महाराष्ट्र जलसंपत्ती नियमन प्राधिकरण

Maharashtra Water Resources Regulatory Authority (MWRRA)

9th Floor, Centre-1, World Trade Centre, Cufffe Parade, Mumbai - 400005. Tel.: 2215 2019 Fax.: 2215 3765 E-mail: mwrra@mwrra.org

No. MWRRA/legal/2015/Case No 7 of 2015/**641** Date: 27/10/2015

CASE NO.7 OF 2015

In the Matter of

Releasing water from Kukadi Complex into the Ghod dam as per Sections 11 and 12 of the MWRRA Act, 2005 and carrying out equitable distribution for the Ghod sub-basin and deciding water quota for Ghod.

Shri. Rajendra Shivaji Rao Nagawade
At Post Wangdari, Taluka Shrigonda, District - Ahmednagar
&
Shri. Shrinivas Baburao Ghadge
At Post Inamgaon, Taluka Shirur, District - Pune
Both through Advocate S R Palande, Pune

..... **Petitioner**

Vs

The Secretary (WRM & CAD), State of Maharashtra & others

Please find herewith a copy of MWRRA Order dated 27/10/2015 in the matter.

Encl : As above (22 pages + Annexes)

(Dr. Suresh Kulkarni)
Secretary

Copy for information and necessary action to:

1. Secretary, (WRM & CAD) Water Resources Department, Madam Kama Marg, Hutatma Rajguru Chawk, Mantralaya, Mumbai – 400032.

2. Chief Engineer, (Specified Project), Water Resources Department, Sinchan Bhavan, Barne Road, Mangalwar Peth, Pune - 411 011.
3. Superintending Engineer & Administrator, CADA, Sinchan Bhavan, Barne Road, Mangalwar Peth, Pune 411 011.
4. The Collector, Collectorate Office, Vidhan Bhavan, New Building, Bund Garden, Pune - 411001.
5. The Collector, Collectorate Office, College Area, Ahmednagar - 414001.

Copy for information to:

1. Advocate S R Palande, Lawyers Chamber No A-1, District Court Campus, Shivajinagar, Pune 411005 *for Shri. Rajendra Shivaji Rao Nagawade, At Post Wangdari, Taluka Shrigonda, District - Ahmednagar & Shri. Shrinivas Baburao Ghadge, At Post Inamgaon, Taluka Shirur, District - Pune.*
2. Shri. Babanrao Pachpute, Ex. Minister, Mauli Nivas, Shringonda, District Ahmednagar 413701.
3. Shri. Vijay Bhaskarrao Auti, MLA, Parner. At Post Parner, District Ahmednagar 414302.
4. Shri. Sharaddada Sonavane, MLA, Junnar, Raigad, Chalakwadi (Pimpalvandi), Taluka Junnar, District Pune 412412.
5. Shri. Dilip Dattaraya Valse Patil, MLA, Ambegaon, 14 River View Apartment II, Pune Nagar Road, Yervada, Pune 411006.
6. Shri Devdatta Jayantrao Nikam, Chairman, Bhimashankar Sahakari Sakhar Karkhana Ltd, Pargaon, Taluka Aambegaon, District Pune 410504.

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Versus

1. Secretary, (WRM & CAD) Water Resources Department, Madam Kama Marg, Hutatma Rajguru Chawk, Mantralaya, Mumbai – 400032.
2. Chief Engineer, (Specified Project), Water Resources Department, Sinchan Bhavan, Barne Road, Mangalwar Peth, Pune – 411 011.
3. The Collector, Collectorate Office, Vidhan Bhavan, New Building, Bund Garden, - 411001.
4. The Collector, Collectorate Office, College Area, Ahmednagar – 414001.

..... **Respondent**

M.W.R.R.A. MUMBAI

ORDER

CORAM : Smt. CHITKALA ZUTSHI, MEMBER (Economy)
Shri. S.V.SODAL, MEMBER (Engineering)

Date: 27 October 2015

A Petition was received from Shri. Rajendra Shivaji Rao Nagawade at Post Wangdari, Taluka Shrigonda, District - Ahmednagar and Shri. Shrinivas Baburao Ghadge at Post Inamgaon, Taluka Shirur, District - Pune through Advocate S R Palande dated 04/09/2015. The prayers of the petitioners in brief are as below;

a) Water quota for irrigation and drinking water be fixed for the Ghod project and the water rotation program be fixed for distribution of water in the Ghod command for irrigation.

b) Equitable distribution for Ghod sub-basin be carried out by releasing water from Kukadi Complex and upstream K T Weirs into the Ghod dam as per Section 12 (6) (c) of the MWRRA Act, 2005 and water quota for Ghod be decided

c) Program for distribution of water in the Ghod command be prepared as per provision of Section 12 (6) (b) of the MWRRA Act, 2005.

2 **Hearing on 01/10/2015**

a) During the hearing, the following stakeholders submitted their applications for intervening in the matter and the Authority accepted their applications as Interveners.

i) Shri.Babanrao Pachpute, Ex. Minister

ii) Shri. Vijay Bhaskarrao Auti, MLA, Parner.

iii) Shri. Sharaddada Sonavane, MLA, Junnar.

iv) Shri. Dilip Dattaraya Valse Patil, MLA, Ambegaon.

v) Shri Devdatta Jayantrao Nikam, Chairman, Bhimashankar Sahakari Sakhar Karkhana, Pargaon Taluka Aambegaon, District Pune.

b) The Petitioner's Advocate S R Palande, above Interveners and the following officers from the Respondent's side were present at the time of the hearing.

i) Shri. K. B. Kulkarni. S. E. & Administer, CADA Pune

ii) Shri S. N. Koli, E. E., Kukadi Project Div. No. 2, Ahmednagar.,

iii) Shri. G. B. Nannor, Kukadi Project Div. 1, Narayangaon.

iv) Shri. D. L. Pardhi, Desk Officer, WRD, Mantralaya.

c) The Authority heard the plea of Advocate Palande and Shri Babanrao Pachpute who narrated their demands regarding releasing water from projects upstream of Ghod Project viz. from Kukadi complex and the 66 KT Weirs in to Ghod Dam by implementing the sections 12(6) (C) of the MWRRA Act 2005. Shri Pachpute has also requested the Authority to release one rotation of water from the upstream dams & K. T. Weirs in the month of June to September in the Ghod Dam.

d) Having heard the plea of the Petitioners and the Interveners, the Authority directed the S.E. & Adm. CADA, Pune of WRD to furnish the following information by the 8th October, 2015 in one notarized copy plus six zerox copies and send one copy to the Petitioners and the Interveners, or their Advocates.

i) Para wise reply to the say of the Petitioners

ii) Para wise reply to the say of the Interveners

iii) The details about the cropping pattern and water use in Kharif/Rabbi & Hot whether as per the latest approved project report of Ghod Project & each project in Kukadi Complex.

e) The next and final hearing was scheduled for the 9th October, 2015 at 3.00 P.M. in the Conference Hall of the Maharashtra Water Resources Regulatory Authority, Mumbai.

3 Final Hearing on 09/10/2015

a) Shri K B Kulkarni, Superintending Engineer and Administrator CADA, Pune on behalf of the Respondent made his submission, a notarized copy of which he had already made available to the Petitioners and interveners. In his submission, he gave parawise replies for the points raised by the petitioners in their affidavit and also for the points raised by the Interveners. The substance is as follows,

i) The Krishna Water Dispute Tribunal (KWDT) award has permitted the utilization of 38.90 TMC water on the basis of 75% dependability yield out of 42.90 TMC at Kukadi complex. If Ghod project is also taken into consideration the total water available at 75% dependable yield is 51.30 TMC for the two projects combined. The allocated share of Ghod out of that is 10.40 TMC. In short the permissible use for Kukadi complex 38.90 TMC whereas that for Ghod is 10.40 TMC in Ghod sub-basin.

ii) The total storage capacity of 66 K T weirs is 69.954 Mm^3 (2.47 TMC). Due to poor rains during the 2015 monsoon the total storage in 66 K T weirs is 20.67% i.e. 14.458 Mm^3 (0.51 TMC) as on 30/09/2015. The contention of the Petitioners that water is obstructed to the full capacity of these K T weirs is therefore not true as on 30/09/2015.

iii) The Kukadi Complex and the Ghod project are two separate projects. Ghod is completed far earlier than Kukadi complex. There is no provision in the project report of Kukadi project to release water into Ghod reservoir.

iv) Due to poor rains, the command area of the Kukadi complex is severely affected and drought like situation exists. Therefore water was released from Kukadi complex storages to save the Kharif and also to meet the drinking water requirement as demanded by the Collector. Water was released into the Kukadi command to which

approval was accorded through Government WRD letter dated 08/09/2015 (**Annex I**).

v) Statement showing storage status and requirements there from for equitable distribution (2015-16) is enclosed as **Annex II.**

b) Shri. Vijay Bhaskarrao Auti, MLA, Parner, Shri. Sharaddada Sonavane, MLA, Junnar, Shri. Dilip Dattaraya Valse Patil, MLA, Ambegaon and Shri Devdatta Jayantrao Nikam, Chairman, Bhimashankar Sahakari Sakhar Karkhana, Pargaon Taluka Aambegaon, District Pune have requested that since there is hardly 50% storage in Kukadi complex storages during this year and since water is also required for drinking purposes for the villages in the command of Kukadi Complex which spreads across Pune, Ahmednagar and Solapur districts and since the release of water from Kukadi complex will lead to transmission losses, no release should be made. Shri. Dilip Dattaraya Valse Patil, MLA, Ambegaon specifically mentioned in his application that there is no provision of releasing water from Kukadi complex to Ghod dam in approved Kukadi project report. All these four interveners objected to the release of water from Kukadi complex storages into Ghod project in the present year.

c) Shri. Babanrao Pachpute, Ex. Minister supported the stand of the Petitioner and also further mentioned during the hearing that 66 K T weirs are obstructing the free flow of water coming into the Ghod dam during kharif season. Because of this, the Ghod reservoir is not receiving water during early kharif. This year no water was received in the Ghod reservoir upto 04/09/2015. He also mentioned that there is about 10 TMC of water use in approved Ghod project. There was one kharif rotation in Kukadi command but no kharif rotation in Ghod command in this year. The interests of the beneficiaries of the Ghod command needs to be protected. This can be done by not putting the needles in 66 K T weirs before a sizable quantum of water is received in the Ghod reservoir. This will be in line with the principle laid down for equitable distribution in MWRRA Act. He also suggested as a long term measure to link Manikdoh reservoir to Dimbhe dam as Dimbhe catchment receives good rainfall compared to Manikdoh catchment. MWRRA should come out with a proposal as per provision in the

MWRRA Act so that there will be justice to the stakeholders on both sides and will help to maintain harmony in the long run.

d) Shri K B Kulkarni Superintending Engineer and Administrator CADA, Pune said on the points raised by the interveners that there going to be more transmission losses if water is released from Kukadi complex to Ghod dam.

4 Shri K B Kulkarni Superintending Engineer and Administrator CADA, Pune made available authentic documents giving details of designed water use, crop pattern for Ghod project and Kukadi Complex on 13/10/2015 (**Annex III A & B**) and details of planned use of 66 K T weirs on 14/10/2015 (**Annex III C**). This data was collected from KWDT office, Pune which was submitted on behalf of Maharashtra by KWDT office before the KWDT - II as planned water use from these projects.

5 Issues.

5.1 After hearing the parties and after considering all materials placed on record, it is seen that the following issues arise for consideration in the present matter:

i) Whether the equitable distribution of water in the Ghod Sub-basin can be decided by the MWRRA under the provisions of the MWRRA Act and what are the principles for the same?

ii) Whether the equitable distribution of water in the Ghod Sub-basin should be made under section 11 (c) or section 12(6) (c) of the MWRRA Act, 2005?

iii) Whether the 66 K T weirs upstream of Ghod reservoir provide for kharif use in their administrative approval?

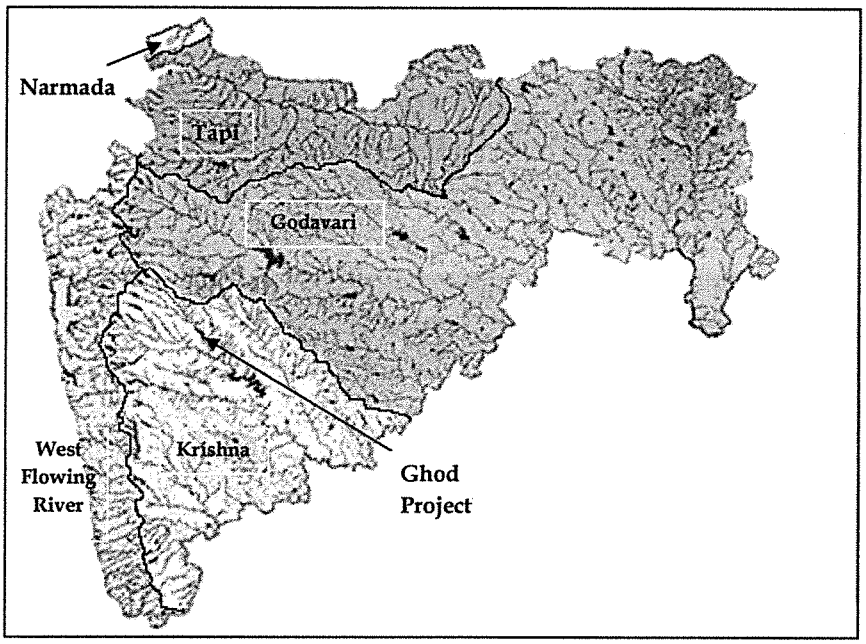
iv) Whether kharif use is planned in Ghod project as per the latest approved water planning?

v) Whether inflow of water in the Ghod reservoir is affected by the construction of 66 K T weirs upstream of Ghod reservoir and their impact on planned dependability?

5.2 Before dealing with the issues framed above, it would be useful to give an overview of projects in the Ghod sub-basin, for a proper appreciation of the matters in question. The source for this is the information submitted by Shri K B Kulkarni, Superintending Engineer and Administrator, CADA, Pune.

5.2.1 Maharashtra State is geographically divided into 5 river basins, namely the Godavari, Krishna, Tapi, Narmada and the West flowing rivers of Konkan. A river basin is a natural hydrological unit within the territorial limits of which all activities relating to water are interdependent. A Sub-basin is a hydrologic sub-unit of a river basin within the State.

A map showing the five river basins of Maharashtra



The Ghod River is the major tributary of the Bhima River which is a part of the Krishna basin. The Ghod River rises in the Western Sahyadri Ghats at Gavadewadi in Ambegaon Taluka of Pune District at about RL 1000 m. Its tributaries are the Kukadi, Mina and Aar (Pushpavati) which also originate in the Western Sahyadri Ghats. The places of origin of all these rivers lie in a good rainfall region. The length of the Ghod River upto the Ghod dam is 170 km. It joins the Bhima River near Daund in Pune District. This sub-basin has an area of about 3626 square kilometer and is spread over Ahmednagar and Pune Districts. Ghod Project has been planned to give benefits to drought prone areas of Ahmednagar District. The project is a multipurpose project,

that is, its water is used for drinking and irrigation. At present about a population of 1.28 lakh is dependent on the Ghod reservoir for drinking water.

Water, a prime natural resource, is used for domestic, irrigation, industry, power generation, navigation and other uses. Water, which was once abundant, has now become a scarce resource due to rising demands. The distribution of water resources is also uneven across the State.

The State Water Policy formulated by the Government of Maharashtra in 2003 envisages that the water resources of the State shall be planned, developed and managed adopting the river basin and the sub-basin as the unit. This policy states that the distress in water availability during deficit periods shall be shared equitably amongst different sectors of water use and also amongst upstream and downstream reservoirs.

5.2.2 The schematic diagram of the Ghod sub-basin which is a part of the Bhima sub-basin is as below:

Ghod Dam
Yedgaon Dam
Pimpalgaon-Joge Dam
Manikdoh Dam
Vadaj Dam
Dimbhe Dam

The Ghod sub-basin consist of the Ghod Project on the Ghod River and the Kukadi Complex having five dams that is Dimbhe on Ghod River, Vadaj on Mina River, Manikdoh and Yedgaon on Kukadi River and Pimpalgaon Joge on Aar (Pushpavati) River. In addition to these there are 66 K T weirs on these rivers upstream of Ghod reservoir.

A) The Ghod project has been initially Administratively Approved on 12/07/1954. The construction work of this project started in 1954 and was completed in 1965. The Salient information of Ghod Project along with water planning and annual utilization as received from CADA Pune is enclosed as **Annex III A.** The project provides irrigation to a scarcity area of 20,500 hectares in Shirur Taluka in Pune district and Shrigonda & Karjat talukas of Ahmednagar district with perennials limited to 1000 ha as approved by the Government on 17/05/1985. The Annual utilization in TMC is as below,

Use	Annual Utilisation in TMC
Irrigation	9.78 (Kharif 3.70, Rabi 4.08, Hot Weather 2.0)
Drinking	0.30
Industrial	0.32
Total	10.40

B) The Kukadi Project is Administratively Approved on 08/11/1966. The project is an integrated project comprising the five dams (Dimbhe on Ghod River, Vadaj on Mina River, Manikdoh and Yedgaon on Kukadi River and Pimpalgaon Joge on Aar (Pushpavati) River). The project provides irrigation to a scarcity area of 1.46 lakh hectare in Pune, Ahmednagar & Solapur district with eight monthly cropping pattern i.e. irrigation only to kharif and rabi crops. The Salient information of Ghod Project along with water planning and annual utilization as received from CADA Pune is enclosed as **Annex III B.** The Annual utilization in TMC is as below,

Use	Annual Utilisation in TMC
Irrigation	30.855 (Kharif 11.61, Rabi 18.36, Hot Weather 0.88)
Drinking & Industrial	2.780
Transit losses for release to Yedgaon	1.100
Evaporation Loss	3.485
Total	38.220

C) The K T weirs (66 in Number) - The water use planning of 66 K T weirs upstream of the Ghod reservoir as can be seen from **Annex III C** only provides for rabi crops with 90.20 Mm^3 (3.18 TMC). No kharif planning is provided on these weirs.

6 Analysis of the Issues:

Against the background given in Para 5 above, we proceed to answer the issues raised therein;

6.1 Whether the equitable distribution of water in the Ghod Sub-basin can be decided by the MWRRA under the provisions of the MWRRA Act and what are the principles for the same?

&

Whether the equitable distribution of water in the Ghod Sub-basin should be made under section 11 (c) or section 12(6) (c) of the MWRRA Act, 2005?
The Petitioners have made their application before MWRRA seeking equitable distribution of water in Ghod sub-basin as per section 12 (6) (c) of MWRRA Act, since the beneficiaries of the Ghod command are adversely affected because of the obstruction to the flow of water in 66 K T weirs on the upstream side of the Ghod Project. Therefore, water from dams in Kukadi complex which are located on the upstream side of Ghod Project should be released in Ghod Dam. In first week of September 2015, there was no water in the live storage of Ghod Project.

As can be seen from Para 5.2.2 A, the water planning of Ghod project provides for 3.70 TMC of Kharif use, Rabi 4.08 TMC & Hot Weather 2.0 TMC.

The Petitioners have requested for equitable distribution of water to overcome the situation as provided in the MWRRA Act.

The MWRRA Act provides for equitable distribution under section 11(c) and 12(6) (c) of the MWRRA Act, 2005. It is necessary to analyze the provisions of sections 11(c) and 12(6) (c) of the MWRRA Act, 2005. These sections are as follows:

Section 11(c)	Section 12(6)
The Authority shall exercise the following powers and perform the following functions, namely:- …….. (c) to determine the priority of equitable distribution of water available at the water resource project, sub-basin and river-basin levels during periods of scarcity;	The Authority shall fix the Quota at basin-level, sub-basin level or project level on the basis of the following principles:- (a) for equitable distribution of water in the command area of the project, every land holder in the command area shall be given Quota; (b) the Quota shall be fixed on the basis of the land in the command area: Provided that, during the water scarcity period each landholder shall, as far as possible, be given Quota adequate to irrigate at least one acre of land; (c) in order to share the distress in the river-basin or sub-basin equitably, the water stored in the Reservoir, in the basin or sub-basin, as the case may be, shall be controlled by the end of October every year in such a way that, the percentage of utilizable water, including Kharif use, shall, for all Reservoirs approx be the same

A comparison of the above sections of the 2005 Act shows that the provisions of section 12(6) (c) require the Quota to be fixed at the basin-level, sub-basin level or project level. On the other hand, section 11(c) is an independent provision, for determining the priority of equitable distribution of water during periods of scarcity, and is separate from the function of fixation of the Quota under Section 12 (6)(c).

ANALYSIS OF SECTION 12(6)(c)

The various elements of Section 12 (6) defined in section 2(1) of the MWRRA Act are as follows.

*"(s) "**Quota**" means a volumetric quantity of water made available to an entitlement holder, which is derived by multiplying an Entitlement by the annual or seasonal allocation percentage;"*

*"(i) "**Entitlement**" means any authorization by any River-Basin Agency to use the water for the purposes of this Act;"*

*"(a) "**Aggregate Bulk Water Entitlement**" means an aggregate of Entitlements issued to a group or association of Water User Entities for the purpose of joint management of the Bulk Water Entitlements;"*

*(e) "**Bulk Water Entitlement**" shall mean the volumetric entitlement to a share of the surface water resources produced by a project, river system or storage facility, for a specific category or Categories of Use, and deliverable within a specific period of time as specifically provided in the order granting the Entitlement;"*

*(l) "**Individual Water Entitlement**" means any authorization by the Authority to use the water other than Bulk Water Entitlement or an Aggregate Bulk Water Entitlement;"*

*"(zb) "**Volumetric**" means a measurement of water on the basis of volume as per the norms of the Bureau of Indian Standard;"*

*"(zc) "**Water User Entity**" means any Water User's Association, Utility, Industrial User's Association, other User's Association or any other Group (or Individuals) which is authorized by the Authority to receive and utilize a water Entitlement;"*

It can be seen from the aforegoing provisions of the 2005 Act pertaining to the fixation of "Quota" that the same is dependent upon the measurement of water and that Quota is to be made available to an Entitlement holder. Section 2(zc) entitles a Water User's Association, Utility, Industrial User's Association, other User's Association or any other Group (or Individuals) to receive and utilize a water Entitlement. Section 31A of the Maharashtra Water Resources Regulatory Authority (Amendment & Continuance) Act, 2011 restricts the grant of entitlement only to these areas where inter alia,

delineation under the Maharashtra Management of Irrigation Systems by Farmers (MMISF) Act, 2005 is made. Section 31A reads as follows:

"31A. Notwithstanding anything contained in this Act or any other law for the time being in force, the term "Entitlement" shall apply only to such areas where compliance of all relevant provisions including delineation under the Maharashtra Management of Irrigation Systems by Farmers Act, 2005 is made.

Explanation.- In respect of the areas where the Maharashtra Management of Irrigation Systems by Farmers Act, 2005, has not become applicable, section 78 of that Act shall apply and be effective."

The MMISF Act, 2005 provides for the delineation of command areas of an irrigation project; command areas of a Water User's Association; command areas of Distributory Level Association' command areas of Canal Level Association; and lands under Project Level Association. Section 23 of the MMISF Act, 2005 provides as follows:

"23. (1) For every area of operation delineated under this Act or where a Water Users' Association for flow irrigation has been duly constituted under this Act, it shall be the duty of the Canal Officer to provide a proper measuring device or devices on the canal at the point of supply to Water Users' Association and ensure its proper working.

23.(2) The accurate flow measurement, the form of record in which it shall be entered into and periodic evaluation thereof; as well as the mode of ascertaining the volume of water for a period in which measuring device is out of order, shall be such as may be prescribed."

236 projects have been delineated by the Government of Maharashtra under the aforesaid MMISF Act, 2005. The command of Ghod Project has been delineated under these 236 projects and WUAs have been constituted under MMISF Act 2005. These WUAs are the entitlement holders for whom quotas are being fixed. Hence the provision of section 12 (6) (c) is applicable to the Ghod Project. However for operation of Section 12 (6) (c), the requirements in this section have to first fulfilled. This section reads as below,

12 (6) The Authority shall fix the Quota at basin-level, sub-basin level or project level on the basis of the following principles:-

(a……..;

(b) ……;

(c) in order to share the distress in the river-basin or sub-basin equitably, the water stored in the Reservoir, in the basin or sub-basin, as the case may be, shall be controlled by the end of October every year in such a way that, the percentage of utilizable water, including Kharif use, shall, for all Reservoirs approx be the same

The two terms viz. Distress and Percentage of utilizable water are not defined in the Act. The Maharashtra Water Resources Regulatory Authority (Allocation and Monitoring of Entitlements, Disputes and Appeals and Other matters) Rules, 2013, have been repealed by the State Government vide Official Gazette Notification dated 18/02/2014. As a result, the provisions that existed in the said Rules of "Equitable Distribution of Water during water scarcity" as well as the definition of "water scarcity" or "distress" cannot now be applied.

The percentage of utilizable water means the ratio of available water in Kharif and Rabi seasons to the designed water use as planned in the latest approved water planning.

DISTRESS :- **The Authority would intend to prescribe the definition of distress which will meet the basic needs of the drinking water, food crop requirement in Kharif and Rabi, and committed industrial use keeping in view the principle of distress to be shared by all reservoirs in the sub-basin.** The MWRRA is of the view that there should be some upper limit for the utilizable percentage of water during distress conditions in the lower reservoir for the consideration of sustenance and for practical considerations. An appropriate cut to drinking and industrial requirement should be applied as per the provisions in Para 2.8 (Drought management) of the State Water Policy regarding sharing deficit in water availability in sub-basin among upstream and downstream users as there is water deficit in Ghod reservoir. To meet these requirements, an approximate equitable distribution has to be resorted to in the sub-basin when the lower reservoir has utilizable water storage (including Kharif use) less than 65 percent of the designed water use. Transmission losses in the sub-basin have to be shared equitably by both upstream and lower reservoirs. Normally, transmission losses in the system while carrying out equitable distribution are of the order of about 25% to 30%.

Hence, if the actual difference between the percentage of utilizable water in the upstream reservoir and the lower reservoir is less than 15 percent, it will not be desirable to make any releases from the upstream reservoirs.

It will be logical to regulate the upper reservoirs as per the above guiding principles after taking review of the storage position in the upstream Kukadi complex and 66 K T weirs, storage in the Ghod reservoir and also accounting for likely contribution to the reservoir from the return rainfall (which normally occurs in the first fortnight of October) so that the equitable distribution of the available water among the upstream and the downstream reservoirs is achieved by the end of October every year. However, to achieve an approximate equitable distribution of water even in the Kharif season, the possibility of releasing water from upstream complex may be explored every year between the 15 July and the 31 July for providing protective irrigation to Kharif crops in the command of the downstream (Ghod) reservoir depending on the storage position in the upstream reservoirs. However drinking water requirement upto 15 July of the next year for the sub-basin as a whole is to be first ensured & if surplus water is available by that time then only possibility of protective (one) kharif irrigation to upstream and downstream reservoirs should be considered. This Kharif use shall be accounted for while deciding the equitable distribution of water in the month of October every year.

If any complex of any reservoir on the upstream side is short of water to meet its own drinking water needs and committed industrial use as mentioned above, no release of water from that reservoir shall be considered.

However, it should also be ensured that there is no drawal from the dead storage for irrigation purposes from the Ghod reservoir.

The Kharif use in all projects in the sub-basin should be limited to 80% of planned use in distressed condition. If in exceptional circumstances, actual kharif use is more than the planned use, then actual kharif use is to be taken into account while making equitable distribution. ED, MKVDC, Pune should ensure Kharif use is limited to 80% and keep close vigil and watch during Kharif use on all project

If the utilizable water storage including Kharif use at Ghod reservoir in the first fortnight of October is more than 65% then the question of releasing water from the upstream storages does not arise.

6.1.1 Operating direction for equitable distribution in Ghod sub-basin:

The ED, MKVDC, Pune is to collect information from the concerned Superintending Engineer for taking a decision on equitable distribution. The information as received from SE, CADA, Pune on 19/10/2015 regarding storage position as on 15/10/2015 **(Annex IV)** for Kukadi Complex, 66 K T weirs and Ghod Project. Requirement for drinking water from the Collector Ahmednagar is enclosed as **Annex V.** This information is basis for carrying out equitable distribution.

(All Mm^3)

Storage	Design live storage	Live storage as on 15.10.15	Kharif use (2015)		Drinking Water Requirement Dependent on storage / canal from 1.10.15 to 15.7.16		Total evapo-ration loss (1.10.15 to 15.7.16)	Convey-ance loss, if any (1.10.15 to 15.7.16)	Water use [Col 4a+4b+5 +6]	Balance storage [Col 2b-7]	Total Rabi require-ment as per project plan-ning
			Drink -ing	Irriga -tion	Drinking	Industry					
1	2a	2b	3(a)	3(b)	4a	4b	5	6	7	8	9
a) Kukadi Complex	864.396	430.206	60.930	72.840	70.761	2.233	78.250	128.494	279.738	150.468	519.530
b) 66 K T Weirs	69.966	46.280	0.000	17.338	1.290	0.172	10.495	0.000	11.957	34.323	90.200
Total (a+b)	**934.362**	**476.486**	60.930	**90.178**	**72.051**	**2.405**	**88.745**	**128.494**	**291.695**	**184.791**	609.730
Ghod	154.800	83.310	3.040	1.750	7.673	3.496	23.210	0.000	34.379	48.931	115.460

Available percentage of utilizable water including Kharif use as on 15/10/2015 in upstream complex and downstream is as below. The designed water use is as per the project planning given in Annex III A, III B & III C.

Storages	Available % of utilizable water including Kharif use as on 15/10/2015
Upstream : Kukadi Complex and 66 K T weirs	(476.486 + 60.93+ 90.178) / (1082.27 + 90.20) = **53.53%**
Downstream : Ghod Project	(83.31 + 3.04 + 1.75) / 294.48 = **29.92%**

The percentage of utilizable water available in Ghod project is 29.92% which is less than the upper limit (i.e. 65%) prescribed by the Authority on Page 15 of this Order for a condition to be called "distress" warranting equitable distribution by virtue of Section 12 (6) (c) of the MWRRA Act, 2005.

As per provision of Section 12 (6) (c), the percentage of utilizable water has to be approximately the same by end of October. It is therefore required to release 45 Mm^3 (1.6 TMC) water from the Kukadi Complex and 66 K T weirs to bring Ghod reservoir to 83.31 + 0.75 x 45 = 117.06 Mm^3 (4.13 TMC) storage marked after considering transmission losses about 25%. This will result in percentage of utilizable water in Kukadi Complex and the 66 K T weirs to be about 50% and that in Ghod reservoir to be about 42%. This is a reasonably approximate equitable distribution as meant in Section 12 (6) (c).

The Rabi water requirement for one rotation as per the project planning is 519.530 / 4 = 129.883 Mm^3 and with 20% cut, it comes to 103.906 Mm^3.

After release of 1.6 TMC (45 Mm^3) from Kukadi complex [i.e. from Dimbhe (40%) 18 Mm^3 and Yedgaon (60%) 27 Mm^3], net water available for Rabi crops will be 150.468 - 45.000 = 105.468 Mm^3 which is sufficient for catering to one rotation of Rabi on the upstream complex i.e. applying 20% cut to drinking and irrigation.

6.2 Whether construction of 66 K T weirs upstream of Ghod reservoir provide for kharif use in their administrative approval?

&

Whether kharif use is planned in Ghod project as per the latest approved water planning?

&

Whether inflow of water in the Ghod reservoir is affected by the construction of 66 K T weirs upstream of Ghod reservoir and its impact on planned dependability?

As per the administratively approved water planning of 66 K T weirs furnished by SE, CADA Pune vide Annex III C, there is no provision for Kharif use from here. There is only a provision for Rabi use. Therefore the storing of water in these K T weirs by the insertion of needles is not to be carried out until the end of the Kharif season. K T weir are planned to be filled from the runoff of free catchment below Kukadi complex and not planned to be filled from Kukadi releases.

As per the administratively approved water planning of Ghod Project furnished by SE, CADA Pune vide **Annex III A**, there is a provision for Kharif, Rabi and Hot Weather uses.

It is observed from the above table that there is a Kharif use of about 17.338 Mm^3 on 66 K T Weirs during this monsoon. As per the project planning, this is not expected to be done. Water is not to be used from K T weir during the Kharif season. It is also observed from the above table that there was no Kharif use for irrigation in Ghod Project command and there was no live storage at the time of submitting this application by the Petitioner. This lack of live storage might be due to the obstruction to the flow caused by the placement of needles in K T weirs in Kharif.

As per the information provided by SE, CADA Pune vide Annex III A (which is obtained from KWDT Office, Pune), water available at 75% dependable yield is 51.30 TMC at Ghod Project site. The allocated share of Ghod out of that is 10.40 TMC. The permissible use for Kukadi complex is 38.90 TMC whereas that for other projects in Ghod sub-basin is 2 TMC. The planned water use in 66 K T weirs is 3.18 TMC and that of Chilhewadi is 0.87 TMC. In addition there may be some local sector water conservation works which are not accounted for in the above calculations. It will be seen from this that by constructing 66 K T weirs and the Chilhewadi project upstream of Ghod, the availability of water at Ghod site is reduced.

The net water available at Ghod Project site comes to 51.30 - (38.90 + 3.18 + 0.87) = 8.35 TMC. The conclusion is that of water availability at Ghod project site is affected.

7 DETERMINATIONS:

In view of the above background, we are of the view that the following directions are required to be given to achieve the equitable distribution of water as contemplated under section 12 (6) (c) of the 2005 Act:

(a) An approximate equitable distribution has to be resorted to in the sub-basin when the lower reservoir has utilizable water storage (including Kharif use) of less than 65 percent of the designed water use. However, if the actual difference between the percentage of utilizable water in the upstream reservoirs and the lower reservoir is less than 15 percent, then it will not be desirable to have equitable distribution.

(b) It will be logical to regulate the upper reservoirs as per the above guiding principles vide Para 6.1 and procedure given in Para 6.1.1 after taking review of the storage position in the upstream Kukadi complex and 66 K T weirs, storage in the Ghod reservoir and also accounting for likely contribution to the reservoir from the return rainfall (which normally occurs in the first fortnight of October) so that the equitable distribution of the available water among the upstream and the downstream reservoirs is achieved by the end of October every year. However, to achieve an approximate equitable distribution of water even in Kharif season, possibility of releasing water from the upstream complex may be explored every year between the 15 July and the 31 July for providing protective irrigation (that is one rotation) to Kharif crops in the command of the downstream (Ghod) reservoir depending on the storage position in the upstream reservoirs. Drinking water requirement upto the 15 July of the subsequent year for the sub-basin as a whole is to be first ensured and if surplus water is available by that time then only possibility of protective kharif irrigation to upstream and downstream reservoirs should be considered. This Kharif use shall be taken into account while deciding equitable distribution of water in the month of October every year.

(c) The quantum of release of water from storages in Kukadi complex will be proportional to their contribution to total planned live storage in a normal design year i.e. 40% from Dimbhe and 60% from Yedgaon.

(d) If any reservoir on the upstream is short of water to meet its own drinking water need and committed industrial use, no release of water from that reservoir is to be made.

(e) Needles of the 66 K T weirs should be placed in position at the end of Kharif season only in a normal design year as Kharif utilization is not planned on them. It should be ensured that needles of the K T weirs shall not obstruct the releases made under this Order. Operation of the pumps and its electric supply on the river and backwater portion of Ghod should be stopped during the release period.

(f) It must be ensured that there is no drawal of water from the dead storage for irrigation from the Ghod reservoir or from the Kukadi complex.

(g) If the utilizable water storage including Kharif use at Ghod reservoir in the first fortnight of October is more than 65% then the question of releasing water from the upstream storages does not arise.

(h) The Collector (Pune and Ahmednagar), Superintendant of Police (Pune and Ahmednagar), Regional Chief Engineer, MAHADISCOM shall assist ED MKVDC, Pune in implementation of this Order.

(i) The role of the canal advisory committee will begin at the project level after the reservoir operation has been completed.

(j) WUAs at the tail end of canal system should be assured of their due shrare of applicable entitlement by tail to head irrigation.

(k) The share of water of the tail end users should be decided at the start of the Rabi season by conducting meetings of the Canal Advisory Committees including representatives of the WUAs. Post season meetings also be conducted to review the performance that is what is targeted and what is achieved. Minutes of the meetings of the pre and post season with the WUAs be drawn up and kept on the Government Website with copies to the MWRRA and WUAs.

(l) The WRD should ensure that the canal system is well maintained so as to ensure that the tail end receives sufficient water.

(m) Drip irrigation has to be strictly enforced on perennial crops and horticulture in Ghod command. Ground water conjunctive use with drip irrigation will help in increasing water use efficiency.

(n) There must be an upper limit to the diversion of irrigation water to non irrigation purposes. The restoration of the resulting curtailed irrigated area should be carried out by the Government in a time bound manner. Government should give a schedule for this to the MWRRA in 8 weeks from the date of this order.

(o) The suggestion regarding the use of a closed pipe line for drinking and industrial water supply is as per the provision in the State Water Policy. This should be considered by the Government on a priority basis.

(p) The lifting of water from the backwaters of any project has to be limited to the approved water use planning. Government has to

exercise rigorous controls on the unauthorized pumping. Action taken to be reported to MWRRA.

(q) During the period of floods, the normal reservoir operation will switch over to flood regulation.

(r) On the upstream projects, the diversion of monsoon flows through canals, flood canals, rivers and streams for Kharif use outside the project command, or for filling tanks and farm ponds is to be allowed only after the Ghod reservoir reaches its full designed capacity.

(s) The Executive Director of the MKVDC, Pune, will be responsible for the operation of all upstream reservoirs every year for equitable distribution as per the guidelines stated in Para 6.1. The procedure laid down in Para 6.1.1 has to be repeated for equitable distribution every year.

(t) The ED, MKVDC, Pune should take a review of the storage position of Ghod reservoir and all upstream storages on the 15th October every year. Only in case of any difficulty in implementation during the Kharif season in the last fortnight of July or in October, he should approach the Authority for clarification directly within 2-3 days after the due date. In a year of distress, he should complete the exercise of equitable distribution by the end of October.

With the above findings and directions, the petitions and the applications stand disposed of.

Sd/-	Sd/-
(Chitkala Zutshi)	**(S.V. Sodal)**
Member (Economy)	**Member (Engineering)**

(Dr. Suresh Kulkarni)
Secretary

Annex I

महाराष्ट्र शासन

E-mail-cadawork@rediffmail.com/दू.क्र.२२७९४१६०/फॅक्स क्र. २२०२३०९६

सीडीए-१०१५/(२७०/१५)/लाक्षेवि (कामे)

जलसंपदा विभाग
मादाम कामा मार्ग,
हुतात्मा राजगुरु चौक,
मंत्रालय,मुंबई-३२
दिनांक-: ०८ सप्टेंबर,२० १५

प्रति,
मुख्य अभियंता, (विप्र)
जलसंपदा विभाग ,
पुणे.

विषय:- कुकडी प्रकल्पातून कालव्याव्दारे अहमदनगर जिल्हयाकरिता पिण्याचे पाणी व खरीप हंगामासाठी पाणी सोडण्याबाबत.

संदर्भ:- १) शासन समक्रमांक दि. १०/८/२०१५ च्या पत्रान्वये आयोजित करण्यात आलेली व्ही.सी. बैठक.
२) महामंडळाचे दि. ३/८/२०१५ चे पत्र.
३) आपले दि. १३/८/२०१५ चे पत्र.

उपरोक्त आपल्या संदर्भाधिन क्र. ३च्या पत्राच्या अनुशंगाने आपणाकडून विषयाधिन प्राप्त झालेल्या प्रस्तावानुसार खरिप हंगामातील पिकासाठी एक आर्वतन देण्यास मान्यता देण्यात येत आहे. सदरचे आवर्तन चालू असतानाच जिल्हाधिकारी अहमदनगर व सोलापूर यांनी मागणी केल्याप्रमाणे पिण्याचे पाणी देण्यास खालील अटींच्या अधिन राहून मान्यता देण्यात येत आहे.

१) पिण्याचे पाणी सोडण्याबाबद्द शासन निर्णय क्र. संकीर्ण १००९/(३१०/०३)/सिंव्य (धो), दि. १०/८/२००४ नुसार पाणीपट्टी वसुलीबाबत कार्यवाही करावी.

२) खरीप हंगामातील सिंचनाबाबत शासन निर्णय क्र. संकीर्ण १०००/(१९/२०००)/सिंव्य (धो), दि. ७/३/२००१ नुसार खरीप हंगामाचे नियोजन करावे.

३) आवश्यकते नुसार संबंधीत जिल्हयाधिका-यांनी जलसंपदा विभागास सुरक्षिततेबाबत मदत करावी .

(र.ब्रा.गलियाल)
अवर सचिव

प्रत माहितीसाठी व कार्यवाहीसाठी अग्रेषित,
कार्यकारी संचालक, महाराष्ट्र कृष्णा खोरे विकास महामंडळ, पुणे,
जिल्हाधिकारी अहमदनगर , सोलापूर व पुणे,
अधीक्षक अभियंता व प्रशासक, लाभक्षेत्र विकास प्राधिरकरण, पुणे,
लाक्षेवि (कामे) कार्यासने संग्रहार्थ.

Storage Status and Requirements therefrom for Equitable Distribution (2015-16)

(All Mm^3)

Storage	Live storage as on 30.9.15	Kharif use (2015)		Drinking Water Reqirement Dependent on storage/canal from 1.10.15 to 15.7.16	Total evaporation loss (1.10.15 to 15.7.16)	Conveyance loss, if any (1.10.15 to 15.7.16)	Total consumption [Col.(4)+(5)+(6)]	Rabi requirement	Balance storage [Col.(2)-(7)]
		Drinking	Irrigation						
1	2	3(a)	3(b)	4	5	6	7	8	9
1) Kukadi Complex	427.600	60.930	72.840	56.661	78.250	132.724	267.635	567.450	159.965
KT Weir	14.458	0	17.338	0	10.495	0	10.495	59.459	3.963
	442.058	**60.930**	**90.178**	**56.661**	**88.745**	**132.724**	**278.130**	**626.909**	**163.928**
2) Ghod	58.900	0.400	0.000	4.013	23.210	0.000	27.223	56.250	31.678

N.B.:- 1) Col.(4) information to include all possible dependent population conglomerations, norms should be of acceptable standard as per G.R. dt. 10.8.2004 and not ad-hoc. The document be supported by proper authentications from Revenue Authority.

2) Col. (8) As per latest approved cropping pattern. Copy of water use in Rabi alongwith approved cropping pattern from Approved Project report be enclosed.

3) Drinking Water requirement considered as per letters of revenue authotity. However confirmation of DRC yet to be taken.

4) There is no adequate water available for rabbi requirement as per project report. In project report,four rotations of Rabbi considered. However,it is possible to give only one rotation with present situation.

4) Storage in pimpalgaon joge dam is sufficient only for one rotation of drinking.

5) Leakages from the dam (Dimbhe & Manikdoh) are substantial. However they are not considered. If they are considered,availability of water is further reduced.

6) Kukadi complex will include combined information for (i) Manikdoh, (ii) Wadaj, (iii) Yedgaon, (iv) Dimbhe and (v) Pimpalgaon-Joge.

Superintending Engineer & Administrator
Command Area Development Authority
Pune-11

Annex II

Annex III[A]

जलसंपदा विभागाच्या संकेतस्थळास कृपया भेट द्या. https://wrd.maharashtra.gov.in

ई-मेलद्वारे

जा.क्र./लाक्षेविप्रा/प्रशा-3/ 6360 /सन 2015

लाभक्षेत्र विकास प्राधिकरण
सिंचन भवन, पुणे-411 011
दि. 13/10/2015

प्रति,

मा. सचिव,
महाराष्ट्र जलसंपत्ती नियमन प्राधिकरण,
जागतिक व्यापार केंद्र, सेंटर-1, 9 वा मजला,
कफ परेड, कुलाबा, मुंबई-400005

विषय :- महाराष्ट्र जलसंपत्ती नियमन प्राधिकरण अधिनियम 2005 च्या कलम 11 व 12 नुसार धरणातील पाण्याच्या वापराचे नियमन करणे,न्यायहक्काचे पाणी वाटप करणे, घोड धरणाच्या शेती व पिण्याच्या पाण्याचा कोटा ठरवून मिळणेसाठी श्री. राजेंद्र शिवाजीराव नागवडे, रा.वांगदरी ता.श्रीगोंदा, जि.अहमदनगर आणि श्री. श्रीनिवास बाबुराव घाडगे, रा.इनामगाव ता.शिरुर, जि.पुणे यांनी दाखल केलेली याचिका.

संदर्भ :- 1) महाराष्ट्र जलसंपत्ती नियमन प्राधिकरण मुंबई यांचे पत्र क्र. MWRRA/Legal/Petition/Sept 2015/Case no 7 of 2015/590 Dt. 1/10/2015
2) दि. 8/10/2015 रोजी झालेली सुनावणी

विषयांकित प्रकरणी संदर्भीय सुनावणीचे अनुषंगाने घोड प्रकल्पाच्या खरीप वापरा संदर्भात मुख्य अभियंता (विप्र) जलसंपदा विभाग पुणे व अधीक्षक अभियंता कृष्णा पाणी तंटा लवाद विशेष कक्ष पुणे यांच्या कार्यालयात घोड प्रकल्प अहवालाची प्रत उपलब्ध होऊ शकली नाही. तथापि कृष्णा पाणी तंटा लवाद विशेष कक्ष पुणे यांनी KWDT नवी दिल्ली यांना 2006 मध्ये सादर केलेली घोड प्रकल्पाची टिपणी उपलब्ध झाली आहे. सुलभ संदर्भासाठी त्याची प्रत सोबत सादर करण्यात येत आहे. त्यानुसार घोड प्रकल्पाचा 20500 हेक्टर (ICA) साठीचा हंगामनिहाय पाणीवापर पुढील प्रमाणे आहे.

पाणीवापर टीएमसी मध्ये

अ.क्र.	**तपशील**	**वार्षिक पाणीवापर**	**हंगामनिहाय पाणीवापर**		
			खरीप	रब्बी	उन्हाळी
1	सिंचन	8.22	3.70	4.08	2.00
2	बाष्पीभवन व्यय	1.56			
3	पिण्यासाठी	0.30			
4	औद्योगिक	0.32			
	एकूण	**10.40**			

हे आपले माहितीसाठी सविनय सादर.

सोबत:- वरीलप्रमाणे.
स्थळ प्रत मा.अ.अ. व प्रशासक यांना मान्य.

अधीक्षक अभियंता व प्रशासक
लाभक्षेत्र विकास प्राधिकरण
पुणे-11. **करिता**

प्रत:- मा.मुख्य अभियंता (विप्र), जलसंपदा विभाग, पुणे यांना माहितीसाठी सविनय सादर. (सोबत वरीलप्रमाणे)
प्रत:- कार्यकारी अभियंता, कुकडी पाटबंधारे विभाग क्र.2 श्रीगोंदा यांना माहितीसाठी (सोबत वरीलप्रमाणे)

C-II-D-6 CII D 6

C II- D- 6

BEFORE THE KRISHNA WATER DISPUTES TRIBUNAL, NEW DELHI.

GOVERNMENT OF MAHARASHTRA

PROJECTS NOTES

VOLUME II

PROJECTS UTILISING MORE THAN 3 TMC ANNUALLY IN BHIMA (K-5) SUB BASIN

Filed on 17/10/2006

GHOD IRRIGATION PROJECT

GHOD IRRIGATION PROJECT
TALUKA : SHIRUR DISTRICT PUNE.

1.0 INTRODUCTION

Ghod Irrigation Project for estimated cost of Rs. 5.94 crores was administratively approved by the Govt. of Maharashtra vide letter No. MSR/39445, dt. 12-7-1954 as a Major project for providing irrigation facility to an area of 33660 ha (CCA) in Pune & Ahmednagar district of Maharashtra. The project envisages construction of an earthen dam 2786 m long & 29.40 m high across river Ghod, near village Chinchani in Pune District, Maharashtra. The gross & live storages are 216.30 Mm^3 & 154.80 Mm^3 respectively. The project provides irrigation facility to 6190 Ha (ICA) in Shirur Taluka of Pune district & 14310 Ha (ICA) of Shrigonda & Karjat Taluka of District Ahmednagar.

1.1 SCOPE OF THE PROJECT

Project consists of An Earthen Dam 2786 m long with maximum height of 29.40 m above ground level with gross storage of 216.30 Mm3 (7.639 TMC). The Dam site is located at Chinchani village, in Taluka Shirur and Dist. Pune.

1.2 PROJECT PROPOSAL

The Project envisages construction of following main works :

1) An Earthen Dam 2786 m long with maximum height of 29.40 m.
2) Ghod Right Bank Canal of length 30 Kms.
3) Ghod Left Bank Canal of length 84 Kms.

1.3 TYPE OF DAM

An Earthen Dam 2786 m long with maximum height of 29.40 m with Ogee type getted spillway (29 Nos. Radial gates of size 9.14 x 6.09 m.) of 348 m. length.

1.4 HISTORY OF PROJECT

Ghod project was started in 1954 and in 1958 partial storage was impounded. The work of left bank canal was started in year 1955 and completed in the year 1962. The work of spillway and right bank canal was completed in year 1965.

The entire potential was created in the year 1965. Presently average irrigation during last three year is 16500 Ha.

1.5 PRESENT STATUS OF THE PROJECT:

a) Dam work: Completed in 1958

b) Canal works : Both right & left bank canals are completed.

2.0 CANAL & COMMAND :

Command area of this project is spread over Three Taluka's in Two districts.

Command in Pune district.

No.	Taluka	G.C.A.		C.C.A.		I.C.A.	
		Scarcity	Non Scarcity	Scarcity	Non Scarcity	Scarcity	Non Scarcity
1	Shirur	4102	7106	3718	6442	1583	4607

Command in Ahmednagar district

No.	Taluka	G.C.A.		C.C.A.		I.C.A.	
		Scarcity	Non Scarcity	Scarcity	Non Scarcity	Scarcity	Non Scarcity
1	Shrigonda	10271	17793	5124	8876	2318	6752
2	Karjat	4797	8303	3478	6022	1339	3901
	Total	15068	26096	8602	14898	3657	10653
Grand Total		19170	33202	12320	21340	5240	15260
Total		52372		33660		20500	

3.0 CROP PATTERN

The Crop pattern as per project report was for 25253 Ha. as shown below

Sr. No.	Season	GRBC	GLBC	Total
1.	Kharif	2833	7284	10117
2.	Rabbi	2023	4856	6879
3.	Hot weather	-	-	-
4.	Perennials	486	1457	1943
5.	Overlap	162	486	648
6.	Two seasonal	1619	4047	5666
	Total	7123	18130	25253

As per the above projected crop pattern it was not able to achieve to irrigate the total area 25253 Ha. Hence in year 1985 modified crop pattern was proposed & sent for sanction to Government for area of 20500 Ha. New crop pattern at 20500 Ha. was sanctioned by Government letter No. CDA/1085/390/cada/I.D./Agri/dated 17/05/85.

The sanctioned cropping pattern for 20500 Ha. on 5/85 by Government as below.

The cropping pattern as revised in 3/1985 is as below in Ha.

Sr. No.	Season	GRBC	GLBC	Total
1.	Kharif	2540	5860	8400
2.	Rabbi	2740	6260	9000
3.	Hot weather	400	800	1200
4	Perennial	280	720	1000
5.	Overlap	140	360	500
6.	Two seasonal	90	310	400
Total				20500

According to above sanctioned crop pattern irrigation is going on this project. Crop wise details are not given in the above sanctioned crop pattern

4.0 WATER PLANNING

The irrigable command area of G.R.B.C. in Shirur taluka is 6190 Ha. & of G.L.B.C. is 14310 Ha. in Shrigonda & Karjat taluka of Ahmednagar district.

Seasonable requirement of water for irrigable area with approved Crop Pattern is worked out by modified Penman Method. While working out gross irrigation requirement conveyance efficiency & field efficiency is considered as under.

Sr. No.	Command Area	Type of Irrigation	Conveyance efficiency	Field efficiency	Overall efficiency
1	Shirur, Shrigonda & Karjat taluka,	Lift	95%	65%	61.75%
2	Shirur, Shrigonda & Karjat taluka,	Flow Canal	70%	65%	45.50%

$$G.I.R. = \frac{N.I.R.}{\text{Overall efficiency}}$$

Requirement for I.C.A.

Sr. No.	Taluka	I.C.A. Ha.	Water requirement in TMC			
			Kharif	Rabbi	Hot Weather	Total
1	Shirur, Shrigonda & Karjat	20500	3.70	4.08	2.00	9.78

4.1 ANNUAL UTILIZATION IN MCUM / TMC

Sr. No.	Taluka	Annual utilization	
		Mcum	TMC
1	Irrigation	232.85	8.22
2	Evaporation Losses	44.08	1.56
3	Drinking	8.49	0.30
4	Industrial	9.06	0.32
	Total	**294.48**	**10.40**

Sr. No	Taluka	Annual Utilization				In terms of clause VII of KWDT Award			
		Irrigat -ion	Drink -ing	Indust -rial	Total	Irriga- tion 100%	Drink- ing 20%	Indus -trial	Total
1	Shirur, Shrigonda & Karjat	9.78	0.30	0.32	10.40	9.78	0.20	0.24	10.22

4.2 Evaporation Losses from storage

The data available for Pan Evaporation at Chinchani Hydro-meteorological station is adopted as a base for estimation of storage losses. The season wise evaporation losses is as under

1) Kharif .. 7.98 Mcum
2) Rabbi .. 14.52 Mcum
3) Hot Weather 21.58 Mcum.
Total 44.08 Mcum.

These losses are considered vide storage planning.

4.3 Storage requirement

The silt load is estimated by assuming rate of silting as 0.48% per year of gross storage from 1965 onwards. It comes out to 38.73 Mm^3

The storage requirement is as under

Item	Mcum	TMC
Dead storage	61.50	2.16
Carry over	0	0
Kharif requirement 30%	46.44	1.63
Full Rabbi requirement	42.91	1.51
Full Hot weather requirement	47.49	1.67
Storage Losses	12.99	0.457
Drinking water supply	3.57	0.125
Industrial	1.40	0.049
Inflow in Kharif & Rabi	78.18	2.761
Total	294.48	10.40

Controlling level

i) River bed R.L.	522.12
ii) Sill R.L.	539.630
iii) M.D.D.L.	541.020
iv) F.R.L.	548.64
v) H.F.L.	548.64
vi) Crest R.L.	542.55
vii) Top of Dam R.L.	551.690
viii) Maximum height of Dam (From Deepest Foundation)	29.40

GHOD IRRIGATION PROJECT

SALIENT FEATURES

1)	Name of Project	:	Ghod Project
2)	Name of River	:	Ghod
3)	Location	:	Chinchani Tal. Sirur, Dist. Pune
	Longitude	:	18°-40'
	Latitude	:	74°-30'
	State	:	Maharashtra
	District	:	Pune
	Taluka	:	Sirur
	Village	:	Chinchani
4)	Storage in TMC		
	Gross storage	:	7.639
	Live storage	:	5.467
	Dead storage	:	2.172
5)	Controlling in Levels in Mtr.		
	M.D.D.L.	:	541.02 mtr.
	F.R.L.	:	548.64 mtr.
	M.W.L.	:	542.55 mtr.
	T.B.L.	:	551.69 mtr.
6)	Utilisation in TMC		
	Irrigation	:	9.780
	Drinking water	:	0.300
	Industrial supply	:	0.320
	Evaporation	:	--

7) Command Area in Ha.

	In scarcity area	Outside scarcity	Total
1) G.C.A.	19170	33202	52372
2) C.C.A.	12320	21340	39660
3) Cropped area	5240	15260	20500

8) Cropping pattern Adopted : Govt. of Mah. Letter No. CADA/1085/390/CAD/ID/Agri/85, dt. 17-5-1985

Kharif- 8400, Rabbi-9000, HW-1200, Peri-1000, O. lop 500, other peri- 400

9)	District benefited	:	Pune & Ahmednagar
10)	Dependability for which the project is panned	:	75 %
11)	Administrative approvals (from the first till the latest)		1) G.R. PWD No. MFR 3959, dt. 12-7-54 for 393 lakhs 2) RAAGHD/1182/566242-11, dt. 20-5-68 for 590 lakhs
12)	Approval of C.W.C./Planning commission	:	--
13)	Year of commencement of construction	:	1954
14)	Updated cost	:	594 Lakhs
15)	Expenditure incurred (Mar.05)	:	--
16)	Balance Cost	:	-NIL-
17)	Physical status		
	Dam/Head Works	:	Earthen Dam with masonry spillway – Completed
	Canal details	:	1) GRBC – 30 Km. Completed. 2) GLBC – 84 Km Completed
	Distribution Network	:	Disnet on GRBC – 53 Kms Completed Disnet on GLBC – 153.75 Km Completed
	Area Covered	:	1) GRBC - 6190 Ha 2) GLBC - 14310 Ha

Ghod Dam is constructed in Ghod River near village Chinchani, Tal Shirur, Dist. Pune in 1954. The construction of dam is started on 1954 & completed in 1958. In year 1959 firstly water stored & irrigation is started. Ghod dam consists of earthen dam with masonry spillway with 29 Radial gates. In last 5/6 years no provision for M & R is done due to lack of fund with Govt. of Maharashtra. So that the condition of Dam is not as per standards specified fixed by D.S.O.

As the Ghod project is very old present condition of project is not so good. The Rehabilitation Ghod project is taken under M.W.S.I. Project with World Bank aid.

Annex III[B]

Subject: MWRRA Yachika no 7 Details of Kukadi Project

From: Se CADA Pune (secadapune@gmail.com)

To: mwrra@mwrra.org; mwrralibrary@yahoo.co.in;

Date: Tuesday, 13 October 2015 4:48 PM

Attachments

- KWDT KUKADI Note.pdf (4.80 MB)

KUKADI PROJECT

KUKADI PROJECT

1.0 INTRODUCTION-

Kukadi Project is administratively approved by Government of Maharashtra for Rs. 31.18 crores vide letter No. PIM-3465/12331-I.P.(4) dated 8th Nov. 1966.

The Kukadi Irrigation Project is under construction at present. The project is an integrated project comprising of five dams (viz. Yedgaon, Manikdoh, Dimbhe, Wadaj and Pimpalgaon Joge Dam) on tributaries of the river Bhima in Krishna river basin along with canal systems. The project on completion will provide irrigation to scarcity area of 1,46,053 ha. of land in Pune, Ahmednagar and Solapur districts of Maharashtra. In addition there are two powerhouses, one at Dimbhe Dam and other at Manikdoh having installed capacity of 5 MW and 6 MW respectively. The powerhouses have been commissioned on 11/97 and 11/98 respectively. Planning commission has cleared the project with as estimated cost of Rs. 31.18 crores in October 1968. The execution of the project started in 1969. The latest estimated cost of whole project is Rs. 2092.98 crores at price level 2004-05 (This includes project cost Rs.1810.64 crores & cost on CADA works of Rs. 282.34 crores).

The total expenditure incurred upto March 2006 is Rs. 1402.31 crores including CADA component.

1.1 SCOPE OF THE PROJECT-

The project is an integrated project comprising of following 5 Dams

	Yedgaon	Manikdoh	Wadaj	Dimbhe	Pimpalgaon Joge
Location	Located @ near Yedgaon village, Tal Junnar, Dist. Pune.	Located @ near Manikdoh village, Tal Junnar, Dist. Pune.	Located @ near Wadaj village, Tal Junnar, Dist. Pune.	Located @ near Dimbhe Bk,Tal.Amb-egaon Dist. Pune.	Located @ near Pimpalgaon Joge Tal Junnar, Dist. Pune.
Rivers	Kukadi	Kukadi	Meena	Ghod	Ar
Type of Dam	Earthen	Masonry	Earthen	Masonry	Earthen
Ht. of Dam from River bed (mt)	23.60	50.38	26.42	67.65	28.97
Length of Dam masonry Earthen	157 4313	930 -	153 1677	852 -	110 1410
Total	4470 mt	930 mt.	1830 mt	852mt.	1520 mt.

	Yedgaon	Manikdoh	Wadaj	Dimbhe	Pimpal-gaon Joge	Total
Gross storages T.M.C./ Mcum	3.30/ 93.43	10.88/ 307.91	1.27/ 35.94	13.50/ 382.06	8.31/ 235.52	37.26/ 1054.66
Live storages T.M.C./ Mcum	2.80/ 79.276	10.18/ 288.10	1.17/ 33.11	12.50/ 353.75	3.89/ 110.24	30.536/ 863.876

The project on completion will provide irrigation to scarcity area of 1,46,053 Ha. of land in Pune, Ahmednagar and Solapur districts.

1.2 PROJECT PROPOSAL

The project envisages construction of following main works.

1) Construction of weir cum storage across Kukadi river @ Yedgaon
2) Storage at Manikdoh on Kukadi river.

3) Storage at Wadaj on Meena river.
4) Storage at Dimbhe on Ghod river.
5) Storage at Pimpalgaon Joge on Ar river.

Total 37.26 TMC water (Gross storage) is proposed to be stored in the above 5 dams

Canal system

1) The canal system is as under:-

		kms
A)	Kukadi Left Bank Canal system	
	A.1) K.L.B.C.	249
	A.2) Karjat Br.canal	30
	A.3) Chilawadi Br.canal	41
	A.4) Pondewadi Br.canal	12
	A.5) Yesodi Br.canal	21
B)	Ghod Meena canal system	
	B.1) Meena Feeder canal	14
	B.2) Dimbhe L.B.C.	55
	B.3) Ghod Br.canal	13
	B.4) Meena Br.canal	40
	C) Dimbhe Rigth Br.canal	116
	D) Manikdoh L.B.C.	23.5
	E) Pimpalgaon Joge L.B.C.	70
	Total	684.50

Total area of 1,46,053 Ha is proposed to be irrigated through canal network of 684.50 km. length.

Type of Dams:-

i) Weir cum storage at Yedgaon on Kukadi River.

Construction weir cum storage across Kukadi river at Yedgaon with a gross capacity of 93.00 Mcum (3.30 TMC) has been completed in 1977. It is an earthen dam with waste weir in right side saddle with

11 gates of size 12 x 5.00 metre each and with a flood discharging capacity of 3844 cumecs. Maximum Height of the Dam is 23.60 metre and length 4470 metre. The main Kukadi Left Bank Canal off takes from this weir.

ii) Storage at Manikdoh on Kukadi River

It is masonry dam across the Kukadi river at Manikdoh(Taluka Junnar) to impound a gross storage of 308.00 Mcum (10.88 TMC). The entire storage is proposed to be utilised for irrigation as under.

1) The Main Kukadi Left Bank Canal off taking from the Yedgaon weir by letting down the needed water into Kukadi river through Manikdoh Dam irrigation outlet and river sluice.
2) A Left Bank Canal from Dam.

The maximum height of the dam, above the river bed is 51.80 M. and length of dam is 930 M. with gated spillway constructed in the river gorge, with five gates of 12 x 5 metres, size to pass a design discharge of 1439 cumecs. Work of this dam was completed by June 1984.

Hydro Electric Power House of 6 M. Watt on the downstream of the Dam was completed in the year 2000 in all respects and handed over to MSEB for operation.

iii) Storage at Wadaj on Meena River.

It is composite small dam across river Meena near village "Wadaj" to impound a gross of 48.13 Mcum (1.70 TMC). Construction work of this dam was completed by June 1981 including erection of gates. It is an earth dam. Maximum height is 26.42 M and length 1830 M. It's spillway has 5 Nos. of gates of size 12 x 5 M. each with design discharge of 1426 Cumecs.

iv) Storage at Dimbhe on Ghod River.

It is a masonry dam across river Ghod near village Dimbhe to impound a gross storage of 382.22 Mcum (13.50 TMC). The dam is a masonry dam. Maximum height of the dam is 72.10 metres. It has spillway in gorge portion with 5 Nos. of gates of size 12 x 8.50 M each with a designed discharge capacity of 2122 cumecs. Left Bank Canal takes off directly from the storage and the Right Bank Canal takes off from Left Bank Canal in Km. 3 through an Aqueduct across Ghod river. Both the canals are proposed to irrigate areas in the Ghod and Mina Valleys, the balance water would be supplied through Dimbhe Left Bank Canal and utilised ex Yedgaon through Kukadi Left Bank Canal.

The work of this dam was started in Oct.1978 and has been completed except grouting Guidewall and leakage control works as recommended by Dam safety Review Panel, Nashik. The Hydro Electric Power House with the Generation of 5 M. Watt is completed at the foot of the dam and it runs at full capacity while release of water to D.L.B.C.

v) Storage at Pimpalgaon Joge on Ar. River.

This is a storage dam across Ar river, a tributory of the Kukadi river village Pimpalgaon Joge and a bund near continental divide line to impound a gross storage of 235.313 Mcum (8.31 TMC). This will be utilised:

1) For Pimpalgaon Joge Left Bank Canal off taking directly from dam.

Letting down the water, in the river to the tune of 0.11 TMC to be utilised Ex-Yedgaon.

This is an earthen dam, with gated spillway on left bank saddle . Maximum height of dam is 28.97 metre and length is 1490 metre. The work of this dam has been completed.

1.3 HYDRO POWER GENERATION:

The project contemplates providing penstocks in Dimbhe and Manikdoh Dams so as to have Hydro Power Generation at the foot of the Dams.

It is expected that, quite a substantial power generation would be achieved under this project. As this project report deals mainly with the irrigation aspects, the details regarding hydro power are not incorporated herein.

Riparian Rights:

The area under Visapur tank on Hanga river has also been incorporated into this project. The small irrigation under different bandharas and lifts coming in the command areas would be suitably merged in this project. The two lifts and other main irrigation projects on the downstream namely Ghod at Chichani and Bhima at Ujjani would receive regenerated flow from the command of this project.

1.4 HISTORY OF THE PROJECT

The project report of the Kukadi Project was sent to C.W.& P.C. under Irrigation Department letter No. PIM/3465/12050-I.P.dated 30.4.1965. This was administratively approved by Government of Maharashtra under I & P No. PIM/3465/12231-IP(4) dated 8.11.1966. With storage capacity of 5 dams of 30.43 T.M.C. and utilisation 40 T.M.C. and total length of canal 256 kms to irrigate 2,29,601 Acres(92955 ha)

The Planning Commission under its letter No. II-10(1)(14)/68-I&P dated 14.10.1968 cleared part of the project, with total storage capacity of 3 dams (namely Manikdoh, Yedgaon and Pimpalgaon Joge) 17.98 TMC and annual utilisation of 20.07 T.M.C.

Kukadi Left Bank Canal with annual irrigation of (1,45,728 acres) 59,000 Ha. The whole submergence was in Pune District and the major part of irrigation was in Ahmednagar Dist. This created some dissatisfaction among the people in Pune Dist. With a view to eliminate this drawback the C.W.& P.C. carried out certain studies and suggested some modifications in Phase –I of the project under the letter No. 8/47/68 T.E. dated 24.10.69. With total storage capacity of 3 dams (Namely Manikdoh, Yedgaon, Dimbhe without gates) 19.02 TMC and annual Utilisation 23.00 TMC with total canal length of 187 kms.

The Planning Commission under letter No. II-10(i)(14)/68-I&P dated 14.10.1968 gave clearance for utilisation of 20.10 TMC of water, for the first stage of the Project. The same has been protected by the Krishna Water Dispute Tribunal. An additional annual utilisation of 18.10 TMC is also permitted by this tribunal in its recommendation as worth consideration.

Thus the tribunal took into account an aggregate 38.9 TMC of water out of 42.9 TMC of water yield available at 75% reliability for Kukadi Project. While framing the Bhima Master Plan in 1971, it was revealed that although the water requirement of 42.60 TMC in Kukadi Project would be available from the 75% dependable yield, the Ghod project down stream of it requiring 10.4 TMC could not fully get its supply with the total to 75% yield up to Chinchani Dam of 51.3 T.M.C. only. Further the existing Pushpavati bandhara upstream of Ghod Dam and the tail tank on the Ghod Left Bank Canal had a planned utilisation of 0.5 and 0.2 TMC respectively. The minor irrigation requirements for areas upstream of Ghod dam were also estimated to be about 1.3 TMC, therefore 75% dependable supplies available for use by Kukadi Project had to be limited to 38.9 TMC (51.3-10.4+0.5+0.2+1.3).

Since 1970-71 there were demands of people to extend the Kukadi Left Bank Canal, beyond Visapur and also to have a canal on Right Bank of Ghod river. This was under consideration of Government

for some years and Government had instructed to take into consideration, these demands in revised scope of the project.

The Revised Project 1976.

The water planning of the project was revised in 1976. The estimates were cast on the basis of 1976 rates. The salient features of this revised project are as under.

Utilisation	Gross	38.90 TMC
Storage	Gross(TMC)	Live (TMC)
1) Dimbhe	13.50	12.50
2) Wadaj	1.70	1.50
3) Manikdoh	10.88	10.18
4) Pimpalgaon Joge	3.80	3.25
5) Yedgaon	3.30	2.789
Total	33.18	30.219TMC

Sr. No.	Canals	Length in Kms	Irrigable Area in Ha.
	Kukadi LBC	277	77944
	Dimbhe LBC (Ghod Feeder)	55	2631
	Ghod Branch	13	4330
	Meena Feeder	7	-
	Meena Branch	40	15014
	Ghod RBC	72	8094
	Pushpavati	16	1740
		Total	109753

The project report as revised was approved vide Government resolution Irrigation Department No. PIM/3477/1892(664) MAJ-6 dated 22.2.1980. As there were demands for irrigating additional areas by providing new canals or by extending the present canals, Government instructed to carry out studies by diluting the crop pattern or even converting the whole canal system to 8 Monthly crop pattern. A note was submitted to Government and Government approval to the following additional canals, was received under No. S-95/52 (662-MAJ-6 dated 11.4.1979)

Sr. No	Canal system	Length in KM	irrigable Area in Ha.
	Left Bank Canal from Pimpalgaon Joge	53	11510
	Extending Kukadi LBC Sina Valley, a deep cut LBC RBC	 19 29	 12145
	Left Bank Canal from Wadaj Dam	15	3565
	Right Bank Canal from Wadaj Dam	10	360
	Left Bank Canal from Manikdoh Dam	27	2265
	Extension of Dimbhe RBC beyond km.79	31	6455
	Total	184	36300

In the mean time, the project was posed for World Bank Aid and the WAPCOS prepared an Appraisal Report for presentation to the World Bank. In this report., the water planning was based on the crop water requirement, by Modified Penman Method for the following cropping pattern. Government had accepted these suggestions vide Govt. Circular No. MON/7079/(7)(305) MON'-dated 1.6.1979. The command areas considered in this report were as per the 1970 report. In order to accommodate the additional areas referred above the crop pattern suggested by World Bank and to be further diluted to meet the requirement of additional area within the quantum of water of 38.90 TMC allocated.

For optimum use of 38.230 TMC Water, which is allotted by KWDT it is proposed to divert the excess water of 3 TMC from Dimbhe Dam to Manikdoh dam by constructing link Canal/Tunnel of 11.40 km. length amounting to Rs. 108.18 crores for balancing the reservoirs.

The Availability of 75% dependable yield as per II RPR

Sr. No.	Name of Dam	75% dependable yield as per II RPR
1	Dimbhe Dam	14.666 TMC
2	Wadaj Dam	4.457 TMC
3	Manikdoh Dam	10.986 TMC
4	Pimpalgaon Joge Dam	5.879 TMC
5	Yedgaon Dam	6.618 TMC
	Total	42.600 TMC

1.5 PRESENT STATUS OF WORK

The Physical Progress of the Project as on 31.3.2006 Percentage of Completion of various components of the Project is given below

A)HEAD WORKS-DAMS

i) Yedgaon Dam	100 %
ii) Manikdoh Dam	100%
iii) Wadaj Dam	100%
iv) Dimbhe Dam	99%
v) Pimpalgaon Joge Dam	99%

B) CANALS

Kukadi left bank canal (K.L.B.C.) (0 to 249 km)

Earth work	100%
Lining	60 %
Structures	100%

Dimbhe Left Bank Canal (D.L.B.C.) (55 KM)

Earth work	100%
Lining	100 %
Structures	100%

Same minor work in km 40 is to be completed . These are likely to be Completed by 6/2007

Dimbhe Right Bank Canal (D.L.B.C.) (0 to 116 KM)

Earth work	87.31%
Lining	0.71 %
Structures	76.41%

Ghod Branch Canal (0 to 13 Km)

Earth work	100%	
Lining	100 %	
Structures	100%	work Completed and handed Over to CADA

Meena Branch Canal(Km.0 to 40) 100%
Meena Feeder Canal(Km. 0 to 14) 100%

Manikdoh left bank canal (23.5 km)

Earth work	work Completed
Lining	Lining Provision up to 12 km which is Completed
Structures	Completed

Work Completed and handed over to CADA

Pimpalgaon Joge left bank canal (71 km)

Earth work	82.8%	
Lining	0 %	
Structures	62 %	work Completed and handed

The work is in Progress and likely be Completed up to March – 2007

FINANCLAL ASPECT

The latest estimated cost of the project including CADA component is Rs2093 Crores (Rs. 270.00 Crores for CADA) An Expenditure of Rs. 1402.31 Crores (Rs. 1260.19 Crores on project and Rs142.12 Crores on CADA work) has been incurred up to March 2006

2.0 TOPOGRAPHY :

The Kukadi River along with its tributaries the Pushpavati, the Ar and Ghod river along with its tributary Meena all rise in the Western Ghats in the Junnar and Ambegaon taluka between elevations 838 M. to 914 M. (2750 to 3000 ft) above the mean sea level. The rainfall in this area range from 3810 mm to 5080 mm (150" to 200") near the ridge line in a belt of about 16 km.(10 miles) which then decreases to about 1000 mm.(40") in a belt of about 32 km. (20 miles) towards east .

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Then onwards the rainfall gradually decreases to about 635 mm. (25") near the confluence of Ghod with Bhima river.

3.0 CANAL AND COMMAND

The gross command to be covered has broadly been delineated with the intention of serving various Areas. It is intended to extend irrigation benefits to Junnar, Ambegaon and Sirur Talukas from Pune District, Parner, Shrigonda and Karjat Talukas from Ahmednagar District, and Karmala Taluka from Solapur District. These areas are proposed to be irrigated by various canals. The gross command area, Culturable command area and the area proposed to be irrigated under different canal systems are given in the table below. The C.C,A is based on the village statistics and from the Maharashtra Krishi jeevan . The average percentage of GCA to CCA is taken as 80 % The percentage for culturable area to Irrigable area is adopted as 65 % to Spread out irrigation facilities to larger areas as the tract is drought prone.

Sr No	Name of Canal	GCA Ha	CCA Ha	Irrigable Area Ha	Cropped Area Ha.
1	Kukadi LBC	173249	138600	90089	96395
2	Ghod Feeder (DLBC)	5060	4048	2631	2815
3	Ghod Branch	8327	6662	4330	4633
4	Meena Branch	28883	23098	15014	16065
5	Dimbhe RBC	27978	22382	14549	15567
6	Meena Feeder(LBC)	6856	5485	3565	3815
7	Pimpalgaon Joge (LBC)	22134	17708	11510	12316
8	Manikdoh LBC	4356	3485	2265	2424
9	Wadaj RBC	692	554	360	385
10	Pushpavati	3346	2677	1740	1862
	Total	280871	224699	146053	156278

The command area of Pushpavati canal is irrigated under Manikdoh left Bank Canal and Pimpalgaon Joge Left Bank Canal. Hence the command area of Pushpavati is deducted.

3.1 COMMAND AREA IN TRIBAL AREA IN HA.

Sr. No.	Dist.	Taluka	G.C.A.	C.C.A	I.C.A.	Cropped area.
1	Pune	Ambegaon	27710	22168	14409	15418
2		Junnar	48733	38986	25341	27115
		Total	76443	61154	39750	42533

3.2 COMMAND IN SCARCITY AREA IN HA.

Sr. No.	Dist.	Taluka	G.C.A.	C.C.A	I.C.A.	Cropped area.
1	Pune	Shirur	24869	19895	12932	13837
2	Ahmednagar	Parner	26492	21193	13776	14740
		Shrigonda	55023	44021	28612	30616
		Karjat	53900	43120	28028	29990
3	Solapur	Karmala	44144	35316	22955	24562
	Total		204428	163545	106303	113745
	Total 3.1+3.2		280871	224699	146053	156278

Thus the total area is in scarcity and Tribal area and there is no command area in Non-scarcity zone.

CROPPING PATTERN

EXISTING CROPPING PATTERN

Sr. No	Name of crop	Percentage
1	Paddy	4
2	Wheat	4
3	Other cereals	2
4	Jawar	31
5	Bajari	40
6	Gram	7
7	Other pulses	8
8	Vegetables	3
9	Condiments	1
	Total	100%

PROPOSED CROP PATTERN FOR IRRIGATION –

The eight monthly crop pattern suggested by the World Bank and further diluted to accommodate additional command area has been approved by Govt. under letter No S. 95/52 (662) MAJ - dt 20.11.1980.

Sr No	Name of Crop	Percentage	Area in Ha
1	Jawar Hybrid	20	29211
2	Bajari Hybrid	10	14605
3	Paddy drilled	2	2921
4	Ground Nut	15	21908
5	Chilies	2	2921
6	Kh Vegetables	3	4382
7	Wheat	16	23368
8	Kh Pulses (un-irrigated)	10	14605
9	Jawar Local Rabbi	15	21908
10	Jawar Hy Rabbi	12	17526
11	Jawar Rabbi (Raton)	2	2921
12	Gram/Peas	5	7303
13	Vegetables / Onion	2	2921
14	Potatoes	3	4382
	Total	117	170882

Irrigation Intensity (117 % - 10 % un-irrigated Crop) 107 %

4.0 WATER PLANNING

The Irrigation Periods, for the two seasons i.e. Kharif and Rabbi according to the present practice are as under.

i) Kharif — From 15th June to 14th Oct.

ii) Rabbi — From 15th Oct to 14th Feb

The irrigation water requirement of different crops worked out by Modified Penman Method, based on the climatic data available such as i) Temperature , ii) Humidity, iii) Wind, iv) Sunshine v) Radiation , vi) Environ.

The Modified Penman Method adopted is as per Govt. Circular No MON-7079/(7) (305) Mon –1 dated 1.6.1979

4.1 MODIFIED PENMAN METHOD:

Crop water requirements have been worked out for the different crops on the basis of reference evapotranspiration ETo for fourteen meteorological stations (1) Parbhani (2) Miraj (3) Solapur (4) Kolhapur (5) Ahmednagar (6) Amravati (7) Pune (8) Jeur (9) Yeotmal (10) Nizamabad (11) Baramati (12) Nanded (13) Padegaon (14) Warna. Calculated by using computer programme given in the FAO Paper No. 24 For Kukadi Project station (i) Pune (ii) Ahmednagar (iii) Baramati and (iv) Jeur are adopted. The basic meteorological data required for calculating the Penman ETo viz. maximum and minimum temperatures, maximum and minimum relative humidity, wind velocity, bright sunshine hours, wet and dry bulb temperatures and few point temperatures available for the stations within the project command areas for 10 years (1962-71) was made use of weighted average ETo calculated as per Modified Penman equation and adopted for working out crop water requirement.

A suitable design cropping pattern was evolved for the project, taking into account the present agricultural practices, agro-meteorological conditions, soil classification etc.

Net water requirement for consumptive use of crops is worked out by deducting effective rainfall from crop water requirement, suitable adjustment (deductions) for drying out before harvesting of crops have also been made while working out net crop water requirement at field. In these studies Watered Computer Programme developed by South Asia Department of World Bank has been used. The net water requirement so worked out is converted in to demand at canal head by

assuming the field efficiency 75% and conveyance 75%. The conveyance efficiency of 75% corresponds to a lined net work up to 8 Ha. sub-chak. Knowing the fortnightly requirement at canal head for the crops as per design cropping pattern annual net crop water requirement for 1000 Ha. at canal head is worked out. The net water requirements were worked out by WAPCOS agency.

The seasonal and annual water requirements for area proposed to be irrigated under different canals have been accordingly determined and is tabulated below.

Sr. No	Name of Canal	Water requirement at canal head in TMC/ Mcum.			
		Kh.	Rabbi	I-Fortnight of June	Total
1	2	3	4	5	6
1	Kukadi LBC	7.252 205.25	11.459 324.33	0.550 15.57	19.261 545.15
2	Ghod Feeder (DLBC)	0212. 6.00	0.335 9.48	0.016 0.450	0.563 15.93
3	Ghod Branch	0.349 9.88	0.551 15.60	0.026 0.74	0.926 26.21
4	Meena Brnach	1.209 34.22	1.909 54.03	0.092 2.60	3.210 93.457
5	Ghod RBC	1.171 33.14	1.851 52.39	0.089 2.52	3.111 88.05
6	Meena Feeder (LBC)	0.287 8.12	0.453 12.82	0.022 0.62	0.762 21.57
7	Pimpalgaon Joge (LBC)	0.927 26.24	1.464 41.42	0.070 1.98	2.461 69.65
8	Manikdoh LBC	0.182 5.15	0.288 8.15	0.014 0.40	0.484 13.70
9	Wadaj RBC	0.029 0.82	0.046 1.30	0.002 0.06	0.077 2.18
	Total	11.618 328.83	18.356 519.53	0.881 24.94	30.855 873.30

Transit losses in canals :- All main canal, Branch canals and distribution system (discharging capacity above 100 cusecs) as designed as lined canal. The losses in the canal are covered by adopting efficiency of 75% for the lined network.

4.2 REQUIREMENT OF WATER FOR PROPOSED I.C.A. IN MCUM/T.M.C.

Sr. No	District	Taluka	I.C.A. (ha)	Requirement in Mcum/T.M.C.			
				Kharif	Rabbi	Hot weather	Tot
1	Pune	Ambe-gaon	14409	32.44/ 1.15	51.25/ 1.81	2.46/ 0.09	86. 3.0
		Junnar	25341	57.05/ 2.01	90.19/ 3.18	4.33/ 0.15	151 5.3
		Shirur	12932	29.12/ 1.03	46.00/ 1.625	2.22/ 0.08	77. 2.7
2	Ahmed-nagar	Parner	13776	31.02/ 1.09	49.00/ 1.73	2.36/ 0.08	82. 2.9
		Shrigon da	28613	64.42/ 2.27	101.78/ 3.60	4.89/ 0.17	171 6.0
		Karjat	28028	63.10/ 2.23	99.70/ 3.53	4.78/ 0.17	167 5.9
3	Solapur	Karmala	22955	51.68/ 1.83	81.65/ 2.88	3.93/ 0.14	137 4.8
		Total	146054 ha	328.83/ 11.61	519.53/ 18.36	24.94/ 0.88	873 30.

4.3 GROSS ANNUAL UTILISATION –

Gross Annual Utilisation for the Project works out 10 82 Mcum/38.230 TMC as detailed below.

a) Requirement for Irrigation	-	873.72 Mcum/30.855 TMC
b) Annual evaporation losses at Storages	-	98.68 Mcum/3.485 TMC
c) Transit losses for release to Yedgaon	-	31.15 Mcum./1.100 TMC
d) Non Irrigation use	-	78.72 Mcum/2.78 TMC
Total	-	**1082.27 Mcum/38.220 TMC**

Gross Utilisation 1082.27 Mcum/38.220 TMC

2.78 TMC water is now proposed for Drinking water / Industrial supply as against no provision made in the II Revision 1990. However, evaporation losses of only 3.485 TMC is now considered in the III Revision 2004 on the basis of actual evaporation observed in the projects as against 4.631 TMC. Thus net water available for Irrigation works out to 38.23 - (2.78 + 3.485)= 31.965 TMC as against 33.45 TMC water considered in II Revision.

31.965 T.M.C. – Transit losses 1.10 T.M.C. for releases up to Yedgaon dam. Hence net utilisation for irrigation works out to 30.86 T.M.C.

EVAPORATION LOSSES: from storages

Evaporation losses have been calculated at 2.29 m. (7.50ft.) annually for storages and would be distributed in the different seasons as under.

1)	Kharif..	0.46 m. (1.50)
2)	Rabbi	0.76 m. (2.50)
3)	Hot Weather..	1.07 m. (3.50)
		2.29 m. (7.50)

Evaporation losses for all the five storages have been calculated seasonwise and the total losses accounted for in the water planning are 98.64 MCum/3.485 TMC. The storage wise details of losses are as under.

Sr. No	Name of storage	Annual losses in Mcum/TMC
1	Dimbhe on Ghod river	22.82 / 0.806
2	Wadaj on Meena river	4.36 / 0.154
3	Manikdoh on Kukadi river	21.990 / 0.777
4	Pimplagaon Joge on Ar river	32.27 / 1.141
5	Yedgaon on Kukadi river	17.21 / 0.608
	Total	98.64 / 3.485

TRANSIT LOSSES IN CANAL :

All the Main and Branch Canals and Distribution Systems would be lined with cement concrete. The losses are covered by adopting efficiency of 75% for the lined net work upto 8 Ha, chak.

TRANSIT LOSSES FOR RELEASE TO YEDGAON :

Major part of the irrigation is under Kukadi Left Bank Canal which off takes Ex Yedgaon. Transit losses for release to Yedgaon

from different storages are considered at the following rates while preparing the working table.

a)	Release from Dimbhe to Yedgaon	.. 10%
b)	Release from Dimbhe to Manikdoh	.. 5%
c)	Release from Manikdoh & Pimpalgaon Joge	.. 5%
d)	Release from Wadaj	.. 10%

Seasonwise transit losses worked out are as under.

i)	Kharif	.. 9.71 Mcum/0.343 TMC
ii)	Rabbi	.. 19.76 Mcum/0.698 TMC
iii)	Hot weather	- 1.67 Mcum/0.059 TMC.
		31.13 Mcum/1.100 TMC.

STORAGES PROPOSED –

The total live storage required will be as under

1) F.W.Requirements	569.66 Mcum/20.117 TMC
Rabi 19.237	
H.W.(only 1st fortnight of June) 0.880	
Total = 20.117	
2) Carry over	119.10 Mcum/4.206 TMC
3) Evaporation losses	98.68 Mcum/3.485 TMC
4) Transit losses for release to Yedgaon	31.15 Mcum/1.100 TMC
	818.59 Mcum/28.908 TMC

Carry over has been provided as follows. 1/3 Kharif requirement is provided at Dimbhe and Manikdoh storages. While 15 days and 12 days Kharif requirement is provided at Wadaj and Pimpalgaon Storage. 1/3 Kharif requirement of Yedgaon is provided at Manikdoh.

The live storage provided as below –

(Fig in Mcum/TMC)

Sr No	Storage	Dead Storage	Net Storage	Evaporation in F.W.	Total live storage	Gross Storage
1	2	3	4	5	6	7
1	Ghod at Dimbhe	28.31 1.000	338.69 11.968	15.05 0.532	353.75 12.50	382.06 13.500
2	Meena at Wadaj	2.83 0.100	28.24 0.998	3.06 0.108	33.11 1.17	35.94 1.27
3	Kukadi at Manikdoh	19.81 0.700	270.00 9.542	15.00 0.530	288.10 10.18	307.91 10.88
4	Ar at Pimpalgaon	125.19 4.421	69.60 2.458	25.190 0.890	110.240 3.89	235.52 8.310
5	Kukadi at Yedgaon	14.156 0.500	62.28 2.221	12.110 0.428	79.276 2.800	93.43 3.300
	Total	190.296 6.721	793.93 28.052	72.21 2.488	864.476 30.54	1054.54 37.260

Total live storage available at the end of Kharif season is 864.476 Mcum/ 30.54 TMC as against the required live storage of 818.59 Mcum

5.0 CONTROLLING LEVELS

To utilise 1082 Mcum. (38.23 TMC) the live storage required at the end of Kharif 818.59 Mcum (28.908 TMC). The F.R. and M.D.D. Levels proposed to get this live storage are as under.

Sr No	Name of storage	F.R.L	T.B.L.	M.D.D.L	Crest	M.W.L
1	Ghod at Dimbhe	719.645	722.10	682.75	711.150	
2	Kukadi at Manikdoh	711.25	714.300	683.00	706.25	
3	Meena at Wadaj	717.50	721.00	704.70	712.50	
4	Ar at Pimpalgaon Joge	686.80	690.600	682.00	682.80	687.28
5	Kukadi at Yedgaon	641.00	644.60	634.30	636.00	

Annex III[C]

ई-मेलद्वारे
जा.क्र./लाक्षेविप्रा/प्रशा-३/ ६३९५ /सन २०१५

लाभक्षेत्र विकास प्राधिकरण
सिंचन भवन, पुणे-४११ ०११
दि. १४/१०/२०१५

प्रति,

मा. सचिव,
महाराष्ट्र जलसंपत्ती नियमन प्राधिकरण,
जागतिक व्यापार केंद्र, सेंटर-१, ९ वा मजला,
कफ परेड, कुलाबा, मुंबई-४०००००५

विषय :- **महाराष्ट्र जलसंपत्ती नियमन प्राधिकरण अधिनियम २००५ च्या कलम ११ व १२ नुसार धरणातील पाण्याच्या वापराचे नियमन करणे,न्यायहक्काचे पाणी वाटप करणे, घोड धरणाच्या शेती व पिण्याच्या पाण्याचा कोटा ठरवून मिळणेसाठी श्री. राजेंद्र शिवाजीराव नागवडे, रा.बांगदरी ता.श्रीगोंदा, जि.अहमदनगर आणि श्री. श्रीनिवास बाबुराव घाडगे, रा.इनामगाव ता.शिरुर, जि.पुणे यांनी दाखल केलेली याचिका.**

संदर्भ :- १) महाराष्ट्र जलसंपत्ती नियमन प्राधिकरण मुंबई यांचे पत्र क्र. MWRRA/Legal/Petition/Sept 2015/Case no 7 of 2015/590 Dt. 1/10/2015
२) दि. ८/१०/२०१५ रोजी झालेली सुनावणी
३) प्राधिकरणाचे पत्र जा.क्र.लाक्षेविप्रा/प्रशा-३/६३६० दि. १३/१०/२०१५

विषयांकित प्रकरणी संदर्भीय सुनावणीचे अनुषंगाने ६६ को.प. बंधा-यांची प्रकल्पीय पाणीसाठा, व पाणी वापर यांची माहिती सोबत सादर करण्यात येत आहे.

को.प. बंधा-यांच्या प्रशासकीय मान्यता प्राप्त अहवालात खरीप पाणीवापर आणि बाष्पीभवन दर्शविण्यात आलेले नाही.

हे आपले माहितीसाठी सविनय सादर.

सोबत:- वरीलप्रमाणे.
स्थळ प्रत मा.अ.अ. व प्रशासक यांना मान्य.

अधीक्षक अभियंता व प्रशासक
लाभक्षेत्र विकास प्राधिकरण
पुणे-११. **करिता**

प्रत:- कार्यकारी अभियंता, कुकडी पाटबंधारे विभाग क्र.१ नारायणगाव यांना माहितीसाठी (सोबत वरीलप्रमाणे)

प्रत: ईमेलसाठी

कुकडी पाटबंधारे विभाग क्र.१ नारायणगाव

अ.क्र.	प्रकल्पाचे नाव	प्रकल्पीय उपयुक्त पाणीसाठा (दलघमी)	प्रकल्पीय अहवालानूसार पाणी वापर (दलघमी)				
			खरीप	रब्बी	पिण्याचे पाणी	बाष्पी भवन	एकूण
१	२	३	४	५	६	७	८
१	**को.प.बंधारे (६०)**						
१	गंगापूर	१.३३१	०	१.३३१	०.०००	०	१.३३१
२	आमोंडी (पिंपळगाव)	१.३३१	०	२.६६२	०.०००	०	२.६६२
३	गोनवडी	१.२४६	०	२.४६७	०.०००	०	२.४६७
४	चासनारोडी	०.९३५	०	१.४०३	०.०००	०	१.४०३
५	वडगाव काशिंबे	१.५०१	०	१.५०१	०.०००	०	१.५०१
६	सुलतानपूर	०.८५०	०	१.३३५	०.०००	०	१.३३५
७	कळंब	१.८६९	०	२.८२२	०.०००	०	२.८२२
८	चांडोली	१.५०१	०	२.२८२	०.०००	०	२.२८२
९	पिंपळगाव खडकी	१.६९९	०	१.६९९	०.०००	०	१.६९९
१०	अवसरी	०.८५०	०	०.८५०	०.०००	०	०.८५०
११	निरगुडसर	१.१६१	०	१.७४२	०.०००	०	१.७४२
१२	पारगाव	२.३५१	०	२.३५१	०.०००	०	२.३५१
१३	काठापूर	३.८८०	०	३.८८०	०.०००	०	३.८८०
१४	देवगाव	१.७२८	०	२.६०९	०.०००	०	२.६०९
१५	लाखणगांव	०.५९०	०	०.५९०	०.०००	०	०.५९०
१६	चांडोह	१.६९९	०	२.५८२	०.०००	०	२.५८२
१७	कवटेफाकटे	२.५८१	०	२.५८१	०.०००	०	२.५८१
१८	साबळेवाडी	०.४२१	०	०.६३६	०.०००	०	०.६३६
१९	निमगाव दुडे (टाकळी हाजी)	१.७७०	०	२.६७३	०.०००	०	२.६७३
२०	निमगाव दुडे (कुंड)	१.३३१	०	२.०१०	०.०००	०	२.०१०
२१	तामकरवाडी	०.८५०	०	१.२८४	०.०००	०	१.२८४
२२	आमदाबाद	१.५२९	०	२.३२४	०.०००	०	२.३२४
२३	आण्णापूर	१.१३३	०	१.८१३	०.०००	०	१.८१३
२४	कोहकडी	०.८५०	०	०.८५०	०.०००	०	०.८५०
२५	शिरुर	१.५५०	०	०.०००	१.२२०	०	१.२२०
२६	वडज	१.६७०	०	१.६७०	०.०००	०	१.६७०
२७	निमदरी	०.३९६	०	०.३९६	०.०००	०	०.३९६
२८	सावरगाव	०.१९८	०	०.२६१	०.०००	०	०.२६१
२९	पिंपळगाव (सतिकोन)	०.८००	०	०.८००	०.०००	०	०.८००
३०	पिंपळगाव (वाणीमळा)	०.१४२	०	०.१४४	०.०००	०	०.१४४
३१	गुंजाळवाडी (आर्वी)	०.१७०	०	०.१७०	०.०००	०	०.१७०
३२	पेशवेकालीन	०.३९६	०	०.७९२	०.०००	०	०.७९२
३३	वारुळवाडी	०.०००	०	०.०००	०.०००	०	०.०००
३४	जेधेचा डोह	०.७८३	०	१.१९०	०.०००	०	१.१९०
३५	वळणवाडी	०.४८१	०	०.४८१	०.०००	०	०.४८१

अ.क्र.	प्रकल्पाचे नाव	प्रकल्पीय उपयुक्त पाणीसाठा (दलघमी)	प्रकल्पीय अहवालानूसार पाणी वापर (दलघमी)				
			खरीप	रब्बी	पिण्याचे पाणी	बाष्पी भवन	एकूण
३६	हिवरे नं १	०.२९०	०	०.३७७	०.०००	०	०.३७७
३७	हिवरे नं.२	०.७९३	०	१.१९०	०.०००	०	१.१९०
३८	मांजरवाडी	०.११३	०	०.११३	०.०००	०	०.११३
३९	खोडद नं १	०.११३	०	०.२२४	०.०००	०	०.२२४
४०	खोडद नं २	०.११३	०	०.११३	०.०००	०	०.११३
४१	खोडद नं ३	०.१६०	०	०.३१०	०.०००	०	०.३१०
४२	रांजणी नं १	०.१९८	०	०.३०३	०.०००	०	०.३०३
४३	रांजणी नं २	०.०८५	०	०.०८५	०.०००	०	०.०८५
४४	वळती नं १	०.१३६	०	०.१३६	०.०००	०	०.१३६
४५	शिंगवे	०.१४२	०	०.२१६	०.०००	०	०.२१६
४६	वळती नं २ (नागापूर)	१.०४८	०	१.६०३	०.०००	०	१.६०३
४७	ओतूर	०.५३८	०	१.०७६	०.०००	०	१.०७६
४८	ठिकेकरवाडी	१.२९०	०	२.०३८	०.०००	०	२.०३८
४९	उदापूर	०.६६०	०	१.१४८	०.०००	०	१.१४८
५०	पुष्पावती बंधारा	०.०००	०	०.०००	०.०००	०	०.०००
५१	वडगांव कांदळी	१.०८०	०	१.७३९	०.०००	०	१.७३९
५२	बोरी	१.५९०	०	२.४६५	०.०००	०	२.४६५
५३	जाधववाडी	१.२५०	०	१.९००	०.०००	०	१.९००
५४	साकोरी	१.५९०	०	२.०६७	०.०००	०	२.०६७
५५	मंगरुळ पारगांव	१.६७०	०	१.६७०	०.०००	०	१.६७०
५६	जांबुत	२.४२०	०	२.५१७	०.०००	०	२.५१७
५७	सरदवाडी	१.१९०	०	१.७९७	०.०००	०	१.७९७
५८	बादरमळा	१.०१०	०	१.६२६	०.०००	०	१.६२६
५९	म्हसे खुर्द	१.३४०	०	१.८७६	०.०००	०	१.८७६
६०	भाकरेवाडी	१.२७०	०	१.२७०	०.०००	०	१.२७०
६०		**६१.६६२**		**८०.०३८**	**१.२२०**	**०**	**८१.२५८**
	को.प.बंधारे एकूण पुणे जिल्हा						
२	**को.प.बंधारे (६)**						
१	रेनवडी	१.६९०	०	२.०४५	०.०००	०	२.०४५
२	वडनेर	१.२५०	०	१.८७५	०.०००	०	१.८७५
३	होंगेवाडी (हाजी टाकळी)	१.२००	०	१.२००	०.०००	०	१.२००
४	गाडीलगांव	१.७००	०	१.७००	०.०००	०	१.७००
५	गुणोरे	१.३८८	०	१.९४३	०.०००	०	१.९४३
६	म्हसे बु	१.०७६	०	१.३९९	०.०००	०	१.३९९
६	**एकूण**	**८.३०४**		**१०.१६२**	**०.०००**	**०**	**१०.१६२**
६६	**एकूण को.प.बंधारे (६६)**	**६९.९६६**		**९०.२००**	**१.२२०**	**०**	**९१.४२०**

अधीक्षक अभियंता व प्रशासक
लाभक्षेत्र विकास प्राधिकरण
पुणे- ४११ ०११

Storage Status and Requirements therefrom for Equitable Distribution (2015-16)

(All Mm^3)

Storage	Design Live storage	Live storage as on 15.10.2015	Kharif use (2015)		Drinking and Commited Industrial Water Reqirement Dependent on storage/canal from 1.10.15 to 15.7.16		Total evaporation loss (1.10.15 to 15.7.16)	Conveyance loss, if any (1.10.15 to 15.7.16)	Water Use [Col.(4a+4b)+(5)+(6)]	Balance storage [Col.(2.b)-(7)]	Total Rabi requirement
			Drinking	Irrigation							
1	2.a	2.b	3.a	3.b	4.a	4.b	5	6	7	8	9
1) Kukadi Complex	864.396	430.206	60.930	72.840	70.761	2.233	78.250	128.494	279.738	150.468	519.530
KT Weir 66	69.966	46.28	0	17.338	1.290	0.172	10.495	0	11.957	34.323	90.200
Total	**934.362**	**476.486**	**60.930**	**90.178**	**72.051**	**2.405**	**88.745**	**128.494**	**291.695**	**184.791**	**609.730**
2) Ghod	154.800	83.310	3.040	1.750	7.673	3.496	23.210	0.000	34.379	48.931	115.460

N.B.:-

1) Col.(4) information to include all possible dependent population conglomerations, norms should be of acceptable standard as per G.R. dt. 10.8.2004 and not ad-hoc. The document be supported by proper authentications from Revenue Authority.

2) Col. (8) As per latest approved cropping pattern. Copy of water use in Rabi alongwith approved cropping pattern from Approved Project report be enclosed.

3) Drinking Water requirement considered as per letters of revenue authotity. However confirmation of DRC yet to be taken.

4) There is no adequate water available for rabbi requirement as per project report. In project report,four rotations of Rabbi considered. However,it is possible to give only one rotation with present situation.

4) Storage in pimpalgaon joge dam is sufficient only for one rotation of drinking.

5) Leakages from the dam (Dimbhe & Manikdoh) are substantial. However they are not considered. If they are considered,availability of water is further reduced.

6) Kukadi complex will include combined information for (i) Manikdoh, (ii) Wadaj, (iii) Yedgaon, (iv) Dimbhe and (v) Pimpalgaon-Joge.

Annexe IV

E E (S.N.Koli)
Kukadi Irrigation Dn No.2
Shirgaon

Executive Engineer
Kukadi Irrigation Division No.1
Narayangaon

Superintending Engineer & Administrator
Command Area Development Authority
Pune-11

Subject: final statement Kukadi complex & Ghod

From: Se CADA Pune (secadapune@gmail.com)

To: mwrralibrary@yahoo.co.in; mwrra_eer@yahoo.in;

Date: Tuesday, 20 October 2015 3:10 PM

Attachments

- MWRRA 20.10.2015.pdf (145.88 KB)

Annex V

जिल्हाधिकारी कार्यालय, अहमदनगर

दूरध्वनी क्र.(0241)-2343600 (टंचाई शाखा) E-mail Id - scy.ahmednagar@gmail.com

क्र.टंचाई/कार्या-19-अ/2090/2015
अहमदनगर दिनांक -08/10/2015

प्रति,

मा. सचिव,
महाराष्ट्र जलसंपत्ती नियमन प्राधिकरण,
मुंबई 400005.

विषय- महाराष्ट्र जलसंपत्ती नियमन प्राधिकरण अधिनियम 2005 च्या कलम 11 व 12 नुसार धरणातील पाण्याच्या वापराचे नियमन करणे, न्यायहक्काचे पाणी वाटप करणे, घोड धरणाच्या शेती व पिण्याच्या पाण्याचा कोटा ठरवून मिळणेसाठी श्री.राजेंद्र शिवाजीराव नागवडे, रा.वांगदरी, ता.श्रीगोंदा, जि. अहमदनगर आणि श्री.श्रीनिवास बाबूराव घाडगे, रा.इनामगांव, ता.शिरुर, जि.पुणे तसेच श्री. बबनराव पाचपुते, श्रीगोंदा, मा.श्री. विजय औटी, विधानसभा सदस्य, पारनेर मा.श्री. दिलीप वळसे पाटील, विधानसभा सदस्य, आंबेगाव, मा.श्री. शरद सोनवणे, विधानसभा सदस्य, जुन्नर आणि मा.श्री. देवदत्त निकम, चेअरमन, भीमा सहकारी साखर कारखाना लि. मंचर यांनी दाखल केलेली याचिका.

संदर्भ - आपले कडील पत्र क्र. मजनिप्रा/विधी/याचिका क्र.7/2015 दि.06/10/2015.

महोदय,

उपरोक्त संदर्भीय पत्रान्वये मागविण्यात आलेली उर्ध्व भीमा उपखो-यातील धरणांवर जिल्हयातील पेयजलासाठी अवलंबून असलेल्या लोकसंख्येसाठी दि.01/10/2015 ते दि.17/07/2016 पर्यत लागणा-या पाण्याची गरज याबाबत विहित नमुन्यातील माहिती खालील प्रमाणे सादर करण्यात येत आहे.

अ.क्र.	जलाशय	उपयुक्त साठा (दि.30/09/2015 रोजी) (दशलक्ष घनमीटर)	पिण्याच्या पाण्याची गरज दशलक्ष घनमीटर दि.1/10/2015 ते 15/07/2016	शेरा
1	2	3	4	5
1	डिंभे	215	35.85	जामखेड,कर्जत, श्रीगोंदा,पारनेर व नगर तालुक्यासाठी
2	वडज	32		
3	माणिकडोह	58		
4	येडगांव	79		
5	पिंपळगांव जोगे	42		
6	घोड	59	6.21	श्रीगोंदा तालुकयासाठी

माहितीस्तव सविनय सादर

आपला विश्वासू

जिल्हाधिकारी अहमदनगर करीता

DETAILS OF KUKADI AND GHOD DAM REQUIREMENT

Sr. No.	Dam Name	Block	GP Name	Agency	Place	GP Name	Populatio	Source	ML	MM^3
१	कुकडी प्रकल्प	जामखेड	जामखेड ८७ गावे	जि.प.अ.नगर	कुकडी डावा कालवा	चोंडी	१५८३८०	को.प.बंधारा	२९६६.६४	२.९७
२	कुकडी प्रकल्प	श्रीगोंदा	म्हातारपिंप्री	जि.प.अ.नगर	कुकडी डावा कालवा	म्हातारपिंप्री	१४००	पाझर विहिर	१९.३५	० ०२
३	कुकडी प्रकल्प	श्रीगोंदा	हिरडगाव	जि.प.अ.नगर	कुकडी डावा कालवा	हिरडगाव	१५००	पाझर विहिर	२०.५२	० ०२
४	कुकडी प्रकल्प	श्रीगोंदा	शिरसगाव बोडखा	जि.प.अ.नगर	कुकडी डावा कालवा	शिरसगाव बोडखा	१५००	पाझर विहिर	२०.५२	० ०२
५	कुकडी प्रकल्प	श्रीगोंदा	तांदळी दुमाला	जि.प.अ.नगर	कुकडी डावा कालवा	तांदळी दुमाला	२५००	पाझर विहिर	३४.२	० ०३
६	कुकडी प्रकल्प	श्रीगोंदा	कापरेवाडी व ९ गावे	जि.प.अ.नगर	कुकडी डावा कालवा	कापरेवाडी व ९ गावे	२४३९६	पाझर विहिर	३३३.७४	० ३३
७	कुकडी प्रकल्प	कर्जत	दूरगाव	जि.प.अ.नगर	कुकडी डावा कालवा	दूरगाव	२९४२४	ल.पा.तलाव	९९७०	९.९७
८	कुकडी प्रकल्प	कर्जत	थेरवडी	जि.प.अ.नगर	कुकडी डावा कालवा	थेरवडी	१७४८५	ल.पा.तलाव	३८५०	३.८५
९	कुकडी प्रकल्प	कर्जत	गलांडवाडी	जि.प.अ.नगर	कुकडी डावा कालवा	गलांडवाडी	२०७८९	पाझर तलाव	८७०	० ८७
१०	कुकडी प्रकल्प	कर्जत	राक्षसवाडी बु.	जि.प.अ.नगर	कुकडी डावा कालवा	राक्षसवाडी बु.	१४९१	ल.पा.तलाव	८०	० ०८
११	कुकडी प्रकल्प	कर्जत	कोपर्डी	जि.प.अ.नगर	कुकडी डावा कालवा	कोपर्डी	४६८८	ल.पा.तलाव	२४०	० २४
१२	कुकडी प्रकल्प	कर्जत	येसवडी	जि.प.अ.नगर	कुकडी डावा कालवा	येसवडी	६५३	ल.पा.तलाव	३०	० ०३
१३	कुकडी प्रकल्प	श्रीगोंदा	नगर तालुका घोसपुरी प्रादे. योजना	जि.प.अ.नगर	कुकडी डावा कालवा	विसापुर	१३८९७	विसापुर मध्यम प्रकल्प	६३७०	६.३७
१४	कुकडी प्रकल्प	श्रीगोंदा	मोहोरवाडी	जि.प.अ.नगर	कुकडी डावा कालवा	मोहोरवाडी	१०९३०	मोहोरवाडी ल.पा.तलाव	२२५०	२.२५
१५	कुकडी प्रकल्प	श्रीगोंदा	घारगाव	जि.प.अ.नगर	कुकडी डावा कालवा	घारगाव	५४४६	घारगाव साठवण तलाव	२५०	० २५
१६	कुकडी प्रकल्प	श्रीगोंदा	पारगाव	जि.प.अ.नगर	कुकडी डावा कालवा	पारगाव	७८०	जगतापवस्ती तलाव पारगाव	३८०	० ३८
१७	कुकडी प्रकल्प	श्रीगोंदा	पारगाव सु	जि.प.अ.नगर	कुकडी डावा कालवा	पारगाव सु	२३०	मोटेवाडी सा.त.पारगाव सु	९१०	० ०९
१८	कुकडी प्रकल्प	श्रीगोंदा	पारगाव	जि.प.अ.नगर	कुकडी डावा कालवा	पारगाव	४५६९	पारगाव ल.पा.तलाव	८५०	० ८५
१९	कुकडी प्रकल्प	श्रीगोंदा	वडाळी	जि.प.अ.नगर	कुकडी डावा कालवा	वडाळी	१९४०	वडाळी साठवण तलाव	३८०	० ३८
२०	कुकडी प्रकल्प	श्रीगोंदा	सिध्देश्वर	जि.प.अ.नगर	कुकडी डावा कालवा	सिध्देश्वर	५४९	सिध्देश्वर साठवण तलाव	३८०	० ३८
२१	कुकडी प्रकल्प	श्रीगोंदा	लिंपनगाव	जि.प.अ.नगर	कुकडी डावा कालवा	लिंपनगाव	८२२८	लिंपनगाव तलाव १	७१०	० ७१
२२	कुकडी प्रकल्प	श्रीगोंदा	लिंपनगाव	जि.प.अ.नगर	कुकडी डावा कालवा	लिंपनगाव	२१३२	लिंपनगाव तलाव २	३७०	० ३७
२३	कुकडी प्रकल्प	श्रीगोंदा	होलेवाडी	जि.प.अ.नगर	कुकडी डावा कालवा	होलेवाडी	७८२	होलेवाडी साठवण बंधारा	२००	० २
२४	कुकडी प्रकल्प	श्रीगोंदा	लिंपणगाव	जि.प.अ.नगर	कुकडी डावा कालवा	लिंपणगाव	९४२	कोकाटेवस्ती सा.बं. लिंपणगाव	२४०	० २४
२५	कुकडी प्रकल्प	श्रीगोंदा	लिंपणगाव	जि.प.अ.नगर	कुकडी डावा कालवा	लिंपणगाव	११७८	जंगलेवाडी सा.बं.लिंपणगाव	२५०	० २५
२६	कुकडी प्रकल्प	श्रीगोंदा	लिंपणगाव	जि.प.अ.नगर	कुकडी डावा कालवा	लिंपणगाव	८९२	शेंडेवाडी सा.बं.लिंपणगाव	२८०	० २८

२७	कुकडी प्रकल्प	श्रीगोंदा	गवतेखान	जि.प.अ.नगर	कुकडी डावा कालवा	गवतेखान	१२८६६	गवतेखान साठवण तलाव	५१०	० ५१
२८	कुकडी प्रकल्प	श्रीगोंदा	शेखवस्ती	जि.प.अ.नगर	कुकडी डावा कालवा	शेखवस्ती	२१५५	शेखवस्ती साठवण तलाव	४८०	० ४८
२९	कुकडी प्रकल्प	श्रीगोंदा	चोराचीवाडी	जि.प.अ.नगर	कुकडी डावा कालवा	चोराचीवाडी	१२८६	चोराचीवाडी साठवण तलाव	२५०	० २५
३०	कुकडी प्रकल्प	श्रीगोंदा	बाबुर्डी	जि.प.अ.नगर	कुकडी डावा कालवा	बाबुर्डी	१५५५	बाबुर्डी साठवण तलाव १	४५०	० ४५
३१	कुकडी प्रकल्प	श्रीगोंदा	बाबुर्डी	जि.प.अ.नगर	कुकडी डावा कालवा	बाबुर्डी	३६९	बाबुर्डी साठवण तलाव २	१९०	० १९
३२	कुकडी प्रकल्प	श्रीगोंदा	शिरसगाव	जि.प.अ.नगर	कुकडी डावा कालवा	शिरसगाव	१२८४	शिरसगाव साठवण तलाव	५९०	० ५९
३३	कुकडी प्रकल्प	श्रीगोंदा	लोणी व्यंक.	जि.प.अ.नगर	कुकडी डावा कालवा	लोणी व्यंक.	२८३८	वनतळे लोणी व्यंक. उंडे वस्ती	२००	० २
३४	कुकडी प्रकल्प	श्रीगोंदा	लोणी व्यंक.	जि.प.अ.नगर	कुकडी डावा कालवा	लोणी व्यंक.	४२३६	साठवण तलाव लोणी व्यंक.	५२०	० ५२
३५	कुकडी प्रकल्प	श्रीगोंदा	लोणी व्यंक.	जि.प.अ.नगर	कुकडी डावा कालवा	लोणी व्यंक.	१८५४	लोणी व्यंक. पाटाचा	४५०	० ४५
३६	कुकडी प्रकल्प	श्रीगोंदा	लोणी व्यंक.	जि.प.अ.नगर	कुकडी डावा कालवा	लोणी व्यंक.	४२२	कोळपेवस्ती साठवण तलाव लोणी व्यंक	९४०	० ९२
३७	कुकडी प्रकल्प	श्रीगोंदा	लोणी व्यंक.	जि.प.अ.नगर	कुकडी डावा कालवा	लोणी व्यंक.	३४८	मडकेवाडी साठवण तलाव लोणी व्यंक	१९०	० १९
३८	कुकडी प्रकल्प	श्रीगोंदा	मढेवडगाव	जि.प.अ.नगर	कुकडी डावा कालवा	मढेवडगाव	२२९२	मढेवडगाव सा.बं.	२८०	० २८
३९	कुकडी प्रकल्प	श्रीगोंदा	मढेवडगाव	जि.प.अ.नगर	कुकडी डावा कालवा	मढेवडगाव	३६०	दावल मलिक बंधारा मंढेवडगाव	९९०	० ९९
४०	कुकडी प्रकल्प	श्रीगोंदा	मढेवडगाव	जि.प.अ.नगर	कुकडी डावा कालवा	मढेवडगाव	२४०	कुरुमकरवस्ती मढेवडगाव	८०	० ०८
४१	कुकडी प्रकल्प	श्रीगोंदा	चिंभळा	जि.प.अ.नगर	कुकडी डावा कालवा	चिंभळा	२२९६	पा.त.चिंभळा	६२०	० ६२
४२	कुकडी प्रकल्प	श्रीगोंदा	बेलवंडी कोठार	जि.प.अ.नगर	कुकडी डावा कालवा	बेलवंडी कोठार	१४८६	बेलवंडी कोठार	२५०	० २५
४३	कुकडी प्रकल्प	श्रीगोंदा	देउळगाव	जि.प.अ.नगर	कुकडी डावा कालवा	देउळगाव	२९२३	देउळगाव	२३०	० २३
४४	कुकडी प्रकल्प	श्रीगोंदा	घोडेगाव	जि.प.अ.नगर	कुकडी डावा कालवा	घोडेगाव	१७८६	घोडेगाव ल.पा.तलाव	४२०	० ४२
४५	कुकडी प्रकल्प	श्रीगोंदा	आंढळगाव	जि.प.अ.नगर	कुकडी डावा कालवा	आंढळगाव	८१४	गव्हाणेवाडी आंढळगाव	२९०	० २९
४६	कुकडी प्रकल्प	श्रीगोंदा	आंढळगाव	जि.प.अ.नगर	कुकडी डावा कालवा	आंढळगाव	९८४	डांकेवाडी आढळगाव	२५०	० २५
४७	कुकडी प्रकल्प	श्रीगोंदा	कोकणगाव	जि.प.अ.नगर	कुकडी डावा कालवा	कोकणगाव	१६७८	कोकणगाव	२४०	० २४
४८	कुकडी प्रकल्प	श्रीगोंदा	हिरडगाव	जि.प.अ.नगर	कुकडी डावा कालवा	हिरडगाव	२९३८	पाटीलवस्ती साठवण तलाव हिरडगाव	२५०	० २५
४९	कुकडी प्रकल्प	श्रीगोंदा	हिरडगाव	जि.प.अ.नगर	कुकडी डावा कालवा	हिरडगाव	२९३८	दरेकरवस्ती साठवण तलाव हिरडगाव	२५०	० २५
५०	कुकडी प्रकल्प	श्रीगोंदा	भावडी	जि.प.अ.नगर	कुकडी डावा कालवा	भावडी	९४६	भावडी पाझरतलाव	९५०	० ९५
५१	कुकडी प्रकल्प	श्रीगोंदा	हिरडगाव	जि.प.अ.नगर	कुकडी डावा कालवा	हिरडगाव	२९३८	को.प.बंधारा हिरडगाव	२८०	० २८

५२	कुकडी प्रकल्प	श्रीगोंदा	हिरडगाव	जि.प.अ.नगर	कुकडी डावा कालवा	हिरडगाव	७६९	दामगुडेमळा साठवण तलाव हिरडगाव	२००	०.२
५३	कुकडी प्रकल्प	श्रीगोंदा	चांडगाव	जि.प.अ.नगर	कुकडी डावा कालवा	चांडगाव	५४६	विठठलवाडी चांडगाव	१७०	०.१७
५४	कुकडी प्रकल्प	श्रीगोंदा	चांडगाव	जि.प.अ.नगर	कुकडी डावा कालवा	चांडगाव	५४३	चाकणीमळा साठवण तलाव चांडगाव	०८०	०.०८
५५	कुकडी प्रकल्प	श्रीगोंदा	चांडगाव	जि.प.अ.नगर	कुकडी डावा कालवा	चांडगाव	६७८	म्हस्केवस्ती साठवण तलाव चांडगाव	२३०	०.२३
५६	कुकडी प्रकल्प	श्रीगोंदा	टाकळी कडे	जि.प.अ.नगर	कुकडी डावा कालवा	टाकळी कडे	२५२४	इथापेवस्ती साठवण तलाव टाकळी कडे	५४०	०.५४
५७	कुकडी प्रकल्प	श्रीगोंदा	शेडगाव	जि.प.अ.नगर	कुकडी डावा कालवा	शेडगाव	८९२	रानाई पा.त.शेडगाव	२५०	०.२५
५८	कुकडी प्रकल्प	श्रीगोंदा	शेडगाव	जि.प.अ.नगर	कुकडी डावा कालवा	शेडगाव	११४०	भवानीमाता पा.त.शेडगाव	३००	०.३
५९	कुकडी प्रकल्प	श्रीगोंदा	तांदळी दुमाला	जि.प.अ.नगर	कुकडी डावा कालवा	तांदळी दुमाला	३०७५	तांदळी दुमाला	४४०	०.४४
६०	कुकडी प्रकल्प	श्रीगोंदा	खरातवाडी	जि.प.अ.नगर	कुकडी डावा कालवा	खरातवाडी	२०३३	खरातवाडी तलाव	०८०	०.०८
६१	कुकडी प्रकल्प	श्रीगोंदा	पिपळगाव पिसा	जि.प.अ.नगर	कुकडी डावा कालवा	पिपळगाव पिसा	४४३१	पिपळगाव पिसा ओढा	१८०	०.१८
६२	कुकडी प्रकल्प	श्रीगोंदा	बेलवंडी	जि.प.अ.नगर	कुकडी डावा कालवा	बेलवंडी	१२१५४	बेलवंडी	५९०	०.५९
६३	कुकडी प्रकल्प	श्रीगोंदा	येळपणे	जि.प.अ.नगर	कुकडी डावा कालवा	येळपणे	५९२०	येळपणे को.प.बंधारा १	६२०	०.६२
६४	कुकडी प्रकल्प	श्रीगोंदा	येळपणे	जि.प.अ.नगर	कुकडी डावा कालवा	येळपणे	१५६७	येळपणे को.प.बंधारा २	३९०	०.३९
६५	कुकडी प्रकल्प	श्रीगोंदा	गव्हाणेवाडी	जि.प.अ.नगर	कुकडी डावा कालवा	गव्हाणेवाडी	२७५४	गव्हाणेवाडी साठवण बंधारा	३९०	०.३९
६६	कुकडी प्रकल्प	श्रीगोंदा	देवदैठण	जि.प.अ.नगर	कुकडी डावा कालवा	देवदैठण	४३६४	देवदैठण तलाव	२३०	०.२३
६७	कुकडी प्रकल्प	श्रीगोंदा	रायगव्हाण	जि.प.अ.नगर	कुकडी डावा कालवा	रायगव्हाण	१४०९	रायगव्हाण तलाव	३९०	०.३९
६८	कुकडी प्रकल्प	श्रीगोंदा	अरणगाव	जि.प.अ.नगर	कुकडी डावा कालवा	अरणगाव	१४४७	अरणगाव तलाव	१७०	०.१७
६९	कुकडी प्रकल्प	श्रीगोंदा	पिंप्री कोलंदर	जि.प.अ.नगर	कुकडी डावा कालवा	पिंप्री कोलंदर	२२७२	पिंप्री कोलंदर तलाव	२४०	०.२४
७०	कुकडी प्रकल्प	श्रीगोंदा	उक्कडगाव	जि.प.अ.नगर	कुकडी डावा कालवा	उक्कडगाव	२३५८	उक्कडगाव तलाव	२५०	०.२५
७१	कुकडी प्रकल्प	श्रीगोंदा	ढवळगाव	जि.प.अ.नगर	कुकडी डावा कालवा	ढवळगाव	१४२४	पाझरतलाव ढवळगाव	२००	०.२
७२	कुकडी प्रकल्प	श्रीगोंदा	म्हसे	जि.प.अ.नगर	कुकडी डावा कालवा	म्हसे	२२९६	म्हसे	२४०	०.२४
७३	कुकडी प्रकल्प	श्रीगोंदा	मेंगालवाडी	जि.प.अ.नगर	कुकडी डावा कालवा	मेंगालवाडी	६९६	मेंगालवाडी साठवण तलाव	२८०	०.२८
७४	कुकडी प्रकल्प	श्रीगोंदा	माठ	जि.प.अ.नगर	कुकडी डावा कालवा	माठ	१३३८	माठ वडाची वाडी साठवण तलाव	४५०	०.४५
७५	कुकडी प्रकल्प	पारनेर	पाडळी अळे	जि.प.अ.नगर	कुकडी डावा कालवा	पाडळी अळे	२२३०	पाडळी आळे (डेरे मळा)	३०.५५	०.०३
७६	कुकडी प्रकल्प	पारनेर	अळकुटी	जि.प.अ.नगर	कुकडी डावा कालवा	अळकुटी	४७६४	अळकुटी नं.१ व २	६५.१७	०.०७

७७	कुकडी प्रकल्प	पारनेर	शेरीकासारे	जि.प.अ.नगर	कुकडी डावा कालवा	शेरीकासारे	६४५	शेरीकासारे	८.८२	०.०१
७८	कुकडी प्रकल्प	पारनेर	वडझिरे	जि.प.अ.नगर	कुकडी डावा कालवा	वडझिरे	५५०१	वडझिरे पुच्छ तलाव	७५.२५	०.०८
७९	कुकडी प्रकल्प	पारनेर	लोणीमावळा	जि.प.अ.नगर	कुकडी डावा कालवा	लोणीमावळा	३०४४	लोणीमावळा	४१.६४	०.०४
८०	कुकडी प्रकल्प	पारनेर	देवी भोयरे	जि.प.अ.नगर	कुकडी डावा कालवा	देवी भोयरे	३९३६	देवी भोयरे पुच्छ तलाव	५३.८४	०.०५
८१	कुकडी प्रकल्प	पारनेर	सांगवी सूर्या	जि.प.अ.नगर	कुकडी डावा कालवा	सांगवी सूर्या	११८५	सांगवी सूर्या को.प.बं.	१६.२१	०.०२
८२	कुकडी प्रकल्प	पारनेर	मावळेवाडी	जि.प.अ.नगर	कुकडी डावा कालवा	मावळेवाडी	५८७	मावळेवाडी मातीचा बंधारा	८.०३	०.०१
८३	कुकडी प्रकल्प	पारनेर	जवळा	जि.प.अ.नगर	कुकडी डावा कालवा	जवळा	६२८७	जवळा को.प.बं १ व २	८६.०१	०.०९
							455342		**35840.25**	**35.85**
१	घोड प्रकल्प	श्रीगोंदा	श्रीगोंदा	न.पा.श्रीगोंदा	कुकडी डावा कालवा	श्रीगोदा	३५०००	वेळू साठवण तलाव	१२००	१.२
२	घोड प्रकल्प	श्रीगोंदा	बोरी	जि.प.अ.नगर	घोड प्रकल्प	बोरी	११४०	को.प.बंधारा बोरी	२३०	०.२३
३	घोड प्रकल्प	श्रीगोंदा	हंगेवाडी	जि.प.अ.नगर	घोड प्रकल्प	हंगेवाडी	५५०६	को.प. बंधारा, हंगेवाडी	३४०	०.३४
४	घोड प्रकल्प	श्रीगोंदा	वांगदरी	जि.प.अ.नगर	घोड प्रकल्प	वांगदरी	४७६८	साठवण बंधारा, वांगदरी	६२०	०.६२
५	घोड प्रकल्प	श्रीगोंदा	वांगदरी	जि.प.अ.नगर	घोड प्रकल्प	वांगदरी - चोरमलेवाडी	६७९	चेक डॅम, चोरमलेवाडी	३४०	०.३४
६	घोड प्रकल्प	श्रीगोंदा	काष्टी	जि.प.अ.नगर	घोड प्रकल्प	काष्टी	१२८६६	गवतेखान	४२०	०.४२
७	घोड प्रकल्प	श्रीगोंदा	कौठा	जि.प.अ.नगर	घोड प्रकल्प	कौठा	३५७२	शिपलकरवाडीचा ओढा	४००	०.४
८	घोड प्रकल्प	श्रीगोंदा	गार	जि.प.अ.नगर	घोड प्रकल्प	गार	१०९४	खरातवाडीचा ओढा	४००	०.४
९	घोड प्रकल्प	श्रीगोंदा	अजनुज	जि.प.अ.नगर	घोड प्रकल्प	अजनुज	३९३०	को.प. बंधारा, चिकलठाणवाडी	३४०	०.३४
१०	घोड प्रकल्प	श्रीगोंदा	चिकलठाणवाडी	जि.प.अ.नगर	घोड प्रकल्प	चिकलठाणवाडी	२११०	को.प. बंधारा, चिकलठाणवाडी	६२०	०.६२
११	घोड प्रकल्प	श्रीगोंदा	टाकळी कडेवळीत	जि.प.अ.नगर	घोड प्रकल्प	टाकळी कडेवळीत	३०५८	गावालगतचा ओढा	५४०	०.५४
१२	घोड प्रकल्प	श्रीगोंदा	अधोरेवाडी	जि.प.अ.नगर	घोड प्रकल्प	अधोरेवाडी	१२०१	को.प. बंधारा, अधोरेवाडी	३८०	०.३८
१३	घोड प्रकल्प	श्रीगोंदा	चिंभळे	जि.प.अ.नगर	घोड प्रकल्प	चिंभळे	४४३९	कॅनॉलमधून पाणी वाहील्यास	३८०	०.३८
१४	घोड प्रकल्प	श्रीगोंदा	लिंपणगाव	जि.प.अ.नगर	घोड प्रकल्प	लिंपणगाव	११०६०	उदभवास पाणी वाढते		
१५	घोड प्रकल्प	श्रीगोंदा	लिंपणगाव	जि.प.अ.नगर	घोड प्रकल्प	लिंपणगाव - मुंढेकरवाडी	२९३२			
१६	घोड प्रकल्प	श्रीगोंदा	लिंपणगाव	जि.प.अ.नगर	घोड प्रकल्प	लिंपणगाव - जंगलेवाडी	१२१३			
१७	घोड प्रकल्प	श्रीगोंदा	लिंपणगाव	जि.प.अ.नगर	घोड प्रकल्प	लिंपणगाव - पवारवाडी	५४२			
१८	घोड प्रकल्प	श्रीगोंदा	शेडगाव	जि.प.अ.नगर	घोड प्रकल्प	शेडगाव	४५०४			
१९	घोड प्रकल्प	श्रीगोंदा	शेडगाव	जि.प.अ.नगर	घोड प्रकल्प	शेडगाव - बेल्हेकरवस्ती	७९२			
२०	घोड प्रकल्प	श्रीगोंदा	शेडगाव	जि.प.अ.नगर	घोड प्रकल्प	शेडगाव - राऊतमळा	६५८			
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जिल्हाधिकारी अहमदनगर करीता