ANALYIS OF WATER SITUATION IN JHAMBULWADI

(MOGRAJ GP)

By

Kanishka Kayathwal Aditya Patil



Centre for Technology Alternatives for Rural Areas IIT Bombay

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Summary

The objective of this project ,undertaken by CATRA ,is to understand the water scenario at a wadi level and to understand the people's perception about the Multi –Village Scheme and the reasons of its failure. A detailed analysis was done on MVS scheme implemented in Jhambulwadi (Mograj GP) a few years back to find the root cause of its failure .For this government documents related to the scheme were thoroughly verified.

Besides exploring the water problems, socio and economic condition of the wadi was also analysed. The occupations of the villagers, their source of income, the pani samiti, aganwadi, bachatgad, education level, general infrastructure have been mentioned in the report.



Geographical Location

Мар



- Jambhulwadi is located at Latitude 19.0000387 N and Longitude 73.4907058 E.
- 2. Jambhulwadi is an extension of Dhamani although they are 4 km distance apart
- 3. It lies between Ambivli and Dhamani, Jhambulwadi comes under Mograj
- 4. The Village is located on top of the hill 30 ft above local plane
- 5. A River branch passes by viallge in its South

How to reach

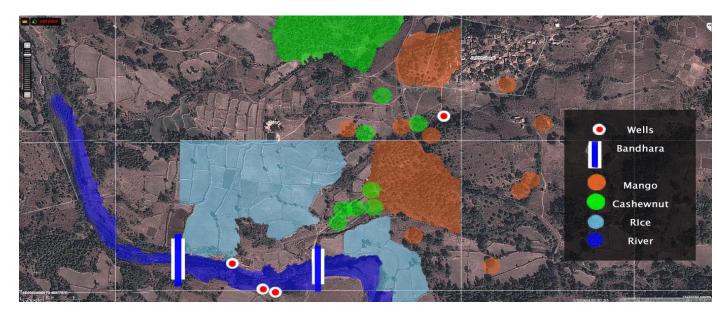
Route 1

- 1. Catch a train at 6.00 am at Kanjurmarg station.
- 2. You will reach karjat by 8.00 am, A bus going to Jamrukh leaves at 8.30 am, travel through this bus
- 3. Board down at Ambivli (ahead of Kashela),you will reach here by 9.45 am.
- 4. Take the other route which goes towards Jhambulwadi, 25 mins walking.

Route 2

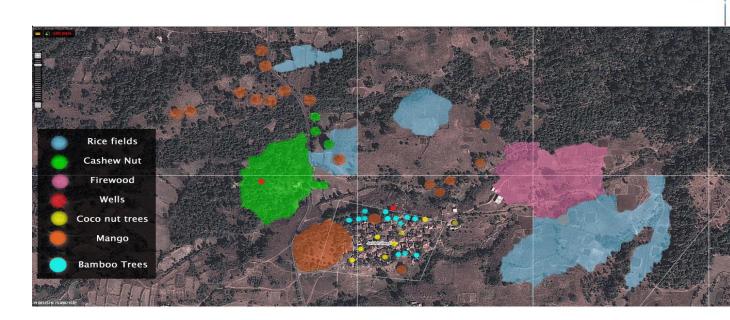
- 1. Catch a train at 6.00 am at Kanjurmarg station.
- 2. You will reach karjat by 8.00 am, Take a Tum Tum at Karjat towards Kashela.
- 3. Once you reach Kashela , Take another Tum Tum towards Ambivli
- 4. From Ambivli take the other route and at 20 min walking distance, you will reach Jhambulwadi

Water Resource Mapping



This map clearly shows the location of all the sources of water available for the villagers.

Other Resource Mapping



This map shows the location of the fields around Jhambulawadi.

History of Jhambulwadi

- 1984 Fire in village and well 1 was built
- > 1986 Government scheme for pakke houses
- > Taki Built in 1987 under MVS scheme
- 2002 Well 2 was built
- > 2011 Bandhara was constructed under NAREGA

PIPELINE WATER SUPPLY SCHEME FOR JHAMBULWADI

Estimate

Year of estimate -1981

- Pipeline Rs 60,340
 - ➢ 50 mm diameter G I pipe
 - > 20 mm diameter G I pipe
 - > 50 mm GM wheel valve
 - > 20 mm diameter air valve
 - > Chamber
 - Electricity connection for pump
- Cistern Rs 20,000
 - Excavation in earth upto depth of 1.5 m
 - Excavation in rock by blasting
 - RCC slabs
 - Platforms
 - Bar reinforcement
- Collecting well Rs 19,232
 - Excavation in earth
 - Excavation in rock
 - C.C for bedding
 - Stone steps
 - Filling rubble

Start of work

Schedule B - Tender Issue (18/3/81) in the name of CR Khandwe

- PWS Dhamni (Jhambhulwadi) part 1 ,Contract number -A1/134
- Intial amount sanctioned Rs 46,533 under this contract
- Contract number A1/135, amount sanctioned –Rs 44,102

Schedule A –

- 210 bags of cement with Rs 750 per bag.
- Running account bills

1.Date of Letter 1– 16/10/1981

A letter from deputy engineer, PWS department, was sent to junior engineer, bandara department. The letter was about requesting 10.5 metric tons of cement for the construction of bandara to be sent to CR Khanwe (contractor)

2. Date of Letter 2 – 16/3/1982

Deputy Engineer, PWS department, wrote a letter to contractor about the pending work of bandara and warned him to start the work immediately.

3. Date of Letter 3 – 12/4/1982

This letter was sent by deputy PWS to all the contractors about taking the water line out for the supply and they were given the dates on which they had to be present. If they failed to do so then they would be held responsible for the delay of the work.

AR Patil Varai NPA, Karjat - 15/4/1982 KD Dhose Gabewali, Karjat - 15/4/1982 CR Khandwe ,Dhamni (Jhambulwadi) – 16/4/1982 Ladda Inugutta ,Rig ,Karjat – 17 /4/1982

4. Date of Letter 4 -27/04/1982

Working engineer (Chota Bandara) was sent a letter from deputy PWS about the remaining stalk of cement bag .It pointed out the fact that CR khandwe has received 8 metric tons of cement (160 bags) ,but by scheduled 18.5 meric tons of cement (350 bags) was allotted to the scheme . So they demanded for the remaining cement

Cement issue for Dhamani 4MT		received on 5/3/81
	4 MT	received on 22/12/81

5. Date of Letter 5 -20/12/1983

A warning was issued to CR Khandwe about the negligence of work and he was given a 8 day notice to start the work at 27/12/1983. If he failed to do so action would be taken against him from the deputy engineer.

6. Date of Letter 6 – 1/10/1984

CR Khandwe has taken the contracts A1/134/135/139/140 and the money for the contract has been sanctioned .So he was issued a 10 day notice starting form 7/10/84 till 15/10/84 ,if the work wasn't started then the contractor would be fined in his last instalment with certain conditions.

Schedule A Part 2 – 210 bags Rs 750 per bag

Rest of the part of the scheme with documents are being attached in report of Team 2

WELL ANALYSIS

WELL 1 (Jhambulwadi – Dh -1) (in uphill)



Specifications

- Total depth of well 7.34 m
- Inner diameter 3.1 m
- Outer diameter 3.66 m
- Volume of the well -21.8 m³

Other details

- For 7 months. It refills during Rainfall starting from June and is used upto December.
- Water quality is poor and cannot be used for drinking purpose. The bottom of the well is not well cemented resulting in leakage of soil in the well.
- This well is used for washing utensils, Bathing, washing clothes, Drinking water for bulls and cows

- Around 4-5 Houses use it as it is closer to their house. There is a huge slope on the way to well making it difficult to carry. There is no perfect road or path for the well.
- Well has a huge risk for safety. There is no safety wall nor pulley system for taking water. This might result in accidents and human losses.
- For efficient working of well, renovation of well should take place. First and most important Safety wall should be raised and a pulley system should be designed. Secondly Depth of the well should be increased in order to maintain the level of water at considerable state during summer

Timeline of Water Level

Date	Water Level
28 th Jan	1.04m
22 nd Feb	74cm
24 th March	44cm

WELL 2 (in downhill)



Specifications

- Total Depth 5.6 m
- Inner Diameter 5.53 m
- Outside Diameter -6.37 m
- Volume of the well 44 m³

Other Details

- For 9 months. It refills during Rainfall starting from July and is used upto April.
- Water quality is good and can be used for drinking purpose. Although there are few complaints of throat pains while using this water.
- This well is used for washing utensils, Bathing, washing clothes and Drinking water
- Around 25-30 Houses use it as it relatively cleaner and the water level is pretty good even in summers. As it is downhill lots of effort are required to bring the water to houses. It is a Major water resource of the village.
- This well is heavily damaged, the inner cement lining between rocks are eroded. This means the well can collapse anytime as all the cement has eroded. Complete re-innovation is required for the well. The well cannot be cleaned as the any person going down the well is unsafe owing to loose rocks.
- Well neck should be broadened and depth should as well be increased.If
 possible a pump supply at the uphill in village would serve
 sufficient.There are suggestion where a borewell at the base of this well
 can fetch huge amount of water, even during summer.

Timeline of Water Level

Date	Water Level
28 th Jan	20cm
22 nd Feb	5cm
24 th March	0cm

DOHRA (Small well near River)

Specifications

- Total Depth 2.4 m
- Inner Diameter 2.1 m
- Outside Diameter 3 m
- Volume of the well 8.65 m³

Other details

- For 5 months. It refills during Rainfall starting from January and is used upto May.
- Water quality is very good and can be used for drinking purpose. It is crystal clear Water.
- Water in this well is used only and only for drinking purpose.
- Entire Village uses it during Summer, as it is always filled and the last water source in their village.
- A small well and not much water can be drawn in one shot. The water level is constant and only Knee deep. It is besides a Illegal well which percolates all the water in itself. Resulting in Dry River.
- There is not as such modification except the illegal well should destroyed or Declared Public

Timeline of Water Level

Date	Water Level
28 th Jan	0.32m
22 nd Feb	0.32m
24 th March	0.32m

BANDHARA 1

- **Length –** 17.4 m
- **Height –** 0.5 m
- Height of water level 0.3 m (28th jan)
- Distance from end of bandara 1 to well 3(dohra) 55 m appox



BANDHARA 2

- Length 25.6 m
- **Height –** 0.63 m
- Height of water level 0.39 m (28th jan)
- Distance from well 3(dohra) to end of bandara 2 88.88 m approx.



WATER USAGE TABLE

- 1 tip = 500 L
- 1 handi = 15L

No of family members	Children	Female Members	Cattle size	Water Storage (1day)	Requirement Description
12	5	3	2	Тір	8 tips for drinking water + 2 for cattle
6	3	1	0	Handi	4 drinking + 4 for bath
7	1	3	0	Tip and Handi	1 + 10 handi for drinking
5	3	1	0	Handi and Tip	1 tip and 3-4 handi for drinking
9	2	3	2	Handi and Tip	1 tip + 7 handi for drinking
7	2	3	2	Tip and Handi	4 handi for cattle + 1 tip + 2 handi for drinking



Specific water requirement for a family of six

Wate usage	Water Consumption/day
Utensils	3 handi
Drinking + bath	2 handi per person
Meal	1 handi
Cattle	2 handi

Calculation of height elevation for the pipeline from school (top end of wadi) to source for pipeline

Sr no	Location Description	Distance from reference Point(m)	Back Side (cm)	Front Side (cm)
1	At school	0	10	
2	After the tree near a black solid rock	22.7	19	243
3	Near a log of wood	49.3	121	233

4	Near brick kiln	74.5	159	154
5	Near rocks	99.9	170	152
6	1/3 of village distance	125.3	138	92
	,near airtel dish			
	antenna TAKI			
7	Between 2 coconut	201 sandal	100	171
	trees	size		
8	Near 2 nd last house	79 sandal size	14	195
	At end of village	65 sandal size	27	352
10	Near Shortcut to	47 sandal size	-9	394
	transformer			
11	Near transformer	59	1	382
12	Near road on shortcut	89	79	343
13	On the road 49		-46.67	201
14	On the pathway	47		201

Calculation of height elevation for well 1 taking 9 as a reference point

9			29	
9*	Towards well	47	30	395
9**	Near the	51	-3	390
	stairs			
9***	Near the well	8		140

From location 14 - 408.3 m (constant slope) – Depth of 1.8 m—9.9m (constant slope) – Depth of 10 cm – 31.5m (constant slope) – Depth of 140 cm ---20.7m (Constant Slope) ---Depth of 80 cm ---35.1m (constant slope)—Depth of 90 cm---6m (constant slope)—Depth of 270 cm—12m(constant slope)—36.3 m(constant slope)—Source (Depth of 1m)

Conclusions:

- Height difference between wadi top and source is **32 m** approx.
- Height Difference between taki and source is **28 m** approx.
- Height difference between Well 1 and source is **15 m** approx.

General Timeline across the year

	Jan-	March-	May-	July-	Sept-Oct	Nov - Dec
	Feb	April	June	August		
Labour	Labour	Labour	Labour	Agriculture	Agriculture	Agriculture
Cattle	Y (Jan)	Ν	Ν	N	Ν	Y
Grazing						
Water	Y	Y	Y	Υ	Y	Y
from river						
Water	Y	Ν	Ν	Y	Y	Y
from wells						

TRANSIENT WALK

A-Primary school

I-Bandhara

	A-B	B-C	C-D	D-E	E-F	F-G	G-H	H-I
Soil erosion	Y	N	N	N	Y	Y	N	Y
Terrain	Uneven	Uneven	Unven	Even	Even	Even	Uneven	Uneven
Vegetation	Forest	Forest	No	No	No	Grazing land	Mango Trees	Grazing Land
Rock	Basalt	Basalt	Basalt	Basalt	Hard	Hard	Sediment	Sediment
Slope	Steep	Slightly Steep	Straight	Straight	Steep	Steep	Highly steep	Steep

LOAN SYSTEM

There prevails two types of Loan systems in Jambhulwadi. Each farmer here is inefficient in producing and feeding his family. Thus he is always in a debt and this is cycle which helps him survive and suffer at the same time.

1.Microfinance-

This is a unique type of finance which loans money to a person in exchange of Social Respect. Bachatgad is few of communities which sanctions such types of loan. So a group of say 10 people are given 1 lac rupees, they all know each other and have well respect, trust for each other. Now if suppose a person is in need then the group fixes a rate of interest and grants him the loan. Once he takes the loan he is binded by social laws and his image is on stake

2.Token System

This is an interesting way to Loan an amount which provides benefit to both debiter and creditor . Generally during farming some farmers fell short of finance to cope up so they buy Loans from huge landlords / contractor. Once the farming is over , winter n summer turns out to be very idle time for them with almost no job and no chance for agriculture. This is time when they work for the contractor earn some and pay off some part of loan . so they get a guaranteed subsidized pay for labour work and contractor gets cheap labour .

PANI SAMITI

It is organistion comprising of wadi people which acts as a channel between wadi and the Panchayat on the issues of water .For 15 wadis in the Mograj GP , 7 pani samities exist.Gram Sabha elects the chairperson and head of Pani Samiti. Dhamni and Jhambulwadi share a common Pani Samiti headed by Ashok Mechchad.

Each pani samiti has its own account in which they collect revenue for maintenance of water sources (wells, taki) and all decisions regarding water are taken by it only.

In Jhambulwadi after the failure of government schemes, pani samiti has somewhat lost its identity.

AGANWADI

Jhambulwadi's mini aganwadi has 38 children age from 2-6 yrs in present headed by Usha Pandarnath .It gets all of its resources from panchayat directly. Mid-day meal is also given these children in the aganwadi itself apart from basic education.



EDUCATION

The wadi has a primary school upto 4th class .After that the children have to go to higher secondary school for further study situated in other wadi.

BACHATGADH

Has 40 women in current which meet once in a month .Its role is to empower the women of the wadi by creating employment opportunities among them. Recently a loan of 2.5 lakhs was allotted to them by UTO bank to them at 1% annual interest for some business start. They also have taken up an intiative under which each women from it has to feed the whole wadi each year.



PROBLEMS

1. Labour Rates- The main problem prevailing in the wadi is employment .Their wage is fluctuating , variable and seasonal .Yield from agriculture is mostly used for own consumption , thereby not producing any income for them .After the monsoon season is over , they spread out i.e. some are involved in mango plantation , some in brick kiln , some in labour work. The NAREGA yojana was not being effectively used by the villagers as it the work provided by the NAREGA was mostly in the summer's season and during this period they are busy in their fields. If there is work and you have contact them, then you get work, 200 per day subtracting loans gives them 50 per day i.e. barely anything

2. Water scarcity – Well 1 and Well 2 gets dried off in the summers (March – June) .So they are depended on Bandara for their water in which all the activities (washing , cattle drinking) takes place.Bandhara is also a reliable source as its main source is river which generally gets dried off.



The wadi has a scope of groundwater but it is quite deep down and because of government restriction of digging height, the borewells and dugwells are no use to them.

Well-constructed next to Dohra by a person named Asole of Dhami drains all the water from dohra for the irrigation of his fields thereby reducing the water level in Dohra which is used in summers.



Under MVS scheme , a taki (storage tank) was built in the middle of the village which used to get water from the river directly through pipelines. But due to lack of maintenance and negligence shown by Pani Samiti , dispute between

wadis over water , it worked for only 2 years.



3. Schooling problems- No school in wadi after the 4th class. So for futher study children have to walk long distances.

4. Asaole'smonopoly – Because of his money and power , no one in the wadi is able to stand against him .

5. No opportunities- Poor infrastructute and eduction force the youth to do labour and study only till 10th

SOLUTIONS

1.Agreement with Asavle:

Asavle's well was formed later near small public well. An agreement with Asavle could be reached where the well can be used by villager and Asavle. Considering the Well built by Asavle is illegal and he deserves penalty by the Law. Here are some points which can be put forward.

a. Government will pay for the cleaning and sanitizing the well

b. The villagers will be allowed to access the well 70 % of the day time

c. Asavle will have to pay a fine for the illegal construction, so that such incidents Dont reoccur

d. Villagers will pay pani patti for maintainance to Asavle.

e. Incase of extreme drought, Well would be made public and any one can access it at anytime

2. Re-Construction of Downhill Well

Since its seen that the down hill well can sustain water for longer duration, one should confirm source of water beneath the bottom of the well. The well should be reconstructed making it wider and deeper.People would be paying panipatti as a maintanance for a new well

3.Borewell and Pipeline near village

One can dug a borewell at the bottom of the river and using a pump it can be supplied to the village. We can construct a water post which extracts water from Downhill river

4.To cater all the villagers problems we designed a form which would give a general prospective of them

General Village Information Form

Form No

Family / Household

- Is it kaccha house or pakka house
- How much water can you store in house ?
- How many members in House
- How many of them children
- Where do they study ?
- How long is it from here
- Do you have TV in the house ?
- Do you have Bullock cart, bike , cycle

Education

- How many people in house can read and write ?
- How many members have completed 10th std in house

- School for study upto 4th std
- School for Study from 4th- 10th
- Nearest college for more than 10th

Health

- Water quality(any specific complaints)
- Sanitization (public toilets or inside house)
- Medical Facility

Water resource

- How much water do you need daily ?
- For drinking and Bathing purpose ?
- From where do get water for Bathing
- For washing clothes and utencils ?
- From where do you get for washing purpose
- For Cattle and other purposes?
- From where do you fill for Cattle ?
- Do you have any borewell ? if yes how much Deep
- Tick the wells which has abundant water
- Tick the wells which have unhealthy water ?

Energy

- Mode of cooking
- How much fuel do you need?
- Electricity Load shedding ?

Agriculture/ Farming

- How much land do you own
- Is it on rent ?
- How many months do you farm?

- How many months do you Labour ?
- Main factors problematic for Farming ?
- Types of Crop You grow
- Do you own trees , Mango , cashew nut, Jacfruit

Animal Husbandary

- How many bulls you have?
- How many Cows ?
- Do you have Dairy , poultry, Goatery

Economy

- Earning Members ?
- Rough annual income after selling mangoes ?
- Average Labour rates ?
- Annual sale of rice (wt)?

केव्यसेय सेत्रांस सांकान आहंतर्वस्य व्यतिनेत्र प्रात्मधार्यानी तत्वेष या वार्याच्या वार्यातेल क्या विष्ठणणे हतर स्वतिक कारणामुळे विष्याच्या प्राण्याची देखाई प्रांसणांकी तत्कार जाते के स्या प्रार्थात्मधातीने देखांस सांतर तेन पुरदे मान असरवायाबारणा प्रार्थन सांतांखाल्या के प्रायाक सांहोती आणावरपरी आहे. ज्या सार्थपार्थाता देखां से बांधीची पूर्वता कालिक अवाध प्राप्तपत्रि द्विपाई अंतर्गत ड्याय योजनीचा प्राप्त प्रांकेल, न्या प्रार्थपास्तांकीलांग प्रशासनाच्या सांत क्यां इंतर्गत्व प्रायाखांकी स्वार्थाल सांह प्रार्थपात्म के सांतांखान प्रार्थ व्याखाया प्रार्थ के व्याखा स्वर्थ आयाखात्व सारद रक्याणा तत्वान प्राप्तपांकल तत्र उत्प्रत्व नामू के ब्याच्या प्राप्त प्राप्त क्या के द्वाराई इंत्रिक्ते क्याखात्व सार रक्याणा तत्वान प्रात्यपांकल तत्र राज्या प्राप्ताच्या प्राप्तसाच्या व्याख वर्राधा दंत्रिकक आयाखात्व सारद रक्याणा ततिन आग प्रात्यपांकलंत नाम्ह के ब्याचान प्रात्या ने व्याता देत्रिक क्या आयाखात्व सारद रक्याणा तत्वीन आग प्रात्यपांतीकांत प्रात्य सार्थपांत्र प्रात्य प्रात्यायती विर्गतियाय १९४३ नृसात कत्वस अतीतां रित्य योजन					केळाके प्रतांका सोवना सोहल जोहलेक्या यादीतील प्राप्तशेषातीनी सर्पत्र या पादीपण वाहेवील ज्या डिकाणी प्रत्यालक स्वात्मपुर्वे निष्पार्थ्य प्राप्तां क्यांचे प्रेस्ता को का स्वात प्राप्तपार्थवानी वेद्यी का सांत ते ते मुरदे असलयकाबलाया प्राप्तस्वेषा इराज, गांव नकारासहते भाग र व भ्राग २ मध्ये देवाई प्रोतिषेषक प्रार्थ्य आसायका व न उलस्य असणाऱ्या सर्व सोतां बांत के बां बंधी क्यांच प्रतांत कारते. प्राप्त प्राप्तरे की तो का बंध की प्राप्त करती आणावपायों आहे. प्राप्त प्राप्त की तो का बंध की बांद की करानी कराना कार्या प्राप्तपार्थनी प्राप्त करता के प्राप्त प्राप्त को उत्तरी तो का बंध की प्राप्त करता कारते का प्राप्त कार्य स्वात्म प्राप्त स्वार स्वात प्राप्त कि जा उत्तरीका न स्व के व्यायप्रार्थ प्राप्तकी प्रतांत प्राप्त व्या प्रार स्वात्म तात्म प्राप्तेवार्थना जा उत्तरीका न स्व के व्यायप्रार्थ प्राप्तकी का प्राप्त का प्राप्त करता ताती प्राप्तेवार्थना की स्वात प्राप्त प्राप्त के वित्त प्राप्त प्राप्त कार्यका अस्ताव्य सार्थ प्राप्ति का प्राप्त का												
												ना मंजूर केरनी जाणार नाही. याची नॉद घ्यावी		गामपंचायतीना टंचाई अंतगंत ९ उपाय योजनांपैकी कोणतीहाँ उपा ाययोजना मंजूर केली जाणार नाही. याची नॉद घ्यावी.			
									सहपत्र : १. संभाव्य	। पाणी टंचाई भासणा	ऱ्या गांवाची यादी.	,	,	सहपत्र : १. संभाव	य पाणी टंचाई भासणा	ऱ्या गांवाची यादी.	
									२. ग्रामसभेच्या ठरावाचा नमुना ५					२. ग्रामसभेच्या ठरावाचा नम्ना			
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प्रतः - माहीतीसाठी व सभेस उपस्थित राहणेसाठी सविनय सादर.					प्रतः - माहीतीसाठी च सभेस उपस्थित राहणेसाठी संविनय सावरः												
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सभापती / उपसभापती / जिल्हा परिषद सुदस्य / पंधायत समिती सहस्य					सभापती / उपसभापती / जिल्हा परिषद् सदस्य / पंचायत समिती सदस्य												
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प्रत - प्रत गट विकास अधिकारी, पंचायत समिती कर्जन					प्रत - 🔐 गट विकास अधिकारी, पंचायत समिती कर्जत प्रत - 🔐 उपअभियंता ल.पा. राजिप उपविभाग कर्जत												
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प्रत - प्रतः वारफ मूवज्ञरानक, मूनल सवसाय व विकास वजणा आलवाग. प्रत - प्रतः तालका कृषि अधिकारी, कर्जन								AL.1.									
प्रत - अत्र तालुका कृशिव आवकारा, कजत प्रत - अत्र उपअभियंता म.चि.प्रा. कजंत					प्रत - 🔉 तालुका कृषि अधिकारी, कर्जत प्रत - 🔊 उपअभियंता म.जि.प्रा. कर्जत												
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		ि ता. कर			प्रत - या.वि.अ./ग्रामसंस्वभ ग्रामपंचायत												
२/- अदयावत माहीतीसह उपस्थित राहणेबाबत.					भग = भागवाज, आम्सरवक आम्मरवायता २/- अदयावल माहोतीसह उपस्थित राहणेवाचत.												
प्रत - तलादी (सर्व)					र्तः अस्यायतं महातासह उपास्यतं राहणपायतः. प्रत - तलादी (सर्य)												
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4		मिरचुलवाडी			4		मिरचुलवाडी										
		योरीची याडी			6		बोरीची वाडी										
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