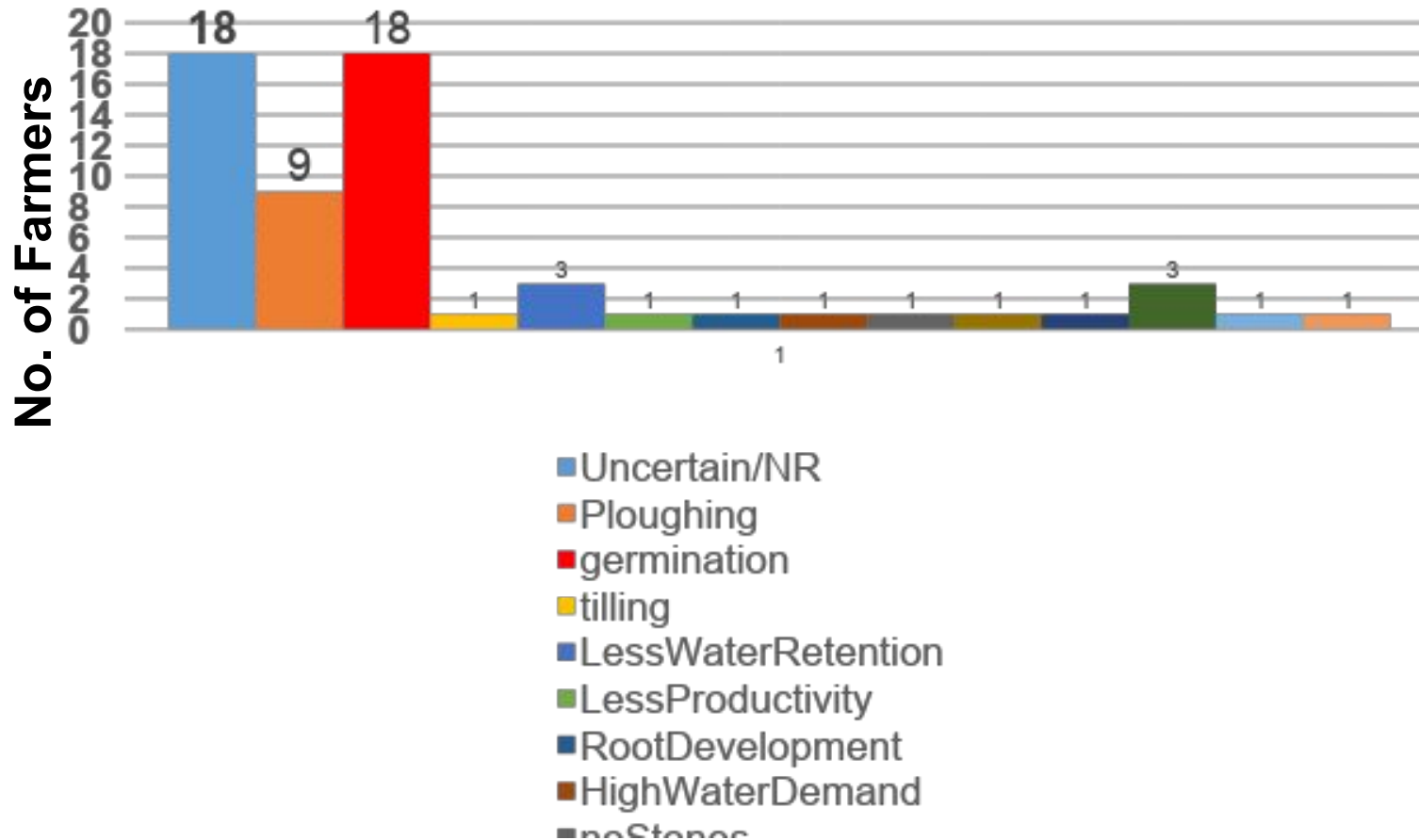
Soil Type

- Grey soil(Lower elevation)
- Brown and Red Soils(Higher Elevation)
- High Presence of white rock fragments, even in inner layers

Climate -Semi-Arid

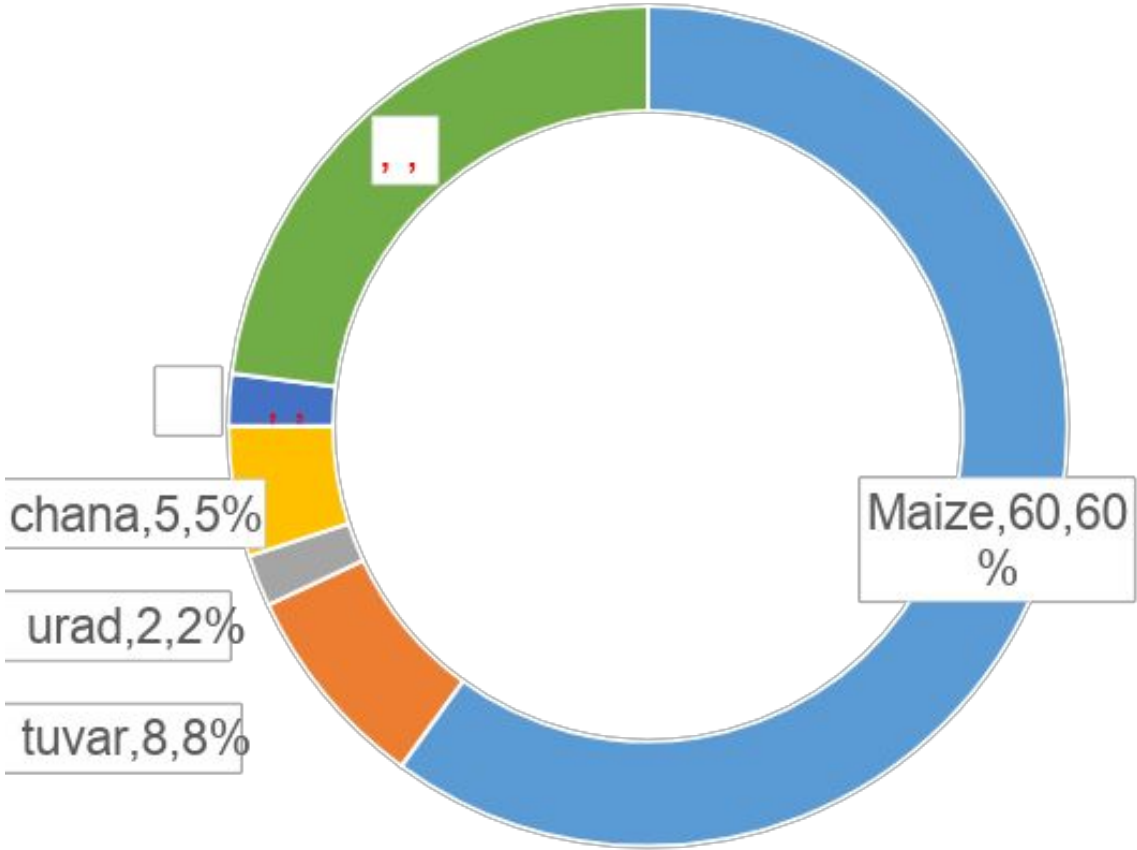
Average Annual Rainfall-795 mm.

If stones pose problems to farming



• Crop Choice & Productivity

BC



Crop	Producti vity Range(k g/Ha)	Mean	Standar d Deviatio n(kg/Ha)	MP Producti vity (2009-1 0)
Maize	1443-1492	1421	255	2072
Urad	350-480	400	80	609
Tuvar	310-494	350	139	1133
Wheat	700-950	750	110	1867
Cotton	357-523	440	83	552

1 Qt /Bigha ~ 1500 kg/Ha

Some farmers grow lines of maize and cotton alternately.

- No pipe water supply
- Use of only Handpumps as drinking water source
- High concentration of iron rust in 2 Handpumps
- Broken gates of 2 stop dams at *Rakhadiya nala* and *Hamna nala* .
- No major water treatment method, just removal of insoluble impurities using cloth.

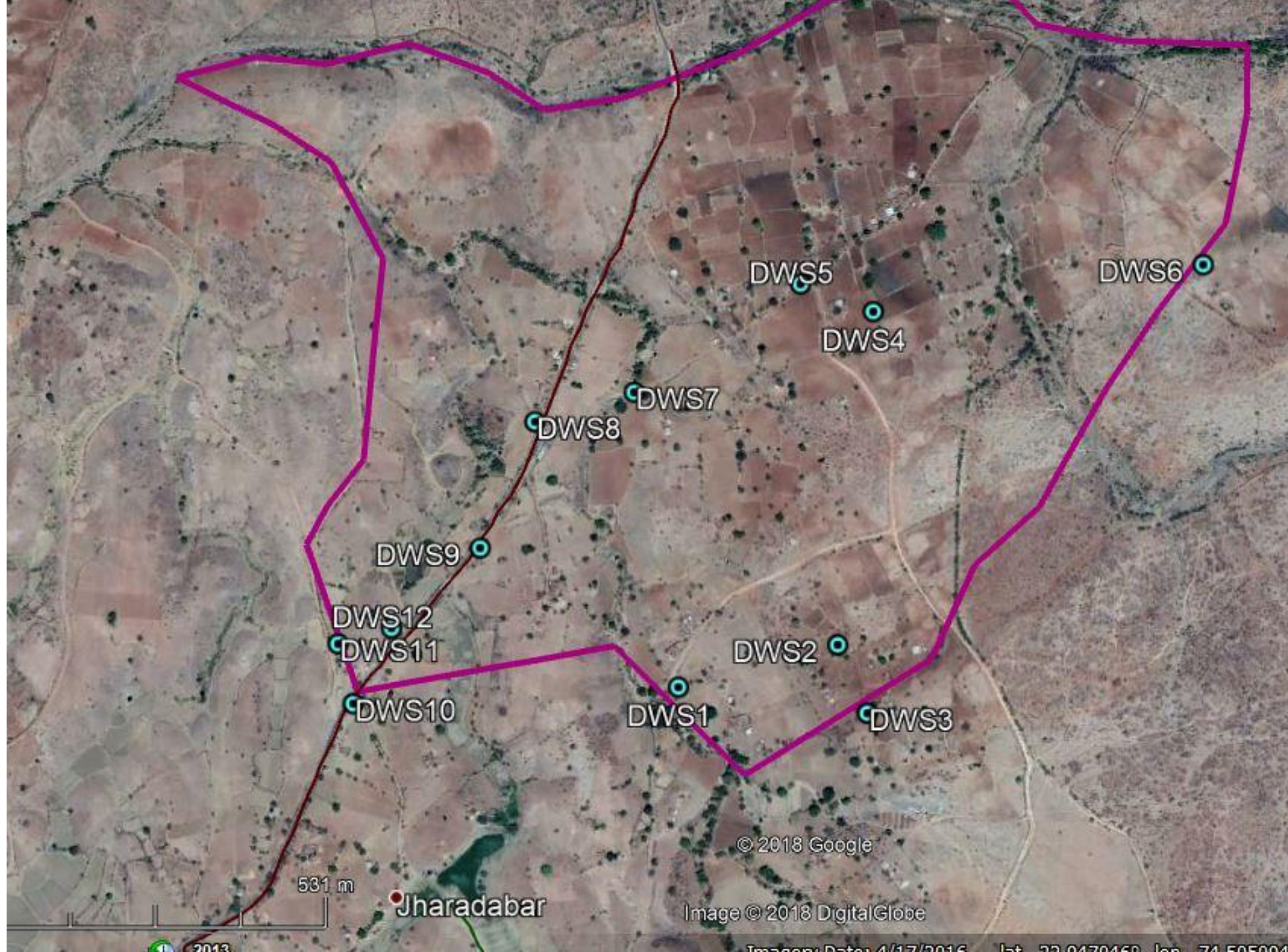
Water

Sr. no	Source of water	Total count
1	Dug well	10
2	Handpump	12
3	Nala (stream)	2
4	Bore well	2



Resource	Purpose	Depth
Bore well 1	Irrigation	300ft
Bore well 2	Brick making, filling tanker	300ft





Water

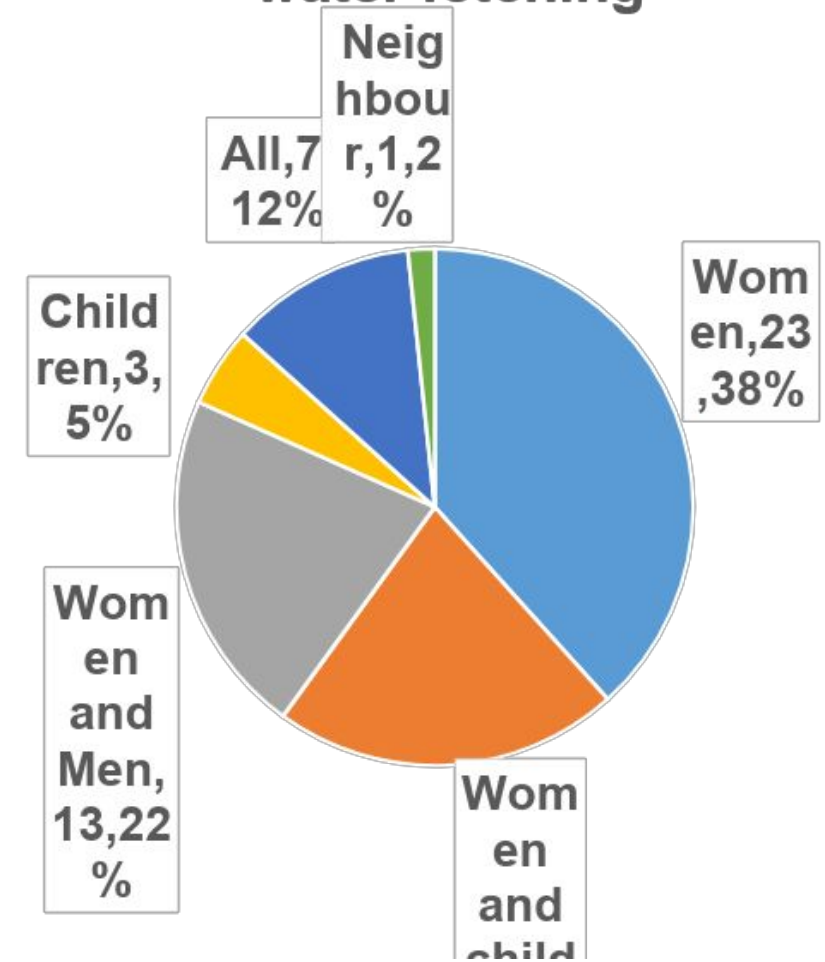
Water Fetching- Drudgery for Women

- Distance **and altitude difference** between the HH and handpump
- Women-common water fetcher in all HH
- Longer distance to travel in monsoon due to crop cover .



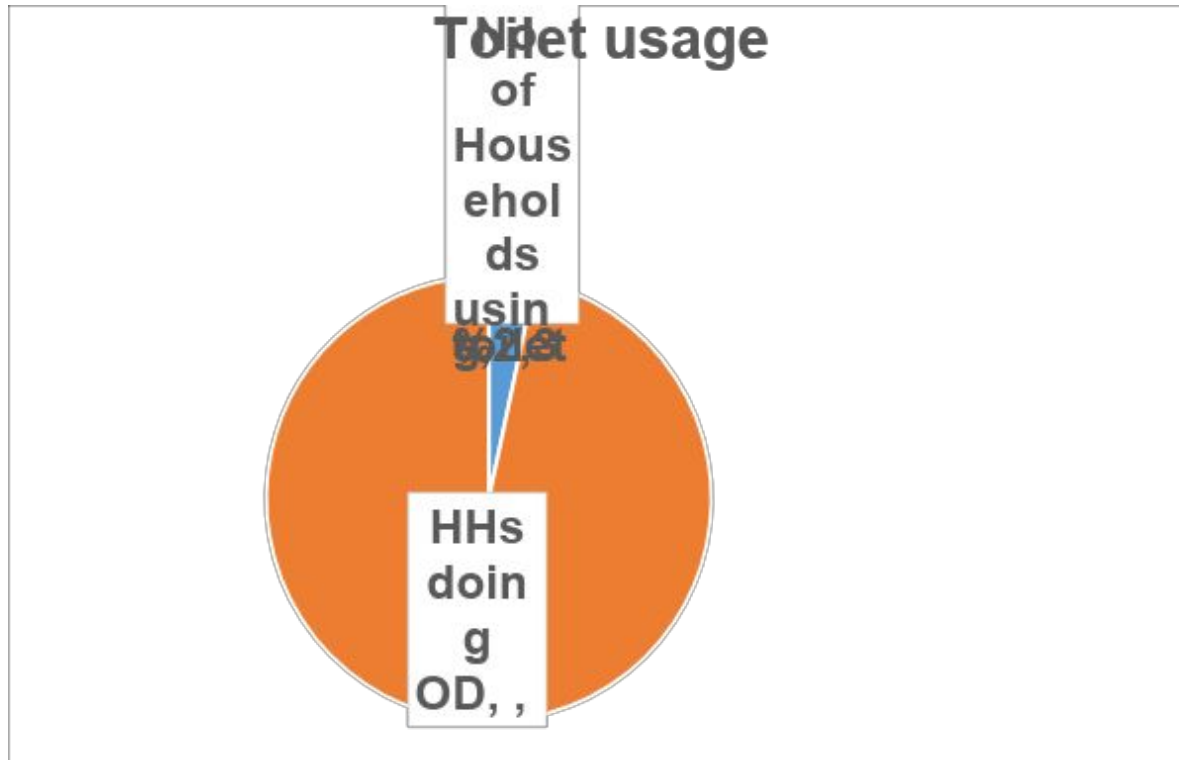
BC

water fetching



Sanitation

- Open Defecation
- Poor construction and half constructed toilets



Sanitation

BC

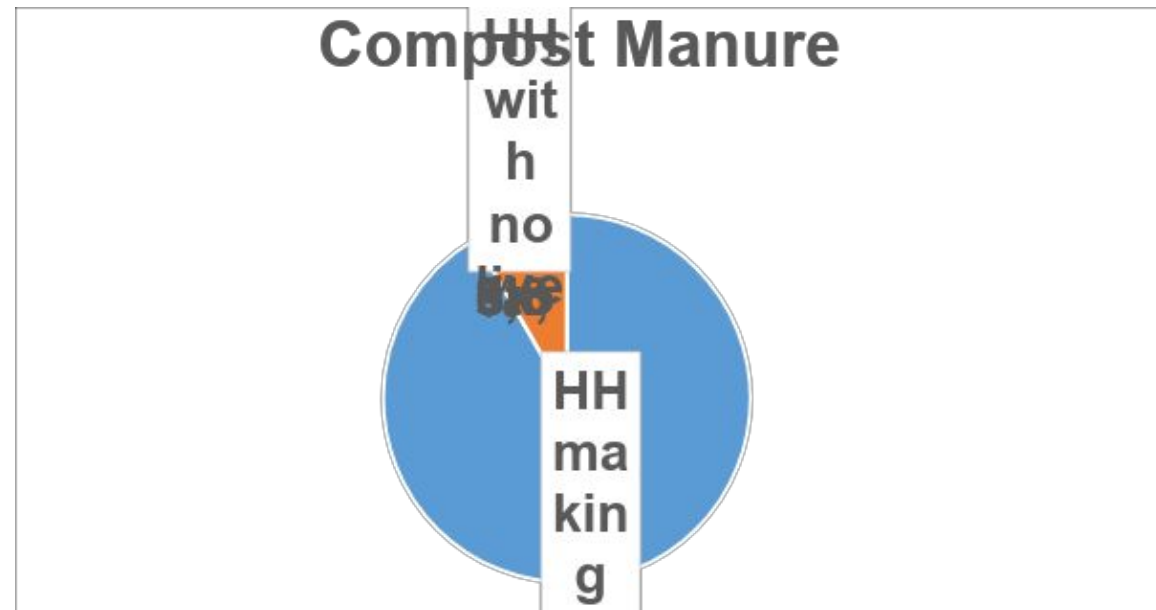
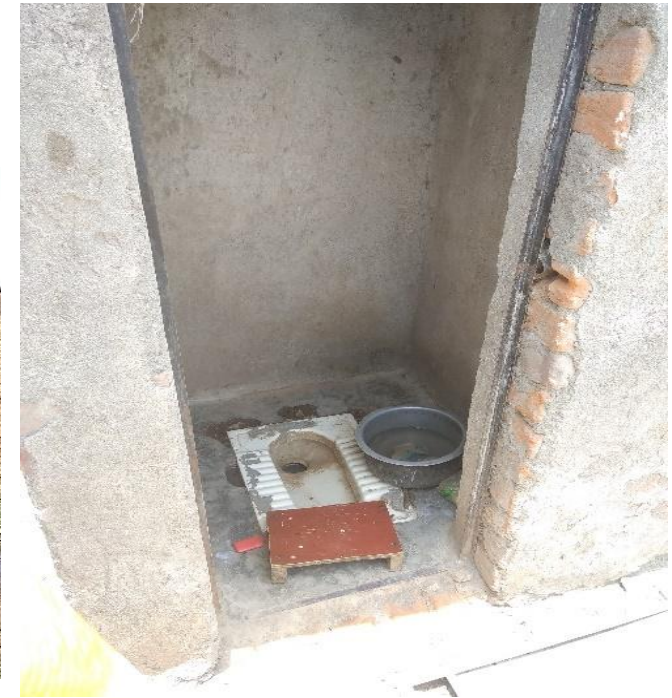
Bathing: Men and children take bath near Handpump or dug wells, while women use the toilets for bathing and washing clothes.

Drainage: open drainage, no stagnation of water due to slope

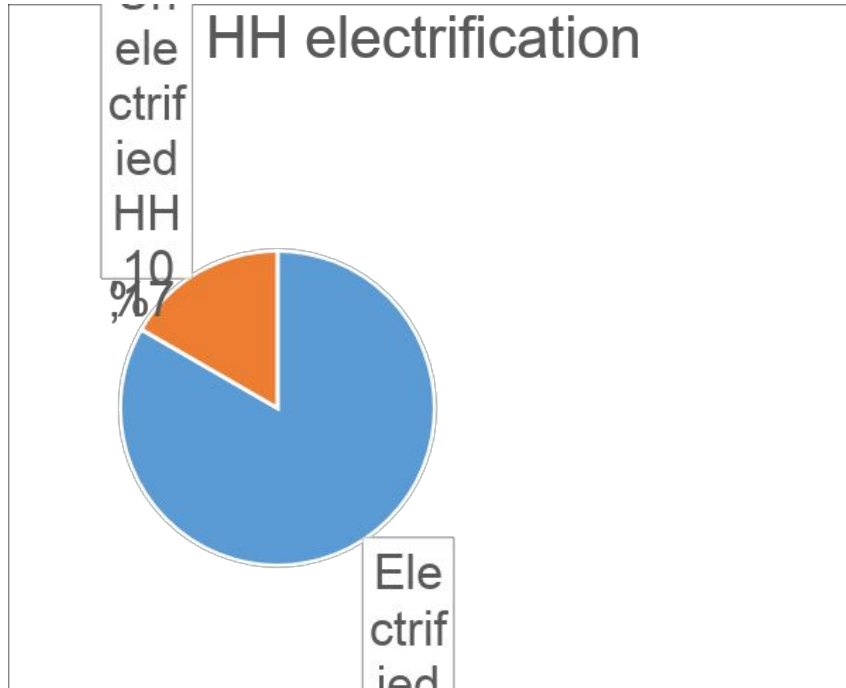
Solid Waste disposal: less solid waste generated by HHs, such as paper and plastic packaging. Used for igniting of chulhas.

Organic waste Disposal: organic waste such as peel of vegetables and fruits are fed to cattle

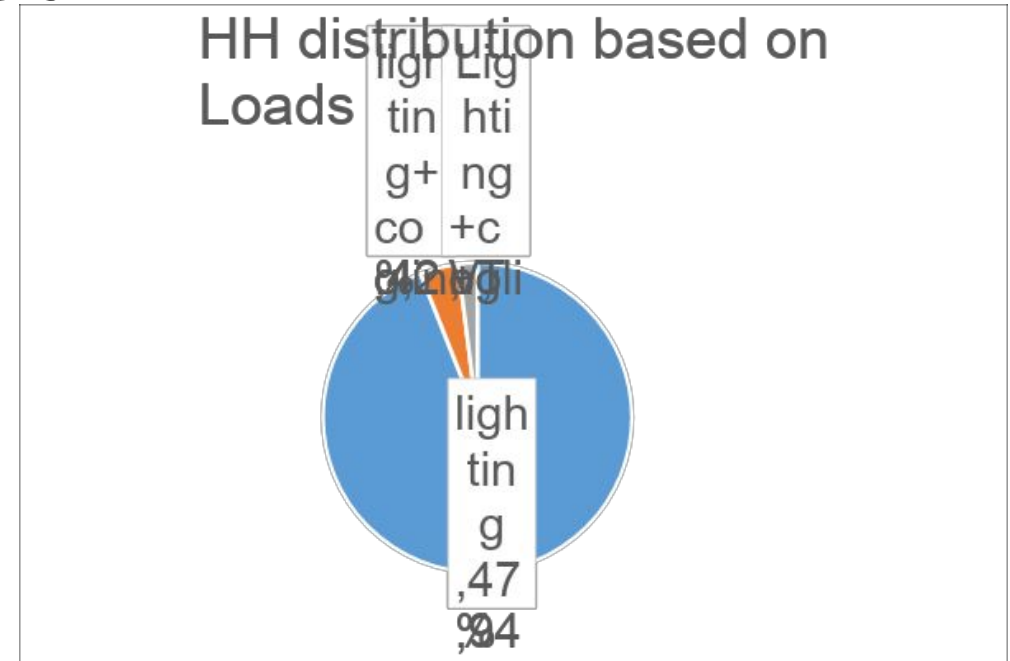
Cow dung-Used solely in preparation of manure, floor/wall lining in case of Kuccha houses



Energy



- No regular electricity Billing once a year
- Reported flat charge of Rs 1000 irrespective of consumption



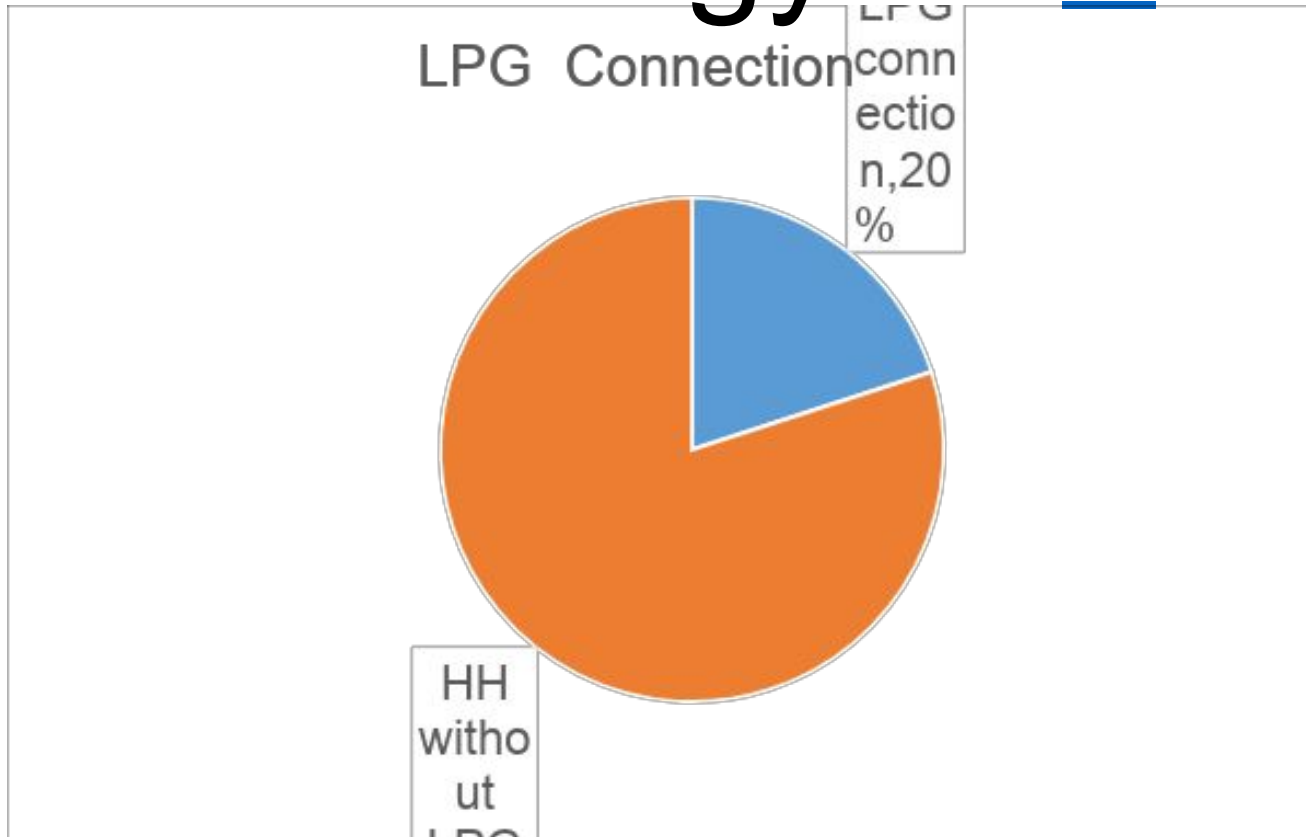
Sr. no.	Infrastructure	Electrification status
1	Primary school	Unelectrified
2	Anganwadi	Unelectrified
3	Gram Panchayat office	Electrified
4	Roads	No streetlights

Types of *Chulha*



Energy

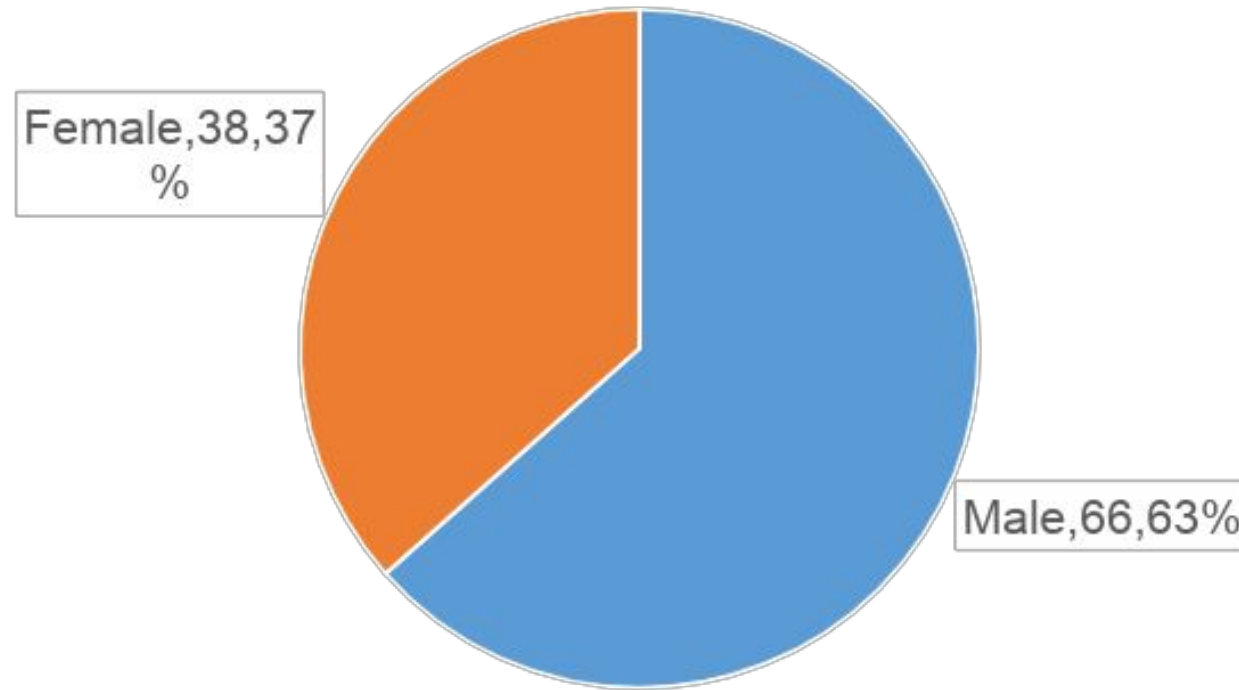
BC



- Firewood collection during early morning/afternoon / late evening in peak summer to avoid Forest Guard.
- *Mauli* size varied from 10Kg to 30Kg
- Use of dung cakes and cotton or *tuvar* stalks for cooking depends upon availability of cattle and crops grown by HH.

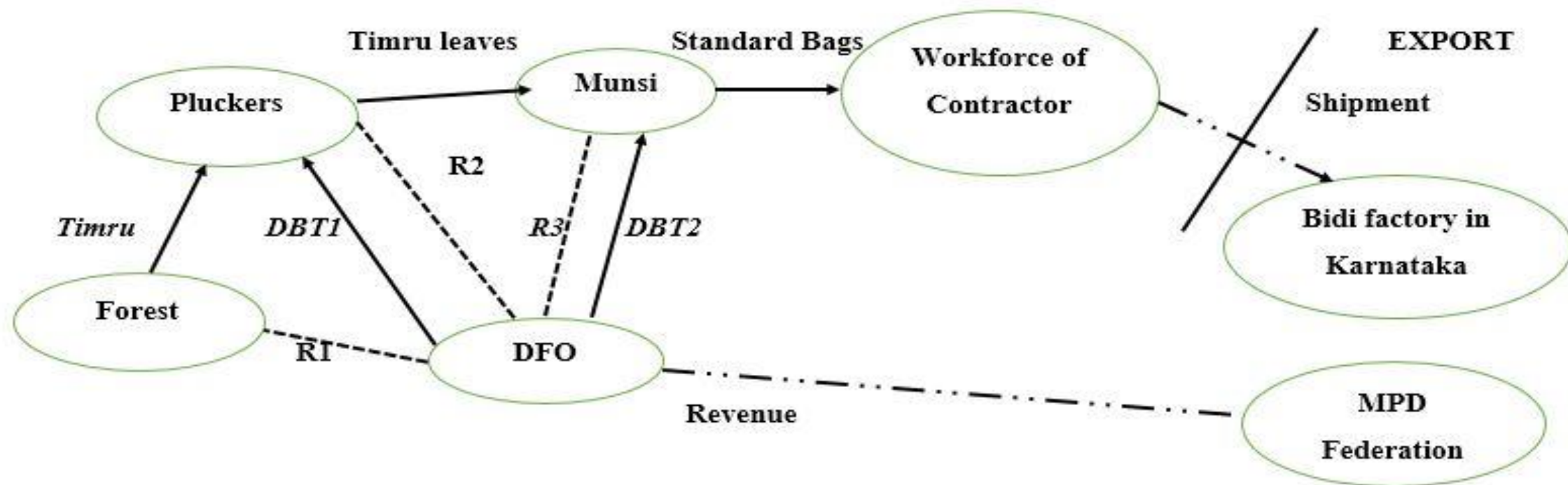
Migration is long and frequent

Male-Female Composition of emigrants



Timru Leaves Collection





R1: Silviculture

R2: Registering of pluckers, maintaining a daily account of plucking for each registered individual

R3: Ensuring that the Munsi doesn't involve in malpractices to get extra money.

DBT1: Direct cash transfer to bank account of plucker at the rate of 2 rupees per bundle.

DBT2: Direct cash transfer to bank account of Munsi at the rate of 40 rupees per 1000 bundle

**Reproduced from my personal understanding of the process flow (Aditya).*

Brick Making



Owner: Dhan Singh Ji, Deputy Mantri of GP [BC](#)

- Experience:** Started recently, learnt from being a labourer in another brick kiln
- Land:** 2 bigha approximately, on-farming flat land near the house
- Financing:** Loan amount of 1 lakh from bank.
- Seasonality:** November to May
- Source of Labour:** From the village

Brick Clamp Type Kiln

- Gross Production Capacity(GPC):**25000 bricks
- Average Rejection Ratio: 2:75.**The rejected pieces are sold at 1000 -1200 rupees per trolley.
- Net Production Capacity:**24,330 bricks

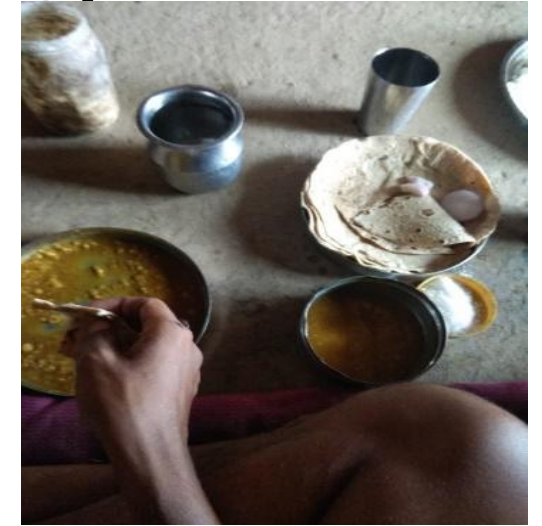
Particulars	Value(Rs) per batch of GPC	Gender	Num ber	Work allocation
Total Cost	87,500	Male	5	Procuring materials, kiln preparation
Material Cost: Labour Cost	6.3:1			
Waste	2,333	Female	4	Breaking the raw coal, sieving the smashed coal pieces, helping in loading and unloading works
Total Sales of Good Brick	97,320 *			
Total Sales of Rejected Bricks	3,000 **			
Net Profit Per Brick	0.47			

*S.P per brick=Rs. 4

**S.P per trolley of rejected bricks=Rs.1000

Food system and Food security

- **Staple food: Maize(*Makki*)**
- **Daily food : Makki ki roti and Dal**
- **Breakfast : Chai and sometimes Oatmeal**
- **Rice occasionally**



Cereals

- Maize
- Wheat
- Rice

Pulses

- Udad
- Tuvar
- Channa

Vegetable

- Ladyfinger
- Kadwa dodi

Fruits & nuts

- Plum
- Jammun
- Mango
- Jackfruit
- Khajur

Meat, Milk & Eggs

- Eggs
- Milk (cow, goat)
- Chicken
- Goat
- Fish

Food system and Food security

PDS

- Serves four villages
- Has biometric verification system
- Only open for 4 days in a month
- Grievances of villagers
- Salt is most of the time out of stock
- Less kerosene provided, in name of less availability
- FPS remains open for less no. of Days a month
- The quantity of grains provided per person is not sufficient
- Allocated less grains, due to not linking Aadhaar card details of family members

Items available in FPS	Price (Rs. Per Kg or lit.)
Wheat	1
Maize	1
Rice	1
Iron Fortified Salt	1
Kerosene	25-30



Type of Ration Card	Item (Kg per person per month)		Items (per family per month)	
	Wheat or Maize	Rice	Salt	Kerosene (lit.)
APL	4	1	1	2-4
BPL	4	1	1	2-4
Antyodaya	4	1	1	2-4

Swachh Bharat Abhiyan

Ministry of Drinking Water and Sanitation

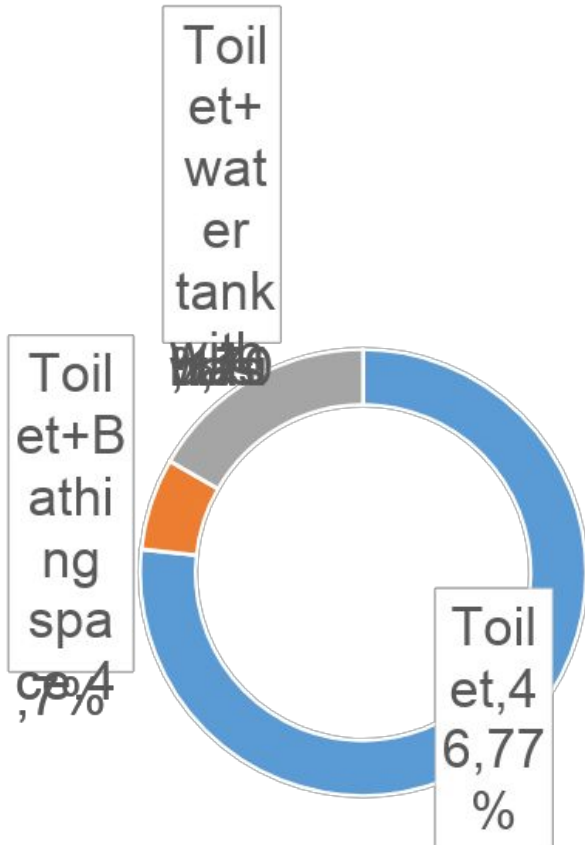
- **Work done: Individual HH toilet construction**
- **Financial Assistance of 12,000 Rs**
- **Construction work was carried out by contractor (Decision taken by Janpad Panchayat, Meghnagar)**
- **100% ODF village status**



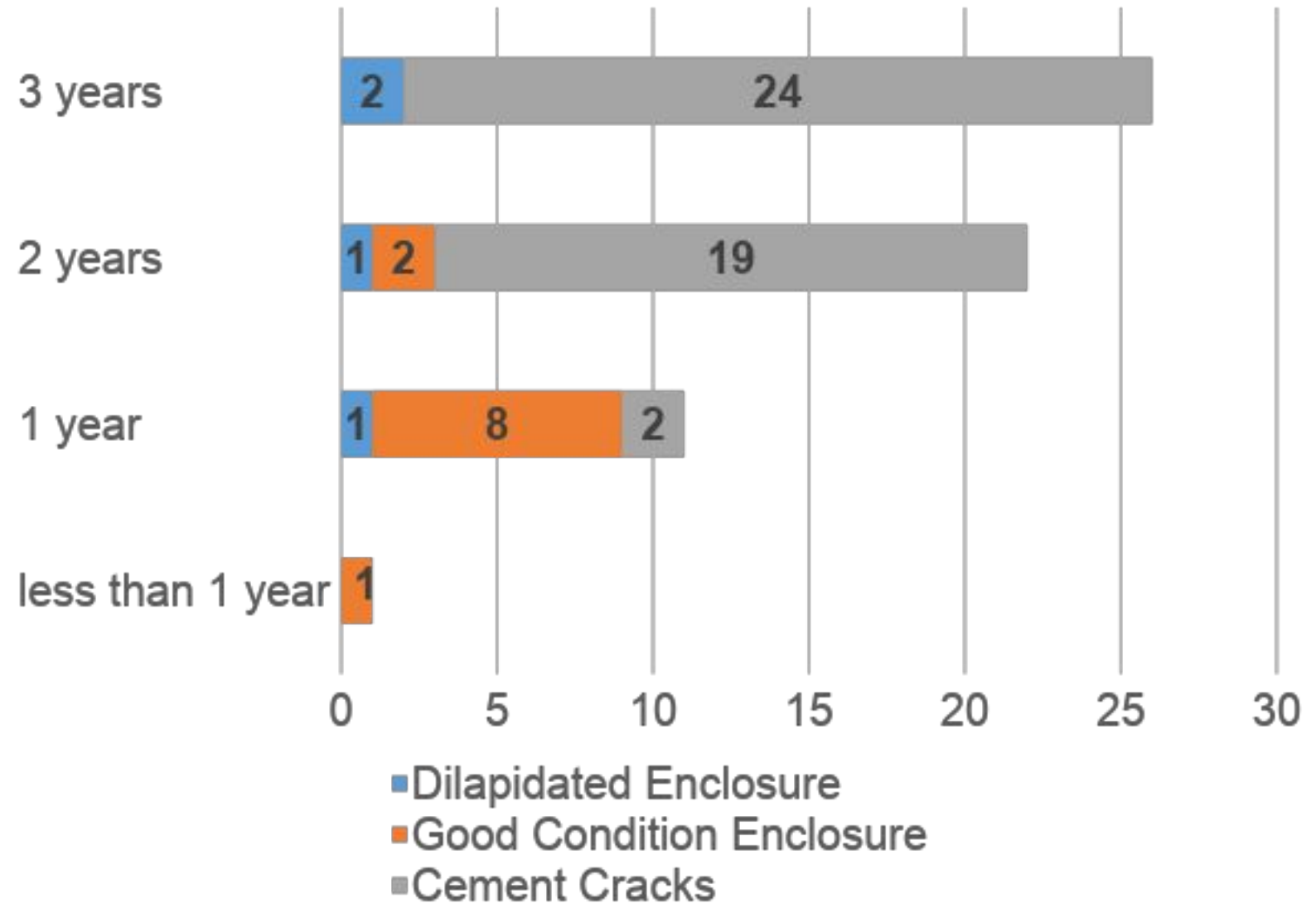
Sr. No.	State Name	District Name	Block Name	GP Name	Village Name	Is Declared ODF	Is Verified ODF	Total Households Details	Total households with Toilet	HH's accessing Community and Other Toilet	Remaining Households	% covered	ODF Declared Date
3	Madhya Pradesh	JHABUA	MEGHNAGAR	JHARADABAR	RAKHADIYA	Y	N	104	104	0	0	100	8/5/2018

Swachh Bharat Abhiyan

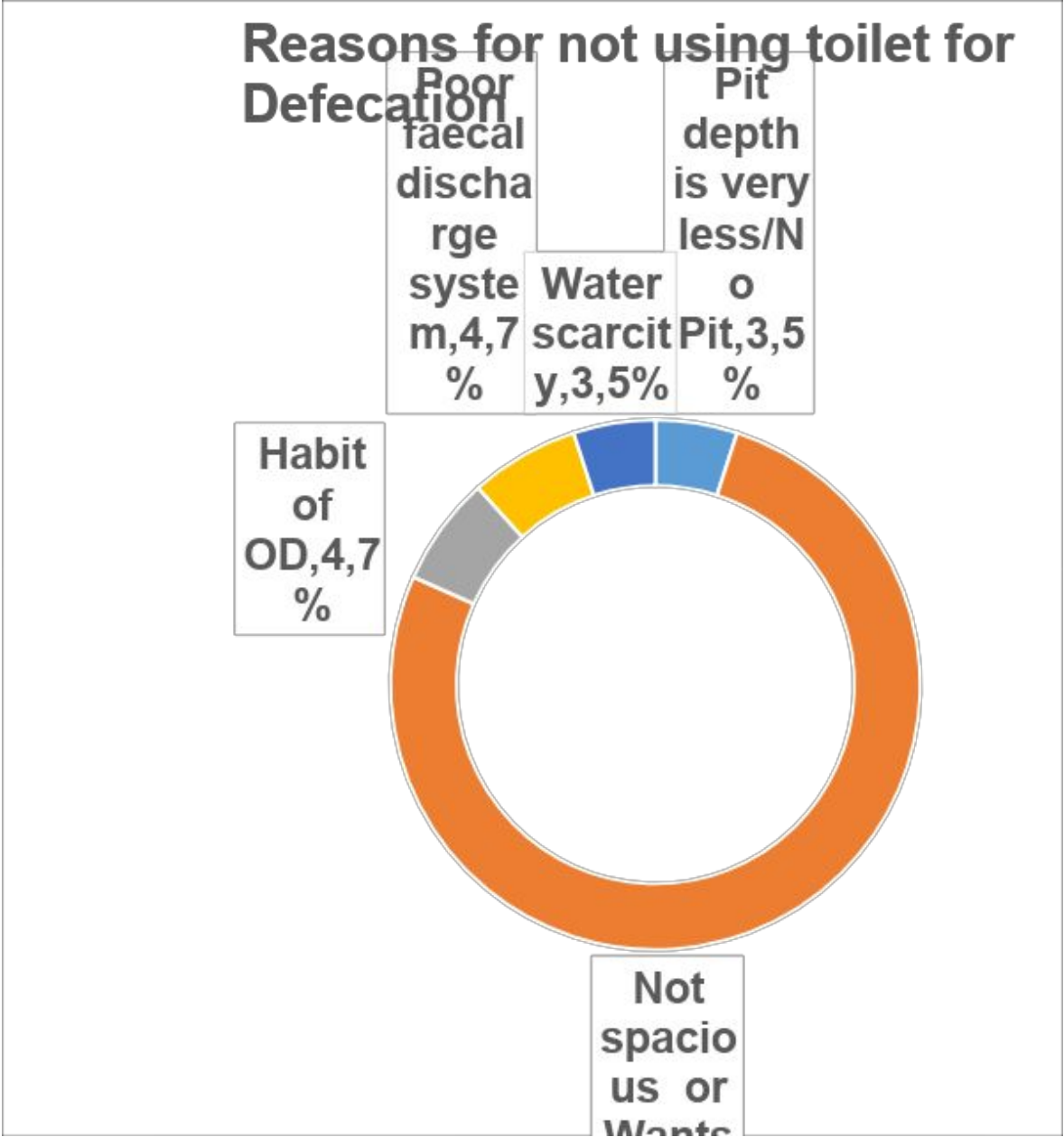
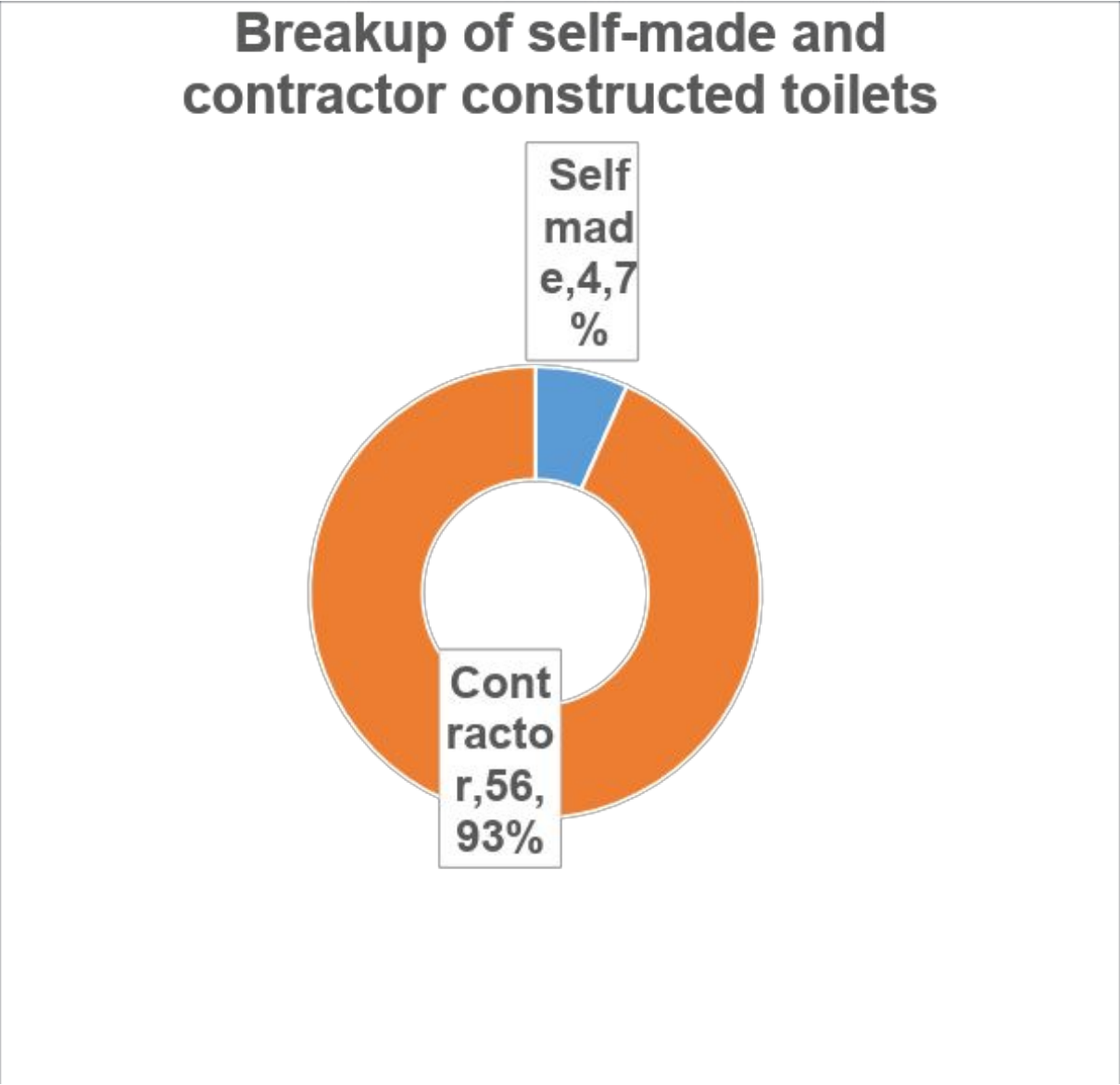
Types of toilets



Condition of Toilet Enclosure



Swachh Bharat Abhiyan



PMAY-G

Ministry of Rural Development

- Financial assistance of 1,20,000 Rs
- Beneficiary selected using housing deprivation parameters in the Socio Economic and Caste Census (SECC), 2011
- House dimension 12ft x 24ft x 10ft
- Verification of construction by GP Sachiv (photo based)

Sr. no.	Installment amounts (in Rs.)	Time of receiving
1	25000	When House sanctioned
2	40000	After foundation
3	40000	After Lintel
4	15000	After completion



PMAY-G

Difficulties and Issues

- Extra cost of 25K-60K
- Out of funds-Stopped construction
- Use of low quality Material
- Poor ventilation
- *Kelu* roof extension for housing Chulha
- Use of old House as animal shade
- No raised platform for Gas stove

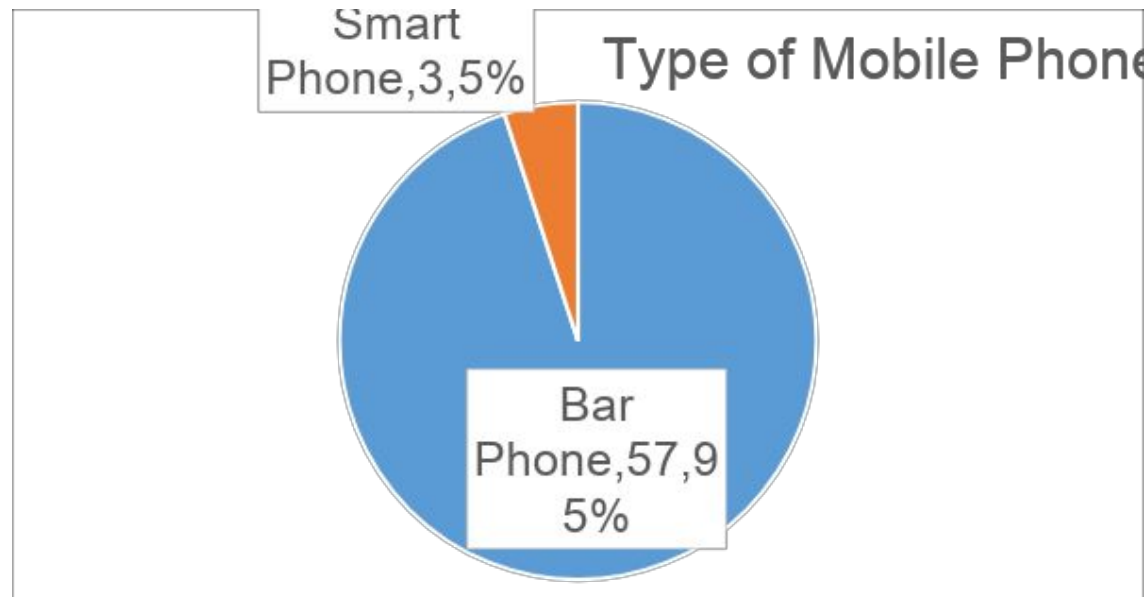
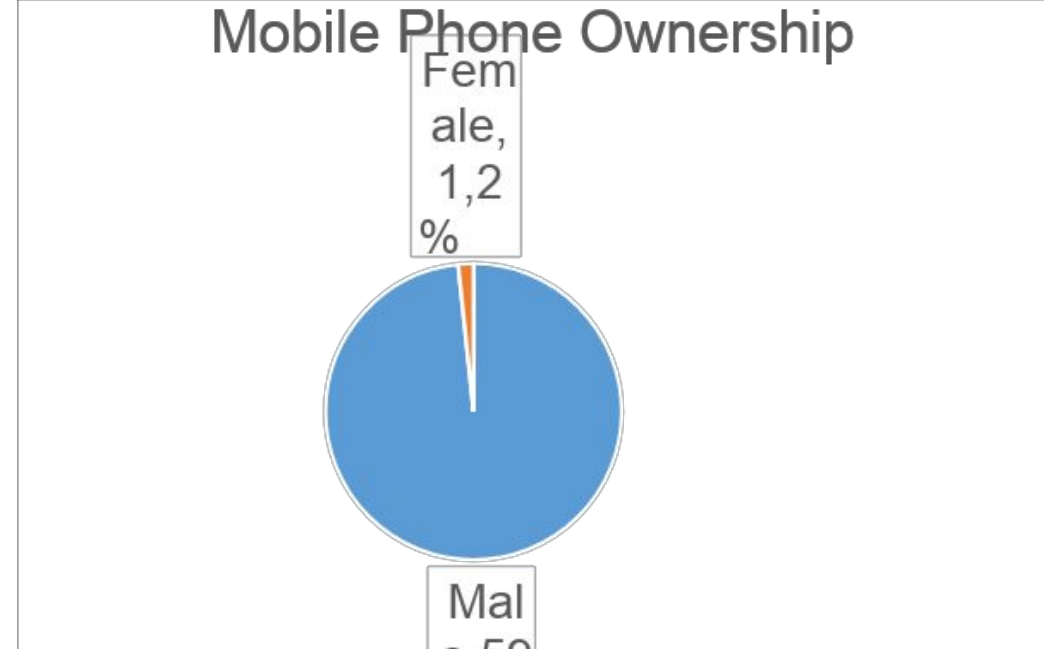
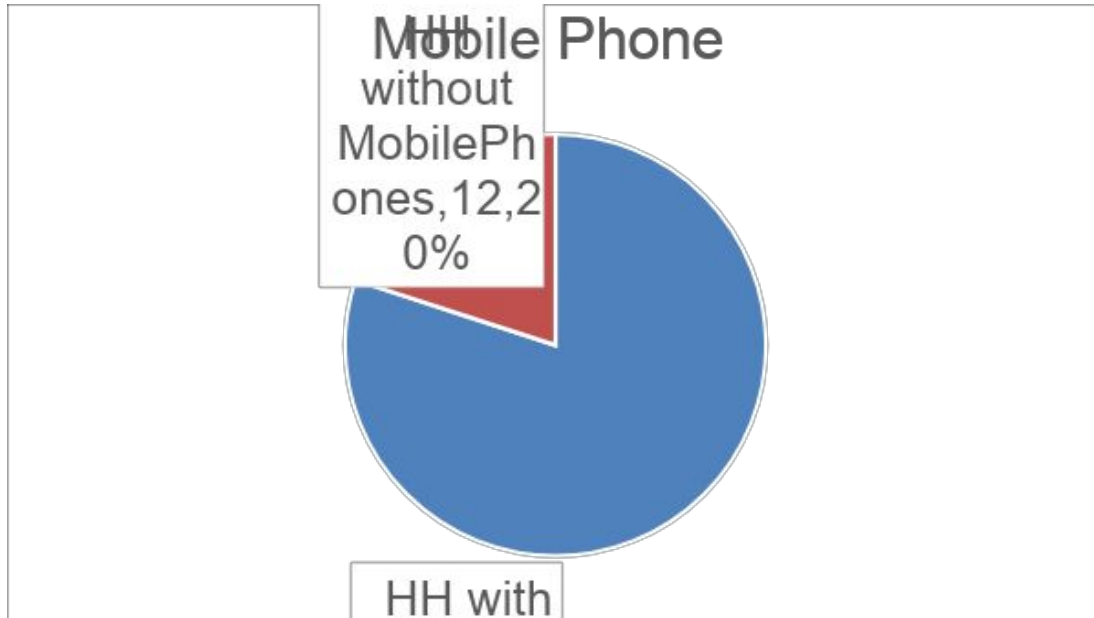


Use of rejected bricks in house construction



Extension for firewood chulha, made from material of old dismantled House

Digital Divide



- Phones operated in Hindi Language
- All the HHs had bank accounts
- But no ATM cards, since nobody knows how to operate ATM (the literacy rate of the village is 18% according to census 2011)

Directed Research

Objectives

- Developing a multi-tier framework for stratifying households based on energy access
- Identifying possible causes for disproportionate spread, if any, across the tiers
- Identifying factors that affect energy transition in the area.

Methodology

- Framework Redesign
- Redefining terms
- DRS
- Semi-Structured Interviews

- Though the MTF is already available, it was found to be out of scale when we tried fitting households from the GHS.
- The Framework we are using was redesigned using the GHS
- We included **access at levels of community infrastructure and commercial establishments to capture the productivity of energy apart from residential consumption.**
- **Terms such as electrified needed to be redefined with respect to a time frame since a dead wire is meaningless.**
- Interviews with DISCOM officials and Local Gas Agency officials were conducted to understand their experiences and behavioural tendencies when dealing with the tribals.

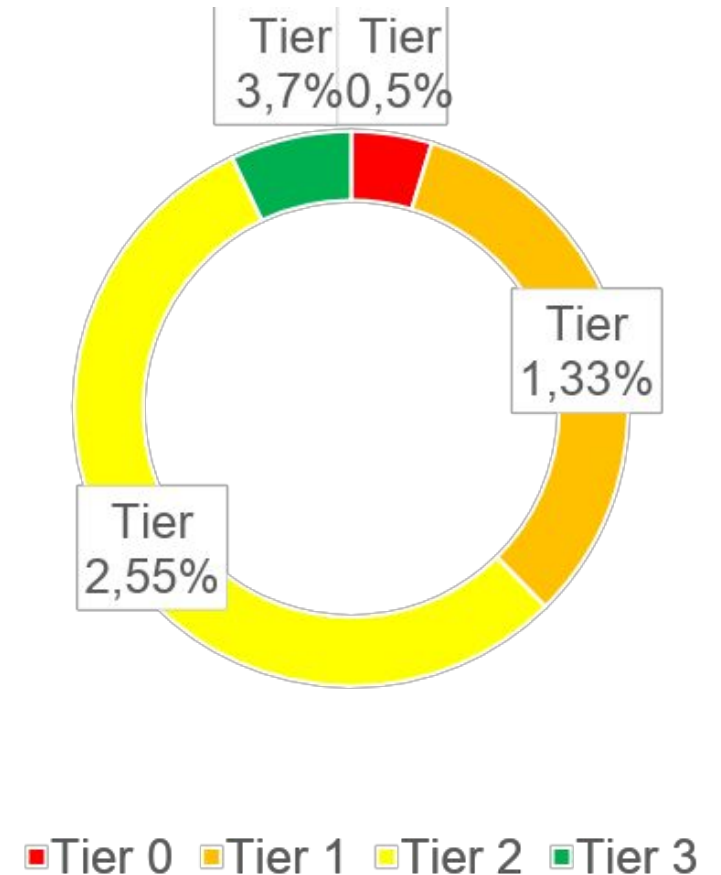
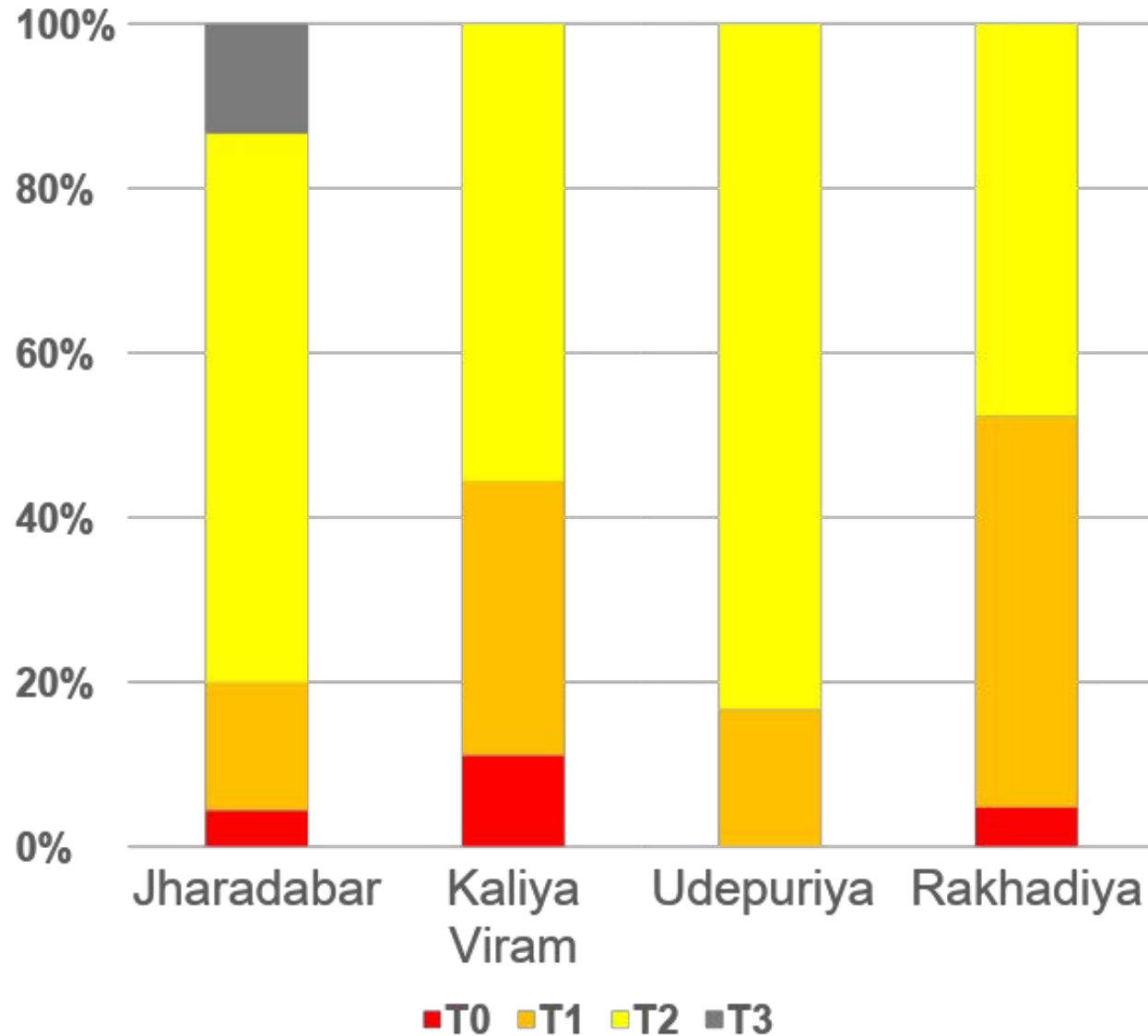
Geographical Area of Study:

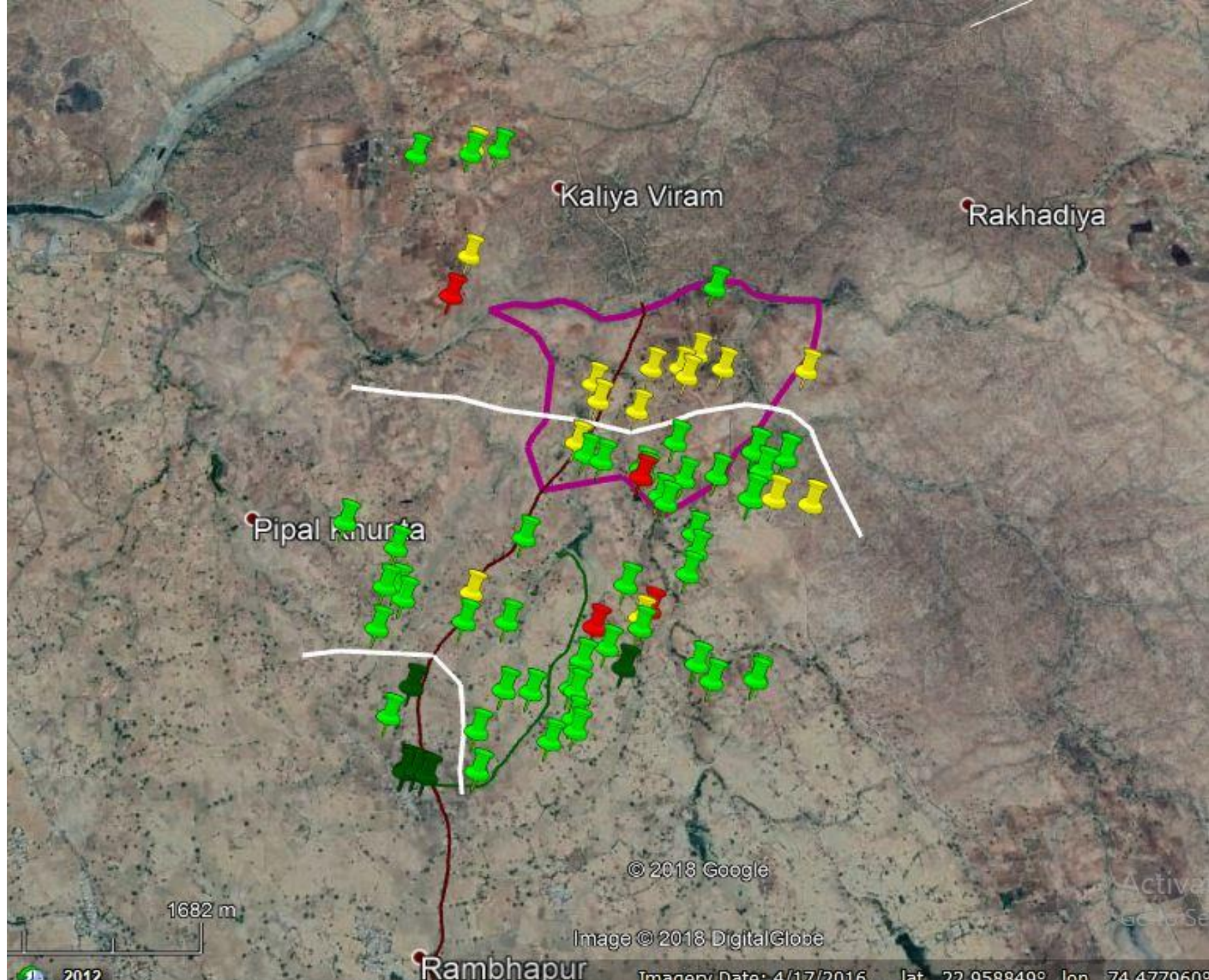
Area	Total HH	Sample count	Sample %
Rakhadiya	85	21	24.7
Jharadabar	253	48	18.9
Kaliya Viram	45	9	20
Udepuriya	28	6	21.4
GP	411	84	20.4

SCALE USED FOR TIER CLASSIFICATION IN ELECTRICITY ACCESS

Metrics	Tier 0	Tier 1	Tier 2	Tier 3
Capacity	No wired connection and no electricity	Wired connection but no electricity	Has wired connection to electricity ,Only Lighting Load	Has wired connection to electricity, Lighting Load and Other medium and heavy loads
Reliability (outage duration)		more than a month	>=1 week ,<= 1 month	Hours -few minutes in a day
Reliability perception		No		Yes
Affordability		No	Pays bill somehow	Yes
Mode of Payment		Neighbour or lineman		self
Presence of energy saving appliances		No		Yes
Substitution with kerosene lamps	Yes			No

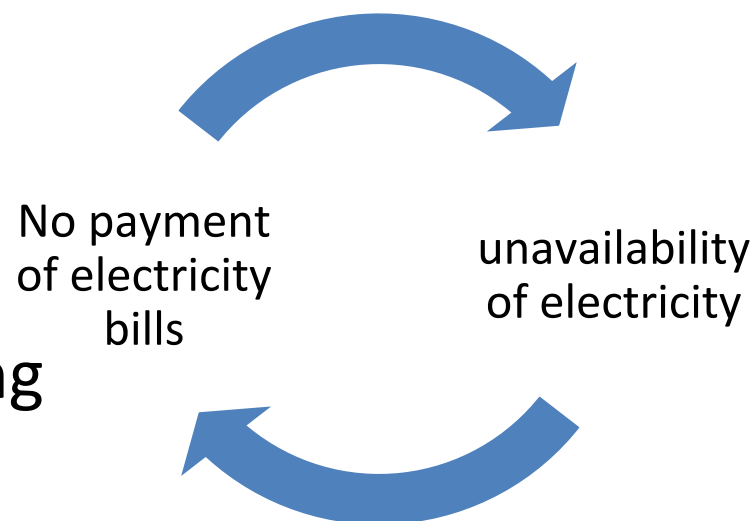
Village wise & GP tier breakup in Electricity Access





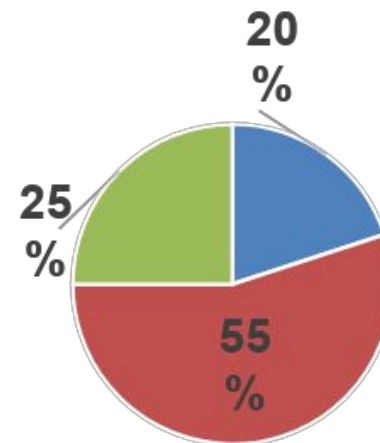
Bottlenecks in Electricity Access

- Unaffordability
- Vicious cycle of no electricity supply
- No Electricity Metering
- Financial Illiteracy
- Low voltage
- Poor distribution Infrastructure
- Less solar PV Awareness



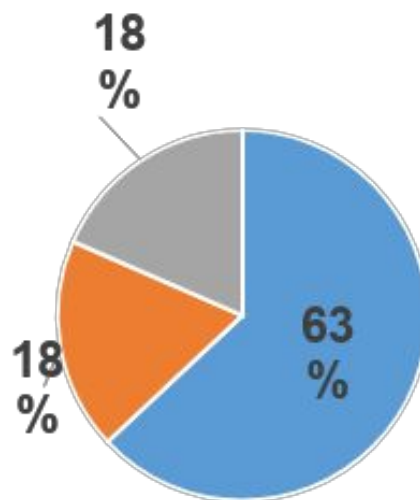
Electricity Metering Status

- Meter working
- Meter disconnected or broken or by passed
- No meter

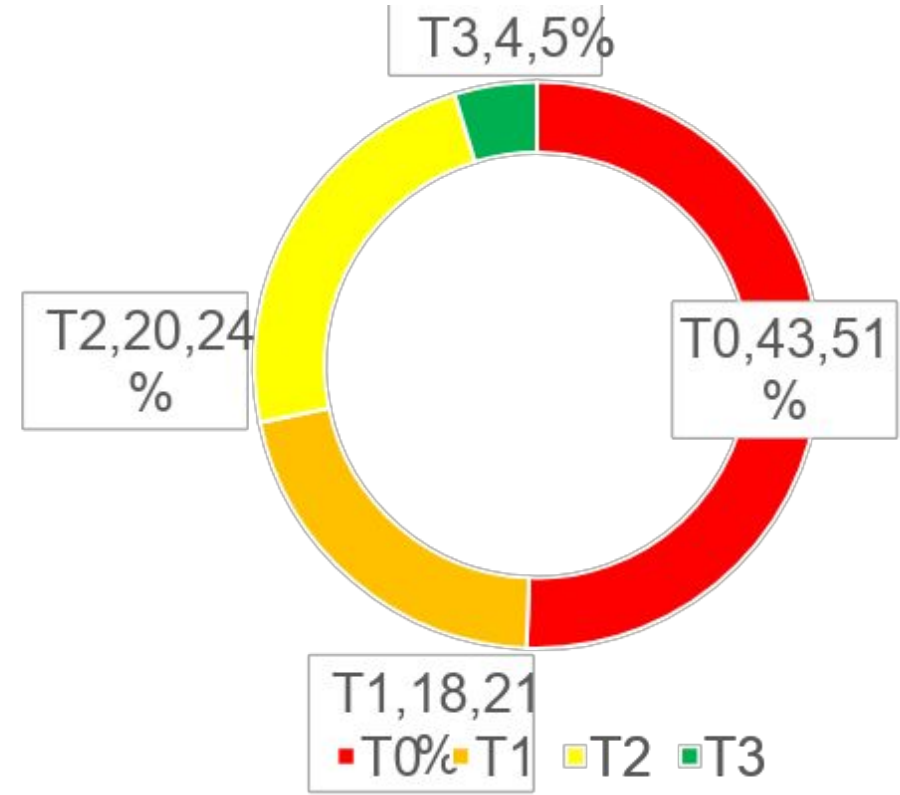
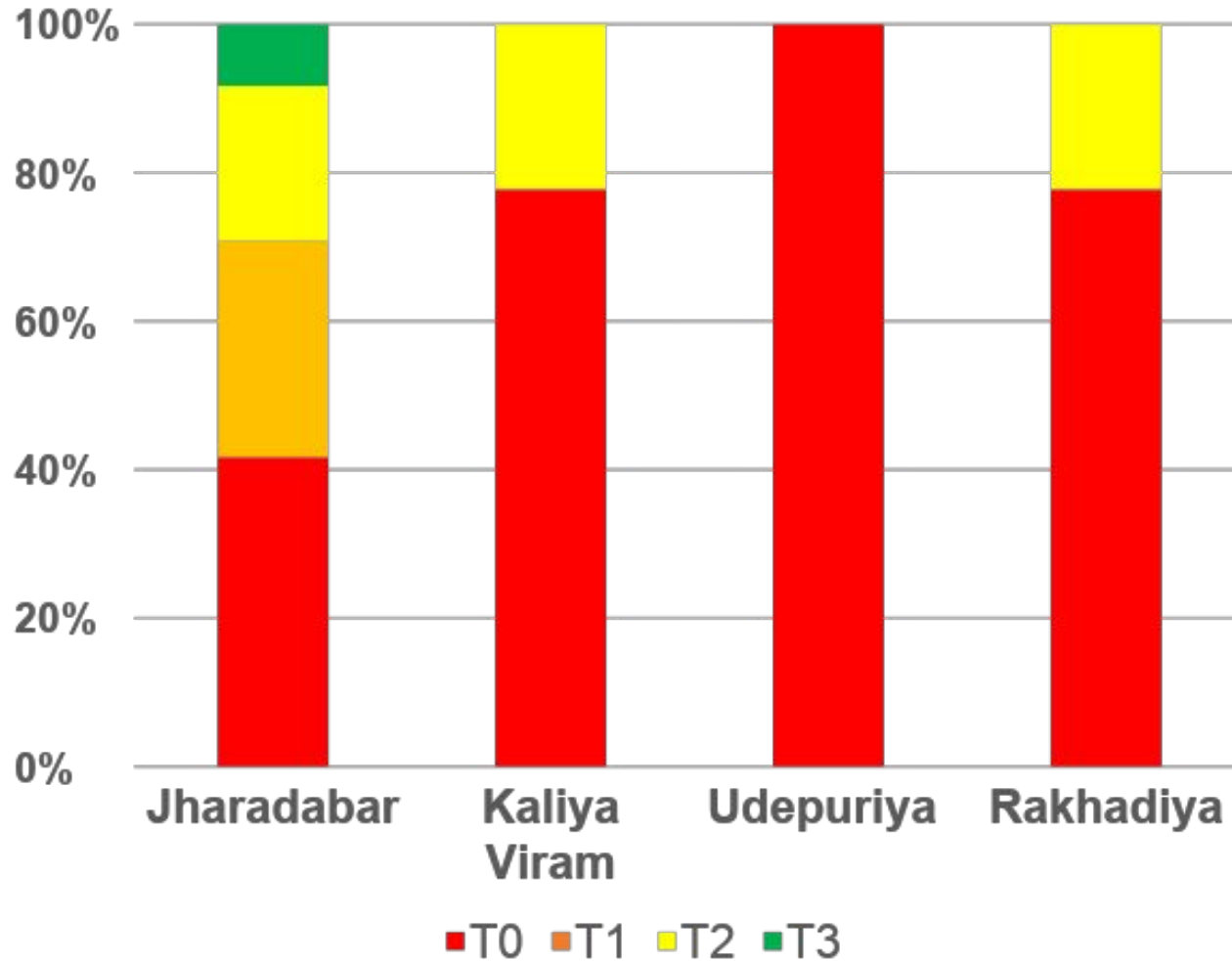


HH unable to read electricity Bill

- HH can't read electricity Bills
- Bill not given
- HH can read electricity Bills



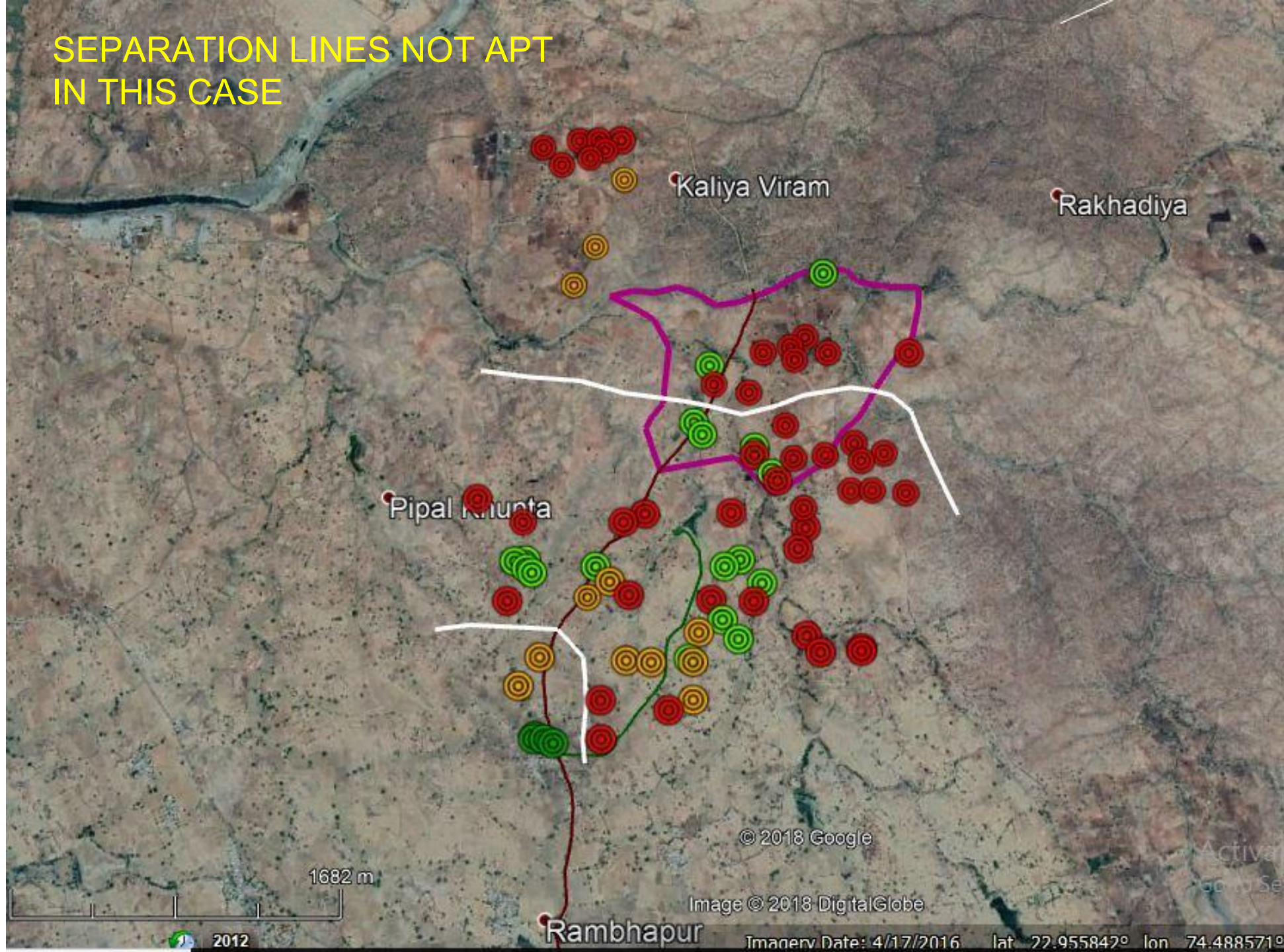
Village wise & GP tier breakup in LPG Access



SCALE USED FOR TIER CLASSIFICATION IN LPG ACCESS

Metrics	Tier 0	Tier 1	Tier 2	Tier 3
Type of cooking fuel	Firewood	Firewood	Firewood	LPG
Awareness of PMUY-G	No	Yes, but not a beneficiary	Yes and is a beneficiary	
Refills of LPG	No			Yes
Fuel Switching /Substitution	No substitution only firewood and nearby trees	With Cow-dung cakes and crop residue	LPG	

SEPARATION LINES NOT APT
IN THIS CASE

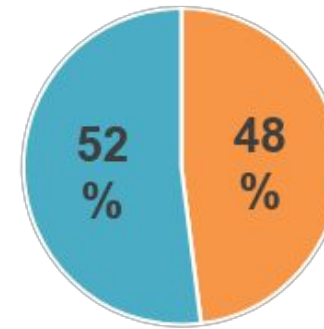


Bottlenecks in Cooking Gas access

- Unawareness
- Affordability
- No subsidy for initial Cylinders
- Logistics
- Compromise in safety

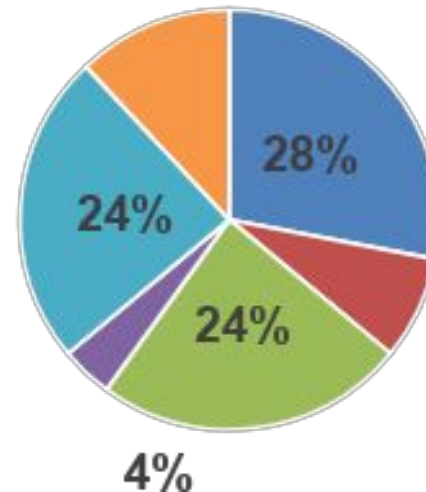


Willingness to get the LPG connection



- No. of HH not Applied for PMUY
- No. of HH Applied for PMUY

Why not applied for PMUY ?



- Fears of Blast
- Has small children
- Not Aware
- we are Poor
- Family members not used to operation
- others

FACTOR AFFECTING TRANSITION	ELECTRICITY ACCESS	COOKING ENERGY ACCESS
Social	Attitude of officials, fear of shock	Unawareness, fear of blast
Financial	Affordability, financial illiteracy	Affordability
Technical	Poor distribution infrastructure	Logistics, safety, food Habit
Environmental		Availability of firewood from forest

RuTAG Potential Problem

Problems

- **Less water retention in the soil**

Possible Solutions:

Developing in-situ soil moisture conservation techniques keeping in mind the slope and the predominance of rock fragments.

Possible Outcomes:

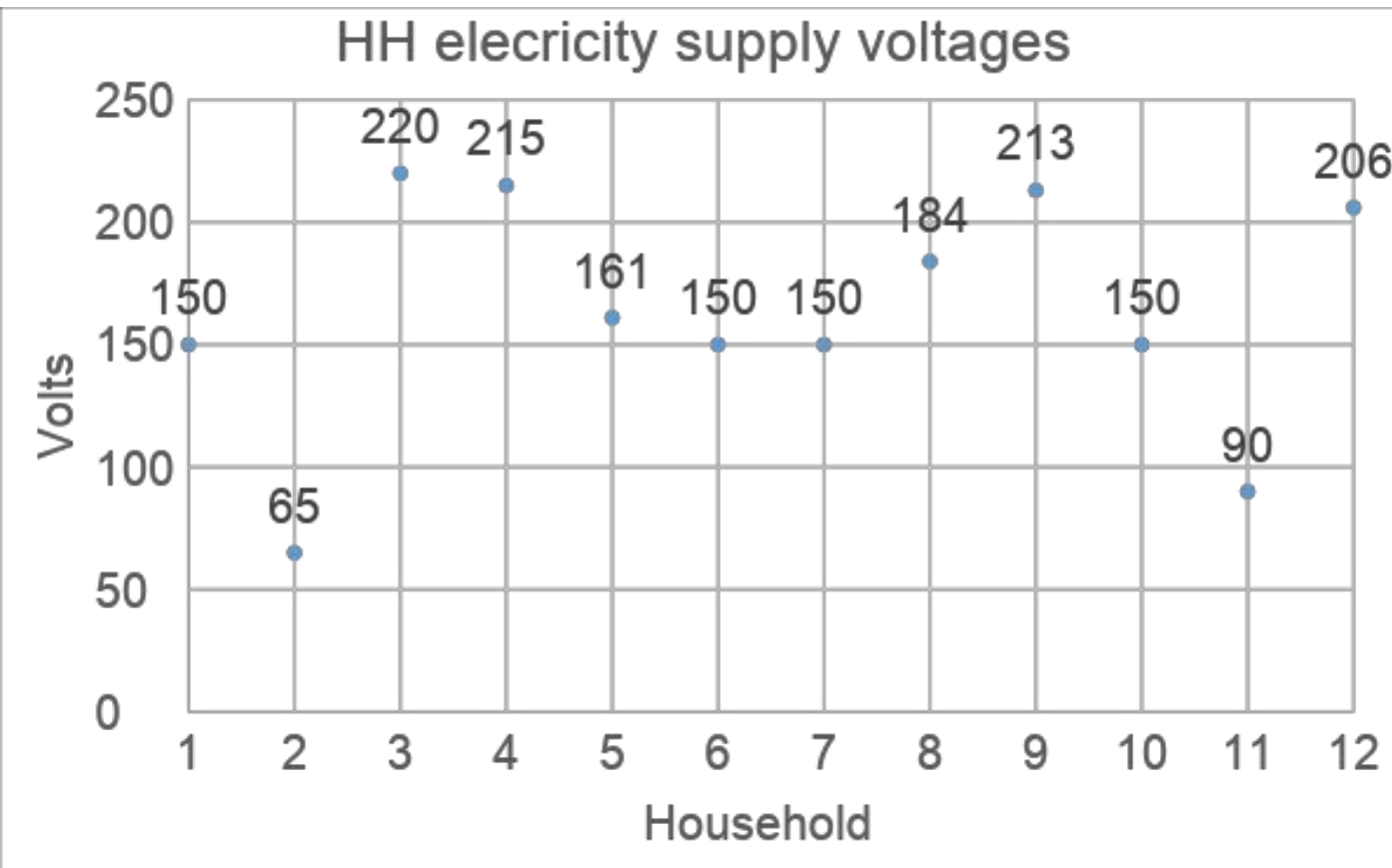
- ***Increase in crop productivity***
- ***Greater chance for farmers to take Rabi Crops***

CONCLUSION

Sector	Weakness	Opportunity	Threat
Agriculture	Rocky & hilly terrain, Less use of compost manure due to less livestock	Rejuvenation of the defunct irrigation pump house, desilting of existing nalas,	Increasing use of artificial fertilizers such as UREA and DAP
Water	Less number of water conservation structures.	Rainwater harvesting Integrated with PMAY, construction community based water storage structures with public participation	Deteriorating quality of Handpump water due to rusting of iron pipes, high fluoride content
Sanitation	Poor construction standards of contractor-made toilets		High prevalence of open defecation
NFL	Low wages and irregularity in payment of the labourers.	Promoting poultry farming, Skill development in Bamboo Handicrafts	Long period of migration
Electricity	No metering, unaffordability	Dissemination of Solar Lamps with mobile charging ports	Non-conservation of electricity, deforestation
Food Security	Mismatch between allotment and demand	Restoration of existing water storage structures to support agriculture	Undernourishment

Thank You

Low voltage supply



Solar Lamp awareness

