Marathwada Shikshan Prasarak Mandal's DEOGIRI COLLEGE, AURANGABAD





Extension Activity: Water Management

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M. S. P. Mandal's

Deogiri College, Aurangabad Department of Geology Extension Activities Related to Water Management

Detail Report of the Activity

To get permanent solution on drought condition, we need to concentrate on scientific ways of water harvesting and irrigation. Scientific method will give a permanent solution on drought and improving water level in our region as well as in India and world. Such scientific method of artificial recharge of recycling of water will definitely improvise the water scarcity in drought area and provide potable water in all season of years i.e. villages will become Tanker free.

Every country's environment, temperature and rainfall are depending on the geographical condition of region on the earth. Few countries get natural gift of geographical and geological boon such as good rainfall (average rainfall of more than 1,000 mm), fertile soil, and temperatures between 10° C to 30° C, rainfall season two to three times in a year, abundant mineral wealth, and long coastline. Such country with the help of natural boon, country does excel in their progress and become developed country. And some country with unhealthy condition makes progresses with the help of science and technology in the last 100 years. E.g. although earthquakes occur daily in Japan (an average of three hundred of earthquake per year), by using advance technology, they built a network of

earthquake-proof multi-story houses, underground roads, subways, and over bridges. And now Japan became one of the well developed countries in the world.

With less than 300 mm of rainfall in Israel, they developed modern agriculture. Norway developed into one of the richest and most developed nations in the world, despite temperatures below zero degrees for few months of the year. Many such examples can be given.

Due to limited water resources in the Deccan Plateau of central India, this region has become a water scarcity region in the last thirty years. To overcome this, the state government has implemented various irrigation and agricultural departmental schemes after independence. As a result, surface water reserves increased; but in comparison, the groundwater level went deep due to high yielding and the nonrecharge of groundwater. Basalt rock is occurs in 82% area of Maharashtra. Basalt is hard; compact and having very low porosity. Many measures like watershed development, soil conservation, construction of major and minor dam. Nalabadding farms, Shivkalin Yojana (Planning) to today's water-rich Shivar have been implemented for groundwater augmentation. After implementing such scheme, Maharashtra is also the state where the numbers of tanker paid villages are increasing every year due to the non-availability of drinking water. Therefore, the question arises that even after implementing so many irrigation schemes, why we have not been able to increase the expected groundwater potential in Maharashtra? In the last four decades, due to the schemes of the Irrigation Department, surface water resources have increased and so have irrigation and bores increased every year to yield ground water. In the past few years, dug wells and millions of boreholes up to 1000 feet deep were drilled. Due to all these conditions, the topography of Maharashtra became dry. If there is an average rainfall today, then also water scarcity increases and if the rainfall is ten to thirty percent above the

average fall, then there is a drought that does not bring the expected success in reducing the water problem and its intensity? However, other countries have solved such questions because of science. You know that due to growing population won't solve such problem all at once, but we have to take care that its severity does not increase and they do not become horrible and we have to take measures accordingly.

The geological condition is different in Maharashtra as compare to other state of India. So like other states, in the Maharashtra such harvesting policies are not possible to implement. The same method of water harvesting scheme cannot be implemented for the whole of Maharashtra as the geo-hydraulic properties change at short distances and the expected recharge will take place only when the suitable geological formation present.

Basalt rocks have very low porosity and permeability. This rock is formed by the cooling of volcanic lava flows in Maharashtra; these rocks are found underground in horizontal layers. The thickness of basalt rock is highest in the Bhusawal area and decreases towards west. Such topography, even if a layer of basalt rock under the ground is impermeable, stops the whole process of water leakage. Different geo-hydrologic properties (porosity and practicability) are observed in the middle and lower parts of the single layer of thick basalt flows. Therefore, wells in one village have good water on one side and also that wells are dry on the other side. This layer also stops water from seeping deeper. So if red soil is found in a well or a bore, water is obtained. Overall, such a geological condition stop drawn water percolation in Maharashtra. So getting a deep well or bore well is a waste of money. This is because in a rainy season such a deep recharge does not take place and the boreholes become dry. Rarely, due to the specific geographical location, deep boreholes also get the passage of water from distant areas and in such places

deep boreholes also have long lasting ground water. Even so, the disease seems to be wasting hundreds of deep bores every day in Maharashtra.

In many percolation dams in Maharashtra there is no percolation taken place today, if that site is not suitable for recharge, the water trapped in such dams is wasted only by evaporation. Some NGOs are satisfied with the work done by taking photos of the stagnant water; but in fact, it is imperative to see how much groundwater in the wells and boreholes along the attachment area has been increased after the watershed development in next year.

Recharge of ground water in basalt rocks is not as easy as it may seem. Because in basaltic rocks area; flows are horizontal; hence it single flow is impermeable; it will stop downward percolation of water. Recharge of ground water became 100% success after preparing litholog of that area only.

In Maharashtra average rainfall is 1400 mm western part of Maharashtra [kokan region] average rainfall is 3000 mm in eastern part [Vidharbha region] average rainfall is 1400 to 1600 mm and in central [Marathwada region] average rainfall is 750mm. In Twenty eight Tahashil of Maharashtra there are very short rainfall that is only between 250mm to350mm only; hence this region face water scarcity problem every year; not only for irrigation but drinking purpose also. Where water is provided by tankers.

To minimize the problem of water scarcity of drought area in Maharashtra region, firstly we have identified eight Tahashil of Marathwada. By using scientific method to solve water scarcity in low rainfall area .firstly we have carried villages to geological, geohydrological; well inventory survey of such villages. Involving Students of Geology Department then the thematic of this map is prepared by using remote sensing image of this area. Maps, like drainage, counter, dam, and litho log is prepared. After preparing litholog and above map suitable sites are selected for water shed development or to store water surface structure.

If suitable site is not available then artificial recharge technique implement by taking artificial recharge bore well in that area to peculate groundwater.

By using advance tools like GIS and geological survey, suitable site is selected in every villages of Ashti Tahashil of Beed District. If suitable site is not found of recharge of rain water then in same area artificial recharge structure is constructed.With the help of NSO NAAM foundation and CSIR funds watershed development programme, geological survey and artificial recharge work carried out in twenty four villages of Ashti Tahashil in last three years[2018 to 2021]

In this scientific project, twenty five students of Geology Department are involved in work under the guidance of Prof. Ashok Tejankar.

This project is one of the successful watershed development programmes in Maharashtra where ground water is increased after implementation of this programme.

About NGO NAAM:

NAAM Foundation is a movement that was initiated by famous actor Nana Patekar and Makarand Anaspure in September 2015. It was a response to the devastating drought conditions and the crises facing by the farmers in Maharashtra. NAAM has undertaken the task of water conservation across entire Maharashtra, by finding long-term remedies to mitigate the effects of drought. NAAM has evolved from being an organisation into a movement, empowering the human spirit and rural development. Following is the list of the villages where the work related to water conservation has been done by Prof. A. V. Tejankar and his students in collaboration with NAAM foundation:

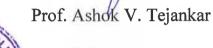
Sr. No.	Name of the Villages
1	Bhawarwadi
2	Chinchala Village
3	Dadegaon Village
4	Devlali
5	Dongargan Village
6	Gangewadi
7	Imangaon
8	Kada Village
9	Khadkat
10	Khanapur
11	Kinhi
12	Lokhandwadi
13	Mangrul
14	Matkuli Village
15	Pandhari Village
16	Pimpri Ghata
17	Ruti Village
18	Shirala Village
19	Surudi Village
20	Takalsing Village

Achievements:

These initiatives have increased the ground water and surface water storage that results into increase in ground water level. In each village near about 10 to 25 billion of water is stored on and below the surface. The surrounding villages now have sufficient water for irrigation, throughout the year. Due to this agricultural

production of the region increased which results into increase in per capita income and increase in standard of living of the peoples of these villages.

Harmt





Principal Deogiri College, Aurangabad.

Head Department of Geology,

Deogiri College, Aurangabad

Attachment:

1) Supporting Documents.



Photographs of Prof. A. V. Tejankar while discussing work related to Water Management with well known actor Nana Pater & team members of NAAM NGO



Photographs of Prof. A. V. Tejankar while discussing work related to Water Management with well known actor Nana Pater & team members of NAAM NGO



Photographs of Prof. A. V. Tejankar while discussing work related to Water Management with Smt. Supriya Sule (Member of Parliament)



Photographs of Prof. A. V. Tejankar while presenting his book related to Water Management to Smt. Supriya Sule (Member of Parliament)



Photographs of Prof. A. V. Tejankar during on site visit to village



Photographs of Prof. A. V. Tejankar during on site visit to village



Deeping & Widening of Nala at Pandhri Village



Artificial Recharge Pit for Ground Water Percolation upto Permeable Strata



Deeping & Widening of Nala at Pandhri Village



Deeping & Widening of Nala at Pandhri Village



Deeping & Widening of Nala at Pandhri Village



Water Management Work at Rui-Imangaon

त कायालय, था

श्री. उदावत देविदास हरिश्चंद्र श्री. सच्यद यूनुस उस्मान * सरपंच * * उपसरपंच * मो. ९९२२२८२६९९ मो. ९६४७८९९०४७

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शेकडे राम दिगावर

काळे वैशाली केलास

मोरे मल्हारी वगडु

िवि सँभाजी शिवाजी

गायकवाड मंनिषा ज्ञानदेव

शेळके आजिनाथ वामन गायकवाड किसनाबाई भगवान

शेळके चंद्रकला विठ्ठल

चय्हाण सविता वावासाहेव

सय्यद परविन खालेद

प्रती, मा. प्रा. डॉ. अशोकजी तेजनकर, भूशास्त्र विभाग प्रमुख, देवगिरी महाविद्यालय औरंगाबाद.

विषय :- धानोरा गावाचे भूशास्त्रीय सर्वेक्षण करणे बाबत.

महोदय,

उपरोक्त विषयी आपणास विनंती करण्यात येते की, सन 2020-21 मध्ये आष्टी तालुक्यातील काही गावांमध्ये आपण भूशास्त्रीय अभ्यासानुसार पाणलोट विकासाची कामे तसेच नदी व ओढ्याचे रुंदीकरण व खोलीकरण करून पुनर्भरण चे कामे तसेच तलावातील गाळ काढण्याचे कामे नाम फाउंडेशन मार्फत आपल्या मार्गदर्शनाखाली आष्टी तालुक्यामध्ये पूर्ण झाले आहेत. तसेच पाणलोट विकासाची कामे पूर्ण झाल्यामुळे गावातील पाण्याची पातळी वाढली असून शेतीचा व पिण्याचा पाण्याचा प्रश्न कायमस्वरूपी या गावांचा दूर झाला आहे. तलावातील गाळ काढल्यामुळे तलावातील पाण्याची साठवण क्षमता बाढली आहे व तलावातील गाळ शेतीत टाकल्यामुळे शेतीही सुपीक झाली आहे.

भूशास्त्रीय अभ्यासानुसार आमच्या गावचे सर्वेक्षण करून आमच्या गावाचे पाणलोट विकासाची कामे नाम फाउंडेशनच्या व आपल्या सहकार्याने भूशात्रीय सर्व्हे करून व्हावीत जेणेकरून आमच्या गावची पाण्याची पातळी, शेतीच्या पाण्याचा प्रश्न, पिण्याच्या पाण्याचा प्रश मार्गी लागेल.

प्राप्तकायत कार्यालय जन्मेल,ता.आष्टी,जि.बीड आपला

प्राप्तवंचायल कार्या**लय** जन्होत्ता, जा.आष्टी, जि.**बीड**



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प्रती. मा. प्रा. डॉ. अशोकजी तेजनकर, मुशास्त्र विभाग प्रमुख, देवगिरी महाविद्यालय औरंगाबाद.

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सरपंच ग्रा.पं.कार्यालय पारगांव (जो.) ता.आही

प्रती, मा. प्रा. डॉ. अशोकजी तेजनकर, भूशास्त्र विभाग प्रमुख, देवगिरी महाविद्यालय औरंगाबाद.

यतजा.क.

पारगांट

विषय :- पारगाव (जो.) बळेवाडी गावाचे भूशास्त्रीय सर्वेक्षण करणे बाबत.

महोदय, उपरोक्त विषयी आपणास विनंती करण्यात येते की, सन 2020-21 मध्ये आष्टी तालुक्यातील काही गावांमध्ये आपण भूशास्त्रीय अभ्यासानुसार पाणलोट विकासाची कामे तसेच नदी व ओढ्यांचे रुंदीकरण व खोलीकरण करून पुनर्भरण चे कामे तसेच तलावातील गाळ काढण्याचे कामे नाम फाउंडेशन मार्फत आपल्या मार्गदर्शनाखाली आष्टी तालुक्यामध्ये पूर्ण झाले आहेत. तसेच पाणलोट विकासाची कामे पूर्ण झाल्यामुळे गावातील पाण्याची पातळी वाढली असून शेतीचा व पिण्याचा पाण्याचा प्रश्न कायमस्वरूपी या गावांचा दूर झाला आहे. तलावातील गाळ काढल्यामुळे तलावातील पाण्याची साठवण क्षमता वाढली आहे व तलावातील गाळ शेतीत टाकल्यामुळे शेतीही सुपीक झाली आहे.

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Prof. A. V. Tejankar addressing the meeting regarding Watersheds Management with Sarpanch from Ashti Tehsil & NAAM Officers

खडकांच्या भूजलधारण क्षमतेनुसार राबवाव्या लागतील जलसंवर्धन योजना डॉ. अशोक तेजनकर यांचे प्रतिपादन : महाॲग्रो-२०१६

नाही.

राज्यातील ८३ टक्के भाग काळा पाषाण असलेल्या खडका पाणी धारण करण्याची क्षमता स् ते १३ टक्के इतकी आहे. हे गृह धरून योजना राबवाव्या लागती त्यामुळे सहा महिने अथवा रका वर जलसंवर्धन योजना यशस्वी होण्य अपेक्षा चुकीची आहे.

चर्चासत्राच्या अध्यक्षीय भाषा डॉ. एस. बी. वऱ्हाडे म्हणाले, दरहेक्टरी उत्पन्न वाढषिण्यास् मातीचे संवर्धन करून आ जपावे लागेल. आतापर्यंत दुर्ल असलेला भूस्तर विषयावर आ काम होण्याची आवश्यकता अ विजयअण्णा बोराडे, त्र्यंबव पाथ्रीकर, ॲड. वसंतराव देशा, रंगनाथराव काळे उपस्थित होते

जलसंवर्धन योजना न राबवता प्रत्यक्ष भूवैज्ञानिकांनी भेटी देऊन योजना तयार कराव्या. त्यासोबत खडंकांचा उभा छेद दर्शविणारा नकाशा तयार करून त्यानुसार बंधारा किंवा पाझर तलावातून पाणी पाझरत नसल्यास भूशास्त्रीय खोलीप्रमाणे जलसाठ्यात बोअर घेऊन भूजल जमिनीखाली सोडून पाण्याची पातळी वाढवावी लागेल. देशातील इतर राज्यांच्या तुलनेत महाराष्ट्रातील खडक कठीण असल्याने लाव्हारसाचे आडवे थरावर थर थंड झाल्यामुळे निर्माण झालेले आहेत. या खडकाचे पाणी साठविण्याचे विओ हायड्रॉलॉजिकल गुणधर्म थोड्याथोड्या अंतरावर बदलत असल्यामुळे एका तालुक्यात यशस्वी झालेला जलसंवर्धनाचा प्रयोग दुसरीकडे राबविल्यास यशस्वी होणार

औरंगाबाद, ता. २५ : महाराष्ट्रातील विविध विभागांमध्ये पाणीटचांईचा प्रश्न सोडविण्यासाठी त्या ठिकाणची जमीन व खडक रचनेचा विचार करून जलसंवर्धन योजना राबवाव्या लागतील, असे प्रतिपादन डॉ. अशोक तेजनकर यांनी केले.

महा ॲग्रो-२०१६ या कृषी प्रदर्शनात 'पाणी आणि माती नियोजन' या विषयावर मार्गदर्शन करताना शनिवारी (ता. २५) ते बोलत होते.

पुढे बोलताना ते म्हणाले, की जमिनीवर उभे राहून त्याखाली असलेल्या खडकाची पाणीधारण क्षमता ओळखणे तितकेसे सोपे काम नाही. रिमोट सेन्सिंग नकाशांना अनेक मर्यादा आहेत. त्यामुळे फक्त प्रयोगशाळेतील नकाशाच्या आधारावर



सांडपाण्याचा असाही पुनर्वापर

মূচাল দ্ববুষণালো সা

पाणीटेंचाईच्या समस्येने आपल्याकडे भीषण रूप धारण केले आहे. ही समस्या केवळ भारतातच नव्हे तर जगभरातच दिसून येते. विशेषतः यिकसनशील देशांभध्ये पाणीटेंचाई तीय्रतेने जाणवते. सर्वच देशांच्या नागरिकांमध्ये जलसाक्षरता यावी, तसेच पाण्याच्या प्रश्नावर जागतिक स्तरावर काम व्हावे, यासाठी १९९३ पासून २२ मार्च हा दिवस जागतिक जल दिन म्हणून साजरा करण्यात येतो.

त्रधिका पालोदकर 🔹 औरंगायाद

युनायटेड नेशन्सच्या वर्ताने जागतिक जल दिनानिमित्त यावर्षी 'खाय वेस्ट वॉटर' अशी थोम देण्यात आली आहे. याचाच अर्थ पाण्याचा काळ्जीपूर्वक उपयोग करणे व सांडपाण्यावर प्रक्रिया करून त्याचा पुनर्वापर करणे आर्दी गोर्ष्टीवर या वर्षभरात भर देण्यात येणार आहे. सांडपाण्याचे वाढते प्रमाण व त्यामुळे होणारे भूजल प्रदुषण हा प्रश्न दिवसंदिवस अधिक चिंताजनक होत असून, या क्षेत्रातील तन्जांच्या मते, सांडपाण्यावर प्रक्रिया केल्यास ६० टबके सांडपाण्याचा पुनर्वापर करणे सहज शक्य आहे.

देवगिरी धर्तीवर याच मुर्लीच्या महाविद्यालयातील वसतिगृहात मागील चार चर्षांपासून सांडपाण्याचा पुनर्वापर करण्यात येती. महाविद्यालयाचे उपप्राचार्य डॉ. अशोक तेजनकर हे भूजल नियोजन व संशोधनाचे कार्य करतात. तसेच पाण्याचे महाराष्ट्रातील भूस्तर. पुनर्भरण या क्षेत्रांतील तञ्ज सल्लागार म्हणून महाराष्ट्राच्या विविध भागात ते कार्यरत आहेत. त्यांनी दिलेल्या देवगिरी माहितीनुसार महाविद्यालयाच्या विद्यार्थिनींच्या 800 जवळपास यसतिगृहात एका राहतात. विद्यार्थिनी

साइयाणी शहराव्या कार्य सोहाला जाने प्रमुख नाम प्रतान के प्र प्रदूषण होते एनजीजा सामाजिक स्राप्त के नामिकनी क्राय्त के या साइयामयास इक्रिया प्राप्त के प्रतान प्रतान के प्रतान के प्राप्त आसपासच्या धानान्तील भूत्रान प्रदूषण व्या सायदान के प्राप्त आत्र वसल, उस ही तेजनकर पानी सामिकन

अग्रियाखार शहरासुन ८८ राजार दरालया निरहर मांडपाणी कार्यात सदार गरि



देवगिरी महाविद्यालयातील मुर्लोच्या वसतिगृहात सांडपाण्याचा पुनर्वाच्य करण्यासाठी अशा प्रकारचे मॉडेल राबविण्यात आले आहे.

विद्यार्थितीला दररोज १०० लिटर पाणी लागते. अशा प्रकारे दरतेज ६०,००० लिटर सांडपाणी तयार होते. यातीज काही पाण्यावर प्रक्रिया करून दर्शतेज २५००० लिटर पाणी चुनर्वाफासाठी मिळते. महाविद्यालयाच्या परिसरातील संपूर्ण लॉन तसेच वगिचा फुलविण्यासाठी या पाण्याचा उज्जोन होत असल्याचे त्यांती साणितले. असा प्रकारे अपार्टमेंट, वसनिपृहे, हॉटेल्झ कार्यालयं आदी ठिकाणी निमांज होणाऱ्या सांडपाण्याचर प्रक्रिया करून मोठ्या प्रमाणाचर त्याचा पुनर्वाचर करणे शक्य आहे. आगण्या काळात হুদার নাইনামনুন অফানের চারমাদনারে সঁরি য রকন ন্যায়ার্ট মুন্যারি রাসফ্যার ক মর্যারহলেরার্কান রম্বনিগুরাগন্য মর্যারদ্যায়া রিবার কারন্যালী রা নিয়ন্ত্রন নার্নী নার্গিনেট্

नेतन्त्र जान ----- ---and services and इन्नाइन 100 STREET STATE -------কলত গ্ৰন্থ হল The second second जसून, तिच्चानार्थ्यत के रिको स्वर्मन तीलान जना होने

या होदाच्या समार्थ दण्डा निर्हु सिंगल रेनी बांचा आ देण्यात आस्त आहे. होदात जमा होण्यमे पामी या मर्थ धरीमध्युत गाव्यत्वा जाते व वृत्तवीन्तात बोण्ड वनते.

वा सर्व प्रक्रियेसाले अन्वत्य कर्त वेतो. तसेच रक्षदा हे बाँडेल बसवित्यानंतर कर्षानुकर्ष त्य मास्वत्यानंतर कर्षानुकर्ष त्या वेतो. कर्णती पाठकोकरी अने गडिम राष्ट्रविजे सहज जल्द आहे. सान कुलकिने पाठक कृते. अन्वताके स्वरकता, सहा दावली क्षणा केरव कार्यासाठी हे चान्ती सल्लक बेते.



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डॉ. अशोक नेजनकर

न कार्यक देशान प्रश्नावरील केर्याल मा अग्रे के के किस्तित के किस्ति के किस्तित के किस्तित के किस्त विस्तित के किस्तित के क विस्तित के किस्तित के क मा मरान मरान मुपरन प्रदेग १० मानियाना ते ३० अङ्ग संविस्तव्य धन तापमान, चर्षातुन दान ते नेन प्रमान अगवून दान न जेव प्रमान के प्रमान के स्थान मा महत्त्वाना आठा अगरने, वाहलह देशांमध्ये भौगोलिक जांगन्धान त्य विकासारम् अंडवर्गाच्या ट्रयतन. पत्रिक तैसर्गिक संकटे अस्तात्रा रागि गगोल २००० तेपांत विज्ञान प्रतामा मागाइ एक नगा। स्वतन प्रतामाचा वापर कलन नैसर्गिक धनो व सनसावर प्रता कलन विकास सामना भाग भगतान्त्र विकास सामना भगता भगतान्त्र होयत श्रोमत गुद्ध हण्णतः वाची आज जग्ध आहे, जदा, जपानमध्ये दररोत वेग होतात (वर्षाला सरास्त्री ३०० ते २०) तरीही तरजानाचा यापर कहन त्र प्रमान प्रथमित संस्थत सनी पुलेस्याधक साम्याना पा भूमिनन स्त भूपार्ग रेल्वे आध्यास्य ताळे

पाणि करते. इरसहलमध्ये ३०० मिसोपिशा कमी दिन्धान असनुवन्धि हराने अद्यायत्वत ति वि तसित केली, वर्णिस्थर वर्णातीत ता पतिने धन्य अद्यादिशा कमी तामसन संस्वदेशीला वर्णाधील प्रमाद व अपित यत्रणम विकास कला। अस्ते अनेक तरण्य एमा यताल अगमन्या राजयान व्यन्त्या। प्रमागभ्य भवल् संहजन्म प्रमा असल्यामुद्धे चाणारचारचा प्रदेश प्रण भागाना जोकना मातील वीस ल्ला. न्यायर पार करण्यासती गद साराधारने सामील जाळीस सुन स्लॉलियण ज्या विलिध योजना या. भारिपामी, भरागराजन जारतरताठे

त्वा, परंगु त्या सुरामन भूसजपुभाषरण व ज्यासद्य भूजल पातव्य स्थलव्यर गेला महाराष्ट्राण्च ८२ राज्य भाषात बेसाल्ड रदक आहे त वा भाषात संगत में कह महित्यादरण्डला पाऊस असन था भाषात. गोउँ लग्धु व मध्यम दित्यसंप्रकारण इसर वृह्यते स्थान जास्त भाषा. उलन्द्रसमाहां पाणलोट विकास, मुदा भारण्य मल्लावहिंग, रोतनको सिमाकाल्लेज जिला ने अत्यको जनसङ्ख्या सिमार असा शेक कोजना संबोधितना अन्तन स्थान्यूदश गिकिन मजलवत्ता ताल नसल्याम्हर वर्णा रेक्सप्रस्त संरक्षीं संख्या जारावार वा महागाइन आहे. त्यामल प्रज गण भोग की जन्मासनानाच्या एकाइस ता मचत्रमभुद्धा मात्रसाद्धात अभेतित परिये आदण ना भाग भावस्ता तथ्यी? के माम श्राजात विकास विकास दिया Archaited sections and if al al anomal al construction de la construcción de the short

पर्वतारम् स्वावर्धसः जोत स्वातं स्वातं रिप्तरमुद्दे भारत्य वास्त्री मुझ्लेत संत पर्वतं सालकर्म् संत्रे त्यापुरं त्यापुरं स्वर्गे २० सर स्वातं स्वातं स्वातं क्रिस्ते त रागे २० सर स्वातं स्वातं स्वातं स्वातं रागे २० सर स्वातं स्वातं स्वातं स्वातं रागे स्वातं स्वातं स्वातं स्वातं भूरत and another with use your ग्रेसडा सामा साथ जगवाँग्राम जातम भारत वर्गे, दरवर्ष जजीवन्त्री मेंद्र क्षेत्र किंग, स्वयन्त्रीकेंद्र बहा हे सेंग उनके प्रति प्रभाव करते प्राप्त व तथि देखर तत्रिय प्रमुद्ध देखरे पर दुख्याचा प्रमुप्ते तिराव प्रमुद्ध देखरे द्वारा दुख्यां क्रिस्ट्राय प्राप्त केंद्र प्रत्यों प्रधाने ही स्वायूची प्रत्योहन म त्यायी सेतरी प्रत्ये क्राय्याही आव्यूची अप्रेशित यम येत नाती? असे चान इतर रेरानी मात्र विज्ञानमुठे संख्यते आति. आपणामहे वाराव्य संभागवरीमुठे भा



विशेष

ष्काळावरील उपायच सद

वरितने तथा प्रभाव पहिल्लामा प्रभाव प्रोडमा कामदे, जन्दा प्रातीयमा एकान मेसॉल्डामा प्रथमको जात्री दिव्याणी मराज्या गरील, प्राय के प्रातील काम्रा निर्मित क्षित्रवसुर्वज्ञीलिया पुरुषार्थ

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पेतान, त्यामुळे प्रशास भाषता झडा बाजुला प्रितिमेचा जोगला घुकी उत्तले

वायुंदा विश्वविक वीगले एववे कराते एवं पुरूषे दिरोक्या विश्ववि कोटका असरात, वेराविक्याओं करती भारते एक-दोग पार काढीका विश्वविक सारका किंग के राज्य के स्टानुकोर्खा घरण्या कोटला किंग्राओं एका क्या स्टान्सी की किंवा को सारकों एका क्या स्टान्सी की

वर्षात हे भूजल संपते, कारण एका

पालमाठातामाने एकरे म्होलवर पुनर्भरण

बोल नाही य बोलर कोरले गोवात, क्वसित

विकाली विकिन्द भोगोलिक प्राहिधतीमुळे

रतील को अस्लास्ट्रेश दूरवरील आगातील

जलस्तीवन्ध्र प्रवह (पाझर) मिळली च

अगरा ठिकाफी सीलन कीअरला दोर्घणाळ

पाणीटंचाईवर काथसनस्थी तो हमा काढायण आसेल तर, जनपूनर्भरण योजनेत शास्त्रीय अभ्यासाची लोह द्याची लागेल असे केल्यास पाणीटवाहेवा परन प्रवील काही वर्षांत काथमचा सोडवला जाऊ शकतो

प्रस्त प्रस्तदम सटणार नजी, हे आपणस्य असला तरे भाषी पाइरण्याची संपूर्ण प्रस्त प्रकार स्टागर त्या, 1 आपकार चाहित कार, प्रस्तु त्यांची दीवक जनत नाइ तरे, त स्ट्री भौगत स्प्रस्य क्षेत्र गंभ प्रवर्ध तरी कार्ड्यनी आपत्यात्रा प्रवर्ध कार्यत व जार्ड्यने स्थायगीवना कराव्य

त्याचान्, मात्राप्त्रः आणि इतर राजनात मुद्दारं नगेदिश्वतां वेमव्यां जाने, त्यामुणे इतर राज्याप्रमाण अगारल्याकाचे पुरादरंगणव्यमे समात योग्नुना रावजिता सेणार तार्वजित संयुता स्वाध्रार्थव्याप्रदेशस्य एजात्वा प्रदेशीची तत्पुर्वप्रथेण योज्यता संविध्या विश्वतिकाक्षित्वानितंत्रत्वः गणपमं बद्धात अग्रहण्यसूत्रे त्या धागतील भुरुदर पदाप्ती जनसूत्रम्यसमूत्त्वी गोजना कद्द्याये लागिल तल्लाज आगंधन जलापुर्व्धाय कोलि.

जात भाषारचा चन्न ५० रजन्म भाषात भगांत्वर माहक असून मा सहकांगी भोगोरले जांव परामितिले अतिलय कारी आहे. हा खटार जास्त्राभुष्टीचा लाग्स्वरस चेत्र साल्याभुठी निर्धाण जगला असून महाराज्यत्र वा शाहकांचे आहर्षे बरावर या रचटोने आंगेगेवाली अवस्यूम भेतात. निर्मात्व आरंकाजी जागी भुरमकत मागात प्रमांत जावत अरंक यूची ज अश्विमेकजी गी कमी छोड काठ, प्रश्ना भूमतर रचवेंपुळो अमिलीस्कार्थी एक जरी नेर्स्टाल्ट साटकारणा) म म्बहरायास (इस्टर्यास्ट्राज्यम)

प्रकारण्डल दरतेन प्रेकाले खोला कोजग पेडल पैसांचा उत्पद्धव केरता जातान दिससे.

mite fine with THE OWNER WATCH तस्थानयभ्ये पदीभाकत कंधों/ जनावा षांपुर भुडल पाठले जातवार्ग, जाला त्य खनकांमध्ये खोलपर्यंत बेहोंग, जॉइटस् ग फ्रेंब्सर आहेत, राजेरसिंह जोवे राजस्थानमाहिल जनपुर्रभाणाचे काम मोते व्यां व त्या सनुभवावरूत्मा महाराज्य शास्त्रताने परणलोट विकास जार्यज्ञामाचे मार्गदर्शना स्टब्स् ल्यांची निवत फेल्से आहे. परंतु राजेदस्ति यांचा मूळ विषय मूलमेशास्त्र नसान्द्रामुळे बेसॉल्ट रातकाण्या त्यना व विसोहायहोम्सीहेकल गुणधर्म बाबामत से जितपत न्याय देख राकतोंस हड़ी एक प्रश्नच आहे.

आज महाराष्ट्रात प्रकारणाच्या अवेश ग्तेल्लांमध्ये त्या जामा पुनर्भरावासाठी उपयुक्तं नसलयस अष्टा दिकाणं बांधतील्वा कंशन्त्रांमध्ये अजुनितेल्वा पाणपाले फास्ट्र बाण्डीभावन होसान हे पाणी चापा जाते.

विचा गीवसायन प्राप्त वासी स्वाल्ली की पानी गिवलें हा उत्पुतन केते, क्लूप्लब जनम पुरार प्रमेलि गाउंदात केलाम पुराराध्य क्लूप्लब जिनामी उत्पुतन अले. र्षम् प्रायं क्लूप्लब्स्टेको किंसा मोजर पेपे प्रायं क्लूप्लब्स्टेको किंसा प्रायं प्रायं, काली विज्ञाली केला राष्ट्री लालों की उँ प्रथम क्रिक्सप्लक लाक्सि जाल्यापूठे एक लिंस वेस काती एतजीओं या सचलेल्या पाण्याचे फोटो कासून मीरों काम आत्याचे समाधान मानवात: परितु वस्तुत: पाणलोट विकासाचे काम साल्यानेत वंधान्याच्या बाजुल्या भाषातील वितिरी व कोअरचे भूतता किती बाइले हे एका प्राथसतल्यानंतरच पूर्वाल वर्षी पहुंचे कॉनकारक आग्रा आवाग्यन आहे.

वस्तत्व वादकासध्य पुनर्धरणाभे काम काटन विगणि सीपे नाही, फाण्डलाट किंधा युवभेरण प्रातेग जाभर उनके प्रसान जगावंचा असल्याम् फेला अमियेक

कोणल सहय आहे. हे पहल हो नागे कर का आर्थते अधिनेत्रपुर्ण्यं साठ ८० पुर झोलोगचे पुम्पा कोण महत्वार्थम् वस्त आहे. प्रतंत वर्ण्य वामहोत्राजिकत एकद्यं कोवरे जारेत, विक्रिप खेलीपांत लाजी पत संहरित्याने समत किते आहे, रा सर्व अध्यम क्रमन प्रतेष पालन प्राणी क्षातिक विकास किलोलीन (भूमसाल वित्रिध साहबर्तना तथा केंद्र) एयार कल्ले services theight in a state क्रेसीक किसे पानी मार्टीकन केरेल ante apire sarre These . पदार्थने त्व वरास्त छोत्तक पत्री नेग्रामारी वेपरिए वरामारी करिय संग्रे देवता करूर दर्शाण प्राण्ये सरग्र देवेन प्राण्यतिसः प्रवेत भागांत करता एक ते होन फुट आरोफ साल गोक मालाग्लाम्य अनेक जातांत आहत्वती. या गेत्रमुद्धे सुदेव धालन पुनर्भाण होत नहीं, अस्त तिकाणी य धराल हेट टेंडन कमें सर्चात प्रभाग -करत की, वेसीन्ट सहस्ताचे आहते वा असल्यापूर्वे प्रत्येक राज्यभव्य विज्ञास नियह केलेल्ड सिकाणी जर्म कृतिम पुनर्भाष केले नहीं मधुर्च जिल्लालेल भूजल पानजी खाइते. सासनको जन पुरस प्रवेतन

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त्र विकास पंत्रण भूमतगबदन आधिकत महिती देखनी पंत्रण आहे; पांतु जूबन प्रसंहत करण्यास्त्री जनेची चिंदत -कालना या विधानतील भूषेतानिकांच पत संस्थावेग स्थले जान निवसीलले भूषेतालिकांच सल्ला पेत्रल जान जाँ। 前訪 भूतान संविधान विभानतार प्रत्येक 10 विल्हात ध्वेत्तनिकांचे संस्थानुम नर्णा. पाणीत्व्यांचा कायमन्त्रण त्रोवमा कायुप्पश्च अमेत क राज्यातित ĥ -所有 इस रामकीम किन्ता असित्वा संस्थानमहो रायदित अमरोपन्द्र विक्रिय नेवनीमोदन 新 बनपुनर्भाग देख्येर तम्बीर अभ्यात्वत् जीव देख्य स्वी केल्वामध्ये सुधारण करून काम केल्वाम अर्थातन 10 fit -भुभारत्व कर भूजतङ्ग्रे तेल सकते व पालीटरवर्ट्य प्रस्त पुग्रीय कवरी वर्षात कालस्वता संवयन्त जांड प्राइन्ते 100

(लेखक भुशास्त्र 👙 विभागप्रमुख आहेत.) वन्



वे संवर्धन, वापर ही काळाची ग

भी. ए. वही. तेजनका

वेदना.

काले केने का देन कर प्रति सामा मार्ग राजे सार्व को प्राप्त को प्राप्त की सार रहे के साम का सार ते प्राप्त मार्ग राजे सार मार्ग सार की प्राप्त की सार रहे <u>की प्रेटन मार</u> हे राज्यों प्राप्त कर की नुराव के की प्राप्त की सार रहा की सार रहा की सार के सार में बढ़ा की साम प्राप्त करता की सार राजा की सार की का राग्त को दिस्तां प्रधान को प्रमान का स्वयत जान

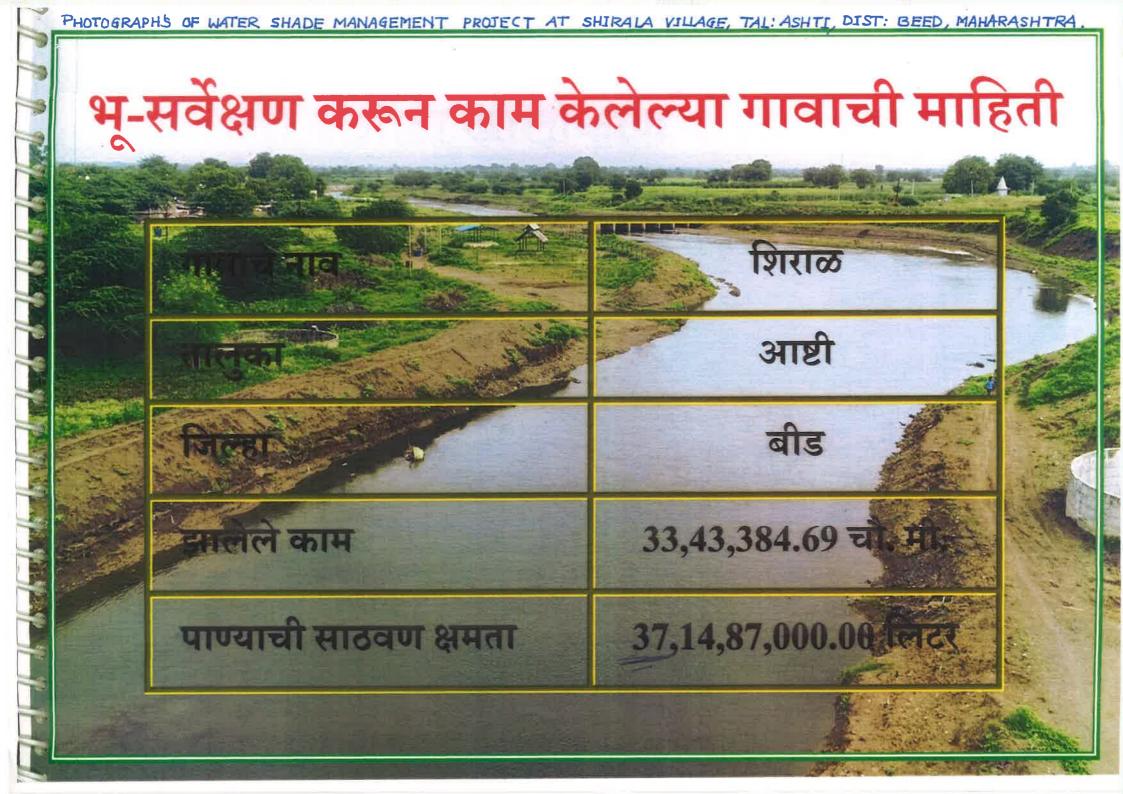
विशेष आहे. अगेरिय पाने महीदी जानक सुर्गवर्थ अगर को प्रति (तिवस किमेग्रोल' व न सरन्ता का देवपावारी प्राण्यक स्वार्थ करने करने स्वार्थ संविध संविध किमेग्रील' व न सरन्ता का देवपावारी प्राण्यकन दर्श करने सेवापार्थ संविध किमेग्री के स्वार । राज्यकों तीवट करी करने प्राण्यकन देवी करने सेवापार्थ संवध के स्वार का विरुद्ध किमे क्रुवेग्लानूने करने की कार को देवे व करवा संविधन प्रावा स्वार्थवालयान कार्यः करं पेत्रसावधाउँ स्पणवे पुरुषा लागेत कार मुका का छे ए. वर्षे, तेवनका हे व्यक्ति सन्वया कार कोन्द्रेप्रसीतः प्राइटेर वह रोग्यसाउँ प्रथम करेत्रः प्रदर्शियालयत धूत्राव विध्यमधुन्व अभ्यादा आपटि प्रवचाप निवेदाव आलाग्र म्हणू कार्यत अहेत.)

नामाः प्रोडानिराणः आहेते तथाः काम-प्रातन्त्रविसेने नेत्वाची साथ तरागः त्यांनाः नेनावानुमा सा च कामक वर्णनाराण सालस्ते हे सरावतः सेवतः व्योत्वारः स्टब्सः सम्माराणं सम् रिहेर क्षेत्र कार सेत स्थलन को की रहे। हे लिया है

प्रसार को त्या प्राप्त के प्राप्त प्राप्त को त्या प्राप्त के प्राप्त प्राप्त करने कि प्राप्त के प्राप्त का प्राप्त के प्राप्त कि प्राप्त के प्राप्त का प्राप्त के प्राप्त का प्राप्त के के प्राप्त प्रत्यामध्ये क्या प्रतंत हात्र प्रतंतुप्रायामधं विविधे योग्टन प्रायोग्रस्ट वेरावन की हे स्विथ अवैदेश गुल्लाका करों, क्रिया २० राज्यांग्रीय असते साथ पुरित य प्रेसमारी प्रता की रत्वेत महत्वाचे मान्द्र आवस्त्रा के स्वयं त विधितत्वस्य स्वयम् प्रत्यम् १८८८ स्वयम् प्रत्यम् वर्णम् स्वयम् स्वयम् व स्वर्ण पर्वं प्रत्ये स्वयम् १८८८ स्वयम् १९ त्याः प्रतिमान्सः स्वतं अत्यात्वसम् व त्रात्र सुमात से यहं सेर्वे स्वरं १८८८ स्वयम् प्रत्यम् वार्यं अत्यात्वसम् व त्रात्र सुमात से यहं स्वरं स्वरं १८८८ स्वयम् प्रत्यम् व















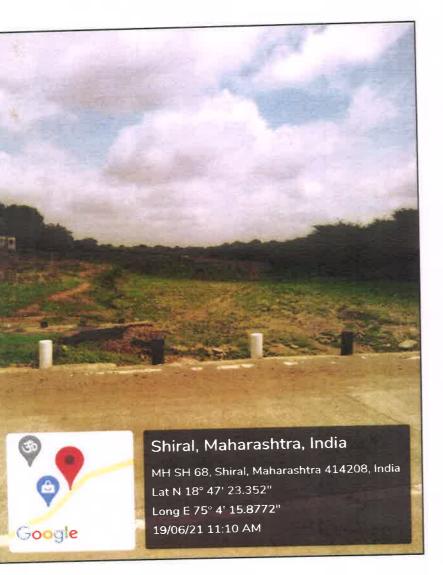
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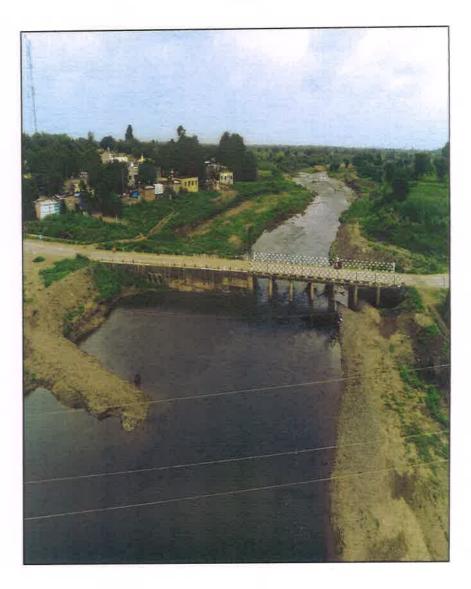
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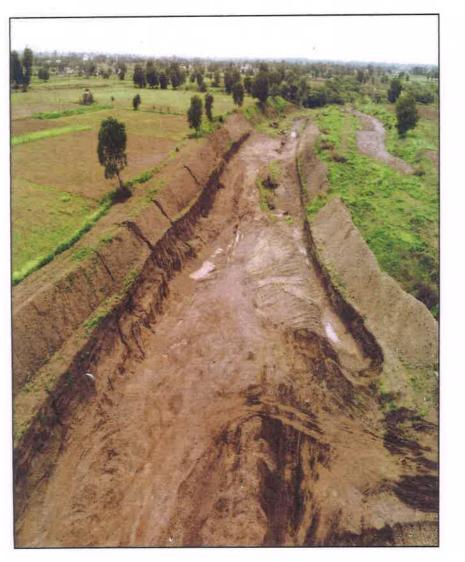


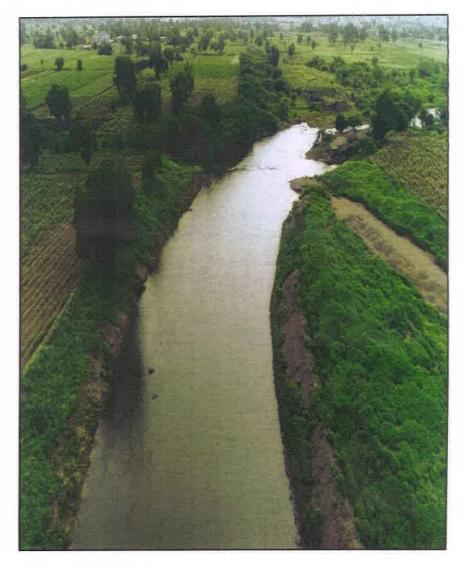


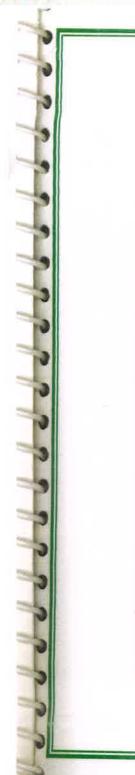


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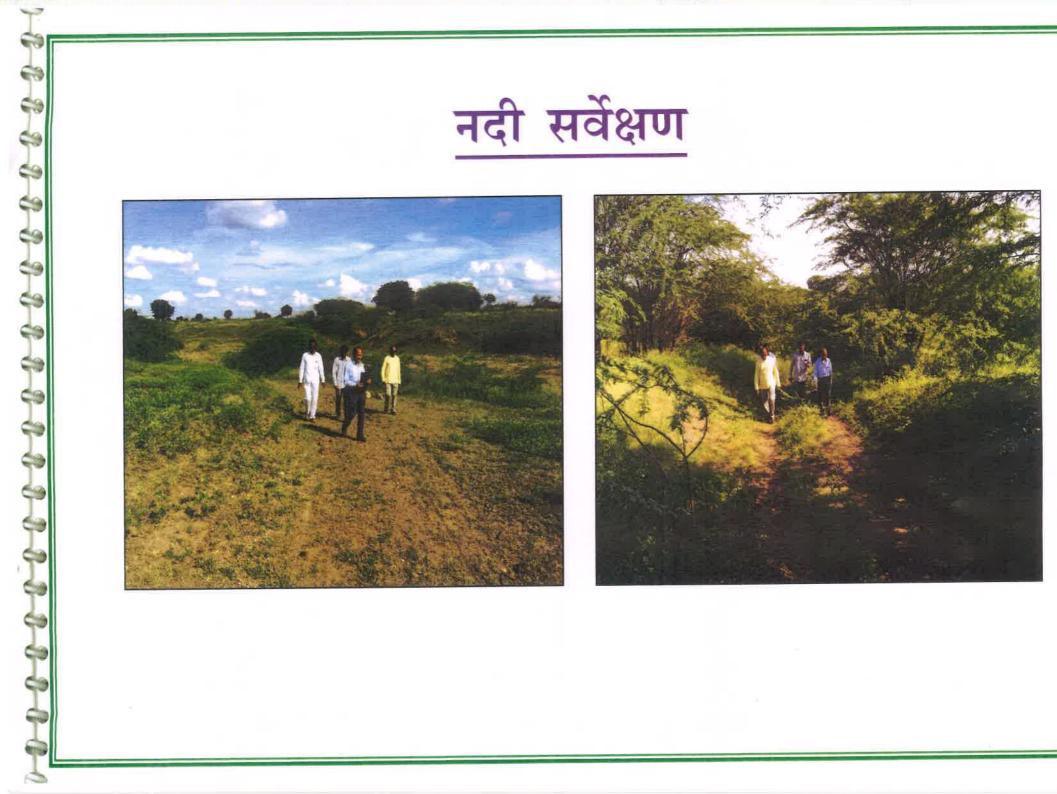














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नदी खोलीकरण व सरळीकरण कामाची पाहणी करताना जलतज्ञ डॉ. अशोक तेजनकर व स्थानिक आमदास बाळासाहेब आजबे,

समन्वयक औदुंबर खिलारे, स्थानिक सरपंच केशव आजबे तसेच ग्रामस्थ



नदी खोलीकरण व सरळीकरण कामाची पाहणी करताना जलतज्ञ डॉ. अशोक तेजनकर,

समन्वयक औदुंबर खिलारे, स्थानिक उपसरपंच सीमा आजबे तसेच ग्रामस्थ

Bhawarwadi Village

Bhawarwadi is a small Village/hamlet in Ashti Taluka in Beed District of Maharashtra State, India. It comes under Bhawarwadi Panchayath. It belongs to Marathwada region. It belongs to Aurangabad Division. It is located 79 KM towards west from District headquarters Beed. 280 KM from State capital Mumbai, Bhawarwadi is surrounded by Jamkhed Taluka towards South, Pathardi Taluka towards North, Patoda Taluka towards East, Karjat Taluka towards South.

Dug-Well Inventory

* भवरवाडी * भ पान्मी पानकी - पावस्थाका - विद्यार्थी पातेने पातेने जास्त अया Duquell - Pracot - 37 4 ALT yeilding steron - Day. * Greenbelt - सार्व महीवयामारहन चिहारी उर्वायतो-कोरत्वा होतात. - जावात- उन्हालनामह्ने हैं करने वाली. क्रवका होती-- applient to A 12 Ft parapet sugar * पाललीत कामे - काही झाजात सालेली आहे. मतीचे (मात्याली) खोली करठा करठो आवर्यक आहे * Artificial Recharge - Amagoolidal Basalt असल्यामुके जातात्या कही आहात Astiliai Pecharge केन्याम पाठी पातकीत वाट होव्यापी अाल्यता आहे

Geohydrogeological mapping of Tahsil District Beed undertaken by NAAM Foundation and Chatrapati Shahu Gramin Vikas Shikshan Sanstha Aurangabad

Lot - 18°53"60'N Jong-75°09"83'E Atthude-6227 Well Inventory Form Date - 12-106/19 Village . 902 dis Star QIER Well No. D48 Gut No. Name of the Farmer JAF AI In Village Location User ... Personal Community Purapet Ht. 2.1. H. Shape-Cienlar/Square, Diameter of well. 22 #+ 19 the Hustonian barre is taken in ... Abreation Longth. m and us version barehole. 1. Location as the battery Rainy Season S. Acre Winter Season O. Acre Summer Season O. Acre Time require for a full recharge / recuperation : Any other information . J.A. Mhaske Name of the Surveyor Signatur

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Beed undertaken by NAAM Foundation and Chatrapati Shahu Gramin Vikas Shikshan Sanstha Aurangabad 1-18 Well Inventory Form Jung - 15° 9" 30' E Parapet III. 14 J. A Shape Cleular Bquare, Diameter of well. 2.3. f.+ Rainy Season Acre Winter Season Acre Any other information J. A. Mhouske Signature Name of the Surveyor

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Lat 18° 53'63'0 long - 75 03"73'E. Altitude - 620 Well Inventory Form Date - 12/06/19 Village Store Cit HAS 12 100 2007-Paraper Ht. Percolation from : Bottom / Lateral Direction (in the case of lateral direction Rainy Season Acre Winter Season Acre Type of withdrawals/Pump Out :- Electrical motor ____ Diesel Pump ___ HP __ SHP Dia of autlet pipe Constant and the Anthe Sectored and the Sectored and th Time require for a full recharge / recuperation : Any other information 5 R. Wadhankak Signature Name of the Surveyor

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Lot - 18° 53" 62N Long - 75° 3" 377 E Althode - 621 m Date: 12/06/2019 Well Inventory Form Village Hazar 2003 1647 Percolation from : Bottom / Lateral Direction (in the case of lateral direction ... of the Horizon al bare is taken to ______Dreamon, Kough______m, and for variable barchoid. ______ Incuman at the barrows Wimer Season Acre Time require for a full recharge / recoperation : Any other information 5 R wadhenkers.

Name of the Surveyor

Signature

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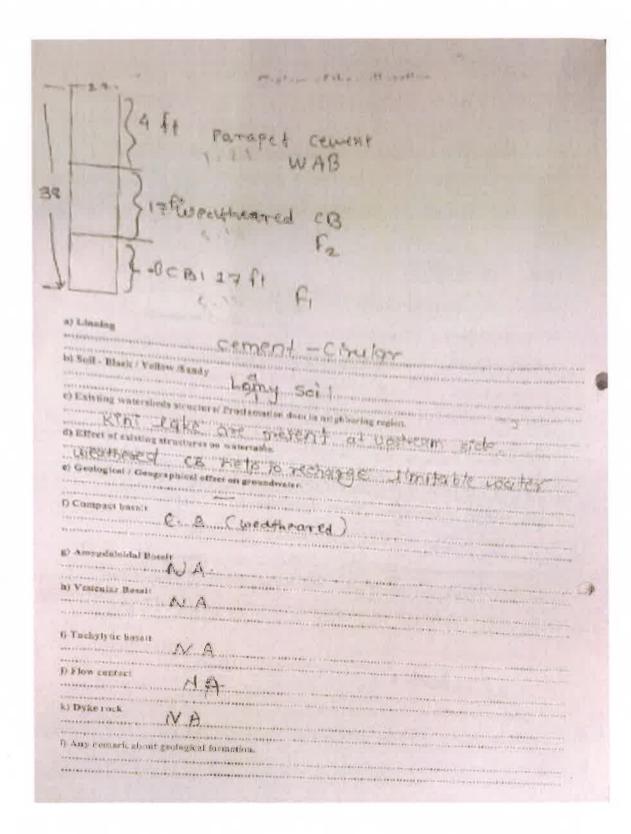
Beed undertaken by NAAM Foundation and Chatrapati Shahu Gramin Vikas Shikshan Sanstha Aurangabad Lat - 18" 18" 55 41 Well Inventory Form long -75" 9" 66 'E Altide - 621 m Data 12/0 5/19 Gut No Name of the Former Mile Sit Rel TITS well No. 052-In Villinge Location measurements of Corres Personal Community Paraper III 10 JdShape Cleutar/Square, Diameter of well 2.5 11 Rainy Search Acre Wester Search O Acre Summer Search Q Acre Type of withdrawals/Pump Out - Electrical motor - Diesei Pump - HP Ass ether information N. D. Puti Name of the Surveyor Signature

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Name of the Surveyor

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Geohydrogeological mapping of _____ Tahsil District Beed undertaken by NAAM Foundation and Chatrapati Shahu Gramin Vikas Shikshan Sanstha Aurangabad Lat - - 18 53 30 m long: 75 gu 28' E Alt - 629 Data - 12/08/000 Well Inventory Form . Wall No. Gut No. Name at the Farmer Started April 1 Year of the Digging 113.5 Construction year If yes type Rainy Season 2. Acre Wonter Searon Co. Acre Summer Searon Ci. Acre Any other information S. P. washenkas Signature Name of the Surveyor



Beed undertaken by NAAM Foundation and Chatrapati Shahu Gramin Vikas Shikshan Sanstha Aurangabad 5

Well Inventory Form

Village Harals

Gut No.

In Village Location Uter ... Personal/Community/.....

Vear of the Digging 197. A., Construction year, 49, If yos type

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Type of withdrawats/Pump Out :- Electrice Frieder Diesel Pump NF 3 HP Dia of overlet pipe 2 Anoch Quando, of withdrawats - Daily 4 these Seasonal convert day

Any other information -----

J. A. Mikeske

Lat - 18"53" go' N

Long - 75° 9'30' E. Aliliude - 620m

Uni - 12/06/2013

.....Well No. D.S.B

Name of the Surveyor

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Geohydrogeological mapping of _____ Tahsil Distric Beed undertaken by NAAM Foundation and Chatrapati Shahu Gramin Vikas Shikshan Sanstha Aurangabad

101 - 19857"53 Long - 75'9" 92 Well Inventory Form A141. - 626 m Date- 12/06/2013 Village . S.Ida Cut No. Name of the Parmer forderate craftere well No. DS Summer Season Acre Any other information R. D. Riti Signature

Name of the Surveyor

22and the state of the states CONTRACTS & 1 4 4 WAS 380 261 (CBI brendly Joinred S. A. at Linuing. stone o construction b) Soil - Black / X sizes diamity Black Soil () Extaning universiteds sizuatory Proclamation dama in neighboring region. kin water take present at appresant d) Effect of existing structures an wateriality. NE as Consignate Congragational affect on groundwater O Compact basalt. Broadly Joinded (C.B.) p) Amygetabildal Basali NA h) Vesicular Batale N.A Siver located il Tuchylytic basalt STON NW Side Side j) Flow contact MA k) Dyke rock NA Adda and Adda and Constant in the second statement where -----Is Any cemark about geological formation. an taken a second of the second secon

Details of the Survey

Geohydrological Mapping & Site Selection for Artificial Recharge of Water in Watershed Development Programme, Undertaken By NAAM Foundation, Mumbai and CGVS Sansta, Aurangabad

1. Village Name : Bhawarwadi , Ta- Ashti , Dist-Beed

2. Date of Survey: 12/06/2019

3. Name of Geologist and Hydrogeologist for Survey in the field:

- a. Shantanu Wadhankar
- b. Rushikesh Puri
- c. Jayesh Mhaske
- d. Kshitij Sontakke

4. Name of the Members for assist to survey in the field:

- a. Shri Khillare
- b. Navnath Bhawar
- 5. NAAM Pratinidhi: Shri Rajebhau Shelake

6. Local villagers/ Farmer:

- a. Dadasaheb Bhawar
- b. Kailash Bhawar
- c. Vibhishan Bhawar
- d. Popat Bhawar
- e. Kakasaheb Bagal
- f. Babasaheb Bhawar

7. Total No of Well surveyed:

13 dugwells in the field + 16 dugwells through Satellite imagery Survey = Total 29 dugwells

8. Total map prepared:

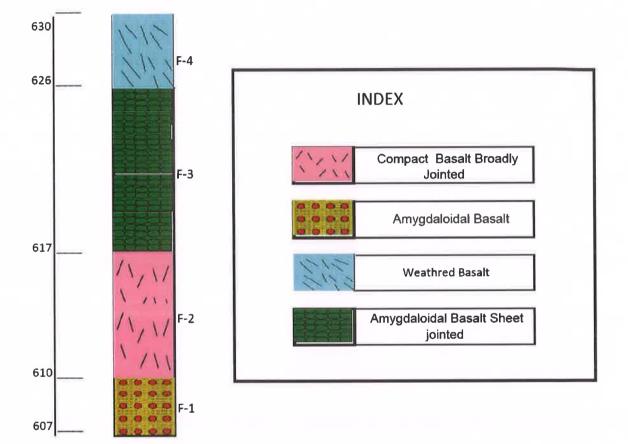
- a. Contour map of Village
- b. Drainage map of Village
- c. Dem map of Village
- d. Litholog of Village
- e. Geology map of Village

9. Recommendation and Conclusion:

a. For Artificial Recharge suitable/ Unsuitable:-----

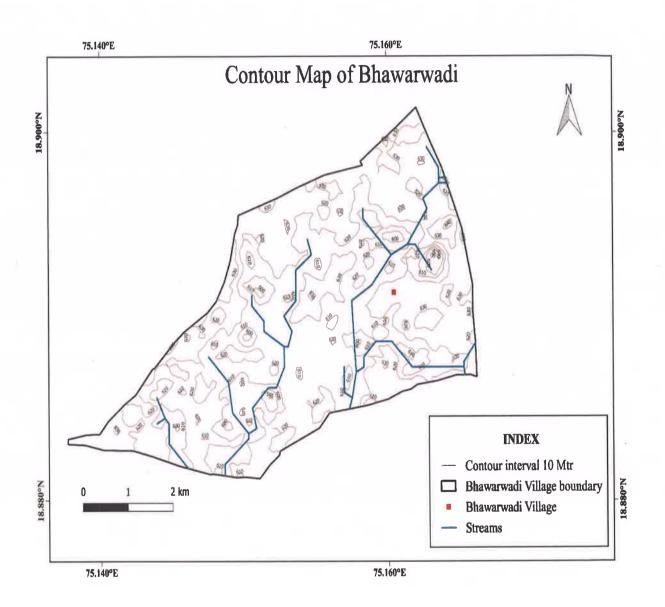
b. Structure for watershed development programme:-----

Litholog of Bhawarwadi Village

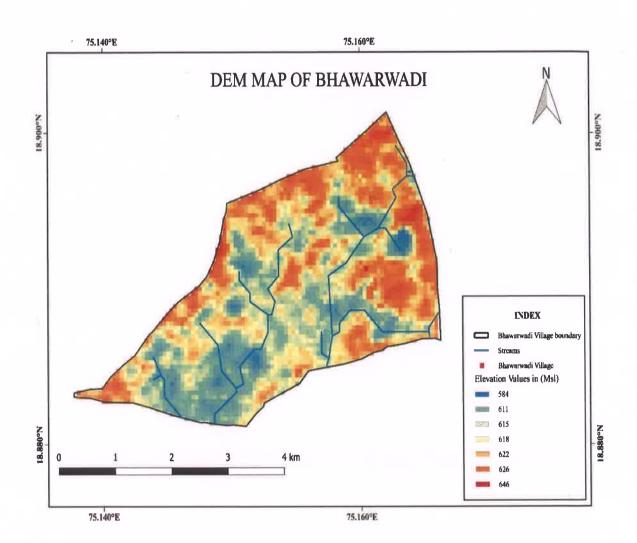


Litholog of Bhawarwadi Village

Contour Map of Bhawarwadi



DEM Map of Bhawarwadi



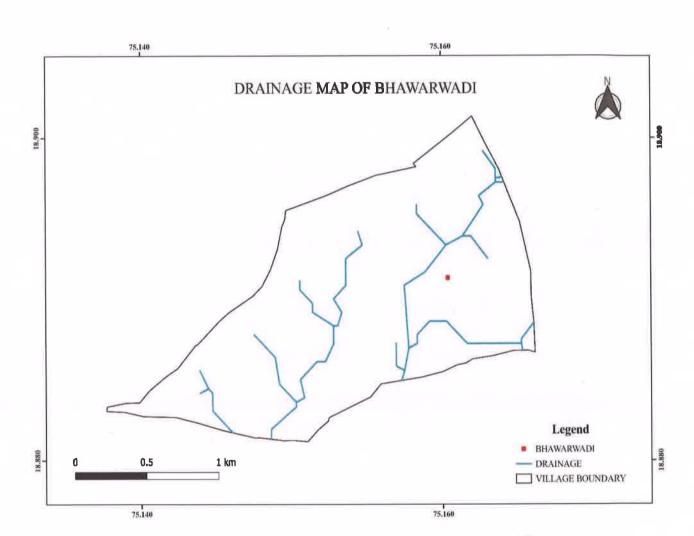


Photographs showing watersheds management at Bhawarwadi Village.



Photographs showing Increase in Ground water level at Bhawarwadi Village.

Drainage Map of Bhawarwadi



PRINCIPAL PRINCIPAL PRINCIPAL Deogiri College Aurangabad.

Chinchala Village

Chinchala is a Village in Ashti Taluka in Beed District of Maharashtra State, India. It belongs to Marathwada region. It belongs to Aurangabad Division. It is located 72 KM towards west from District headquarters Beed. 7 KM from Ashti. 287 KM from State capital Mumbai. Desur (4 KM), Kasari (4 KM), Gangadevi (5 KM), Ashta (hn) (5 KM), Mahinda (5 KM) are the nearby Villages to Chinchala. Chinchala is surrounded by Jamkhed Taluka towards South, Patoda Taluka towards East, Pathardi Taluka towards North, Shirur (Ka) Taluka towards East.

भुशास्त्रीय सर्व्हेक्षण चिंचाळा, ता. आष्टी, जि. बीड

चिंचाळा गावपरिसरामध्ये Well Inventory, GIS & Remote Sensing Technique, भुशास्त्रीय सर्व्हेक्षण, ह्याभागात पडणारा सरासरी पाऊस व पाण्याची माघणी इत्यादी बाबीचा आढावा घेवुन या गावातील भुजल विकासासंबंधी खालील भुजल विकासाची कामे करणे आवश्यक आहे.

1) गावामध्ये पाणी फाऊंडेशन सोबत पाणलोट विकासाचे अनेक बंधारे व तलाव बांधण्यात आले आहेत. त्यामुळे आहे त्या तलाव व बंधाराऱ्याचे दुरुस्तीचे काम करणे.

उदा. तलावाचे पिंचीग, गाळा काढणे व दुरुस्तीचे काम इत्यादी.

2) चिंचाळा गावाच्या परिसरामध्ये 150 फुट खोलीपर्यंत बेसाल्ट खडकाचे मुख्य सात थर आढळत असुन, त्यामध्ये काळा पाषाण थर क्र. 1 व 3 मधुन पाणी खाली जात नसल्यामुळे भूशास्त्रीय सर्वेक्षण नुसार तयार केलेल्या लिथोलॉग मध्ये त्या परिसरात काळा पाशान खडक थर क्र. 1 आणि क्र. 3 मधुन पाणी पाझरत नसल्यामुळे गाव परिसरातील भुजल साठे पुर्नेभरण होत नसल्यामुळे परिसरातील तलाव व बंधाऱ्यामध्ये (Artificical recharge pit) पुर्नेभरण बोअर घेऊन जमीनीवरील पाणी भुजलामध्ये सोडुन भूजल पातळी वाढविता येईल.

Geohydrological survey for Selection of Site for Watershed development and Artificial Recharge ,Tahasil-Ashti, Dist-Beed by NAAM Foundation and CSGSS, Aurangabad

Village Name : Chinchala

Introduction:

The Village Chinchala is situated in Ashti tahasil area, District-Beed of Marathwada region in Maharashtra. The village is distributed in wadi-vasti and located at North latitude 18°50'19" and East longitude 75°12' 26.60" with an altitude of 650 m above mean sea level. It is located near catchment of Shekapur reservoir project. The seasonal groundwater condition in rainy season is moderate to good while, village is facing water scarcity problem in the summer season of every year. The projected area of survey is falling in MDP (Moderately Dissected Plateau) to SDP (Slightly Dissected Plateau) geomorphological unit based on the contour map of Chinchala village. The detail geological hydrological condition of the area is mentioned below.

Geology of the area:

The major part of the project area constitutes a sequence of basaltic lava flows (Deccan Trap) while alluvium occupies a small portion along the river channels. The Deccan Trap formation is very thick and comprises of multiple lava flows. The compact basaltic lava flows and amygdaloidal basalt lava flows are the major lava flow unit observed in the project area. The small unit of red bole patches also observed within two massive lava flows. The upper lava flows mostly affected by differential weathering processes. So that, sheet jointing, spheroidal weathering are the index features of upper lava flows. Along river channels paleochannels are being observed in the dugwell vertical section. In some of the other wells those are away from the main channels also reported with paleochannels which is indicate that, there has been great migration of river channels in the previous history. The detailed graphical representation of lava flows are indicated in litholog map of Chinchala village.

Hydrogeology of the area:

Groundwater occurrence and movement in the area is influenced by its hard rock formations. Groundwater potentially depends upon porosity and permeability (both primary and secondary) of rock formations. The drainage network of streams from project area shows dendritic to sub-dendritic, radial to sub-radial drainage pattern. The development of dendritic to subdendritic drainage in area it indicates the area of massive to hard rock types and gently sloping terrain.

Suggestion for the artificial recharge:

The litholog of the study area is indicating top Flow No. F-7 and F-6 affected by weathering processes rather than underlying amygdaloidal basalt lava flow (Flow No. F-5) demarcated shallow aquifer system. While, Flow No. F-4 is compact basalt with closely jointed and Flow No. F-3 is compact basalt (unjointed) which is underlying by Flow No. F-2 amygdaloidal basalt and below that, Flow No. I is again occupied by compact basalt flow. The middle Flow No F-4 and F-5 are impermeable and does not allowed groundwater to percolate downward. So that, in the project area the groundwater is not available in shallow aquifer during summer season so that, mostly all borewells and dugwells become dry during summer season hence water is supplied by tanker for drinking purpose. In summer season mostly all borewells and dugwells become dry while groundwater potential in shallow aquifer is good but underlying Flow No. F-4 which is impermeable and do not allow groundwater to percolate downward. Hence, to recharge deeper aquifer channel, creation of artificial openings in middle impermeable layers are required in the project area by implementing artificial recharge methods.

For watershed development programme following site are being selected in the watershed according to dipping and lithology survey:

1. Shekapur Dam 2. Bhawani Aai Talav

3. Chinchala Village Dam

Hydrogeologist CSGVSS, Aurangabad

Dug-Well Inventory

Beed undertaken by NAAM Foundation and Chatrapati Shahu Gramin Vikas Shikshan Sanstha Aurangabad Well Inventory Form Dam- 01 - const Village Fizial Date - 29106119 שוושווה Gut No. Name of the Farmer OIUWell No...... In Village Location User... Personal/Community/ Location of the well. South side-lio ml. unsic rinkid, In the Nala, Riverbed). UISIC rind 19 Total Depth 12 ml, Water level from ground level 10 ml lal - 18 50 16 In rainy season m, winter 6 ml; summer DEA m 1009! 75 11 15 EN 2-626 ml Percelation from : Bottom / Lateral Direction (in the case of lateral direction) Rainy Season Acre Summer Season Acre (9.2) desv 2 - 20 Quantity of withdrawals :- Daily Hrs. Seasonal cc meter I day Time require for a full recharge / recuperation : (Rainy season ______Hrs; winter ______ Hrs; Summer _____ DEN ____ Hrs.) Any other information

Korde Tukaram Name of the Surveyor

Signatui

condy; wearthand soil Smt (1.5 ro) Amygdaloidal Basall 10ml MN 3 50 rol compact theet Jointed Basalt 2.50 rol Amy odaloidal Basall ant mma) नित. UISK CINIA a) Linning NO. b) Soll - Black / Yellow /Sandy fellow Black 5011 ond c) Existing watersheds structure/ Proclamation dam in neighboring region, d) Effect of existing structures on watertable. e) Geological / Geographical effect on groundwater. *** *** ******************** f) Compact basalt 3.50 mot compact Basalt. flow. e) Amygdaloidal Basalt Blternate Bmygdaloidal Booalt floco are presend h) Vesigular Basalt NO. ****************** i) Tachylytic basalt ay Ischylyne Datalle NO.) Flow contact NO. k) Dyke rock NO I) Any remark about geological formation.

Geohydrogeological mapping of <u>Ashhi</u>...... Tahsil District Beed undertaken by NAAM Foundation and Chatrapati Shahu Gramin Vikas Shikshan Sanstha Aurangabad

Well Inventory Form

Village feierol

Any other information

Korde Takaron Name of the Surveyor

Date- 29106119 Truch

DITOITOIA IMG-20190612-WA0006 jpg 8ml -יייין וומער טען גע ישנ ושט גער ישני 3 D1. construction (morry m 2 m) weatherd basal tes mpart. chall joint hoter 1 MN 8 mt 13 my galeloi dal Basalt 2 m) compact Basal 200 UIER mich present a) Linning Inning cemerol ----and a second b) Soft - Black / Yellow /Sandy the syrtace Black mol 1 ∞ c) Existing watersheds structure/ Proclamation dam in neighboring region. ******* _____ d) Effect of existing structures on watertable. e) Geological / Geographical effect on groundwater. A Compact besalt m. present. compact Baralt: 10 Ð Amydaloidal Bagall How g) Amygdaloidal Basalt g) Amygdaloidal Basalt 8 100 -----present h) Vestenlar Basalt No D Tachylytic basalt NO. I) Techylytic baselt J) Flow contact k) Dyke rock 641 ------1) Any remark about geological formation. *****

Geohydrogeological mapping of <u>Ashi</u>...... Tahsil District Beed undertaken by NAAM Foundation and Chatrapati Shahu Gramin Vikas Shikshan Sanstha Aurangabad

0-10 Well Inventory Form Village Fertilal Date - 29/06/19 Reliony Pule + (If the Harizontal bore is taken in _ ... Direction, Length m. and far vertical barehalem, Location at the bottom) Winter SeasonAcre En alter 2 Quantity of withdrawals :- Daily Hrs. Seasonal cc meter / day Time require for a full recharge / recuperation : Any other information

Korde Takaroro VI.

Signature

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Geohydrogeological mapping of Ashti Tabsil District Reed undertaken by NAAM Foundation and Chatrapati Shahu Gramin Vikas Shikshan Sanstha Aurangabad

Well Inventory Form

Village Diritos

बब0) रामीज्स) जोकरे Date - 29/06/19 ...Well No. 13. Gut No. Name of the Farmer

In Village Location User ... Personal/Community/..... Location of the well. Noeth Side. (Farmland, Bank of Nala, In the Nala, Riverbed) ... 91161

(Whether water from other sources brought to this well if yes source and Hes of pumping_.....

In rainy season _____m, winter ____g __, summer ____ Bergm. long ? 751117 overfloo EN!

1.1.1

Rainy Season Acre Winter SeasonAcre. Summer Season Acre

Type of withdrawals/Pump Out :- Electrical motor. J. Diesel Pump. 5. HP. Quantity of withdrawals :- Daily Hrs. Seasonal cc meter / day

Time require for a full recharge / recuperation :

Any other information

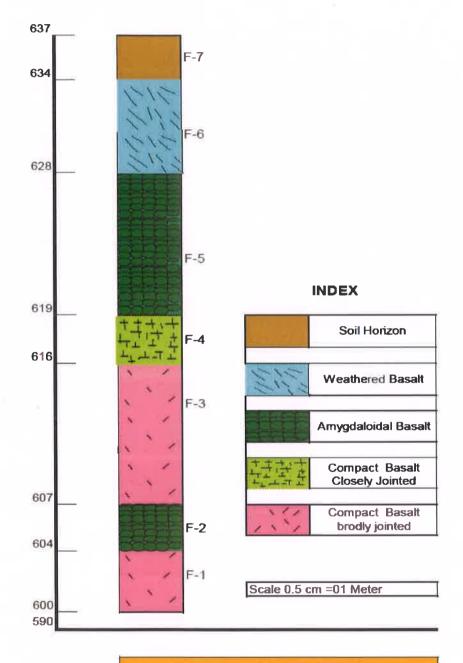
Korde Tukoram. Name of the Surveyor

IMG-20190612-WA0006 jpg 8/25/21)19 TANK S-mb -Contar: חלידום זייםון זפרוחים 42-50 weatherd B. Jal. 9 rot 11.50 On Pack Boscall md. with sheed Joints 5101 ForeLO construction a) Linning 100 Contraction of the Contraction o and the second se b) Soft-Black / Yellow /Sandy glack ent on the surface. -----c) Existing watersheds structure/ Produmation dam in neighboring region. d) Effect of existing structures:on watertable. ----e) Geological / Geographical effect on groundwater. ------********************** with. 11-50 00 9 Gompact busalt Base compact ----gheet maints. or wanted to be a state of the state of the g) Amygdaloidal Basalt pbsent ------************** Nº. h) Vedanlar Basalt ----------I) Techylytic baselt NO ------------)) Flow contact NO. -----k) Dyks rock k) Dyke rock i) Any remark about geological formation.

Geohydrogeological mapping of Ashhi Tahsil District Beed undertaken by NAAM Foundation and Chatrapati Shahu Gramin Vikas Shikshan Sanstha Aurangabad

D-20 Well Inventory Form Village Feitigs Date - 29/06/19 214. UICHO .Well No. 22. Gut No. Name of the Farmer . In Village Location User ... Personal/Community/..... Location of the well. Noeth, (Farmland, Bank of Nala, In the Nala, Riverbed). UISK ANT EN'- ayml Percolation from : Bottom / Lateral Direction (in the case of lateral direction) (If the Marizontal bare is taken inDirection, Length.....m. and far vertical barehole...m. Location at the bottom) Winter Season Acre Summer Season Acre Type of withdrawals/Pump Out :- Electrical motor Diesel Pump 5. HP Quantity of withdrawals :- Daily Hrs. Seasonal cc meter / day Time require for a full recharge / recuperation : Any other information Kordy Tukaram vi . Name of the Surveyor

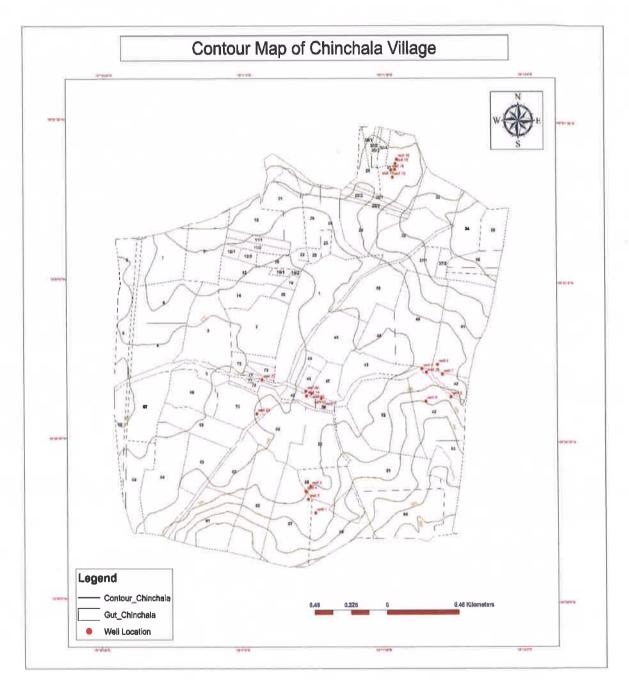
VG-2010012 WA0006 199 1/25-2019 grot mailine of the well continu (3.5m) construction 2.5ml Anygolaloidal Basalt pN. 13:001 compact shell Joinkol Barall. water Remt table HMID 2.50ml Amygdaloidal Basalf um) compact, with glassy. Baoald. Line AR Bmt mind) presentin cector. Dugwell 3 a) Linning ceners Hay noing b) Soil - Black / Yellow /Sandy Black c) Existing watersheds structurel Produmstion dam in mighhoring N NEQUE a) Effect of existing synchronic an watertable. Second generation of existing synchronic and watertable. Second generation of the second generatio 29n increases in gummee e) Geological / Geographical effect on ground Put free LSM Party Free Put free LSM Party Free Put f angli basalt peri Amyda Salta 1.0.1. lt present 00 D Compact basali , TLAA empiret Sheet -01 2) Amygdaloidal Bosnit h) Vesicular Basalt ------DD I) Tachylytic baselt j) Flow contact ofren k) Dyka rock A.b. I) Any remark about geological formation. -----



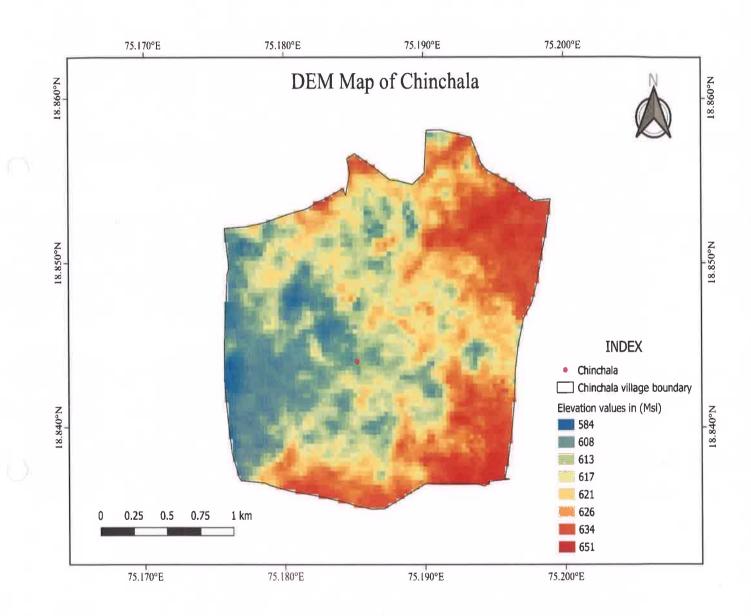
Litholog of Chinchala Village

Litholog of Chinchala Village

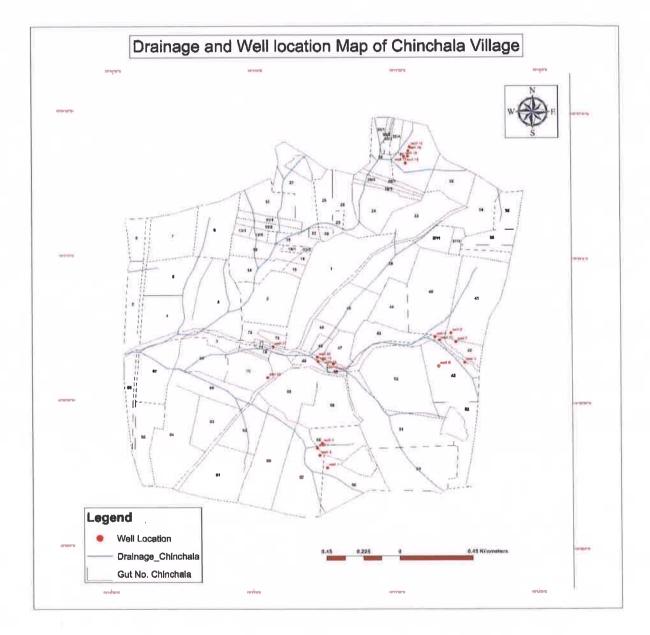




DEM Map of Chinchala



Drainage and Well location Map of Chinchala Village



Field Photos



Geologist surveying on field



Weathered Compact Basalt Flow with Kanker Deposit



Weathered Compact Basalt Flow with some fractures



Fractured Compact Basalt in which percolation of water can be seen



Photograph showing watersheds from Chinchala Village



Photograph showing increase in Water levels of the well from Chinchala Village



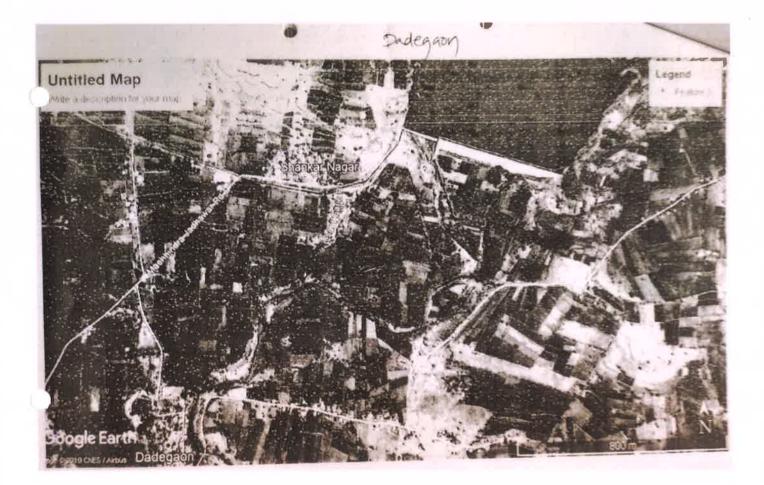
Geologist surveying on Nala site

PRINCIPAL Deogiri College Aurangabad. IC Seal PANGE

Dadegaon Village

Dadegaon is a Village in Ashti Taluka in Beed District of Maharashtra State, India. It belongs to Marathwada region. It belongs to Aurangabad Division. It is located 82 KM towards west from District headquarters Beed. 14 KM from Ashti. 274 KM from State capital Mumbai. Devinimgaon (6 KM), Dhamangaon (6 KM), Limbodi (6 KM), Khilad (7 KM), Deolali (7 KM) are the nearby Villages to Dadegaon. Dadegaon is surrounded by Pathardi Taluka towards North, Nagar Taluka towards west, Ahmednagar Taluka towards west, Patoda Taluka towards East.

Google Earth image of Dadegaon Village



Details of the Survey

Geohydrological Mapping & Site Selection for Artificial Recharge of Water in Watershed Development Programme, Undertaken By NAAM Foundation, Mumbai and CGVS Sansta, Aurangabad

1. Village Name : Dadegaon, Ta- Ashti , Dist-Beed

2. Date of Survey: 10/06/2019

3. Name of Geologist and Hydrogeologist for Survey in the field:

- a. Prof. Ashok Tejankar
- b. Ganesh Gaikwad
- c. Shantanu Wadhankar
- d. Rushikesh Puri
- e. Jayesh Mhaske
- f. Kshitij Sontakke

4. Name of the Members for assist to survey in the field:

- a. Shri Khillare
- b. Ramesh Dandge
- 5. NAAM Pratinidhi: Shri Rajebhau Shelake

6. Local villagers/ Farmer:

- a. Lakshman Padhare
- b. Bandale Sanjay
- c. Bhagirath Vidhate
- d. bhilaji Gaikwad
- 7. Total No of Well surveyed:
 - 08 dugwells in the field + 21 dugwells through Satellite imagery Survey
 - = Total 29 dugwells
- 8. Total map prepared:
 - a. Contour map of Village
 - b. Drainage map of Village
 - c. Dem map of Village
 - d. Litholog of Village
 - e. Geology map of Village
- 9. Recommendation and Conclusion:
 - a. For Artificial Recharge suitable/ Unsuitable:-----

b. Structure for watershed development programme:-----

Geohydrological Mapping & Site Selection for Artificial Recharge of Water in Watershed Development Programme, Undertaken By NAAM Foundation, Mumbai and CGVS Sansta, Aurangabad

1. Village Name : Dadegaon, Ta- Ashti , Dist-Beed

2. Date of Survey: 11/06/2019

3. Name of Geologist and Hydrogeologist for Survey in the field:

- a. Mr. Shantanu Wadhankar
- b. Rushikesh Puri
- c. Jayesh Mhaske
- d. Kshitij Sontakke

4. Name of the Members for assist to survey in the field:

- a. Shri Khillare
- b. Traymbak Pote
- 5. NAAM Pratinidhi: Shri Rajebhau Shelake

6. Local villagers/ Farmer:

- a. Nathabapu Sawan
- b. Vinay Sawant
- c. Santosh Bandhal
- d. Dhondiram Bandhal
- e. Dnyandev Gilche
- 7. Total No of Well surveyed:

```
06 dugwell in the field + 13 dugwell through Satellite imagery Survey
= Total 19 dugwell
```

- 8. Total map prepared:
 - a. Contour map of Village
 - b. Drainage map of Village
 - c. Dem map of Village
 - d. Litholog of Village
 - e. Geology map of Village

9. Recommendation and Conclusion:

a. For Artificial Recharge suitable/ Unsuitable:-----

b. Structure for watershed development programme:

Survey by Prot Ashok Tejankar Dood 21191 est 301 how Ja Erenan States Perocoption and other Erronney 9 1- 90 Month FRANCE ן עצרים הונימו בי וציא אין איר אינוגות ישלא ואי גווסגוב Exclusion of asselling Artificial redarge structure advised fingeren her forver tquifor rectarge 2301 Actor dollard. martine Franking all all and strand all Arritial rech or apartucked. aisponsel Sugarani. Any brant - 3 + teer FR- F-2 How F,comp. basnet - arjointof (Recharge veguire)

Geohydrogeological mapping of Tahsil District C Beed undertaken by NAAM Foundation and Chatrapati Shahu Gramin Vikas Shikshan Sanstha Aurangabad

Well Inventory Form

Date - 10 - 6 - 19 .. Well No.D-3 Gut No. Name of the Farmer In Village Location North & Vinet .. User ... Personal/Community ... Personal Location of the well...... (Farmland, Bank of Nala, In the Nala, Riverbed)..... Parapet Ht.....Shape-Cicular/Square, Diameter of well..... (Whether water from other sources brought to this well if yes source and Hrs of pumping Total Depth, Water level from ground level.....m. In rainy seasonm, winter, summerm. Percolation from : Bottom / Lateral Direction (in the case of lateral direction) (If the Horizontal bore is taken in Direction, Lengthm. and for vertical boreholem, Location at the bottom) Use :- Drinking, Irrigation Acres, Horticulture, etc Rainy Season Acres Acre Summer Season Mit Acre (feb - 2 horn) Winter Season ... I.O. homo.Acre Quantity of withdrawals :- Daily Hrs. Seasonal cc meter / day Time require for a full recharge / recuperation : Any other information

Name of the Surveyor

Signature

18° St Geolydrog Altitude 585m Dat 11 16-4 ... 11111111111 a) Linning b) Soil - Black / Yellow /Sandy 2715-19-1532 c) Existing watersheds structure/ Proclamation dam in neighboring region. 421 124 5.02 d) Effect of existing structures on watertable. & Die Water Table Luc CM e) Geological / Geographical effect on groundwater. f) Compact basalt Grady part - ty - Juner g) Amygdaloidal Basait permitte - main h) Vesicular Basalt Kennen-8 I) Tachylytic basalt A J) Flow contact k) Dyke rock i) Any remark about geological formation,

Geohydrogeological mapping of Tahsil District Beed undertaken by NAAM Foundation and Chatrapati Shahu Gramin Vikas Shikshan Sanstha Aurangabad

Lat - 18° 57"77'N long -75°04".BBE Well Inventory Form Village Dadegoan Date - 11/06/19 Well No. D20 D20 रावत भवि Gut No. 186 Name of the Farmer In Village Location User ... Personal/Community/..... Parapet Ht......Shape-Cicular/Square, Diameter of well. 26 (Whether water from other sources brought to this well if just source and Hrs of pumping Percolation from : Bottom / Lateral Direction (in the case of lateral direction) Type of withdrawals/Pump Out :- Electrical motor Diesel Pump HP. 3HP Quantity of withdrawals :- Daily Hrs. Seasonal cc meter / day pry almos Time require for a full recharge / recuperation : Any other information

5201 Tom - Cab- mall - antion With parapet (Fa) - cB-patch. guarte vein present invB 25 # AB with & 2# patch below the parapet wall. (fr). 417 I'ff Base water (Fr) -circular. a) Linning cement b) Soil - Black / Yellow /Sandy Sandy Soi ver c) Existing watersheds structure/ Proclamation dam in neighboring region. d) Effect of existing structures on watertable. Due to porous & permeable AB, percelsite in walny season well e) Geological / Geographical effect on groundwater. Dell . RIVEN 9(10)9 the Dell . recharge by siver bainy sason. f) Compact baselt Road Dat oblique g) Amygdaloidal Basalt sheeted AB. will ful porousand penneabl f..... h) Vesicular Basalt *********************** ------***** parapet I) Tachylytic basalt CB. J) Flow contact NA k) Dyke rock NA I) Any remark about geological formation. rainy season A.B.

Geohydrogeological mapping of Tahsil District Beed undertaken by NAAM Foundation and Chatrapati Shahu Gramin Vikas Shikshan Sanstha Aurangabad

Well Inventory Form Altitude -Village Dadegoon. Dute - 11/06/19 Well No. Da In Village Location User ... Personal/Community/..... Location of the well...... (Farmland, Bank of Nala, In the Nala, Riverbed)..... In rainy seasonm. winter....., summer.....m. Percolation from : Bottom / Lateral Direction (in the case of lateral direction) (If the Horizontal bore is taken in ____ Direction, Lengthm. and /or vertical boreholem, Location at the bottom) Use :- Drinking, Irrigation Acres, Horticulture, etc Rainy Seuson Acre no due to no conc. Summer Season Acre Type of withdrawals/Pump Out :- Electrical motor Diesel Pump HP. NA-Time require for a full recharge / recuperation : Any other information

320 Top -surface. Conterne - Calin walt - and an stt panapet (coment) 34 - AB - litholog not identified by due to new construction. 43 7+ - Base CB-with zeolites & quartz vein present $(F_1) =$ a) Linning Coment. b) Soil - Black / Yellow /Sandy Saray c) Existing watersheds structure/ Proclamation dam in neighboring region. AB flow YC>y thick to help percotate d) Effect of existing structures on watertable. with through outside AB - provous in nature e) Geological / Geographical effect on groundwater. **D** Compact basalt realites quartz vein CB. with ***************************** g) Amygdaloldal Basalt and toom Present. piver C h) Vesicular Basalt NA i) Tachylytic basalt NA j) Flow contact NA k) Dyke rock NA 1) Any remark about geological formation clearby area of scinounded by Highly Jainted massive rock (Basaff) and Hydrothermal attended AB.

Beed undertaken by NAAM Foundation and Chatrapati Shahu Gramin Vikas Shikshan Sanstha Aurangabad Lat -18°57"65 K) Jong -75°4"64 E Altitude -557 m Well Inventory Form Date - 11/06/19 Village Dadegogn. D-23 Gut No. 151 Name of the Farmer ATTIG Eddin are Well No. D 23 In Village Location User... Personal/Community/. 126 Sona Location of the well...... (Farmland, Bank of Nala, In the Nala, Riverbed)..... ..., If yes type..... Parapet Ht. 15 A. Shape-Cicular/Square, Diameter of well. 22 7 Whether water from other sources brought to this well if yes source and Hrs of pumping. In rainy seasonm, winter....., summer. Percolation from : Bottom / Lateral Direction (in the case of lateral direction) (If the Herizantal bore is taken in _____ Direction, Length.____m, and /or vertical boreholem, Location at the bottom) Use :- Drinking, Irrigation Acres, Horticulture, etc Rainy Season 24. Acre Winter Season 15. Acre Summer Season O. Acre Quantity of withdrawals :- Daily Hrs. Seasonal cc meter i day Time require for a full recharge / recuperation : Any other information

, Of 4 Top surface at the second and an ts to parapet - stony AB with hydrothermal rein .(F) (23Ff) 488 1ft water by added by lateral Bore as a) Linning stone -circular IS THE TREAM TO THE TREAM TO THE TATE T b) Soll - Black / Yellow /Sandy Sandy Black c) Existing watersheds structure/ Proclamation dam in neighboring region. RIVET GLONG H.C. SIVEN 9.00.C Dete d) Effect of existing structures on watertable. rechard the bottom ... e) Geological / Geographical effect on groundwater. Elver is reedent east side of the well f) Compact basalt NA ***** g) Amygdaloidal Basalt AB with hydrothermal van h) Vesicular Basait i) Tachylytic basaltNA j) Flow contact Sam NA a S p k) Dyke rock P22 ********* NA f) Any remark about geological formation. Sumounded by pleasey area etwell Mossive Basalt and Hydrothermal attended A.

Cohydrogeological mapping of Tahsil District Beed undertaken by NAAM Foundation and Chatrapati Shahu Gramin Vikas Shikshan Sanstha Aurangabad 1at-18°57"67 N Well Inventory Form long-75° 4"59 E Altitude-558m Date - 11/06/ Village Dadegogn. Gut No. 15.1. Name of the Farmer -24 In Village Location User... User... Personal/Community/..... Location of the well......, (Farmland, Bank of Nala, In the Nala, Riverbed)..... Year of the Digging ... Parapet Ht 21. 7. Shape-Cicular/Square, Diameter of well. 25 (Whether water from other sources brought to this well if yes source and Hrs of pumping.m. Percolation from : Bottom / Lateral Direction (in the case of lateral direction) Use :- Drinking, Irrigation Acres, Horticultur Rainy Season 24.5. Acre Winter Season 5. Acre Summer Season 1-..... Acre Type of withdrawals/Pump Out :- Electrical motor Diesel Pump HP. S. HP Quantity of withdrawals :- Daily Hrs. Seasonal cc meter / day Time require for a full recharge / recuperation : Any other information

and an af the wall contine D=25-21 7t parapet 0 0 AB - 1 (F2) 13 TH WT Below WT-577-CB. (G) a) Linning Stony Construction b) Soil - Black / Yellow /Sandy Soil Lomy c) Existing watersheds structure/ Proclamation dam in nelghboring region. River prouver so watertable d) Effect of existing structures on watertable. e) Geological / Geographical effect on groundwater. ************ f) Compact basalt Water 19 Be UW por AW g) Amygdaloidal Basalt sheetec Diver Ri h) Vesicular Basalt i) Tachylytic basalt NA ************************) Flow contact ********************* **************** k) Dyke rockN.A. ************ ****** i) Any remark about geological formation. to the sucr anlong the well water e get high so water is present Ferbre

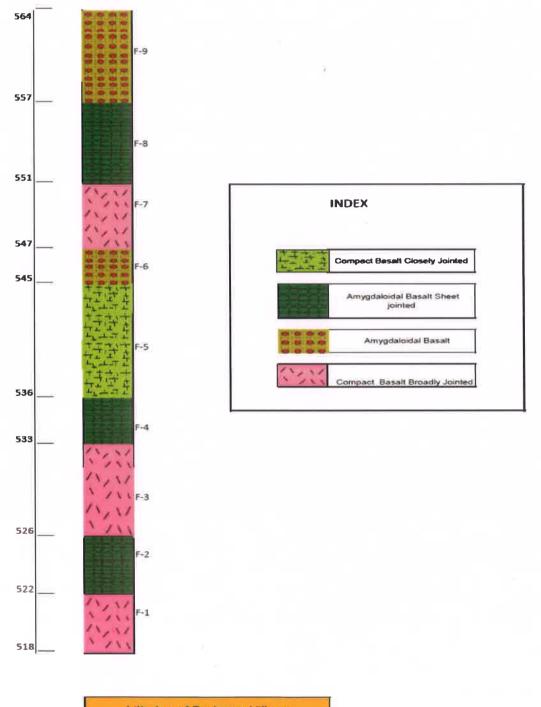
Geohydrogeological mapping of Tahsil District Beed undertaken by NAAM Foundation and Chatrapati Shahu Gramin Vikas Shikshan Sanstha Aurangabad

S7"78'N Lot - 18° Well Inventory Form Jong 564 m ude = Dac Village Date - 1/06/2019 Gut No. 192 Name of the Farmer Allo Well No.... In Village Location User... Vser... Personal/Community/..... Location of the well....., (Farmland, Bank of Nala, In the Nala, Riverbed)..... 2017 2イダ・ Year of the Digging, Construction year....., If yes type..... Parapet Ht. 13 PShape-Cicular/Square, Diameter of well. 26 (Whether water from other sources brought to this well if yes source and Hrs of pumping Total Depth 65 In rainy season summerm. Percolation from : Bottom / Lateral Direction (in the case of lateral direction) (If the Horizontal bare is taken in ____ Direction, Length......m, and /ar vertical barehalem, Location at the bottom) Use :- Drinking, Irrigation...... Acres, Horticulture....., etc....., etc....., Rainy Season 2.4 No Acre Winter Season 1.5 ho Acre Summer Season 7 by Acre Type of withdrawals/Pump Out :- Electrical motor Diesel Pump HP. 5 HP. Quantity of withdrawals :- Daily Hrs. Seasonal cc meter / day Time require for a full recharge / recuperation : (Rainy season Q.4 Hrs; winter Hrs; Summer Hrs.)

Any other information

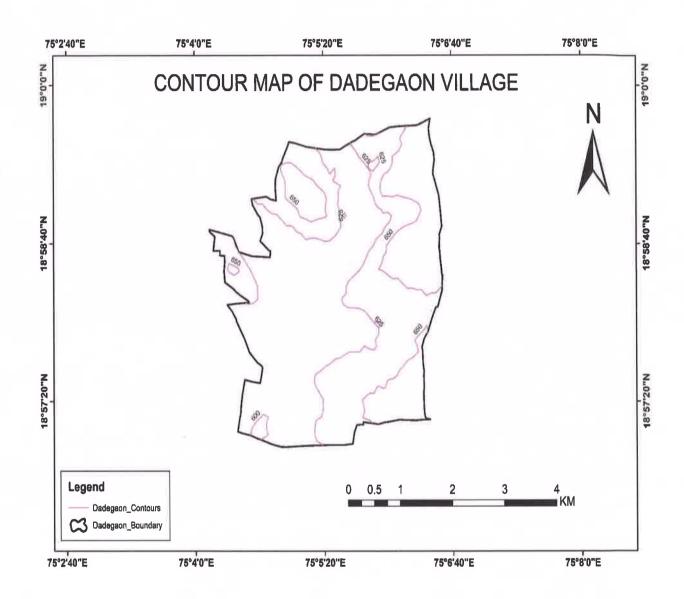
D=267 loss of the well section 13 ++ - proquet 19.02 AB fused with weathered guarte vein . 65 22 H Compact Basalt - Dateral Bore at CB at 3H water- Table. Top of CB. erment. a) Linning b) Soil - Black / Yellow /Sandy BIQUE ------c) Existing watersheds structure/ Proclamation dam in neighboring region. River diong the well. d) Effect of existing structures on water able. 15 present. ************* e) Geological / Geographical effect on groundwater. voe f) Compact basalt CB qr Rottom g) Amygdaloidal Basalt tused. N h) Vesicular Basalt NA wel i) Tachylytic basalt NA. J) Flow contact NA: k) Dyke rock NA : I) Any remark about geological formation. well present along the siver so working get in Jum patchthe

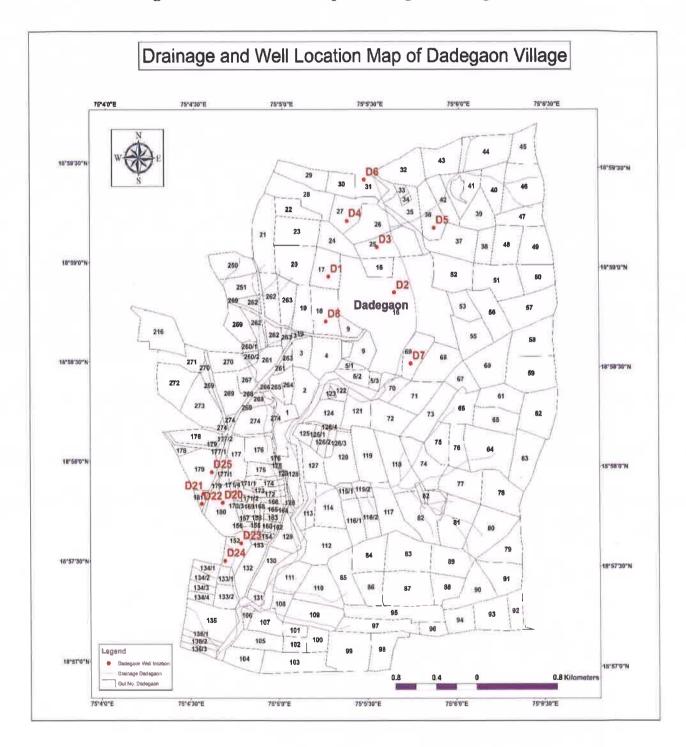
Litholog of Dadegaon Village



Litholog of Dadegao Village

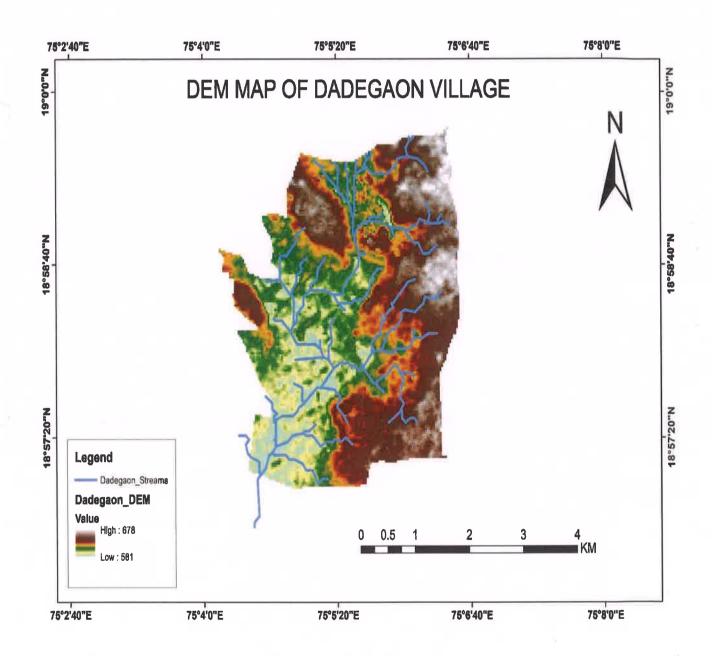
Contour Map of Dadegaon Village





Drainage and well location map of Dadegaon Village

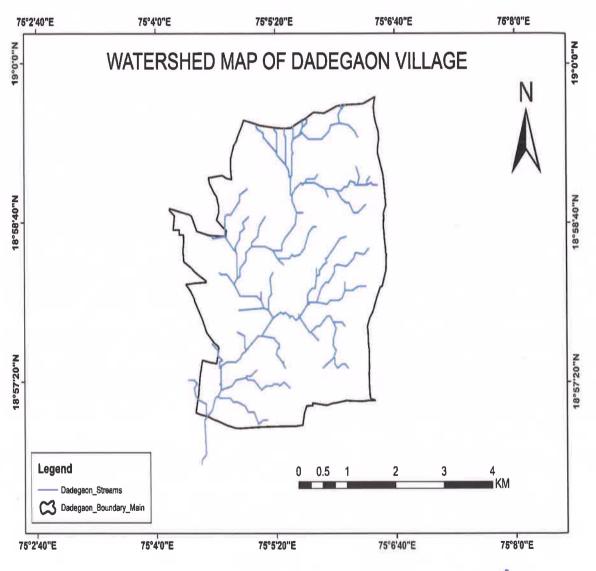






Photographs showing watersheds management at Dadegaon Village.

Watershed Map of Dadegaon Village





Devlali

Introduction

Deolali is a Village in Ashti Taluka in Beed District of Maharashtra State, India. It belongs to Marathwada region . It belongs to Aurangabad Division . It is located 81 KM towards west from District head quarters Beed. 21 KM from Ashti. 275 KM from State capital Mumbai Dhamangaon (7 KM), Dadegaon (7 KM), Suleman Deola (10 KM), Khilad (12 KM), Dongargan (12 KM) are the nearby Villages to Deolali. Deolali is surrounded by Ashti Taluka towards South, Nagar Taluka towards west, Ahmednagar Taluka towards west, Shirur (Ka) Taluka towards East.

12 2 addimi पानी पातनी - पावसाळा - बिरिर मवलपास भून भरते Reakal - 2ते 3 लाम yeilang dug well उन्हाकी - यहिर उन्हान्याल कोर्डी यहने - मदा भागाल बाराही माहेने सिर्वछ वाहले Jeen Belt पनेतु दियाळ्यात योग कामी होतो व कोत्र2 उन्हाळ्यामह्य नवळणास नाहीसी होते. Pare Pet - गायासील खास्त्रींसा नयळणास 20-2 Feet 3116dt मही :)10/211 NE side on नहीं साह • 101 निर : अधीवर काही हिकाओं बंहारे बांहला येतील मधी सीली करन कार्स आजात सालिले आहे. काही बांचार इक्तर करव्यायी आवश्यकत) alle. उन्हान्या महये गावाल दांकर ने पानी पुरवहा होता Astificial Lecharge ! कार्स कारामहरू करेवे रायनेचे आहे.

Dug well Inventory Form of Devlali Village

Beed undertaken by NAAM Foundation and Chatrapati Shahu Gramin Vikas Shikshan Sanstha Aurangabad

Lat - 19° 1"04' A long -75° 4"84 E Well Inventory Form Altitude- 645 m Date - - 1111/06/19 Village Aacot Gut No. Name of the Farmer 9713 Well No .. In Village Location User... User... Personal/Community/..... Location of the well......, (Farmland, Bank of Nala, In the Nala, Riverbed)..... Parapet Ht. 16. J. Shape-Cicular/Square, Diameter of well...? Percolation from : Bottom / Lateral Direction (in the case of lateral direction) Use :- Drinking, Irrigation...... Acres, Horticulture......, etc...... Summer Season Acre

Type of withdrawals/Pump Out :- Electrical motor Diesel Pump HP. S. HP

Rushikesh D. Pured Name of the Surveyor

Signature

320 Conlow of the wall continu MA 16 71 parapet -stone 1-92 37 AB-sheeted with quarte vein-weathered - water a) Linning 198 Stone - circu b) Soil - Black / Yellow /Sandy Black c) Existing watersheds structure/ Proclamation dam in neighboring region. d) Effect of existing structures on watertable. Not I den it ted and etteres. e) Geological / Geographical effect on groundwater. AB POOR ground waters gelid f) Compact basalt _____ g) Amygdaloidal Basalt sheeted AB. h) Vesicular Basalt I) Tachyiytic basalt i) Flow contact k) Dyke rock i) Any remark about geological formation. Due to The processe of AB the groundwater prior ni roog si bring.

Lat -19° 1" 60"N long - 750 4"80'E Well Inventory Form ageste Date - 11/06/19 Village . शकलेWell No.... D34 Gut No. Name of the Farmer of do In Village Location User ... Vser ... Personal/Community/..... Location of the well...... (Farmland, Bank of Nala, In the Nala, Riverbed)..... In rainy seasonm., winter....., summer......m. Percolation from : Bottom / Lateral Direction (in the case of lateral direction) (If the Horizontal bore is taken in Direction, Length....m. and for vertical borehole...,m, Location at the bottom) Summer Season O Acre Type of withdrawals/Pump Out :- Electrical motor Diesel Pump HP. SHP Quantity of withdrawals :- Daily Hrs. Seasonal cc meter / day Any other information Bers Rushikash D. Rusi Name of the Surveyor Signature

000 Geology of the well section porgpet - cement AB. sheeted CB. - Broadly Jointed. 46 35 F. a) Linning n) Linning Cement lining b) Soil - Black / Yellow /Sandy BINCK c) Existing watersheds structure/ Proclamation dam in peighboring region, No. 100 1000 1000 1000 1000 1000 1000 d) Effect of existing structures on watertable. e) Geological / Geographical effect on groundwater. no CB Chance 02 1) Compact basalt Broadly Joint bottom 107 07 rom to middle then g) Amygdaloidal Basalt NA: h) Vesicular Basalt NAL i) Tachylytic basalt j) Flow contact k) Dyke rockN.A.:..... I) Any remark about geological formation. The nearby are surrounded by loany soil and Broadly Jointed Massive BosaH. _____ poor condition for GW pield / potential.

Geohydrogeological mapping of Tahsil District Beed undertaken by NAAM Foundation and Chatrapati Shahu Gramin Vikas Shikshan Sanstha Aurangabad

Lat= 19.1.10 0 bng=75°5.20 Well Inventory Form -AltHude = 635 Village Gaedica Date - 11/06/19 Gut No. 165 Name of the Farmer 718 0112 SHIMIS In Village LocationUser ... Personal/Community/..... Total Depth S. J.T., Water level from ground level J. J. In rainy seasonm, winter, summer Use :- Drinking, Irrigation Acres, Horticulture, etc Rainy Season 4. Acre Winter Season 1. Acre Summer Season QQ. Acre Type of withdrawala/Pump Out :- Electrical motor Diesel Pump HP ... HP Dia of outlet pipe cm. Anch Quantity of withdrawals :- Daily Hrs. Seasonal cc meter / day Time require for a full recharge / recuperation : Any other information AT H

Rushikesh D. Risi Name of the Surveyor

Signature

Geology of the well section GI. porquet Cement (B. Broadly 44%#t AB = 5-8 Mft - weathered 5471 11.24 C.B. BJ. a) Linning Cement ***** b) Soll - Black / Yellow /Sandy Black Sandy c) Existing watersheds structure/ Proclamation dam in neighboring region. No jaentited d) Effect of existing structures on watertable. e) Geological / Geographical effect on groundwater. Horizontal Bore are taken f) Compact basalt g) Amygdaloidal Basalt weathered A.B. ********* h) Vesicular Basalt NA i) Tachylytic basalt NA i) Flow contact N.A. **** k) Dyke rock N.A: I) Any remark about geological formation. porrosity are provent due to AB

1 . N TW.

		Lat- 19 1 40 N
	Well Inventory Form	long-7505"60'E
Village adation	A	$long - 75^{\circ} S'' 60' E$ Hitude = <u>638</u> m
Cut No 16. Name of the	Farmer टेलीदर- कस्तीनाव	L. Well No
Location of the well	(Farmland, Bank of Nala, In the Nal റ്രോണ് construction year, If yes	a, Riverbed) Sn 1 y . type
Parapet Ht8.44Shape-Cic (Whether water from other sources brough Total Depth 52-44, Wate	cular/Square, Diameter of well?. to this well if yes source and Hrs of pumping er level from ground level	oft: m.
	ateral Direction (in the case of later action, Lengthm. and for vertical borehole	
Use :- Drinking, Irrigation Rainy Season		, etc
Dia of outlet pipe	ut :- Electrical motorDiesel I cm. /inch y	
Time require for a full rechar, (Rainy season 24Hrs;	ge / recuperation : winter	
Any other information		

Rushiltash D. Rusi Name of the Surveyor

ADW

Signature

Seon D=20 样 Genloov of the well section File Genlow of the well section top + step parapet cernent - AB sheeted + 16 ft CB - Broadly Jointed + 15 ft AB - sheet Jointed. 4.11 F2 52 # +13 tt CB - Broadly Jointed a) Linning Cement - Circulars. ****** b) Soll - Black / Yellow /Sandy Lomy Soll c) Existing watersheds structure/ Proclamation dam in neighboring region. d) Effect of existing structures on watertable. watertable sechange between, A.B which goe covered by two C.B e) Geological / Geographical effect on Foundwater. f) Compact basalt Broadly Jointed g) Amygdaloidal Basalt Sheet Jointed h) Vesicular Basalt i) Tachylytic basalt N.A. j) Flow contact NA ******** Flow k) Dyke rock betw wo A.B. gr een + i) Any remark about geological formation.

Beed undertaken by NAAM Foundation and Chatrapati Shahu Gramin Vikas Shikshan Sanstha Aurangabad

Well Inventory Form

Village Zaester
Date -
Gut No. Name of the Farmer (취직 카) 강문 테고 국 Well No. D37
In Village Location User User Personal/Community/
Location of the well
Year of the Digging
Parapet Ht. 10 #+ Shape-Cicular/Square, Diameter of well. 22 #+
Total Depth
Percolation from : Bottom / Lateral Direction (in the case of lateral direction
Use :- Drinking, Irrigation Acres, Horticulture, etc, etc
Winter Season
Type of withdrawals/Pump Out :- Electrical mater Director
Dia of outlet pipe
Time require for a full recharge / recuperation :
(Rainy season 20 Here winter 9

Rushildesh D. Puzi Name of the Surveyor

Signature

ALt: - 640

Genloov of the well section GI WAB - 6 mt 32 11 parapet -stone p 42 # 6.9 - A.B. sheeted to #+ CB-sheeted. (F.) a) Linning stone - circular b) Soil - Black / Yellow Sandy Lom Sail c) Existing watersheds structure/ Proclamation dam in neighboring region. No watershed structure are possent d) Effect of existing structures on watertable. NO Effect of existing sprichen because of UB presen ****** f) Compact basalt CB-sheeld. g) Amygdaloidal BasaitN.A... h) Vesicular Basalt N i) Tachylytic basalt wel N'A j) Flow contact 10 ----k) Dyke rock Nt 4:00 02 90H 1) Any remark about geological formation. The Bose we is made by parapet entry 107+ .. . halist

Lat - 1907"79"N Long - 75° 5"48'E Well Inventory Form Altitude - 646 m काशीनाम लेखेकर Dag Village Gacolori Gut No. 228. Name of the Farmer 2124 In Village Location User ... Vser ... Porsonal/Community/..... 1939 8040. In rainy seasonm, winter, summerm. Percolation from : Bottom / Lateral Direction (in the case of lateral direction) (If the Horizontal bore t. taken in Direction, Lengthm. and for vertical boreholem. Location at the bottom) Use :- Drinking . .., Irrigation Acres, Horticulture, etc Summer Season Q Acre Time require for a full recharge / recuperation : (Rainy seasonQ. 4......Hrs; winterHrs; SummerQ........Hrs.) Any other information Rushikeon D. Ris

Name of the Surveyor

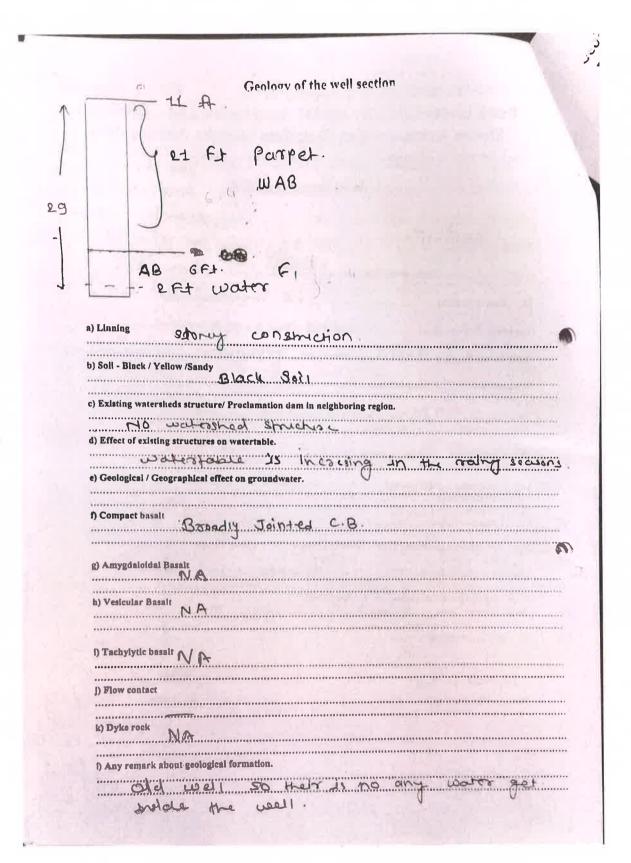
Signature

(320) Geology of the well section D= 12 GL lop 14 32 parapet - 30 ft - due to 80 yr sld well stone. (AB. sheeted) CB Broadly Jointed F. a) Linning stone-circular. b) Soil - Black / Yellow /Sandy Black - loany Soil ******** c) Existing watersheds structure/ Proclamation dam in neighboring region. plo I dentited . d) Effect of existing structures on watertable. No any watestable identified e) Geological / Geographical effect on groundwater. ***** f) Compact basalt Greadly Jointed ****** g) Amygdaloidal Basalt NA h) Vesicular Basalt NA i) Tachylytic basalt NA. i) Flow contact Assession and a second k) Dyke rock NA. i) Any remark about geological formation. that is all well covered by practic

	***************************************	Lat - 19°2" 68'N
	Well Inventory Form	long - 75°5" (0'E
		long - 75° 511 co's Altitude - 652 m
Village Gadioli		Date - 11/06/19
Gut No Name of the	Farmer 2120121	Well No. D40
Gut No Name of the	First Berrough	Community/
	User Personal/	
Location of the well	(Farmland, Bank of Nala, In the Na	la, Riverbed)
Year of the Digging .9.4,0,0	Construction year	s type
	cular/Square, Diameter of well	
Total Depth	er level from ground level	m .
Percolation from : Bottom / La (If the Horizontal bore is taken inDire	ateral Direction (in the case of late action, Length	eral direction) m. Location at the bottom)
Use :- Drinking, Irrigation Rainy Season	Acres, Horticulture	, etc
Winter Season	Acre	
Summer Season	Acre	
Type of withdrawals/Pump O	ut :- Electrical motorDiesel	PumpHP
Dia of outlet pipe Quantity of withdrawals :- Dail	y Hrs. Seasonal	cc meter / day
Time require for a full rechar (Rainy season2.4Hrs;	ge / recuperation : winter5 Hrs; Summer	
Any other information		
2 r. Alerana		Adves
Rushikesh D-Pusi		- MOSHEL -

Name of the Surveyor

Signature



Well Inventory Form

Date - Alti - 644 m Village EqectedWell No. D- 42 ठालेवा व्याडे In Village Location User ... Vser ... Personal/Community/.....

Parapet Ht......Shape-Cicular/Square, Diameter of well...... Whether water from other sources brought to this well if yes source and Hrs of pumping.

In rainy seasonm. winter....., summer.....m.

Percolation from : Bottom / Lateral Direction (in the case of lateral direction) (If the Horizontal bore is taken in Direction, Length......m. and /or vertical horehole....m, Local on at the bottom)

Use :- Drinking, Irrigation Acres, Horticulture, etc Rainy Season Acre Winter Season Acre Summer Season O...... Acre

Type of withdrawals/Pump Out :- Electrical motorDiesel PumpHP

Time require for a full recharge / recuperation :

Any other information

Rushikeah P.Purel Name of the Surveyor

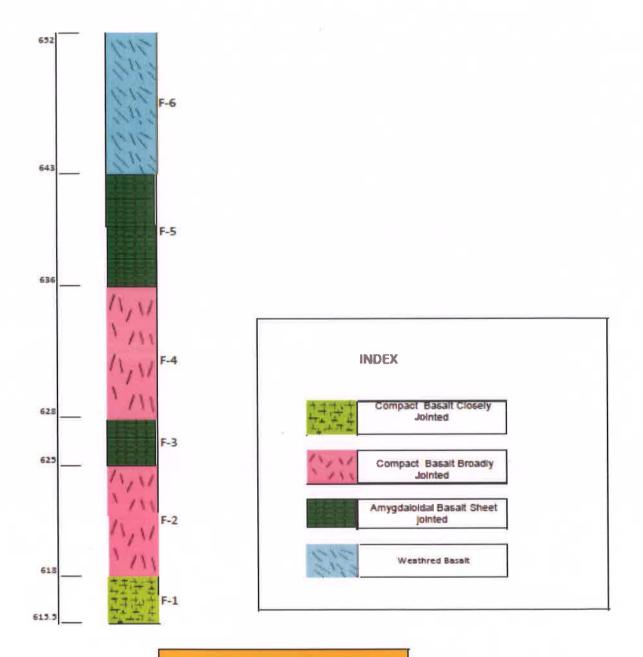
lat: 19º11 661 N

1009-75 51170'E

Signature

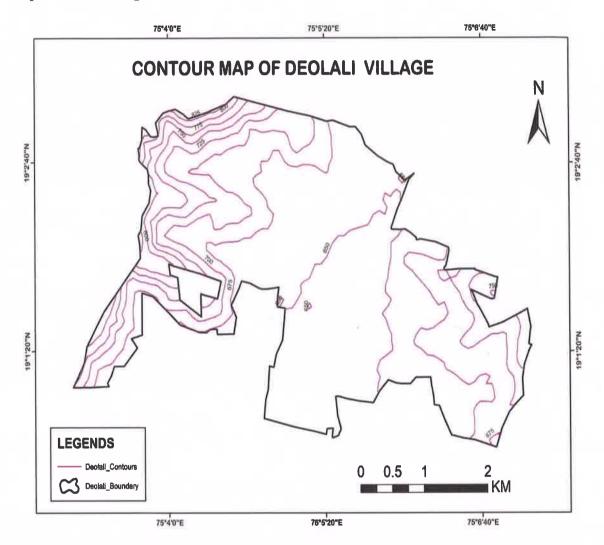
Contom of the well costion 17 65 k TOP 1.043 Portapet. BAU -13 FJ 30 F.F AB 15 FJ (AB) Sheetd. FI - 4.57 129 CG a) Linning Stone linning b) Suil - Black / Yellow Sandy Sail Black c) Existing watersheds structure/ Proclamation dam in neighboring region. d) Effect of existing structures on watertable. due to piver water get inside the older e) G subgical / Geographical effect on groundwater. No identified () Compact Insult tom NA AF g) Amygualoidal Basalt A.B. Sheeted h) Vesicular Basalt NA i) Tachylytic basalt NA 1..... and the second second D Flow contact k) Dybe rock NA. h Any remark about geological formation. pue to Marge partan if AB water gat Inside From the River side.

Litholog of Devlali Village

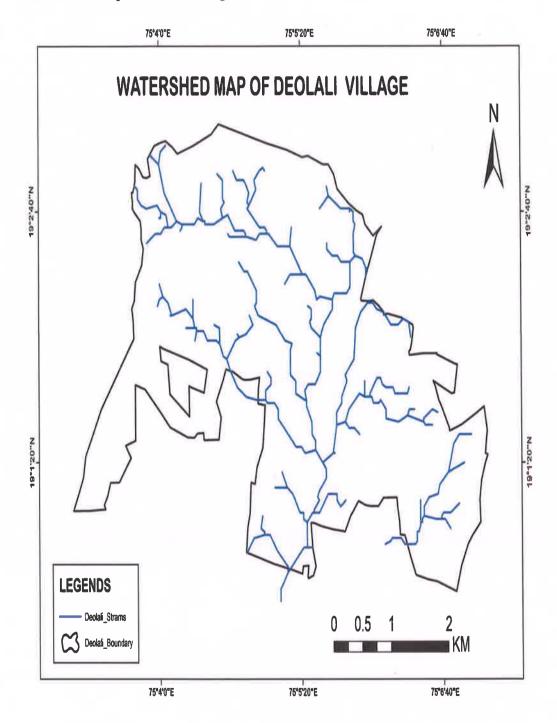


Litholog of Deolali Village

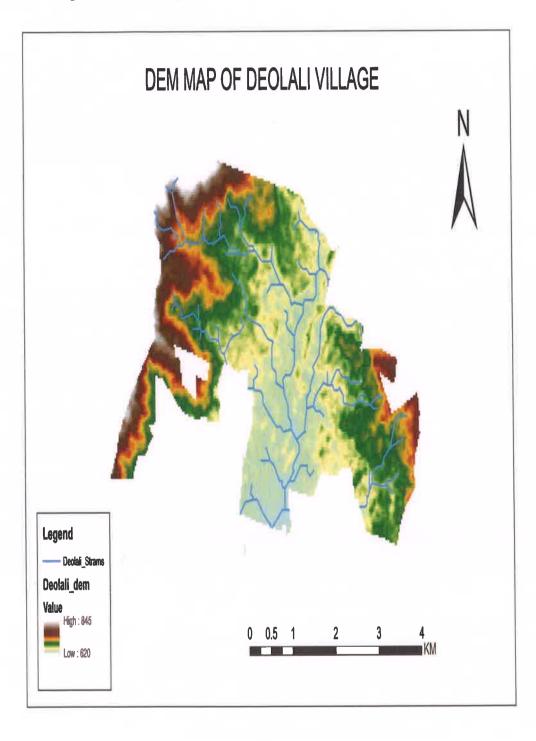


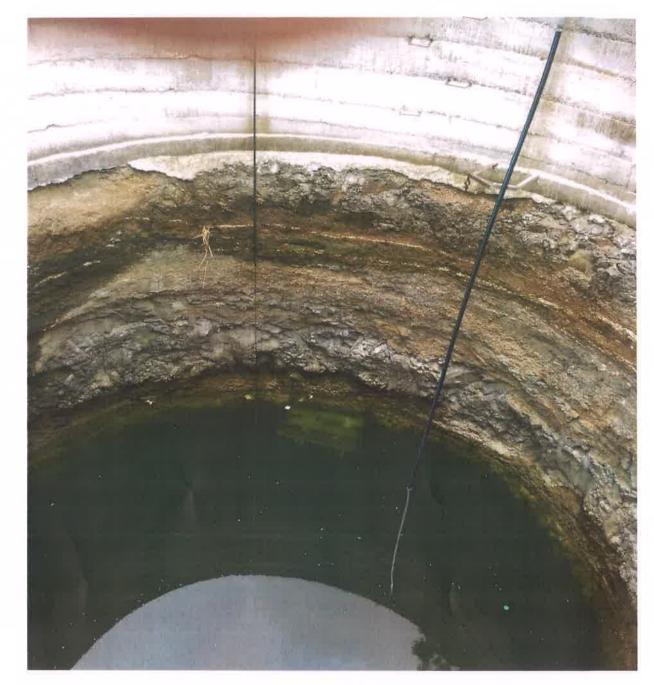


Watershade Map of Devlai Villages



DEM Map of Devlai Village





Photographs showing Increase in water level at Devlai,



Photographs showing watersheds management at Devlali.

Details of the Survey

Geohydrological Mapping & Site Selection for Artificial Recharge of Water in Watershed Development Programme, Undertaken By NAAM Foundation, Mumbai and CGVS Sansta, Aurangabad

1. Village Name : Devlali, Ta- Ashti , Dist-Beed

2. Date of Survey: 11/06/2019

3. Name of Geologist and Hydrogeologist for Survey in the field:

- a. Shantanu Wadhankar
- b. Rushikesh Puri
- c. Jayesh Mhaske
- d. Kshitij Sontakke
- 4. Name of the Members for assist to survey in the field:
 - a. Shri Khillare
 - b. Pramod Kulkarni
- 5. NAAM Pratinidhi: Shri Rajebhau Shelake

6. Local villagers/ Farmer:

- a. Navnath Shelke
- b. Gahininath bholaji bade
- c. Devidas Khade
- d. Shivaji Bade
- e. Baban Talekar
- f. Ramdas Talekar
- g. Dadasheb Khade
- 7. Total No of Well surveyed:
 - 10 dugwells in the field + 18 dugwells through Satellite imagery Survey
- = Total 28 dugwells 8. Total map prepared:
 - a. Contour map of Village
 - b. Drainage map of Village
 - c. Dem map of Village
 - d. Litholog of Village
 - e. Geology map of Village
 - 9. Recommendation and Conclusion:
 - a. For Artificial Recharge suitable/ Unsuitable:--

b. Structure for watershed development programme:-----

OGL

PRINCIPAL Deogiri College Aurangabad.

Dongargan Village

Dongargan is a Village in Ashti Taluka in Beed District of Maharashtra State, India. It belongs to Marathwada region. It belongs to Aurangabad Division. It is located 85 KM towards west from District headquarters Beed. 11 KM from Ashti. 272 KM from State capital Mumbai. Dadegaon (4 KM), Kada (5 KM), Sabalkhed (5 KM), Limbodi (7 KM), Dhanora (7 KM) are the nearby Villages to Dongargan. Dongargan is surrounded by Pathardi Taluka towards North, Nagar Taluka towards west, Jamkhed Taluka towards South, Ahmednagar Taluka towards west.

Name of Surveyor

Geohydrological Mapping & Site Selection for Artificial Recharge of Water in Watershed Development Programme, Undertaken By NAAM Foundation, Mumbai and CGVS Sansta, Aurangabad

1. Village Name : Dongargaon, Ta- Ashti , Dist-Beed

2. Date of Survey: 11/06/2019

3. Name of Geologist and Hydrogeologist for Survey In the field:

- a. Mr. Shantanu Wadhankar
- b. Rushikesh Puri
- c. Jayesh Mhaske
- d. Kshitij Sontakke
- 4. Name of the Members for assist to survey in the field:
 - a. Shri Khillare
 - b. Sharad Chavhan
- 5. NAAM Pratinidhi: Shri Rajebhau Shelake
- 6. Local villagers/ Farmer:
 - a. Dnyandev Chavan
 - b. Baban Chavan
 - c. Rajaram Chavan
 - d. Dattatray Chavan
 - e. Shankar Chavhan
 - f. Sitaram Pawar
- 7. Total No of Well surveyed:
 - 11 dugwell in the field + 23 dugwell through Satellite imagery Survey
 - = Total 34 dugwell
- 8. Total map prepared:
 - a. Contour map of Village
 - b. Drainage map of Village
 - c. Dem map of Village
 - d. Litholog of Village
 - e. Geology map of Village
- 9. Recommendation and Conclusion:
 - a. For Artificial Recharge suitable/ Unsuitable:-----
 - b. Structure for watershed development programme:-----

भूशास्त्रीय सर्वेक्षण डोंगरगण, ता. आष्टी, जी. बीड

डोंगरगण गावपरिसरामध्ये Well Inventory, GIS & Remote Sensing Technique, भूशास्त्रीय सर्वेक्षण, हयाभागात पडणारा सरासरी पाऊस तसेच शेती; पिण्यासाठी व इतर कामासाठी पाण्याची मागणी इत्यादी बाबीचा आढावा घेऊन या भागातील पाणी टंचाई कमी करण्यासाठी खालील कामे करण्याची शिफारस करण्यात येत आहे.

१) डोंगरगण गावाच्या परिसरामध्ये साधरणतः ७० मीटर खोलीपर्यंत बेसाल्ट खडकाचे मुख्य १३ थर आढळत असून, त्यामध्ये काळा पाषाण थर क्र. ३ व १० मधून पाणी खाली जात नसल्यामुळे गावाच्या उत्तरेकडून दक्षिणेकडे वाहणाऱ्या नदी तलावामध्ये कृत्रिम पुनर्भरण (Artificial Recharge Structure) घेतल्यास परिसराची भूजल पातळी वाढण्यास सदत होईल त्यासाठी डोंगरगण गाव शिवारातील नवीमध्ये कमीत कमी भ्र 30 पुनर्भरण पिटस घेण्यात यावे.

२) गाव परिशरातील नदी पात्रामध्ये नवीन तीन बंधारे बांधणे.

3) गाव परि तरामध्ये नदीपात्र भागात साधरणतः ३० फूट खोली पर्यंत भूजल वहणास उपयुक्त खडक रचनाः असल्यामुळे गाव परिसरामध्ये जास्तीत जास्त बंधारे बांधल्यास पावसाच्या आण्याचे पुनर्भरण मोठ्या प्रमाणात होऊन परिसरातील भूजल पातळी वाढेल.

her and and second and and

River winder dectri from village Dongergan terfasiden 100 fires (Kadi) L B H - 3007 ×14×3 - 126000 12:20 " 3 km 19 Px82 x 0002 El Mines (Bridge) 2000 × 11 × 2.5 - 41250 2000 × 11 × 2.5 - 155000 one Side. orther " Dopper aferici 3122] - \$1.5 aucor - 2555200. Someth. 25 80 How workt 10+1/1007. 280, Day. Oriegel 3340, 6x70 = 5,83 y.~ JeB- 5220x Jan 5559200 2807800 Pit x 50 x 30,000 15000 ~ 43078~ () Borger 6 @ Cathy AD-20' (3) BBM-3m (3) Datsbor filling The -PB ~ gre Dapp2417

Dug-Well Inventory

Geohydrogeological mapping of Tahsil District Beed undertaken by NAAM Foundation and Chatrapati Shahu Gramin Vikas Shikshan Sanstha Aurangabad

Lat - 18°56"59 N Long -75°4"49E Altifude -<u>525</u>m Well Inventory Form Village Dongangan . Date - 11/06/2019. HEILA - The PT Well No D10 Name of the Farmer राश्द In Village Location SE from well ... User ... Personal/Community/ Location of the well. S.W., (Farmland, Bank of Nala, In the Nala, Riverbed)..... Year of the Digging 1969, Construction year. 1969, If yes type..... In rainy seasonm, winter...., summer.....m. Percolation from : Bottom / Lateral Direction (in the case of lateral direction) (If the Horizontal bore is ta. en in Direction, Lengthm. and /or vertical boreholem, Location at the bottom) Type of withdrawals/Pump Out :- Electrical motor Diesel Pump HP. Dia of outlet pipe cm. /inch Quantity of withdrawals :- Daily Hrs. Seasonal cc meter / day Time require for a full recharge / recuperation : (Rainy season ... 24: Hrs; winter Hrs; Summer Dry Hrs.) Any other information

Contant of the well contion · Top surjace 3371 parapet wall - stony Construction. 到手 97t - AB sheeted Jointed Dry Base - standy soil a) Linning a) Linning -stone-construction b) Soil - Black / Yellow /Sandy Sandy Sol c) Existing watersheds structure/ Proclamation dam in neighboring region. Along the siver & well present d) Effect of existing structures on watertable. positive -----c) Geological / Geographical effect on groundwater. pot and potentiat -----f) Compact basalt -----River East side g) Amygdaloidal Basalt sheeted A.B. at the well h) Vesicular Basalt ate i) Tachylytic basalt we A V2 J) Flow contact k) Dyke rock - NA I) Any remark about geological formation. of by compact Baself build outside

Geohydrogeological mapping of Tahsil District Beed undertaken by NAAM Foundation and Chatrapati Shahu Gramin Vikas Shikshan Sanstha Aurangabad

Lat-18°56"61'M Well Inventory Form -75°411 59'E Village Dong 90991 Gut No. 182 Name of the Farmer 217TRIA CITA JEF Well No. D13 In Village Location User... User... Personal/Community/..... In rainy seasonm, winter...... summer......m. Percolation from : Bottom / Lateral Direction (in the case of lateral direction) (If the Horizontal bore is taken in Direction, Lengthm. and /or vertical boreholem, Location at the bottom) Use :- Drinking, Irrigation...... Acres, Horticulture......, etc..... Winter SeasonAcre Summer Season Acre Dia of outlet pipe Quantity of withdrawals :- Daily Hrs. Seasonal cc meter / day Any other information

Coology of the wall section 777 - cement concrete structure [new] top syntace. 324 # - stony old parepet 38 # o # - AB-sheeted. Tf1 North side 271 cement a) Linning b) Soil - Black / Yellow /Sandy below water table, SOL Black c) Existing watersheds structure/ Proclamation dam in neighboring region. do. d) Effect of existing structures on watertable. e) Geological / Geographical effect on groundwater. Pue to the siver goundwater get hgh. f) Compact basalt AИ g) Amygdaloidal Basall Sheefed 0119 AB h) Vesicular Basalt NA 1..... NA. i) Tachylytic basalt J) Flow contact NA. MA. k) Dyke rock i) Any remark about geological formation. Hren AB are present. autside

Geohydrogeological mapping of Tahsil District Beed undertaken by NAAM Foundation and Chatrapati Shahu Gramin Vikas Shikshan Sanstha Aurangabad

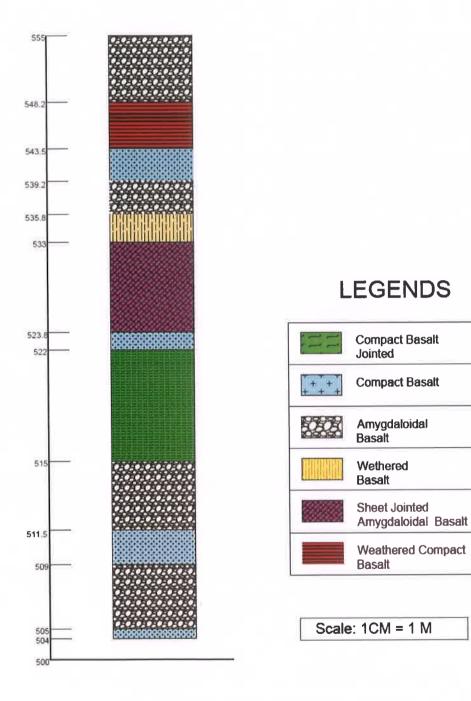
Lat = 18°50"78'N Well Inventory Form long = 75° 3"02 E. Altitude - 552m Village Donggaggn Date - 11/06/2019 TOTZ Well No. D15 Gut No. 6.3 A Name of the Farmer In Village Location User... User... Personal/Community/..... Location of the well......, (Farmland, Bank of Nala, In the Nala, Riverbed)..... Parapet Ht. 11.A. Shape-Cicular/Square, Diameter of well. 22.74 In rainy seasonm, winter....., summer.....m. Percolation from : Bottom / Lateral Direction (in the case of lateral direction) (If the Horizontal bore is taken in Direction, Lengthm. and for vertical boreholem, Loc. tion at the bottom) Use :- Drinking, Irrigation...... Acres, Horticulture......, et c..... Type of withdrawals/Pump Out :- Electrical motor Diesel Pump HP. S. HP Ouantity of withdrawals :- Daily Hrs. Seasonal cc meter / day Time require for a full recharge / recuperation : Any other information

D=22-m Transformer The second second Topsurface 11 #t - story [cB] parepet. 18 ft - CB - Broadly patches with sheet patches. 5# CB → 414 EFJ AB → 327 EfJ 67t water Table. stony living - circular. a) Linning b) Soil - Black / Yellow /Sandy Black sandy c) Existing watersheds structure/ Proclamation dam in neighboring region. M NA d) Effect of existing structures on watertable. Well Recharge throug e) Geological / Geographical effect on groundwater. f) Compact basalt 1) Compact basalt Broach Jointed g) Amygdaloidal Basalt Sheeteo the Jointed 7.0.1.1 b) Vesicular Basalt NA i) Tachylytic basalt HA j) Flow contact NA k) Dyke rock NA 1) Any remark about geological formation. RIVER 930 present along Side the from the well.

lat - 18° 56"08" N long - 75°04"21' E A1Htude - 548m Well Inventory Form Village Donggagan Date - 11/06/19 Gut No. 1. Name of the Farmer Government well well No. D19 In Village Location User ... Personal/Community/..... Year of the Digging, Construction year, If yes type..... Parapet Ht. 18 H. Shape-Cicular/Square, Diameter of well 11 H. (Whether water from other sources brought to this well if yes source and Hrs of pumping In rainy seasonm, winter.......m. Percolation from : Bottom / Lateral Direction (in the case of lateral direction) (If the Horizontal bore is taken n Direction, Lengthm. and /or vertical boreholem. Location at the bottom) Use :- Drinking, Ir rigation Acres, Horticulture, etc Rainy Season S Acre Winter Season Acre Summer Season Acre Type of withdrawals/Pump Out :- Electrical motor Diesel Pump HP Quantity of withdrawals :- Daily Hrs. Seasonal cc meter / day Time require for a full recharge / recuperation : Any other information

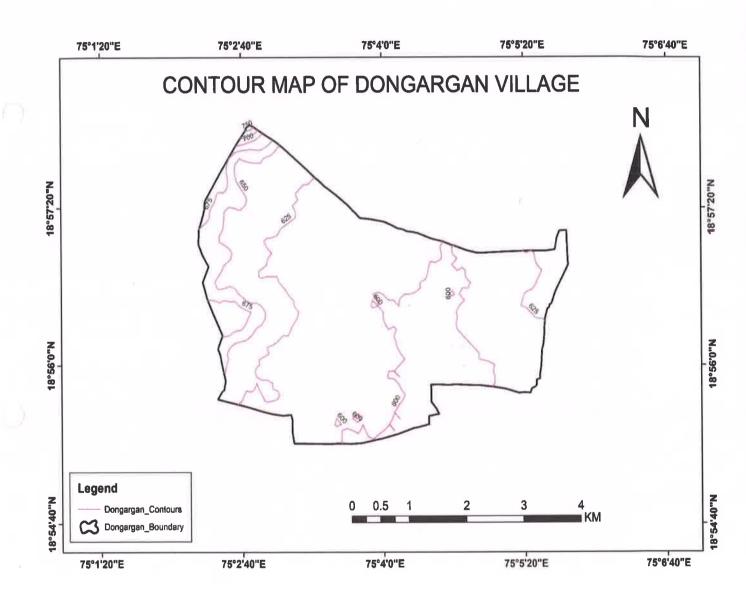
Palan all a shine = 87t cement parapet 157+ _ stony - prospet . チキト 3 ft - CB - Compact CB - No to coacks. (F) Sand a) Linning stone - circular ----b) Soil - Black / Yellow /Sandy Sandy Black c) Existing watersheds structure/ Proclamation dam in neighboring region. Mater Recharge by Lateral Bore. d) Effect of existing structures on watertable. porosity and permeability absent because of C.B. CDC present. e) Geological / Geographical effect on groundwater. well is present switch of the elver f) Compact basalt mpart CB g) Amygdaloidal Basalt NA h) Vesicular Basalt HA I) Tachylytic basalt N.A. J) Flow contact NA k) Dyke rock B Any remark about geological formation. The nearly great of well 13 sourcended by marsive Basalt. So bad condition

Litholog of Dongargan Village

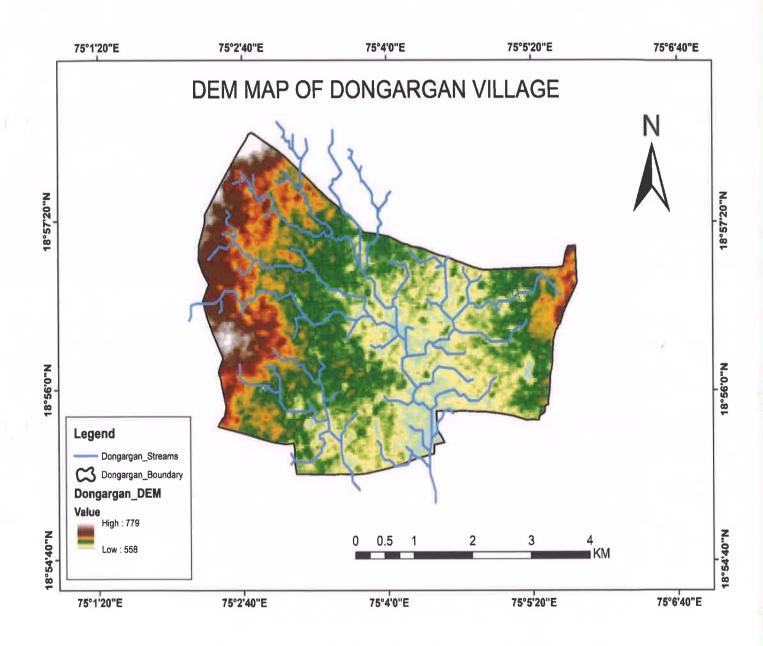


Litholog Of Dongargan Village

Contour Map of Dongargan Village



DEM Map of Dongargan Village

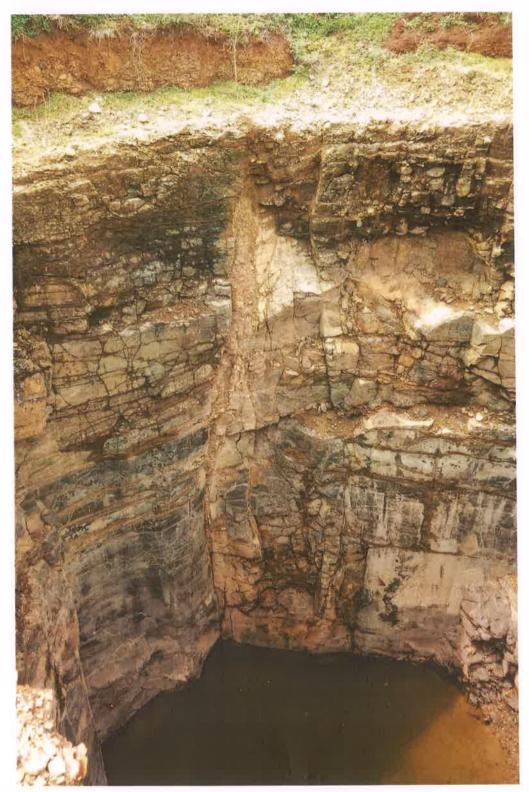




Photographs showing watersheds management at Dongargan Village.

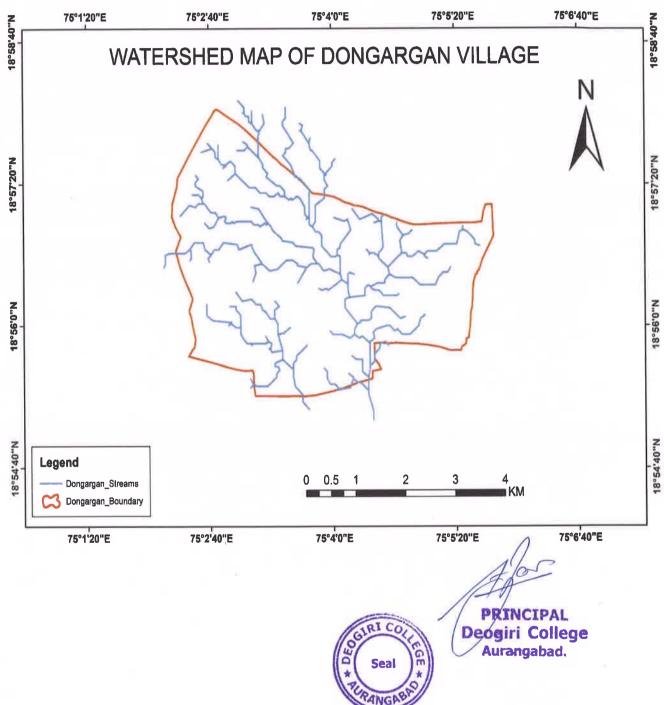


Photographs showing watersheds management at Dongargan Village.



Broadly spaced jointed Compact Basalt Flow can be seen in the outcrop

Watershed Map of Dongargan Village



Gangewadi

Introduction

Gangewadi is a small Village in Karjat Taluka in Ahmednagar District of Maharashtra State, India. It comes under Mahi Panchayath. It is on the border of Marathwada region of Maharashtra. It is located 71 KM towards South from District head quarters Ahmednagar. 20 KM from Karjat. 278 KM from State capital Mumbai. Gangewadi is surrounded by Ashti Taluka towards North, Jamkhed Taluka towards East, Karmala Taluka towards South, Patoda Taluka towards East. **Dug Well Inventory Form**

ž

Pit 1 राजे ताडी પાસ્ટા : પાયસ્થાઓ - અધીયને વિદ્યાનીંના સૂધ વાસ્તી સમત્તે dug wal : TEdas) - କାର୍ଯ୍ୟ ଅମସାନ କଳି ହିନ ଅନ୍ୟାରୀ - ଜାର୍ଣ୍ଣ କ୍ରାମାମନ୍ଦ୍ର ଦାରି ଦାନକରି କାର୍ଯ୍ୟିକୀ green Belt :- कार्का आवांत्र्या तुरावेत या आवामच्ये 210 कमी आहे. - daizes aty -211 storich Pale Stream -अवहोध आहत्यतात. Шо लोट काम ! जार्वेट बंहारे बांह्यलोले आहेल पनेत्र नदी मह्ये कोन्नियरठा करते अवनेत्रे झोह. Azificial Recharge: Dildizati antés quorintes azos destas

Well Inventory Form

Village 2817 (

Total Depth 60.14 Water level from ground level. 2874m. In rainy season 454 m sinier 30 ft number m

Rainy Soason _____ Aere Wonter Season _____ Aere Summer Season _____ Aare

Type of withdrawals/Pimp Out :- Electrical motor _____ Detel Pimp _____ HP____S HP Dia of outlet pipe _______ 2 S____ oh: /inch ______ Quantury of withdrawals - Daily _____ S .____ Itrs. Seasanal ______ cc meter / day

Time require for a full recharge / recuperation : (Rainy senson 2.4. Hes; winter 2.4. Hes; Summer 2.4. Mrs.)

Any other information

5. R. walhanker



-18"54"23'

long -75°13"66' Attifude - 675 m

12-(05)

lat

lake Eside att workton 12:12 I-IAF parquet cement. N AB.-sheeted [F2] 60#+ mainas B weathered mai She 28:44 [Fi] 96 F 2.1.2 A) Linning -----Cemen by Soil - Black / Yellow /Sandy Bloc OGMY c) Existing watersheds structure/ Proclamation dam in orighboring region. echanned the RIVET two trime d) Effect of existing structures on watertuble. el Geniegical / Geographical effect en groundwater Good tation. Grey Gret PETCO potentig f) Compact Dasalt ANTONIA CONTRACTOR g) Amygdabidel Basalt Sheeted Ali h) Vesicular Baself - Parta i) Tachylytic basalt NA. Second Commencement South side well 13el [] Flow contact NA.A. from niver k) Dyke rock NI DYNE FOCK I) Any remark shout geological formation. ----clearby surrounded and loany soil.

à

Geohydrogeological mapping of Tahsil District Beed undertaken by NAAM Foundation and Chatrapati Shahu Gramin Vikas Shikshan Sanstha Aurangabad -18"54"23'

Well Inventory Form

Village 212195

Gut No. Name of the Farmer 211149.

Rain Season _____ Acre Winter Season ____ Acre

Time require for a full recharge / recuperation : (Rainy season 2.4, Mes: winter 2.4 Hes. Summer 2.4 Hes.)

Any other information

5 R. walhanker



long -75°13"66'

Attifude - 675 m

12-106

Jake Eside S.12 LIAP. parquet cement. N 3015 AB.-sheeted [Fz] 60 1+ 11004 B weathered mai She 28-44 (Fi) A) Linning Cerpen b) Soil Black / Yollow Sandy 6100 DEITAS ei Existing watersheds structure/ Proclamation dam in neighboring region. River pschamed ++10 US O Pi d) Effect of existing structures on materiable. el Geological : Geographicel effect en groundwater Cood Retrotation. Goog City potenti f) Compare trassit An Arter of the state of the st g) Amygel doided Boselt sheeted AT hi Vesicular Baselt man Bill i) Tachylytic basalt NA ------South side well WAT () Flow contact iner and an and the fat from nive ki Dyse rock MA aller and added to the transmission I) Any remark about geological formation. cleasty surrounded area loany solt

9 Geohydrogeological mapping of Tahsil District Beed undertaken by NAAM Foundation and Chatrapati Shahu Gramin Vikas Shikshan Sanstha Aurangabad -- 18 54280 long -75°13"67'E Well Inventory Form Altitude - 575m Village Sist and Date- 12/06. Well No. Parapet Ht. 10. A Shape-Cieular/Square, Diameter of well. 20 #++ Total Depth 45 H Water level from ground level is Hm. In narry season 35 Play winter 25 Chammer 10 Percolation from : Bottom / Lateral Direction in the case of interel direction .. in and the second burning of the atom is the bostomic satisfie transmission bear to server to Billion ters barration, Time require for a full recharge / recuperation : Any other information S.R. Washarker. Name of the Surveyor

Par . go west an ement - 1 ug AB-sheeted [F] 45# 10 water AB a) Linaing 46 sym (migs 1)+53 61+67 cemen t -cercular b) Suil - Black / Voltow /Sandy Ü to any relieves of a province of the second Black loamy c) Exasting states and accordance/ Provisions tion date in neighboring region. Ser Along the a) Effect of example structures on vorestable AB period to water e) Gesängical : Geographical affect on grannibuter. Godol concl 1 petential f) Compact busalt though 9:B weathered CB provent E) Amygdabtidat Batalt sheeted AB perent-1000 b) Vesicular Basair Marrien Marrien No. H 1.1 ET I Tachytytie basait NA f) Flow contract 343 - Red bole presen 10 Dyke rock NA If Any remark atout geological formation NA

Geohydrogeological mapping of ______ Tahsil District Beed undertaken by NAAM Foundation and Chatrapati Shahu Gramin Vikas Shikshan Sanstha Aurangabad

2+ -+854531 long -75°13"74 Altifude-691 m Date-12/06/19 Well Inventory Form Village atrias AF ETAZIQUEN No. DY2. Gut No. 30 Name of the Farmer In Village Location User ... User ... Personal Community!..... Parapet Ht. 15. 4. Shape-Cleular/Square, Diameter of well. Sommer Section ____ Acre Type of with draw ald Pamp Out : Electrical motor _____ Dievel Fimp ____ HF 5 HP Elin of outles pipe 9-5 _____ of Anch Quantity of with drawook : Dotty ____ On Anch _____ or meter / day time require for a full recharge (recuperation : ___ lirs.) Any edan intermition .

JA Mihashe

CLARK S Signature

Maple or Peter all and in 0-25 15 to parapet - cement cB - Jointed. 154+ AB-sheeted [F3] 154+ Red bale Thin layane - able to percelot 42 71 very Broadly Jointed. 15Ft CB-() Liming toama b) Soil - Black / Yellow (Sandy Black soil e) Existing watersheds structure! Prachamation dam in adigtificating region. River N-side of the well d) Effect of existing structures on watertable. 1) Gestegtent / Gesgraphitest offset ou greandwater Good perrolation through A.B. fl Compact baself g) Amygdaloidal Basalt 1-51 Concession and the state of the h) Vesicular Basali ------------------River 1) Tastaylytic beauft ------P Play contact. तौंदार] th Dyite rarie - 66 ft mat - 3 4+ 291 b Any remark about geological formation. 7 ft - upsheam side ... -----TARREST CARD OF THE AVEL OF THE PARTY OF THE PARTY. ++ - downstream side 9

iθ

Jot - 18°59"30'M Well Inventory Form long - 75 13"78" F= Altitude- 687 M Gut No. 29 Name of the Farmer CITUS HETOIL HETOIL Date 12/06/19 7 year 2012 Total Depth 30 # Water level from ground level. 1997 m. In rainy season 2 # Winter 15 F. summer m When the matter from other powers brong of the flat with of the source and life of company Percolation from : Bottom / Lateral Direction (in the case of laterol direction) Winter Season Acre Summer Senson S...... Acre Thus require for a full recharge / recuperation : Any other information J.A. Mhaske-

Papelance + Calender Handland 2 # Soll 0.60 upper side # cracks developed. 6 . . . CB-Broadly Compact[Fi] 30 77 a) Linning ALTON PSoil - Lining WIT IN THE REAL PROPERTY OF THE PARTY OF THE b) Soll - Black / Yallow /Sandy Black -Sei Windows recorded and the second statements of c) Existing webrebeds structure! Proclamation dam in neigtbering region. And Discourse were considered as a special second state of the special second state as a special second state of the special -----------() Effect of existing structures on watertallie. e) Geological / Geographical effect on groundiences. poor Gw Condition. Carlanas Talanta Team " Compiler bandt Breadly Compact and imperious arrest A REAL PROPERTY AND A REAL -----cl Amygenheits Batalt Any constant and AB successive had a set of the set. hs Venicular Basalt $\alpha \beta$ AND CONTRACT ON COLUMN it Tachylytic basale NA And the second second second Li Flow contact. XA-A CONTRACTOR OF A CONTRACTOR O Trans Internet k) Dykarack A.F. Inter Distantion of the local distant I Any remark about geological formation. the state of the the state of the s

10-1 गिर्घाटि पानी पालकी : पार्थसार्थ - लग्नेमुळे जिलोनींचा भूव पानी उन्होत duy wat : TEdes) . बोध्या प्रभावाल कर्मा होले 356101 - อายิ ลาเวเนอน นเลโ นเคอร์ สเยิงภ์ 66 gever beit :- and maizer पुलनेत 21 भावाभड्यो 220 कमी अगेट. - data ang all giolici Pale Bizean i अवेशेष आहत्यतात. Ulor mit anit : मार्बर बंहारे बांखलोको आहेल uich क्यों महरे कोनीकरठा करती भरतेचे आह. Azifical Recharge :-בורב להבור להבה לאוא ווכווף ואינה וובילים בובילים ביוב ליבור להבור לאוצו ביוב ליבור ליבור ליבור לאוצו ביוב ליבור ליבור

Details of the Survey

Geohydrological Mapping & Site Selection for Artificial Recharge of Water in Watershed Development Programme, Undertaken By NAAM Foundation, Mumbai and CGVS Sansta, Aurangabad

1. Village Name : Gangewadi , Ta- Ashti , Dist-Beed

2. Date of Survey: 12/06/2019

3. Name of Geologist and Hydrogeologist for Survey In the field:

- a. Shantanu Wadhankar
- b. Rushikesh Puri
- c. Jayesh Mhaske
- d. Kshitij Sontakke

4. Name of the Members for assist to survey in the field:

- a. Shri Khillare
- b. Namdev Moharkar

5. NAAM Pratinidhi: Shri Rajebhau Shelake

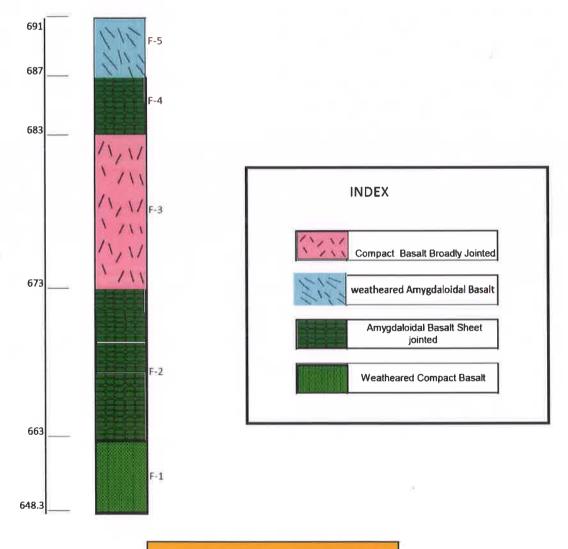
6. Local villagers/ Farmer:

- a. Shankar Gange
- b. Baban Karande
- c. Bappu Ganage
- 7. Total No of Well surveyed:
 - 04 dugwells in the field + 07 dugwells through Satellite imagery Survey
 - = Total 11 dugwells

8. Total map prepared:

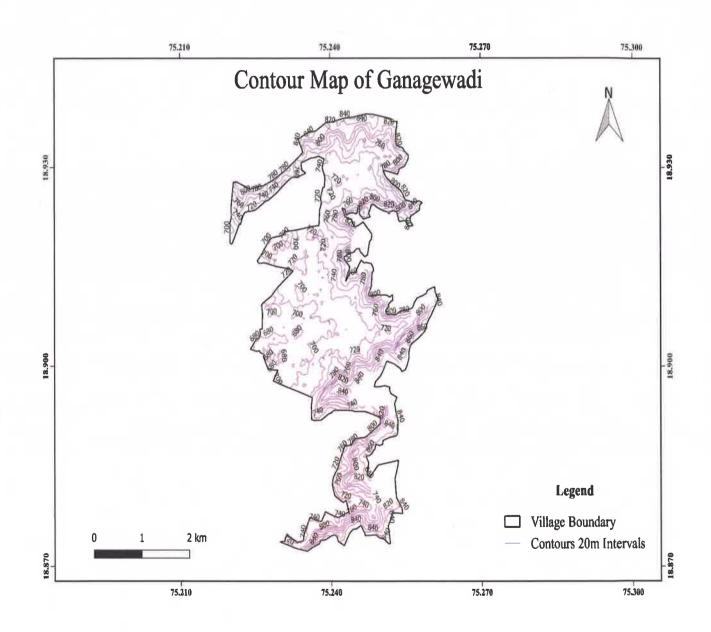
- a. Contour map of Village
- b. Drainage map of Village
- c. Dem map of Village
- d. Litholog of Village
- e. Geology map of Village
- 9. Recommendation and Conclusion:
 - a. For Artificial Recharge suitable/ Unsuitable:------
 - b. Structure for watershed development programme:-----

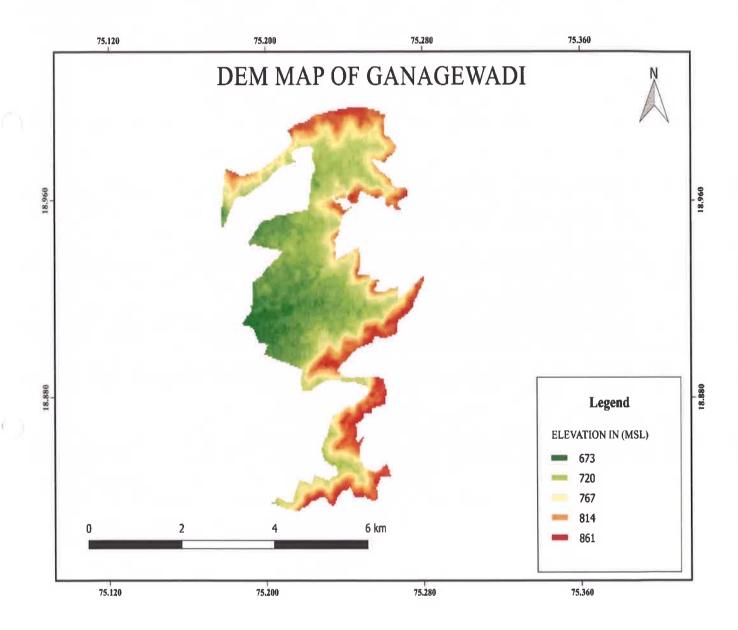
Litholog of Gangewadi Village



Litholog of Gangewadi Village

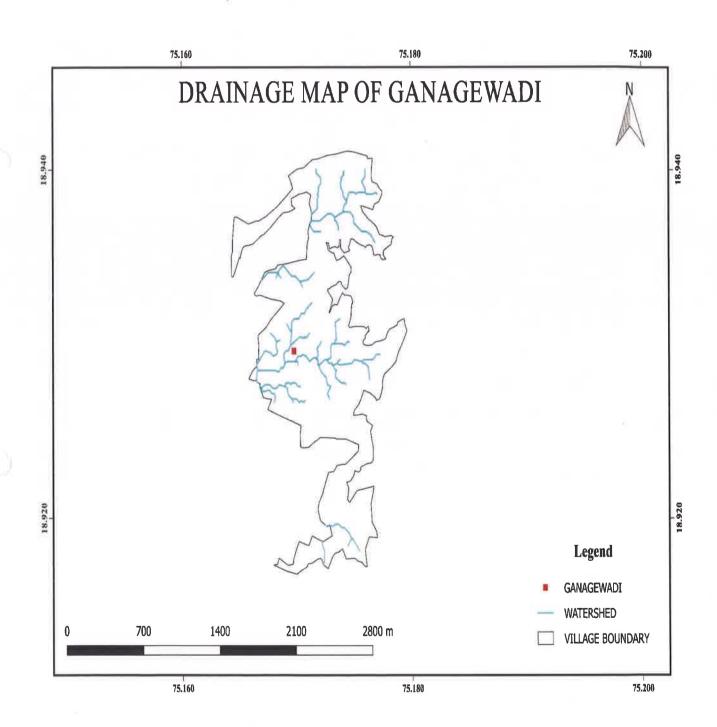
Contour Map of Gangewadi





DEM Map of Gangewadi





Gundewadi

Well Inventary Form

* गहिनाडी- * . जावाच्या उत्तरेस तेयड्या उच्छेत. - नही जलरेकडून द्विनेकडे वाहते. - पानी पालकी - अ तातामाठा : निहीर प्रतिः सरने-Dugusers Jettor - Dry चिगला - 3 ते 4 मास yeilding. पातालोर कामे - वाठालोट-ी कामे जारी विठाली-झालेली आहेत. - नवीने जोलीकरा करतन त्थावर वंहारे डांहने आवरच्क उत्तर. Artificial Recharge - compact Basalt -ft Thickness FILFT SATHROUTE Alt Salattor करनो ८००३४१५ यडेन, त्याकठे खोलीकरना प्रेतनी Hydrofacturing करता येच राजते

Lat -18° 55" 34' N Well Inventory Form Long - 750 14'01'E Alfitude - 699m Village 255 9157 Data 12/06/19 State 502 Gut No. Name of the Farmer 33 In rainy season Rainy Search Acre Winter Search Acre Summer Season Acre Spump Type of withdrawals Tump Out :- Electrical motor Diesei Pump. ilP. 5. H 9-01 Any other information 3 A May Name of the Surveyor Signature J. A. Mhaske

mar of the most most of 147+ pancipet - stone 42 CB + 29.1 76 67 CB - very compact, Hard, Massive PAI Broadly Jointed. 18-8 CR 32.8 ft a) Linning stone - circular h) Sull - Black / Vellow /Sandy ------LISCOL Logray. c) Existing watersheds structure/ Protlamation dam is neighboring region. d) Effect of existing structures on watertable. present of N e) Geological / Geographical effect as groundwater, work yshed f) Compact hausit maphi 10 000 Doi 传穷 broad g) Amygdaloidal Basalt MA h) Venicular Basalt MA f) Tachylyric hanait AD j) Flow contact ----k) Dyke rock N.H. I) Any remark about geological formation. Nearby area hilly angion prises

Beed undertaken by NAAM Foundation and Chatrapati Shahu Gramin Vikas Shikshan Sanstha Aurangabad

Well Inventory Form Long - 75°14"15'E Altitude - 705 m 25-1-1 Parapet Ht......Shape-Cleular/Square, Diameter of well... (Whither rates from other accesses decouple to this well of are source and they of people source and they of the source and they of the source and the source are source are source are source and the source are source are source are source and the source are source

Time require for a full recharge ? recuperation :

Any other information

0.4.1.1 Name of the Surveyor

63

6



Philippine Part - Providence If. HAH 163 CB- Broadly Jonted. 28.21 a) Limited ALTER Black / Voters Handy Sandy -501 as Entering waterchasts structure/ Provisionation date in asighboring region. as Refrest of existing structures on watertable along th Contragical / Contragancest attest an groundwater Good and conder at wainy O Compare tenest Secondly Joissper g) Amygdaloidal Basalt Physical Contraction of the Stand h) Vestening Banair of the number of the state of the state of the NA i) Tachylytle trasale A acceptivite transition of A Is Fiaw contact NA m Er Dyfar rock und. JA I) Any remark about geological formation.

Pullym Adar Mundie TF. RAH 28 ft CB- Broadly Junkd. 22.11 4) Louised KINGT MALE FROM MANAY SADALY - SOIL th Laberrag reatershades meanturer Proclamentan dates in asigning region. as a manual of a stand of the coeff Along the hive y Good and condo at sally scales g) Amygdulatdat RassR A SSCAT b) Venicular Basall CONTRACTOR OF THE PARTY OF THE NA O Tachytytte basalt NA |) Flow cantact MAN CANADA rive b) Dykernek b Any remark about geological formation. and support and the second state of the second

Beed undertaken by NAAM Foundation and Chatrapati Shahu Gramin Vikas Shikshan Sanstha Aurangabad Well Inventory Form Long -75°14"16'E Altitude - 204m Gut Ne. Name of the Farmer A. CETTAL ARSING, Went No. 19/05/13 In Village Location Village . Percolation from : Bottom / Lateral Direction (in the case of lateral direction (The Horizonial Succession in a Direction Conference ber chaired and the bolizon) Rainy Season Acre Winter Season Acre Stammer Season Acre (These require for a full recharge / recuperation : (Rainy season O Hrs: winter.....O Hrs: Summer......O Hrs.) Any other information 9 R. Machankar

Produce about a million sand CB- Broadly Jointol [F1] 23 11 22.41 a) Limning b) Soft - Black | Vellage Sundy Black - Sendy Stl / e) Extering water shoft developed Prochangelon dam to relighboring region. Along the niver - Rivers sand present d) Effect of every by structures on water table. " Conservation of Conservation / Good Conservation only serve Seasonable airer / undutation top f) Compact basali Bread of Tom 23 Amyg Galoidel Busali b) Vestenine Buso't Drainge aqual and the second is Tachylytic basult we ji How contact River wett k) Dyke ruck CB. I) Any cemark about geological formation.

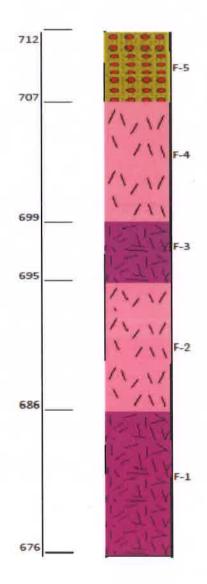
Beed undertaken by NAAM Foundation and Chairapati Shahu Gramin Vikas Shikshan Sanstha Aurangabad Lat - 18 85 168 H Long - 45° 14" 13'E AltPhude - 711 m Date: 12/06/13 D38 Well Inventory Form Village atsaist Gut No. 246 Name of the Farmer MERICI. MISILLY Year of the Digging Construction year. 12-7 If yes type Parapet IR. 11 H. Skape-Cicular/Square, Diameter of web. 25 ft Rainy Season 4 Acre Winter Season 4 Acre Summer Season 4 Acre Type of withdrawals/Pump Out :- Electrical motor _____ Diesel Pump _____ HP ___ SHP Time require for a full recharge / recuperation : O. Hrs.) (Rainy season D. 4. Hrs. winter O. Hrs. Summer O. Hrs.) Any other information S. R. Wadharbar Name of the Surveyor Signature

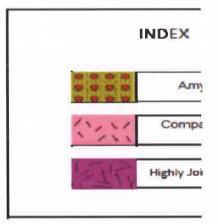
Pt. Starry + P Bles a off realling 11 # parapet -stone. WAB 48 ## CB - Broodly Jointed a) Linning stene b) Suil - Black / Yellow /Snady Sandy Black - Black c) Existing contradieds amounter Proclamation dam in neighboring regim-d) Effect of existing structures on watertable. ----e) Geological / Geographical effect on groundwater. Description of the state of the g) Amygdaloidal Basair Absent. h) Vesicular Basair N.P. ------O Tuchylytic basalt NA j) Flow contact NA k) Dyke rock NA 1) Any remark about geological formation.

Lat-18 33'65'N brg-7594"31E Althude-712, Pate-12/06/19 Well Inventory Form Village astarsf Gut No. 254 ... Name of the Farmer St Frage of Hag well No. D.10.0 Parapet Ht. 1.1. Ht.Shape-Clentar/Square, Diameter of well. 22 #4 In rainy search Rainy Season Acre Winter Season Acre Saminer Season Acre Dia of outline protection - Daily - Constraint Second - Constraint - C Any other Education and recommendation and second and and (Rainy season . 3 R. Walharteen Name of the Surveyor

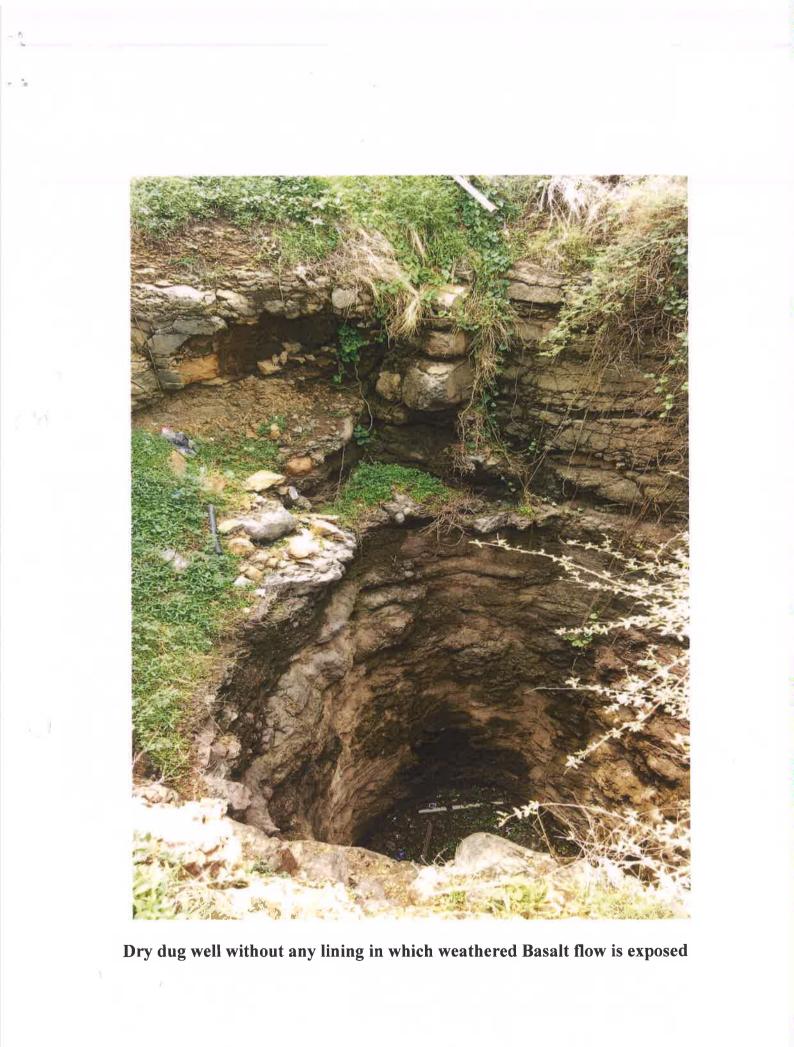
Contracted and senting 日井 AB Propa 30 Ft CB - Breadly Jointed. 山井 a) Linning stone- circular and the property of the second design of the second s bi Seit - Black / Yellen Caudy Black loamy Soi) A 14 NUMBER OF STREET, STREET, ST. or Existing write study or actory Proclamatics for an originating explor-- variasher to affect of excellence of examining the Transfer A. B. and S. States and States and States 3- latral Bore obligge toxe e) Geological. Geog. sphiral effect on pround-rate AR GREENAN (BULLES n Comparison Breadly Jainteg g) Amyg Libiter (Brief) Clasen + 5-30 "EVer In Palat t sign CONTRACT DISTORT R Tachylyne ann an part for a star for A Flow con ice president and the Bearing and the state of the state of the state b) Dyla rach. M.G. i) Any remark about goal spicel form ton. 121

Litholog Of Gundewadi Village





Litholog of Gundewadi Village



Geohydrological Mapping & Site Selection for Artificial Recharge of Water in Watershed Development Programme, Undertaken By NAAM Foundation, Mumbai and CGVS Sansta, Aurangabad

1. VIIIage Name : Gundewadi , Ta- Aashti , Dist-Beed

2. Date of Survey: 12/06/2019

3. Name of Geologist and Hydrogeologist for Survey in the field:

- a. Shantanu Wadhankar
- b. Rushikesh Puri
- c. Jayesh Mhaske
- d. Kshitij Sontakke

4. Name of the Members for assist to survey in the field:

- c. Shri Khillare
- d. Sarderao Dhanve

5. NAAM Pratinidhi: Shri Rajebhau Shelake

6. Local villagers/ Farmer:

- a. Baluram Ghuge
- b. Mahadev Zedhe
- c. Gahininath Ghuge
- d. Rama Ghuge
- e. Dnyandev Zedhe

7. Total No of Well surveyed:

07 dugwells in the field + 11 dugwells through Satellite imagery Survey = Total 19 dugwells

8. Total map prepared:

- a. Contour map of Village
- b. Drainage map of Village
- c. Dem map of Village
- d. Litholog of Village

e. Geology map of Village

9. Recommendation and Conclusion:

c. For Artificial Recharge suitable/ Unsuitable:-----

d. Structure for watershed development programme:-

PRINCIPAL Deogiri College Aurangabad.

Imangaon

Introduction

Imangaon is a small Village/hamlet in Ashti Taluka in Beed District of Maharashtra State, India. It comes under Imangaon Panchayath. It belongs to Marathwada region . It belongs to Aurangabad Division . It is located 83 KM towards west from District head quarters Beed. 10 KM from Ashti. 279 KM from State capital Mumbai Kelsangavi (4 KM), Dhirdi (4 KM), Shiral (5 KM), Takalsing (6 KM), Jalgaon (6 KM) are the nearby Villages to Imangaon. Imangaon is surrounded by Jamkhed Taluka towards East , Karjat Taluka towards South, Patoda Taluka towards East , Pathardi Taluka towards North.

Google earth Image of Imangaon



Well Inventory Forms of Imangaon Village

कोंगे :- इमलगाव तालुंछा :- झाछा Fre :- As (90) बिहिरी > 15 1 मोह छरना (स्मेरे गरना) (BOI LIST CIALD : जारतीत जायल उंची :- 581मी. कमिल काम उंची .'- 566मी 61 1. 579 rot. * करि राखा छा। राषा न्या। टाउनुको, इमलगोज व्यागा पुर हालुमाग गेल अयुठा या सत मार्मगा पाल्वासा पुरवठा या राखात्वात हो। बा राखाता पाछारा केली समला बार राखात्वा वार्तवा त प्रक्रि, पुरवस्ती करण थ गाल कार्ववादी करने कार्ट हा हारणारवा उत्तर सिराका कार्व विर्धानित्वे स्वत्त्वे प्र हा हारणारवा उत्तर सिराका कार्वा विर्धानित्वे स्वत्त्वे प्र हा हारणारवा उत्तर सिराका कार्वा विर्धानित्वे स्वत्त्वे प्र " באמיזים " זה אימור ז ניסאו פגסו איצ מיושיול עוביסי and Breen alter Takin Exon 1-40 2 KAS STICKIN STUCK तांश हालगे गरनेने आहे. 19

Well Inventory Form

	Village Amonia Date - 21/07/2019						
	Gut No						
	In Village Location						
	Location of the well						
1	Year of the Digging .LALS, Construction year. 2015, If yes type						
	Parapet Ht						
	Total Depth						
	Percolation from : Bottom / Lateral Direction (in the case of lateral direction) (If the Horizontal bore is taken inDirection, Lengthim. and for vertical boreholem, Location at the bottom)						
-	Use :- Drinking, Irrigation Acres, Horticulture; etc; etc; Rainy Season						
	Type of withdrawals/Pump Out :- Electrical motorDiesel Pump SHP Dia of outlet pipeQ						
	Time require for a full recharge / recuperation : (Rainy season						
	Any other information						
	Name of the Supremer						
	Name of the Surveyor Signature -						

S. m Tarre

7	GL		of the well section	on		3eohydrog
	2 m soil	Ism construction			AN	uno
nm	S compo	nggeworded Nggeworded	chilorali Road	Owell	ġ: *	
b) Soil	- Black / Yellow /Sar	Bluck 6	id. 95	• P2=Sent	Am	•
d) Effer	ct of existing structu	eture/ Proclamation dam is	······		5. ne	······
f) Comp	pact basalt		r. U Å Z	<u>.</u> ත		
h) Vesic	ular Basalt	Amggdaloidel Atsent		η		
j) Flow c	contact	Absent				
k) Dyke	rock	al formation				
*********	*****			******		

Well Inventory Form

Date - 21/07/2019 Village Atonila Location of the well......, (Farmland, Bank of Nala, In the Nala, Riverbed)..... lat-184703 M 1 mg 7506 19E Blevation 5721 In rainy season winter winter summer dry m. (If the Horizontal bure is taken inDirection, Lengthm. and /or vertical bareholem, Location at the bottom, Rainy Season Acre Winter Season 2:5...... Acre Summer Season Acre

Any other information

Name of the Surveyor

Sheihere' Signature

S. m Tanks

Geotydi Geology of the well section GL 1m soil 2m weathcard 15m reel im gdaloloid 80 company a) Linning *********** Absent ********************************* b) Soll - Black / Yellow /Sandy ******* Preser .:m ******* c) Existing watersheds structure/ Proclamation dam in neighboring region. d) Effect of existing structures on watertable. Lebbinees ******** ****** No officer e) Geological / Geographical effect on groundwater. ***** f) Compact basalt compact begalt Balgi Di dug weel g) Amygdaloidal Basalt ********* *********************** h) Vesicular Basalt i) Tachylytic basalt Basa 2111. j) Flow contact Flow and unothered A. 12 ConclassN. k) Dyke rock ************ I) Any remark about geological formation. *******************

Vikas Shikshan Sanstha Aurangabad

Well Inventory Form

Village ... Date - 20/7/2019 a41010110 Gut No. Name of the FarmerWell No 03 .. 01901101 aler In Village Location SOUTH ... to ... Village. User ... Personal/Community/..... Location of the well....., (Farmland, Bank of Nala, In the Nala, Riverbed)..... elevation STLm Percolation from : Bottom / Lateral Direction (In the case of Interal direction) Jse :- Drinking, Irrigation..... Acres, Horticulture....., etc....., etc......, etc...... ype of withdrawals/Pump Out :- Electrical motor Diesel Pump ... S. HP ... uantity of withdrawals :- Daily 24 Hrs. Seasonal 2401 20 M me require for a full recharge / recuperation : ainy season Ars; winter ... 10 -+ 2. Hrs; Summer Hrs.) y other information ... me of the Surveyor S. m Tarpe

Geonydro 1 Geology of the well section GL 1 murum Feet RTB for 00 7m Amygdaloldal compa - m a) Linning Absen ***** b) Soll - Black / Yellow /Sandy Black And a state of the c) Existing watersheds structure/ Proclamation dam in neighboring region. ****** ******* d) Effect of existing structures on watertable. There 1.9 in of outblich LA. *********** ******* e) Geological / Geographical effect on groundwater. ********* f) Compact basalt Complet Toin đ weel g) Amygdaloidal Basalt 7.m h) Vesicular Basalt Miser i) Tachylytic basalt At persont. j) Flow contact ***************** k) Dyke rock thscal. i) Any remark about geological formation.

Geohydrogeological mapping of Tahsil District Beed undertaken by NAAM Foundation and Chatrapati Shahu Gramin Vikas Shikshan Sanstha Aurangabad

Well Inventory Form

	Villaga
	Village Aris of a Date - 21/07/2019
	Gut No
	In Village Location South to willow and Ald
	In Village Location South to village. User Personal/Community/
-	Location of the well, (Farmland, Bank of Nala, In the Nala, Riverbed)
	Year of the Digging . 29.13, Construction year 2013., If yes type Cement . Concrete
	(Whether water from other sources brought to this well if yes source and Hes of well Lot 16 4713 N
	In rainy season
	(If the Horizontal bare is taken inDirection, Length and and the case of lateral direction
	Rainy Season
	Summer Season Acre
1	Dia of outlet pipe
	Firs. Seasonal
	Hrs)
/	Any other information
2	Same of the Surveyor Chertage
-	Cherta ag

S. m Jarfre

Signature

under Ge Geology of the well section GL 1 m soil for construction dalgidal gorall 2mt Ani 120 a TB 1feet \$ myddololdal rointed Bagal Blo Brac ଚ 1.50m a) Linning a) Linning cement linning b) Soil - Black / Yellow /Sandy Lon Black soil ************ c) Existing watersheds structure/ Proclamation dam in neighboring region. -existing water head fructure d) Effect of existing structures on watertable. NO officet no e) Geological / Geographical effect on groundwater. f) Compact basalt r) compact basalt is at Base of duy well g) Amygdaloidal Basalt g) Amygdaloidal Basalt my daloiclal. are 7400 floce h) Vesicular Basalt Absen. i) Tachylytic basalt KT31 S. M. Fours a Sumperer J) Flow contact k) Dyke rock ************* i) Any remark about geological formation. RTB. 13 Regent Fry this area

Geohydrogeological mapping of Tahsil District Beed undertaken by NAAM Foundation and Chatrapati Shahu Gramin Vikas Shikshan Sanstha Aurangabad

Well Inventory Form

Village (Auidalla)	Date - 20/7/2019
Gut No 6.3 Name of the Farmer	Well No. Q.S.
In Village Location LUSI. 10 village User	Personal/Community/
Location of the well (Farmland, Bank of Nale	, In the Nala, Riverbed)
Year of the Digging199.5., Construction year 19.	
Parapet Ht	of well
In rainy season	1 to dry law
Percolation from : Bottom / Lateral Direction (in the co	al borehole in Location at the base
Use :- Drinking, Irrigation Acres, Horticulture Rainy Season Acre Winter Season Acre	
Summer Season On J Acre	
Type of withdrawals/Pump Out :- Electrical motor Dia of outlet pipeQ. cm. /inch	Diesel Pump S. HP.
Quantity of withdrawals - Daily	cc meter / day

Any other information

Name of the Surveyor 6. m jarfe

eihori

undertie. 00 Geology of the well section 2mt Block GL soil Im construction 06 Amggdakiaal. 20 a) Linning comend linning -----...... b) Soil - Black / Yellow /Sandy plack Sold 10 c) Existing watersheds structure/ Proclamation dam in neighboring region. clam Rutt d) Effect of existing structures of watertable. west well fleet side n SARING . percolan CEON Rufi dam e) Geological / Geographical effect on groundwater. f) Compact basalt Compare g) Amygdaloidal Basalt pmggdalas com above h) Vesicular Basalt Abson i) Tachylytic basalt A Absen ***************** j) Flow contact HOW contact re m Susferio k) Dyke rock Abson **************** I) Any remark about geological formation. put dam 25 र्था नवडे 312 ales

Geohydrogeological mapping of Tahsil District Beed undertaken by NAAM Foundation and Chatrapati Shahu Gramin Vikas Shikshan Sanstha Aurangabad

Well Inventory Form

Any other information 2001 palaeochannal layer present rocars 737 Post. Ever Intald flow m Hiss point

About Suboar

Geonydro undertaker Geology of the well section 10m GLm) N 2mt pai 10 amstory WEEKLE Ō paleo channell \$ 200 ions Amygdaloid ampact a) Linning n linning cemer b) Soil - Black / Yellow /Sandy Bluck Spll 5m c) Existing watersheds structure Proclamation dam in neighboring region. dam west state of well d) Effect of existing structures on watertable. Water percolu Juk clam Wa 1 from e) Geological / Geographical effect on groundwater. ****** f) Compact basalt Conjuct Baselt et Base g) Amygdaloidal Basalt #mygdaloida Basalt h) Vesicular Basalt Absend Abson I) Tachylytic basalt) Flow contact al 15 ml between palaecto flow contact and BB k) Dyke rock Bb.sep. I) Any remark about geological formation.

Well Inventory Form

Village Shining Date - 20/07/20/9 Gut No. Name of the Farmer In Village Location East ... A. ... User ... Personal/Community/ Location of the well ... 1995 ..., (Farmland, Bank of Nala, In the Nala, Riverbed) lat 184738N lung 75 06 776 Clelever 565 Use :- Drinking, Irrigation Acres, Horticulture, etc Summer Season Acre

Name of the Surveyor S . m Jarshy

signature

eohydrose by 111 Geology of the well section GL Bsoil (ong truction) 6m (v) Sm 15m . weatte m pales channel 5 m Amygclabidal mobili 3 compact Sm a) Linning Stene linnha ****** (b) Soil - Black / Yellow /Sandy Black c) Existing watersheds structure/ Proclamation dam in neighboring region. west of due un 0hamp d) Effect of existing structures on watertable. ************** e) Geological / Geographical effect on groundwater. DEAC 100 con an f) Compact basalt ************************ compac g) Amygdaloidal Basait 1000 ******* ma h) Vesicular Basalt can lack ************************************ *********** i) Tachylytic basalt j) Flow contact du ********************** Cl KO M be CV. alm De k) Dyke rock Mise ******************** i) Any remark about geological formation.

Seohydrogeological mapping of ______ Tahsil District Beed Indertaken by NAAM Foundation and Chatrapati Shahu Gramin Vikas Shikshan Sanstha Aurangabad

Well Inventory Form

Village	Date - 21/07/19
Village	UGA alle FIFSA Well No
Gut No Name of the Farme	r
In Village Location	User Personal/Community/
100 M	A Bank of Nala. In the Nala, Riverbed)
Vear of the Digging (285, Constru	iction year If yes type
Parapet HtShape-Cicular/So	Ill if yes source and Hrs of pumping
Total Depth	from ground level. 19m. long 1-750612 8-19 M summer
Percolation from : Bottom / Lateral D	pirection (in the case of taleral direction at the bottom)
Use :- Drinking, Irrigation A Rainy Season Acr	cres, Horticulture; etc; etc
Summer Season	re
	metrical motorDiesel Pump
	Hrs. Seasonal cc meter / day

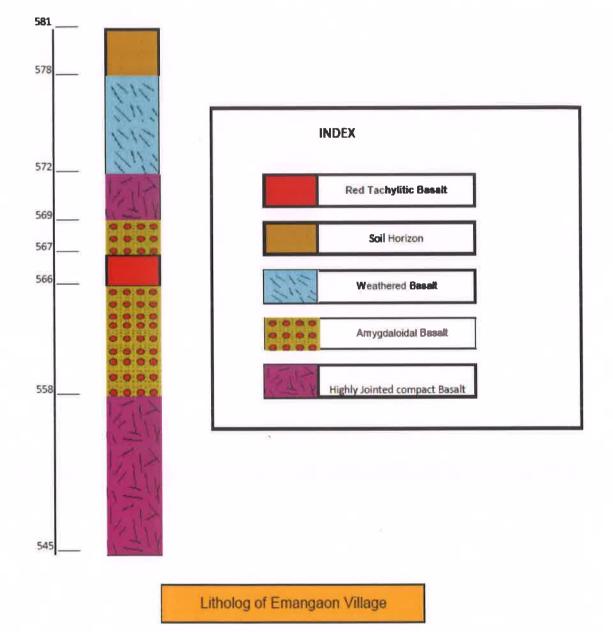
Any other information

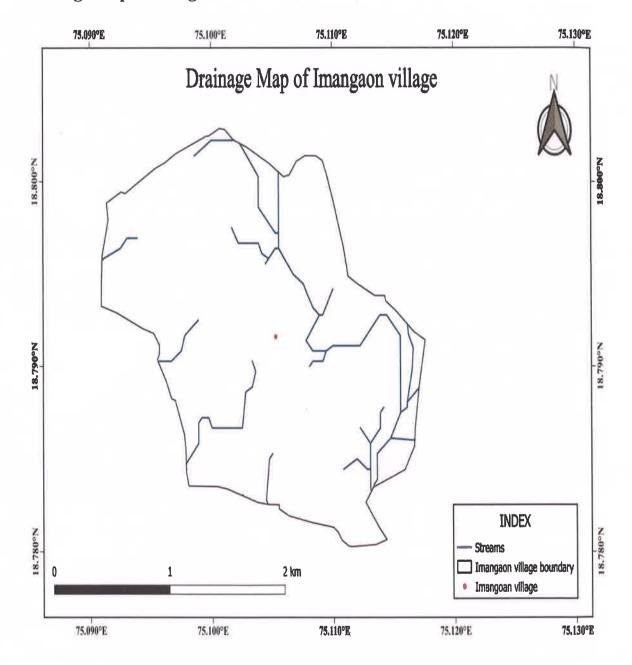
Signatur

I wrde Jukaser m Name of the Surveyor

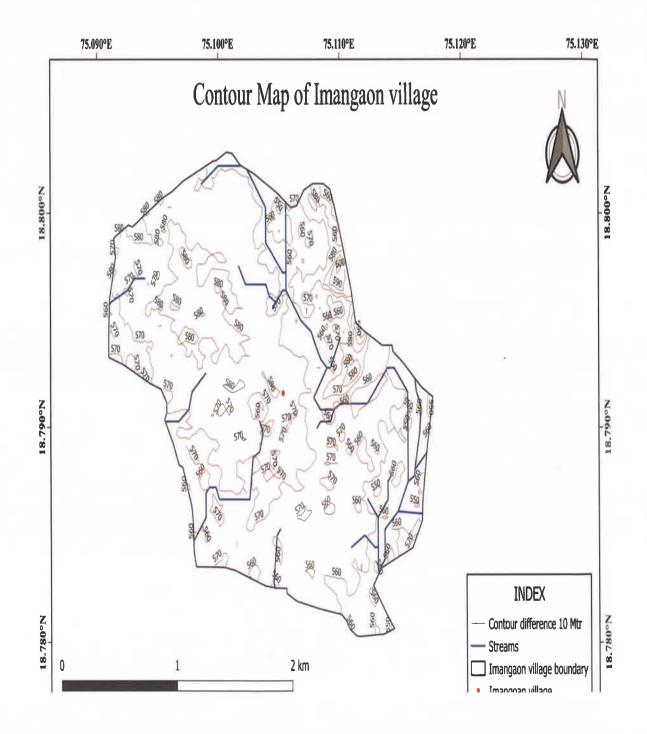
Geology of the well section Sml GL Sml grack soil 8 ml 3001 construction weatherd scral 1400 w.T. 9 m Hord compact socal a) Linning Stor P16 - Dair b) Soll - Black / Yellow /Sandy Black 1005 c) Existing watersheds structure/ Proclamation dam in neighboring region. distance In East side NOND d) Effect of existing structures on watertable. පිතාට හ e) Geological / Geographical effect on groundwater. y season one cointer water table Increase Hme water table Loafer 12..... f) Compact basalt 500 Hoe 900 Compo g) Amygdaloidal Basalt Absent h) Vesicular Basalt *********************************** Absen I) Tachylytic basalt Absend J) Flow contact weatherd sere Baso Weathers Basalt And CB. HELO ; 3-21 4102101 Vale 232 1 WIN YOU HOW IN k) Dyke rock Alkaptot 1) Any remark about geological formation. 1) Any remark about geological formation. play no decel flow direction west to least alle

Litholog of Imangao Village





Drainage Map of Village



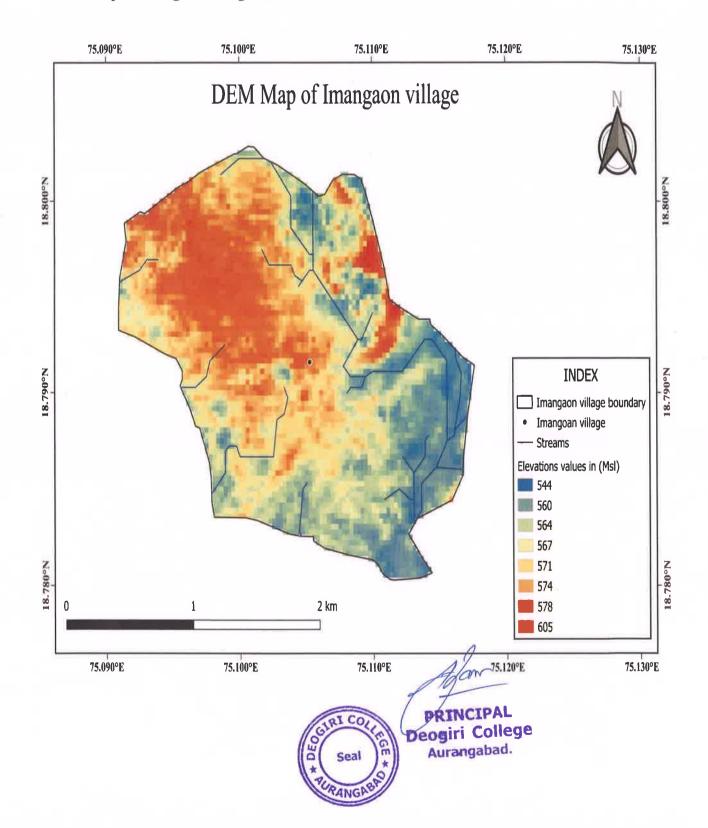
Contour map of Imangaon village



Moderately Fractured Basalt Flow can be seen in exposed outcrop



Photographs showing Increase in water level at Imangaon Village.

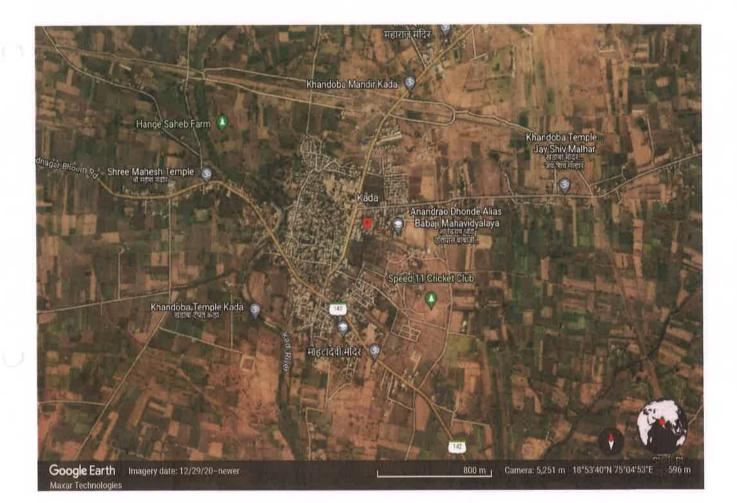


DEM Map of Imangaon Village

Kada Village

Kada is a Village in Ashti Taluka in Beed District of Maharashtra State, India. It belongs to Marathwada region. It belongs to Aurangabad Division. It is located 83 KM towards west from District headquarters Beed. 6 KM from Ashti. 274 KM from State capital Mumbai. Dongargan (5 KM), Kerul (5 KM), Sabalkhed (5 KM), Watanwadi (6 KM), Limbodi (7 KM) are the nearby Villages to Kada. Kada is surrounded by Pathardi Taluka towards North, Jamkhed Taluka towards South , Karjat Taluka towards South , Nagar Taluka towards west .

Google Earth Image of Kada Village



Geohydrological survey for Selection of Site for Watershed development and Artificial Recharge ,Tahasil-Ashti, Dist-Beed by NAAM Foundation and CSGSS, Aurangabad

Village Name : Kada

Introduction:

The Village Kada is situated in Ashti tahasil area, District-Beed of Marathwada region in Maharashtra. The village is distributed in wadi-vasti and located at North latitude 18°53'49.56" and East longitude 75° 04' 46.60" with an altitude of 593 m above mean sea level. It is located on Beed –Ahemadnagar highway. The seasonal groundwater condition in rainy season is moderate to good while, village is facing water scarcity problem in the summer season of every year. The projected area of survey is falling in MDP (Moderately Dissected Plateau) to SDP (Slightly Dissected Plateau) geomorphological unit based on the contour map of Kada village. The detail geological hydrological condition of the area is mentioned below.

Geology of the area:

The major part of the project area constitutes a sequence of basaltic lava flows (Deccan Trap) of Upper Cretaceous to Lower Eocene age. The sediments of recent to quaternary age are reported along the natural drainage system. The Deccan Trap formation is very thick and it comprises of different horizontal lava flows. The compact basaltic lava flows and amygdaloidal basalt lava flows are the major lava flow unit observed in the project area. The small unit of red bole patches also observed within two massive lava flows. The upper lava flows mostly by differential weathering processes. So that, sheet jointing, spheroidal weathering are the index features of upper lava flows. Along river channels paleochannels are being observed in the dugwell vertical section. In some of the other wells those are away from the main channels also reported with paleochannels which is indicate that, there has been great migration of river channels in the previous history. The detailed graphical representation of lava flows are indicated in litholog map of Kada- village.

3

Hydrogeology of the area:

Groundwater occurrence and movement in the area is influenced by its hard rock formations. Groundwater potentially depends upon porosity and permeability (both primary and secondary) of rock formations. The drainage network of streams from project area shows dendritic to sub-dendritic drainage pattern. The development of dendritic to subdendritic drainage in area it indicates the area of massive to hard rock types and gently sloping terrain.

Suggestion for the artificial recharge:

The litholog of the study area is indicating top Flow No. F-8 of compact basalt showing closely jointed pattern (Murmatic zones) and it is quite affected by weathering processes those are exposed on the surface. The lava Flow No. F-7 i.e. underlying amygdaloidal basalt lava flow, demarcated shallow aquifer system which is showing sheet jointed characteristics in upper zone. While, Flow No. F-6 is compact basalt with closely jointed and observed as moderately permeable. The Flow No. F-5 and F-4 are amygdaloidal basalt lava flows where flow no F-4 is hydrothermally altered and sheet jointed. The Flow No. (F-3) is again occupied by compact basalt flow which is impermeable in nature and does not allow groundwater to Flow No. F-2 which is occupied by Amygdaloidal basalt flow with highly zeolitic matrix and sheet jointing. So that, in the project area the groundwater is not available in shallow aquifer during summer season so that, mostly all borewells and dugwells become dry during summer season. In summer season mostly all borewells and dugwells become dry while groundwater potential in shallow aquifer is good but underlying Flow No. F-1 which broadly jointed in top portion but, it is highly impermeable in middle and lower part and do not allow groundwater to percolate downward. Hence, to recharge deeper aquifer channel, creation of artificial openings in such impermeable layers are required by implementing artificial recharge techniques.

> Hydrogeologist CSGVSS, Aurangabad

..... 28106119 351 नामान्य - राम्स वर्ग्त नामान (1): 101 mm Lali - 184819 Long !- 75- 1009 EN :- 607 m? NOL- (1977) 2017 101 510 510 312, 4910(+1100) PMVydalordal Boodd 81410) ADUILLEDI (AMINIMED) JURII ATIGOJ ZUELT ETTE, double pitching 970) ADUILLEDI (AMINIMED) JURII ATIGOJ ZUELT ETTE, double pitching 970) 2707200 270 (2110122) 500 (21) ydat EJ AMINI 2718) ATE 2700 200122) GETOTA EI AMINI 2112 केंगरा :- 2 कर्मा कीड मविष् Fri lal 1. 185355 long 1 - 750424. EN1 - 581 m) Noll- हा जहारा की नविषट वॉहालेका माहे (भी गर्डनीमेक्टर) मेरेके वाहनो विद्याप्यांचे संबोधरग करणे च गाल काठगे गाल्टेरो असह. पाइस लामाण - (3) लाकेवरल lal :- 185333 long. 1- 750323. GW 1- 600 ml. हा लाजाव त्विवस्तीच्या। इत्तर दिशेला 100 mt अग्रेतरावर आहे बा तालावाची खोलीकरा) करतो त कंपीकरत। करते आवर्थ्यक आह

-Light Dight 4 Lat 1- 185336 long 1- 750301 Elve 1. 603 mb तलेक्सी लकाव मं.२. हा लकाव लकेक्सीच्या पाइनेम दिहो का आहे यो लामाया की की करिए अरगे आवश्या आहे, र दीनरण करणे इमल्लर्था आहे. * , 27 लोकवस्ती महेरो एकुठा में लामाय आहेत. संवीकरूठा व क्वीमीजरूठा करने आवत्र्याज आहे

Dug-Well Inventory

Geohydrogeological mapping ofAhH..... Tahsil District Beed undertaken by NAAM Foundation and Chatrapati Shahu Gramin Vikas Shikshan Sanstha Aurangabad D-1 Well Inventory Form Village and Date - 28/06119 Gut No. 2012013 Name of the Farmer 2111 0001214 2005 In Village Location User ... Personal/Community/ Location of the well. 10est, (Farmland, Bank of Nala, In the Nala, Riverbed). UISIX (1019) Winter SeasonAcre Stanmer Season Acre Time require for a full recharge / recuperation : (Rainy season _ full_Hrs; winter 2. Hrs; Summer ... Dr. J. Hrs) Any other information

Korde Tukarano Name of the Surveyor

STREET. 9.50 001 -. Contar of the wall section गिहिरीग्रेथ। पात्र्येभेस् 1010 में म्यूनरावर पाड्रार तन्नाव साह. 1.80 ml construction. 2.5 m) compact Based. 11ml-8.3. Amygdaloidal gasall TN 2 mi compact Basall. 400 Oste present n contert n Dugwella) 10019 a) Linuing Cemend lining sol I an the distance b) Soil - Black / Yellow /Sundy oni c) Existing watersheds structure/ Proclamation dam in neighboring region. ------4) Effect of existing structures on waterinble. e) Geological / Geographical effect on groundwater. 426. f) Compact besalt present g) Amygdaloidal Basalt : 8.3 1007 Bosalt front pmyda ofdal present b) Vesienlar Basalt No 200 i) Tachylytic basalt ************************ and the second se D Flow contact 200 ***** k) Dyhe reek NO **** D Any remark about geological formati-

Geohydrogeological mapping of ...Achhi..... Tahsil District Beed undertaken by NAAM Foundation and Chatrapati Shahu Gramin Vikas Shikshan Sanstha Aurangabad

Well Inventory Form Village 951 Date - 28/06/19 6100 Well No. In Village Location Location of the well. 350 3400 Reveal august, (Farmland, Bank of Nala, In the Nala, Riverbed) 1011- 1853 40 long 1-7505 21 In rainy season m, winter summer Dey m. BN1-59 01 (If the Horizontal bore is taken inDirection, Lengthm. and for vertical borchalem, Location at the bottom) Rainy Season Acre Winter Senson Acre Summer Season_____ Acre Type of withdrawals/Pump Out :- Electrical motor Diesel Pump 5. HP. Quantity of withdrawals :- Daily Hrs. Seasonal cc meter / day Time require for a full recharge / recuperation :

Any other information

Korde Tukara no vi. Name of the Surveyor

Signature

~JIZU19 IMG-20190612-WA0006 jpg Contraction of the 8mh -Carlor: of the well section 45 mt construction 3.5 m) Amygolaloidal Barall 1100-0 2.5 m2 sheet jointed compact Basalt 12.5mt. compact. Baralt. 2mt a) Linning hning cement b) Soft - Black / Yellow /Sandy Black 5011. 2) Existing watersheds structure/ Proclamation dam in neighboring region. d) Effect of existing structures on watertable. •) Geological / Geographical effect on groundwater. f) Compact besalt Sheed sonned compared flow present in this Are provydal widel garalt presen g) Amygdaloidal Basalt flow h) Vedenlar Basalt NO NO I) Tachylytic basalt ****** j) Play contact NO -----------k) Dyke rock Neo ********************* -----I) Any remark about geological formation.

Geohydrogeological mapping ofAsbhi.... Tahsil District Beed undertaken by NAAM Foundation and Chatrapati Shahu Gramin Vikas Shikshan Sanstha Aurangabad

Well Inventory Form <u>D-10</u>
Village 95 Gut No. 222 Name of the Farmer Date - 28 106 119 July 11 Well No. 10
Gut No 222 Name of the Farmer
In Village Location
Location of the well fost side (Farmland, Bank of Nala, In the Nala, Riverbed) RIVer
Location of the well 505) side (Farmland, Bank of Nala, In the Nala, Riverbed). River Year of the Digging 2002, Construction year
Parapet Ht. Shape-Cicular/Square, Diameter of well. 8.m? (Whether water from other sources brought to this well if yes source and Hes of pumping) Total Depth . 17.m), Water level from ground level. 12
Percolation from : Bottom / Lateral Direction (in the case of lateral direction) (If the Horizontal bore is taken in Direction, Length
Use :- Drinking, Irrigation Acres, Horticulture, etc, etc
Type of withdrawals/Pump Out :- Electrical motor
Time require for a full recharge / recuperation : (Rainy seasonHrs; winterHrs; Summer DryHrs.)
Any other information

Korde Tukara m. Name of the Surveyor

Signature

6/25/2019 IMG-20190612-WA0006.jpg ווחיזחקר לומיר מולילה ידר לחמיי 8m1. ~ 14.5 constantion 15.500) Anoygolalorolay Bosall 1200) Loater 45 m compact, sheet jointed. table 9.500 Amygolaloidal Baselt Smit present (stone hning a) Li ion b) Soil - Black / Yellow /Sandy glack soil Sondy compos and c) Existing watersheds atracture/ Proclamation dam in neighboring regio d) Effect of existing structures on watertable. e) Geological / Geographical effect on groundwater. jerojee basall present sheef 5) Compact besalt present ð plternad for g) Amygdaloidal Basalt Bagatt NO h) Vesicular Basalt Contractor Contractor NO D Tuchytytie basalt **** **** NO j) Flow contact --------h) Dyks rock NO i) Any remark about geological formation.

Geohydrogeological mapping of <u>Abhh</u>. Tahsil District Beed undertaken by NAAM Foundation and Chatrapati Shahu Gramin Vikas Shikshan Sanstha Aurangabad

D-14
Village
Gut No
In Village Location
Year of the Digging Saal, Construction year. If yes type. Cemen 1
Parapet Ht. Shape-Cicular/Square, Diameter of well. (Whether water from other sources brought to this well if yes source and Her of pumping
(If the Horizontal bore is taken inDirection, Lengthm, and for vertical boreholem, Location at the bottom) Use :- Drinking, Irrigation,
Type of withdrawals/Pump Out :- Electrical motor Dectric Diesel Pump 5. HP
Time require for a full recharge / recuperation : (Rainy season West of Join Hrs; winter B. Hrs; Summer Dry Hrs.) Any other information
Any one monthand

Korde Tukaram. Name of the Surveyor

T. Signature

0/25/2019 IMG-20180812 WA0006 [pg 711-יוחודיקה ווחייר הלילה ידירויים 6 md construction G 105ml Johre 5.50 m) Amygdabidal Basal 2.50ml compared sheel son red N 350 Barald pater m pater m pug wel comend lining a) Linning Black / Yellow /Sandy Black Soil . b) Soll is structure/ Preclamation dam is neighboring regic c) Buisting watershed a) Effect of existing structures on watertable. et on groundwater. orical / Geographical di a) Geol compared Boscell with speed D Compact bend ond pmygdalordal basalt present, g) Amygdaloidal Bat 5.50 m) h) Vesicular Bosalt NO i) Techylytic basalt NO)) Flow contact NO ********** No h) Dyba rock are remark about geological formation D A

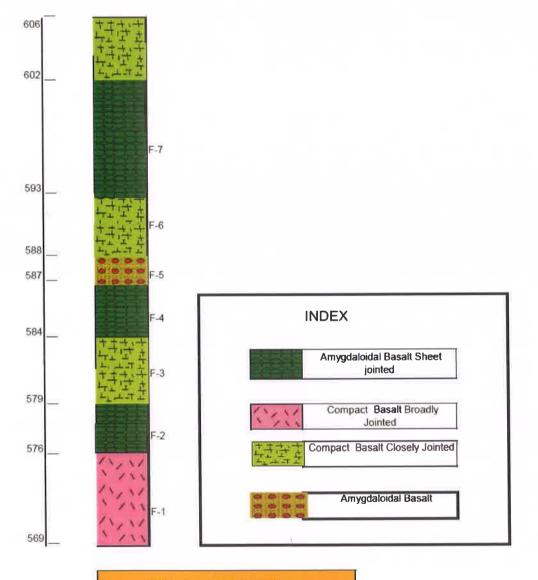
Geohydrogeological mapping of Ashhim. Tahsil District Beed undertaken by NAAM Foundation and Chatrapati Shahu Gramin Vikas Shikshan Sanstha Aurangabad

0-28 Well Inventory Form 051 (लावर वरती) कडा भाषा दारीका रिशाला १ १४०० भीतराबर Date - 28106/19 Village . Gut No. Name of the Farmer 21HO(0) Housi Hidr Well No. 28 Location of the well......, (Farmland, Bank of Nala, In the Nala, Riverbed)..... In rainy season overflocom, winter, summer DEN. m. long - 750434. FIN: - 578.0) Percolation from : Bottom / Lateral Direction (in the case of lateral direction) Use :- Drinking, Irrigation Acres, Horticulture, etc Rainy Season Acre Winter SeasonAcre Summer Season Acre Dia of outlet pipe 2.5.1 9.ch m. linch Time require for a full recharge / recuperation : Any other information Korde Jukanom Signatu

Name of the Surveyor

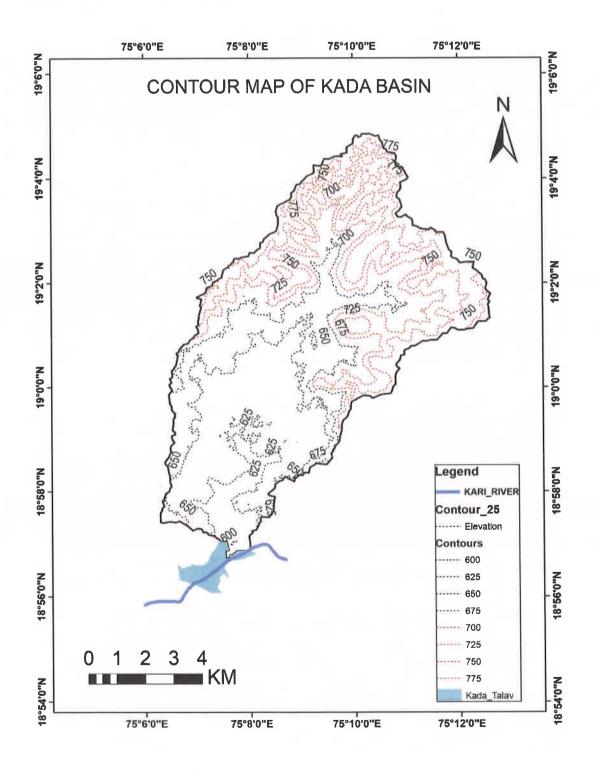
6/25/2019 IMG-20190612-WA0006 jpg 7 गा of the well section Is कोहित कड़ी कार्यव्या। ठाम्हा ठार्म कर्मना) Sood .. sml. construction (17ml. water jable 7 mt sneeted, compared jointed Bosalt 2 12 ml Hord compact Bosalh Oalt Awy Ra present poster 70 Due Dugusell hoing stone b) Seil - Black / Yellow /Sendy soi) A)ack a structure/ Proclamation dam in neighboring region. il) Effect of existing structures on watertabl e) Geological / Geographical effect on grou adwater. flow 19.007 compact A section) Car oost bessli Accol cocount of Duguell 12 HAJJ. (1 g) Amygdaloidal Baralt No. h) Vesicular Be NO NO) Tachylylle basalt childroorgin 1) Plaw co h) Dyka rotk NO ຳກ present eiver side Bising poter in the duquel' because office of purcolation of water ducywell park sh) Any re the

Litholog of Kada Village

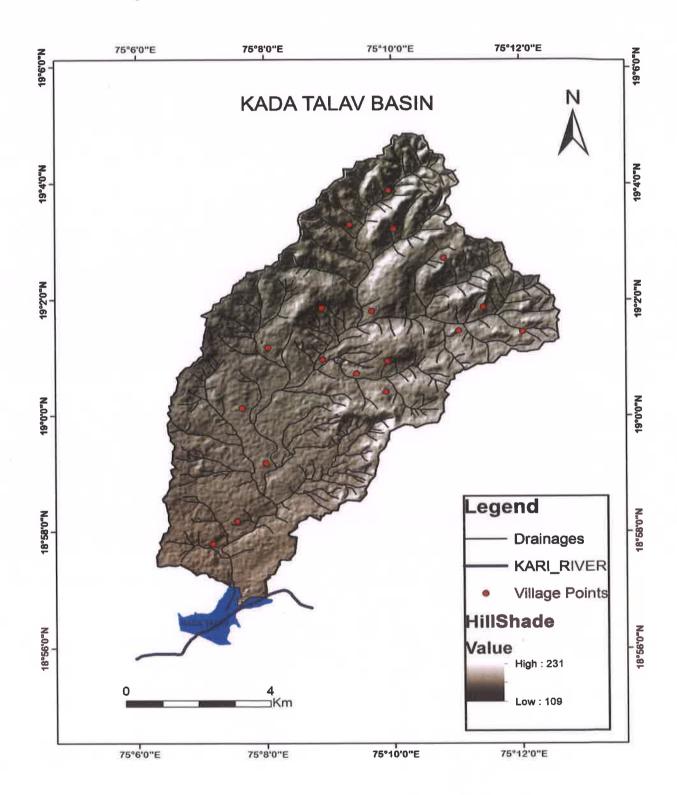


Litholog of Kada Village

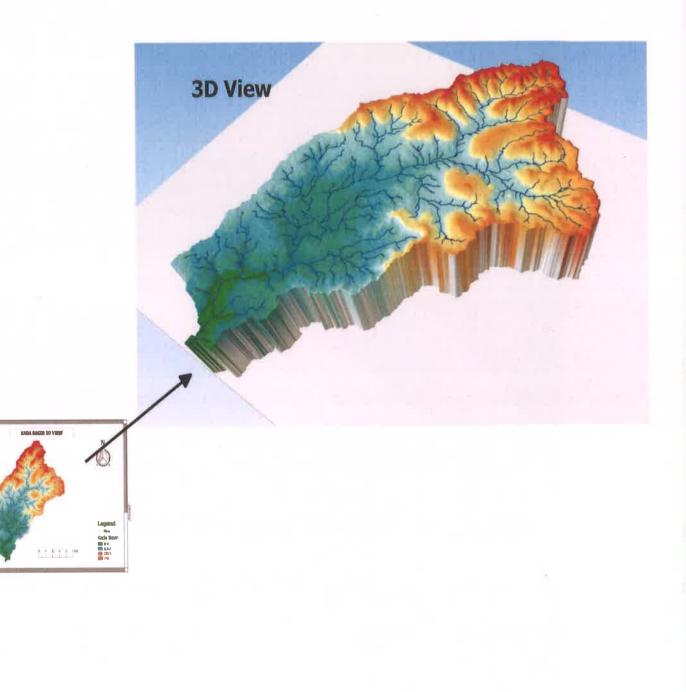
Contour Map of Kada Village



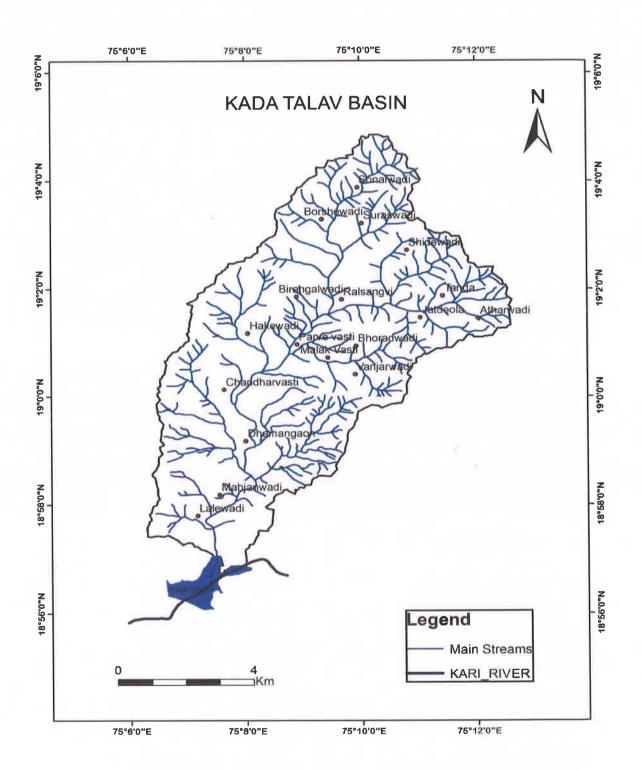
Hillshade Map of Kada Village



3D View of Kada Village



Drainage Map of Kada Village



EXCAVATION AREA DETAILS IN VILLAGE KADA

VILLAGE NAME	KADA
TAHSIL	ASHTI
DISTRICT	BEED

EXCAVATION PLACES	AREA (METER)
1. NALA DEEPENINGTALE	1500 m length x 6 m.
VASTI	breadth x 2 m deep
2. NALA	1500 m length x 30 m
DEEPENINGDHOBLE VASTI	breadth x 3 m deep
3. CEMENT BANDHARA	1500 m length x 1.5 m breadth x 1.5 m deep

1. NALA DEEPENIN VASTI	IGTALE		length x 6 m. breadth ep = 18000 Cubic Mtr
DETAILS OF WORK	TOTAL	WORK	TOTAL AMOUNT (RS
.Excavation Machine	225	Hrs	1,80,000
2.Diesel Required	2475	Liters	1,73,250
	TO	TAL	3,53,250

18000/80=225 Hours Rate per Hour = Rs.800 =225x800=1,80,000

2. Diesel Required: 11 ltrs per hour 225 Hrs x 11 ltrs = 2475 liters

EXCAVATION ESTIMATE...TENATIVE FIGURE

	2.	NALA		2 - A - A
DEE	PENIN	IGI	DHOI	BLE
		ASTI	to de la companya	

1500 m length x 30 m breadth x 3 m deep = 1,35,000 Cubic Mtr

DETAILS OF WORK	TOTAL WORK	TOTAL AMOUNT (RS)
1.Excavation Machine	1688 Hrs	13,50,000
2.Diesel Required	18568 Liters	12,99,760
	TOTAL	26,49,760

Above Calculation Details

1. Excavation Machine: 1 Hr Work = 80 Cu. Mtr. 1,35,000/80=1688 Hours Rate per Hour = Rs.800 = 1688x800=13,50,000

> 2. Diesel Required: 11 ltrs per hour 1688 Hrs x 11 ltrs = 12,99,760 rupees



3. CEMENT STRUCTURE..R C C TYPE 45 Cubic Meter

DETAILS OF WORK TOTAL WORK		TOTAL AMOUNT (RS)
1.R C C Structure	45 Cu.Mtr	3,37,500
2. Steel Required	50	50,000
	TOTAL	3,87,500

Above Calculation Details

1 R C C Structure Rate = Rs. 7500 per Cu.Mtr 45 x 7500 = 3,37,500 rupees

2. Steel Required Rate= Rs. 1,000 per kilogram 50 x 1000 = 50,000 rupees

EXCAVATION ESTIMATION.....TENTATIVE FIGURE

SR NO	EXCAVATION PLACES	TOTAL EXPENSE (RS)
	Nalah DeepeningTale Vasti	3,53,250
2	Nalah DeepeningDhoble Vasti	26,49,760
3	Cement RCC Structure	3,87,500
4	Admin Charges (10%)	3,39,051
	Total Expenses	37,29,561

Total Expense (In Words): Thirty Seven Lakhs Twenty Nine Thousand Five Hundred and Sixty One Only.

Note: The above estimate may deviate according to rate at the time execution of a project with respect to the area of excavation as well.

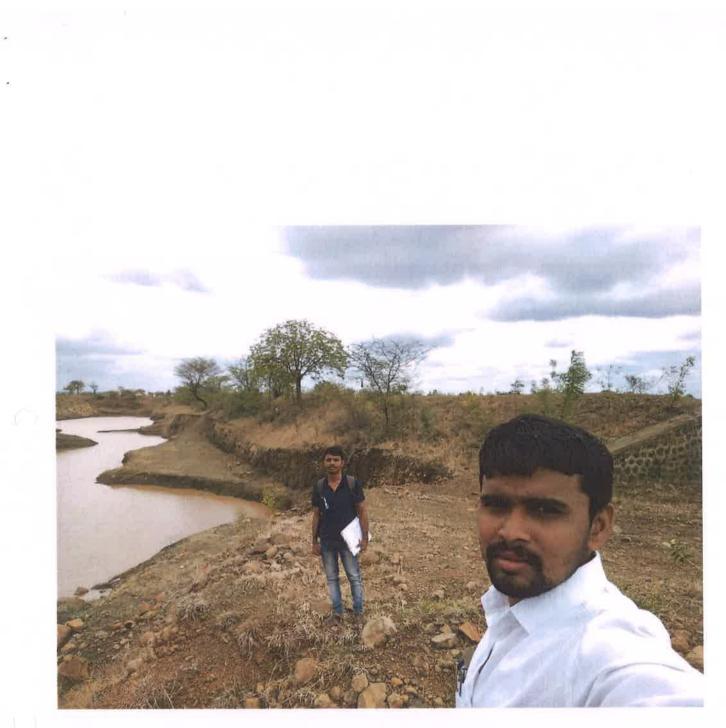
Field Photos



Highly Fractured Basalt Flow can be seen with percolation of water in the dug well



Lake view in Kada Village



Geologist surveyor in the field



Fractured Basalt Flow below which weathered Compact Basalt Flow is exposed



Percolation of water can be seen from the cracks and fractures of the Basalt Flow







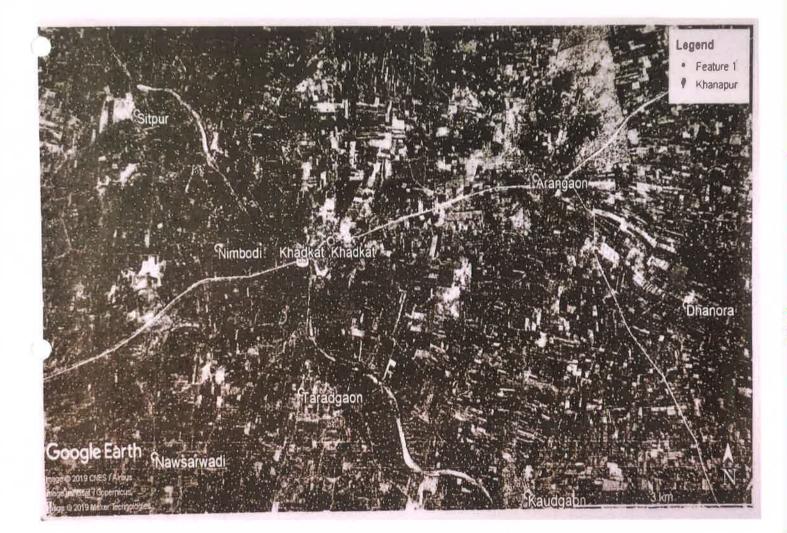
Drone shot of the field

Cr Seal

PRINCIPAL Deogiri College Aurangabad.

Khadkat

Khadkat is a Village in Ashti Taluka in Beed District of Maharashtra State, India. It belongs to Marathwada region. It belongs to Aurangabad Division. It is located 86 KM towards west from District headquarters Beed. 26 KM from Ashti. 285 KM from State capital Mumbai. Takalsing (10 KM), Walunj (11 KM), Jamgaon (13 KM), Hanumantgaon (14 KM) are the nearby Villages to Khadkat. Khadkat is surrounded by Karjat Taluka towards west, Ashti Taluka towards North, Karmala Taluka towards South, Patoda Taluka towards East. Google Earth image of Khadkat Village



Dug-Well Inventory

אדער ודרונים אינים אי גיעווים אינים אינ गाव - २०१५०० सिमेग गरिला मिर्जे. तास्त्रमा कार्डवा - जन्माय जांस्त्र की ग्वरम नालुका:- आव्ही निल्हा : जिल्हा एछन विहिनी : 12 (कुम णझरततीव:- 05 जारतीत जारल उंची :- 541 मी ्रोत की असी :- 534 मे मिणि - गानवात गाइवा कंखाइ। करेले जिम्मुम्म - आवन्त्रा अत्र करीत मुगानिय कराइवारित कोल्लामी इत्रान्त्रा हालान्या - तत्वा गर्मे पंजालीका कोल्लाहुन - तत्वा गर्मे पंजालीका कोल्लाहुन कर्व्या उत्ता कार्या कर्म्या कार्या कर्व्या क्रांग्या कार्या कर्म्या कार्या - निर्मा कार्या कर्म्या कार्या किर्मेन्स्य उत्तानाग कर आकार कि जाकागान भुकत हो Bas alt imperaviable frie 21/30 out and Artificial Recharge str. -st

0110 20139 M Location > गेयद प्रकाराम नेत. 1011-1839 30 long 1- 7507 46. नवीठा ceneral बंधारा वोद्यात्मारे हैं। जागा अधेम्बर्टन आहि (नाकवार नवी - अत्मोक्डण वाह्यनेक्ड) वा। मलवार नविसे व्योक्डीफर्ठा कन्ट्र) cement राषा हा हा ही दी विक्र आह = Palaeochand theel somed ! compared Basel 210) -> adaises mara (Fa) 101 : - 182640 184026 100g 2-750g 07 Alter 1, 10, 1 = 550 ml. ENI- suoma . खारामें हो :- अग्वानिन पुठे पार्र्स्न कोवी - 2.1 km. अत्तर - दाक्षिण कोवी 8 km. 21 थरणामा, देवस्ताठ, नामनीव रोगनीव नीतिवारि ठहूठा रोठाप्रा। नद्या। ठ ओहे भौरो गाठा रोफ्ठा मिर्वेसे लसेना लखवार नीद रोक्ठा। मिठले (सर्व अत्तरफट्ठा दाहतेनेवेठे वाहलाला) 2 the littling पासर तमाल 101 1-184010 long :- 750900 ENd' 540 Mt छ गाइनर लाकाव खानगा मालकीया आहे 0'01/1 -> graneigh (20150 - 1 at.) 6 Dalig lat + 183955 1009 1- 750823 1211 1- 535 ml 1211 1- 535 ml 1995 स्थि ही मान्हा भूरें। दोगाय र्थाडकत भावित्वया पाइरेमेली २०० मी व्या भोलरावर झाहे या देवार्थात्वा हो। क्षेत्रा आगि। लाखवार नढ्या उल्लर दिहोत्व। ८०० मा २०११ आलर येक्वा मिद्रमाल याला आगि। लाखवार नढ्या उल्लर दिहोत्व। ८०० मा २०११ आलर Il dereands यक्ता मिछनान छेंदार्थानी दरवाने दुरूस्ती करणे, खोलीकरण, इंदी करण करणे झावर्यक छेंदार्थानी दरवाने दुरूस्ती करणे, खोलीकरण, इंदी करण करणे झावर्यक • हा केदारा वाक डण्टाास्डी क्रीकिन झाला आहे / पाली खोवल जाहि)

Coopy of the state . अग्रामा - कोल्हाप्रती (कार्डन् 2 में) 10/1: 183539 10991 750854 ENVI- 539 ml. Very 1- 1998-1999. र केन्द्रापुरी वेखारा आउने भाषाव्या होझेयेका भाष्ट्री वे कमेन ताखुव्याप्या हादीमहारे येनो मा वंशाण्यांचे दरवामची हुरूस्ती करों भावस्थक भोहे गिष्टी ता गुरू। इन्हेर्नु जीव 46 Celisonotra

Well Inventory Form

Village 20139rl Date - 18107119 famisti diej Gut No. 217 Name of the Farmer User ... Personal/Community/..... In Village Location Location of the well. Farmland, Bank of Nala, In the Nala, Riverbed) ... RIX 97. Year of the Digging 1992. Construction year. If yes type. 61000 ning Parapet Ht......Shape-Cicular/Square, Diameter of well. & 50 m) Summer Season Acre Time require for a full recharge / recuperation :

Konde Tukoraron Name of the Surveyor

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Signature

Geology of the well section 8-somhal 3. soms construction 3ml weatherd compact Basal el jointed compact =4. 5ml8h a) Linning linin stone b) Soil - Black / Yellow /Sandy Black 001) c) Existing watersheds structure/ Proclamation dam in neighboring region. 2 k.m. distance bale vadi dam present No estect e) Geologicai / Geographical effect on groundwater. sinated office sterozility 3218 ***************** 1178 1250/ AFTH ATTE f) Compact basalt Ane grain compact discut compaced **************** 10,0000 g) Amygdaloidal Basalt Absen ******* h) Vesicular Basalt i) Tachylytic basalt Posend ******************************* j) Flow contact k) Dyke rock Absent ************************************) Any remark about geological formation. FE DIR Y BOILING などれより RIILA CUER

Well Inventory Form

Village 29500 Date - 18107119 Percolation from : Bottom / Lateral Direction (in the case of lateral direction) (If the Horizontal bore is taken inDirection, Lengthm. and for vertical boreholem. Location at the bottom) Use :- Drinking, Irrigation Acres, Horticulture; etc; etc; Winter Season 1...... Acre Summer Season Je. ... Acre Time require for a full recharge / recuperation : Any other information ... निहिशाया। नववर ७० मी अगेमरावर तालवार नाद ह परेन्द्र या नाविन्दा नाहिन स्रस्टल या निहिशाया णाहा णालव होन जाहि Name of the Surveyor Signature Korde Tukaram

on the states GL Geology of the well section 9001 4 30001 construction Instweathard Bacalt 3001 sheet jointed compact IEM Lonl Allunin Hard compact Basal a) Linning tining -----Stone 5 b) Soll - Black / Yellow /Sandy Black 201 c) Existing watersheds structure/ Preclamation dam in neighboring region. d) Effect of existing structures on watertable. shead d) Effect of existing structures on watertable. to eological / Geographical effect on groundwater State But Ale East Side e) Geological / Geographical effect on groundwater. dim Cl 13 ol que হা 41211 atter col -----Eld.allE. f) Compact basalt THE 19.410 nas mpaid Brould ***************************** g) Amygdaloidal Basait Absent h) Vesicular Basalt ******************************** Absen i) Tachylytic basalt Absent)) Flow contact DETON contact worker percolate ream sheel jointed Basalt) ointed Basalt Absent i) Any remark about geological formation.

Well Inventory Form

	VIIIage
	Gut No
	In Village Location
	Location of the well. Erst., (Farmland, Bank of Nala, In the Nala, Riverbed)
•	Year of the Digging 1994., Construction year, If yes type. done lining
	Parapet HtShape-Cicular/Square, Diameter of well
	Total Depth . 10.50 rob, Water level from ground level
	Percolation from : Bottom / Lateral Direction (in the case of lateral direction) (If the Horizontal bore is taken inDirection, Lengthin, and for vertical boreholem, Location at the bottom)
	Use :- Drinking, Irrigation Acres, Horticulture
	Type of withdrawals/Pump Out :- Electrical motor
	Time require for a full recharge / recuperation :
	(Rainy season
	Any other information :
	and .
	Name of the Surveyor Signature
	Konde Tukanan
	The best of the second s

eohydrogenser Geology of the well section 60) GL grack soi / gn) anstruction grot palecocharmal construction 8 2001 weatherd basal , ser the all 2 50 ml compact sheet toiska Baseld. a) Linning stone lining b) Soil - Black / Yellow /Sandy Black 2011 e) Existing watersheds structure/ Proclamation dam in neighboring region. 2000 NOTID to south direction Jeon d) Effect of existing structures on watertable. No percolation e) Geological / Geographical effect on groundwater. (eve) protects Becount Burgel Rain f) Compact basalt R. 50 m compard 491. Oheel janted present Basalf flow g) Amygdaloidal Basalt Absent -----...... ******************************* h) Vericular Basalt Absen ****************** 1 I) Tachylytic basalt Absen ********* ***************** j) Flow contact flow NO k) Dyke rock Absen I) Any remark about geological formation. Jagel 50 m ฏก asilete alicar वर्ण्यात्र या विशेषा होत ना ¥

Well Inventory Form

Any other information

Korde Jukaram Name of the Surveyor

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axon Signatur

Lie of the of Geology of the well section GL 8 4 ml construction 2001 weatherd Bacalt Stor Compact Highly Sheeted Jointing R50 13.1 5.500 Hord compact Basult Lm Dig a) Linning Cemers nning J b) Soll - Black / Yellow /Sandy Black c) Existing watersheds structure/ Proclamation dam in neighboring region. Near GRUCHUS partesheds NO d) Effect of existing structures on watertable. d) Effect of existing structures on watertable. Locifer, fable ID (see). Dr. promoco אינו הפטנתפואי . Lidles iere) incrose f) Compact basalt 5 ml and 5.50 m g) Amygdaloidal Basalt Brand Bread Absent ******* 1 ****************************** I) Tachylytic basalt hbsend) Flow contact 5lo -----k) Dyke rock Absont _____) Any remark about geological formation, 1) Any remark about geological formation. High lond area Aaro direction

Well Inventory Form

	7100	
	Village 2015917 Dat	ie-18/07/19
	किनी सर्वरी .	11 No -05
	Gut No. Name of the Farmer Forger 464 We	
	JAIESTAU S	and) #16/ #12
	In Village Location	unity doide 200 mot
	In Village Location	worked)
	Location of the well	Local L
	Year of the Digging 2014 , Construction year	cereen
	ten of the Digging the start action year and a year the	A A AND A
•	Whether Mt	
	(Whether water from other sources brought to this well if yes source and Hrs of pumping	
		1040-184026.
	Total Depth	· Long + 750907
	In rainy season	EN 2-540ml
	Percolation from : Bottom / Lateral Direction (in the case of lateral dir (If the Horizontal bore is taken inDirection, Length	rection)
		A R A A A A A A A A A A A A A A A A A A
	Use :- Drinking, Irrigation Acres, Horticulture	stc
	Rainy Season 9 Acre	and the second se
	Winter Season	and the second
	Summer Season Acre	And Designed in the second
	Type of withdrawals/Pump Out :- Electrical motor Diesel Pump	5.HP
	Dia of outlet pipe 1.5	the state of the s
ê	Quantity of withdrawals :- Daily 2.4. Hrs. Seasonal	çc, meter / day
-		laay .
	Time require for a full recharge / recuperation :	1
	(Rainy season	Y
	Any other information	*
		and the second second second
	Korde Pukarason	Brade .
		Signature +
		Charles and a second

which have a start of the

ALLE STORE STORES GL 8 ml Geology of the well section Glisond Blacksoil Jamb 1.50 ml weathard (construction) 650m) sheet rointed Broal) 3172 450 rol compacy sheel Jonkal Basal unot Oddisa) rtroi19 TTTTTT 1150 a) Linning cement. Inna b) Soll - Black / Yellow /Sandy Black c) Existing watersheds structure/ Proclamation dam in neighboring region. d) Effect of existing structures on watertable. dis Percolation e) Geological / Geographical effect on groundwater. dama 409090 f) Compact baselt held 2 so mi presens, Compad Basal g) Amygdaloidal Basalt Absen R. ***** h) Vesicular Basalt Hosen i) Tachylytic basalt Absen! -----j) Flow contact k) Dyke rock Plasen) Any remark about geological formation. DAny remark about geological forwation. USAN UNER UNBAND ATTER THA UNER DR. CITICALINE DI REGIO IE CIICALI

Well Inventory Form

	Ψ.
	Village 201597
	Gut No. 247 Name of the Farmer JULE JOKIN HA. Well No. 06
	In Village Location
	Location of the well. 2.9.8., (Farmland, Bank of Nala, In the Nala, Riverbed)
)	Year of the Digging
	Parapet Ht
	Total Depth
	In rainy season werflow m, winter 5.00 summer Der Der Bil 1- 541 m
	Percolation from : Bottom / Lateral Direction (in the case of lateral direction
	Use :- Drinking, Irrigation Acres, Horticulture
	Summer Season Jan J Acre
	Type of withdrawals/Pump Out :- Electrical motor Diesel Pump
L	Dia of outlet pipe
	Time require for a full recharge / recuperation :
	(Rainy season
	Any other information
	अग्र परेन या नीपेवर (की मी आंतरापरी कुरान्यार प्राप्त पासर तावा काहे परेन या नीपेवर (की मी आंतरापरी कुरान्यार प्रवर पासर तावा क साव्य इम्प्रादेश नाहित);
	a Briozi structe onien; approach.
	Name of the Surveyor Signature .
	Korde Tukanam

दाइन्गाना २०० कामाक्षकामा पाझर त्रावि हो कामाक्षकामा जिया मार 9.20ml GL Geology of the well section Ryelow soil 2001 Beral Baral + 10.50 mi usaler table 8.50ml thigh ysheet jointed 7.50 pl. ampact sheet somed 13.50 Basal). neven 20 oug a) Linning a) Linning NO (DOSTRY CHOS) b) Soll - Black / Yellow /Sandy Il-Black / Yellow /Sandy Yellow Soil (weatherg c) Existing watersheds structure/ Proclamation dam in neighboring region, 2. a. a. mi strator d) Effect of existing structures on watertable. d) Effect of existing structures on watertable. UIOI Attanziel Tale Order UIO Alton at and wish a start and a start at start a start at Eurositing unsity environment e) Geological / Geographical effect on groundwater. How of theel jointed compact Garcell on d Compact Amagelt water persolate 7-50 DL compact pescall flow aderter also poterini 57 B) Amyguaiolasi Bassit BbSen 3 **************** h) Vesicular Basalt Absent V I) Tachylytic basalt Absent J) Flow contact Obsen) k) Dyke rock A'beenl हि उत्तरेक्डमें दाक्षेण्डि वाहा का भी भी भी भी तराषर तल्वा

Well Inventory Form

Village ... Red Sepert Date -the . ! (Whether water from other sources brought to this well if yes source and Hrs of pumping (If the Horizontal bore is taken inDirection, Lengthin. and /or vertical boreholem, Location at the bottom, Rainy Season Acre Winter Season 3. Acre Summer Season Acre Time require for a full recharge / recuperation :Hrs.) Any other information

Korde Jukaran Name of the Surveyor

Signature

onderate of Geology of the well section GL 8.50 8 5011 4. somt construction 2.50 2.9 13 Tes 1000 Hord appact with sheet manting Basalt 200 Ē, proy bug well 1 a) Linning Cemen b) Soil - Black / Yellow /Sandy ***** Black ****** c) Existing watersheds structure/ Proclamation dam in neighboring region. *********************************** Skuchize. ****** shed d) Effect of existing structures on watertable. Locky tebig Searen Lane Priven] 10craze e) Geological / Geographical effect on groundwater. In petiseon Period ve! Increase f) Compact basalt ······ 10 md compact Buzzell How ***** g) Amygdaloidal Basalt Abgen h) Vesicular Basalt Absent 1 i) Tachylytic basalt Absent () Flow contact k) Dyke rock Absen ***************** i) Any remark about geological formation. **********) Any remark about geological formation. Wigh land area from direct now dire chan

Well Inventory Form

Village 2015 Bcl	2007 Date 18/07/19 2007 Well No09
Gut No Name of the Farmer	2997 Well No. 9.9
In Village Location	User Personal/Community/
Location of the well, (Farmland, B	ank of Nala, In the Nala, Riverbed)
Year of the Digging . 2014, Construction	year
Parapet HtShape-Cicular/Square, (Whether water from other sources brought to this well if yes Total Denth 1500 Water level from	Diameter of well
In rainy seasonm, winter 6. 17.	t., summer
Percolation from : Bottom / Lateral Directle (If the Horizontal bore is taken inDirection, Length	on (in the case of lateral direction) in and /or vertical boreholem. Location at the bottom)
Use :- Drinking, Irrigation Acres, I Rainy Season	Horticulture; etc
Summer Season	
Type of withdrawals/Pump Out :- Electrical Dia of outlet pipe	h
Quantity of withdrawals :- Daily 2	115. Seusonal CC meler / day

Any other information

Korde Jukaran Name of the Surveyor

Signature

Geology of the well section GL 6ml 2001 porafeed apsteuction [m] sondy soi] Sml palace 140 channal : المور arts Frot Hand compact Imt Basault ſ mgent water a) Linning Daing (emero) ******* b) Soil - Black / Yellow /Sandy ********** 5H ********** c) Existing watersheds structure/ Proclamation dam in neighboring region. NEside BINEISTI DERI 200 77819 971E d) Effect of existing structures on watertable. ************** conter. HESOJ 0/00/1 palaeo chanal 2] e) Geological / Geographical effect on groundwater. unagrand a ord of of f) Compact basalt 91 HOED PRESENT compacy 201ntes g) Amygdaloidal Basait Absen h) Vesicular Basalt Dissent ******** f) Tachylytic basalt Obsent) Flow contact Absen k) Dyke rock *************** Absen) Any remark about geological formation. D. Hors area Armyadaloida Bosalf Heco Absorpt

Well Inventory Form

Village 201500 rd Date - 18/07/19 RIEQUIA .Well No. / Q Gut No. Name of the Farmer (mely) In Village Location User ... Personal/Community/..... Total Depth . 12 ml ... , Water level from ground level. 10 ml m. 104 1- 18 38 57 Percolation from : Bottom / Lateral Direction (in the case of lateral direction (If the Horizontal bore is taken inDirection, Length......m. and for vertical boreholem. Location at the bottom Rainy Season B Acre Summer Season Acre Time require for a full recharge / recuperation : Any other information file alier alle alier alle alier ale alier Korde Tukaram Name of the Surveyor Signature

TE 1002 40011 076120 under 200 7. som GL Geology of the well section In) porafeel 2 ml palaeochanal brok construction and and a 1ml weatherd Borall 2 not sheed sointed Broal. 6mt compact Basal} not as the sheet jointy. x' a) Linning stonp hoing ----b) Soil - Black / Yellow /Sandy ************* ------Black ool c) Existing watersheds structure/ Proclamation dam in neighboring region. क्रांस्सवर O BIT linn AZT allow d) Effect of existing structures on watertable. (ATHEO UTIO UTTO e) Geological / Geographical effect on groundwater. DIAHID teard, 6 UIDZITZI UTICO f) Compact basalt Theed winter presen CD mals for g) Amygdaloidal Basalt ***** 10 Obcom/ ******************************** ******************** h) Vesicolar Basalt Absort i) Tachylytic basalt Absen) Flow contact Small have and ******************* k) Dyke rock Absent ****** i) Any remark about geological formation. ****** ******

Well Inventory Form

Village 201500

Gut No. Name of the Farmer

Parapet Ht......Shape-Cicular/Square, Diameter of well ... 2.50 m

Total Depth 12.50 ml Water level from ground level. 9.50 m. Jalt 183852. In rainy season winter 2 ml summer port m. 10ng 7508.45

Percolation from : Bottom / Lateral Direction (in the case of lateral direction) (If the Horizontal bore is taken inDirection, Lengthin. and for vertical boreholem, Location at the bottom)

Rainy Season Acre

Type of withdrawals/Pump Out :- Electrical motor Diesel Pump Quantity of withdrawals :- Daily Hrs. Seasonal cc meter / day

Time require for a full recharge / recuperation :

Any other information

Korde rukaram Name of the Surveyor

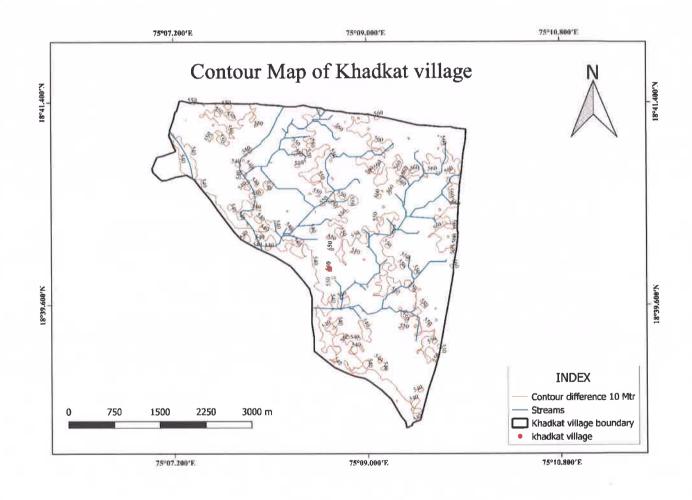
Signature

Date - 18/07/19

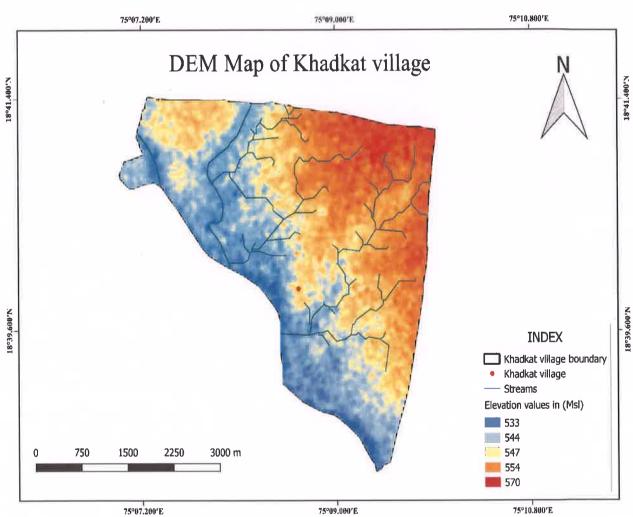
Well No

undertate, 7-Son, GL Geology of the well section um constell chion weatherd Broal! 1.50 3001 Amygolaleida Bosall 5ng 3.50 ml compact with sheet join Hina 3002 ma Dugwel LJ CL a) Linning Cerpen b) Soll - Black / Yellow /Sandy Black m. the surface c) Existing watersheds structure/ Proclamation dam in neighboring region. Ett. UTE watersheel d) Effect of existing structures on watertable. water table Penoch e) Geological / Geographical effect on groundwater. monsion 14. 14 f) Compact basalt ************* 3 50 compared nh g) Amygdaloidal Basalt 5mt Omygdalogda Basall flow ------..... h) Vesicular Basalt Absent i) Tachylytic basalt Absent J) Flow contact contact al gm up to k) Dyke rock Absent. I) Any remark about geological formation.

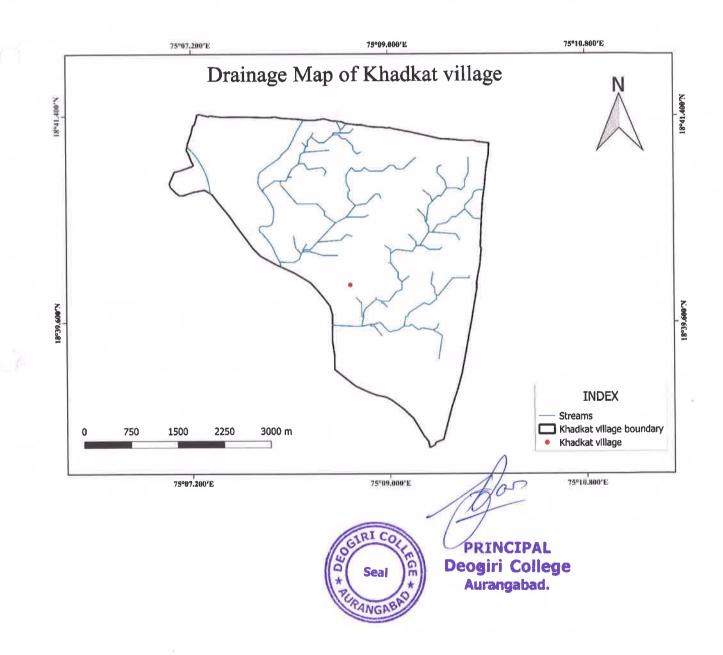
Contour Map of Khadkat Village



DEM Map of Khadkat Village



Drainage Map of Khadkat Village



Kansewadi

Dug well inventory

1 × कमेवाडी - * unch and - antion - fui overfices Dugwell - Raisor - 6 à 10 MA yeliding 3001 - 7 à 2 ATH yelding Greenbelt - very good, as compare to other Village. - सर्व- सिरीहीता जवळपाझे 10 हे 12 ft. parapet stread. लदी - गावान्धा जतक छोटी पाझ अमलेली मदी SAIG dort. पानलोत कामे - इपलेली नाहीत आहे - Artifician Recharge 518 Elosof 500 Staget उकि

Lat-18°54"86'N 130.11 Verner long-75° 13"45'E Altitude - <u>685</u>m Date- 12/06/19 Well Inventory Form Village केंसे व Gut No. 281 Name of the Farmer dot 2 Well No ... In Village Location User ... Vser ... Personal/Community/ Along River west-side, Location of the well......, (Farmland, Bank of Nala, In the Nala, Riverbed)..... In rainy seasonm, winter summerm. Percolation from : Bottom / Lateral Direction (in the case of lateral direction) (If the Harizontal bare is taken in Direction, Lengthm. and for vertical barehole Location at the bottom) Rainy Season Acre Winter SeasonAcre Summer Season Acre Time require for a full recharge / recuperation : Any other information

J. A. Mhaske

Name of the Surveyor

Signature

Contains a Cale anothe and BS ponape 7-1 247 CB- Massive , Broadly Jointel -7 [FI a) Linning circulas Cemen. b) Soil - Black / Yellow /Sandy o) Soil - Black / Yellow /Sandy Sand Y -Blac SOI c) Existing watersheds structure/ Proclamation dam in neighboring region. watersheet at Sid mesent d) Effect of existing structures on watertable. seasonable water e) Geological / Geographical effect on groundwater. 1) Compact basalt Broadly Jointeal g) Amygdaloidal Basalt S h) Vesicular Basalt N.A. I) Tachylytic basalt NA J) Flow contact .wel B.LA k) Dyke rock ide 100 well -03 1) Any remark about geological formation.

541851N 750 13"42'E Well Inventory Form Altilude - 680m Village कारने वणी Dato - 12/06/19. Gut No. 282/ Rame of the Farmer 4618 310 Well No. Location of the well......, (Farmland, Bank of Nala, In the Nala, Riverbed)..... 2010 a gyear Year of the Digging, Construction year, If yes type Total Depth .2.8. f.f., Water level from ground level.....m. In rainy seasonm, winter....., summer m. Rainy Season Acre Winter SeasonAcre Summer Season Acre Dia of outlet pipe.......cm. /inch

Any other information

5 R. Waltanker

Name of the Surveyor



Contorn of the well goating 52 parapet cB AE seclimen + [F2] 28 aver well 16 Jointed. a) Linning Cemer b) Soil - Black / Yellow /Sandy Blac sandy ****** c) Existing watersheds structure/ Proclamation dam in neighboring region, River along the dren sano d) Effect of existing structures on watertable. River water. e) Geological / Geographical effect on groundwater. e fom Recharg 3 . of YC f) Compact basalt Broad by Jointeo g) Amygdaloidal Basalt -------ANAh) Vesicular Basalt NA i) Tachylytic basalt NA ****************************** ****** j) Flow contact NA ****** k) Dyke rock AM. I) Any remark about geological formation.

-18° 54'85' N long _75° 19" 39 E Well Inventory Form Altitude - 687 m Village कनसे 06/19 Gut No. 234. Name of the Farmer of H 99 6 month In rainy seasonm, winter......m. Rainy Season Acre Winter SeasonAcre Summer Season Acre Type of withdrawals/Pump Out :- Electrical motorDiesel PumpHP

Any other information

5. R. waethanker

Name of the Surveyor

atoms a Cale anall seatter CB-Jointed. -12 ++ [f3] AB-IH - porous and permeable sheeted. [F] 46 # CB-weathered - Broadly Jointed. 107+ cement circular b) Soil - Black / Yellow /Sandy Black Janay c) Existing watersheds structure/ Proclamation dam in neighboring region. a) Effect of existing structures on watertable. Ea St Junted sheeted AB help to recher e) Geological / Geographical effect on groundwater. constructed along LNEP ST YE f) Compact basalt present sreadly Jointea -rechangable. 19000/1 Ajela g) Amygdaloidal Basalt NA h) Veslcular Basalt usest i) Tachylytic basalt lake North direction 500 m j) Flow contact 10 ng wel k) Dyke rock TV. I) Any remark about geological formation, Symoundeo ar AB

Lat - 18°54"82"N long-75° 13' 39'E Althuale-677 m Pate-12/06/19. Well Inventory Form Village dorter and abortati No ... Gut No. 282 Name of the Farmer CAFT 4 In Village Location User ... Versonal/Community/..... Location of the well....., (Farmland, Bank of Nala, In the Nala, Riverbed)..... Year of the Digging, Construction year...., If yes type..... Parapet Ht. 1.1. H. Shape-Cicular/Square, Diameter of well. 20] In rainy seasonm, winter......, summer......m. Summer Season Acre Type of withdrawals/Pump Out :- Electrical motor Diesel Pump HP. ... S. HP Time require for a full recharge / recuperation : Any other information

5. R. walhanker

Name of the Surveyor

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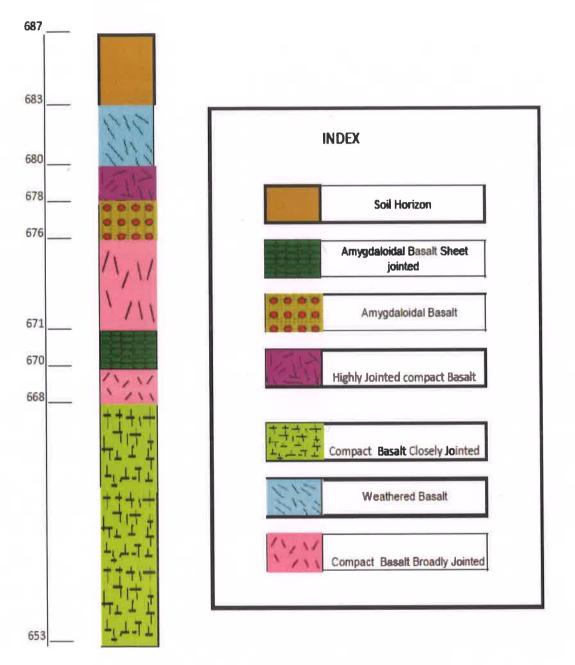
71 parapet CB CB-Brodly Jointed. [f3] 117+ 47+ AB-sheeted patch [F2] 32# 6 # CB- Broadly Jointed [Fi] a) Linning stone b) Soil - Black / Yellow /Sandy Black -Sandy e) Existing watersheds structure/ Proclamation dam in neighboring region. watershee mesent Norths on d) Effect of existing structures on watertable. QUO recharge in rainy seaso n on e) Geological / Geographical effect on groundwater. ********* -----D Compact basalt Broadly Jointea East side ******************* g) Amygdaloidal Basalt ------h) Vesicular Basalt *********************************** Del i) Tachylytic basalt IV j) Flow contact ******************* k) Dyke rock I) Any remark about geological formation.

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i) Tachylytic basalt N.A.	
J) Flow contact	
k) Dyke rock	
I) Any remark about geological formation.	

Litholog Of Kansewadi village



Litholog of Kansewadi Village



Broadly Spaced Jointing of Compact Basalt flow can be seen

Khanapur

Khanapur is a small Village/hamlet in Ashti Taluka in Beed District of Maharashtra State, India. It comes under Khanapur Panchayath. It belongs to Marathwada region. It belongs to Aurangabad Division. It is located 79 KM towards west from District headquarters Beed. 280 KM from State capital Mumbai. Khanapur is surrounded by Jamkhed Taluka towards South, Pathardi Taluka towards North, Patoda Taluka towards East, Karjat Taluka towards South. Pathardi, Ahmednagar, Shrigonda, Daund are the nearby Cities to Khanapur.

Google Earth image of Khanapur Village





Dug-Well Inventory

भगरि 12 जाताना नात साामपुर ता काली-ता काली-मानीत माल्स उंती ड71 m कमीत केली रहेवी :962 m

भगवायूर हे जाव केठरी जारित्वा केटल वस्तुन जातलगी पश्चीमेका करी प्रसर तन्छव कोट कही लाठावाया Lak 167331 Long 7305356 हे दिवान कोट कही लाठावाया Lak 167331 प्रति आकाछा जास्ता कोट हा तत्वाता कार्ज कर्मा उग्लेल प्रति आकाछा जास्ता भा तत्वातान कार्ज्य कार्मीकी प्रक्रिकी कार्ट्रेडा था तत्वाता कार्ज्य कार्ट्रे मार्ट्रे तत्वात्रसी सारतवा दनमता वांडरू आधी टाल्जवांचे प्रती प्रति कार्ट्रेडी प्राव्यांची प्रताब्धी कार्ड होतो. बोच्छी बहिंची र्य्याक्रीकर्ण अस्ति

रुमिन्छा करन्तु त्यावर् वंद्यारा वांद्यवासारी जोव्य छिन्नव आहे. हिसी मन्द्राव . १

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Vikas Shikahan Sanstha Aurangabad

Well Inventory Form				
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Geohydrogeological mapping of Tahsil District Beed Indertaken by NAAM Foundation and Chatrapati Shahu Gramin Vikas Shikshan Sanstha Aurangabad

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Name of the Surveyor

Geohydrogeological mapping of Tahsil District Beed Indertaken by NAAM Foundation and Chatrapati Shahu Gramin Vikas Shikshan Sanatha Aurangabad

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Name of the Surveyor	Signature .	

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aeohydrogeological mapping of _____ Tahsil District Beed ndertaken by NAAM Foundation and Chatrapati Shahu Gramin Vikas Shikshan Sanstha Aurangabad

Well Inventory Form

Illage Date - 20/07/119 kal - 18 4659 Percolation from : Bottom / Lateral Direction (in the case of lateral direction Af the Hartamatic bore is taken in ______ Direction, Largeb._____ in and her variable hardback ______ Landston at the back Rainy Season 12 Acre Winter Season 4 Acre Summer Season 10 Acre Type of withdrawals/Pump Out := Electrical motor _____ Diesel Pump 5. HP _____ Dia of outlet pipe ______ cm. Anch ______ cc meter / doy Quantity of withdrawals := Daily ______ Hrz. Seasonal ______ cc meter / doy Time require for a full recharge / recuperation : (Rainy season Hes; winter 2012 Hes; Summer 2001 513 Hes.) Any other information ...

Korde Jukaron Name of the Surveyor

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mdertaken by NAAM Foundation Tahsil District Beed Indertaken by NAAM Foundation and Chatrapati Shahu Gramin Vikas Shikshan Sanstha Aurangabad Well Inventory Form Village ... 20110114 Date - 20/07/19 Well No. Ol Location of the well, 10 of (Formland, Burk of Nala, In the Nala, Riverbed). Proven Summer Season Acre Any other information . Stenature . Karde Arkerson

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sephydrogeological mapping of _____ Tahsil District Beed Uikas Shiket Vikas Shikshan Sanstha Aurangabad

Well Inventory Form

Village ... Khonupur

Date - 20/07/2014 Location of the well (Farmland, Bank of Nala, In the Nala, Mar Sted)

Year of the Digging . 2.00 %, Construction year. 2002, If yes type. Construction of

Parapet He. 1 M. Shape-Cicular/Square, Diameter of well. (Briteshar water from other sources brought to this well if yes source and Hrs of portpli

Summer Season ... Por

Time require for a full recharge / recuperation :

Any other information ...

Name of the Surveyor About Suban

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Adertaken by NAAM Poundation and Chatrapati Shahu Gramin Vikas Shikshan Sanstha Aurangabad

Well Inventory Form

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Name of the Surveyor

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dertaken by NAAM Foundation of Tahsil District Beed Vikas Shikeboo and Chatrapati Shahu Gramin

Vikas Shikshan Sanstha Aurangebad

Well Inventory Form

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Any other information

Name of the Surveyor

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aken by NAAM Foundation and the Shahu Gramin dertaken by NAAM Foundation and Chatrapati Shahu Gramin Vikas Shikshan Sanstha Aurangabad Well Inventory Form - Contraction Date. 2017/2019 Location of the well to give (Farmland, Bank of Nalo, In the Nalo, Riversed) Stanmer Season ... Store. Acre Type of withdrawals/Pump Out :- Electrical motor Diesei Pump 3. HP Time require for a full recharge / recuperation : Any other information . Name of the Surveyor Signature . 5 in Toste

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undertaken by NAAM Foundation and Chatrapati Shahu Gramin Vikas Shikabaa Sanada Chatrapati Shahu Gramin Vikas Shikshan Sanstha Aurangabad

Well Inventory Form

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Any other information		

Name of the Surveyor

Signature

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Geology of the well section R. प्रदेशमाली 150 अ स्रित हरी के जिल्हाल स्रित की की स्रित्सल inst fonsteriction Black soil weathord qual JAT TOTO : G Sm compact bosall with theel somed a somet Realboll 4 Coalt and compared burnit Com Maici a) Linning Ceneen 2020.22 b) Soll - Black / Vellow /Sandy Alack el Existing watershods structure/ Proclamation dam in seighboring region. The specific and the local design of the state of the sta Ref dans partition d) Effort of existing structures on vestertable. an and a second s e) Geological / Geographical effect on groundwater. an or water a state of the stat () Compact hazalt NAMES OF TAXABLE PARTY OF TAXABLE PARTY. 3 ml Compact Barali il) Amygdaloidal Basalf ------Liken !! io) Vesteniar Busalt ---------------ALLENT i) Tachylytic basalt 0.20 mi Red boil present 30m D Flow contact D Flow contact Present k) Dyke rock Bengara and The Absen I) Any remark about geological formation. Marn ***************** concer

Vikas Shikehan and Chatrapati Shahu Gramin Vikas Shikshan Sanstha Aurangabad

Well Inventory Form

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Type of withdrawals/Pump Out :- Electrical motorDiesel Pump E. HP.

Time require for a full recharge / recuperation :

Name of the Surveyor

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NAAM Foundation of Tahsil District Beed Vikas Shillel Vikas Shikshan Sanstha Aurangabad

Well Inventory Form

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In Village Location

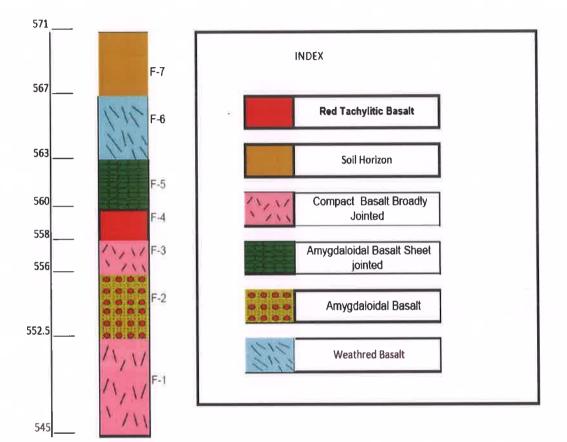
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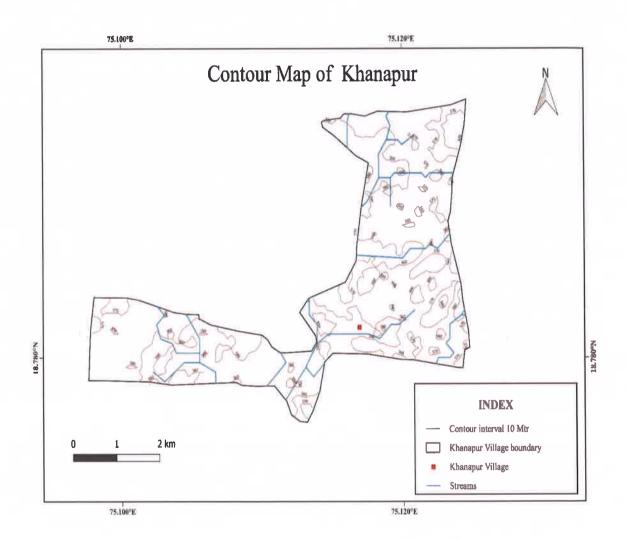
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Litholog of Khanapur Village

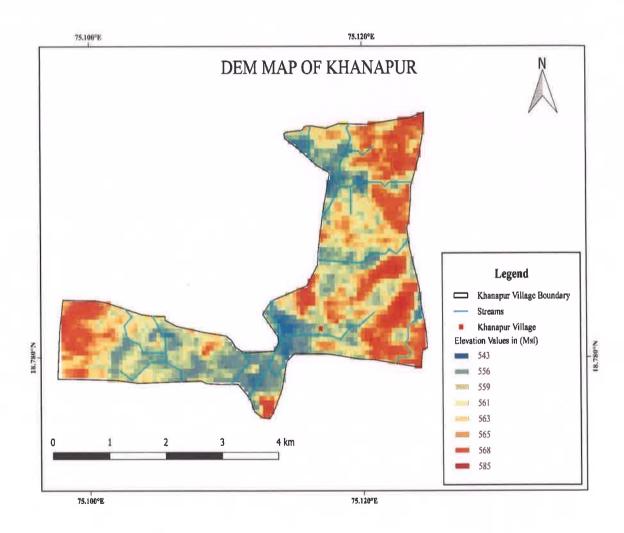


Litholog of Khanapur Village

Contour Map of Khanapur Village

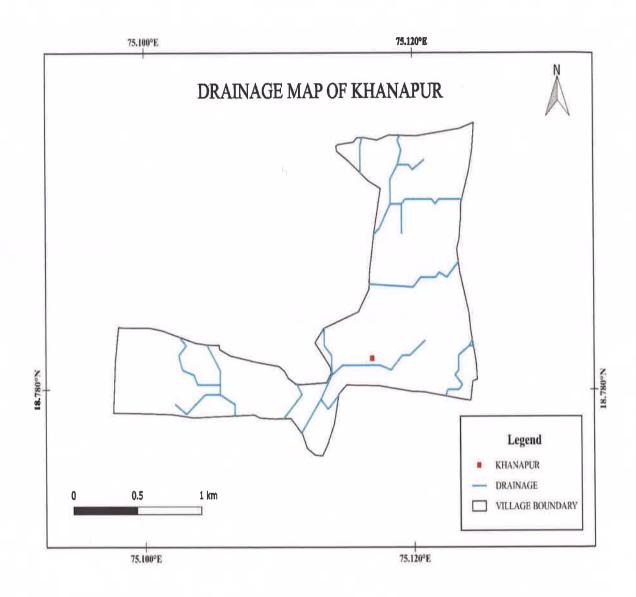


DEM Map of Khanapur Village



Drainage Map of Khanapur Village

*



Field Photos of Khanapur Village

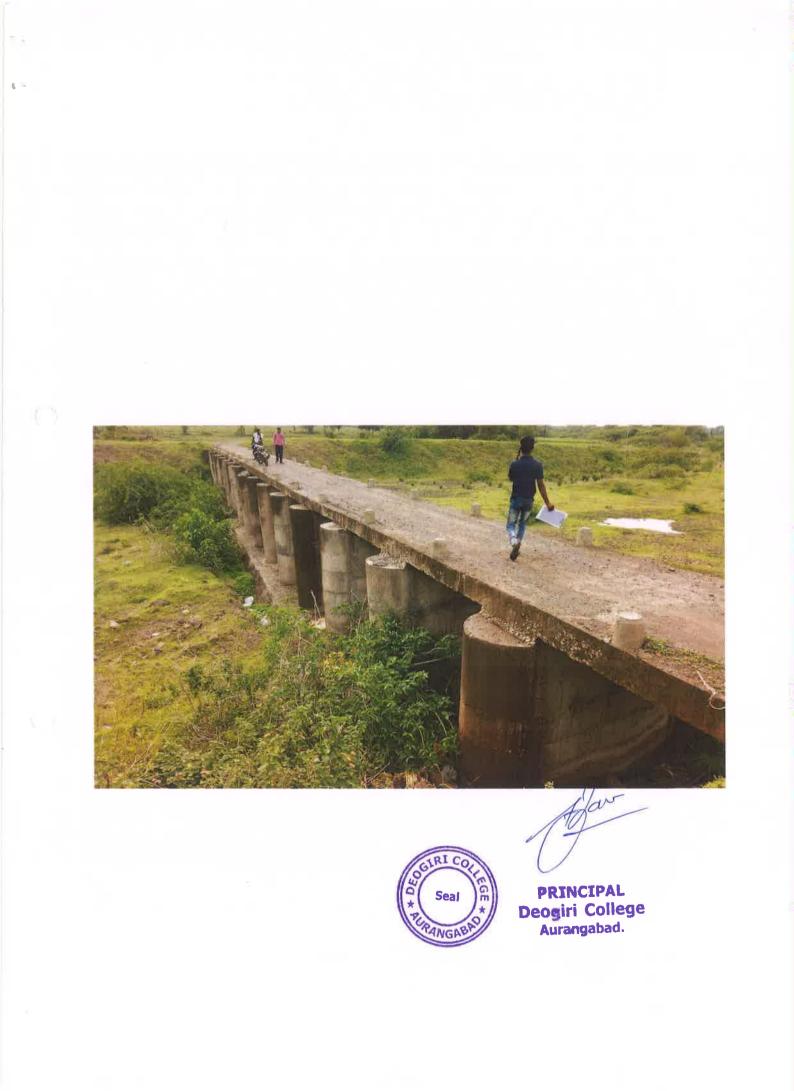


Weathered Basalt below which fractured Basalt flow in exposed





Compact Basalt Flow below which fractured



Kinhi Village

Kinhi is a Village in Ashti Taluka in Beed District of Maharashtra State, India. It belongs to Marathwada region. It belongs to Aurangabad Division. It is located 71 KM towards west from District headquarters Beed. 8 KM from Ashti. 286 KM from State capital Mumbai, Desur (6 KM), Kerul (6 KM), Khilad (7 KM), Chinchala (7 KM), Limbodi (7 KM) are the nearby Villages to Kinhi. Kinhi is surrounded by Pathardi Taluka towards North, Patoda Taluka towards East, Jamkhed Taluka towards South, Shirur (Ka) Taluka towards East.

Dug-Well Inventory

Bar भावाच्या उत्तरेका विना नावाचा तलाव आह.)1101-211 NE side बन्नल लखी बाहत थेते. पानि पालको : पावसाट - पूर्व हिरवळ असत dugwell = Bellosi - 6-7 he filding 356631 - stasuppi dey. JECON Belt : निर्धा म तामाध अस्तरमा मुके आस्त प्राय UIBIONE काम :- आवा मच्ये व-2112की प्राकी 2 र्यो काम आलेली आहे तरी काही हिकाली तलाव य नवी भारते की का कि 201 करने गय जी SIF Parapet : gol simmer successiver 8-10 Ft sile. Azificial Recharge :d-2112 guinter CB 3HOULD 2010 किरे केरे साथी र 620112 जाही ट्या होय री hydro feachure 2,021121 343021 6200.

> Well Inventory Form long = 75°10''1'EAltifude = <u>633</u>m

In Village Location User... Personal/Community/.....

Parapet Ht S.f.t. Shape-Cicular/Square, Diameter of well... 15. A... (Whether water from other sources brought to this well if yes source and Hrs of pumping

Any other information

5. R. Walharkar

Name of the Surveyor



Lat = 18°53"38"

Absent - loamy Black soll panapet cooner Block of CB. weathered sounded 8 23 H CB. Jointed Broadly F, a) Linning Absent b) Soil - Black / Yellow /Sandy loar Black c) Existing watersheds structure/ Proclamation dam in neighboring region. 0 pstream side of 4 -1<171 d) Effect of existing structures on watertable. seasona water present _____ e) Geological / Geographical effect on groundwater. f) Compact basalt Broadly Join ottom ted 07 hered upper side A g) Amygdaloidal Basalt NA h) Vesicular Basalt NA i) Tachylytic basalt NA j) Flow contact ******************* ******* k) Dyke rock ****************** I) Any remark about geological formation. and an and a second second

Well Inventory Form

Village dolat

Gut No. 307 Name of the Farmer STARIO WILL OF Well No. D62

In Village Location User... User... Personal/Community/.....

Year of the Digging, Construction year, If yes type.....

Any other information

S. R. Wadhankar Name of the Surveyor



53"41 N

-18°

Date - 12/06/19

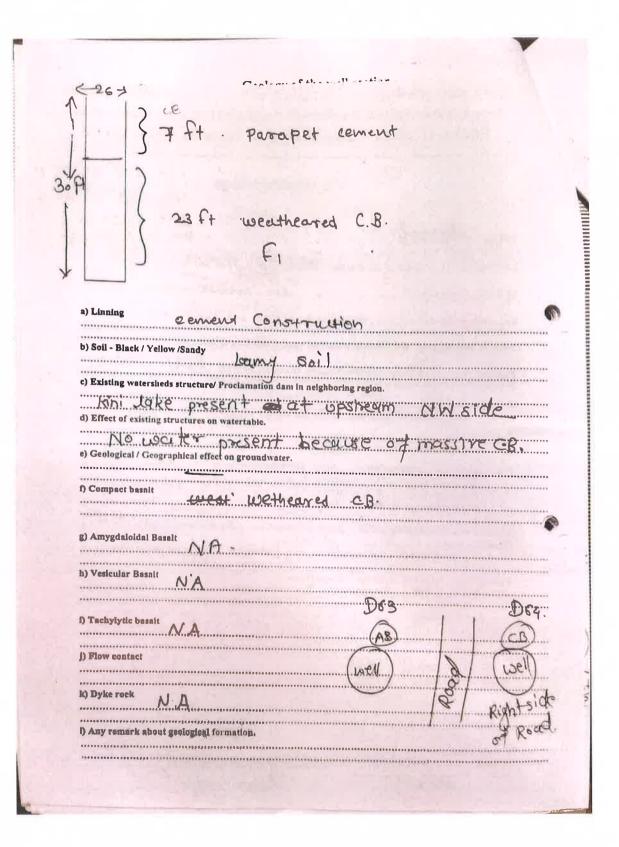
long -75° 10" 05' E Altitude - <u>630</u> M

The state of the second st 3 # parapet AB AB-sheetd F3 3# weathered CB- macks are present F2 -Broadly Jointed CB a) Linning stonecement-...... b) Soil - Black / Yellow /Sandy leamy Blyck c) Existing watersheds structure/ Proclamation dam in neighboring region. upstream side lake recharge d) Effect of existing structures on watertable. CB-cracks are help to recharge wel n Jainy e) Geological / Geographical effect on groundwater. A·B 4000 poresi h, meqbi f) Compact basalt Brock e mide reneg part g) Amygdaloidai Basalt Nt h) Vesicular Basait IVH i) Tachylytic basait i) Tachylytic basait NA j) Flow contact NA k) Dyke rock **************** I) Any remark about geological formation. **********

Lat- 18° 53"66 N Well Inventory Form Long - 75° 10"59 E Altitude - 643 m Date - 12/06/19 Village Tobot राकनाय काफडे Gut No. 249 Name of the Farmer A rife .Well No. In Village Location User... User... Personal/Community/..... Location of the well...... (Farmland, Bank of Nala, In the Nala, Riverbed)..... 1993 26 Yro-Year of the Digging, Construction year...., If yes type..... Percolation from : Bottom / Lateral Direction (in the case of lateral direction) (If the Honzontal bore is taken in Direction, Length.....m. and for vertical borehole...t . Location as the bottom) Rainy Season S..... Acre Winter SeasonAcre Summer Season O..... Acre Any other information Name of the Surveyor

" of the set of the second state parapet- cement - 8 7+ AB lateral rechanged water through AB. A.B-shreted - well developed coucks. [F2] 477) [Joft worker - recharged by A.B from [Fi] CB-weathered a) Linning Cement b) Soll - Black / Yellow /Sandy Black c) Existing watersheds structure/ Proclamation dam in neighboring region. North side for flow of around system Betovo water d) Effect of existing structures on watertable. e) Geological / Geographical effect of groundwater. Honzonta from side Good pyjeld DOte f) Compact basalt weath CB ********************* 100%0 g) Amygdaloidal Basalled AB. -ARecharge for North man de. ...side h) Vesicular Basalt PERA i) Tachylytic basalt Road AB CB ***** water j) Flow contact mesen Lett Choturall k) Dyke rock X64 Tion tor 18 i) Any remark about geological formation. D63 Black Loamy sol) Kini lake opsteam side. 9+ south side. at S.En)

Geohydrogeological mapping of Tahsil District Beed undertaken by NAAM Foundation and Chatrapati Shahu Gramin Vikas Shikshan Sanstha Aurangabad ____ Lat - 18° 53" 65'N Well Inventory Form long - 75° 10" 02'E Alti - 627 m Village to to the Date - 12/06/2019 HILE HEORIAVell No. D64 Gut No. 310 Name of the Farmer . COTODS In Village Location User ... Vser ... Personal/Community/..... Total Depth Water level from ground levelm. Winter Season 2....... Acre Summer Season Q Acre Any other information S-R. Wadhankar Name of the Surveyor



Lat - 18° 53" 70'N Well Inventory Form Long - 75° 10"57' E Altidude - 639 m Village The Toral Date - 12/06/2019 अष्पा Gut No. 2.5.].... Name of the Farmer 7.195 9. Well No 001005 In Village Location User ... Personal/Community/..... Location of the well...... (Farmland, Bank of Nala, In the Nala, Riverbed)..... Rainy Season S...... Acre Summer Season O Acre Type of withdrawals/Pump Out :- Electrical motor Diesel Pump. ... HP ... S.HP Time require for a full recharge / recuperation : (Rainy season 24 Hrs; winter Hrs; Summer Hrs.) Any other information

S. R. Weithanker Name of the Surveyor



Tame - Pater world cantles 5ft cement linning (AB) sheeted 48 F. (C B) a) Linning Cement Corverry ediby ******** b) Soil - Black / Yellow /Sandy Black Soil c) Existing watersheds structure/ Proclamation dam in neighboring region. lake are present at NW side d) Effect of existing structures on watertable. Good GW potentrat, rela water e) Geological / Geographical effect on groundwater/ trous AR ***** f) Compact basalt Broadly Fointed CB g) Amygdaloidal Basait Sheeted AD h) Vesicular Basalt N.A. i) Tachylytic basalt NA ******) Flow contact -------k) Dyke rock ****** I) Any remark about geological formation. ------******* ******

Geohydrogeological mapping of Tahsil District Beed undertaken by NAAM Foundation and Chatrapati Shahu Gramin Vikas Shikshan Sanstha Aurangabad Lat - 18° 54' 68' N Well Inventory Form Long - 75° 10'84' E Alti - 617 m Date-14/06/2019 Village Top -66 In Village Location User... User... Personal/Community/..... Year of the Digging .19.7.0., Construction year.49....., If yes type.....

S. R. Wadhankar Name of the Surveyor

Any other information



-26-
1 1
30ft A.B. shreted
-5
Sft (CB) Broadly Jointed f.
a) Linning
b) Soil - Black / Yellow /Sandy Black Soil - Logmy
c) Existing watersheds structure/ Proclamation dam in neighboring region.
upstream side kint lake and
d) Effect of existing structures on watertable. CLOGED POTOSITY HOUSED AND AND WSICC.
e) Geological / Geographical effect on groundwater.
f) Compact basalt
Broadly Jointed
g) Amygdaloidal Basalt Sheeled Q.B. Located t
n) Vesicular Basalt
N.A. Jakes)
i) Tachylytic basalt N.A. wells
J) Flow contact
k) Dyke rack
NA
) Any ramark about geological formation.

Lat - 18°54"77'N Well Inventory Form 10ng - 75° 10"92'E Alt. - 639 Date - 12/06/2019 Village Torf D67 SalaWell No. In Village Location User ... Versonal/Community/..... Percolation from : Bottom / Lateral Direction (in the case of lateral direction) Rainy Season Acre Winter Season Time require for a full recharge / recuperation : Any other information S. R. Wadhankar Name of the Surveyor

- 24- to Contract Contraction
Zoft. AB
F_2
35 8 15 - CB Broadly Jointed
F,
a) Linning N.A.
b) Soil - Black / Yellow /Sandy Black Logmy - soil.
c) Existing watersheds structure/ Proclamation dam in neighboring region.
d) Effect of existing structures on watertable. Soft Layer of Aspenneable e) Geological / Geographical effect on groundwater.
n Compact basalt Broadly Johnted C.B.
g) Amygdaloidal Basalt Sheeted AB
b) Vesicular Basalt
1) Tachylytic basalt NA Late located
D Flow contact NA-
k) Dyke rock N.A.
) Apy remark about geological formation.

Lat - 18° 54' 82'N
Well Inventory Form
Altitude - 644.m
Village Date- Gut No. 52 Name of the Farmer Well No. D68
छाकऽ
In Village Location
a long lake . Location of the well
Year of the Digging .2.9.14, Construction year. 6
Parapet Ht. N.A. Shape-Ciocilar/Square, Diameter of well
Total Depth
Percolation from : Bottom / Lateral Direction (in the case of lateral direction) (If the Horizontal bore is taken in Direction, Lengthm. and for vertical borehole
Use :- Drinking, Irrigation Acres, Horticulture
Winter Season
Type of withdrawals/Pump Out :- Electrical motor Diesel Pump HP. 5. HP Dia of outlet pipe
Quantity of withdrawals :- Daily G Hrs. Seasonal
Time require for a full recharge / recuperation : (Rainy season 2.4)
Any other information
S. R. Wadhankar Buy
Name of the Surveyor

- 28-	Cantone of Alexand I marting			
31AH 15Ft AI	B sheeted			
I reft c.	B Broadly Jointed			
a) Linning	•			
b) Soil - Black / Yellow /Sandy	- c k			
c) Existing watersheds structure/ Proclamation dans in neighboring region. Lake help to sechange d) Effect of existing structures on watertable. Watertable rethange through lake we for e) Geological / Geographical effect on groundwater.				
g) Amygdaloidal Basalt Sheeted AB.				
h) Vesicular Basalt N.A.				
a) Tachylytic basalt NA				
j) Flow contact				
k) Dyke rock				
i) Any remark about geological for	mation.			

Lat - 18°54" 50'N Well Inventory Form 101- 75° 10"67 E ALF - 634m Date -Village PD 90145 In Village Location User ... Vser ... Personal/Community/..... Percolation from : Bottom / Lateral Direction (in the case of lateral direction) Rainy Season G..... Acre Winter Season 2.....Acre Summer Season Acre Time require for a full recharge / recuperation : Any other information

5- R. Wadhankar Name of the Surveyor



1 Z 11 ft Bernent
Sheeted AB
a) Linning b) Soil - Black / Yellow /Sandy Dach c) Existing watersheds structure/ Proclamation dam in neighboring region.
d) Effect of existing structures on watertable. A.B. helps to recharge full fift watertable in e) Geological / Geographical effect on groundwate. full fift watertable in rainy season. f) Compact basalt NA
g) Amygdaloidal Basalt Sheeted AB b) Vesicular Basalt NA
i) Tachylytic basait () Flow contact k) Dyke rock
) Any remark about geological formation.

A REAL OF STREET ST

P

Lat - 18°54 '43'N long - 75° 1011 72'E Alt. 6.38 m Date-12/06/2019 Well Inventory Form Village Gut No. 38.7... Name of the Farmer Annie Greiner Well No. D70 5005 User... Personal/Community/.... In Village Location Percolation from : Bottom / Lateral Direction (in the case of lateral direction) (If the Horizontal bore is taken in Direction, Lengthm. and for vertical borehole...............) Location at the bottom) Summer Season Q. Acre

Any other information

S. R. Wadhankar Name of the Surveyor



Contamo + Calina - 11 configm 18 ft Stone parotet 3814 sherted Broadly Jointel CB F1 a) Linning Stone Clinni b) Soil - Black / Yellow /Sandy Contraction of the second s Black Yellow Sandy Black K Loamy Soi ********** c) Existing watersheds structure/ Proclamation dam in neighboring region. ***** Smat canal recharge water d) Effect of existing structures on watertable. C togradle layer of AB helps to recharge e) Geological / Geographical effect on groundwater. water ******** ********************** f) Compact basalt Broadly Jointed g) Amygdaloidal Basalt Sheeted FQ. canaf h) Vesicular Basait LOE ****** avor Ha HN I) Tachylytic basalt NA Road ------· 8.00. **j) Blow contact** NA k) Dyke rock N.A. I) Any remark about geological formation.

Percolation from : Bottom / Lateral Direction (in the case of lateral direction) (If the Horizontal bore is taken inDirection, Length.....m. and for vertical borehole................)

Use :- Drinking, Irrigation..... Acres, Horticulture....., etc....., etc..... Rainy Season Acre Winter Season Acre Summer Season Acre

Any other information

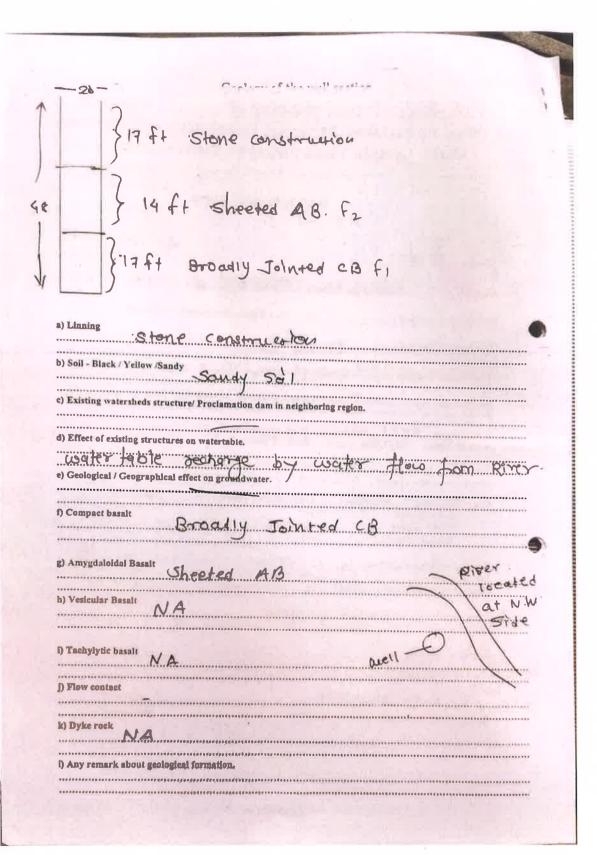
S.R. Wadhankar Name of the Surveyor



Sector States States with another
7 1
3 off 2 offisheeted A.B. Fiz
4 Groadly Jointed Fy
a) Linning N.A.
b) Soil - Black / Yellow /Sandy Black - logmy goil
c) Existing watersheds structure/ Proclamation dam in neighboring region.
d) Effect of existing structures on watertable. UPPET AB recharge well of sainy segurn e) Geological / Geographical effect on ground to the
e) Geological / Geographical effect on groundwater.
D Compact basalt Broadly Johnted
B) Amygdaloidal Basalt Sheeted A.B.
h) Vesicular Basalt NA
1) Tachylytic basalt NA
D) Flow contact (VA First gide of
k) Dyke rock N.A. Road
i) Any remark about geological formation.

AAVAALUUUUUUUUUUUU

Geohydrogeological mapping of Tahsil District Beed undertaken by NAAM Foundation and Chatrapati Shahu Gramin Vikas Shikshan Sanstha Aurangabad 25 Lat. - 18 54" 12 N long - 75° 10" 87 E Well Inventory Form Altitule - 643 Date - 12/06/2019 Village In Village Location User ... Personal/Community/..... Percolation from : Bottom / Lateral Direction (in the case of lateral direction) Use :- Drinking, Irrigation...... Acres, Horticulture......, etc..... Rainy Season Acre Winter Season Acre Any other information S. R. Wadhaukar Name of the Surveyor



Details of the Survey

Geohydrological Mapping & Site Selection for Artificial Recharge of Water in Watershed Development Programme, Undertaken By NAAM Foundation, Mumbai and CGVS Sansta, Aurangabad

1. Village Name : Kinhi , Ta- Ashti , Dist-Beed

2. Date of Survey: 12/06/2019

3. Name of Geologist and Hydrogeologist for Survey in the field:

- a. Shantanu Wadhankar
- b. Rushikesh Puri
- c. Jayesh Mhaske
- d. Kshitij Sontakke

4. Name of the Members for assist to survey in the field:

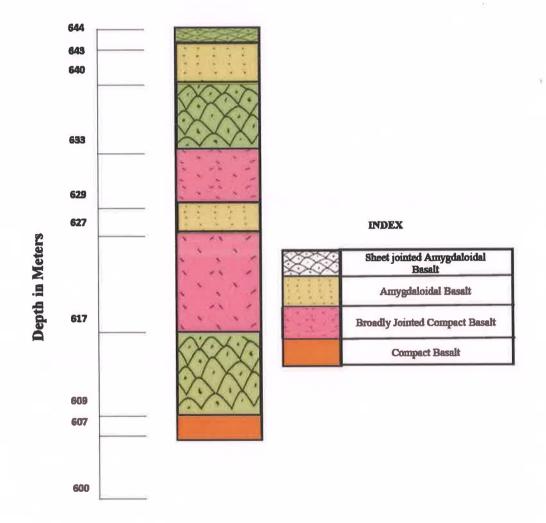
- a. Shri Khillare
- b. Maroti Bhawar
- 5. NAAM Pratinidhi: Shri Rajebhau Shelake

6. Local villagers/ Farmer:

- a. Bajirao Bahwar
- b. Tatya Kakde
- c. Santosh Kakde
- d. Ravindra Kakde
- e. Namdev Kakde
- f. Ashruji Kakde
- g. Changdev kakde
- 7. Total No of Well surveyed:
 - 12 dugwells in the field + 16 dugwells through Satellite Imagery Survey
 - = Total 28 dugwells
- 8. Total map prepared:
 - a. Contour map of Village
 - b. Drainage map of Village
 - c. Dem map of Village
 - d. Litholog of Village
 - e. Geology map of Village
- 9. Recommendation and Conclusion:
 - a. For Artificial Recharge suitable/ Unsuitable:
 - b. Structure for watershed development programme:----

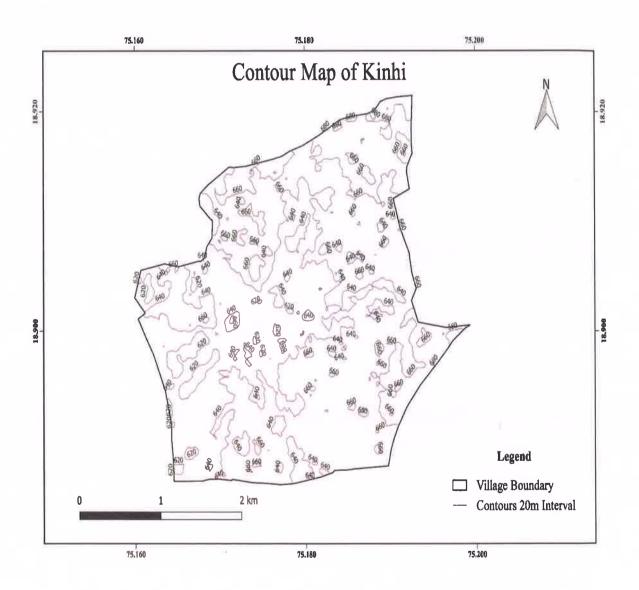
Litholog of Kinhi Village

in.

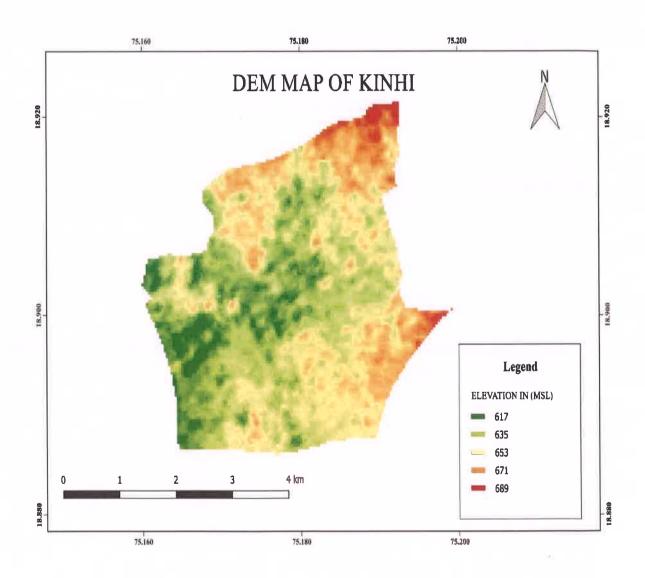


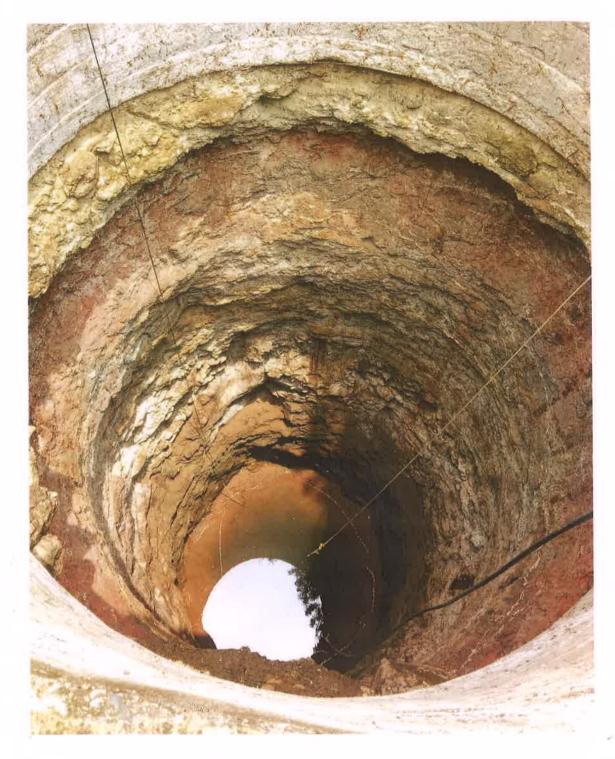
LITHOLOG OF KINHI VILLAGE

Contour Map of Kinhi Village



DEM Map of Kinhi Village





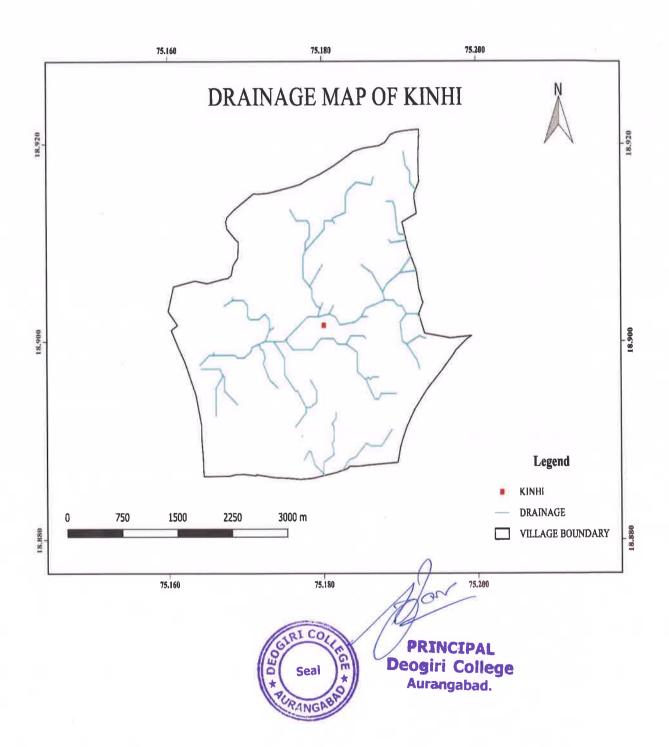
Fractured Basalt Flows exposed in the outcrop



Photographs showing increase in water level at Kinhi village due to watersheds management work.

Drainage Map of Kinhi Village

p.



Lokhandwadi Village

5.9

Lokhandwadi is a small Village/hamlet in Ashti Taluka in Beed District of Maharashtra State, India. It comes under Lokhandwadi Panchayath. It belongs to Marathwada region. It belongs to Aurangabad Division. It is located 85 KM towards west from District headquarters Beed. 21 KM from Ashti. 271 KM from State capital Mumbai. Suleman Deola (6 KM), Dadegaon (6 KM), Dhamangaon (9 KM), Dongargan (11 KM), Ambhora (11 KM) are the nearby Villages to Lokhandwadi. Lokhandwadi is surrounded by Pathardi Taluka towards North, Nagar Taluka towards west, Ahmednagar Taluka towards west, Shirur (Ka) Taluka towards East.

Dug-Well Inventory

M-1 ETERS OTST. manyer dan diermon 3112. Ard marzan side ला नदी वाहत. पाठारे पासकी - पविमार्था - विहारी पूर्व भरताल dug well : Bollod) - 14-15 hz yeiberong dug well : Boelod) - dzy sharthin green Belt : संयोधक à dam असल्याधक पावसाओं à Realoanmere Read असले पाठालीय काम : गाठा मह्ये खूप पठालीय कामे सालेली · HIEN atel-21/21 ain and 31102210 311EH. - sildizar alizan dona ziled Hold Asirificial Recharge :-गोवाच्या काही भागा महत्रे व विहीरी महत्र केंकी गरनेने आहेत.

		Last 19°01"04' N
	Well Inventory Form	mollin F
21		Long - 75°4"18 E Altitude - 656m
		Altitude - 656m
Village Aliasa off		Date - 11/06/19
Village Marsan Marse of the Fa	armer मार्ट्स येन्द्र थेन	Well No. D.Z.9.
		Community/
In Village Location	User Personaly	Community/
Location of the well	<i>n</i>	
Year of the Digging, Co	nstruction year If yes	type
+ + 1	-	2244
Parapet Ht. S. 77. Shape-Cicul	this well if yes source and this of principles.	,
Total Depth	level from ground level	m.
In rainy seasonm. wint	eri, summer	<i>m</i> .
Percolation from : Bottom / Late (If the Horizontal hore is taken in Direction	ral Direction (in the case of late ion, Lengthm. and /or vertical borehole	ral direction) , Location , t the bottom)
Use :- Drinking, Irrigation	Acres, Horticulture	, etc
Rainy Season	Acre	
Winter Season 5	Acre	
Summer Season2		5.10
Type of withdrawals/Pump Out	:- Electrical motorDiesel	Pump HP HP
Dia of outlet pipe 21/2		cometer / day
Dia of outlet pipe. 2. 12. Quantity of withdrawals :- Daily	Firs. Seasonal	
Time require for a full recharg	e / recuperation :	-
Time require for a full recharg (Rainy season 24, Hrs; w	inter	
Any other information		

<u>Gleske</u> Signature

Name of the Surveyor Jayr Ch Mhark R

ł,

and of the well can 22 CB 2037+WAB [Fi] 28井 7.01 1 = 15 # (water), 0.06 ###108 AF -circular a) Linning Stone b) Soil - Black / Yellow /Sandy Black soil Sand c) Existing watersheds structure/ Proclamation dam in neighboring region. Vieter upsheam side dam are prese d) Effect of existing structures on watertable. e) Geological / Geographical effect on groundwater. small d'Ecanagre are present in Orat Side of low depth f) Compact basalt NA - Becuse smal g) Amygdaloidal Basalt covered by AB Whole wel draince AB- fused h) Vesicular Basalt ыA I) Tachylytic basalt НA j) Flow contact ЫА k) Dyke rock ЫА 1) Any remark about geological formation. negr by area is surrounded The negr by area is surrounded by highly Jointed massive Basalt present 11 poor GW potential.

***************************************	Lat = 19° 01'06 M
Well Inventory Form	Lat = 19° 01"06 M Long=75° 04" 21 E
	Altitude = 649m
\sim	Annole - 640)
Village AIZAS aTST	Date -
Gut No. 1.S. F Name of the Farmer 라스코이어지? 버딩이	K-Well No. D30
In Village Location View Dersonal/	Community/
Location of the well, (Farmland, Bank of Nula, In the Na	
Year of the Digging, Construction year, If ye	
Parapet Ht	25 1+
Total Depth \$ 25.7.1., Water level from ground level. 3.7	tm.
In rainy seasonm, winter summer	<i>m</i> .
Percolation from : Bottom / Lateral Direction (in the case of late	eral direction)
(If the Harizontal bore is taken in	m, Location at the bottom)
Use :- Drinking, Irrigation Acres, Horticulture	, etc
Rainy Season Acre Winter Season Acre	
Summer Season Q Acre	
	THO

Any other information

Signature

Name of the Surveyor Mhaske Joyesh Mhaske

0.60 2 sandy AB -fused at bottom. - upper weathered AB. (Fi) 77 water Table. 37 0 a) Linning NA b) Soll - Black / Yellow /Sandy sondy c) Existing watersheds structure Proclamation dam in neighboring region. upsheam side lake esen Are d) Effect of existing structures on watertable. River are present alo good potential e) Geological / Geographical effect on groundwater. GN -LIVER IS PEEDENT f) Compact basalt HA. g) Amygdaloidal Basalt 4300 h) Vesicular Basalt ы.<u>А</u>. i) Tachylytic basalt N.A. j) Flow contact H.A. k) Dyke rock NA I) Any remark about geological formation. the Debris are prevent as sur DU river.

Percolation from : Bottom / Lateral Direction (in the case of lateral direction......) (If the Horizontal bore is taken in _____Direction, Length_____m and /or vertical borehole...m, Location as the hottom)

Use :- Drinking, Irrigation...... Acres, Horticulture....., etc....., etc....., Rainy Season Acre Winter Season Acre Summer Season Acre

Time require for a full recharge / recuperation : (Rainy season 2-4Hrs; winter 5 Hrs. Summer 6 Hrs.) Depend only rainy water Any other information

Name of the Surveyor Jayesh Mhaske

In my of the mall continu TOP to the parapet-cement -> Black CB - Broadly Jointed with sinor vestcles 28 #+ water recharge by Bore. a) Linning ., manua Cem b) Soil - Black / Yellow /Sandy c) Existing watersheds structure/ Proclamation dam in neighboring region. No any Structure Logit he 07 d) Effect of existing structures on waterfable. due to CB, no water & permeablin e) Geological / Geographical effect on groundwater. 01051 1) Compact basait Breadly Vesicles with minor CB Jointed present 4 g) Amygdaloidal Basalj N.A. h) Vesicular Basalt N/7 i) Tachylytic basalt j) Flow contact k) Dyke rock l) Any remark about geological formation. poor groundwater Condition.

I.

£.

Lat-19 01 39 N long - 750 4'30'E Well Inventory Form Altifude-652m Village लोग्रवंड बाडा (देवन्डाली) Date - 11/06/19 काडावा शाजान Gut No. 183. Name of the Farmer 21002 Well No. D32 In Village Location User... Personal/Community/..... is brought to this well if yes source and Hrs of pumping ather st Percolation from : Bottom / Lateral Direction (in the case of lateral direction) Direction, Length ____m, and /or vertical barehole ___m, Location at the bostom) (If the Horizontal have is taken in Use :- Drinking, Irrigation Acres, Horticulture, etc Rainy Season Acre Winter Season Q...... Acre Summer Season Q Acre Quantity of withdrawals :- Daily Hrs. Seasonal cc meter / day

Any other information

Signature

Name of the Surveyor Tayesh Mhaske

e fals wirld confine 17 ft perreipit 马针 16 ## AB 4.87 water-16 ft CB -underwater. 4.87 a) Linning a) Lianing Stone - ciacle b) Sofi - Black / Yellow /Sandy c) Existing watersheds structure/ Proclamation dam in neighboring region. NO d) Effect of existing structures on watertable. e) Geological / Geographical effect on groundwater. Due to AQ Poor Proundwater Helle! f) Compact basalt Due to CB bad ground water yeld . g) Amygdaloidal Basalt PHOLO BONE AB h) Vesicular Basalt <u>N/A</u> I) Tachylytic basalt j) Flow contact k) Dyke rock I) Any remark about geological formation. The port is identifed as 9 impermotel Homizon. so poor groundwater potential.

lat - 19"01"18'N long-75"03"80E Well Inventory Form Altitude -661m विधे लोग्वंडवाडी Date 1106119 Village Gut No. Name of the Farmer Well No... In Village LocationUser... User... Personal/Community/..... Location of the well......, (Farmland, Bank of Nala, In the Nala, Riverbed)..... Parapet HtShape-Cicular/Square, Diameter of well ... (Whether water from other sources brought to this well if yes source and Hrs of pump In rainy seasonm, winter.....m. Percolation from : Bottom / Lateral Direction (in the case of lateral direction) Direction, Lengthm. and /or vertical boreholem, Location at the bottom) (If the Horizontal bore is taken in Use :- Drinking, Irrigation Acres, Horticulture, etc Winter SeasonAcre Summer Season Acre Type of withdrawals/Pump Out :- Electrical motorDiesel PumpHP Quantity of withdrawals :- Daily Hrs. Seasonal cc meter / day Time require for a full recharge / recuperation : Any other information

Strature

Name of the Surveyor Jayesh Mhaske

D=15 # Top - loarny soil. -CB with some vesicales are present (G) 1FT 2.13 T2 -AB with some patches with CB - (f2) 3.04 10 FT 3277 15-71-CB(Fi) 1377 - water added by Bore. a) Linning preser ************ b) Soil - Black / Yellow /Sandy low /Sandy Black. locim 501 1..... c) Existing watersheds structure/ Proclamation dam in neighboring region. d) Effect of existing structures on watertable. material present water is recharge during Rainy SCO .e) Geological / Geographical effect on groundwater. Take is present NE side of a well f) Compact basalt C. B. W. 1H esicles minor g) Amygdaloidal Basalt AB with some patches with CB lake b) Vesicular Basalt ************ NA. i) Tachylytic basalt A.A. j) Flow contact NA k) Dyke rock I) Any remark about geological formation. This well present in lake so unsorted sediments are present outside river. Good and tontential

	Well Inventory Form long - 75° 03'84'E
	Village discission (2000 Date - 11/06/19
	Gut No. 189 Name of the Farmer Hort 2162 37100 Well No. 027
	In Village Location User User Personal/Community/
1000	Location of the well
	Year of the Digging, Construction year/, If yes type
	Parapet Ht. 24. # Shape-Cicular/Square, Diameter of well22
	Use :- Drinking, Irrigation Acres, Horticulture, etc, etc Rainy Season Acre Winter Season
	Type of withdrawals/Pump Out :- Electrical motorDiesel PumpHP.A.H.P Dia of outlet pipe
	Time require for a full recharge / recuperation : (Rainy season
	Any other information

Blatter Signature

Name of the Surveyor Joyesh Mhodke

1

محققهم المتحاطفكم 97t-parapet-cement 2.74 , MCB. 25 ft - AB fused.(fz). 56 ++ 22 74-85 CB (F) a) Linning cement a) Linning b) Soil - Black / Yellow /Sandy Sandy Black c) Existing watersheds structure/ Proclamation dam in neighboring region. d) Effect of existing structures on watertable. Bove Hrough bottom CB e) Geological / Geographical effect on groundwater. to proto terte water e) Geological / Geographical effect on groundwater. Water percolute ygh AB f) Compact basalt EB g) Amygdaloldal Basalt AB fused h) Vesicular Basalt NA I) Tachylytic basalt ЫĄ j) Flow contact ЫА k) Dyke rock ЫА 1) Any remark about geological formation. Negroby greg shown the AOB& The Negroby greg shown the AOB& COB sample outside the wetty overage GW potential.

Details of Survey

Geohydrological Mapping & Site Selection for Artificial Recharge of Water in Watershed Development Programme, Undertaken By NAAM Foundation, Mumbai and CGVS Sansta, Aurangabad

- 1. Village Name : Lokhandwadi, Ta- Ashti , Dist-Beed
- 2. Date of Survey: 11/06/2019

3. Name of Geologist and Hydrogeologist for Survey in the field:

- a. Mr. Shantanu Wadhankar
- b. Rushikesh Puri
- c. Jayesh Mhaske
- d. Kshitij Sontakke

4. Name of the Members for assist to survey in the field:

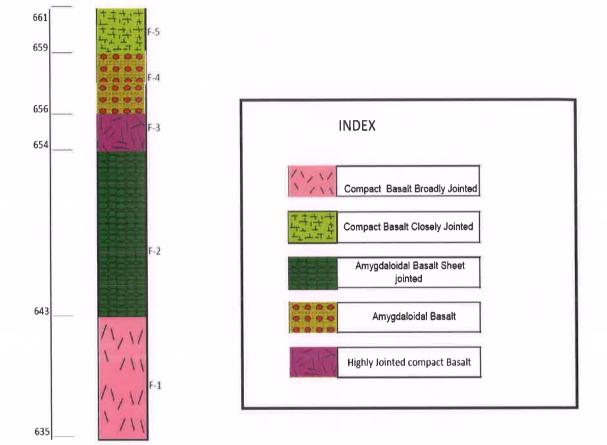
- a. Shri Khillare
- b. Kundlik Jagdale
- 5. NAAM Pratinidhi: Shri Rajebhau Shelake
- 6. Local villagers/ Farmer:
 - a. Bhanudas Thorat
 - b. Tulshidas Thorat
 - c. Muktaji Pawar
 - d. Shankar Ranjane
- 7. Total No of Well surveyed:

06 dugwell in the field + 15 dugwell through Satellite imagery Survey

- = Total 21 dugwell
- 8. Total map prepared:
 - a. Contour map of Village:
 - b. Drainage map of Village:
 - c. Dem map of Village
 - d. Litholog of Village
 - e. Geology map of Village
- 9. Recommendation and Conclusion:
 - a. For Artificial Recharge suitable/ Unsuitable:-----

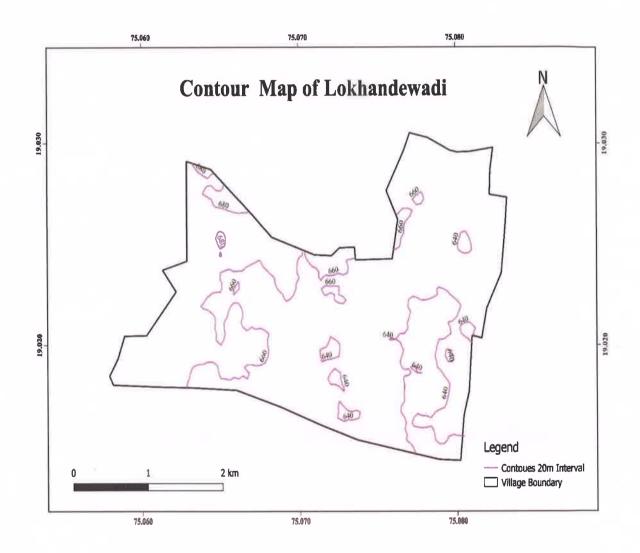
b. Structure for watershed development programme:-----

Litholog of Lokhandwadi

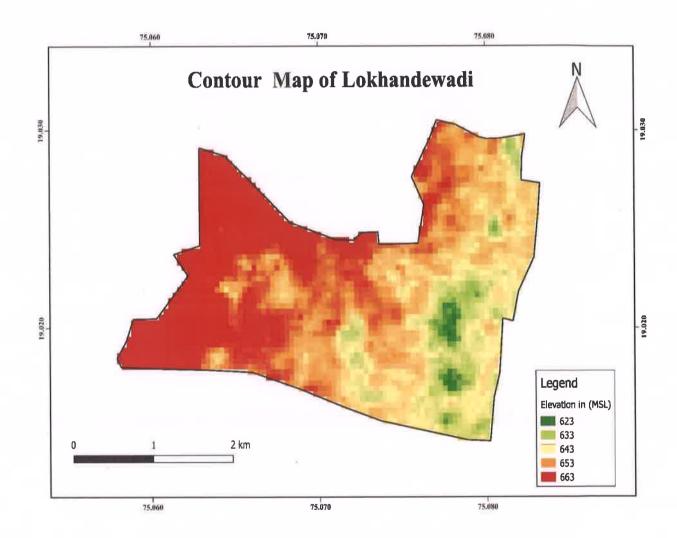


Litholog of Lokhandwala Village

Contour Map of Lokhandwadi Village



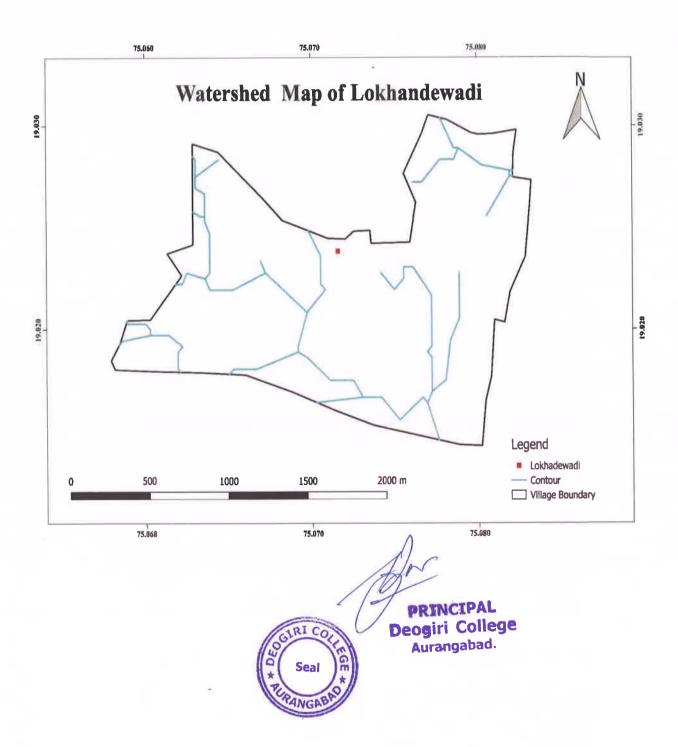
Contour Map of Lokhandwadi





Photographs showing watersheds management at Lokhandwadi Village.

Watershed Map of Lokhandwadi



Mangrul Village

à.

Mangrul is a Village in Ashti Taluka in Beed District of Maharashtra State, India. It belongs to Marathwada region. It belongs to Aurangabad Division. It is located 79 KM towards west from District headquarters Beed. 280 KM from State capital Mumbai. Mangrool is surrounded by Jamkhed Taluka towards South, Pathardi Taluka towards North, Patoda Taluka towards East, Karjat Taluka towards South.

Google Earth image of Mangrul Village



Geohydrological survey for Selection of Site for Watershed development and Artificial Recharge ,Tahasil-Ashti, Dist-Beed by NAAM Foundation and CSGSS, Aurangabad

Village Name : Mangrul

Introduction:

The Village Mangrul is situated in Ashti tahasil area, District-Beed of Marathwada region in Maharashtra. The village is distributed in wadi-vasti and located at North latitude 18° 47'06" and East longitude 75°08' 04" with an altitude of 578 m above mean sea level. It is located near Mangrul percolation tank project. The seasonal groundwater condition in rainy season is moderate to good while, village is facing water scarcity problem in the summer season of every year. The projected area of survey is falling in MDP (Moderately Dissected Plateau) to SDP (Slightly Dissected Plateau) geomorphological unit based on the contour map of Mangrul village. The detail geological hydrological condition of the area is mentioned below.

Geology of the area:

The major part of the project area constitutes a sequence of basaltic lava flows (Deccan Trap) while alluvium occupies a small portion along the river channels. The Deccan Trap formation is very thick and comprises of multiple lava flows. The compact basaltic lava flows and amygdaloidal basalt lava flows are the major lava flow unit observed in the project area. The small unit of Yellowish patches of weathered soil horizon between two sandwitched lava flows. The upper lava flows mostly affected by differential weathering processes. So that, sheet jointing, spheroidal weathering are the index features of upper lava flows. Along river channels paleochannels are being observed in the dugwell vertical section. In some of the other wells those are away from the main channels also reported with paleochannels which is indicate that, there has been great migration of river channels in the previous history. The detailed graphical representation of lava flows are indicated in litholog map of Mangrul village.

Hydrogeology of the area:

The groundwater occurrence and movement in the area is influenced by its hard rock formations. Groundwater potentially depends upon porosity and permeability (both primary and secondary) of rock formations. The drainage network of streams from project area shows dendritic to sub-dendritic, radial to sub-radial drainage pattern. The development of dendritic to subdendritic drainage in area it indicates that area of massive to hard rock types and gently sloping terrain.

Suggestion for the artificial recharge:

The litholog of the study area is indicating top Flow No. F-9, F-8 and F-7 are affected by intense weathering processes rather than underlying highly jointed compact lava flows (Flow no. F-6) and sheet jointed amygdaloidal basalt lava flow (Flow No. F-5) demarcated shallow aquifer system. While, Flow No. F-4 is unjointed amygdaloidal basalt which restricts the primary porosity and Flow No. F-3 is compact basalt which is broadly jointed underlying by Flow No. F-2 which is weathered basalt and below that, Flow No. 1 is again occupied by compact basalt flow. The middle Flow No F-4 and F-3 are impermeable and does not allowed groundwater to percolate downward. So that, in the project area the groundwater is not available in shallow aquifer during summer season so that, mostly all borewells and dugwells become dry during summer season hence water is supplied by tanker for drinking purpose. In summer season mostly all borewells and dugwells become dry while groundwater potential in shallow aquifer is good but underlying Flow No. F-4 which is impermeable and do not allow groundwater to percolate downward. Hence, to recharge deeper aquifer channel, creation of artificial openings in middle impermeable layers are required in the project area by implementing artificial recharge methods.

For watershed development programme following site are being selected in the watershed according to dipping and lithology survey:

- 1. Percolation tank-1 (N 18° 47' 10", E 75° 08' 48")
 - Widening and Deepening are required

- 2. Todkar Vasti Talav-2 (N 18º 46' 44", E 75º 08' 42"):
 - · Widening and Deepening are required
 - · Spillway repairing required
- 3. Percolation tank-3 (N 18º 46' 44", E 75º 08' 24"):
 - Widening and Deepening are required
 - Spillway repairing required

New Cement Nala bund (CNB) are suggested along Todkar vasti nala. And Widening and deepening of channel are also required.

Hydrogeologist CSGVSS, Aurangabad

नाम :- माम्म माम्मुका :- भारत्व मिम्ला :- निड मिल्ला :- निड राख्या निहिरी:- 12 जारत्तीत जारता उटी :- 00 594 मे जामन काम उटी :- 00 594 मे राख्या :- 568 मे

SUCH HALLOG 20/07/19 पाझर जन्मत ! SITTAT - 594 800 1al: 184710 Fores 2 10kg atingth 568 - 513 long :- 750868 UPP. MAN EN12586m 21 प्राहर ताकावर को को करना, रन्दीकरना, करना कारजे हो दे 21 प्राहर ताकावाल। पुर्वेल्डल जन्म आहा मिलनो \bigcirc तेडिकर जन्मी निज्ञती रोड UISTY HIDID -D ation - 22 minunger 1al: - 184654 UTER (Traig 1009 1- 750 842 5 00 B WILK MINICI 2 EFE EN: - 387 101. मिल्लाना की तरावे - 27 तरावरी की किए। के कि का कि सावहराज भार व साइच्याची कर्मती करने सावहराज आहे. या ततावाका तीका सारे येकना मिछनान हज ध्याका छठ। इनरिक्य वाहनी तर एक फ्रेंक्यून पारेचमेलेड बाहुत या पाछर तलावान डोरून मिछनान 31100 3 עואל אשום י-1012- 184644 long i- 750824 GIVJ- 586 ml. 11/11/11/19 या गासर मामावानी स्वीकरण। की की करण। करणे हे माइव्यासी दुरन्थनी करणे आवश्यक अगर. UTFIL MINIC 4 10y 1- 184706 long J- 750804 New autoria and and casoli and army New quilable sile for construction concert Nala या भोट्याचे श्वीकीकुरण ठ रदीकरण करके अरमेचे 2161 131123 0> (Britis) coment really real constant entry (Britis) alter 1621151 200 Al Alteriar ENIN 0 (3) lat 1- 1847 16 long 1. 750757 1082-184717 @ BIV & STUM long: - 750750

Contraction of the second T lal 1- 184722 long: -750729 GIV J- 571001 अन्तियाची वाहाव्याती रिया प्रकिन्हण पार्ट्समेन्द्र ; कोग्हीकरण देवरी करी करने व cerpero, काटी. > eeronyc A.N. Lat 1- 184656 long 2.750709 (FINI - 516. שורבהא החוטל כואת

Well Inventory Form

Village . Fielto Date - 20/02/19 254701 49195 MISSZ Gut No. .. 233. Name of the Farmer Well No. Type of withdrawals/Pump Out :- Electrical motor Diesel Pump Quantity of withdrawals :- Daily Hrs. Seasonal cc meter / day Time require for a full recharge / recuperation : Any other information

Korde Jukarde D Name of the Surveyor

Geoff of Underlage GL Geology of the well section 7m! 3 mt grade soil construction 201 Avatherd 8 mt compact bacall per Offer a) Linning Stone hning b) Soil - Black / Yellow /Sandy ************** ***** Black Dhi e) Existing watersheds structure/ Proclamation dam in neighboring region. 3 certs 6 創からろう ********* lee' d) Effect of existing structures on watertable. moreuse water tab feiny secon alm in comer e) Geological / Geographical effect on groundwater. Marane Water 10 ***** f) Compact basalt 8 02 conpact Boal 0-2 g) Amygdaloidal Basalt Obsent h) Vesicular Basait Bbson -----i) Tachylytic basalt Absent]) Flow contact P beon -----k) Dyke rock Absent ****** i) Any remark about geological formation. This dugicel) presen be lood ------to west direction) ************* area and flow Gar

Well Inventory Form

	Village	Date -	20/07/119
	Gut No. 2.3.2. Name of the Farmer	At Well 1	No
	In Village Location	ersonal/Commun	lity/
	Location of the well		
	Year of the Digging 2009, Construction year.		NO
	Parapet Ht Shape-Cicular/Square, Diameter of (Whether water from other sources brought to this well if yes source and Hrs o		
	Total Depth	Bort m.	EDIGL 750858
	Percolation from : Bottom / Lateral Direction (in the cas	- Clateral direct	ion.
	Use :- Drinking, Irrigation Acres, Horticulture Rainy Season		
	Summer Season N.D Acre	0	1 × 4 - 1
0	Type of withdrawals/Pump Out :- Electrical motor.	,Diesel Pump	.HP
	Quantity of withdrawals :- Daily Hrs. Seasona	al	meter / day
	Time require for a full recharge / recuperation : (Rainy season	nmer Perg.	Hrs.)
	Any other information		

Korde Jukarano Name of the Surveyor

Signature

Solution of the second Geology of the well section GL Jml Parol weatherd subalt. 800 8 100 Hard compaic good ç 300 Oarres PINT SUID a) Linning ************* NO ************* b) Soil - Black / Yellow /Sandy ***** Black c) Existing watersheds structure/ Proclamation dam in neighboring region. dam (UTEX HIBTY) South Sid d) Effect of existing structures on watertable. percolation High 10 and winter seemon Rainy season e) Geological / Geographical effect on groundwater. margane water table ...FR. WALLO f) Compact basalt 8 00) Basal! flow Aresco g) Amygdaloidal Basalt Absent **************** h) Vesicular Basalt ***************** i) Tachylytic basalt Bhsen j) Flow contact NO k) Dyke rock Absen) ************** ****** I) Any remark about geological formation. Highland ones dreef Gost to west

Well Inventory Form

	Village
	Gut No. 14. Name of the Farmer
	In Village Location
	Location of the well
8. 	Year of the Digging 2017., Construction year, If yes type
	Parapet Ht
	Total Depth!! 50 m, Water level from ground level. 8.50m m. (af 1/ 184704
	Percolation from : Bottom / Lateral Direction (III the case of lateral direction
	Use :- Drinking, Irrigation Acres, Horticulture
0	Type of withdrawals/Pump Out :- Electrical motorDiesel Pump S. HP. Dia of outlet pipe 2.5 Quantity of withdrawals :- Daily Hrs. Seasonal Construction Construction Construction Hrs. Seasonal Construction Construction Construction Hrs. Seasonal Construction Construction Construct
	Time require for a full recharge / recuperation : (Rainy season 2.4Hrs; winter
	Any other information

Korde Jukaram Name of the Surveyor

Signatur

21 वीहिरी म्यू मवीहा पाझर ल का वासह इस्रोरेकि डो रह उस्त इ. पाझर Geology of the well section 850 mt GI 2mt glacksoi) construction In weatherd Basall) अवार्ग पाक्स पार्का भाषा इस्तोंकिशेह डो रह उमार इन्हें आत्तरावर जार्र्ट्यास्ड छोटा पाझर लाकाच आर 850m 8.50 Hord compact good! with Frackers 300 water 12 present Dugwell a) Linning Cam b) Soll - Black / Yellow /Sandy **************** ***** gack c) Existing watersheds structure/ Proclamation dam in neighboring region. ****** d) Effect of existing structures on watertable. Month watertable percelation High 20 Eauny se High 20 Enoy seares ********************* e) Geological / Geographical effect on groundwater. JA DOTZOT Hope and winter Home water touble Increase f) Compact basalt 5-50 ml Hard sompact Basalt with present g) Amygdaloidal Basalt Absent h) Vesicular Basalt Absent i) Tachylytic basalt Absen [) Flow contact ************************ k) Dyke rock poson I) Any remark about geological formation. High land onea flow Drech on East west 10

	Well Inventory Form
	Village
	Gut No
	In Village Location
	Location of the well Struth (Farmland, Bank of Nala, In the Nala, Riverbed).
	Year of the Digging .2011, Construction year, If yes type. Cement
	Parapet Ht
	Total Depth 10. M. Water level from ground level. 8. M. m. 1012-184713 In rainy season
	Percolation from : Bottom / Lateral Direction (in the case of lateral direction) (If the Horizontal bore is taken inDirection, Lengthin. and for vertical borehole, Location at the bottom)
	Use :- Drinking, Irrigation Acres, Horticulture
2	Type of withdrawals/Pump Out :- Electrical motor,Diesel Pump S. HP Dia of outlet pipe
	Time require for a full recharge / recuperation : (Rainy season
	(Rainy season
	Konde Jukanano. Acordy
	Name of the Surveyor Signature -

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Geon Ceon Geology of the well section 8.50 m GL Blacksoil Bracksoil 33ml 2ml weatherd Basal Dicons 200 HI HEIDZ 31751 7 m) Hood coropaul Bosalt cost practures DISPACE prese copicqueet 0 की हिर a) Linning Cerven Ining b) Soil - Black / Yellow /Sandy Black c) Existing watersheds structure/ Proclamation dam in neighboring region. Nala present distono d) Effect of existing structures on watertable. J.D. parazio o alto Tab 12 organe Fact side and south e) Geological / Geographical effect on groundwater. colation. *******) Compact basalt High fractures present 00 Hb 3 ************** g) Amygdaloidal Basalt Absent h) Vesicular Besalt en -----i) Tachylytic basalt Absent ********************** ********************** ************* bekvern) Flow contact areathero bosall frew and Hard 2mpaci<u>]</u>Ŋ Basal 1 hous k) Dyke rock Absen I) Any remark about geological formation. flow obsection port to High land and west

Well Inventory Form

Village Holyod Date - 20107119 भागाबाय विशेष। लोड्डर Gut No. Name of the Farmer Well No. 05 Location of the well...... (Farmland, Bank of Nala, In the Nala, Riverbed)..... (ad 1-184653. Percolation from : Bottom / Lateral Direction (in the case of lateral direction) (If the Horizontal bore is taken inDirection, Length......m. and for vertical borehole....m. Location at the bottom) Summer Season N.D. ... Acre Time require for a full recharge / recuperation : Any other information 21 किटरी जा प्रकारित प्रकार हा प्रकार ही प्रावसाल राहनी. Korde Tukanan Name of the Surveyor

	section Geolydian
Front Geology of the well	section Go der
(yelloed obi)	
Jelles soi) 301 weather of gasalt	पारिस्टोम्स आहे के उत्तर का में द्वाले के स्टब्स्ट के स्टब्स्ट के स्टब्स्ट के स्टब्स्ट के स्टब्स्ट के में स्टब्स्ट के से से स्टब्स्ट के से से स्टब्स्ट के से
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	Dailer
a) Linning	1 21761
No.	1 1150 000
b) Soll - Black / Yellow /Sandy	1
and a second second being a second second being a second second being a second s	<i></i>
c) Existing watersheds structure/ Proclamation dam in neighboring	region. Nears planth side 400 m
d) Effect of existing structures on watertable. 50 m	region. News North side 400 ministration of the side o
water percolation	Hgin ID permon Fre
***************************************	M
f) Compact basalt	water tabre
6 B H MY Fra	cturd compact Basall Fig
a) Amundalaidel Baselt	
Absen	
h) Vesicular Basalt Bbsenj	-
1) Tachytytic basalt Absen)	
	5
LORALIALT Danald 311	1 CB. 221 Contac Jiesc!
10301	LINALLY O TEANERIUSH STERT
i) Any remark about geological formation.	
High lond alleg pla	eth to south direction
floo	

Well Inventory Form

Halto Village Date - 20/07/19 TAGIN BEILDILE YOINK Gut No. Name of the Farmer Well No. Location of the well......, (Farmland, Bank of Nala, In the Nala, Riverbed) al ~ 184657. long + 750835 EN! - 585002. (If the Horizontal bore is taken inDirection, Longthin. and for vertical bo rehole n. Location at the both Rainy Season S..... Acre Winter Season Acre Summer Season N.O.... Acre Time require for a full recharge / recuperation : (Rainy season . 2.4 Hrs; winter 9. Hrs; Summer Der Hrs.) Any other information

Korde Mikaran Name of the Surveyor

Signature

गाणा विहित्तिद्धाः वहित्ता ति अग्रियेष १० मी अग्रेलरायर देखित के अप्र याझर तकाल साह छ छ Geology of the well section 2m GL Im porafeel 2ml gracksoil J 2ml weatherd grant rey 3ml weatherd sheet sinked with Highly Fracture Bosall Limi Hard compact glassy Barall a) Linning Cement b) Soil - Black / Yellow /Sandy c) Existing watersheds structure/ Proclamation dam in neighboring region. d) Effect of existing structures on watertable. 10 ml distance Senten 1 South side rescolation tank iden e) Geological / Geographical effect on groundwater. m mease Assund f) Compact baselt 300) and 4001 HIGHLY fra d cheel Compaci Basal Jon O£1040 g) Amygdaloidal Basalt Absen h) Vesicular Basalt Absen ***** i) Tachylytic basalt Doon -----....... j) Flow contact -----****** k) Dyke rock pbson) ****** I) Any remark about geological formation. Low land area flow Gast to west sicle

Well Inventory Form

Village
Gut No. 235 Name of the Farmer 21444 Field Also Well No.
In village Location
Location of the well
Year of the Digging 2018., Construction year
Parapet Ht
Whether water from other sources brought to this well if yes source and Hrs of pumping. (Whether water from other sources brought to this well if yes source and Hrs of pumping. Total Depth 9.50 ml, Water level from ground level. 7.50rpl, 1a1 - 184626 In rainy season . p. Orfle, m. winter. 2 ML; summer
Percolation from : Bottom / Lateral Direction (in the case of lateral direction) () the Horizontal bore is taken inDirection, Lengthin. and /or vertical boreholem. Location at the bottom)
Use :- Drinking, Irrigation Acres, Horticulture, etc, etc
Type of withdrawals/Pump Out :- Electrical motorDiesel Pump S. HP Dia of outlet pipe
Time require for a full recharge / recuperation : (Rainy season
Any other information

Korde Jukaran Name of the Surveyor

Signature

Geology of the well section 8 not GL (Urzio) হা 2001 Yellow wethered soil 2.50ml sheed soinked compact gasall 7.90 00.7 Stot Hand glassy coropacy Basalt. Oante 2001 क्रार। प्रसाखा UNAKATOR Peoson 1150 a) Linning No b) Soll - Black / Yellow /Sandy ***** Black no. (abbaria) c) Existing watersheds structure/ Proclamation dam in neighboring region. Tect of existing structures on watertable. distance d) Effect of existing structures on watertable. t of existing structures on watertable. e) Geological / Geographical effect on groundwater. th 10 South and the second se tab f) Compact besalt Appendix 5 m and 250 sheet it. Basell Fleve 5 presen 10 ned g) Amygdaloidal Basalt Bbsen ************************* *********************** h) Vesicular Basalt Appen i) Tachylytic basalt i) Tachylytic basalt Ab sept J) Flow contact 4160 4160 m) chang distance face k) Dyke rock Absen! I) Any remark about geological formation. Low lond aread flow direction west to East

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wen	Inventory Form
Village Horad	Date - 20/07 119
inage	
Gut No Name of the Farmer	Well No. 08
In Village Location	dirate तेड्र
	Bank of Nala, In the Nala, Riverbed)
Year of the Digging 20/4 Constructio	n year If yes type
Parapet Ht NO Shape-Cicular/Squar (Whether water from other sources brought to this well if)	are counce and Here of pumping
Total Depth	m ground levelRelfm. 642 184652 m. summer
Percolation from : Bottom / Lateral Direc	ction (in the case of lateral direction)
Use :- Drinking, Irrigation Acres	s, Horticulture; etc
Rainy Season	
Winter Season 1 Acre	
Summer Season N.Q Acre	
Type of withdrawals/Pump Out :- Electri	cal motor Diesel Pump . S HP
Dia of outlet nine 9.5 cm	Buch
Quantity of withdrawals :- Daily	Hrs. Seasonal cc meter / day
Time require for a full recharge / recuper	ration :
(Rainy season	3 Hrs; Summer
04661/00	0

Korde Tukarano Name of the Surveyor

Beardy Signature ...

Geotytate 8m) GL Geology of the well section I mt Black soil is weatherd Basal 4-5000 sheet sin kel Ompact Basel Rey 6ml High forechured with greet somed Hand compact good! a) Linning construction NO b) Soil - Black / Yellow /Sandy Black 501 c) Existing watersheds structure/ Proclamation dam in neighboring region. d) Effect of existing structures on vistorials side loc m d) Effect of existing structures on watertable. octh tor Increas walks e) Geological / Geographical effect on groundwater. *********** mareage in mensuon pence f) Compact basalt 1) Compact basalt 4.50 m) md smol Hord compact basalt sheel som'ed 0 g) Amygdaloidal Basalt Pbsend h) Vesicular Basalt Absent ------I) Tachylytic basalt *****************************)) Flow contact ************************ ******************* ******* k) Dyke rock Absent I) Any remark about geological formation. Hat lond oned *******

Well Inventory Form

	¢.
Village Haltad	Date - 20/07/19
Gut No Name of the Farmer	952 Well No
In Village Location User I	Personal/Community/
Location of the well (Farmland, Bank of Nala,	In the Nala, Riverbed)
Year of the Digging 2000., Construction year	, If yes type
Parapet HtShape-Cicular/Square, Diameter o	f well
Total Depth	1. P. 27
Percolation from : Bottom / Lateral Direction (in the ca. (If the Horizontal bore is taken inDirection, Lengthm. and for vertice	ac by micrar an contraction and
Use :- Drinking, Irrigation Acres, Horticulture Rainy Season	; etc
Type of withdrawals/Pump Out :- Electrical motor Dia of outlet pipe	Diesel PumpHP
Quantity of withdrawals :- Daily	l cc meter / day
Times manying for a full mark sure (sure and then a	

Korde Jukaran Name of the Surveyor

Signature

JIN Goothat 8mli GL Geology of the well section Brack soil weathand Basalt Sm) Amygdalodal Bacall Dey C smit compact steel jointed Basalt a) Linning No CLOOSKELLCHOD (Absent) b) Soil - Black / Yellow /Sandy B) Sou - Black / Yellow /Sandy Black 301 1 c) Existing watersheds structure/ Proclamation dam in neighboring region. ********** Wisterne Newy Malc d) Effect of existing structures on watertable. a) Enter of existing structures on watertuble. Weder percole e) Geological / Geographical effect on groundwater. cocile terp 6 ------_____ f) Compact basalt <u>San S</u> pace Basall asi g) Amygdaloidal Basalt 5ml pmygdaloidal Basal How h) Vesicular Basalt Absen i) Tachylytic basalt Abson J) Flow contact frow contad ****************************** AB and CA 15 up to surface k) Dyke rock Absen' i) Any remark about geological formation. pled o orred

Well Inventory Form

	a*
	Village Holted Date - 20107119
	ATEST Well No. 10
	Gut No Name of the Farmer
	In Village Location User User Personal/Community/
	Location of the well, (Farmland, Bank of Nala, In the Nala, Riverbed)
1	Year of the Digging 2913, Construction year, If yes type
	Parapet Ht
	Whether water from other sources brought to this well (yes source and Hrs of pumping
	(If the Horizontal bore is taken inDirection, Lengthm. and /or vertical boreholem, Location at the bottom)
	Use :- Drinking, Irrigation Acres, Horticulture; etc; etc
	Rainy Season
	Rainy Season Acre Winter Season Acre
	Summer Season
	Type of withdrawals/Pump Out :- Electrical motor Diesel Pump
	Dia of outlet pipeQ.Scm. /inch
	Time require for a full recharge / recuperation : (Rainy season
	Any other information

Korde Jukarano) Name of the Surveyor

The

2

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Rena Signature

Geonyarase 8mt GL 2ml yelloesil Geology of the well section 4ml sweatherd Basalt Der 2001 Hard compared sheet Join kal Basalt a) Linning 10 b) Soil - Black / Yellow /Sandy ************ Black c) Existing watersheds structure/ Proclamation dam in neighboring region. שרנצ יוצריב 007 10 7 d) Effect of existing structures on watertable. 34142102 1.0.00.9 Dg 2000000 table. water e) Geological / Geographical effect on groundwater. FRUNY Scarbo Bomo 40 ter season and the former f) Compact basalt pereosing *********************** 1001 (ombal) Basal 00 presen g) Amygdaloidal Basalt ******* Absent ----------h) Vesicular Basalt Absen I) Tachylytic basalt Absent ----j) Flow contact quante small 1000n pres ****** k) Dyke rock Absent i) Any remark about geological formation. plain ored -----

Vikas Shikshan Sanstha Aurangabad

Well Inventory Form

JUJ/4 ct	Date - palotig
Village	Dane (D) = ()
Gut No Name of the Farmer	Date - 20107119 Hier 20/05 Well No!
In Village Location	*********
Leastlan of the well	Bank of Nala, In the Nala, Riverbed)
Year of the Digging 2.9.5., Constru	ction year, If yes type
Parapet HtShape-Cicular/Se (Whether water from other sources brought to this w	Juare, Diameter of well
Total Depth!	Gind summer perf
Percolation from : Bottom / Lateral I (If the Horizontal bore is taken inDirection, Let	ngthm. and /or vertical boreholem. Location at the bottom)
Use :- Drinking, Irrightion A Rainy Season	cres, Horticulture; etc
Summer Season	cre
Toma of withdrawals/Pump Out F	ectrical motor Diesel Pump
Type of withdrawais/t unp Suc - El	Auch

. •

Time require for a full recharge / recuperation :

Any other information

Signature

rot

wee.

Korde Jukara m Name of the Surveyor

Contraction Geology of the well section 9m) GL ज्याकर 50 मी कांत 301 Brack 201] Gonsteuction Jute (Get 13) (emen) साह्यावर per Sul Hord compact gasal a) Linning Cemen b) Soil - Black / Yellow /Sandy ***** ******* Blackson e) Existing watersheds structure/ Proclamation dam in neighboring region. ****** Bondh present d) Effect of existing structures on watertable. cemen! In RUDY SEGAN season water table increase e) Geological / Geographical effect on groundwater. percotate 150 two How f) Compact basalt 6*m*) (0 Dasalt reservi ****** 1 ***** g) Amygdaloidal Basalt Obsent -----h) Vesicular Basalt Absent ****** i) Tachylytic basalt Dbsont **********************)) Flow contact Absen k) Dyke rock Abson) Any remark about geological formation. plain area

Well Inventory Form

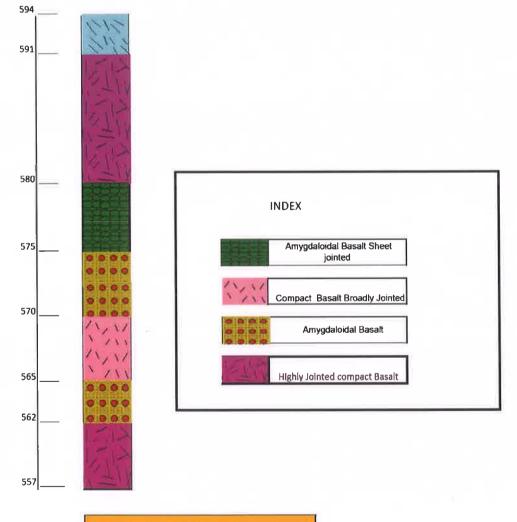
	Village Rial-20/07/19
	Village
	Gut No
	In Village Location
	Location of the well, (Farmland, Bank of Nala, In the Nala, Riverbed)
	Location of the well
	Year of the Digging
	Parapet Ht. MD. Shape-Cicular/Square, Diameter of well
	Total Depth
	Percolation from : Bottom / Lateral Direction (in the case of Idieral direction at the bottom)
	The is Drinking If Mallower in the second
	Winter Season Acre
	Summer Season N. Q Acre
1	Type of withdrawals/Pump Out :- Electrical motor Diesel Pump 5 HP
	Dia of outlet pipe
	Time require for a full recharge / recuperation : (Rainy season
	Any other information

Korde Jukanaro Name of the Surveyor

Exerc Signature

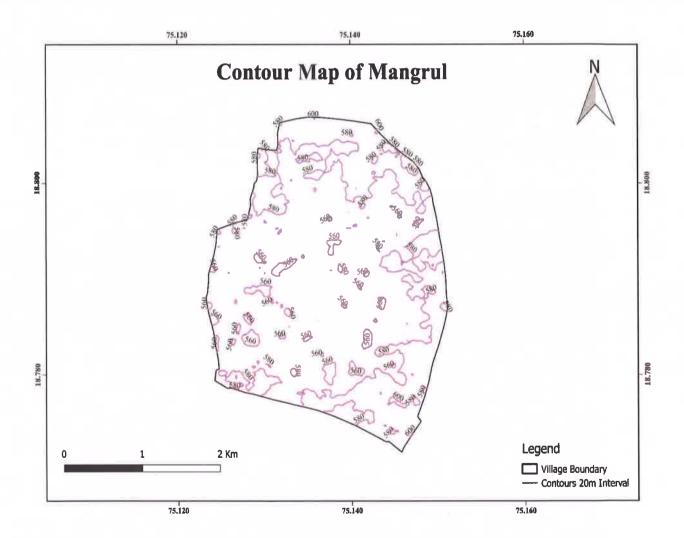
20 GL Geology of the well section grack son 1 weathard Basall 11 al la coropact Basalf 7m 2001 bugues 1 a) Linning NO b) Soll - Black / Yellow /Sandy Black Si c) Existing watersheds structure/ Proclamation dam in neighboring region. NO NEAR Steicture ***** d) Effect of existing structures on watertable. effect MO ****** e) Geological / Geographical effect on groundwater. Roa 5/ Euchart DIGI ATE नयक्यामुहे eachas 3 geound pater of ellect E of other f) Compact baselt m7 gam HOW ************************************ g) Amygdaloidal Basait Absent h) Vesicular Basalt .Dbsen) I) Tachylytic basalt Absen . ····· J) Flow contact k) Dyke rock Absen i) Any remark about geological formation.

Litholog of Mangrul Village

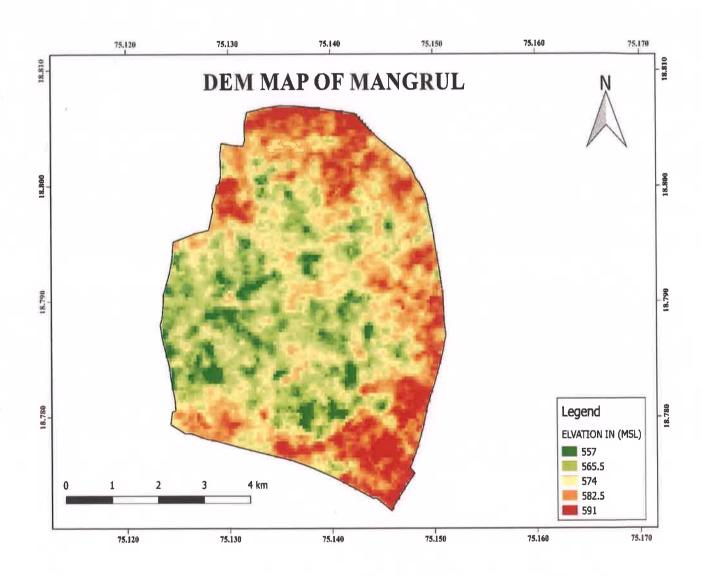


Litholog of Mangrul Village

Contour Map of Mangrul



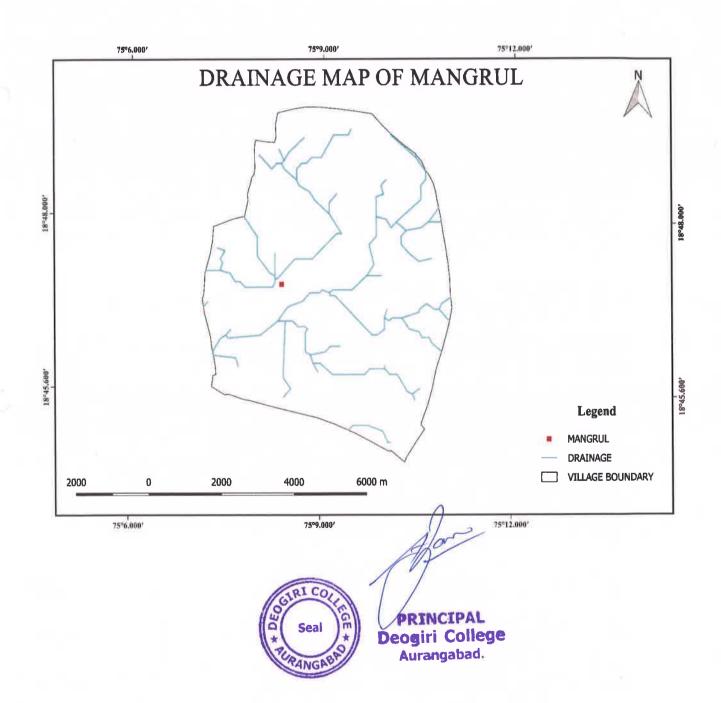
DEM Map of Mangrul Village





Photographs showing increase in water level at Mangrul village due to watersheds management work.

Drainage Map of Mangrul Village



Matkuli Village

Matkuli is a Village in Ashti Taluka in Beed District of Maharashtra State, India. It belongs to Marathwada region. It belongs to Aurangabad Division. It is located 62 KM towards west from District headquarters Beed. 23 KM from Ashti. 301 KM from State capital Mumbai. Karhewadgaon (3 KM), Pandhari (6 KM), Bhatodi (7 KM), Karanji (7 KM), Sakat (8 KM) are the nearby Villages to Matkuli. Matkuli is surrounded by Ashti Taluka towards west, Patoda Taluka towards East, Shirur (Ka) Taluka towards North, Karjat Taluka towards west.

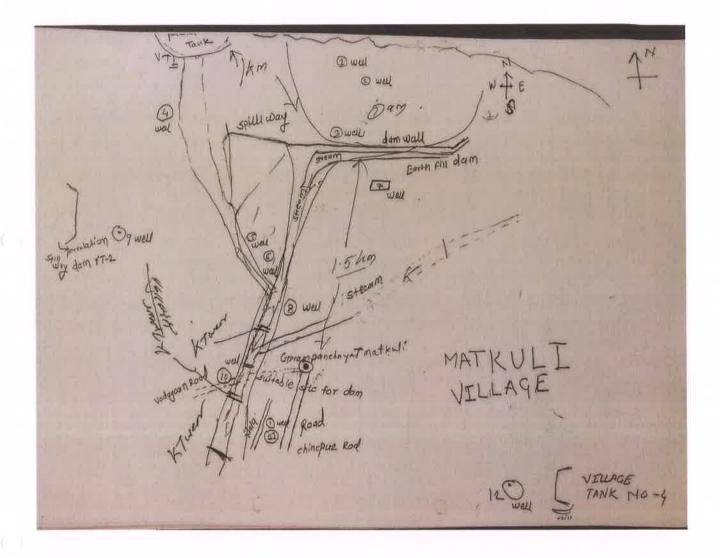
भूशास्त्रीय सर्वेक्षण मातकुळी, ता.आष्टी, जी. बीड

मातवुच्ळी गावपरिसरामध्ये Well Inventory, GIS & Remote Sensing Technique, भूशास्त्रीय सर्वेक्षण, हयाभागात पडणारा सरासरी पाऊस तसेच शेती; पिण्यासाठी व इतर कामासाठी पाण्याची मागणी इत्यादी बाबीचा आढावा घेऊन या भागातील पाणी टंचाई कमी करण्यासाठी खालील कामे करण्याची शिफारस करण्यात येत आहे.

१) मातकुळी गावाच्या परिसंरामध्ये अंदाजे ७० मीटर खोलीपर्यंत बेसाल्ट खडकाचे मुख्य अकरा थर आढळत असून, त्यामध्ये काळा पाषाण थर क्र. २, ५ व ६ मधून पाणी खाली कमी जात असल्यामुळे गावाच्या उत्तर भागाकडून येणाऱ्या नदीवर कृत्रिम पुनर्भरण (Artificial Recharge Structure) पिट्स कमीत कमी ७० घेणे.

२) गाव परिसरामध्ये लहान मोठे नऊ तलाव असून हया तलावातील गाळ काढणे आवश्यक आहे.

3) गावाच्य उत्तरेकडील मुख्य मोठ्या तलावातील गाळ काढणे तसेच सांडव्याची दुरुस्ती करणे आवश्यक आहे.



Well Inventory Form

Village Hirlogal Date - 17/07/19 31140 J 01812. Well No. O J Gut No. Name of the Farmer . Location of the well. Neeth, (Farmland, Bank of Nala, In the Nala, Riverbed). Inoly. (Dom Year of the Digging Current, Construction year. Alo, If yes type NO Perculation from : Bottom / Lateral Direction (in the case of lateral direction) (If the Hardednial bord in taken in Direction, Length.....m. and for vertical barehole...m, Lengtian at the bottom) Use :- Drinking K., Irrigation Acres, Horticulture Winter Season Dent Acre - up to Appril - Y2 hours Summer Season Dent Acre. - To month Type of withdrawals/Pomp Out :- Electrical motor Diesei Pump 5. HP " Quantity of withdrawals :- Daily Q. 4 Hrs. Seasonal cc meter / day Time require for a full recharge / recuperation : Korde Jukaram. Name of the Surveyor Signature י נהיצעות במנטיני אינוע גוצחונים איני (צ

12402 13-50 ml -ייחיזהקה וומיע מולי זה ידיר וממי 9N fosmi glacksoi) 3.5 ml Yellowsoil 374 2001 Oale 2001 palaeochanal मालकरी लाखाव 10.50 m) water 5ml Amygolaloidal Baralh Hisall HIMMINIM tuble 5119 0.50m present in Bugerel 1 stimming b)-Sofl - Black / Yellow /Sandy He Black soil or face present Boldens c) Existing watersheds structure/ Procinenation dan in neighboring region. 155 day well present 50 -----d) Difect of existing structures on watertable. and palace channal contact -----भावारह राख्या जावकरा पाइर तताव अस्तल्यामुहे भावारह राख्या e) Geological / Geographical effect on groundwater. Unally are share 9 Compact besalt NO. g) Amygdaloidal Basalt The given duy well provygdaloidal gosalf b) Verisular Basalt Absent l) Techylytic basalt Bbsen).)) Flow contact marg D. Rect groat child ************************ k) Dyke rock ***** (निहिरीक्टा) अल्लेला हारियाचेंद्र होगर रोग) आहे, जाहि, रि निहिर माहालपुरा साला लाग अल्लेस (कर्मन) आहे)

Well Inventory Form

Village HIMOS	Date - 17/7/2019
Gut No Name of the Barmer Add Yop	Well No. 05
In Village Location, SOUTH, side User	Personal/Community/.@
Location of the well. North, (Farmland, Bank of Nala,	In the Nala, Riverbed). Da 100
Year of the Digging 2018., Construction year	, If yes typeND
Parapet HtShape-Cicular/Square, Diameter of Whether water from other sources brought to this well if yer source and Hrs	of well. 7. M Wat 184731 N
Total Depth	bong 751722 E
Percolation from : Bottom / Lateral Direction (in the ca (If the Horizontal bore is taken inDirection, Lengthm and for vertic	se of lateral direction
Use :- Drinking, Irrightion Acres, Horticulture Rainy Season	
Type of withdrawals/Pump Out :- Electric I motor Dia of outlet pipe	
Time require for a full recharge / recuperation : (Rainy season washadHrs; winter getD Hrs; Sun	
Any other information	
Name of the Surveyor	Signature .

Tante . Sm

「日本語を記 percolation Frod 1.044 rem em soil EloU) lort acathered Bascil ell Sm Sout Der 6 m compact social No a) Liaming b) Soil - Black / Yellow Bandy Black goil is present 21 h e) Existing watersheds structure/ Proclamation dam in neighboring region. dam is pacore North Sicle a) Effect of existing structures on water table. dam. e) Geological / Geographical effect on groundwater. 6) Compact basalt 1s preseng B. compact basal 6m and preithored ony 23 Amygdaloldal Baralt ********************************** ******** h) Vericular Break NI6 ------D Tachyiyiir basalt *********) Flow contact D Waw contact NO k) Dyke rock NO -------and a subscription of the subscription and the subscription of the 1) Any remark about geological formation. to the Test of the outtion of dam

Well Inventory Form

Village ... HHom Date - 17/7/2019 Year of the Digging . 2012 ..., Construction year. 201, If yes type fement and recite Lat 13°74'07"N Long-75°17"23"E elaxeton 521 Total Depth 11.50 m. Water level from ground level. 11.50 m. Percolation from : Bottom / Lateral Direction (in the case of lateral direction......) (If the Horizontal bare is taken inDirection, Length......in. and /or vertical barehole....m, Location at the bottom) Rainy Season Acre Summer Season Acre Type of withdrawals/Pump Out :- Electrical motor Diesel Pump S. HP Quantity of withdrawals :- Daily Hrs. Seasonal cc meter / day Time require for a full recharge / recuperation :

Any other information

Name of the Surveyor Abduf Suboor

Signature

2.mf GL Geology of the well section 73m-soil Ontruction om weatholed posalt 11:5m compact dosely jointed Sism a) Linning conductede cementing 6m b) Soil - Black / Yellow /Sandy soft Black -----c) Existing watersheds structure/ Proclamation dam in neighboring region. Flow avell East store of dug d) Effect of existing structures on watertable. e) Geological / Geographical effect on groundwater. fiver Reachage River . 1 f) Compact basalt Basalt ompact. closely 5.5 m pinted Anno and an anno g) Amygdaloidal Basalt NO h) Vesicular Basalt 10 i) Tachylytic basalt NO j) Flow contact ALD. -----.................. k) Dyke rock NO.) Any remark about geological formation.

Well Inventory Form

Village ... HIN 80 Date -47107119 भवीए। लक्षामग् सरWell No....... 50 In Village Location User... Vser... Personal/Community...... 311 MCKO Year of the Digging 2014., Construction year....., If yes type..... Total Depth 21.50 mt, Water level from ground level. 18 m. In rainy season winter 8 m summer 1 ml m. 1011-184760. 10ng1-75858 ENE 6520 (If the Horizontal bare is taken in Direction, Length......m. and /or vertical barehole.....m. Location at the bottom) Rainy Season 2 Acre Winter Season 4 Acre Summer Season ... Derf Acre Quantity of withdrawals :- Daily Hrs. Seasonal cc meter / day Time require for a full recharge / recuperation : Any other information ... Thead is a weak compact bosal flow and Anny datoidal Basall flow water percolation High High theel joid c. B. Amy.B. Korde Tukaran. Name of the Surveyor Signature Roro

11.2001 GL Geology of the well section 2ml Bracksoil In I weatherd small 1N. and weathend sheet jointed Booul, 1800) 2 rol ward compact Basal 10m) Amugdaloida) (weak) Bosal (with phonecryst) > Red and margin 3.5000 3.50m) Horal compact Basalt. a) Linning (emen) b) Soil - Black / Yellow /Sandy Black 501 d) Effect of existing structures on watertable. The contact of sheed jointed week, corotac, Baralt and Armygdaller day Baralt flow perculate contact, e) Geological / Geographical effect on groundwater. c) Existing watersheds structure/ Proclamation dam in neighboring region. odha (3) 3) faterial User Suice South a Jar Hator f) Compact basalt Highly sheed jointed compact Agoall flow present. g) Amygdaloidal Basalt Alternad Amygolaloidal Basall h) Vesicular Basalt Absen i) Tachylytic basalt , Absent () Flow contact small (Dargen presen k) Dyke rock emark about geological formation. D Any Prestinger John 2 Kro aftering abis and a 300 00 SITATION CUISIA CIROLO

Geolydrogeological mapping of Taksil District Beed undertaken by NAAM Foundation and Chatrapati Shahu Gramin Vikas Shikshan Sanstha Aurangabad

Well Inventory Form

Village Hirl g or

Date - 17107119 श्रीपती मलोती जरे Well No. 19. Gut No. Name of the Farmer .

Use :- Drinking, Irrigation Acres, Horticulture, etc Rainy Season Acre

Any other information

Korde Pukasam. Name of the Surveyor

Signatur

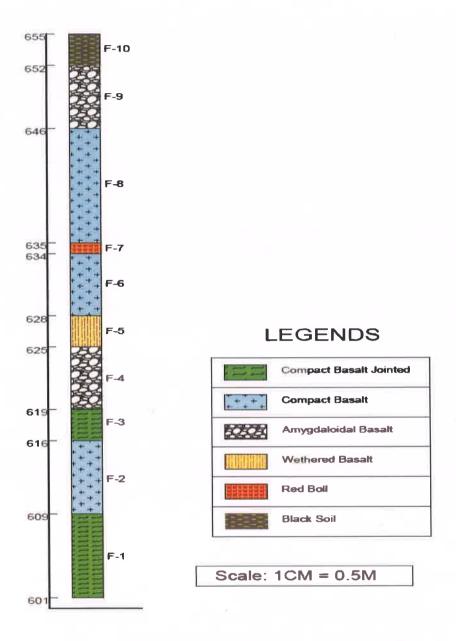
Contraction of the State 9mt Bind weathord yellow soil (30) weatherd susalt 2001 Amy datoidal Booalt. 10 m) ·Da Gropad Basalt. 2nd provgdaloidal Busal) 200) a) Linning NO b) Soft - Black / Yellow /Sandy wathero Yelloci c) Existing watersheds structure/ Proglamation dam in neighboring region. Phaen e) Geological / Geographicat effect on groundwater. Mall semt distance near small f) Compact basalt Basall preson Alternote compace g) Amygdaloidal Basalt e) Amygaloidal basalt Alter ned acatherd Amygdaloidal Aaralt fleed prengeral h) Vesicular Basalt Absenl I) Tachylytic basalt Absent j) Flow contact Gmall Kad child porcin h) Dyke rock Abrent i) Any remark about geological formation. A CAREN BATH BAR EN 50 MA yango/ (7) FILLATON SHIFLOI

Well Inventory Form

Village HIHgal Date - 17/07/19 निर. Gut No. Name of the FarmerWell No ... 2.4. In Village Location User ... Vser ... Personal/Community/..... Location of the well. North, (Farmland, Bank of Nala, In the Nala, Riverbed) and of the sector of the still Percolation from : Bottom / Lateral Direction (in the case of lateral direction) (If the Horizontal bore is taken in ____Direction, Length, ___m and for vertical borehole ___m, Location at the bottom) Use :- Drinking, Irrigation. Acres, Horticulture......, etc......, etc...... Rainy Season ____ Acre Summer Season D. E.A..... Acre Type of withdrawals/Pump Out :- Electrical motor Diesel Pump .5. HP Dia of outlet pipe 2.5. cm. linch Quantity of withdrawals :- Daily Hrs. Seasonal cc meter / day Time require for a full recharge / recuperation : Any other information 21 कि हिरीप्या 1000 द्वीं स्थाप क्रिय आहे। भामित या भारता या जिल्हिरीप्रका दिने क्रिया क्रांत आहे। भामित या जिलिरी प्रकार का जिलिरी प्रकार क्रांतिहर अरंज्या मार्ह Name of the Surveyor Korde Tukaran Signature acoro

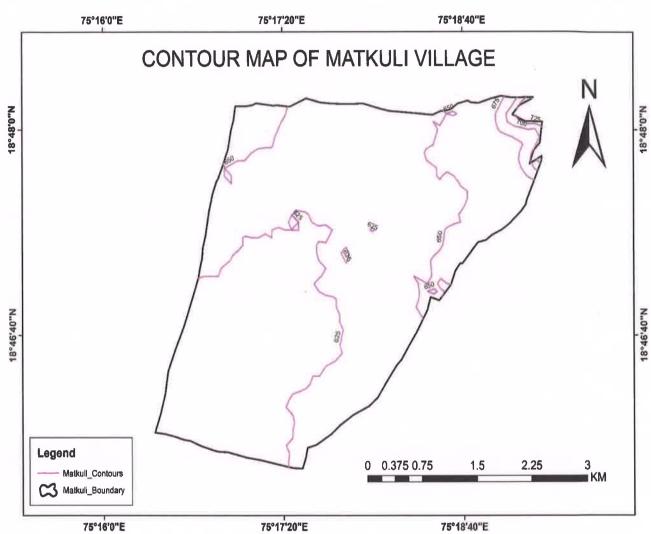
IMG-20130612-WA0006 jpg 6/25/2019 Conner a third विहितीच्या) दंधिकोस् १०० त्रो झॉलरावर झोढा झाम्हर पुर्वेस बाडेवा साठवठ तबाद 500 ml झॉलरावर सप्टे 13.40001 united flow of the sector. fire) Black soil 2.50m) weatherd guard (3.50m) construction. 3 ml Broygdaloidal Busalt Present 14.70000 Der 8.20 mt sheet jointed compart Basalt 0 a) Linning 11:25 Cemons) Courses Service for an or a service of the b) Soll - Black / Yellow/Sandy alan c) Existing watershede structure/ Proclamation dam in acighboring region. 500 rol distance Rechan dans and settle side poor goo of Distorne Ing esen d) Effect of existing structures on watertable. TEICI f) Coropact basalt compact sheet Jointed 8.20 ml \hat{Q} Basall g) Amygdaloidal Basalt mmygdalogdal Basal 8 107 present ***************** h) Verioniar Basalt Absen ****** i) Tachylytic basalt Abson ***********************)) Flow contact, HARAY water percelate 1) Dyks rook Pb sen/ phonocryst are present pleas juscopt kins Hill erest present

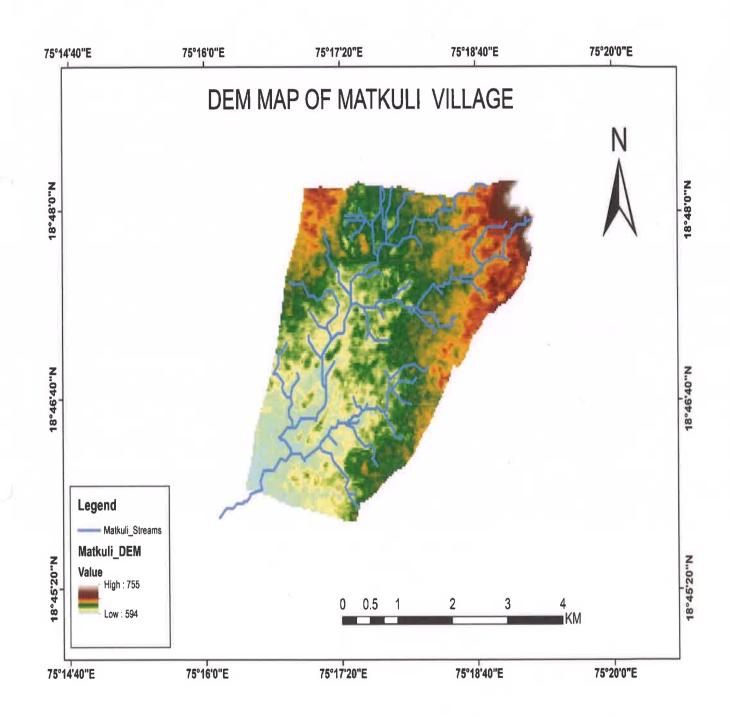
Litholog of Matkuli Village



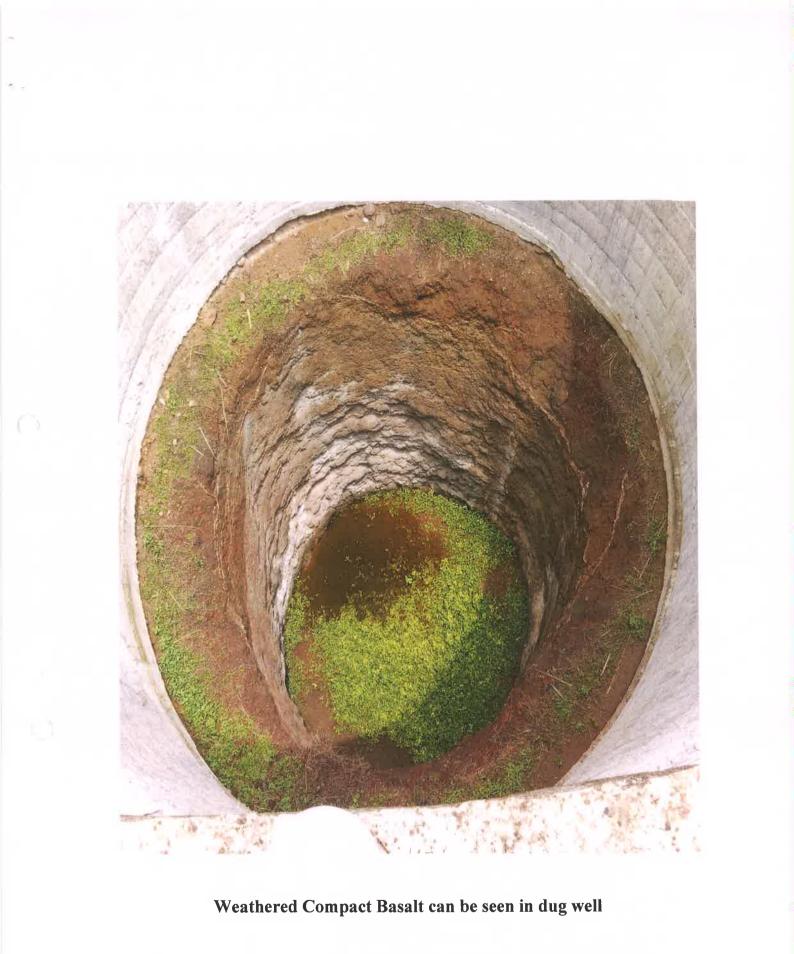
Litholog Of Mathkuli Village

Contour Map of Matkuli Village



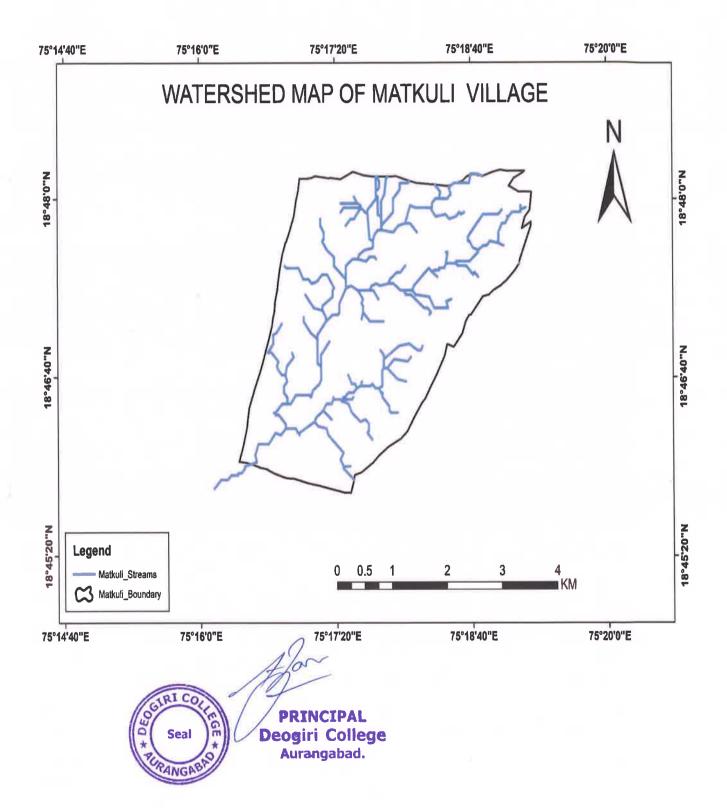


DEM Map of Matkuli Village





Photographs showing increase in water level at Matkuli village due to watersheds management work.



Watershed Map of Matkuli Village

Pandhari Village

Pandhari is a Village in Ashti Taluka in Beed District of Maharashtra State, India. It belongs to Marathwada region. It belongs to Aurangabad Division. It is located 68 KM towards west from District headquarters Beed. 18 KM from Ashti. 295 KM from State capital Mumbai. Karanji (3 KM), Hajipur (4 KM), Jamgaon (5 KM), Bhatodi (6 KM), Matkuli (6 KM) are the nearby Villages to Pandhari. Pandhari is surrounded by Ashti Taluka towards west, Patoda Taluka towards East, Shirur (Ka) Taluka towards North, Karjat Taluka towards west.

The Village Pandhari is situated in Ashti tahasil, District-Beed of Marathwada region in Maharashtra. The village is at North latitude $18 \Box 47'$ 37.69" and East longitude $75 \Box 12' 17.30"$ with an altitude of 602 m above mean sea level. It is located in catchment area of Kadi river. The groundwater condition in rainy season is moderate to good while, village is facing water scarcity problem in the summer season of every year. The small area of project is falling in MDP (Moderately Dissected Plateau) geomorphological unit based on the contour map of Pandhari Village.

भुशास्त्रीय सर्व्हेक्षण पांढरी, ता. आष्टी, जि. बीड

पांढरी गावपरिसरामध्ये Well Inventory, GIS & Remote Sensing Technique, भुशास्त्रीय सर्व्हेक्षण, ह्याभागात पडणारा सरासरी पाऊस व पाण्याची माघणी इत्यादी बाबीचा आढावा घेवुन या गावातील भुजल विकासासंबंधी खालील भुजल विकासाची कामे करणे आवश्यक आहे.

- 1) पांढरी गावाच्या परिसरामध्ये 150 फुट खोलीपर्यंत बेसाल्ट खडकाचे मुख्य पाच थर आढळत असुन, त्यामध्ये काळा पाषाण थर क्र. 1 व 3 मधुन पाणी खाली जात नसल्यामुळे गावाच्या उत्तर-पुर्वे भागाकडुन येणाऱ्या नदीवर कृत्रिम पुर्नेभरण (Artificical Recharge Structure) घेणे, दोन पिट्स मधील अंतर 100 मिटर ठेवणे व गावाच्या वरिल भागात तीन बंधारे व गावातील खालील भागात (SW) नदिवर दोन बंधारे बाधणे.
- गाव परिसरातील तलावाच्या साडव्याचे पिचिंग व दुरुस्ती करणे.

3) गावाच्या दक्षिण भागात असणाऱ्या ओढ्यावर खोलीकरण व शक्य असेल त्या ठिकाणी रुंदीकरण करणे. Geohydrological survey for Selection of Site for Watershed development and Artificial Recharge ,Tahasil-Ashti, Dist-Beed by NAAM Foundation and CSGSS, Aurangabad

Village Name : Pandhari

Introduction:

The village Pandhari is situated in Ashti tahasil arca, District-Beed of Marathwad region in Maharashtra. The village is located at North latitude 18° 47'37.69" an East longitude 75° 12' 17.30" with an altitude of 602 m above mean sea level. It is o Beed –Ahemadnagar highway and towards East of the Ashti-tahasil headquarter. The seasonal groundwater condition in rainy season is moderate to good while, village facing water scarcity problem in the summer season of every year. The small area of project is falling in MDP (Moderately Dissected Plateau) and most of the are covered by SDP (Slightly Dissected Plateau) geomorphological unit based on the contour map of Pandhari village. The detail geological hydrological condition of the area is mentioned below.

Geology of the area:

The major part of the project area constitutes a sequence of basaltic lava flow (Deccan Trap) of Upper Cretaceous to Lower Eocene age. The sediments of recent t quaternary age are reported along the river which is subtributory of Talvar river nov join in Devigavhan Talav (Resorvoir) which is constructed on downstream channe area of the river near Devigavhan village. The Deccan Trap formation is very thic and it comprises of different horizontal lava flows. The compact basaltic lava flow and amygdaloidal basalt lava flows are the major lava flow unit observed in the project area. The small unit of red bole patches also observed within two massive lava flows. The upper lava flows mostly by differential weathering processes. So that, shee jointing, spheroidal weathering are the index features of upper lava flows. Along rive channels p aleochannels are being observed in the dugwell vertical section in th northern part of the village area. In some of the other wells those are away from th main channels also reported with paleochannels in northern region. The detailed graphical representation of lava flows are indicated in litholog map of Pandhari-village.

Hydrogeology of the arca:

Groundwater occurrence and movement in the area is influenced by its hard rock formations. Groundwater potentially depends upon porosity and permeability (both primary and secondary) of rock formations. The drainage network of streams from project area shows dendritic to sub-dendritic drainage pattern. The development of dendritic to subdendritic drainage in area it indicates the area of massive to hard rock types and gently sloping terrain.

Suggestion for the artificial recharge:

The litholog of the study area is indicating top Flow No. F-5 which is highly weathered with overlying by sandy to calcaritic soil cover. The Flow No. F-4 is occupied by amydaloidal basalt which is sheet jointed in top portion and fuse jointed in middle and bottom portion. so that, it is impermeable in nature. The underlying flow i.e. Flow No. F-3 of compact basalt is weathered and jointed whereas, bottom Flow No. F-2 of amygdaloidal basalt is sheet jointed and basement flow i.e. Flow No. F-1 of compact basalt is observed with short and fuse joints those are not inter connected so that, flow is impermeable in nature. Where, the above mentioned impermeable lava flows does not allow to recharge lower aquifer, hence only in shallow aquifer rainwater recharge and during summer season this shallow aquifer become dry. To recharge lower aquifer artificial recharge techniques we have to use in existing percolation tank which help to recharge lower aquifer and water remain available in summer season also.

> Hydrogeologist CSGVSS, Aurangabad

Dug-Well Inventory

14

Geohydrogeological mapping of <u>Ashhi</u> Tahsil District Beed undertaken by NAAM Foundation and Chatrapati Shahu Gramin Vikas Shikshan Sanstha Aurangabad

Min 585 Well Inventory Form D-1 373:3: Village
In Village Location
Location of the well, (Farmland, Bank of Nala, In the Nala, Riverbed)
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Use :- Drinking, Irrigation Acres, Horticulture
Type of withdrawals/Pump Out :- Electrical motor 3HPDiesel Pump
Time require for a full recharge / recuperation : (Rainy season
Any other information

ASLa Signature

Name of the Surveyor A.S. Bhosale

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Geohydrogeological mapping of <u>Ashh</u>..... Tahsil District Beed undertaken by NAAM Foundation and Chatrapati Shahu Gramin Vikas Shikshan Sanstha Aurangabad

Well Inventory Form Village Date - 22 106119 Gut No. Name of the Farmer Utileat orgergator Well No. 06 In Village Location User ... Vser ... Personal/Community/..... ation of the well, Southside, used and g ... (Farmland, Bank of Nala, In the Nala, Riverbed) Year of the Digging, Construction year, If yes type 1012-184622 long 8. 751210 EN1:- 599 mh Percolation from : Bottom / Lateral Direction (in the case of lateral direction) Summer Season Acre Type of withdrawals/Pump Out :- Electrical motor Diesel Pump 5. HP Quantity of withdrawals :- Daily Hrs. Seasonal cc meter / day Fime require for a full recharge / recuperation : Rainy season Gull. Hrs; winter Hrs: Summer Dry (Hrs) ny other information Vanue of the Surveyor A.S. Bhosale $\frac{1}{21} \left(\frac{1}{12} \left(\frac{1}{12} \right) \right) = \frac{1}{12} \left(\frac{1}{12} \right) \left(\frac{1}{12} \left(\frac{1}{12} \right) \right) = \frac{1}{12} \left(\frac{1}{12} \left(\frac{1}{12} \right) = \frac{1}{12} \left(\frac{1}{12} \left(\frac{1}{12} \right) \right) = \frac{1}{12} \left(\frac{1}{12} \left(\frac{1}{12} \right) = \frac{1}{12} \left(\frac{1}{12} \left(\frac{1}{12} \right) \right) = \frac{1}{12} \left(\frac{1}{12} \left(\frac{1}{12} \right) = \frac{1}{1$

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Geohydrogeological mapping of <u>Ashhim</u> Tahsil District Beed undertaken by NAAM Foundation and Chatrapati Shahu Gramin Vikas Shikshan Sanstha Aurangabad

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t No Name of the Farmer	Well No			
Village Location User User Personal	Community/			
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Summer Season	10-12-184710			
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Geohydrogeological mapping of <u>Ashhi</u>... Tahsil District Beed undertaken by NAAM Foundation and Chatrapati Shahu Gramin Vikas Shikshan Sanstha Aurangabad

Well Inventory Form Village UIGT Date - 27106119 अगीरार बीठने Gut No. Name of the Farmer Well No. 13 . Village Location User ... Personal/Community/_____ Location of the well....., (Farmland, Bank of Nala, In the Nala, Riverbed)..... Percolation from : Bottom / Lateral Direction (in the case of lateral direction) (If the Horizontal bore is taken in Direction, Length.....m. and for vertical borehole....m. Location at the bottom) Winter SeasonAcre Summer Season Acre pe of withdrawals/Pump Out :- Electrical motor Diesel Pump 52. HP...... Time require for a full recharge / recuperation : Any other information

Name of the Surveyor A. S. Bhosale

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6/25/2019 ton IMG-20190612-WA0006.jpg ating (* हि न्यें भोक्या महा आह 8ml Contor: of the well section मित्राका कोतरावर केलढ दर। राझरताकाव झाटे इत्वर दिशेल। 2. Forst construction weatherd Bosalt 307 Smithmygolaloidal Borath 16.5002 voter Table. g.sml. compact. sheeled, Buralt 0.5 m Linning CREDENFIDE lining b) Soil - Black / Yellow /Sa Black 501 c) Existing watersheds structure/ Proxiamation dam in neighboring region d) Effect of existing structures on wateriable. Geological / Geographical effect on groundwater. f) Compact bosait from compact Rottom 500 1 Basall flow Amygdaloidal 3 00 Dorgdalordal NTY FRATENCE NO Vesicular Basalt NO I) Tachylytic basalt ------D Flow contact 100 MO k) Dyke rock 12 hosate h Any remark about geological formation.

Geohydrogeological mapping of ...Ashli.... Tahsil District Beed undertaken by NAAM Foundation and Chatrapati Shahu Gramin Vikas Shikshan Sanstha Aurangabad

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Year of the Digging Ltall, Construction year, If yes type	
Parapet HtShape-Cicular/Square, Diameter of well	
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Use :- Drinking, Irrigation Acres, Horticulture, etc, etc	
T of withdrawals/Pump Out :- Electrical motor Diesel Pump HP	
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Any other information	
Name of the Surveyor Signature	=

9.S. Bhosale

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Geohydrogeological mapping of <u>Ashtim</u>. Tahsil District Beed undertaken by NAAM Foundation and Chatrapati Shahu Gramin Vikas Shikshan Sanstha Aurangabad

Well Inventory Form	<u>D19</u>
Village UKTI Gut No	Date- 27/06/19
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Year of the Digging 2012., Construction year	
Parapet HtShape-Cicular/Square, Diameter of well (Whether water from other sources brought to this well if yes source and Hrs of pumping. Total Depth	
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Geohydrogeological mapping of ... Aahli.... Tahsil District Beed undertaken by NAAM Foundation and Chatrapati Shahu Gramin Vikas Shikshan Sanstha Aurangabad

Well Inventory Form

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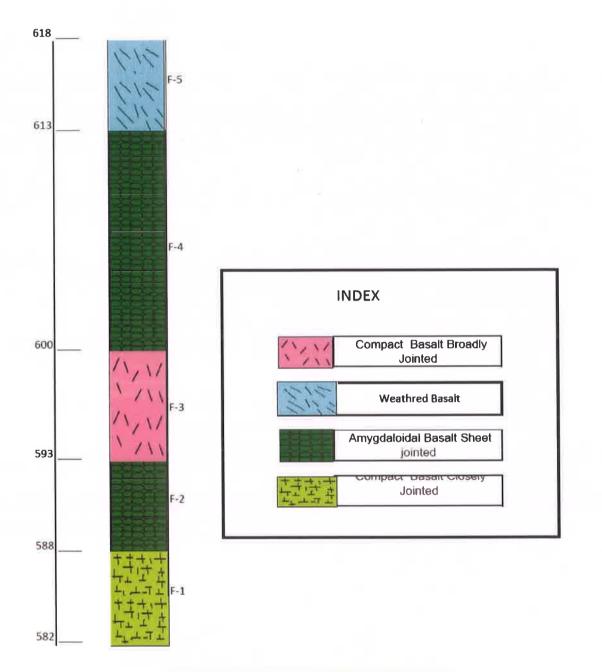
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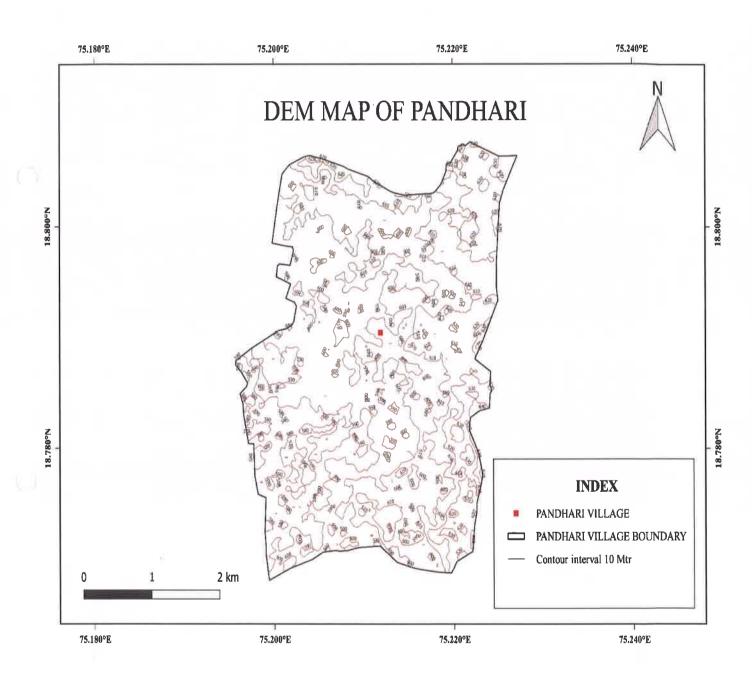
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Litholog of Pandhari Village

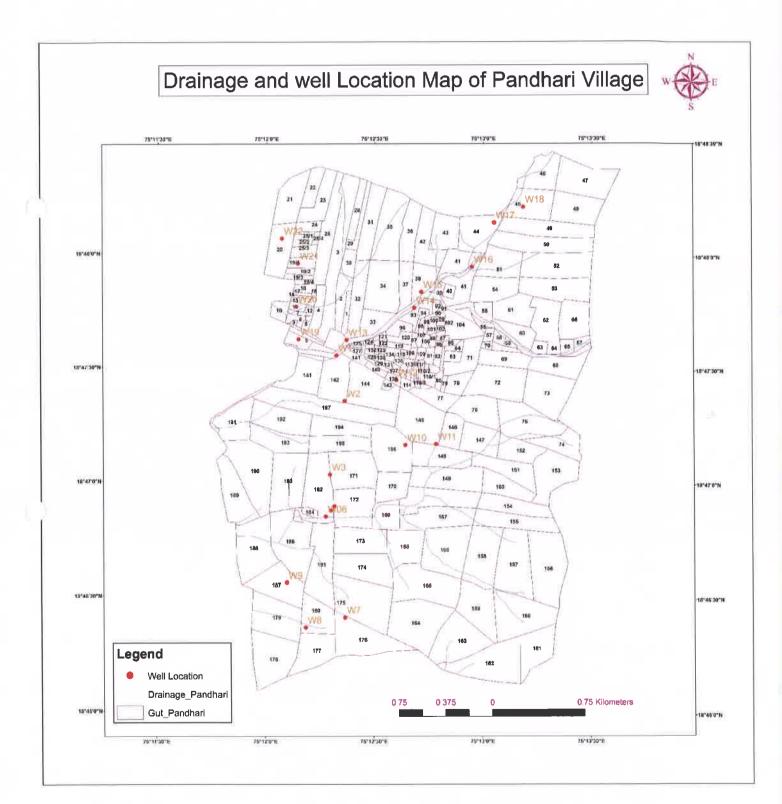


Litholog of Pandhari Village

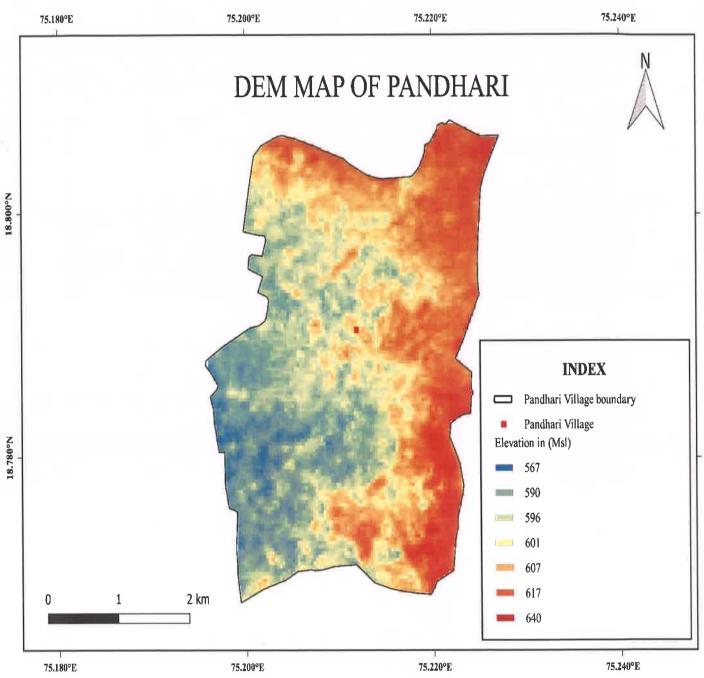




Drainage and well location map of Pandhari Village



DEM Map of Pandhari Village



18.800°N

18.780°N

Suggestion for Artificial Recharge

The lithology of the study area is indicating top flow No. F-5, which is highly weathered with overlying by sandy to <u>calcaritic</u> soil cover. The Flow No F-4 is occupied by <u>amydaloidal</u> basalt which is sheet jointed in top portion and fuse jointed in middle and bottom portion.

The underlying flow i.e. Flow No F-3 of compact basalt is broadly spaced jointing which is impermeable in nature. There is no chances of percolation from flow no 03, so opening of the flow is required. Flow No- F-2 of amygdaloidal basalt is sheet jointed and basement flow. Flow No. F-1 of compact basalt is observed with short and fused joints those are not interconnected, this flow is impermeable in nature.

Where the above mentioned impermeable lava flow does not allow to recharge lower aquifer, hence only in shallow aquifer rainwater recharge and during summer season this shallow aquifer becomes dry. We have to use artificial recharge technique to recharge lower aquifer. Water remains available in summer season also.

SOLUTIONS CONSTRUCTION OF RECHARGE PITS

SOLUTION ONE COSTRUCTION OF RECHARGE PIT IN MAIN RIVER

- A. Deepening of area: 8-10 mt width x 100 mt length x 2 mt deep.
- B. Take a bore in the middle of the area of 100-150 ft deep.

SOLUTION TWO CONSTRUCTION OF RECHARGE PIT IN CHANNELS CONNECTING TO MAIN RIVER

- A. Deepening of small round area around bore well (2m wide and 2-3 m depth). Filling up that area with stones.
- B. Take a bore well (100-150 ft deep)in the middle.
- C. Cover the constructed area with sheet

Details of Work in Pandhari

-

Sr. No	Area	No of Pits
A	Old Pond Area	05
B	South Area of Channel	05
С	North East Area Near River	10
	TOTCH LUSCINCE I CUI ILIVEI	10

Work Estimate

-

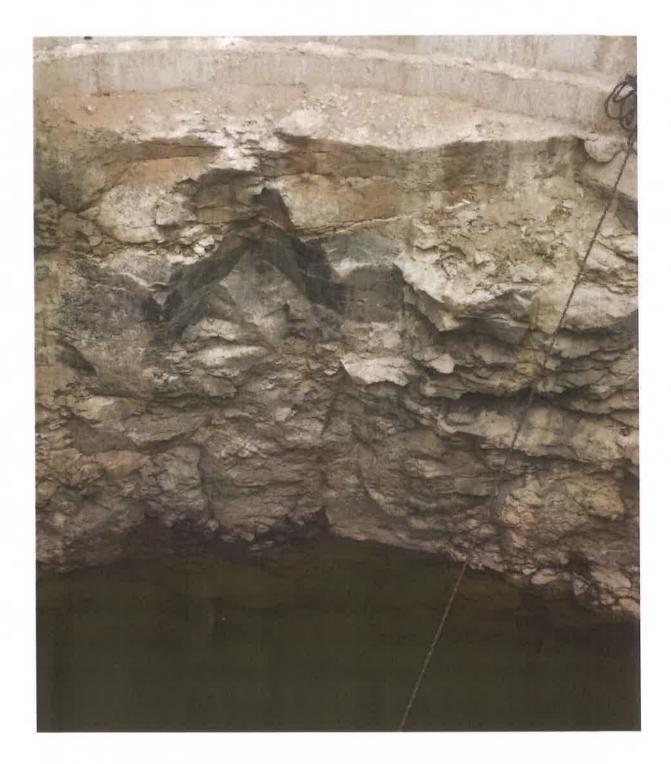
Sr No	Work Details	Total Work	Total Amt (Rs)
A,B & C	Recharge Pit Includes 1. Excavation Work	20 nos. x Rs.40,000 per recharge pit	8,00,000
	2. Brick Work		
	3. Side Construction		
	4. Bore (6 Inch)		
33	5. Cover		
D	Excavation in Main River (Related to Recharge Pit)	20,000 Cu. Mt x Rs. 20	4,00,000
	Administrative Charges		1,20,000
	Total Estimate		13,20,000

In Words: Thirteen <u>Lakh</u> Twenty Thousand Only Note: Estimated Expense may deviate at the time of actual work

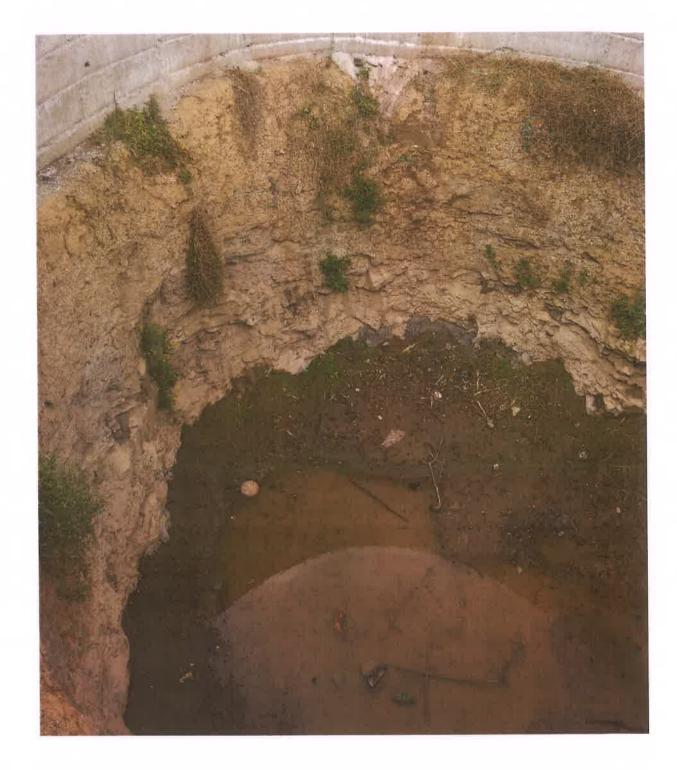
Field Photos



Fractured Compact Basalt can be seen in dug well



Closely Jointed Basalt Flow exposed in out crop



Weathered Basalt Flow can be seen



Nala Channel on field survey



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Amygdaloidal Basalt Flow exposed in the outcrop



PRINCIPAL Deogiri College Aurangabad

Pimpri Ghata

Pimpri (ghata) is a Village in Ashti Taluka in Beed District of Maharashtra State, India. It belongs to Marathwada region. It belongs to Aurangabad Division. It is located 79 KM towards west from District headquarters Beed. 280 KM from State capital Mumbai. Pimpri (ghata) is surrounded by Jamkhed Taluka towards South, Pathardi Taluka towards North, Patoda Taluka towards East, Karjat Taluka towards South.

* वाटापियरी - पानी पातकी - पावसार्की - फुर्ग मरते Dugwell - Adion - 2-3 Hr. yeilding JEETOT - Dry - Greenbelt - फार कमी प्रमाठात आढढतो - Near Dugwell - pebbale and sand located - विहरीता 15 ते 20 सी. parapet आहे. - नदीरी ओलीकरण जरुगे आवद्यक अपरे. - वंहारे तांहाल्यास जाली पाली झिरपू शकने त्याकुळे पाणी पासकी वादग्यास सदत होईल. - भावात. तलाव आढळला नची. - भावात पाठालोट काने सुद्रहा झालेली नाही. - उन्हाळ्यात जायात टॅंकरने पाठले पुरवहां होतो.

Dug-Well Inventory

Beed undertaken by NAAM Foundation and Chatrapati Shahu Gramin Vikas Shikshan Sanstha Aurangabad 104 - 19° 0" 38' 1 Well Inventory Form 10091-75051137 Alti- 622m Jane धारा भिंपरी Date -D-43 Well No. In Village Location User ... User ... Personal/Community/..... In rainy seasonm, winter....., summer.....m Percolation from : Bottom / Lateral Direction (in the case of lateral direction) (If the Horizontal bore is taken in Direction, Lengthm. and lor vertical boreholem, Location at the bottom) Rainy Season G....... Acre Winter Season 3..... Acre Summer Season O...... Acre Type of withdrawals/Pump Out :- Electrical motorDiesel Pump......HP. NA Time require for a full recharge / recuperation : (Rainy season 2.4 Hrs; winter 10 Hrs; Summer @ Hrs.) Any other information S.A. waethan Kat Name of the Surveyor

Coolom of the well section 21 WAB Parapel 25 3 0.43 a) Linning Gaist b) Soil - Black / Yellow /Sandy Black Soil c) Existing watersheds structure/ Proclamation dam in neighboring region. e the we Sic Ö d) Effect of existing structures on watertable. waterleible recharge through A.B only 0 e) Geological / Geographical effect on groundwater. Most of The TONE Dang so water postola te A'B f) Compact basalt N.A. D River from 3E g) Amygdaloidal Basalt Sheeted A B h) Vesicular BasaltN.A. i) Tachylytic basalt j) Flow contact ke rock NA. k) Dyke rock h Any remark about geological formation. A.B. 9re press outside,

Geohydrogeological mapping of Tahsil District Beed undertaken by NAAM Foundation and Chatrapati Shahu Gramin Vikas Shikshan Sanstha Aurangabad

Well Inventory Form	Lat - 19° 01 36' - 19° 01 36'
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Village Location User User Personal/Communi	ity/
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otal Depth	
ercolation from : Bottom / Lateral Direction (in the case of lateral direction (in the case of lateral direction (the Horizontal bore is taken in, Direction, Length, and for vertical borehole, bocation	
se :- Drinking, Irrigation Acres, Horticulture, etc Rainy SeasonS Acre Winter SeasonAcre Summer SeasonQAcre	
ype of withdrawals/Pump Out :- Electrical motorDiesel Pump Dia of outlet pipecm. /inch Quantity of withdrawals :- DailyHrs. Seasonalcc m	
Time require for a full recharge / recuperation : Rainy season2.4Hrs; winter1.2Hrs; Summer	Hrs.)
ny other information	
000	2.

K. D. Puri

Signature

Name of the Surveyor

c. Coology of the well section
TOP
2
40 Parapet. 12.19 A3
12.19 A3
and the second
c.8.
a) Linning
coament
b) Soil - Black / Yellow /Sandy
Lormy Seil
c) Existing watersheds structure/ Proclamation dam in neighboring region.
No any watershed
d) Effect of existing structures on watertable.
e) Geological / Geographical effect on groundwater.
D Compact basalt base C.B.
g) Amygdaloidal Basalt
NA:
h) Vesicular Basalt
1) The bash is the second
i) Tachylytic basalt
) Flow contact
k) Dyke rock
i) Any remark about geological formation.
oid well to water cand get in one of down become of parapit. and boscnest is
down become it rarappet. and baseness as

	lat 219°0" 84' M
Well Inventory Form	7002116.21,30,E
~ ~	Alti - GIO M.
Village EIRI Gige Date	
G. No. 83 Name of the Farmer . Holaist clober Well	
In Village Location User User Personal/Commu	unity/
Location of the well, (Farmland, Bank of Nala, In the Nala, River	rbed)
Year of the Digging, Construction year, If yes type	
Parapet Ht. 1964 Shape-Cicular/Square, Diameter of well. 12 (Whether water from other sources brought to this well (fyes source and Hrs of pumping)
Total Depth	
the second se	and the Lings
Percolation from : Bottom / Lateral Direction (in the case of lateral direction (if the Horizontal bore is taken in Direction, Lengthm. and /or vertical boreholem, Local	tion it the bottom)
Use :- Drinking, Irrigation Acres, Horticulture, etc	2
Rainy Season	
Summer Season Q Acre	
Type of withdrawals/Pump Out :- Electrical motor Diesel Pump	HP
Dia of outlet pine	
Quantity of withdrawals :- Daily Hrs. Seasonal co	c meter / day
Time require for a full recharge / recuperation : (Rainy season	Hrs.)
Any other information	

R.D. Puti

Name of the Surveyor

ANK)

Signature

cy Conlogy of the well section
1 7 WAB
1. 19 Ft. Parsapet. CB 5.79
8094
$\int \frac{1}{12} \frac{1}{11} \frac{1}{11} (AB)$ F, 3.35
a) Linning Clament
b) Soil - Black / Yellow /Sandy Black / Soil
c) Existing watersheds structure/ Proclamation dam in neighboring region.
NO Proclamation dam d) Effect of existing structures on watertable.
water get incressing
e) Geological / Geographical effect on groundwater.
g) Amygdaloidal Basalt Sheeted A.B.
b) Vesicular Basalt
NA
i) Tachylytic basalt N.A.
j) Flow contact
k) Dyke rock
D Any remark about geological formation.
vater get inside.

104 - 19°0'49'N 1009: 75051531E Well Inventory Form Alti - 619 m Village Ell? 1 Tung Date -. तककर In Village Location User ... Versonal/Community/..... Location of the well....., (Farmland, Bank of Nala, In the Nala, Riverbed)..... Year of the Digging 2064, Construction year. 15...., If yes type..... In rainy seasonm, winter....., summer......m. Percolation from : Bottom / Lateral Direction (in the case of lateral direction) (If the Horizontal bore is taken in Direction, Length m. and for vertical borehole m. Location at the bottom) Use :- Drinking, Irrigation Acres, Horticulture, etc Rainy Season 5 Acre Winter Season 2.....Acre Summer Season O Acre Type of withdrawals/Pump Out :- Electrical motorDiesel Pump HP Dia of outlet pipe cm. /inch, Quantity of withdrawals :- Daily Hrs. Seasonal cc meter / day Time require for a full recharge / recuperation : Any other information R.D. Puti

Name of the Surveyor

Signature

Contar of the wall continu linging Stour 1.82 WAB ft (AB)-sheet Jointed 5.79 CB) 2.74 and a) Linning cement b) Soil - Black / Yellow /Sandy Black Soil c) Existing watersheds structure/ Proclamation dam in neighboring region. NA d) Effect of existing structures on watertable. watestable recharge by lateral return e) Geological / Geographical effect on groundwater. war ·B f) Compact basalt Broadly Jainted E.B. J g) Amygdaloidal Basalt Theet Jainted A: B: h) Vesicular Basalt NA: i) Tachylytic basalt NA: j) Flow contact ****** k) Dyke rock I) Any remark about geological formation. area of will CB ort present surrounding

Beed undertaken by NAAM Foundation and Chatrapati Shahu Gramin Vikas Shikshan Sanstha Aurangabad

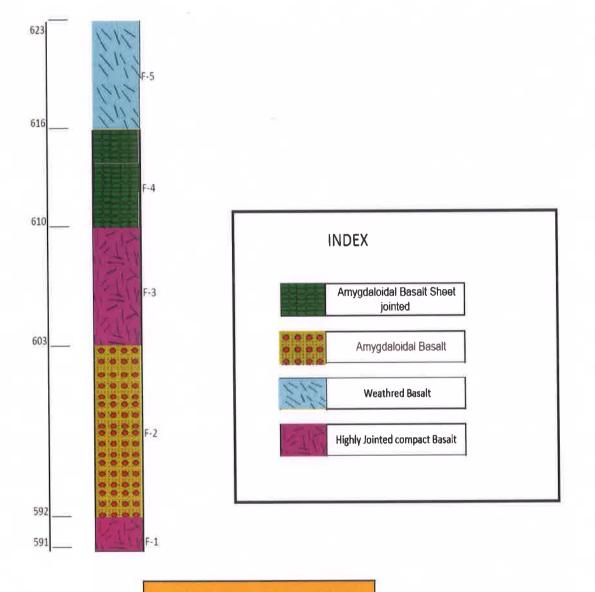
Well Inventory Form Lat - 19°0"54'N
10ng-75°5''60'E
Village ETET TUUER Date - 11/06/2019
Gut No
In Village Location User User Personal/Community/
Location of the well, (Farmland, Bank of Nala, In the Nala, Riverbed)
Year of the Digging) 9.6.9, Construction year
Parapet Ht
Total Depth
Percolation from : Bottom / Lateral Direction (in the case of lateral direction) (If the Horizontal bot ' is taken inDirection, Lengthm. and /or vertical boreholem, Location at the bottom)
Use :- Drinking, Irrigation Acres, Horticulture, etc, etc, etc
Winter Season
Type of withdrawal ^e /Pump Out :- Electrical motorDiesel PumpHP Dia of outlet pipecm. /inch
Quantity of withdrawals :- Daily Hrs. Seasonal cc meter / day
Time require for a full recharge / recuperation : (Rainy season
Any other information

R. D. Futi Name of the Surveyor

telle Signature

Contom of the well contion 11 ft stony linning WAB 3.3517f (AB) F_2 5.18 10 ft (CB) F_1 3.04 38 5 covertor a) Linning Court stone b) Soil - Black / Yellow /Sandy Soil Lowy c) Existing watersheds structure/ Proclamation dam in neighboring region. No)stortified. d) Effect of existing structures on watertable. et waterfable having No effect due TO H (B. at bottom .. e) Geological / Geographical effect on groundwater. ------broadly Jointed CB. g) Amygdaloidal Basalt Sheeted b) Vesicular Basalt NA -----i) Tachylytic basalt NA j) Flow contact k) Dyke rock NA) Any remark about geological formation. pue to CB at battom no any waterfable get effected.

Litholog of Pimpri Ghata Village



Litholog of Pimpri Ghata Village

Details of the Survey

Geohydrological Mapping & Site Selection for Artificial Recharge of Water in Watershed Development Programme, Undertaken By NAAM Foundation, Mumbai and CGVS Sansta, Aurangabad

1. Village Name : Ghata Pimpari , Ta- Ashti , Dist-Beed

2. Date of Survey: 11/06/2019

3. Name of Geologist and Hydrogeologist for Survey in the field:

- a. Shantanu Wadhankar
- b. Rushikesh Puri
- c. Jayesh Mhaske
- d. Kshitij Sontakke

4. Name of the Members for assist to survey in the field:

- a. Shri Khillare
- b. Bhagwan Talekar

5. NAAM Pratinidhi: Shri Rajebhau Shelake

6. Local villagers/ Farmer:

- a. Balu Talekar
- b. Draupadabai Narwade
- c. Lilabai Sable

7. Total No of Well surveyed:

06 dugwells in the field + 13 dugwells through Satellite imagery Survey = Total 19 dugwells

8. Total map prepared:

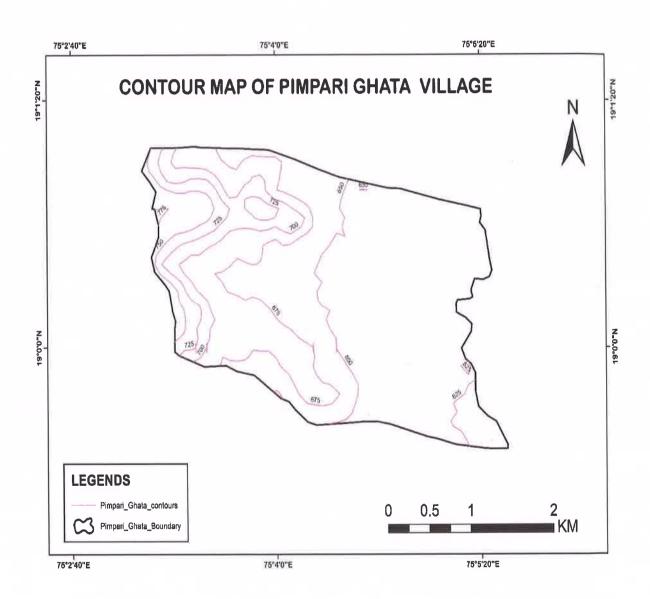
- a. Contour map of Village
- b. Drainage map of Village
- c. Dem map of Village
- d. Litholog of Village
- e. Geology map of Village

9. Recommendation and Conclusion:

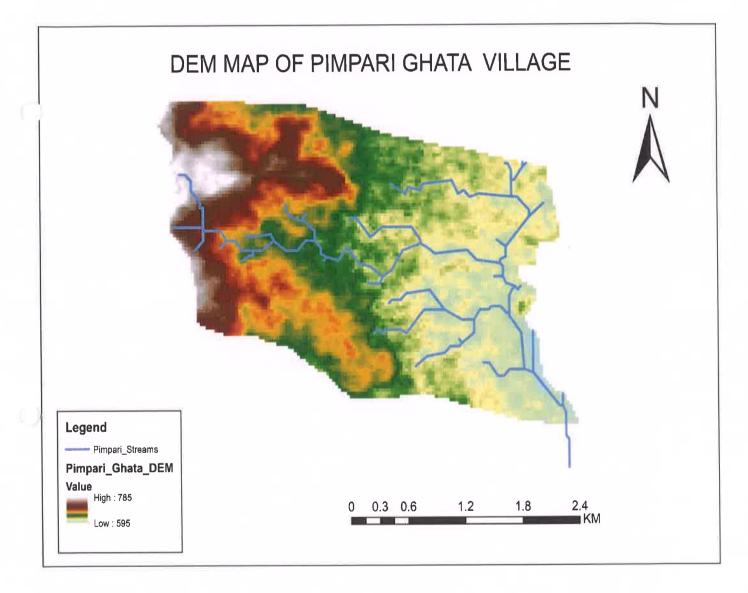
c. For Artificial Recharge suitable/ Unsuitable:

d. Structure for watershed development programme:---

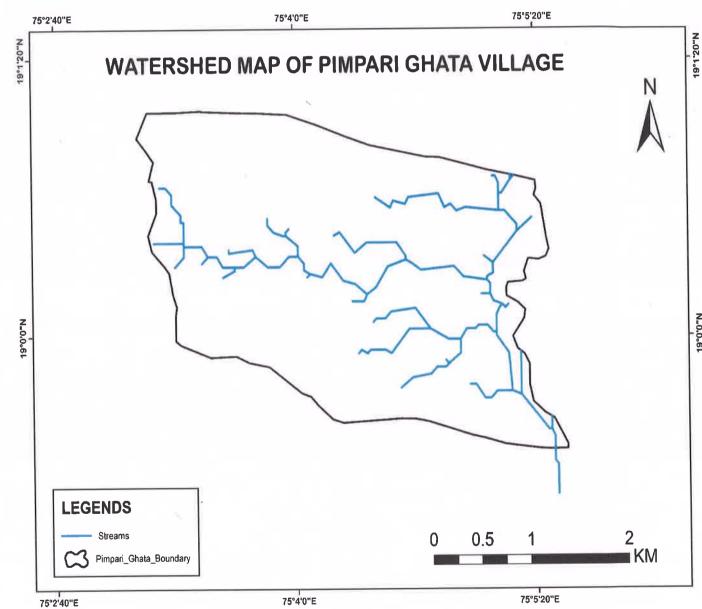
Contour Map of Pimpri Ghata Village



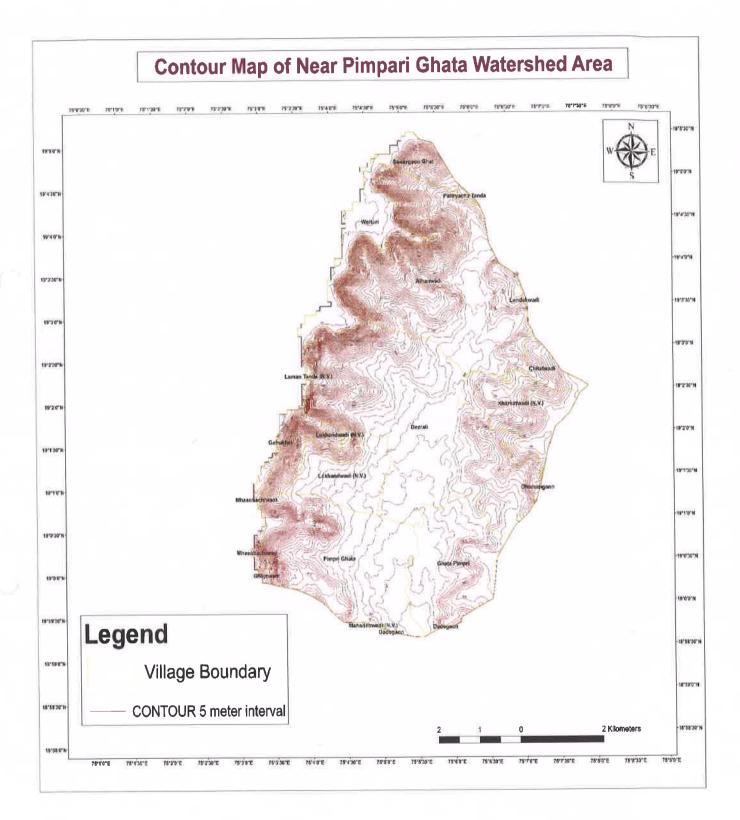
DEM Map of Pimpri Ghata Village

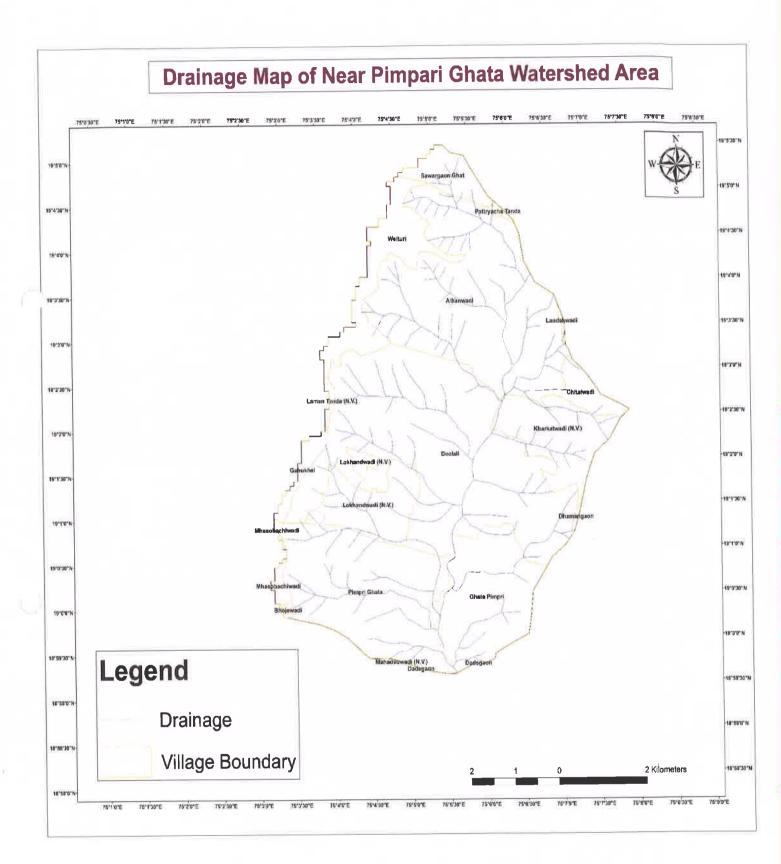


Watershed Map of Pimpri Ghata Village



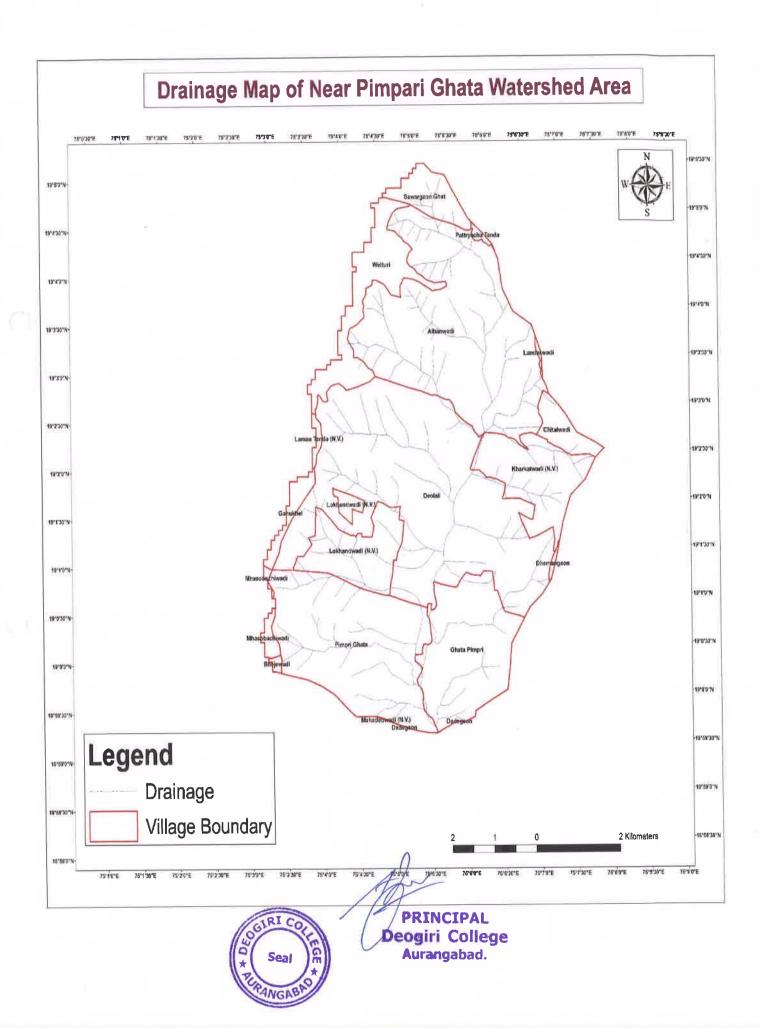
19°0'0"N







Photographs showing watersheds management at Pimpri Village.



Ruti Village

Ruti is a small Village/hamlet in Ashti Taluka in Beed District of Maharashtra State, India. It comes under Ruti Panchayath. It belongs to Marathwada region. It belongs to Aurangabad Division. It is located 82 KM towards west from District headquarters Beed. 8 KM from Ashti. 279 KM from State capital Mumbai. Dhirdi(4KM),Hanumantgaon(4KM), Jalgaon (5KM),Shiral(6KM), Ashti (6KM) are the nearby Villages to Ruti. Ruti is surrounded by Jamkhed Taluka towards East,Karjat Taluka towards South, Patoda Taluka towards East, Pathardi Taluka towards North.

Google Earth image of Ruti village



Survey by - Tukarron korde कोंग्व !- कारकांत्व (रेने धरग) तालुका - द्वाद्या जिल्हा २'- जीड त्वुन निहिरो, ८ 13 त्कुन पाझर लामाज :- 02 (++1.) 1 मोठ छरना 1 पाझर लामाज. जगरसील मास्त उँची. :- 589 में' कमित काम उँची :- 570 मा • अखान उत्तावचात काली हैसाने का ? · STOTTON This Incolis Martiger Journer day • अने तितिष उत्तावनामुळे काइण्या. • भूने तितिषित दिवावनामहरू हि हु वास सोटा - साढते • मने तितिषित दिवावनामहरू हि हु वास सोटा - साढते teleochanel; a posted baselt's; theet j'outer my Basels to - Working gross atsand Brodly jointed or upinted compact Bas SHAMBS deepor Aquito recharge other 1) Artificial recharge in prerbed & Dan 2) watershould structure construction - \$357 3) watershould str. aiosin Fronts II. 2) Waterstoad 3) Batrited b) mus/ disidirulati Con god ann arma articum) h) Mill All 2011 MA (Con Boston / Revision Unit ottal. 5) (Buelles Tologhou then Boston Recharge St. 5) (Buelles Tologhou An All . Attition Recharge St. Recherge Stro

Dug-Well Inventory

Well Inventory Form

र्रोट आंव Village Date - 2/107/19 तात्या सावंत ...Well No..... Gut No. Name of the Farmer . In Village Location Fast to Village User ... Personal/Community/..... Lat 184820 EN1 1- 589 mb (If the Horizontal bore is taken inDirection, Lengthin. and for vertical boreholem, Location at the bottom) Use :- Drinking, Irrigation Acres, Horticulture; etc

Any other information

Korde Jukanoso Name of the Surveyor

Signature

High Elv - 589 - 595 ml LOD GN .- 530 550ml

Geology of the well section GL 13 Int parafect 2 construction ,2m2 11 00 7m) Omygdaloidal Basel asj smil compart sheet joinked Bosall 400 pros auguer 12 a) Linning ************ ameni tini b) Soll - Black / Yellow /Sandy Black 204 1 ******** c) Existing watersheds structure/ Proclamation dam in neighboring region. heor Jaro. didopro d) Effect of existing structures on watertable. NOO Becoch disquell ent in t proe) Geological / Geographical effect on groundwater. arecj -----(Reachard or 10M level -----f) Compact basalt ea on 50 g) Amygdaloidal Basalt ----gdaloida. Bosal 100 ***************************** h) Veslcular Basalt i) Tachylytic basalt absen **** j) Flow contact Cloud contaco K) Duto nortace As ond ca k) Dyke rock Absend 1) Any remark about geological formation. High land derection to reacth the second s *****

undertaken by NAAM Foundation and Chatrapati Shahu Gramin Vikas Shikshan Sanstha Aurangabad

Well Inventory Form

Village and and

Date - 21/07/19 Gut No. Name of the Farmer . विजय र्गालार Well No. 02 In Village Location Location of the well. (Farmland, Bank of Nala, In the Nala, Riverbed)..... Year of the Digging . 2014, Construction year, If yes type Cersen

ENIL 587-507

(If the Harizontal bare is taken inDirection, Lengthin, and for vertical barehalem, Location at the bottom)

Rainy Season 12 Acre Summer Season ALD Acre

Quantity of withdrawals :- Daily Hrs. Seasonal cc meter / day.

Time require for a full recharge / recuperation :

Any other information

Korde Tukarom

Name of the Surveyor

Signatura

Geology of the well section (ml) GL o. som ! porofeet NN 2 construction 3ml Black soft_ अन्नेथ (GE) ली जाउर 200 मी ओलरावर 3 12501 1000) Amygdaldi dal Baral f compact Bosal 215 400 3-5000 a) Linning -----(enom) ******************* b) Soll - Black / Yellow /Sandy Black SUS 12 c) Existing watersheds structure/ Proclamation dam in neighboring region. ***************** 2 km Rufi ----dem percola distance d) Effect of existing structures on watertable. 200 001 lealer table income dam -----e) Geological / Geographical effect on groundwater. norease 1) Compact basalt 3-50 10 presen *************** g) Amygdaloidal Basalt (o m) Bron *********************************** ~ las Booal flow presen ***** h) Vesicular Basalt Absen ------***************** i) Tachylytic basalt Absen! **************** f) Flow contact flow contrue indo ******* Sustace A.A. P.D. C.A k) Dyke rock ****** I) Any remark about geological formation. -----East to west alla obsection

Geohydrogeological mapping of Tahsil District Beed undertaken by NAAM Foundation and Chatrapati Shahu Gramin Vikas Shikshan Sanstha Aurangabad

Well Inventory Form

Village ... Anic and Date - 21 07 Joint Gut No. Name of the Farmer In Village Location User... Personal/Community/..... Location of the well. Bould, (Farmland, Bank of Nala, In the Nala, Riverbed) Lat 750702 578 m) (If the Horizontal bore is taken inDirection, Lengthin. and for vertical boreholem. Location at the bottom) Quantity of withdrawals :- Daily Hrs. Seasonal cc meter / day Time require for a full recharge / recuperation :

Any other information

Korde Jukarans Name of the Surveyor

GL Geology of the well section Im) porafeet (construction) Stack soil (construction) Smot sheet soin had bosalt Brit Bast व वजरोला मेट 500 मी आनरावर Smil 13 mt. compact Basalt a) Linning cesses ********* b) Soil - Black / Yellow /Sandy Black det -----c) Existing watersheds structure/ Proclamation dam in neighboring region. neasth mesent d) Effect of existing structures on watertable. Pulti dam Rut dano. e) Geological / Geographical effect on groundwater. usaky table moreore ********************************* ******* f) Compact basalt 13 rot Baso abo sheel 100 kd Beroall g) Amygdaloidal Basalt Obsent ********************************* ************************* h) Vesicular Basalt Dissen. i) Tachylytic basalt Absen ! ************************* J) Flow contact esen) -----10000000000 -----k) Dyke rock Absen? ******* I) Any remark about geological formation. High land orea NORTH to puth d'rection

Well Inventory Form

Village Date - + 21/07/19
Village Date - + # 21 / 07 / 19 Gut No. Name of the Farmer
In Village Location
Location of the well. Soch (Farmland, Bank of Nala, In the Nala, Riverbed). Near realer
Year of the Digging 2009., Construction year, If yes type
Parapet HtShape-Cicular/Square, Diameter of well
Total Depth
Percolation from : Bottom / Lateral Direction (in the case of lateral direction) (If the Horizontal hore is taken inDirection, Leugthm. and for vertical boreholen, Location at the bottom)
Use :- Drinking, Irrigation Acres, Horticulture, etc, etc, Rainy Season
Type of withdrawals/Pump Out :- Electrical motorDiesel PumpHP Dia of outlet pipe
Time require for a full recharge / recuperation : (Rainy season
Any other information
Koode Tukoran Name of the Surveyor Signature

Geology of the well section g mt GL 3ml 8.5. विहिरीम्था पर्वरीमेगा क मि भांलरावर स्त्रीर छरे। अ ठ उल्लेरेला १० मी भांलराव अह्न भांटे श्रीहा पार्श्वमेह्दु पुर्वेच्छे जहता 7 ml construction yout us B. umi compact Barall with Eactures 5.50ml Amygdaloidat Baralt BES a) Linning Cement b) Soil - Black / Yellow /Sandy Black c) Existing watersheds structure/ Proclamation dam in neighboring region. N. 200 m/ destance usest 21 d) Effect of existing structures on watertable. e) Geological / Commandial a e) Geological / Geographical effect on groundwater. 1EN10 f) Compact basalt 4 00 compaly g) Amygdaloidal Basalt 5-50 nd pmygdaloidal Basall low resen h) Vesicular Basalt ------Absen i) Tachylytic basalt Absen j) Flow contact flaid Contact 73) Burterce k) Dyke rock Absent I) Any remark about geological formation. HOD to bush

Well Inventory Form

Village and and

Date - 2/07/19

In Village Location User... Vser... Personal/Community/.....

Location of the well......, (Farmland, Bank of Nala, In the Nala, Riverbed).....

Parapet Ht. 1.1. Shape-Cicular/Square, Diameter of well. Boy (Whether water from other sources brought to this well if yes source and Hrs of pumping......

lat + 18 4749 BING J- STURDY

Percolation from : Bottom / Lateral Direction (in the case of lateral direction) (If the Horizontol bore is taken in Direction, Length......in, and for vertical borehole......, Location at the bottom)

Summer Season Acre

Type of withdrawals/Pump Out :- Electrical motor Diesel Pump 3... HP

Time require for a full recharge / recuperation :Hrs.)

Any other information

Korde Jukaran Name of the Surveyor

(tome Signature

Geology of the well section 8m GL 3mtBS3 Brol construction Smt 3001 palaco channal 1007 A myg dalir dal Basall 2001 conopact Bosalt Rey a) Linning Kemen: b) Soil - Black / Yellow /Sandy Black Sol) c) Existing watersheds structure/ Proclamation dam in neighboring region. Peth dam 20 101 Distance west .grde d) Effect of existing structures on watertable water percolation betwee s tuo flow ous A.B. *********** e) Geological / Geographical effect on groundwater. and Ba . In Greese level. f) Compact basalt 2.001 Bosa presen ****** g) Amygdaloidal Basalt m 40) day Dosalt FLORD oresent ************* h) Vesicular Basalt Obsent I) Tachylytic basalt Absent ************** J) Flow contac 1.m2 present contac k) Dyke rock Plosent I) Any remark about geological formation. ared

Well Inventory Form

Village

 Type of withdrawals/Pump Out :- Electrical motor
 Diesel Pump

 Dia of outlet pipe
 2.5

 Quantity of withdrawals :- Daily
 Hrs. Seasonal

Any other information

Korde Rukaran Name of the Surveyor

Date -

Geology of the well section 10 mt GL and B.S low woskenction पाइरीमकी 200मी लराम कार छरटा अ 18mg 8 50 pt Brygdaloidad Basalt 300+ 1-somt compact basalt a) Linning cement b) Soll - Black / Yellow /Sandy Black 50, c) Existing watersheds structure/ Proclamation dam in neighboring region. Nede Lan west. gite 200 ml · alistance d) Effect of existing structures on watertable. flare contact at AB and Button B e) Geological / Geographical effect on groundwater. " couler tableon JAGOOS f) Compact basalt Bottom 1.50 mt coropa low present g) Amygdaloidal Basalt 8-50 m2 Amygdale Buraft flow present h) Vesicular Basalt Absent. I) Tachylytic basalt Absen flow j) Flow contact 20 and gottoro compat basa k) Dyke rock Absend I) Any remark about geological formation.

Well Inventory Form

	Village - 21/07119
	Village 2107119 Gut No
	In Village Location
	Location of the well. Eost, (Farmland, Bank of Nala, In the Nala, Riverbed) . In the nale
	Year of the Digging, Construction year, If yes type
	Parapet Ht. 10
	Parapet Ht. 10". Shape-Cicular/Square, Diameter of well. 7.00 (Whether water from other sources brought to this well if yes source and Hrs of pumping 14 1 1947 50 Total Depth 15.00 In rainy season aNRAP. m, winter 6.00, summer 92.4 BRA
	Percolation from : Bottom / Lateral Direction (in the case of lateral direction) (If the Horizontal bore is taken inDirection, Lengthm. and lar vertical bareholem. Location at the bottom)
	Use :- Drinking, Irrigation Acres, Horticulture; etc; etc; Rainy Season
2	Type of withdrawals/Pump Out :- Electrical motor
	Time require for a full recharge / recuperation : (Rainy season
	Any other information

Korde Jukana og Name of the Surveyor

Signature

Front Geology of the well section GL भिहितिन्द्र) धार्र्स्सम विद् १ १९७ भगलरावर करि भरता व १० मी अगलराव इस्ति धरितातुंग जीवाली डीवा फालवा अग्र 2ml-B.S and construction 1ml gmb 2mg weatherd Basald 1400 wit Hord ampael Basall 1000 loop preson weiter Duger Linning ceren ****** b) Soil - Black / Yellow /Sandy Black 505 c) Existing watersheds structure/ Proclamation dam in neighboring region. dan meen' In west side d) Effect of existing structures on watertable. **********) Poreas percolat (paler. e) Geological / Geographical effect on groundwater. ***** ID Grease loujer evel f) Compact basalt (ompace Basal Flow ************************* ***** g) Amygdaloidal Basalt Absent ***** h) Vesicular Basalt Hosen/ 1) Tachylytic basalt Absort ********* **************** j) Flow contact *************** ----k) Dyke rock Absen ***************) Any remark about geological formation. plan ored direction How west to Past

Well Inventory Form

Village ... Rail alig Date - 20/07/19 Gut No. Name of the Farmer ... LPovermen.Well No ... 08 In Village Location User... Vser... Personal/Community/..... Location of the well....., (Farmland, Bank of Nala, In the Nala, Riverbed)..... 610257 Use :- Drinking, Irrigation Acres, Horticulture, etc Winter Season Last..... Acre Summer Season Acre antity of withdrawals :- Daily Hrs. Seasonal cc meter / day

Time require for a full recharge / recuperation ;

Any other information

Korde Tukaran Name of the Surveyor

(100 शाह) थी हो परित केल्लूरी याय पाहि) शोसीआदी आपरलाल

GL Geology of the well section JSm) Blacksoil Brokenedtin Bront-Blacksoil Brokenedtin JSm) accompany Broskington Sout lomt wT 9mt compart Bosall Aw a) Linning camer b) Soil - Black / Yellow /Sandy Black c) Existing watersheds structure/ Proclamation dum in neighboring region. dan 10ml distance d) Effect of existing structures on watertable. morease coater table, Seamal pertod e) Geological / Geographical effect on groundwater. High percolation, Increase locter Incel ---f) Compact basait gmb Lom Absont g) Amygdaloidal Basalt h) Vesicular Basalt Obsend i) Tachylytic basalt Obsen' j) Flow contact k) Dyke rock Pbsent k) Dyke rock I) Any remark about geological formation.

- 6

Well Inventory Form

Village . Date - 21/07/19 DIHUZIELO STABLE Gut No. Name of the FarmerWell No. In Village Location Year of the Digging 2013 ..., Construction year....., If yes type.....Camon [Parapet Ht......Shape-Cicular/Square, Diameter of well. 7.9...... (Whether water from other sources brought to this well if yes source and Hrs of pumping lad 2- 184808m. long 1-750658 EIN 1 - 575 (If the Horizontal bore is taken inDirection, Lengthin and for vertical boreholen., Location at the bottom) Rainy Season 12 Acre Summer Season M.L.Q. Acre Quantity of withdrawals :- Daily Hrs. Seasonal cc meter / day. Time require for a full recharge / recuperation : Nerford Hrs; winter 6:..... Hrs; Summer Der Hrs.) (Rainy season Any other information

loorde Tukaram. Name of the Surveyor

Geology of the well section GL Int porofeet Sent Blackson /)2m per limt Oalte Hard compact boxalt a) Linning cemen, hnac *********************** -----b) Soil - Black / Yellow /Sandy plad 3D1 c) Existing watersheds structure/ Proclamation dam in neighboring region. In Ruti dam. d) Effect of existing structures on watertable. The layer of Black 201) and Hord compared Buschle water percolation d) Effect of existing structures on watertable. and e) Geological / Geographical effect on groundwater. nail Increase - Loak-Texel 10 rooman and ******* and the ter f) Compact basalt all Basal 1100+ an g) Amygdaloidal Basalt Absorb *********** h) Vesicular Basalt bsent i) Tachylytic basalt Abson! ----******* j) Flow contact -----*********************************** Abson k) Dyke rock ******************************** () Any remark about geological formation. Rear Record and percolation of The

Well Inventory Form

Zaicatid Village ... Date - 21/07/19 RIHRAR EIN Gut No. Name of the Farmer ...Well No...... In Village Location User... User... Personal/Community/..... (HNJ, 578 M) Rainy Season Acre Quantity of withdrawals :- Daily Hrs. Seasonal cc meter / day Time require for a full recharge / recuperation :

Any other information

korde Jukaram Name of the Surveyor

Geology of the well section by Blacksoil and weatherd Booalt and sheet jointed Broalt 7m) माह माहर करियों आह माह या विहिन्द कोन्द्रया कार्यना जास नाह कार्यन हि कि of compact a) Linning NO ----b) Soil - Black / Yellow /SandyB c) Existing watersheds structure/ Proclamation dam in neighboring region. 3.n Ruli dam d) Effect of existing structures on watertable. No percolation e) Geological / Geographical effect on groundwater. Ne ceachorce f) Compact basalt stol conpact of Basal g) Amygdaloidal Basalt Abson7 h) Vesicular Basalt i) Tachylytic basalt Absent j) Flow contact Jotal Flow contact en as ond shelf Jointed Bunalt sheet jointed B. an d :Con k) Dyke rock Absent Bassa I) Any remark about geological formation. prosts to south dreefloor

Well Inventory Form

Village to bird

Date -21/07/19

In Village Location User... User... Personal/Community/.....

1ad 2 1848 11 1009 2-750647. GNIT: S73ml

Percolation from : Bottom / Lateral Direction (in the case of lateral direction......) (If the Horizontal bore is taken inDirection, Length.....in. and for vertical borehole....m, Location at the bottom)

Any other information

Korde Fikaran) Name of the Surveyor

Signature

lomt GL Geology of the well section 13m+ B-501) Re atter tail erion Enot constructions and constructions and construct 14.50 10.50001 Real boll 3002 Amygolatoidal 4001 compact Basal w.T. Int porton as a fer TIM Linning b) Soll - Black / Yellow /Sandy Black ************************ 501 c) Existing watersheds structure/ Proclamation dam in neighboring region. This in Rufi damo present d) Effect of existing structures on watertable. dam Brightme water table Increase e) Geological / Geographical effect on groundwater. Inorease geound cake jevel f) Compact basalt upperford ml mo md 4m2. BoHoro How present Basal g) Amygdaloidal Basalt gdaloidal Basalt any Amy & daloida h) Vesicular Basalt ********************* i) Tachylytic basalt tachy ytic 0-50 Bosalt. m 4000 ----men f) Flow contact the flow lack Mal osen w.g ond 7.5 one **** and last one k) Dyke rock T5 AB k) Dyke rock i) Any remark about geological formation. Low lond anee

Well Inventory Form

Village anic airo

In Village Location User... Personal/Community/.....

Year of the Digging 2094, Construction year....., If yes type.

 Type of withdrawals/Pump Out :- Electrical motor
 Diesel Pump

 Dia of outlet pipe
 2=5

 Quantity of withdrawals :- Daily
 Hrs. Seasonal

Korde Jukaram Name of the Surveyor

Date - 21/07/19

Geology of the well section GL Sort PE STEL ZER ELES 20035 9ml construction Grit 20 B 0-50 Red 6011 15.50 mot. Amygdaloida) Bosalt Lmt 00-5 compart Bacald 300 Lond a) Linning cement ----b) Soll - Black / Yellow /Sandy ack c) Existing watersheds structure/ Proclamation dam in neighboring region. entis Pilt dam d) Effect of existing structures on watertable. ****dime percolate mdupuel e) Geological / Geographical effect on groundwater. ****** table 1Doree 6000 f) Compact basalt loid ******** asal reserv ********** *********************************** 0 g) Amygdaloidal Basalt Basal Aow present h) Vesicular Basalt tbsenh ************************* 1) Tachylytic basalt 0.50 Real mi 6011 preser 9 rot u cla up to ****************************** j) Flow contact *********************** ***** k) Dyke rock Absen, ************** ******) Any remark about geological formation. 100 000 ------

Well Inventory Form

	Village and stad
	Gut No
	In Village Location
	Location of the well, (Farmland, Bank of Nala, In the Nala, Riverbed)
	Year of the Digging (9.90, Construction year, If yes type
	Parapet Ht
	Total Depth 12 ml, Water level from ground level. Derd
	(If the Horizontal bore is taken in
	Use :- Drinking, Irrigation Acres, Horticulture; etc; etc
1	Type of withdrawals/Pump Out :- Electrical motor, Diesel Pump. S HP Dia of outlet pipe
	Time require for a full recharge / recuperation : (Rainy season
	Any other information

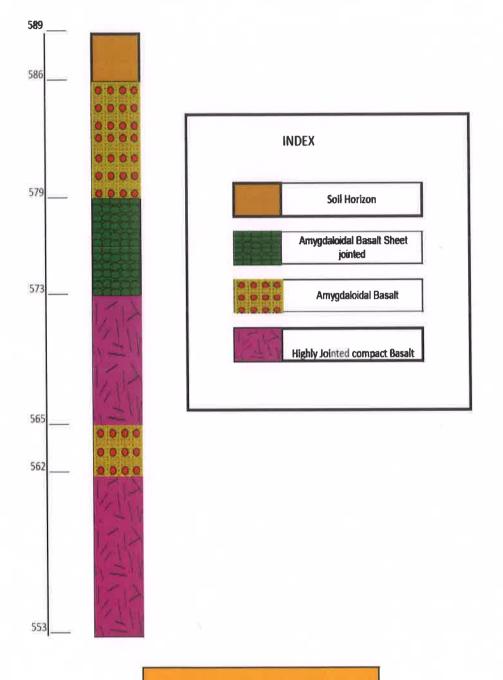
Name of the Surveyor

Geord Signature .

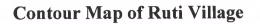
8 mt GL Geology of the well section 2m2 glack soi विहिसिन्छ। पार्डियोगक 1 Km झीलरावर करि रूरिग अगहे (in) ormygelaldder gosall 6mt compact Basall ort puljor a) Linning VO ****************** b) Soll - Black / Yellow /Sandy lack c) Existing watersheds structure/Proclamation dam in neighboring region. Lago Ruli dam Near -----presm d) Effect of existing structures on watertable. e) Geological / Geographical effect on groundwater. 21 1318 (132 मुद्धाय अहिंग) असला al effect on groundwater. In "morrowon on of comfer period loaks fable inforcase. 372 f) Compact basalt compact Burall flow preserve 6.m g) Amygdaloidal Basalt 400 plaker meser h) Vesicular Basalt i) Tachylytic basalt Absen i) Flow contact flow con hall k) Dyke rock Absent I) Any remark about geological formation. HU-D ionGiller North to south

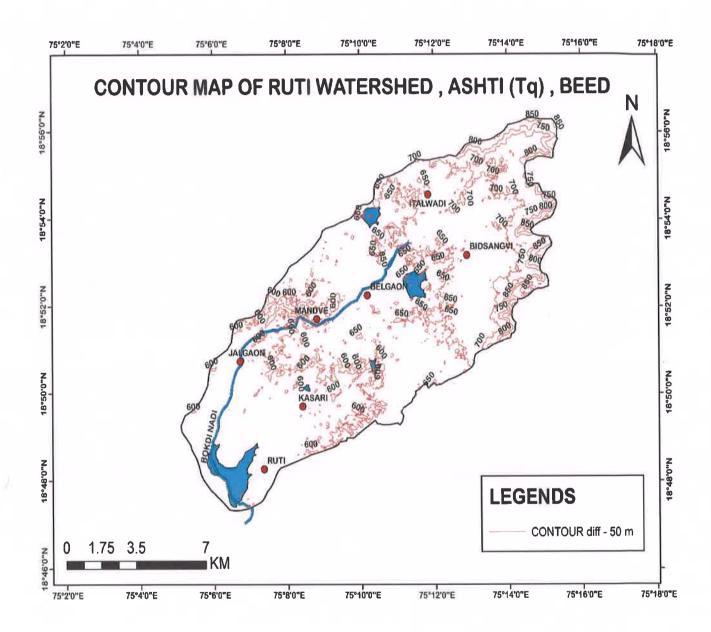
Litholog of Ruti Village

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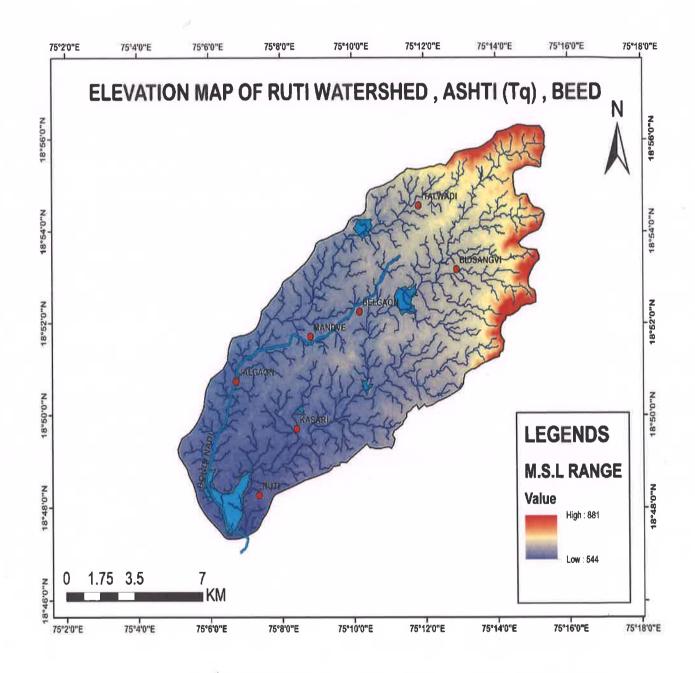


Litholog of Ruthigaon Village



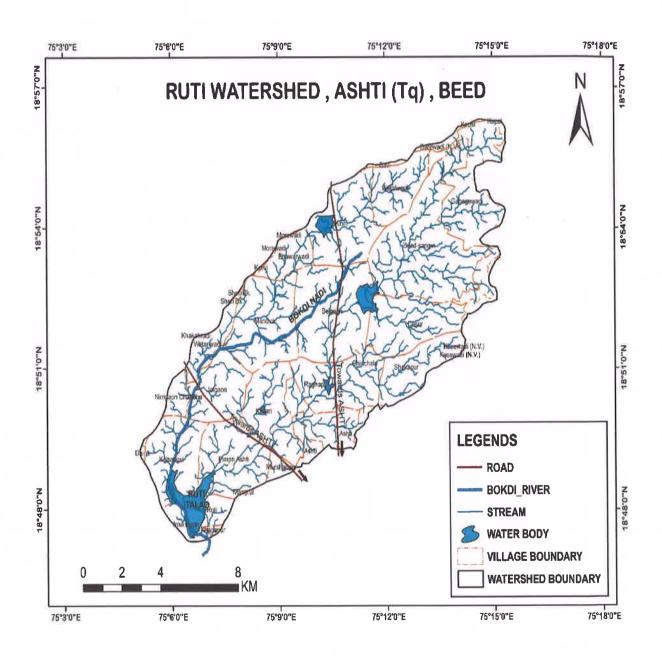


DEM Map of Ruti Village



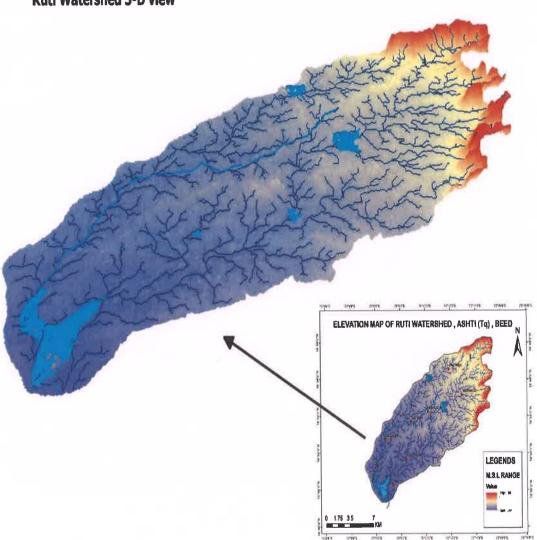
Watershed Map of Ruti Village

3



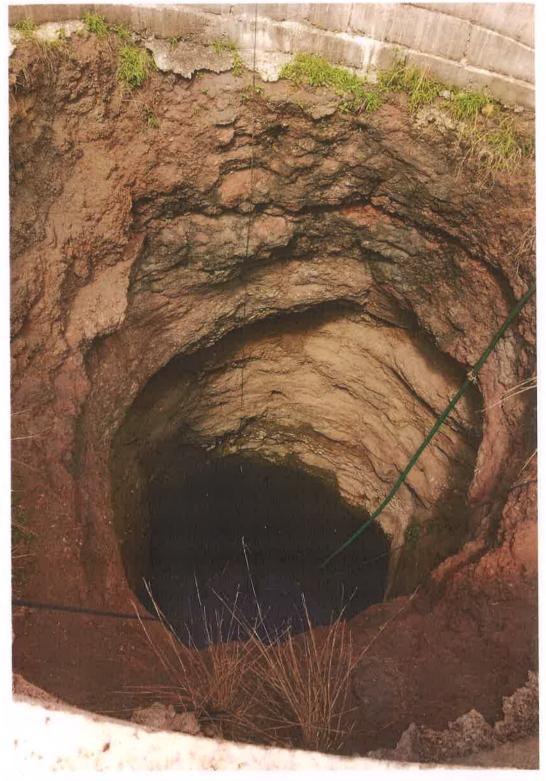
Watershed 3D Map of Ruti Village

 $\hat{\eta}$



Ruti Watershed 3-D view

Field Photos



Weathered Compact Basalt is exposed in the dug well



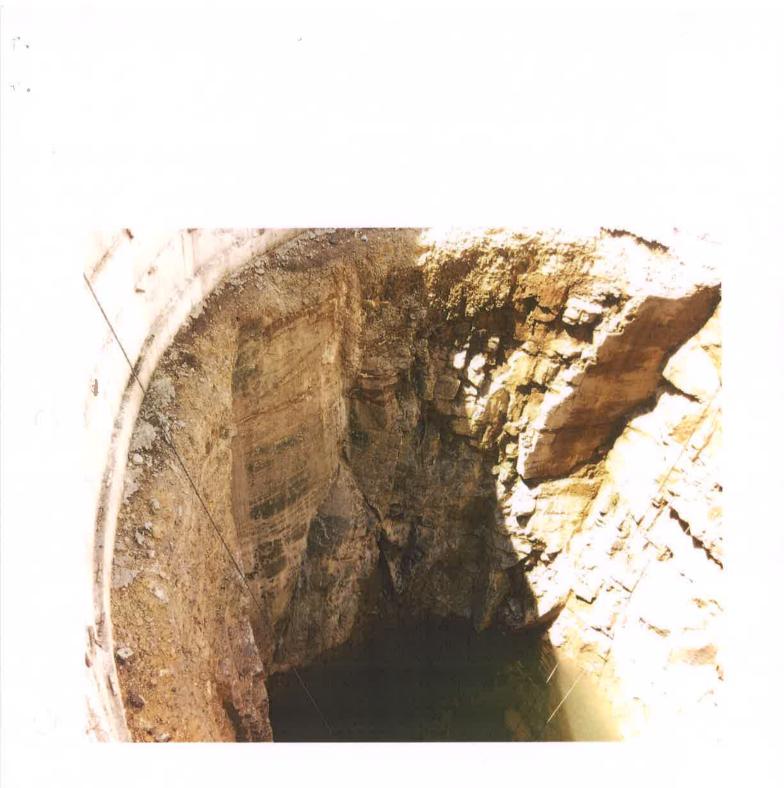
Highly fractured Compact Basalt can be seen in the dug well



-191

8° ...

Red bole flow exposed between two basalt flows



Broadly spaced jointing in basalt flow exposed in the outcrop



PRINCIPAL Deogiri College Aurangabad.

Shirala Village

Shiral is a Village in Ashti Taluka in Beed District of Maharashtra State, India. It belongs to Marathwada region. It belongs to Aurangabad Division. It is located 88 KM towards west from District headquarters Beed. 12 KM from Ashti. 273 KM from State capital Mumbai. Dhirdi (3 KM), Nanda (4 KM), Hanumantgaon (5 KM), Kelsangavi (5 KM), Pimpri (ashti) (8 KM) are the nearby Villages to Shiral. Shiral is surrounded by Karjat Taluka towards South, Jamkhed Taluka towards East, Patoda Taluka towards East, Pathardi Taluka towards North.

भुशास्त्रीय सर्व्हेक्षण शिराळ, ता. आष्टी, जि. बीड

शिराळ गावपरिसरामध्ये Well Inventory, GIS & Remote Sensing Technique, भुशास्त्रीय सर्व्हेक्षण, ह्याभागात पडणारा सरासरी पाऊस व पाण्याची माघणी इत्यादी बाबीचा आढावा घेवुन या गावातील भुजल विकासासंबंधी खालील भुजल विकासाची कामे करणे आवश्यक आहे.

- गावपरिसरातील मेहेकरी नदितील गाळ काढणे (मुख्यत: 1) गावाच्या उत्तरेकडील भागात काम करणे आवश्यक आहे) Redome
- मेहेकरी नदिवर गावाच्या उत्तरेकडील भागात दोन सिमेंट 2) बंधारे बांधण. (40 rt)
- मेहेकरी नदिवर गावाच्या दक्षिणेकडील भागात एक सिमेंट 3) बंधारा बांधणे (गावाच्या शिवारातील भागात) (द०v+)
- शिराळ गावाच्या परिसरामध्ये 150 फुट खोलीपर्यंत बेसाल्ट 4) खडकाचे मुख्य सात थर आढळत असुन, त्यामध्ये काळा पाषाण थर क्र. 1 व 3 मधुन पाणी खाली जात नसल्यामुळे गावाच्या मेहेकरी नदिवर उत्तर व दक्षिण दोन्हीभागात प्रत्येक बंधाऱ्यामध्ये चार कुत्रिम पूर्नेभरण पिट्स (Artificical Recharge Structure) घेणे. -3AII Str. Hest Artificial Reco D HIMMAR Them Brons 19/ tout Browner Rechange pit erail on bill and ghm Brite on & Rens 192. A.

Well Inventory Form Date - 26/06/2019 VillageWell No. 01 ... Name of the Farmer Gut No. . 5.40. Personal/Community/..... pome Location of the well............. (Farmland, Bank of Nala, In the Nala, Riverbed)...... Parapet Ht......Shape-Cicular/Square, Diameter of well...... Total Depth Water level from ground level... Mater level from ground level... m.p Rainy Season Acre Winter SeasonAcre Summer Season Acre Type of withdrawals/Pump Out :- Electrical motor Diesel Pump ..HP Dia of outlet pipe cm. /inch ... cc meter i day Time require for a full recharge / recuperation : (Rainv season Hrs; winter Hrs; Summer Hrs.) Any other information Signature

sound autor from well १भी जानने आहर वात. Conter of the well contin-GIL Soil (बोहाकान दराखे पुष्टि 19.50 mb 14 Mr 52 mbr 18 47 25.829 75 44 4:146 AB weather 16 a) Linning stone lining () b) Soil - Black / Yellow /Sandy (sano B.C. c) Existing watersheds structure Proclamation dam in aphiboring region 200 mbr. d) Effect of existing structures on watertable. Const के लिंग दिवस् मा जाल्याका UNOS 210 19612(D) e) Geological / Geographical effect on groundwater. f) Compact basalt MA g) Amygdaloidal Bagalt A.B b) Vesicular Basale I) Tachyiytic basalt D Flow contact k) Dyke roch i) Any remark about geological formation contrel-TUT weathered A-A-F 501 atte 55 only.

Well Inventory Form 106/2019 Village QR Date -Gut No. Name of the Farmer In Village Location User ... User ... Personal/Community/..... Parapet Ht.....Shape-Cicular/Square, Diameter of well. (Whether water from other sources brought to this well if yes source and Hrs of pumping In rainy seasonm, winter, summerm. Percolation from : Bottom / Lateral Direction (in the case of lateral direction) Use :- Drinking, Irrigation Acres, Horticulture, etc..... Rainy Season Acre Winter SeasonAcre Summer Season Acre Type of withdrawals/Pump Out :- Electried motor Diesel Pump HP DS Time require for a full recharge / recuperation : Any other information

03 Fr P, for series of the well series 18 42 48] 550 25 04 07] mt. width 32 ment entire 32 Freement NA K Berg. alla fask -3rth 111 2 a) Linning Sement b) Soil - Black / Yellow /Sandy c) Existing watersh als structure/ Proci n dam in neighboring region. Ansu D Dilect of man 190-Sognilow gical / Geogram f Compact basalt Basen g) Amygdaloidal Basalt W.A.B above h) Vesicular Baselt D Tachylytic basalt D Flow contact AB h) Dyke rock -tomachumus J. D FO PErColate down ward them C-B. HOD

Well Inventory Form
Village Tex 18 Date - 26 06 2019 Gut No. 65 Name of the Farmer Store Well No
In Village Location
Location of the well
Year of the Digging, Construction year, If yes type
Year of the Digging, Construction year, It yes type
Use :- Drinking, Irrigation Acres, Horticulture, etc, etc
Rainy Season Acre Winter Season
Summer Season Acre
Type of withdrawals/Pump Out :- Electrical motorDiesel PumpHP Dia of outlet pipe
Time require for a full recharge / recuperation : (Rainy season
Any other information
Name of the Surveyor

Crar Cry IMG-20190612-WA0006.jpg S 10.30 mos stone eining 12ms Weathored AB. 9 # 14 mpr w. t. Im SIE 019 BBOSTY mpt Dr. TAGE Baser -800 a) Linnia ek / Yel w /5: loand B in neighboring region. c) Existing watersheds structure/ Proclamation de d) Effect of enis e) Geological / Geographical effect on groun dwater. Compact basalt A-Bg) Amygdaloidal Basalt whether h) Vesicalar Basalt i) Tachylytic basalt D Whow cominci h) Dyke rock phick h Any remark about geological form MAD Patrice. heozone wheathend

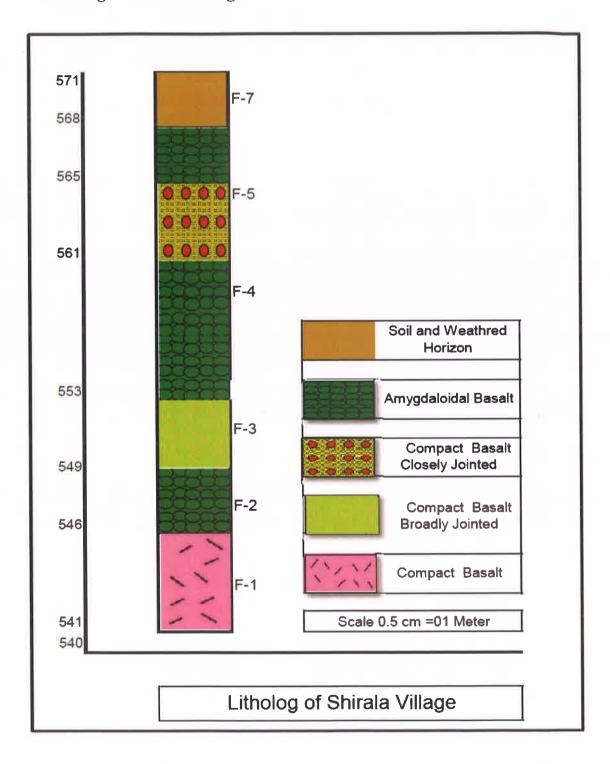
Geohydrogeological mapping of Acht..... Tahsil District Beed undertaken by NAAM Foundation and Chatrapati Shahu Gramin Vikas Shikshan Sanstha Aurangabad

Well Inventory Form
Village TAKIC Date - 26/08/2019 Stindente Bring Bringking Well No B. Name of the Farmer Film 19/811/9(19) In Village Location
Gut No
In Village Location User User Personal/Community/
Location of the well, (Farmland, Bank of Nala, In the Nala, Riverbed)
Year of the Digging, Construction year 25 Years
Parapet HtShape-Cicular/Square, Diameter of well
Parapet HtShape-Cicular/Square, Diameter of well
Percolation from : Bottom / Lateral Direction (in the case of lateral direction) (If the Horizontal bore is taken inDirection, Lengthm. and for vertical boreholem. Location at the bottom)
Use :- Drinking, Irrigation Acres, Horticulture, etc, etc
Winter SeasonAcre Summer Season Acre
Type of withdrawals/Pump Out :- Electrical motor
Dia of outlet pipe
Time require for a full recharge / recuperation : (Rainy season
Any other information
Manie of the Surveyor Galtand Signature

8.20 mtr stone (Sed dopoints), et wining trybothement 112 mtr Hydrothement 112 mtr Hydrothement 15 T.C.B. Boredry Joisted 20 87 1.21 mp WIT ीर 5169 a) Linning OFART. stone eini b) Soil - Black / Yellow /Saudy Baele andy Said atersheds structure/ P n dam in neighboring region. Effect of existing structure perchec Mate lone mun Ced e) Geological / Geogra Compact basalt óm Amygalaloidal Basalt Altered undertain () Harthema h) Vesicular Basalt h) Tachylytic basalt D Flow contact h) Dyke rock ark about geological formation. Balemen

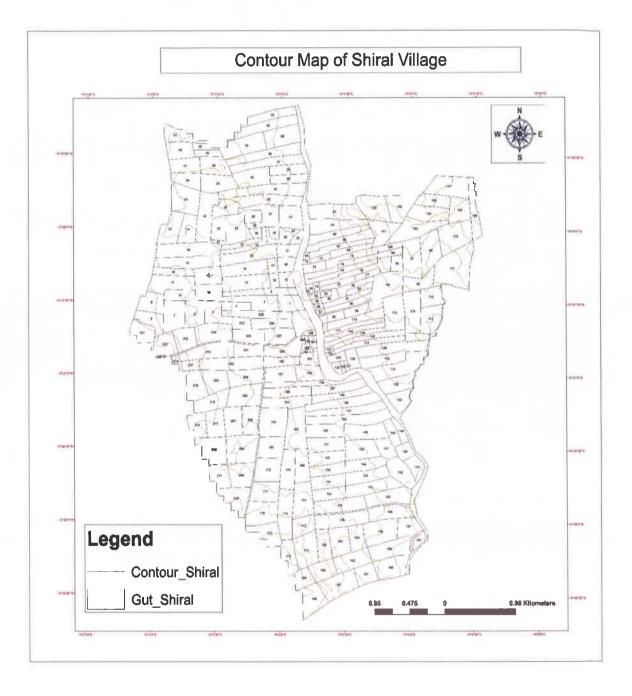
Well Inventory Form -13-
Village
Village tekik Gert No
In Village Location
Location of the well, (Farmland, Bank of Nala, In the Nala, Riverbed)
Year of the Digging
Parapet Ht. Shape-Cicular/Square, Diameter of well
Total Depth
Percolation from : Bottom / Lateral Direction (in the case of lateral direction) (If the Horizontal bore is taken in
Use :- Drinking, Irrigation Acres, Horticulture, etc, etc
Summer Season
Dia of outlet pipe
Time require for a full recharge / recuperation : (Rainy season
Any other information
Company and
Name of the Surveyor

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CB. as a Basenent
1 Jan 1
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b) Seil - Black / Yellow /Sandy
e) Existing watersheds structure/ Proclamation dam in neighboring region.
proposed Bund is Santfaned way
e) Geological / Georgraphical effect on groundwater. Jess on .
Reason. Reason. Reason.
CB. Balenert
g) Amygdaloidat Basalt
b) Vesicular Basalt
)) Tachylytic basalt
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k) Dyle rest
BABY research about geological formation Balement and tound in and and and and and and and and and an
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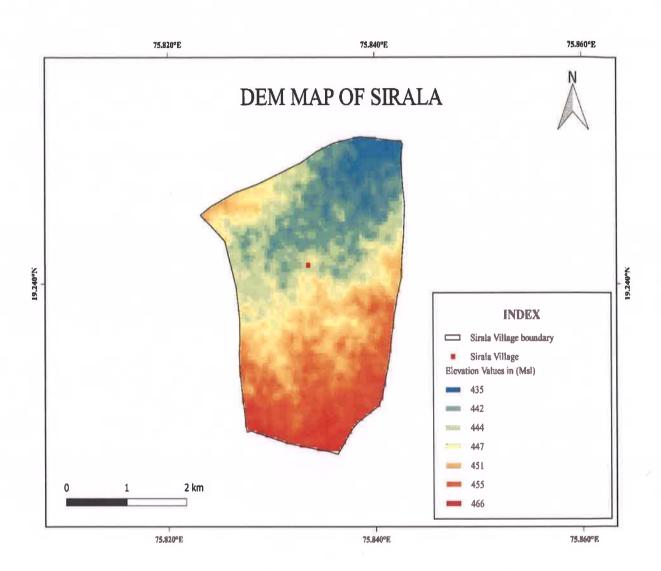


Litholog of Shirala Village

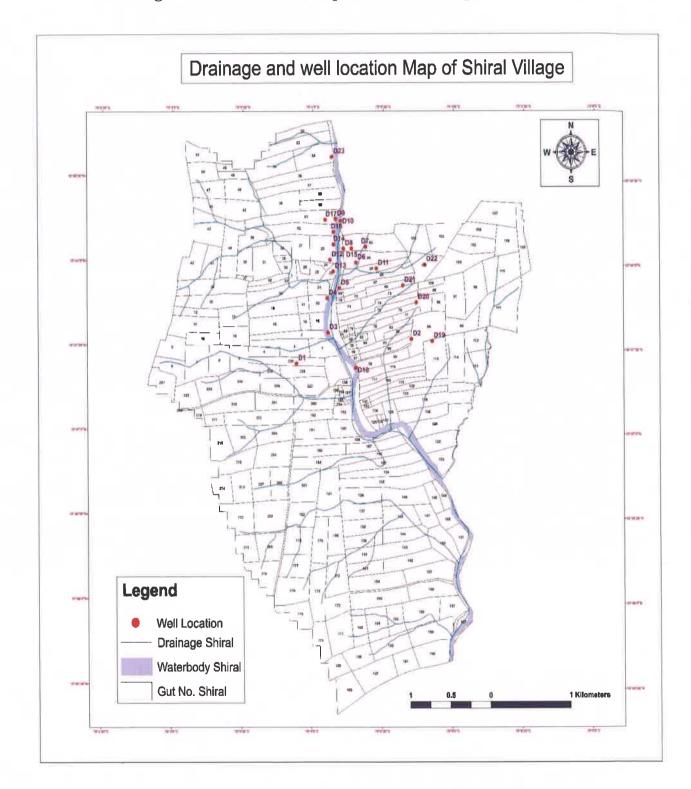




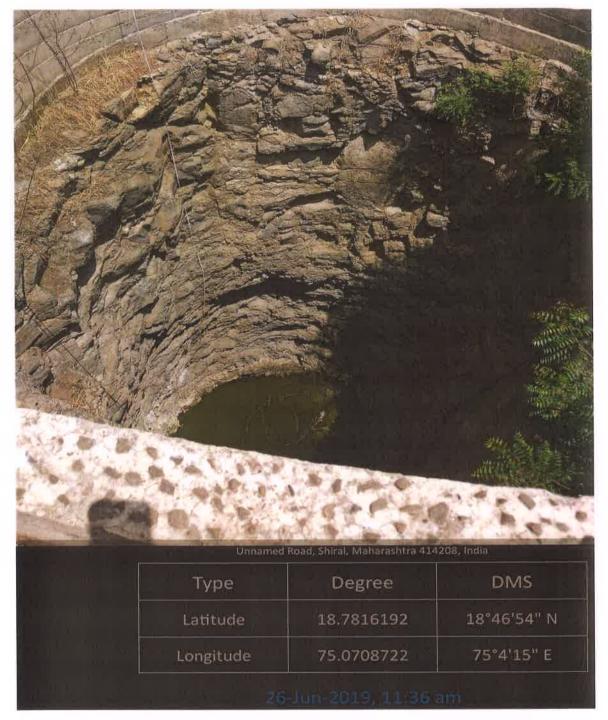
DEM Map of Shirala Village



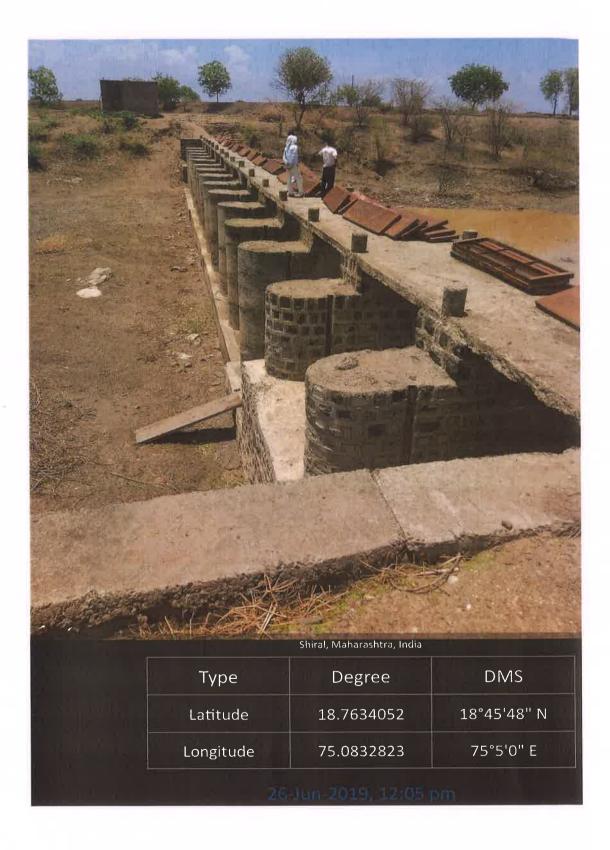
Drainage and well location map of Shirala Village

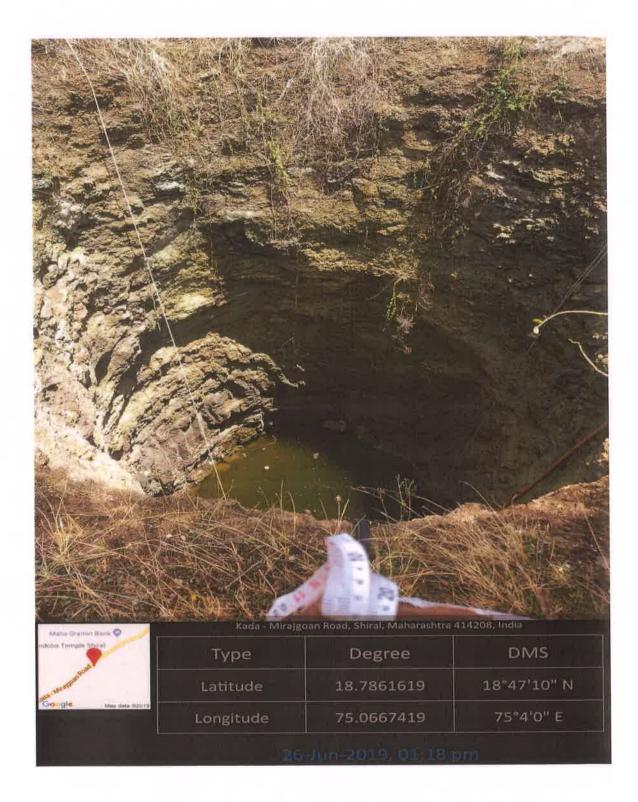


Field Photos

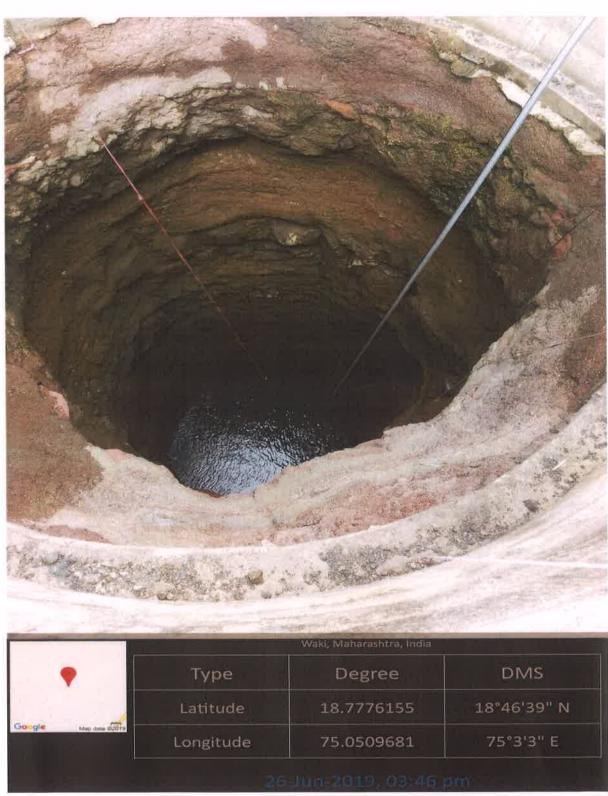


Fractured Compact Basalt Flow exposed in dug well





Amygdaloidal Basalt Flow exposed in the outcrop



Amygdaloidal Basalt Flow below which Compact Basalt Flow can be



	Unnamed Road, Shiral, Maharashtra 414208, India			
1.1.1.1	Туре	Degree	DMS	
	Latitude	18.7825461	18°46'57" N	
	Longitude	75.0837944	75°5'2" E	
		-Jun-2019, 04:31	pin	

Highly Fractured Compact Basalt Flow exposed in the dug well

RI

Sea

VGP

PRINCIPAL Deogiri College Aurangabad.

Surudi Village

Surudi is a Village in Ashti Taluka in Beed District of Maharashtra State, India. It belongs to Marathwada region. It belongs to Aurangabad Division. It is located 79 KM towards west from District headquarters Beed. 280 KM from State capital Mumbai. Surdi is surrounded by Jamkhed Taluka towards South, Pathardi Taluka towards North, Patoda Taluka towards East, Karjat Taluka towards South.

Details of the Survey

Geohydrological Mapping & Site Selection for Artificial Recharge of Water in Watershed Development Programme, Undertaken By NAAM Foundation, Mumbai and CGVS Sansta, Aurangabad

: Surudi, Ta- Aashti , Dist-Beed 1. Village Name

2. Date of Survey: 12/06/2019

3. Name of Geologist and Hydrogeologist for Survey in the field:

- c. Ganesh Gaikwad
- d. Dr. Pramód Pathrikar

4. Name of the Members for assist to survey in the field:

- c. Shri Khillare
- d. Dr. Tarate

5. NAAM Pratinidhi: Shri Rajebhau Shelake

- 6. Local villagers/ Farmer:
 - a. Gahininath Saruk
 - b. Pandurang Garaje

7. Total No of Well surveyed:

07 dugwells in the field + 14 dugwells through Satellite imagery Survey = Total 21 dugwells

8. Total map prepared:

- a. Contour map of Village
- b. Drainage map of Village
- c. Dem map of Village
- d. Litholog of Village
- e. Geology map of Village

9. Recommendation and Conclusion:

- a. For Artificial Recharge suitable/ Unsuitable:-----
- b. Structure for watershed development programme:--

2 2119 STANSOON- TOS ETHO STON STREET יזודם מונכ הדרינונה הארינוניה בדר בדר לינואיוה ביונת ייך הצהו ווצויה וודר הווות חוקים ועייוטיוכ יושאי אור וביוא וויצוע וויצע היוצאיוט ביויצאייניבווו poisto prosponde porgonal. गांव स्वास्त कामात कामदानामुद्दे (निमकानुने आगाः) भूमार कारका है जिलि जिलाक कार कार्य This yes alan unit and site of - Arga אירוב אוומקרוצ ניצירי אירוואירום ואיביוסווכים हासारमायुहा मारेषा पाठाला रेक्समान्धी काम कामून करमान आहे. suares) anoju Zastibistioning Cathoreat area הואה לאוצי הלסאות הצווא ישוא האות עוואיוע a 1925 foi saldun 4108 man. Water 41541 deeper Agriter (15 chost git using shelland Aquiter recharge anonigricat as excised str- that Artificial Recharge str- arisoully wig.

Google Earth image of Surudi Village



Dug-well Inventory

Geohydrogeological mapping of MCVA. Tahsil District Beed undertaken by NAAM Foundation and Chatrapati Shahu Gramin Vikas Shikshan Sanstha Aurangabad

Well Inventory Form

युद्धि गाव स्तावर Village Sujudi Date -गवाजव(Well No. Gut No. Name of the Farmer

Year of the Digging, Construction year, If yes type

Any other information

GP 5

Name of the Surveyor

8 59 4.2

3mh - F + h = 11 GL otton 157.1 57 35 FI -unir 16-4 10.00 BUMORIA पाव्यन्ति। Imb PTA प्साग्य। जावाद WT Sone 1008 e) Linning b) Salt - Black / Yellow /Saady c) Existing watersheds structure/ Proclamation dam in neighboring region and a second sec -----d) Effect of existing structures on watertable. ****** e) Geological / Geographical effect on groundwater. f) Compact basalt Compact BA Hard 2) Amygdaloidal Basalt Some voncular patches a later ran Links b) Vesicular Basalt vpe Of Marca and a second second se) Flew contact ***************** al zone k) Dyke rock 241000 Q Any remark about seological formation

Geohydrogeological mapping of Tahsil District Beed undertaken by NAAM Foundation and Chatrapati Shahu Gramin Vikas Shikshan Sanstha Aurangabad

Well Inventory Form

Date- 12/08/2019 Village Name of the Far Vell No..... Gut No. 84 271011A In Village Location ...

Parapet Ht......Shape-Cicular/Square, Diameter of well......

Percolation from : Bottom / Lateral Direction (in the case of lateral direction......)

 Type of withdrawals/Pump Out :- Electrical motor......Diesel Pump......IIP......

 Dia of outlet pipe...

 cm. /inch

 Quantity of withdrawals :- Daily

 Hrs. Seasonal

 cc meter / day

 Time require for a full recharge / recuperation :

 (Rainy season

 Hrs, winter

 Hrs, Summer

Any other information

GOM-

Name of the Surveyor

Signature

594 185924:3 751453.9

5.3 ft Total Stinte To the start of all 1534 hard a) Linning -OKOUET b) Soil - Black / Yellow /Sandy c) Existing watersheds structure/ Proclamation dam in neighboring region d) Effect of existing structures on watertable. e) Geological / Geographical effect on groundwater. ampalt f) Compact basalt Basement g) Amygdaloldal Basait b) Vesicular Basalt i) Tachylytic basalt D Flow contact k).Dyke rock *********************** I) Any remark about geological formation.

Well Inventory Fe	orm
- HEAC BALLACE	
Village Starza yar	T Date -
Gut No Name of the Farmer	Well No
In Village Location Per	sonal/Community/
Location of the well, (Farmland, Bank of Nala, in I	the Nala, Riverbed)
Year of the Digging, Construction year	If yes type
Parapet HtShape-Clcular/Square, Diameter of Will Whether water from other sources brought to this well of yes source and Hes of put	ell
Fotal Depth Water level from ground level in rainy season m, winter summer.	
Percolation from : Bottom / Lateral Direction (in the case o, If the Horzontal bore is taken in Direction, Lengthm. and for vertical boo	Claranal disastics
Jse :- Drinking, Irrigation Acres, Horticulture Rainy Season Acre	
Winter SeasonAcre Summer SeasonAcre	
ype of withdrawals/Pump Out :- Electrical motorDi Dia of outlet pipe	esel PumpHP
uantity of withdrawals :- Daily Hrs. Seasonal	cc meter / day
ime require for a full recharge / recuperation : Ramy season	Hrs.)
ny other information	
	0

Name of the Surveyor

Signature

राकडी गावान्या OID Paleochannel identi Carlor: of the wall - antion 6 Bmi sundi 575 W.T 18 59 8.5 C.B Jood g.w. Table Condition Condition Condition filed vvelv. w.T 75 14 30.9 a) Linning b) Soil - Black / Yellow /Sandy c) Existing watersheds structure/ Proclamation dam in neighboring region. d) Effect of existing structures on wateriable. e) Geological / Geographical effect on groundwater. ******** \$ f) Compact basalt MOLE Broad a) Amygdatoidal Basalt ------b) Vesicular Basait ****** I) Tachylytic basalt [] Flow contact k) Dyke rock I) Any remark about geological formation.

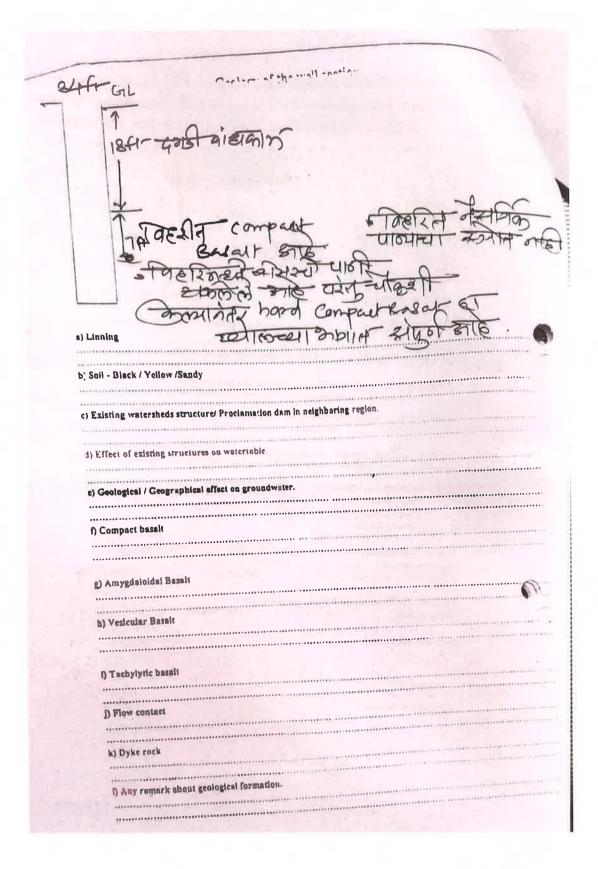
Geohydrogeological mapping of ASHH Tahsil District Beed undertaken by NAAM Foundation and Chatrapati Shahu Gramin Vikas Shikshan Sanstha Aurangabad

Well Inventory Form

Village Synud. 1
Gut No
Location of the well
Year of the Digging, Construction year
Parapet HtShape-Cicular/Square, Diameter of well
Total Depth, Water level from ground levelm. In rainy season m, winter summerm.
Percolation from: Bottom / Lateral Direction (in the case of lateral direction) (If the Honsunial bare is taken in Direction, Length m, and for vertical baryhole m, Lacation at the bottom)
Usc :- Drinking, Irrigation Acres, Horticulture, etc, etc Rainy Season
Type of withdrawals/Pump Out :- Electrical motorDiesel PumpHP Dia of outlet pipe
Time require for a full recharge / recuperation : (Rainy season
Any other information

Name of the Surveyor

Signature



Geohydrogeological mapping of ASHI... Tahsil District Beed undertaken by NAAM Foundation and Chatrapati Shahu Gramin Vikas Shikshan Sanstha Aurangabad

	. U	
Well Inventory Form		
Village Surudi Gut No. Mame of the Farmer 200 200 200 Date - 12/06/2019 Well No. Well No. Well No.	10100	pbr
In Village Location acart and M. User Personal/Community/	19 101	हान्
Location of the well		
Year of the Digging	59	4
Parapet HtShape-Cicular/Square, Diameter of well	359	24:
Total Depth	- 14	9
Percolation from : Bottom / Lateral Direction (in the case of lateral direction) / (If the Hurszuntal bare is taken inDirection, Lengthm and for vertical boruhole, Location at the bottom)	3	
Use :- Drinking, Irrigation Acres, Horticulture, etc, etc Rainy Season Acre Winter Season Acre Summer Season Acre		
Type of withdrawals/Pump Out :- Electrical motor Diesel Pump HP Dia of outlet pipe cm. /inch Cm. /inch Quantity of withdrawals :- Daily Hrs. Seasonal cc meter / day		
Time require for a full recharge / recuperation : (Rainy season		
Any other information		

Gol

Name of the Surveyor

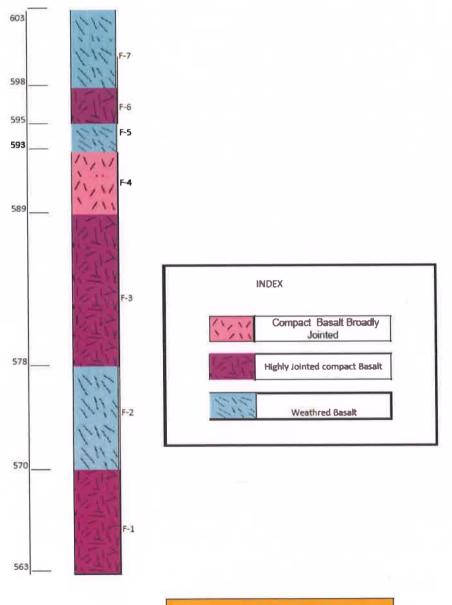
Signature

2111 Gil ٩ 11 for ining Cotone er UTURITE 0 नायर ctored SUMBERT 516 2) Linning ('em EN EFE b) Soil - Black / Yellow /Sandy ----c) Existing watersheds structure/ Proclamation dam in neighboring region. c) Effect of existing structures on watertable. e) Geological / Geographical effect on groundwater. ------Bajatf) Compact basalt Hard ------e) Amygdaloidal Basalt h) Vesicular Basalt ----() Tachylyric basalt) Flow contact k) Dyke rock ------8 Any remark about geological formation.

Geohydrogeological mapping of Tahsil District Beed undertaken by NAAM Foundation and Chatrapati Shahu Gramin Vikas Shikshan Sanstha Aurangabad Well Inventory Form 06/2019 Village ... STAIM 30 Well No..... Gut No. Name of the Farmer In Village Location User ... Vser ... Personal/Community/..... Location of the well...... (Farmland, Bank of Nala, In the Nala, Riverbed)..... 8 . summer. · ...m. Percolation from : Bottom / Lateral Direction (in the case of Interal direction) 603 (If the Horszunial bare is taken in Direction, Length m. and for vertical barchale m. Location at the bottom) 185920-9 751455-6 Use :- Drinking, Irrigation Acres, Horticulture Rainy Season Acre Winter Season Acre Summer Season Acre Type of withdrawals/Pump Out :- Electrical motor Diesel Pump HP Time require for a full recharge / recuperation : Any other information AEN Name of the Surv Signature ottom arong 3110 23

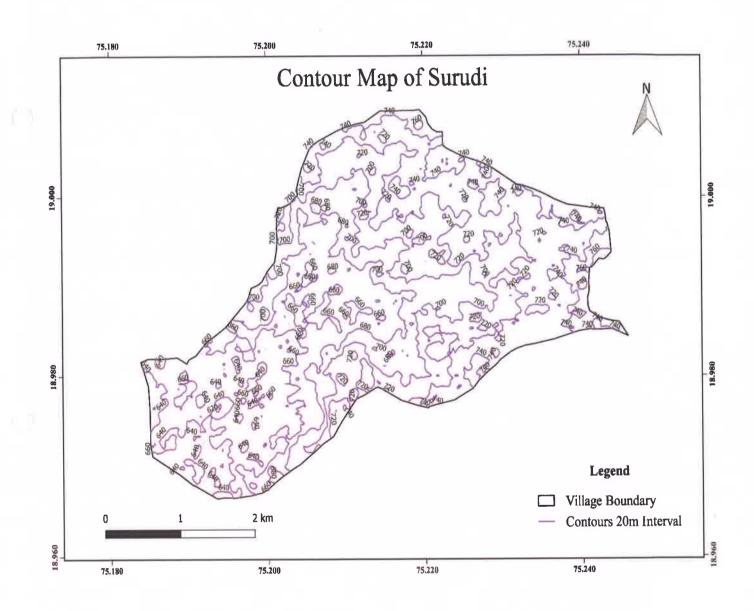
GIL 21 Weathered sto FI 13A UIC 2017 31: Not the full Water full Hard at at A Movernal Basement 5 41 Fred 0 81 al The er Surro Basement ZOU Alte 8 b) Soll - Black / Yellow /Sandy ing region ET c) Existing watersheds structure 505 d) Effect of existing structures on watertable. -----e) Geological / Geographical effect on groundwater. of Compact Campart basalt Basement-Compatt a) Amygdatoldat Basalt **************** b) Vesicular Basait) Tachylytic baselt ********) Flow contact a) Dyke rock **************** ************)) Any remark about geological formation. Basement of the Lugivel). & Compan hard noch 1.

Litholog of Surdi Village

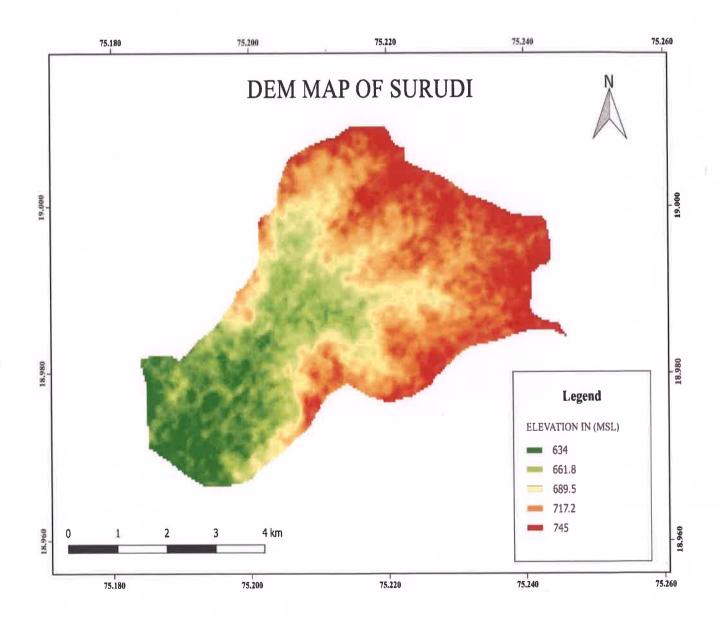


Litholog of Surudi Village

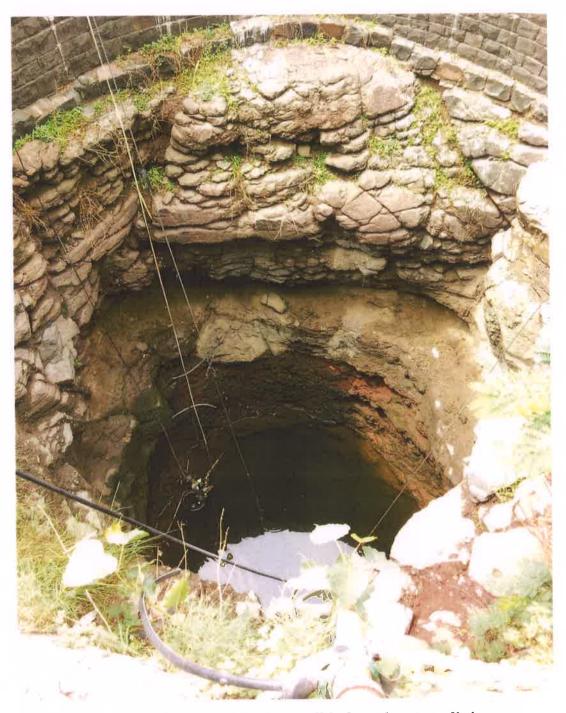
Contour Map of Surudi



DEM Map of Surudi Village



Field Photos



Weathered basalt exposed in dug well below the stone lining

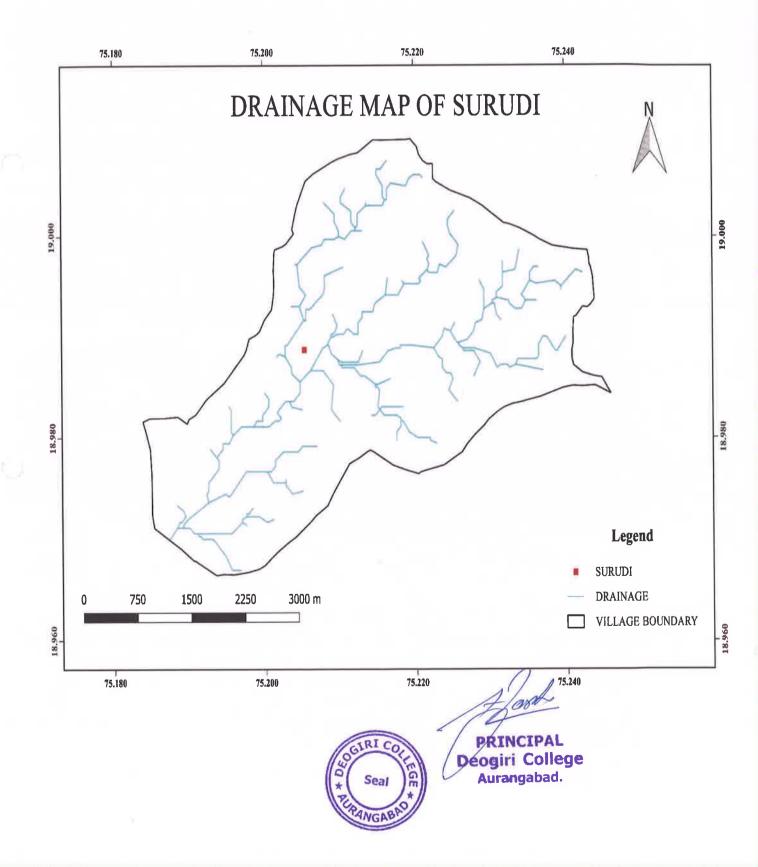


Photographs showing watersheds management at Surudi Village.



Photographs showing increase in water level at Surudi village due to watersheds management work.

Drainage Map of Surudi Village



Takalsing Village

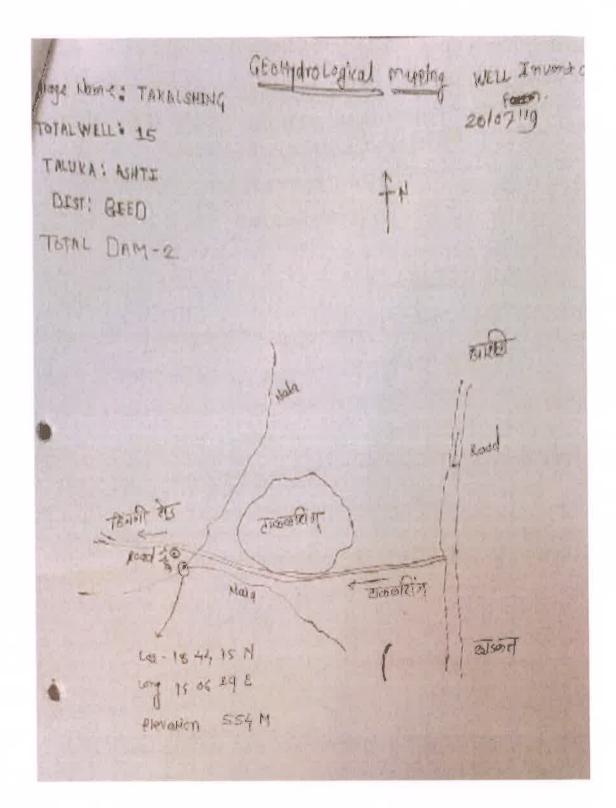
Takalsing is a Village in Ashti Taluka in Beed District of Maharashtra State, India. It belongs to Marathwada region. It belongs to Aurangabad Division. It is located 85 KM towards west from District headquarters Beed. 16 KM from Ashti. 280 KM from State capital Mumbai. Walunj (5 KM), Balewadi (6 KM), Shiral (8 KM), Dhirdi (9 KM), Pimpri (ashti) (9 KM) are the nearby Villages to Takalsing. Takalsing is surrounded by Jamkhed Taluka towards East, Karjat Taluka towards South, Patoda Taluka towards East, Karmala Taluka towards South. Google Earth image of Takalsing Village



Dug-Well Inventory

ाखाँच नातः टाकळ्शांग -ता आही - A. - Pts हेकुन पासर तालात: 02 ब्युवा चिहीने 15 जाक्ती व जास्तु वंधी : 575 भी जमीन कमी खंगी : 551 टाक्वसीन या जावासके रखुन देख पाछर तन्हान अन्द्रन त्योंकी कोकी जाजाता तत्वाती नावले उन्सुन कांगी दुरुसी व योकीय कता आवस्वक आहे. जर या देन तत्वाताचे क्रीकीवर केले मर, था मकावाच्या क्रान्स्का बाहुका विद्यासी याणासी वात्रकी बादू करते. ताककर्ता की भा गाताच्या वस्तीम आकी ब्राह्मीका वा तक्तका लेन नोक साहन या लाल्यावर वेद्यान्यांशी अमयत्र्यातना अमाहे. +M आही नाताल्या पूर्वेका दोना का पासर तान्द्राव आहेत आगि त्यादी क जाळ जादत नगरानु स्वाह allast 1 राजन्डरी की) -> जार राज्यवाली क्राक्रिकरू के यह कही राष्ट्रास्त्र किसीबी पाल्माई पानकी वाटेक्ड, प्रहाती रोड Tisday attest.

त्रोंच :- हाक्स्तीत्रा सांसुका :- अस्ति जिल्हा :- विड लहरा बहिरी -- 15 (rigor unsite Haird :- 02 जायलीत जासत उद्दी 1- 575 में कमिल कमि उन्ही 1- 551 में Fight flows it compare & prog Bachts Express Calculstings area in astich find insted an appointed to the per in mouth Setto I and to them proparties . and This flow is surgered and in the por which at all an the nurrinese 2 star downwood persectation of you'red. and a same and house if will alle doverestand interest bence there is domedation for proverties at grandwater due to anjoinded Varial from no. 2. 33 11 d proved, preminder & jointed, 50 there is change as protocore horizon - sugles were by constructing articles 5 - 1kenter 5



Well Inventory Form

Date - 20/07/2014 Village .diosci2151 Location of the well. 19., (Farmland, Bank of Nota, In the Nato, Riverbed) , Left 18-4425 M long 7506 29 E eluxion- 554 Summer Season Acre Type of withdrawals/Pump Out := Electrical motor Diesel Pump E. HP Time require for a full recharge / recuperation : Any other information Childe Nume of the Surveyor

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Name of the Surveyor		Blether	And the second second
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151 Geology of the well section पाझट् मन्ते व alm 22.00 2010/01/ 10201 4.1 5 m waathen sem. ampart Barat as Linning comenting linning b) Soil - Black / Yellow Sandy said Black e) Existing watersheds structure. Proclamation data in orighboring region. 13 SD Athe Barry This d) Effect of sussing structures on waterlable. couter percolate from Contact BEPT weathe annia e) Geological / Geographical effect on groundwater. n Compact basalt Ca paparation Bag & 21 2) Amygdaisidal Hasah B) Vesteular Basalt OF Hen -----Atsen Il Tacas fyrie basalt Absent Delen contact Anydelada 200 TEEN Harris a) Dyke rock (an irra and that i that any shake being a May remark about geological formation. Attirel and the second s Judrothermely. Melent

Geohydrogeological mapping of _____ Tahsil District Beed undertaken by NAAM Foundation and Chatrapati Shahu Gramin Vikas Shikshan Sanstha Aurangabad

Well Inventory Form	
Village	Date. 20109/2019
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Time require for a fail recharge / recuperation : (Rany search - 4 - Her, waster - 44 - Her; Summer - 4 Any other information	Org-Hrs) Stiliet Signature
s m jewsen	

Geology of the well section 81 Lom consecution in seit 10 ·民勤会推行为 TM MCATC Al Linsing With the state of linni red STATEMENT CONTRACTOR OF STATEMENT b) Soil - Binck / Vellow Sandy PARTICIPATION NEW YORK OF THE PARTY OF THE P Sail a ack THE REPORT OF THE PARTY OF THE c) Deisting watersheds structure/ Preclamation dam in neighboring region. erce ichimn Sam d) Effect of existing structorys on wetercolds. min Of eared PROTECONSISTENTIAL PROPERTY. e) Generation / Construction of the Party and the state narcal C22.4 a) Gent giest / compragnical effort the groundwater. Surlate a constant for some start plane. provenue Bassellind Summe FROBERT atten St annon and 20 SAGI al Arrygdaloidal Basalt mydaktad THE PERSON NEEDED IN THE PERSON NAMED 710 ----b) Vasicular Busalt Chig Continue ff Tuckylytig barate Assent ------1) I Tom constact Absent ----------by Llyba route ahigen -----I) Any remark showt goological formation. -----Assessment and a substance of a linear second substance of the second seco

Well Inventory Form

Date - 0.0 /07 /2019 Village -----Gut No. Name of the Farmer HARLE BURY Well No. 25 Location of the well. 199 (Formland, Bank of Naia, In the Nala, Riverbedj Lat 16:43 52 EV Lung 75 OC IDE Hurten 552 Use :- Drinking Irrigation Acres, Bordeniture. (2) 3. Summer Seaton Acre Time require for a full recharge / recuperation : Any other information Dere Signature

Name of the Surveyor

Geology of the well section GL Qal. construction S. 101 g m heather cr O's 11 m 0 hm golabid w 00 dam b) Littning tement fin nike b) Sail - Black / Yellow /Sandy Construction and the second se Blittle gent r) Existing watersheds structure/ Preschanation dam in neighboring region. dem -------Percela d) Effect of existing structures on watertable. the present water Classon alex Cf. e) Geslogical / Geographical effoct on groundwater. ------f) Compact basalt Aths m Pass-Arrangermanners gl Amygdaloidal Baralt Amygdeeloicus reger -----h) Vesicular Basalt Esen -----1) Tuchylytic insait Aberes. ---j) Flow contact -----Sta k) Dyke ruck ------i) Any remark about gealogical formation. ******

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Geology of the well section 31 \mathbf{a}^{\dagger} 1.27 am weathered Nadal 4 Any 11 weil hw a) Lioning Mo b) Sell - Bluck / Yellow (Sandy Realish Einck a area and a subsection of the second of the second s c) Existing watersholls structure? Proclamation dam in neighboring region. dam Kh. spream to the South of par d) Effect of existing structures on watertable. a en percella ZHE 140 e) Geniegical / Geographical effect on groundwater. ----------------------() Compact brook Other d 6 -----Angdaloideus g) Amygdalaidad Basait 2809 ------h) Voticular Basalt Late Station ---------i) Tachylytle basalt Abser ************** [] Flow contact the all ***** ----ic) Dyles reals Anstant ------h Any remark about geological formation. ***** and the boot op his birt of the PRODUCTION OF COMPANY CONTRACTOR DOWNLOAD CONTRACTOR

Date - 20/7/2 019 Village AT ASIA PTST Get Molet Well No. GE In Village Incation (1993) 19 User Personal/Community/..... Location of the well. 9992 (Farmining, Bank of Nala, In the Nala, Riverbed) Cat- 18 24 11 5} my 75 06 14 E elevation 554 Rainy Season . Ost Me. Acre Summer Season Acre Type of withdrawals Pump Out :- Electrical motor. Diesel Pump _____ Time require for a full recharge / recuperation : Any other information Slintre Name of the Surveyor Signature 9 m. Jork

Geology of the well section 61 - e soit am weathe 7 m anygdaloidad compact closely totuly 5 m hm Dwey Nala O a) Linning finning anshedren Roment b) Soll - Black / Yellow /Sandy Softwee tering 0.1 Philane e) Existing weitersheds strikers of Prochemation dam in antiphteoring region d) Effect of eristing structures on watertable. tasen Adsen e) Geological / Goographical offset on groundwater. 70/6/6 f) Compact hesale Barbard an Barbard Ras a) Amygdaladad Basale N Veren Dans Ally dalo Hard is betm weatherd car 1) Tachylytic huasie Hosen -----D Flow contact Lationad and design in the state k) Dyke rock h Asy remark shoul geological formation.

Well Inventory Form
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S.M. PATE

GL Geology of the well section Nation soil whethead 17 TRAL IL SCH 7 m ampust desely tanks Ail inting M.S.M. b) Soil - Blick / Yellow /Samily M9. 90.1 da c) Existing watersheds structure/ Fruchmation dam in neighboring region. d) Effect of existing structures on watertable. "5 There The state of the s and the second of the second o -----e) Ceningtont / Geographical affect on groundwater. -----Siefe to elected scitt. South. f) Compact bas it ------page It 21 Amy genaledal Basalt Astra desilon 12 met 00 h) Vesicular Basalt And a state of the state of the state of the httpla. 1) Tachylytic basels Theen -----() Flow contact Alsent ------------is) Dyte reck I) Any remark about geological formation.

v	Illage
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1	in Village Location Saulta. 10. Willage. User Personal/Community/
	Location of the well
	Year of the Digging
	Parapet Ht. B.V. Shape-Cicular/Square, Diameter of well
	Total Depth
	Percolation from : Bottom / Lateral Direction (in the case of Interal direction
	Use :- Drinking, Irrigation Acres, Horticulture; etc
()	Type of withdrawais/Pump Out :- Flectrical motor
	Time require for a full recharge / recuperation : (Rainy season
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	Name of the Surveyor Signature

Geology of the well section WRA. Holog him anyadalaidad sylimming. 310 by field - Mark / Vallan Sendy Redich GRIS 15 1) Labring maintaineds structure/ Proclamistion dam to welgeforeing segme of dis all Ban Charles and a constant of the second - Sim 1 ... Cherit. the grandrage and in an 1: 7 100 in of Control of Thomas and the for the state Aller, G Composit banald Restar. said! al it is doly . man file al alla C Amygelaladest Basalt migdalowed 12 ce ti 6 m by Vasicular Receit to unt thesent In Tenloying the Sanati starting support design As form , Black com and 1000 189 My grate torda Nº TO STAND 10 y Friedon + amile is they eramore should goological for any time.

Geohydrogeological mapping of Tahsil District Beed Indertaken by NAAM Foundation and Chatrapati Shahu Gramin Vikas Shikshan Sanstha Aurangabad

Dale . . 20/17/ 20/4 Allage Black Rive In Village Location South 10 Millage. User ... Personal Community!..... Location of the well. 1470., (Formland, Bank of Nola, In the Nola, Riverbed)..... oelowing 564 to early season creation winter 6 202 . winner por Summer Season All Acre Type of withdrawals/Pump Out :- Electrical motor Diesel Pump S. HP. Time require for a full recharge / recuperation : Any other information Name of the Surveyor S.m Tork

Geology of the well section Toikkey 2 . Sm al Lineing Contrainenteres 110 or treatment of the rest of th b) Sell - Black / Vollars Sandy Bleek and the set of the set Hicet soil -----------e) University watershole structure." Proclamation dam in insighboring region. a) Eller at retaining strantinees on the constantion of the strange of the strang CONCERCE. Je & Sellistical CH. CH. 17.9 11an Andrew Street, and and a street of o) Geological? Geographical effort on groundwater. The second secon Address of the second f) Crimssort busidt Corfeel trady . Talhten ---------Sugar h) Vesteular Barale J. 27 alast -----Hugen t -----O Tachylytic basale At State PROPERTY PARTY AND INCOME. S Flow contact frem fi JULL 7.81 kallstar evich a racalculat -----I Any remark shout goological formation. -----Jape of dreation Bast to stat

Dute - 20/7/2019 Village Pier STATE 10 10 Lat - 18 43 557 long 75 06 468 Placet 564 Rainy Season Acre Type of withdrawals/Pump Out = Electrical motor Diesel Pump .3. IP Quantity of withdrawals .- Daily In Seasonal Q........ cc metar I day Time require for a full recharge / recuperation : Any other information Name of the Surveyor S in Trefs

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Well Inventory Form

Date - 20/07/2019 Village dip of 101. Year of the Digging 19.20, Construction year. 19.79. If yes type Stone [AL 18 4 416N Parapet Ht. 17" Shape-Cicular/Square, Diameter of well. A.H. - xry 75 05 496 in rainy season winter by summer Dest m Dest 560 Fainy Season S. Acre Winter Season Acre Summer Season N. Acre Time require for a full recharge / recuperation : (Rainy season J. Hrs; winter 24 Hrs; Summer Arry Hrs.) Any other mformmon Name of the Surveyor

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Geology of the well section R.A. -im set fenstauction ign anathered fenstauction 5 m compact basalt 011 a) Linning. linning Stone ----top hered - Stitucte / Wattimer Statesty of the local division of the second state of the Blass soil present 15 10 PROPERTY AND ADDRESS OF THE OWNER a) Enlating restorations at active prostanties from in neighborstop region. The Lot Provide and And Andrews & RESALL 1-35-14 er Constant of Congraphical attent on generalization. 1 Waller k C. C. Comprover 1. a state Lerr Part General F Lege 015 an appropriate participant de marce E) Amyerialaidal Bosali -----Abs evel -----h) Vestendar Bocalt Absent In a real party of the party of - ---is Tachytuthe basalt Absent Construction frame bearing on I Flow courses Andrewskinster spinster support and appent Sprinke rack -----Absent Concerns on the second state of the second state of the IT Any remark alimet prological formation.

dertaken by NAAM Foundation and Chatrapati Shahu Gramin Vikas Shikshan Sanstha Aurangabad

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Geology of the well section Ch. Wenth for 1-11 Road ASNA 6151 a) Liuning manner Milly ----b) Sell - Black / Yellow Randy 54:11 c) Unisting watersheds structurer Proclamation dam in notyhboring region. dy Effect of existing structures on watertable. Nam Verscelation BOGA s) Geological / Geographical effect on groundwater. LECHOY rex to ation dam-n Cumpact basalt Engast Easelt al tical f --------gi Asuygdaluidat Basale Cellinger. ----fim is. Connact anc frank age of h) Vesicular Resalt ------i) Tarhylyric bushl Msen -----J) Flow contact Attient pre 22824 and cut ------k) Dyke rock -------i) Any remark about geological formation.

Andertaken by NAAM Foundation and Chatrapati Shahu Gramin Vikas Shikshan Sanstha Aurangabad

Villege "Hostophy" Date . 20/07/19 Vear of the Digging 2-1215., Construction year 1.1.9, If yes type...... w 18 44 2611 "ung 75 07 36 569 derito Summer Season _ Child __ Acres Time require for a full recharge / recuperation : (Rainy searces To Hrs. willer 2.4 Hrs. Summer 9 Hrs.) Any other information Signature Name of the Surveyor About Suboon

Geology of the weil section di. XX a pect soll Found bodly jointed basalt 5 m ap Linning 10. b) Soil - Black / Yellow /Sandy present Black 15 crie. c) Existing watercheds structure! Proclamation date in neighboring region. percelation dam 5 present at 500 in -10 East 3 het of existing structures on watertable. dug west d) Effect of existing structures on watertable. a literature of the same states of These is no. 10 +) Geological / Geographical effert on groundwater. ampet COM TOTOL Casel O Conseptent bounds TO tas evelu 506 Lins - Comfeet 2) Amygdaleidar Basale Absen -----h) Vestcular Basole 44.52 I) Techylysiz busalr HOSEN [] Flow contact Ansen a contraction ------Ohsen Dvice rock Any remark about geological formation. due conficiency Ther. Voar dans reratation

dertaken by NAAM Foundation and Chatrapati Shahu Gramin Vikas Shikshan Sanstha Aurangabad

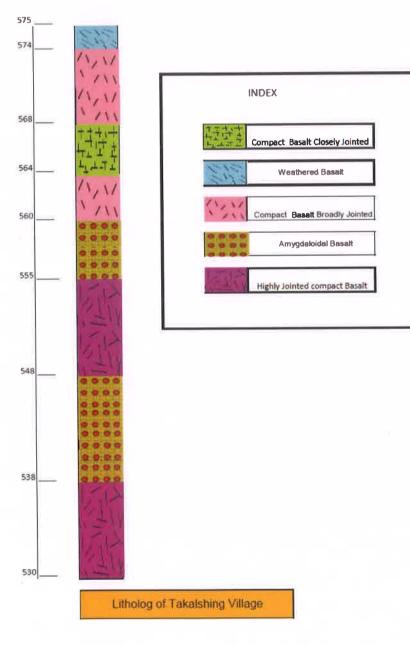
Well Inventory Form Date - 2017 12610019 illage and stati In Village Location Last to yillag. User ... Personal/Community/..... Lost -1844 31 N 10mg - 7507 45E (BThesher vision from other sources brought to this well if you armore and Hes of pumping Planeuplan 570 Percolation from : Bottom / Lateral Direction (in the case of lateral direction) Rowy Season Acre Winter Season _____.Acre Summer Season dr. Acre Type of withdrawals/Pump Out :- Electrical motor Diesel Pump SCHP Time require for a full recharge ! recuperation : Any other information d'heilines Name of the Surveyor Sin garry

Geology of the well section 61 Am soil nam - Ana huerco 1 m + weath e. fractine Borracel Casalt 杨 1000 Em al Lining. inning renen ----bi Soil - Black / Yellow Sandy h an is .50 2 11 c) Existing watersheds structure/ Proclamation dam in neighboring region. present to cost ensister. dam is - D 128 202 d) Effect of easing structures on wateriable. weelt ered perk from ------e) Geological / Geographical effect on groundwater. AND ADDRESS OF ADDRESS OF O Compact basale -13 tool. anged. *JEPHene* 17-15 peell. al Amygdeleiddal Uasalo Asen h) Vesicular Basale thef. -----********************************* Il Tachylytic basalt Alany JI Flow contact Ruck ----k) Dyke mek es light GAny remark about geological formation cuell excuation al Thes to the compare 111

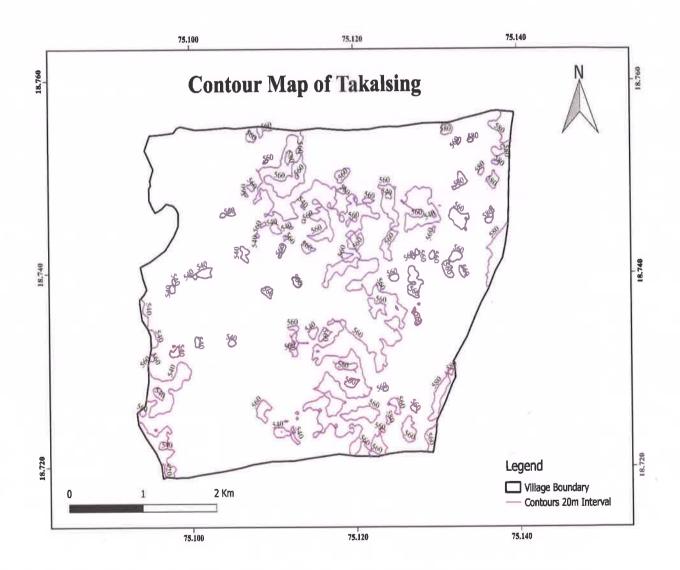
Village - CEURITATOT" Date - 20/07/20 Gut No. 31 In Village Location ERSt. User ... Personal/Community/ (at 18 42 39 N ' long 75 07 57 E Devation 975 Rainy Season Acre Winter Season Z Acre Type of withdrawals/Pamp Out :- Siectrical motorDierei Pump 3. HP Time require for a full recharge / recuperation : Any other information Signature Name of the Surveyor 5 m Toste

Geology of the well seenion GL. 1 mound Rock minteel 13 Broad para Bi ħ m a) Linalag A10. in test AND ADDRESS OF ADDRESS OF ADDRESS b) Soll - Black / Yellow Sandy absen soid ----------c) Existing watershedt structures Preciantation dam in neighboring region. d) Effect of existing elevetures an waterlabie. There effect 1.10 a) Geological / Geographical effect an groundwater. and the second s ------O Compact baselt Barcolt Retal CONTRACTOR g) Amy gdabiddal Hasalt 3,0 CONTRACTOR DE LA CALCALA DA CALCALA -----h) Verticular Russit Absessent -----------If Tachylytic hasalt Absent 1 -------. [] Flow contact Absen k -----------k) Dyke ruck 1) Atsent I) Any remark about genlogical fermation. due to total Confait Bagal + time racquired to Rech mose ache

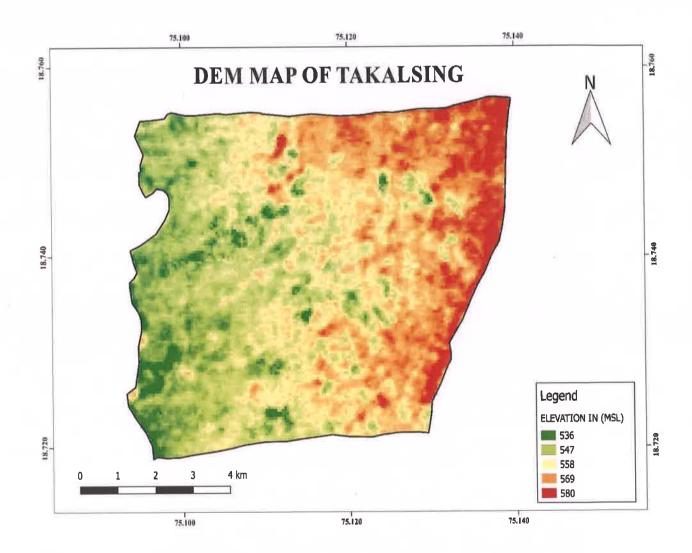
Litholog of Takalsing Village



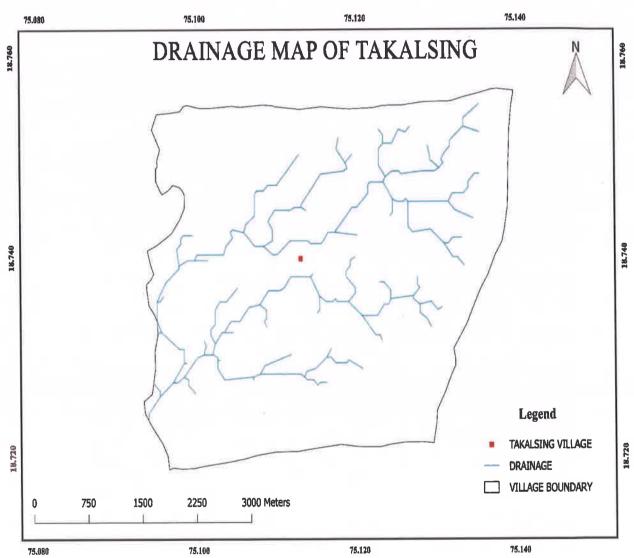
Contour Map of Takalsing



DEM Map of Takalsing Village



Drainage Map of Takalsing Village

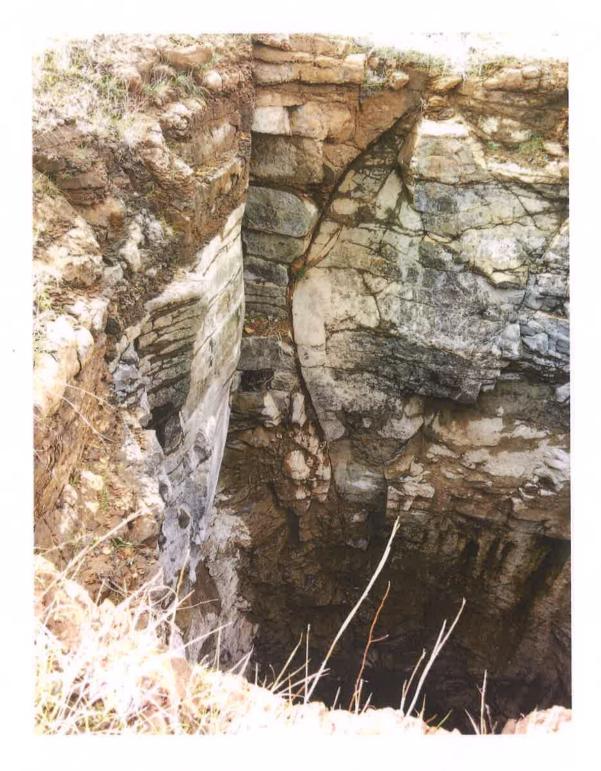




Photographs showing watersheds management at Takalsing Village.



Photographs showing increase in water level at Takalsing village due to watersheds management work.



e.

Fractured Compact Basalt Flow with broadly spaced jointing pattern



PRINCIPAL Deogiri College Aurangabad.