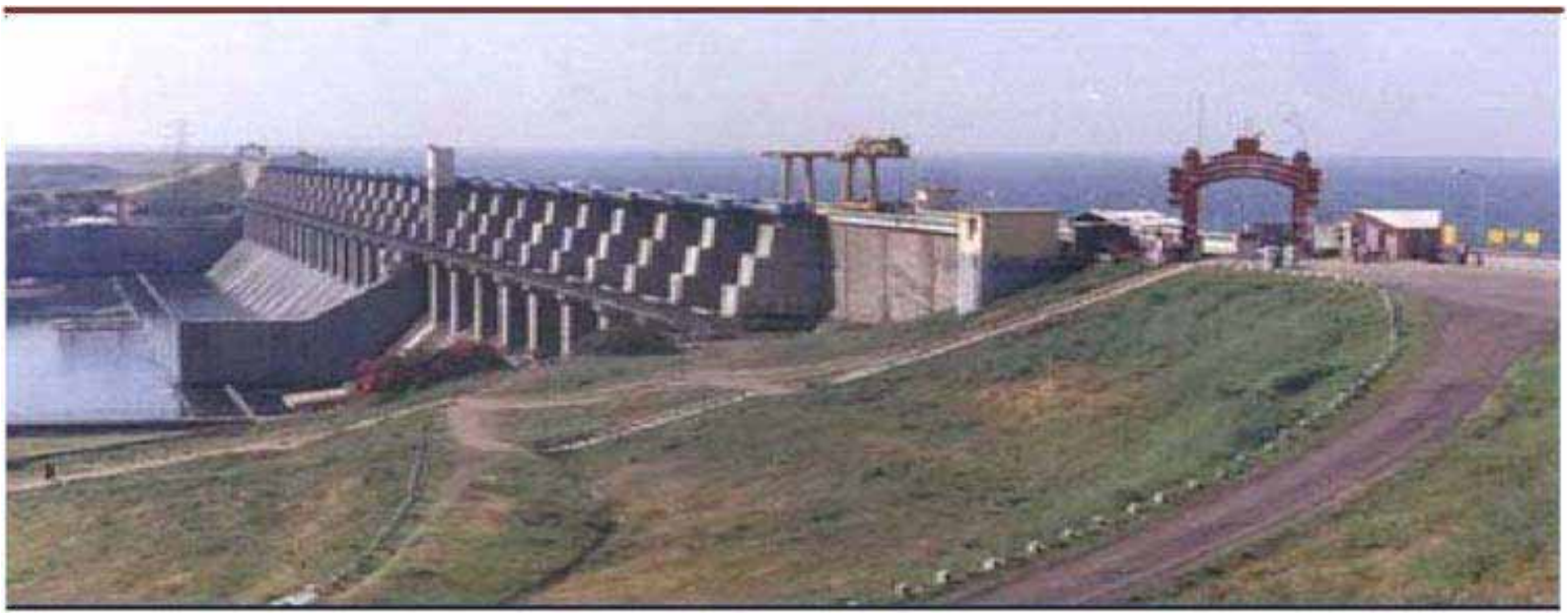
सत्यमेव जयते

REPORT ON
WATER AUDITING OF IRRIGATION PROJECTS
IN MAHARASHTRA STATE
2006-2007



WATER RESOURCES DEPARTMENT
GOVERNMENT OF MAHARASHTRA
MARCH 2008

Report on
Water Audit of Irrigation Projects in Maharashtra
2006-07

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Government of Maharashtra
Water Resources Department
March 2008

FOREWORD

One of the major challenges before the Water Resources Department is to bring the created irrigation Potential under actual utilisation. Efficient, economical & optimum use of available storages with the help of farmer's participation in Irrigation Water Management can help to meet the challenge. Water Resources Department has concentrated its efforts in that direction. Water Auditing of Irrigation projects is one of the sector improvement programmes the State is implementing.

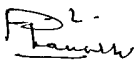
During the last four years, the performance status in respect of actual potential utilization & Water Use Efficiency obtained by water auditing of about 2000 Irrigation projects has helped, to formulate action to improve the over all performance of the Irrigation Projects. As a result, potential utilization has improved from 1.685 Mha to 2.681 Mha during last two years. This is one of the major achievements of the Water Resources Department. To bridge the remaining gap between the target & current achievements on utilisation of created potential, preparation & effective implementation of a comprehensive, consolidated action plan in the light of findings of Water Auditing is of prime importance.

I appeal all concerned project authorities to use Water Auditing as a path finder to reach to our ultimate destination.

I, personally appreciate the sincere efforts taken by Shri R.B. Shukla, Chief Engineer and his office team for preparation of this report.

I also appreciate the co-operation extended by the Director General WALMI Aurangabad for printing this report before the scheduled period.

Comments & suggestions on this report will be very much appreciated.



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ABBREVIATIONS

CCA	Culturable Command Area
CRT	Converted Regular Temporary
Cum	Cubic Meter
CWC	Central Water Commission
GOI	Government of India
GOM	Government of Maharashtra
Ha	Hectare
IMD	India Meteorological Department
IWM	Irrigation Water Management
ISP	Irrigation System Performance (Area irrigated per unit of water utilized at source in ha/ Mcum)
K.T. Weirs	Kolhapur Type Weirs
Mha	Million hectares
MERI Nashik	Maharashtra Engineering Research Institute, Nashik
MWRDC	Maharashtra Water Resources Development Centre, Aurangabad (formerly MWIC)
MWSIP	Maharashtra Water Sector improvement Programme
NI Use	Non Irrigation Use
MWRRA	Maharashtra Water Resources Regulatory Authority Act, 2005
PIM	Participatory Irrigation Management
PR	Project Report
PIP	Preliminary Irrigation Programme
WALMI	Water and Land Management Institute, Aurangabad
WUA	Water Users' Association
AIC Akola	Akola Irrigation Circle, Akola
BIPC Buldhana	Buldhana Irrigation Project Circle Buldhana
CADA Abad	Command Area Development Authority, Aurangabad
CADA Beed	Command Area Development Authority, Beed.
CADA Jalgaon	Command Area Development Authority, Jalgaon
CADA Nagpur	Command Area Development Authority, Nagpur
CADA Nashik	Command Area Development Authority, Nashik
CADA Pune	Command Area Development Authority, Pune
CADA Solapur	Command Area Development Authority, Solapur
CIPC Chandrapur	Chandrapur Irrigation Project Circle, Chandrapur
GKLISC Bhandara	Gosi Khurd Lift Irrigation Scheme Circle, Bhandara
JIPC Jalgaon	Jalgaon Irrigation Project Circle, Jalgaon
KIC Ratnagiri	Konkan Irrigation Circle, Ratnagiri
NIC Nagpur	Nagpur Irrigation Circle, Nagpur
NIC Nanded	Nanded Irrigation Circle, Nanded
NKIPC Thane	North Konkan Irrigation Project Circle, Thane
PIC Pune	Pune Irrigation Circle, Pune
SIC Sangli	Sangli Irrigation Circle, Sangli
TIC Thane	Thane Irrigation Circle, Thane
UWPC Amravati	Upper Wardha Project Circle, Amravati
YIC Yavatmal	Yavatmal Irrigation Circle, Yavatmal
AIC Aurangabad	Aurangabad Irrigation Circle Aurangabad

Chapter-1

Introduction

1.1.1 Background

The geographical area of Maharashtra is 307.78 lakh hectares of which the cultivable area is 225 lakh ha. The area is divided mainly into five major river basins of Godavari, Krishna, Tapi, Narmada and westward flowing rivers comprising a basin group of 22 narrow sub-basins.

The Maharashtra Water and Irrigation Commission (1999) has proposed delineation of five river basins basically into 25 distinct sub basins for planning of water resources development in the State (Map 1). The classification of sub basins proposed is solely on the basis of natural availability of water. The basic characteristics of sub basins are dictated by the hydrological regime, which in turn, is a function of climate, rainfall distribution and the type and characteristic of draining area.

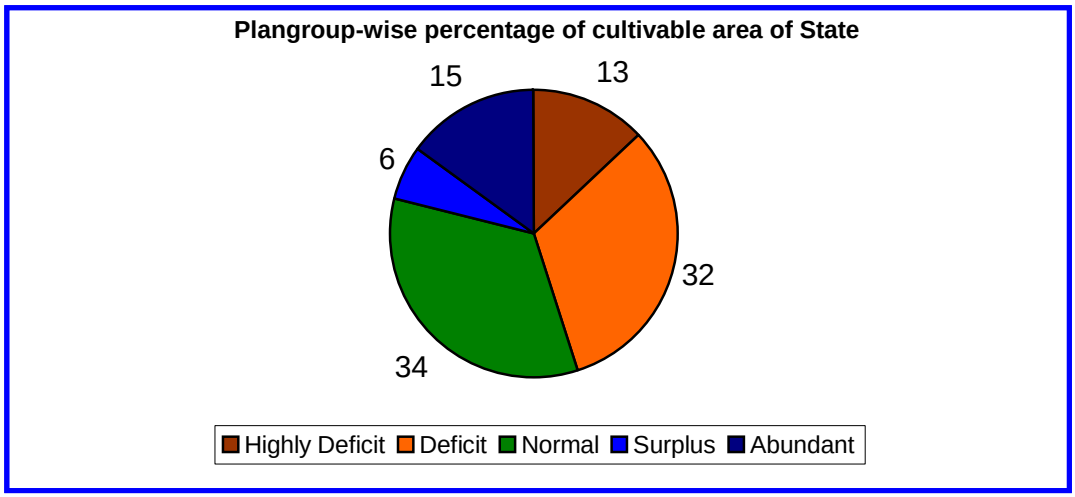
The sub basins are as follows:

Sr. No.	River Basin	Names of Sub basins	Abbreviated name	classification for planning on the basis of availability of natural water per unit CCA
I	Godavari	1) Upper Godavari (Up to Paithan Dam)	Upper Godavari	Normal
		2) Lower Godavari (D/S of Paithan Dam)	Lower Godavari	Deficit
		3) Purna (including Dudhana)	Purna Dudhana	Deficit
		4) Manjra	Manjra	Deficit
		5) Godavari-Sudha-Swarna	Remaining Godavari	Normal
		6) Painganga	Painganga	Normal
		7) Wardha	Wardha	Normal
		8) Middle Wainganga	Middle Wainganga	Surplus
		9) Lower Wainganga	Lower Wainganga	Abundant
II	Tapi	10) Purna (Tapi)	Purna Tapi	Deficit
		11) Girna	Girna	Deficit
		12) Panzara	Panzara	Normal
		13) Middle Tapi	Middle Tapi (Satpuda)	Normal
			Middle Tapi (South)	Deficit

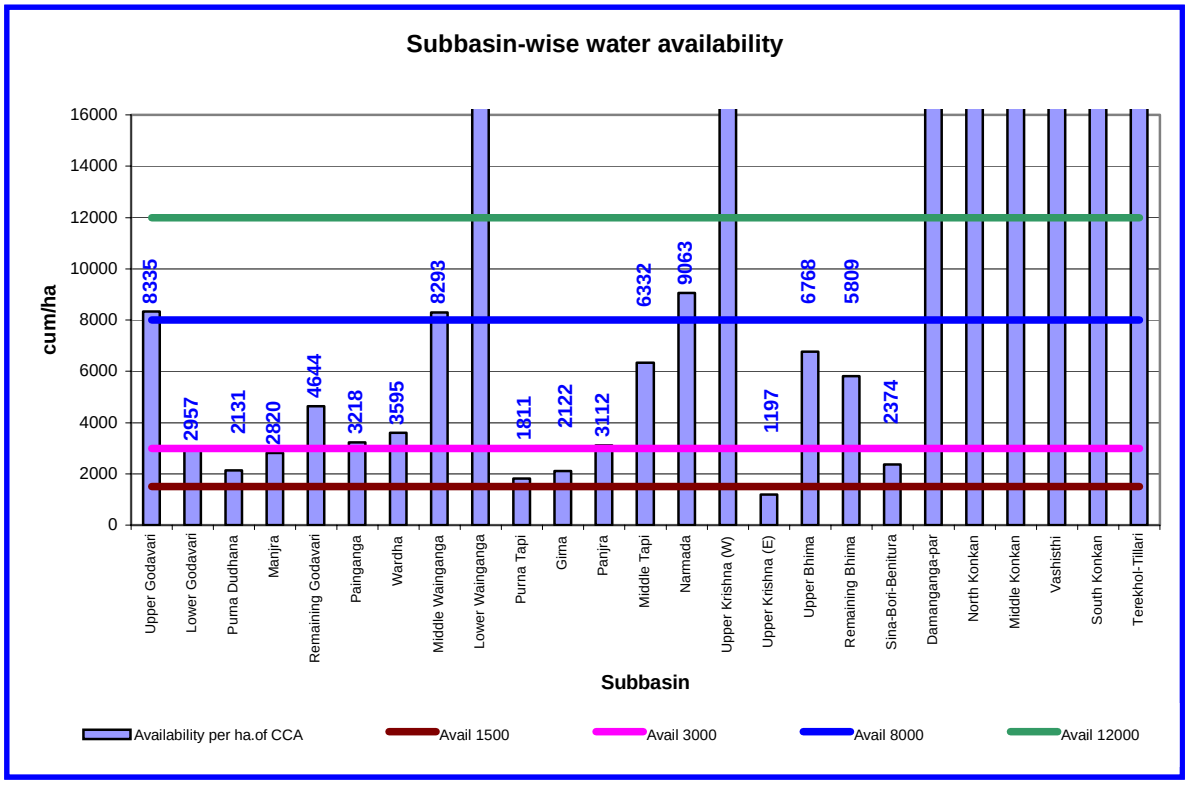
Sr. No.	River Basin	Names of Sub basins	Abbreviated name	classification for planning on the basis of availability of natural water per unit CCA
Sr. No.	River Basin	Names of Sub basins	Abbreviated name	classification for planning on the basis of availability of natural water per unit CCA
III	Narmada	14) Narmada	Narmada	Surplus
IV	Krishna	15) Upper Krishna (West)	Upper Krishna (W)	Abundant
		16) Upper Krishna (East)	Upper Krishna (E)	Highly Deficit
		17) Upper Bhima (Up to Ujjani)	Upper Bhima	Normal
		18) Remaining Bhima	Remaining Bhima	Normal
		19) Sina-Bori-Benetura	Remaining Bhima Including Man	Highly Deficit
			Sina - Bori-Benetura	Highly Deficit
V	West Flowing Rivers in Konkan	20) Damanganga-Par	Damanganga-Par	Abundant
		21) North Konkan	North Konkan	Abundant
		22) Middle Konkan	Middle Konkan	Abundant
		23) Vashisthi	Vashishthi	Abundant
		24) South Konkan	South Konkan	Abundant
		25) Terekhol – Tillari	Terekhol – Tillari	Abundant

Classification of sub basins for planning, on the basis of naturally available quantum of water, is given below:

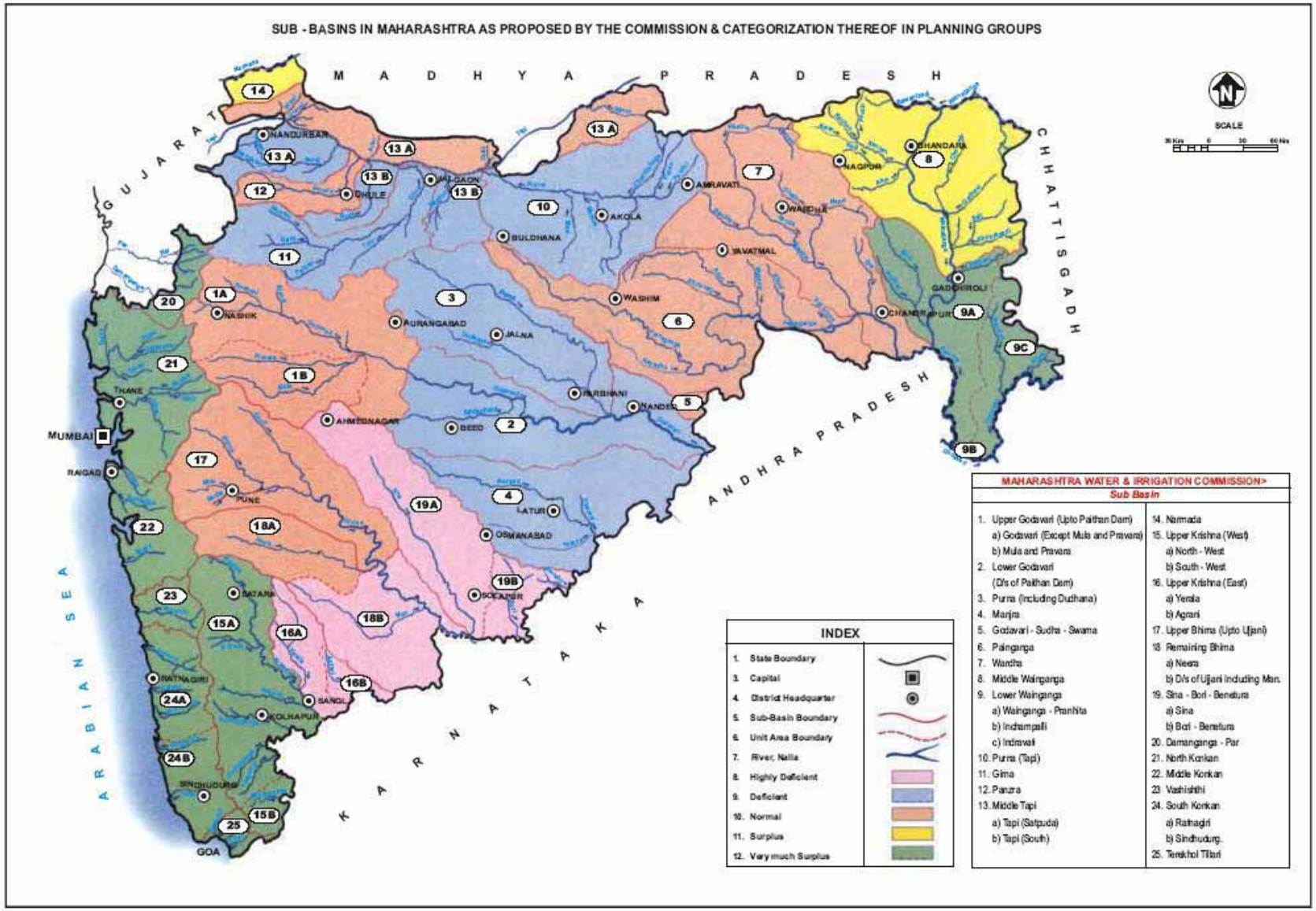
Sr. No.	Plan group	Per ha availability (cum)	Percent of cultivable area of State
1	Highly Deficit	Below 1500	13
2	Deficit	1501-3000	32
3	Normal	3001-8000	34
4	Surplus	8001-12000	06
5	Abundant	Above 12000	15



A graph showing basin-wise availability of water is shown below.



From above graph it is seen that, there are eight sub basins from highly deficit & deficit plan group, which has water availability less than 3000 cum per unit CCA which is a minimum basic water requirement for agriculture. However, these sub basins along with other sub basins are likely to get suffered more in near future considering continuous increase in Non irrigation water use due to growth in population & industrialization. Water Auditing as mentioned in state water policy is an efficient management tool to check & curb the excessive losses, improve Irrigation System performance. The State has already started Water auditing of irrigation projects since last 4 years. Rise in Non irrigation water use from 3267Mcum to 4293 Mcum in last 10 years underlines the urgency of water auditing in Non irrigation water use sector also.


SUB - BASINS IN MAHARASHTRA AS PROPOSED BY THE COMMISSION & CATEGORIZATION THEREOF IN PLANNING GROUPS
M A D H Y A P R A D E S H
G U J A R A T
C H H A T T I S G A D H
A N D H R A P R A D E S H
K A R N A T A K A
A R A B I A N S E A
GOA
SCALE
INDEX
1. State Boundary
3. Capital
4. District Headquarter
5. Sub-Basin Boundary
6. Unit Area Boundary
7. River, Nalla
8. Highly Deficient
9. Deficient
10. Normal
11. Surplus
12. Very much Surplus
MAHARASHTRA WATER & IRRIGATION COMMISSION>
Sub Basin
1. Upper Godavari (Upto Paithan Dam)
a) Godavari (Except Mula and Pravara)
b) Mula and Pravara
2. Lower Godavari
(D/s of Paithan Dam)
3. Purna (Including Dudhana)
4. Manjra
5. Godavari - Sudha - Swarna
6. Painganga
7. Wardha
8. Middle Wainganga
9. Lower Wainganga
a) Wainganga - Pranhita
b) Indrampalli
c) Indravati
10. Purna (Tapi)
11. Girna
12. Panzra
13. Middle Tapi
a) Tapi (Satpuda)
b) Tapi (South)
14. Narmada
15. Upper Krishna (West)
a) North - West
b) South - West
16. Upper Krishna (East)
a) Yerala
b) Agrani
17. Upper Bhima (Upto Ujjani)
18. Remaining Bhima
a) Neera
b) D/s of Ujjani Including Man.
19. Sina - Bori - Benetura
a) Sina
b) Bori - Benetura
20. Damanganga - Par
21. North Konkan
22. Middle Konkan
23. Vashishthi
24. South Konkan
a) Ratnagiri
b) Sindhudurg.
25. Terekhol Tillari
NANDURBAR
DHULE
JALGAON
BULDHANA
AKOLA
AMRAVATI
WARDHA
BHANDARA
NAGPUR
YAVATMAL
GADCHIROLI
CHANDRAPUR
WASHIM
AURANGABAD
JALNA
PARBHANI
NANDED
NASHIK
THANE
MUMBAI
RAIGAD
AHMEDNAGAR
BEED
PUNE
LATUR
OSMANABAD
SATARA
SANGLI
KOLHAPUR
RATNAGIRI
SINDHUDURG

1.2.0 What is Water Auditing?

Water auditing is a systematic & scientific examination of water accounts of the projects. It is an intelligent & critical examination by independent organization. It is a critical review of system of accounting.

A water audit determines the amount of water used in different sectors, lost from distribution system due to leakage & the cost of this lost utility. Comprehensive Water Audit can give a detailed profile of distribution system & water users, there by facilitating easier & effective management resources and improved reliability.

It may also prove as an effective tool for realistic understanding & assessment of present performance level of the service for future expansion

Water auditing process involves checking of sector-wise water use against project planning, Preliminary Irrigation Programme and assessment of Irrigation System Performance (ISP) and losses actually realized on the projects.

Water audit facilitates comparison between planned Irrigation System Performance (i.e. ha /Mcum) and actual Irrigation System Performance (i.e. ha/ Mcum) realized on the project. This will provide information about loss of water in the system. Water audit thus helps in identifying the causes of low ISP & excessive losses in the system. Service Provider then can initiate the action for minimizing the losses and improving the ISP.

1.3.0 Water Auditing Scenario:

The Central Water Commission, Ministry of Water Resources, GOI & Central Ground Water Board took an initiative in this regard and issued guidelines for water auditing of projects in December 2005. These guidelines are only indicative and on broad spectrum. Every State is required to prepare its own guidelines considering peculiarities and necessities of individual State.

1.4.0 Water Auditing-State Scenario:

Large number of irrigation projects is constructed in Maharashtra to harness the water resources of the State. Irrigation potential to the tune of 4.132 Mha is created by the end of June 2006 through 54 Major, 222 Medium & 2726 State sector Minor irrigation projects. Maharashtra is the first state in India to incorporate the subject of water audit in State Water Policy as a sector reform in water management and has taken up the issue since 2003-04.

Details of Year wise projects audited are as exhibited below.

Year	No. of Projects
2003-04	1229
2004-05	1624
2005-06	1957
2006-07	1971

With increasing population, urbanization and industrialization, the water demand is increasing day by day from various sectors.

Table 1 shows the year wise details of storages available, irrigation & non-irrigation water use & Irrigation system performance achieved at State level.

Table 1

Storages available, irrigation & non-irrigation water use & Irrigation system performance.

Irrigation Year	Designed Storage (Mcum)	Actual Storage on 15th October (Mcum)	Water use for		Total water use (Mcum)	Potential created (Mha)	Potential utilized (Mha)	Potential utilized including wells (Mha)	ISP (ha/ Mcum) on canal flow	ISP including Wells (ha/ Mcum)
			Irrigation (Mcum)/ %	Non Irrigation (Mcum)/ %						
2000-01	26748	18947	13575/ 78	3858/22	17433	3.706	1.298	1.764	96	130
2001-02	28062	18717	12346/ 76	3980/24	16326	3.769	1.25	1.708	101	138
2002-03	28715	18936	12965/ 75	4236/25	17201	3.812	1.318	1.842	102	142
2003-04	28840	16941	10569/ 69	4790/31	15369	3.863	1.244	1.685	118	159
2004-05	28889	18298	10603/ 69	4860/31	15463	3.913	1.257	1.699	119	160
2005-06	29110	24860	13689/ 74	4926/26	18616	4.003	1.617	2.221	118	162
2006-07	29531	27309	16630/ 65	4293/35	25404	4.132	1.835	2.681	110	161
(Ref: Irrigation Status Report, 2006-07 GOM)										

Water auditing of irrigation projects which are constructed through public investment is necessary to see that the water use, evaporation & other losses are as per design. If there is any variation, as mentioned above, water auditing enables to locate the reasons for the same and facilitate suitable corrective measures.

In compliance to commitment in State Water Policy, Government issued a circular dated 26.06.2003 briefing there in methodology to be adopted for keeping project wise water account and its auditing. Administrative arrangements are set up by creating water audit units under Chief Engineer, Maharashtra Water Resources Development Centre, Aurangabad. Accordingly, the MWRDC office is carrying out the water audit of all State sector projects since last four years.

1.5.0 Administrative set up for Irrigation Management

A chart describing the administrative set up for the irrigation management from the level of Secretary (CAD) to Superintending Engineer who is in charge of number of projects under a Circle office is enclosed in the report as Annexure-V. The Chief Engineer at regional level is overall responsible for the development and utilization of the water resources of Major irrigation projects under his jurisdiction. The Superintending Engineer who assists the Chief Engineer is expected to take periodical review of Major and Medium irrigation projects under his jurisdiction. The Superintending Engineer is the administrative head at the circle level. He is entrusted with full powers to sanction the Preliminary Irrigation Programme of projects under the circle except projects under CADA. The Superintending Engineer has full administrative and financial control over the budget provisions allocated by Government. In addition to above, the Superintending Engineer has to certify the safety of major and medium dams by inspecting them during pre and post monsoon periods.

Executive Engineer is overall responsible for maintenance of irrigation system and water management right up to field level. Apart from technical duties,

the Executive Engineer has to exercise duties as per the Irrigation Act and rules there under Irrigation Water Management is an important task assigned to the Executive Engineer which mainly involves preparation & implementation of water rotation schedule so as to provide canal water to each individual irrigator or WUA at the pre-decided time. Map-2 showing location of irrigation circles is exhibited on page 16 of this report.

1.6.0 Water Audit Procedure

1.6.1 Checking Water Account

Government of Maharashtra vide circular dated 26.06.2003 has enforced the field officers to submit the annual water accounts of all State sector irrigation projects under a circle in prescribed proformae by 14th August every year. For effective implementation of the decision based on water audit analysis and timely publication of annual water audit report, a time-bound programme as mentioned below is framed & strictly adhered to.

Sr. No.	Particular	Scheduled Date
1	Submission of water accounts to MWRDC office by concerned irrigation circles	14th August
2	Communication of remarks on water accounts to concerned irrigation circles by MWRDC.	31st October
3	Compliance of remarks on water accounts by irrigation circles.	30th November
4	Consolidation of water account data of different projects and preparation of draft Water Audit Report by MWRDC.	15th January
5	Approval to the Water Audit Report by GOM.	20th February
6	Publication of Water Audit Report	22 March (World Water Day)

On receipt of the water accounts, its scrutiny is carried out in MWRDC Office. While scrutinizing the water account of a project, emphasis is given on following points.

i) Total available live storage is tallied with different water uses, evaporation losses, leakages, replenishment received in June and unutilised water at the end of irrigation year.

ii) Season-wise availability and extent of water use.

iii) Irrigation System Performance actual observed as compared to norms fixed by GOM.

iv) Actual evaporation losses as compared to designed evaporation losses.

v) Percentage of leakages through dam and its location, efforts taken by field staff to minimise or stop the leakages.

vi) Actual season wise water use & area irrigated as compared to project planning / Preliminary Irrigation Programme

1.6.2 Inspection of Irrigation offices

To have a cross check over the data submitted in water account & to verify whether record about water storages, water use, different losses along with crop wise area measurements, revenue assessment/ revenue recovery are maintained up-to-date & in prescribed form, annual inspections of Irrigation offices is carried out each year. An annual inspection programme, for inspection of irrigation management divisions, is prepared and communicated to the field officers. According to this programme, inspections are conducted.

During such office inspections, to ascertain the validity of water account data submitted to MWRDC, normally following records are checked.

i) Daily lake level & water storage register.

ii) Daily evaporation record register (Major & Medium projects)

iii) Main Canal gauge register to evaluate water let out in canal for irrigation (daily, rotation-wise, season-wise)

iv) Agency-wise non irrigation water use register.

v) Register for leakages through dam.

vi) Record of measurement of irrigated area

vii) Crop-wise area assessed.

viii) Revenue recovered

Revenue recovery being an important aspect of irrigation management, a review of revenue assessed, recovered and balance at the end of the year is specially taken during such inspections.

Preparation and sanction of Preliminary Irrigation Programme (PIP) before stipulated period, conducting meetings of canal advisory committee, timely and wide publicity to Public Notice, timely submission of rotation-wise water demands (proforma I and IA) and water use (Proforma III and IIIA) by field offices to controlling authorities, daily gauging of discharges through distributaries/minors plays an important role in Irrigation Water Management of a project. Whether such procedure is followed or not is also verified by scrutinizing the relevant records during field office inspections. The lapses, deficiencies noted during the inspection are then communicated to concerned Executive Engineer under intimation to concerned Superintending Engineer, for submitting relevant clarification and taking proper action for improvement in future.

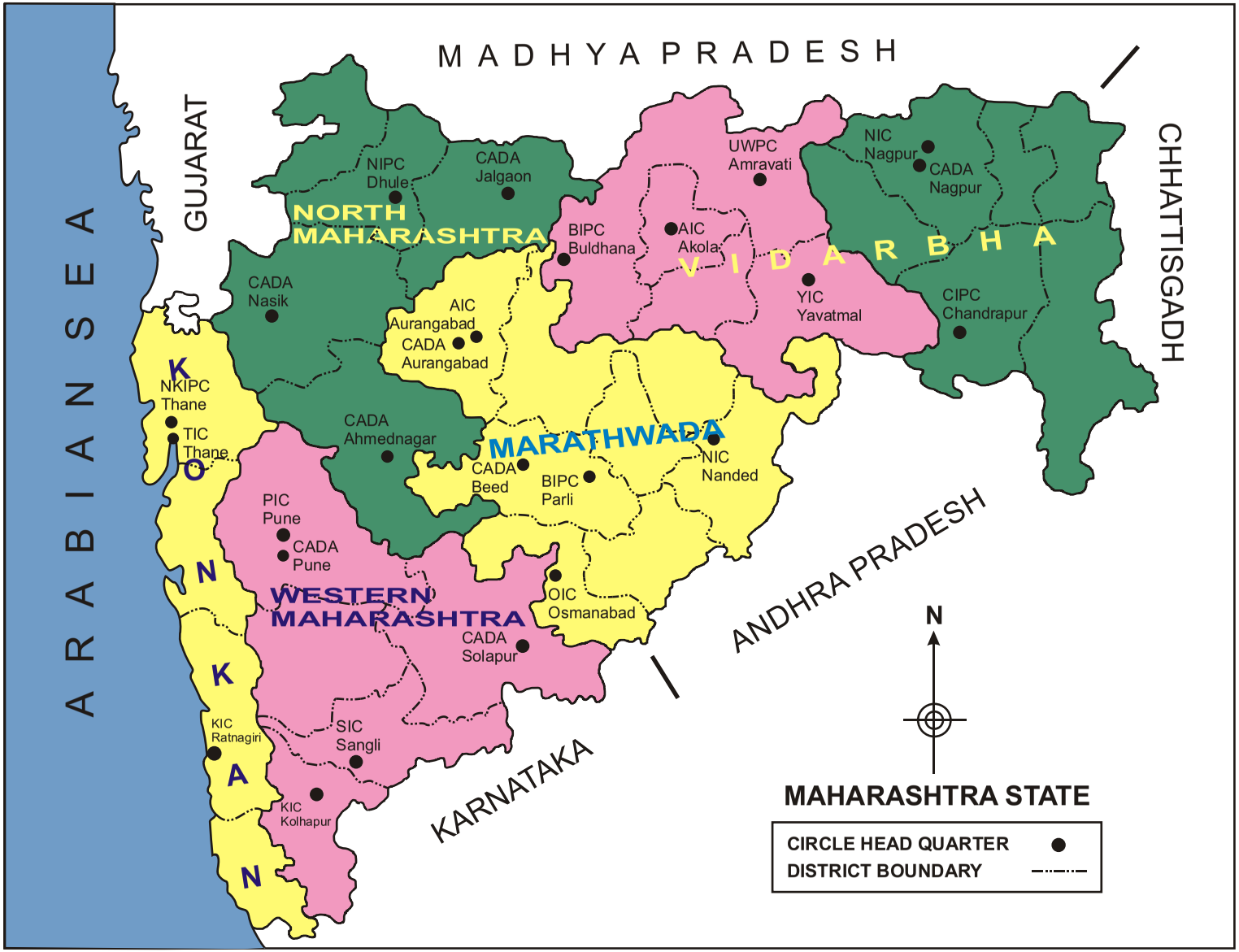
In order to streamline the working of water audit units, inspection/ methodology, procedure for compliance of water audit paragraphs etc, Water Audit Manual is under consideration for approval.

1.7.0 Water Audit Report 2006-07

1.7.1 During 2006-07, water accounts of 55 major, 194 medium &1722 State sector minor projects were received and audited. The water audit report is limited to these projects only.

At present, there are 60 divisions which are looking after the irrigation management mainly of completed projects in the State. There are many projects under construction where partial irrigation potential is created. On these projects irrigation is managed by construction organization only. Obviously, Water accounts of such projects are not received; hence those projects are not covered in this report.

MAP SHOWING LOCATION OF IRRIGATION CIRCLES



1.7.2 The annual office inspection Programme for 2007-08 is prepared and communicated to respective management circles. The inspection of management division/ Sub-division / section offices is in progress. The status of inspection (Audit year 2006-07) from September 2007 till December 2007 is as below:

Water audit unit No.	Number of Divisions	
	Total	Inspected
1	20	7
2	21	7
3	19	4
Total	60	18

1.8.0 Supporting activities taken for improvement in IWM

1.8.1 Training & capacity building:

Every year, WALMI, Aurangabad conducts short-term and long-term courses in Irrigation Water Management. The trainings are given to in-service engineers working in the department. Training of interdisciplinary nature, is given to the staff engaged in IWM and Land Development, in Water Resources and Agriculture Departments in various cadres, office bearers of WUA, farmers and women engaged in irrigated agriculture.

On farm trainings are also conducted by WALMI, Aurangabad on specific demands by Water Users' Associations or project field officers.

Sectional Engineers, Deputy Engineers working in irrigation Circles are expected to check the water accounts received from irrigation management divisions. While scrutinizing water accounts of different irrigation projects some lapses, discrepancies were observed. To have accurate water account & Water Auditing being a new concept, it was felt necessary, to impart training to these Sectional Engineers and Deputy Engineers. Accordingly, two days training course on water audit was conducted in June 2006 with the help of WALMI. Through this course, training has been given to 57Sectional Engineers, 13 Sub divisional Engineers and 7 Executive Engineers. On the request of CE (Local Sector),a five days training course was also arranged for Engineers working in that Organization, so as to introduce Water Auditing in Water Conservation Department where more than 1.298 Mha potential is created so far.

A voluminous data is required to be handled while checking and analyzing the water account. For easy & speedy handling of data, use of computer is inevitable. Two advanced training courses were arranged for engineers working in Irrigation Circle & Division offices in the state. All the irrigation circles responded well to these training courses.

1.8.2 Guidelines for efficient and economical use of water

Detailed guidelines are issued from time to time by Government, for efficient and economical use of water available for irrigation. Some extracts from the Government Resolutions dated 14.03.1988, 02.11.1988, 7.3.2001, 05.12.2001; 21.11.2002 and 20.05.2004 are as follows.

i) Irrigating maximum possible lands with available discharges.

ii) Adopting rotational water supply.

iii) Keeping flow period to the minimum possible by letting maximum possible discharge in canal to minimize the transit losses.
iv) Encourage night irrigation.
v) Encourage farmer's participation in irrigation planning and implementation through canal advisory committees, and village meetings.
vi) Keeping water accounts rotation-wise and season-wise water accounts for watching the efficiency of water use by concerned field staff & officers.
vii) Setting up evaporimeters at every project, having CCA more than 1000 ha, for correct assessment of evaporation.
viii) Providing measuring devices on canals wherever necessary.
ix) The responsibility of giving water account of minor projects rests with the concerned Sub Divisional Engineer and Executive Engineer and with the Executive Engineer & Superintending Engineer in case of major & medium projects.
x) The norms for Irrigation System Performance in Rabi & Hot Weather season are decided as 150 ha/Mcum and 110 ha/Mcum respectively.
xi) Percentage checking of cropped area by Executive Engineer, Sub-Divisional Engineer & Section Officer for assuring 100 percent assessment of irrigated area.
xii) Norms for Quota of water for lift irrigation on reservoir and canals
xiii) Agreement for water supply for Non Irrigation water use (by electronic meter) and assessment of water revenue.

A statement showing list of important Resolutions and circulars, issued by GOM, from time to time is appended as follows:

Important Government Resolutions / Circulars related with Water Account and Irrigation Management.		
Sr. No.	Particulars	Details of Acts / GRs / Circulars
1	Maharashtra Irrigation Act 1976	
2	Maharashtra Management of Irrigation System by Farmers Act 2005	
3	Maharashtra Water Resources Regulatory Authority Act 2005	
4	Percentage checking of Cropped Area by Executive Engineer, Sub Divisional Engineer & Section Officer	P.W.D. Hand Book No. 25, Item No. 10.
5	Silt accumulation in live storage	Circular BKs 1091 / 468 / 91 / IMP dated 5.5.1992
6	Setting up Canal Advisory Committees	GR (Marathi) CME / 1099 / 179 / 99 IM (P) dated 22.8.2000.
7	Guidelines for Water Use in Reservoirs	GR Misc./ 10 (19/2000 IMP) dated 7.3.2001
8	Farmers' Participation in Irrigation Water Management	GR WUS / 1991 / 417 / IMP dated 5.7.2001 and 23.7.2001

Sr. No.	Particulars	Details of Acts / GRs / Circulars
9	Account of Water in Reservoirs	GR (Marathi) Misc. 11(760/01 IMP) dated 5.12.2001
10	Guidelines for sanction to lifting water from reservoir, canal, notified river etc.	GR (Marathi) Misc. 10.01/ (378/2001) IM (P) Dated 21.11.2002
11	Irrigation Management and Irrigation Sanctions	Misc. / 10 / 87 / 2001 / IMP dated 31.3.2003
12	Maharashtra State Water Policy 2003	GR Misc. 1002 / 250 / 2002 IM(P) dated 30.7.2003
13	Water Account and Audit Procedure	CDA / 1002 / 226 / 2002 CAD(W) dated 26.6.2003, 12.11.2003 and 14.9.2005
14	Non Irrigation water supply, agreement and assessment of water revenue for NI water use	GR (Marathi) NIWS / 10 / 2001 / (713/2001) dated 11.06.03 and NIWS / 10 / 1001 (713/2001) dated 20.05.2004
15	Watershed Development Works can be taken in tail command if water does not reach the tail end.	GR (Marathi) EGS-1005 / 142 / EGS-6, dated 6.9.2005
16	Keeping & maintaining office records ,documents, files about IWM	Misc/2004(140/04)IM(P) Dt.29/1/2005
17	Measurement book for NI use & bill recording	Misc/WSR/1006/(135/06) IM(P) Dt.27/4/2006
18	Increase in water rates for NI use	WSR/2006/(396/03) IM(P) Dt.31/7/2006
19	Subsidy in M&R grants to WUA	WUA 1007/(323/2007) IM(P) Dt.22/6/2007
20	50% Concession in water rates for Wheat, Rice, Gram crops under central Govt.food security programme	Misc/2007/(561/2007) IM(P) Dt.11/1/2008

Chapter-2

Annual Water Accounts 2006-07

2.1.0 Rainfall during 2006-07

The State received rains from South-West Monsoon from 31st May 2006. Rainfall received during the period from 31st May to 18th October 2006 was 117% of State's normal rainfall. As per standards specified by IMD, out of 353 Talukas in the state, in 35 Taluka the rainfall received was deficient (between 41 to 80%) whereas in 67 Talukas it was normal (81to 100%). 91Talukas received rain between 100 to 119%. It was more than 120% of average rainfall in 62 Talukas. .

With above availability of rainfall, the storages in the reservoirs in State were as follows.

Sr. No.	Percent Storage	Major	Medium	Minor
1	80 to 100	50	168	1415
2	50 to 80	2	13	193
3	Below 50	3	13	114

The proformae and procedure to be adopted for Water Audit, were issued by GOM vide circular dated 26.06.2003, and 12.11.2003 and 14.09.05. It was observed that some of the aspects listed below were not covered in the prescribed proformae and therefore, accurate water accounting & assessment of irrigation system was not possible.

i) Reservoir water account
ii) Post monsoon flow
iii) Season-wise account of NI use & reservoir losses.
iv) Water account of water released in river.
v) Number of rotations and crop-wise break up of irrigated area.
vi) Season-wise break up of Water utilized for Non Irrigation use from rivers & canals.

The proforma for annual water account of major & medium projects was revised by Government vide circular dated 14.09.2005 & proformae 6(A) to 6(D) are issued.

Proforma 6 (A): Annual Water Account of Reservoir
Proforma 6 (B): Annual Water Use Area Irrigated & ISP
Proforma 6 (C): Annual Crop-wise Irrigated Area by Canal/ reservoir/ lifts/ River / Wells
Proforma 6 (D): Water Account of K.T. Weirs

Though irrigation potential of 4.132 Mha is created through 3002 projects, the water accounts of 1971 projects were received in MWRDC office and the same were scrutinized. There is increase of 14 projects over last year for auditing. Moreover water accounts of 200 KT weirs/Ex. Malguzari tanks have also been audited but not included in this report.

The plan group-wise distribution of projects is as follows.

Plan group	Major	Medium	Minor	Total
Highly Deficit	1	30	319	350
Deficit	13	81	796	890
Normal	23	35	220	278
Surplus	4	29	78	111
Abundant	14	19	309	342
Total	**55**	**194**	**1722**	**1971**

Some project are complex projects such as Khadakwasla, Bhatghar-Veer, Kukadi, Upper Godavari, Surya, Purna, Pench, Bagh, Lower Wunna, Makardhokla-Saiki which have more than one reservoir / Pickup weir hence these project complexes are considered as one project to have correct water accounts of these complexes.

The National Water Policy 2002, Maharashtra State Water Policy 2003 has recommended planning, construction and management of water resources projects considering basin or sub-basin as a unit. Therefore, the analysis of water accounts is carried out sub basin-wise considering circle as a unit, as irrigation circle is a service provider in irrigation water management.

Some circles are having projects located in more than one category of Plan group of sub-basins. Therefore, these circles will appear more than once in graphical representation of indicators.

However for taking review, proper actions for improving the performance of different aspects of IWM, performance of irrigation projects evaluated by with the help of water auditing is considered at respective level individually or by grouping them on the basis of regional administrative zones.

2.2.0 About this report:

Seven indicators were used for water auditing of Major and Medium projects in water Audit report of 2005-06. After taking the review of usefulness of the selected indicators, some indicators were found redundant where as introduction of some new indicators related with actual area irrigated, conveyance efficiency of canals, existing cropping pattern on the project were found practically important. Accordingly, one indicator is deleted and three indicators are newly introduced in Water Auditing process**.**

For water audit report 2006-07, nine indicators are selected for major projects. Those are;

I. Water Availability in Reservoirs on 15th October

II. Percentage of Actual Evaporation to Live Storage

III. Target and Achievement of Irrigation Potential Utilisation

IV. Water Use Pattern

V. Irrigation System Performance (For Canals)

VI. Percentage of Planned & Actual Non-Irrigation Use

VII.Percentage of Balance Unutilized Water to Live Storage.

VIII.Conveyance efficiency of main Canals

IX. Actual cropping pattern

For the medium projects all above indicators except indicator number VIII (Conveyance efficiency of main Canals) are used for water auditing.

Looking at the number and availability of data, the analysis for minor projects is limited for time being to the following four indicators only.

I.Water Availability in Tanks on 15th October.

II.Percentage of Actual Evaporation to Live Storage

III.Water Use Pattern

IV. Irrigation System Performance

2.2.1 Water Availability in Reservoirs:

The availability of water in the reservoirs depend upon the rainfall in the catchments, storages created on the upstream, watershed development works completed in the catchments. Moreover, for major reservoirs, which perform as flood control measures also, the reservoir filling is governed by reservoir operation schedule and earlier floods are required to be let out in the rivers and reservoir filling is expected at the end of monsoon. This indicator gives percentage of live storage available on the on-set of Rabi season i.e. on 15th October (15th December for projects in Konkan region) for use to the designed live storage of the project.

2.2.2 Percentage of Actual Evaporation to Live Storage:

As the State experiences hot and arid climate, the extent of evaporation is high. The evaporation further depends upon the shape of reservoir, depth or shallowness and period of retention of water in it. As major quantity of water in the reservoirs is used for irrigation, Government has decided sequence of use as Kharif, Rabi and Hot Weather.

2.2.2 Target and Achievement of Irrigation Potential Utilisation:

Water availability for irrigation on any project during a particular year depends upon yield received in the reservoir along with the reservations for NI use, silt accumulation in created storage etc. For optimum and economical use of water, Preliminary Irrigation Programme is prepared in which provisions for NI use, Evaporation losses are made. Area that can be irrigated with the available storage is decided in the PIP. On many projects there is always curtailment in availability of water for irrigation due to increased NI water use. Naturally it becomes important to see whether at least, area targeted in PIP is actually, irrigated or not. If the achievement is on lower side, it is expected to determine the causes for the same so that action can be focussed on lapses in the IWM.

2.2.4 Water Use Pattern:

The major projects in the State are constructed as multipurpose projects. As per Maharashtra State Water Policy 2003, water supply for domestic purpose and industries has priorities above irrigation. Due to growing population, urbanization and industrialization, the demand for water for non-irrigation uses is increasing. Due to lowering of ground water table, many rural water supply schemes are also being planned considering reservoirs of water resources projects as their source of water supply.

Secondly, the cropping pattern established on the project in general is different than the projected cropping pattern. Naturally, the season-wise water use on the project has wide variation with projected water use. Water use on

reservoir lift is distinguishable on some of the projects. Therefore, water use pattern in different projects will give an idea about water use in different sectors.

2.2.5 Irrigation System Performance:

As the State's water resources are scarce, efficient use of water in all sectors of water use is essential. Moreover, the objective of water accounting and auditing is to see that the water in the reservoirs is used efficiently. Irrigation uses about 70 to 75 percent of available water. Presently, the indicator for performance of its use in irrigation sector is considered. Government have decided norms in terms of ha/Mcum Irrigation System Performance in Rabi and Hot weather season.

Though norms for Irrigation System Performance in Kharif season and for lift irrigation are not fixed by GOM, it is felt necessary at least to take review of the actual performance observed on the field.

2.2.6 Percentage of Planned & Actual Non Irrigation Use

Keeping in view the priorities for different uses and reasons for growing demand for non-irrigation uses, it is necessary, to watch the deviations from projected allocations for different sectors of water use. This indicator will give an idea about trend in non-irrigation use and will be base for the reallocation for different uses, if required.

2.2.7 Percentage of Balance Unutilized Water to Live Storage

The only source of water for the State is rainfall. About 88 percent of rainfall is received from June to September and 12 percent after October. Thus, water available in the reservoirs should be fully used (excluding carry over & inflow in HW season) before 30th June every year. This indicator helps in deciding whether there is any unutilized quantity (excluding carry over) in the reservoirs and if it is there, what are the reasons for un-utilization and remedial measures for full utilization.

2.2.8 Conveyance Efficiency of main Canals

Conveyance Efficiency of canals is governed mainly by the leakages through CD Works on the canals, HR / Outlet gates & seepages through embankments. To frame the PIP & to irrigate the area as per set target, conveyance efficiency of the main canals should be known to the concerned field officers. This indicator (at present limited for major projects) will provide the current status of conveyance efficiency with the help of which project authorities can take suitable actions for its improvement in near future.

2.2.9 Actual Cropping pattern

Cropping pattern is always dynamic. It mainly changes with the availability of water for irrigation along with market rates of the agricultural produce. To know the existing trend of cropping pattern on the project, this indicator is introduced.

Chapter – 3

Observations
Major Projects

Indicator I: Water Availability in Reservoirs on 15th October

Highly deficit Plan group

CADA Solapur: On Bhima project (Ujjani) storage was full on 15th October maintaining its consistency for last three years. Storing capacity of the dam is increased hence created storage was more than 100 %.

Deficit Plan group

AIC Akola: Actual Live storage percentage with 15th October design storage on projects under AIC Akola (Katepurna, Nalganga) was 100 % during the irrigation year 2006-07.

BIPC Buldhana: Wan project under BIPC was also 100% full on 15th of October.

CADA Aurangabad: Jayakwadi project Stage-I was 100% full on15th October of the irrigation year, maintaining its consistency for 100% storage for last three years.

CADA Beed: Manjra & Majalgaon projects were 100% full during the irrigation year. Where as on Lower Terna project live storage status was better (100%) than proceeding year (59 %).

CADA Jalgaon & CADA Nashik: Girna project under CADA Jalgaon & Chanakapur project under CADA Nashik were 100% full.

NIC Nanded: Like preceding year, Manar project was 100% full on15th October of the irrigation year. On Purna project which had two reservoirs, namely Yeldari & Siddheshwar, live storage status was better (100%) than preceding year (41%). Vishnupuri project had 41% of designed storage on 15th October, where as it was 100% on 23rd October.

Normal Plan group

AIC Akola & YIC Yeotmal: Each, Arunawati & Pus project was 99% & 100 % full on 15th of October.

CADA Jalgon & CADA Nashik: all projects under these circles were 100% full during the irrigation year.

CADA Pune**:** on Ghod and Kukadi Projects the availability of water was 100% against last year's 99% storage. The storage of Kukadi complex is the combination of five storages.

CIPC Chandrapur: Live Storage of Bor project was 69 % of designed live storage. Live storage was comparatively low compared to its last year's storage.

NIC Nanded: On Upper Penganga project the live storage was built up 100% which was 42% only of its preceding year.

PIC Pune: On all projects except Bhama Askhed, the availability of water was 99%.On Bhama Askhed it was just 38% of design storage. Storage of Khadakwasla is the combination of Panshed, Warasgaon, Terrighar & Khadakwasla dams.

UWPC Amrawati: Upper Wardha project was 100% full on 15th October.

CADA Nagpur: During the irrigation year, Lower Wunna project had 100% designed live storage.

Surplus Plan group

CADA Nagpur: On and average live storage of Bagh, Itiadoh & Pench project on 15th October was 82.35 %. Among these projects, Bagh had 69 % of designed live storage, whereas Pench & Itiadoh projects had 84% & 85% designed live storage respectively.

Abundant Plan group:

CADA Pune: Dhom and Kanher Projects were 100% full maintaining its consistency for last three years**.**

CIPC Chandrapur: Percentages of actual live storage to designed live storage on Asolamendha & Dina project were 65% & 78 % respectively. During last year storages in Asolamendha & Dina were 76% & 67% respectively.

SIC Sangli: Dhundhganga, Warna, Tulsi & Radhanagri, projects were 99 to 100 % full.

TIC Thane: On and average, live storage in 3 projects under the circle was 91% of the design live storage. The storages of projects in Konkan region are considered on 15th December i.e. on onset of Konkan season.

If projects are considered individually, the storage percentages were Bhatsa (86%), Kalamba (100%) and Surya (100%).

Indicator II: Percentage of actual Evaporation to live storage (15th October)

Highly deficit Plan group

CADA Solapur: On Bhima (Ujjani) Project, percentage of evaporation to live storage was 29%.It exceeded by 3% over its last year rate.

Deficit Plan group

AIC Akola: Percentage of evaporation as compared to 15th October live storage on projects considered together under Akola Irrigation Circle was 19.47%. If individual projects are considered, evaporation percentage on Katepurna project (24%) was on higher side to some extent. Irrigation water use in HW & reservation of part storage for Non Irrigation use may be the prime reasons for higher percentage of evaporation.

BIPC Buldhana: Though 43% of storage on 15th October was carried to HW season for HW irrigation & NI water use, the Evaporation percentage with respect to live storage on wan project was reported as 4% only. This indicates that, there are some discrepancies in evaporation data collection. Project authorities are advised to explore the current procedure and rectify it where ever necessary so as to have precise evaporation data.

CADA Aurangabad: On Jayakwadi project Stage-I evaporation percentage was within the normal range (15%).

CADA Beed: Percentage of evaporation to live storage on 15th October on Lower Terna, Manjra & Majalgaon was observed as 48, 36, & 31% respectively. Low utilization of water in Rabi Season compared to the use ascertained in the PIP may be the main cause for increased evaporation. However, the field officers are required to be more vigilant for proper utilization of water in Rabi Season along with checking the procedure adopted while collecting the evaporation data.

CADA Jalgaon: The percentage of annual evaporation to actual live storage (on 15th October) of Girna project under CADA Jargon was 10 %.

CADA Nashik: Annual evaporation on Chanakapur project as compared to 15th October storage was 7 % only. Reasons for such low percentage of evaporation need to be sorted out.

NIC Nanded: On Purna & Manar projects the percentage of actual evaporation (11 & 15 %) was within the normal range. However, on Vishnupuri project the evaporation (33 %) appears to be high compare to 15th October live storage but the project gets 100% full on 23rd October hence evaporatation losses accordingly are just 16%.

Normal Plan group

YIC Yeotmal: In case of Arunawati project, evaporation is high as much as 30%. Last year also, the ratio was 34%. There fore, field officers were suggested to confirm the evaporation rate by verifying the procedure for data collection and empirical constants used while evaluating the evaporation loss. However, the data received for the year 2006-07 confirms that field officers have not taken any requisite action regarding the matter so far.

AIC Akola: Evaporation percentage as compared to live storage in case of Pus project (15%) appears to be in normal range.

CADA Jalgaon: On Hatnur project evaporation percentage to the 15 Th October live storage was 40% which tallies with the project assumptions. Reservation & extensive Non irrigation water use (139.28Mcum) along with 14.31 Mcum water use in HW season may be responsible for higher evaporation losses.

CADA Nashik: On Bhandardara, Kashyapi & Mukane a project under CADA Nashik, evaporation was well below 10 % of 15th October live storage. Project authorities are expected to determine the causes for such low evaporation data recording and are advised to take suitable action to have correct evaporation data.

CADA Pune: On Ghod and Kukdi Projects the ratio was 22 and 15 % respectively.

CIPC Chandrapur: On Bor project, 25% of live storage created on 15th October was unutilized at the end of Rabi Season. Still the percentage of evaporation with respect to live storage is just 6% only. The low percentage of evaporation shows that, the evaporation data collection is erroneous. These facts were brought to the notice of field officers last year also. However, it appears that field officers have not taken suitable action for getting the accurate evaporation data.

NIC Nanded: On Upper Penganga project, the percentage of evaporation has been reduced from 24% (2005-06) to 15 %(2006-07).

PIC PUNE: Evaporation losses on Chaskaman, Pawna, Veer and Bhatghar were in the range of 8 to 9 % only. Last year also, it was about 8%. On Bhama Askhed, the evaporation losses recorded were 21% of the 15th October storage. The field officers from Chaskaman, Pawna, Veer and Bhatghar are advised to explore the current procedure of evaporation data collection so as to have precise & realistic evaporation data on these projects.

UWPC Amravati: Evaporation losses (17%) on Upper Wardha project under UWPC Amarawati commensurate with the project planning.

CADA Nagpur: Out of 189.18 Mcum Live storage created on Lower Wunna project, 40.68 Mcum of water is lost through evaporation. The ratio of evaporation to live storage works out to 22% which is on higher side to some extent. Field officers are expected to explore the reasons for high rate of evaporation data recorded at the project.

Surplus Plan group

CADA Nagpur: Evaporation losses on Bagh & Pench project are 14.65 & 9 % respectively, though about 22 to 30% of available water in both the projects is used in Hot Weather. Project officers may explore the reasons for different rate of evaporation.

On Bagh & Itiadoh project for same meteorological and more or less similar water use condition.

Abundant Plan group:

CADA Pune: On Dhom and Kanher project the percentage of evaporation losses was same as it was during last year.

SIC Sangli: Evaporation ratio observed at Projects Radhanagri (5%) Dhudhgana (3%) & Warna (3%) were exceptionally low which suggest necessity of checking of procedure adopted for collecting the evaporation data. On the contrary, the rate witnessed at Tulsi project (21%), was moderately high. Project authorities

are expected to determine the reasons for wide variations in evaporation rate when all above projects are in same climatic conditions.

CIPC Chandrapur: Evaporation losses on Asolamendha (59%) as compared to 15th October storage (36.7 Mcum) are comparatively high. If the ratio is considered with Maximum live storage on 22nd August (56.375Mcum) it becomes 39% which still appears to be high. Asolamendha being a Kharif oriented project, water use in kharif results in low storage on 15th October. Evaporation losses for this project is evaluated by using the data of near by Agricultural centre. For precise water accounting, field officers are advised to install evaporimeter properly at the project site.

TIC Thane: On Bhatsa (5%) & Kalamba (6%) projects under this Circle evaporation ratio appears to be too low, where as on Surya project it was 20% of the live storage.

2.2.3 Indicator III: Target and Achievement of Irrigation Potential Utilisation

Highly deficit Plan group

CADA Solapur: Actual area irrigated on Bhima (Ujjani) Project (99%) was much close to that anticipated in the PIP.

Deficit Plan group

AIC Akola: Total area irrigated during the irrigation year on projects under the circle is 54% of the PIP. If projects under the circle are considered individually, it appears that achievement on Nalganga project is just 38% of the Preliminary Irrigation Programme. This has resulted in 25.6 Mcum of storage remaining Unutilized at the end of irrigation year. Project Authorities are advised to sort out the realistic reasons for not achieving the target.

BIPC Buldhana: Wan project authorities are also advised to determine the real causes for low (60%) achievement in irrigated area against the set PIP.

CADA Aurangabad : In case of Jayakwadi project Stage-I the area irrigated is very close (86%) to the area planned in the PIP, where as achievement in Paithan right bank canal under CADA Beed is (70%) lesser than paithan left bank canal under CADA Aurangabad (89%).

CADA Beed: The percentage of actual area irrigated to the goal set in the PIP in respect of Majalgaon & Lower Terna was 50 & 85% respectively. Field Officers of Majalgaon are advised to explore & analyze reasons for actual low irrigation compared to area planned in the PIP. On Manjra project actual area irrigated was more than that considered in the PIP. This was on account of area irrigated on reservoir & river lift which was not considered while framing the PIP. On this background, all projects authorities responsible for sanctioning the PIP of a project and suggested to prepare realistic PIP in future.

CADA Jalgaon: On Girna project, actual area irrigated as compared to the total area contemplated in PIP was 83 %.

CADA Nashik: On Chanakapur project, total area irrigated was 200% than that was planned in PIP. More achievement than planned was mainly due to increased irrigation on canal in Rabi season (144%) &363 ha of area irrigated in HW which was not considered in sanctioned PIP. Excessive achievement over planning suggests that, inspire of availability of water, PIP was not planned to utilize all available water for irrigation.

NIC Nanded: On Vishnupuri & Manar projects area irrigated was 126 & 90% of the area planned in PIP. Performance appears to be good. But for realistic analysis, project authorities are advised to check whether, I) The PIP was framed with low ISP ii) Full utilization of available water for irrigation was considered while preparing the PIP. On Purna project achievement was 65 % of the target planned in the PIP. Field Officers are required to vigilant while implementing the irrigation water management so as to achieve the set targets.

Normal Plan group

YIC Yeotmal: According to field officers, canal system has reduced discharge carrying capacity, particularly at tail portion of the system due to deteriorated condition. There fore**,** on Arunavati project, total area irrigated is just 50% of the PIP.

AIC Akola: Performance of Pus project is quite unsatisfactory as irrigated area is 36 % of the PIP.

CADA Jalgaon: On Hatnur project 100 % area was irrigated as per PIP.

CADA Nashik: On Mula project 100 % area was irrigated as per PIP. On Bhandardara project, the actual area irrigated (90%) was close to the target set in the PIP. However achievement was low (77%) to some extent compared to PIP.

CADA Pune: On Kukadi Project, 78% of area considered in the PIP was actually irrigated.

CIPC Chandrapur: Percentage of actual area irrigated to PIP is 51%.

NIC Nanded: On Upper Penganga project though 100% live storage is available actual area irrigated (38%) is quite unsatisfactory. The field officers are required to pay more attention towards irrigation management so as to achieve the target set in the PIP.

PIC Pune: On Khadakwasla, Pawna, NRBC and N.L.B.C. on and average the area actually irrigated were 100% of the area planned in the P.I.P. But on the Chaskaman the ratio was only 30%. Organized efforts are needed to increase the potential utilization on this project.

UWPC Amravati: On Upper Wardha project, though PIP was framed for 28000 ha area, actual area irrigated is 13632 ha only, which 49 % of the set target. Low demand for cotton which has more shares in the Rabi sown area & striking numbers of wells in command area may be responsible for low achievement in area irrigated on canals & reservoir. Field Authorities are advised to motivate people to take water for cotton also.

CADA Nagpur: Total area irrigated on Lower Wunna project is 8549 ha against 10505 ha as planned in PIP.

Surplus Plan group

CADA Nagpur: Total area irrigated on projects under the circle is 132172 ha as against 145798 ha planned in PIP. Percentage of achievement is 91%. If Bagh, Itiadoh & Pench projects under the circle are considered individually, achievement percentage is 73%, 93% & 98% on respectively.

Abundant Plan group:

CADA Pune: On Dhom and Kanher projects, in spite of constant pursuance data about PIP were not made available by the project authorities. Project authorities should confirm whether IWM was carried out by framing the PIP or not.

CIPC Chandrapur: Asolamendha & Dina projects under this circle are predominantly kharif paddy grown projects & irrigation is on agreement basis. There fore, actual area irrigated is 93% & 97% of planned area in PIP.

SIC Sangli: Overall performance of the projects Warna (83%), Tulsi (92%) & Radhanagari (93%) under this Circle was fairly close to the planned area in the PIP.

TIC Thane: Area irrigated on the projects Bhatsa, Kal-Amba & Surya was (117%), (109%) & (84%) of the area planned while framing the PIP. Low potential utilization on Surya project has lead to under utilization of available storage by 26%.

Indicator IV: Water Use Pattern

Highly deficit Plan group

CADA Solapur: Cumulative water use on in all seasons on canal was about 42% of the total water utilization in the year. Total water use considered together on reservoir water use & river lift was more than 45% of the total water utilization. More than 10 % water was consumed for irrigating crops on the reservoir lift.

Deficit Plan group

AIC Akola: Out of 73.92 Mcum of gross utilization on Katepurna project, 33 Mcum & 20.23 Mcum of water is used for irrigation & Non irrigation purpose respectively. On Nalganga project 35.21 Mcum water is use for irrigation.

BIPC Buldhana: On Wan project, more than 87% of total water utilization is for irrigation purpose. Water use each in Rabi & HW season is 45% of total utilization.

CADA Aurangabad: On Jayakwadi project Stage-I the actual water use for irrigation by canal in Kharif is as per PIP, in Rabi & HW season it is nearly same (28%), where as on reservoir lift it is 6 % of total water utilization.

CADA Beed: On Majalgaon project, the actual water use on canal in HW season was more than Rabi by 18%.

On Lower Terna project live storage was 91.221 Mcum. However, evaporation losses considered in the PIP (60.61 Mcum) & actual observed (44.1 Mcum) are nearly 50% of the total utilization. The data appears to be unrealistic. Water use on reservoir and river lift is more (21.5 Mcum) than on canal (18.1Mcum) since river lift includes feeding to D/s KT weirs

On Manjra project water used in HW by canal flow is 25% of the gross utilization.

CADA Jalgaon: On Girna project, as compared to total utilization (421.07 Mcum) major water use is in Rabi season.

CADA Nashik: On Chanakapur project, 57 % of total water utilization was for Non Irrigation purpose.

NIC Nanded: On Manar project water utilization by canal flow for irrigation was 48% of the total utilization, On Purna project water utilization by canal flow in Rabi, HW was nearly same. On Vishnupuri project, the water utilization by canal flow in Rabi season was nearly three times of HW

Normal Plan group

YIC Yeotmal: Area irrigate in HW is more than in Rabi on Arunavati project. There fore water use for irrigation is more in HW (33.427 Mcum) than in Rabi (27.925).

AIC Akola: On Pus project, 77% of total water utilization (65Mcum) is for irrigation on canal & reservoir lift. Water use for irrigation in Rabi & HW is nearly equal.

CADA Jalgaon: On Hatnur project, during last year, irrigation water use on reservoir lift was predominant compared to its use during year 2006-07. During the irrigation 2006-07 water use on reservoir lift is 60% of canal water use.

CADA Nashik: Darna, Kashyapi and Mukane projects are feeder reservoir to the N.M Weir on Godavari River. Some water released from these dams for NM Weir is utilized for irrigation by river lift in the river reaches U/S to the N.M. Weir. During the irrigation year 2006-07, 7.8, 2.8& 2.8 Mcum of water was utilized in Rabi & HW season.

CADA Pune: On Ghod and Kukdi Projects 75 % of available storage was utilized for irrigation.

CIPC Chandrapur: On Bor project, water use for irrigation in Rabi & HW is 64.75 & 15.13 Mcum respectively. It contributes to 95% of total water utilization.

NIC Nanded: On Upper Penganga project, the water utilization by canal flow in Rabi season was 55% of total utilization during the irrigation year.

PIC Pune: On Khadakwasla, Pawna projects; NI water use (401& 192 Mcum) respectively is very high mainly on account of supply of water to Pune and Pimpri-Chinchwad Municipal Corporations. Irrigation Water use on Khadakwasla project is about 445 Mcum.

On N.R.B.C. project 90 % of available storage was utilized for irrigation. UWPC Amravati: On upper Wardha project, 232.61Mcum (93%) of total water use (403.963 Mcum) is in Rabi season for irrigation purpose. To optimize water use for irrigation, though the project is designed as eight monthly projects, 28.754 Mcum of water is used for irrigation in HW. Water use for irrigation on reservoir lift is 20.316 Mcum.

CADA Nagpur: On Lower Wunna project, 71% of total utilization of water (115.44 Mcum) is predominantly for irrigation in Rabi & HW season. Water use for irrigation purpose on canal in Rabi is 102.483 Mcum.

Surplus Plan group

CADA Nagpur: Bagh, Itiadoh, & Pench projects are paddy predominant projects. Most of the water is used for Kharif & HW paddy crop only. Project wise water use for irrigation as compared to gross use on Bagh, Itiadoh & Pench is 90%, 82% & 89% respectively. On Pench project percentage of irrigation water use in Kharif, Rabi & HW is about 27%, 48%, & 16% of total water use respectively. 213.87 Mcum water is used for Non irrigation purpose on Pench project.

Abundant Plan group:

CADA Pune: On Dhom and Kanher project, for irrigation purpose by canal flow, 409.269 Mm3 of available water was used in Rabi and HW season.
SIC Sangli: Radhanagari, Tulashi, Dhudhganga & Warna dams act like feeding reservoirs to series of KT Weirs on D/S stretches of the rivers .Naturally 80% of the total utilization was on river lift. Very meager (0.5%) quantity of water was used on 20 km length of canal so far completed on Warna project.

CIPC Chandrapur: Kharif season is the principle season on Asolamendha & Dina projects. Irrigation water utilization for Kharif paddy on these projects is 77.63 & 59.13 Mcum respectively.

TIC Thane: On Bhatsa (89%) & Surya (35%) Projects, NI water use was appreciably high compared to the irrigation water use 5% each on these projects due water supply to Mumbai Metropolitan city.

Indicator V: Irrigation System Performance (Canals)

Highly deficit Plan group

CADA Solapur: ISP attained on Bhima (Ujjani) project on canal for all the three seasons Kharif 36 Mcum/ha, Rabi 101 Mcum/ha & 50 Mcum/ha were low compared to state target.

Deficit Plan group

AIC Akola: On Katepurna project, ISP observed in Rabi season is 163 ha/ Mcum which is appreciable compared to the state norm. However, ISP realized in HW is quite low (30ha/Mcum). Irrigation over scattered area may be the cause for low ISP. On Nalganga project, ISP observed in Rabi and HW was100ha/Mcum 56ha/Mcum respectively. Field officers are required to explore the reasons for low realisation of ISP in Rabbi Season as IWM over large portion of command area is handed over to WUA & water is supplied on volumetric basis.

BIPC Buldhana: On Wan project, in HW Sunflower is the major crop which has base period from January to April. Major area of Sunflower was supplied with the irrigation water in last two rotations of Rabi season. Major area under wheat was sown late in Rabi which was irrigated in first rotation of HW. This has lead to apparent increase the ISP of project in Rabi (109ha/Mcum) & HW (111 ha/Mcum.

CADA Aurangabad: On Jayakwadi project Stage-I, the irrigation system performance realised was low (Rabi 87 ha/ Mcum, HW 68 ha/ Mcum) compared to the State norms of 150 ha/ Mcum & 110 ha/ Mcum) For right bank canal under CADA Beed performance in Rabi & HW (125 & 60 ha/Mcum) was better than paithan left bank canal under CADA Aurangabad (71 &53 ha/Mcum). The field officers are advised to analyze the achievement and take realistic action for improvement.

CADA Beed: On the Three projects under the circle had low ISP than the State norm. The field officers required to determine reasons for low performance and take suitable action for striking the set targets.

CADA Jalgaon: On Girna project the ISP observed in Rabi (62 ha/ Mcum) & HW (70 ha/ Mcum) season was well below the state target. Though the system is 50 to 60 years old leading to more transit losses, field officers are expected to repair prominent CD Works, reaches having high leakages so as to minimize the transit losses.

CADA Nashik: On Chanakapur project, ISP in all the three seasons appears to be better than state target. But the realization of high ISP was on account of less number of rotations implemented in Kharif (1), Rabi (3) & HW (1). Field officers are advised to analyze the performance by evaluating the ISP for rotations prescribed in standard irrigation practice.

NIC Nanded: On Purna project the ISP observed in Rabi (63 ha/ Mcum) & HW (39 ha/ Mcum) season were quite low compare to the State norms. On Manar projects ISP observed in Rabi season was 75% of the State norms.

Normal Plan group

YIC Yeotmal**:** ISP on Arunavati project in Rabi and HW were 40 Ha/ Mcum & 37Ha/ Mcum respectively, which are too low as compared to state target. According to field officers, due to appreciable leakages through CD works &

reluctance of farmers to night irrigation, transit losses are more in the canal system.

AIC Akola: In case of Lower Pus, ISP observed for Rabi & HW is 48 & 32 Ha/ Mcum respectively only. No change in ISP compared to last years performance suggests that, field officers has not taken suitable action for improving the ISP.

CADA Jalgaon; On Hatnur project water was supplied for irrigation in 4 & 5 rotations in Rabi & HW season respectively. ISP observed in both Rabi & HW season was much below the state target. Also the performance was low compared to last year's performance. According to field officers, irrigation over scattered area of command area & more transit losses in 118 km long canal system are the main causes for realization of low ISP.

CADA Nashik: On Bhandardara project, ISP in Kharif & Rabi season is increased but it is decreased in HW season. According to project authorities slight decrease in performance is due to implementation of more rotations during the irrigation year.

On Kadwa project, there is no improvement in ISP in Rabi & HW season over last year's performance. According to field officers, low performance was on account of non maintenance of canal system since 2005-06.

On Mula project, though there is improvement in ISP in Rabi season, it has been rolled down in HW season as compared to last year. Field officers are expected to investigate the reasons for low ISP particularly when the IWM is handed over to WUA & the water was supplied on volumetric basis.

CADA Pune: On Ghod project, in kharif season ISP observed was 331 ha/mm3 with one rotation where as in Rabi & HW season with three rotations, it was 165 ha/mm3 & 58 ha/mm3 respectively.

On Kukadi project ISP attained in Kharif, Rabi & HW seasons was 429 ha/mm3, 170 ha/mm3 & 62 ha/mm3 respectively. Performance appears to be better on account of water was supplied with limited number of rotations.

CIPC Chandrapur: On Bor Project, as compared to state target ISP observed in Rabi (63ha/Mcum) & HW(15ha/Mcum) is too low compared to the State norm as well as last years performance. Field officers are advised to take stringent action to improve the system performance.

NIC Nanded: On Upper Penganga project the ISP observed both in Rabi & HW season (66 ha/ Mcum & 50 ha/ Mcum) were very low in spite of percentage of crops requiring lesser water is high. On this project performance of this Indicator and 3rd Indicator (percentage of total area irrigated to total area as per PIP) indicates that of actual area irrigated is low than planned and whatever area was irrigated was supplied with the excessive water for irrigation. It underlines the necessity of field officers to be more careful in irrigation water management of the project.

PIC Pune: On Khadakwasla, Pawna, projects ISP attained on canal in Kharif, Rabi & HW season season was 82,100 & 64 Ha/Mcum respectively. Only two & three rotations were given in Rabi & HW season respectively.

On Chaskaman Project, in Rabi season, the ISP observed was 169 ha/mm3 (3 rotations) and in H.W. Season the performance was 116 ha/mm3 with four rotations. The performance appears to be satisfactory as compared to the state norms.

On NRBC the ISP realized in Kharif season was 145 ha. / Mcum and 129 ha/mm3 and 80 ha/mm3 in Rabi and HW seasons respectively. Three rotations were given in each season. There is slight improvement in ISP of Rabi over its last year performance.

UWPC Amravati: On Upper Wardha project, ISP realised in both Rabi (47ha/Mcum) & HW (5ha/Mcum), is quite below the State norms. It is even low compared to its last year's performance. As per project authorities, apathy of farmers towards night irrigation & scattered irrigated area are the main causes for low performances. For improving the ISP, actions suggested in last years report (proper planning, implementation, co-ordination among concerned irrigation divisions and monitoring of day to day water rotation schedule at Circle level, promoting Night irrigation, repairs to gates etc) are necessary to curb the operational & seepage losses on the project.

CADA Nagpur: In case of Lower Wunna project, ISP observed in Rabi & HW is 59Ha/ Mcum & 22 Ha/ Mcum respectively. Though there is no change in No. of rotations implemented in Rabi Season during the irrigation year & its preceding year, there is reduction in ISP by 43%. Field officers are expected to explore the reasons for such reduction in ISP and take suitable action for its improvement.

Surplus Plan group

CADA Nagpur: ISP realised in kharif season on Bagh project is 254 Ha/ Mcum. On Itiadoh & Pench project, it is 148 & 155 Ha/ Mcum. On and average the ISP on these two projects for kharif season has rolled down compared to its last year performance. ISP observed in Rabi (54ha/Mcum) & HW (20ha/Mcum) season on Pench project is also too low compared to the State target. Reasons for fall in ISP, In spite of expending more amounts on M& R works during the year compared to preceding year needs to be explored. On Bagh project ISP realised in HW is 62 Ha/ Mcum. ISP is probably low as HW Paddy is the only crop irrigated which requires more water.

Abundant Plan group:

CADA Pune**:** On Dhom project in Rabi & HW seasons the performance was 87 ha/mm3 and 44 ha/mm3 which was low compared to state norms. Same is the case with Kanher project.

CIPC Chandrapur: On Asolamendha & Dina project ISP observed in kharif season is 221 Ha/ Mcum & 326 Ha/ Mcum respectively. ISP realised on Dina project in HW (64ha/Mcum) is comparatively low. Paddy crop irrigated in scattered command area is the main cause for realizing low ISP.

TIC Thane: The low ISP on canal of Surya (56 ha/Mcum), Bhatsa (65 ha/Mcum) & Kal-Amba (42 ha/Mcum) in Konkan was due to Irrigation in HW along with steep topography, pervious strata.

Indicator VI: Percentage of Planned and Actual Non-irrigation Use

Highly deficit Plan group

CADA Solapur: On Bhima (Ujjani) Project, NI use was 96% of the reservation considered while preparing the PIP.

Deficit Plan group

AIC Akola: Actual NI use on Katepurna project was 62% of the provisions in the project report. The same was 80% of the reservations considered in the PIP. This indicates that field Officers need to be more careful while preparing the PIP.

Actual NI use on Nalganga project was 64% of the provisions in the PIP.

BIPC Buldhana: On Wan project, actual NI use as compare to quota reserved in PIP is 95% only.

CADA Aurangabad: In Jayakwadi project Stage-I there was no provision for NI use in the project report. Actual NI use for paithan left bank canal & right bank canal was observed to be 94% of the provisions made in the PIP.

CADA Beed: In Manjra there was no provision for NI use in the project report. However, some reservations are sanctioned after commencement of irrigation management. In case of Lower Terna project actual NI use was 63% to that was assumed in the PIP. The field Officers needs to be more careful while preparing the PIP.

CADA Nashik: On Chanakapur project actual Non Irrigation use is lower (31.24 Mcum) than that considered in PIP (55.84 Mcum). For better utilization of available water, the field officers are advised to prepare PIP as per actual NI water requirement only.

NIC Nanded: On Manar & Purna projects, the actual NI use was 21% & 32% of the quota considered in the PIP. The project authorities should be careful while assessing the realistic NI demand while finalizing the PIP.

Normal Plan group

YIC Yeotmal: Actual NI water use on Arunavati project was 22% of the provisions in Project report& PIP. Water reserved on account of NI use appears to have gone waste. Project authorities should exercise proper care while resaving water for NI use.

AIC Akola: On Pus project water reserved in PIP was fully utilized during the irrigation year.

CADA Jalgaon: On Hatnur project actual N.I. water use was higher than that was considered in project report (454%) as well as in PIP (117%). The field officers are required to prepare the PIP as per actual requirement.

CADA Nashik: On Bhandardra & Gangapur projects, the actual Non Irrigation water use has been excessively exceeded the provisions in PIP (320% & 157 % respectively) This suggest necessity of framing PIP considering real NI requirements so that abrupt increase in NI water requirements will not hamper the sanctioned irrigation programme.

CADA Pune**:** On Ghod project, NI water use was more than that is contemplated in the project report**.**

NIC Nanded: On Upper Penganga project, though projected NI use is nil actual NI use during the irrigation year was 40.36 Mcum which was 60% of the provisions in the PIP. It shows that PIP was framed considering the erroneous data.

PIC Pune**:** On Khadakwasla project, the actual NI water use was 98% of the provisions in the project report.

UWPC Amrawati: On Upper Wardha project actual NI water use was 96% that was considered in PIP.

CADA Nagpur: on Lower Wunna project 59% of storage reserved for NI use was actually used during the irrigation year.

On the projects, where substantial quantity of water is remained unutilized at the end of irrigation year, Field officers are required to be more careful while framing the PIP of the project, so that the storages available during the year will be fully utilized during the year only.

Surplus Plan group:

CADA Nagpur**:** Actual NI water use on Pench project was119% of the provisions in project report. However it was 85% of the quota considered while preparing the PIP.

Abundant Plan group:

CADA Pune: On Dhom project the actual NI water use was 15% of the provisions in the project report.

SIC (Sangli): NI water use on Dhudhganga, Warna & Radhanagari was more (123%, 121%, and 95% respectively) than the anticipated water use in PIP.

TIC Thane: NI Water use, on Bhatsa was 146% of the provisions in PIP.

Indicator VII: Percentage of Balance Unutilized Water to Live Storage (15th October)

Highly deficit Plan group

CADA Solapur: Conveyance efficiency attained on canals was about 50% only. It suggests considerable losses on account of seepage/leakages along the canal length. 99% achievement in area irrigated with respect to PIP if linked with attained ISP, IT confirms that PIP was prepared with low ISP than the state target which is not desirable. Proper action may be taken improve the efficiency of the canals.

Deficit Plan group

AIC Akola: More than 36% of available storage (excluding inflow in HW) has gone waste as unutilized storage on Nalganga project. Proper organizational efforts should be taken to utilize all available live storage.

BIPC Buldana: On Wan project also 6.23% of available live storage was remained as unutilized storage at the end of irrigation year.

CADA Aurangabad: On Jayakwadi project Stage-I unutilized storage was 297 Mcum which is quite high. The field officers should plan and execute the PIP so as to utilize the full available storage during the irrigation year.

CADA Beed: On Lower Terna project, at the end of irrigation year unutilized storage was 11% of the live storage. As per field Officers justification unutilisation was due to in-complete disnet work in the command area of the project, suitable early steps to be taken up for completion.

CADA Nashik: On Chanakapur project the quantity of unutilized water at the end of irrigation year was 26 % of available storage on 15th October. The unutilized storage was excessively high than the requirement of NI water use in the month of July 2007. It suggests that, field officers were required to be more vigilant so that an additional water rotation could have been given from the unutilized storage.

Normal Plan group

YIC Yeotmal & CIPC Chandrapur CADA Nagpur: On Arunavati, Bor & Lower Wunna projects, unutilized storage appear to be nil and 4.04% respectively, considering provisions of Design Carry Over of 72, 15.8 & 25.6 Mcum in the project report. Project authorities also justify the unutilisation on the account of provisions of Design Carry Over in the project report.

AIC Akola: In case of Pus project, unutilized storage was 3.79% percent of the storage on 15th October. According to the field officers, unutilized storage on the project was due to low water demand from the cultivators. However, to have full water utilization, necessary steps are needed at the field level.

CADA Pune**:** On Ghod project 4% of water remained unutilized where as in Kukadi complex 9% of water remained unutilized in reservoir, project authorities should pay attention for full utilization of water.

NIC Nanded: On Upper Penganga project UN utilised storage at the end of year was about 43% of live storage on 15th October. Reasons for low utilization may be sorted out at field level for deciding the suitable action planned for improvement in future.

PIC PUNE**:** On Khadakwasla, Chaskaman, N.R.B.C., N.L.B.C. and Bhama Askhed the average un-utilization water is 0 to 6% storage is remained as unutilized at the end of the irrigation year. However on Pawna project, 25% of the live storage is remained un-utilised at the end of irrigation year. Reasons for unutilisation need to be investigated.

UWPC Amravati: On Upper Wardha project 29.47% of available storage is remained unutilized at the end of irrigation year. The project is eight monthly projects. The command area is mainly traversed by Black Cotton Soil. Also the command area lies in assured rainfall zone. Therefore, practically there is very low demand for water for kharif Jowar & cotton (which contributes substantially in designed cropping pattern) kharif & Rabi season. Therefore according to project authorities water remains unutilized at the end of the irrigation year. For better water utilization, a new cropping pattern is approved by the competent authority. Preparation and implementation of PIP as per new cropping pattern along with motivating cultivators for cotton will help in utilizing available storages in future.

Surplus Plan group

CADA Nagpur: In Itiadoh project, the unutilized storage at the end of irrigation year was very meager i.e. 0.61% of live storage on 15th October.

Abundant Plan group:

CADA Pune: In Dhom and Kanher projects the 5% and 12% water remained unutilized. The project authorities should pay attention for full utilization of water.

In case where there is provision of design carry over in the project report, concerned field officers should bear in mind that, provision of Design Carry Over on any project is to meet the needs of standing perennial crops in Kharif if monsoon rains late in ensuing irrigation year. On number of projects, details of irrigated crops shows that percentage of standing perennial crops was very meager compared to the Design Carry Over. To avoid wastage of water on account of Design Carry Over field officers should be careful while framing the PIP of such projects.

Indicator VIII: Conveyance efficiency of main Canals

Highly Deficit Plan group

CADA Solapur: Conveyance efficiency attained on canals was about 50% only. It suggests considerable losses on account of seepage/leakages along the canal length. 99% achievement in area irrigated with respect to PIP if linked with attained ISP, IT confirms that PIP was prepared with low ISP than the state target which is not desirable. Proper action may be taken improve the efficiency of the canals.

Deficit Plan group

AIC Akola: Conveyance efficiency realized on Nalganga project in Rabi & HW seasons was 84% &13% respectively. Scattered irrigation may be the reason for poor efficiency in HW season.

BIPC Buldhana: On Wan project it was 93% for both the seasons i.e. Rabi & HW.

CADA Aurangabad: On Jayakwadi project Stage-I the conveyance efficiency of paithan left bank canal & paithan right bank canal was within the range of 78 to 83% both in Rabi & HW seasons.

CADA Beed: On Lower Terna project the efficiency observed on LBC was 57% & 75% respectively in Rabi & HW season. This shows that the canal efficiency is less in Rabi season the field officers are advised in sort out the problems for enhancing the efficiency of the canal.

CADA Jalgaon: Conveyance efficiency observed on Panzan left bank canal was 60 & 66 % in Rabi and HW season respectively. However the efficiency attained on Jamada weirs canal were as below:

Canals	Rabi	HW
LBC	72 %	53 %
RBC	66%	83 %

Proper efforts are required to increase the efficiency on both the canals.

CADA Nashik: The conveyance efficiency attained on right bank canal of Chanakapur project in Rabi & HW season was 72 & 59 % respectively. Field officers are advised to take proper action to improve the conveyance efficiency of right bank canal.

NIC Nanded: Conveyance efficiency of canal systems of Manar, Purna & Vishnupuri projects ranges between 71 to 85%. The field Officers are required to take systematic steps to improve the conveyance efficiency of the canals.

Normal Plan group

AIC Akola & CIPC Chandrapur: On the main canal system of Pus project, conveyance efficiency attained was 64% & 57% only in Rabi & HW respectively. Where as on Bor project's canal system, it was low i.e.46 &18%.Concerned Field officers are advised to focus on curbing the operational losses, seepages & leakages in the canal system by chalking out an effective action plan.

In spite of pursuance, data about conveyance efficiency was not made available by the project authorities of Arunavati, Lower Wunna & Upper Wardha of Normal plan group along with project authorities of Pench, Bagh, Itiadoh, Asolamendha& Dina projects under Surplus& Abundant Plan group.

CADA Jalgaon: Conveyance efficiency of right bank canal of Hatnur project was 78% & 35 % IN Rabi & HW season respectively. Reasons for such large variation in efficiency of two seasons' needs to be sorted out & suitable action must be taken to minimize the transit losses.

CADA Nashik: On Bhandardara project, the efficiency of both the canals in Rabi & HW season is about 50 % only.

On Mula project, the efficiency of left bank canal in both the seasons (Rabi & HW) was lower than that of right bank canal.NIC Nanded: On Upper Penganga project. The conveyance efficiency observed on both the canals was in the range of 75 to 96%.

CADA Pune**:** Conveyance efficiency of the canal system of Ghod project in Rabi and H.W. season was 49 and 53% respectively.

On Kukadi project Conveyance efficiency observed in Rabi and HW season was 73 % and 80 % respectively.

PIC PUNE**:** Conveyance efficiency of the canal system of Khadakwasla, project in Rabi and H.W. season was 34% and 29% respectively.

On Chaskaman project the ISP in Rabbi and HW season was 41% and 31% respectively.

Conveyance efficiency observed on NRBC (Veer Project) in Rabi and HW season was 53% and 48% respectively. Field officers concerned with above projects are advised to take necessary steps to improve it in future.

Abundant Plan group:

CADA Pune**:** On Dhom project Conveyance efficiency observed in Rabi and HW season was low i.e. 59% & 43% respectively.

On Kanher project the conveyance efficiency in Rabi and HW season was 57% and 61%.

Field officers concerned with above projects are advised to take necessary steps to improve it in future.

Indicator IX: Actual Cropping Pattern

Highly deficit Plan group

CADA Solapur: More than 45% of the area irrigated was perennial where as 27% crops were Rabi seasonal

Deficit plan group

AIC Akola: Rabi seasonal are the principle crops on Katepurna (92%) & Nalganga (73%) projects with 7% & 23% Two seasonal as secondary crops.

BIPC Buldana: On Wan project Rabi crops were irrigated over 93% of total irrigated area.

CADA Aurangabad : In Jayakwadi project Stage-I for paithan left bank canal & paithan right bank canal average percentage of Rabi seasonal & Perennial crops is 34 & 39 % in HW it is 16%, in case of paithan right bank canal percentage of perennial crops is 69% which is high than that of paithan left bank canal (33%)

CADA Beed: The percentage of Perennial crops in Majalgaon & Manjra projects is 71% & 78% respectively which is too high, where as it is 48 % in Lower Terna project. Field Officers are requested to divert the minds of farmers for taking Rabi & HW seasonal crops.

CADA Jalgaon: In Girna project, about 65% crops are under Rabi season. The perennial crops are about 5%, which are Sugarcane & Banana.

CADA Nashik: In Chanakapur project, 65% crops are under Rabi season. However HW & perennial crops are only 2% each.

NIC Nanded: The percentage of perennial crops in Vishnupuri, Manar & Purna project is ranges from 11 to 30%.

Normal Plan group

AIC Akola: percentage of Rabi & HW seasonal ON Pus projects were 54% & 27% respectively.

YIC Yeotmal: On Arunavati project Rabi and HW seasonal were 34 & 39 % where as Perennial crops were on 17% of the irrigated area

CADA Jalgaon: In Hatnur project, major percentage of crops (65%) is under Rabi season & 30% crops (Sugarcane & Banana) are under perennial.

CADA Nashik: In Bhandara project, the percentage of crops under Rabi & perennial is 45% & 33% respectively. The predominant crops under Rabi season are wheat & gram, and in perennial, the predominant crop is Sugarcane.

In Mula project, the percentages of crops in Rabi & perennial are 50% and 25% respectively.

In Darna and Gangapur projects, the percentage of crops in Rabi & perennial season are bout 50% % & 15% respectively.

CADA Pune**:** On Ghod and Kukadi complex projects the major irrigation was in rabbi and more or less same (20%) in Kharif & HW season.

PIC Pune**:** On Khadakwasla project, the principal crops were Rabi (45%) & HW (27%). The major Irrigation on Chaskaman, Pawna, NRBC and Bhama-Askhed project was in Rabi season**.**

UWPC Amrawati: On Upper Wardha project, 82% crops were under Rabi season and 13 % crops were in HW.

CADA Nagpur & CIPC Chandrapur: Rabi seasonal on Lower Wunna & Bor projects were 97% & 93% respectively.

Surplus Plan group:

CADA Nagpur: Bagh (87%), Itiadoh (67%) & Pench (56%) projects are Kharif predominant. Rabi seasonal percentage on Pench Project was 39 and HW Paddy were on 14 & 33% area on Bagh& Itiadoh projects.

Abundant Plan group

CIPC Chandrapur: Asolamendha (100%) & Dina (95%) projects are totally Kharif projects.

CADA Pune**:** On Dhom and Kanher projects 60% crops were Rabi seasonal & 10 to 13 % crops were Kharif seasonal. Contribution of perennial crops was about 14 %.

SIC Sangli: Area below perennial was more than 85% on Dhudhganga, Tulashi & Radhanagari. On Warna same was about 75%.

TIC Thane: On Bhatsa, Surya & Kalamba HW paddy was the main crop irrigated with 13 to 34 % perennials on Bhatsa & Kalamba.

Medium Projects

Indicator I: Water Availability in Reservoirs on 15th October

Highly Deficit Plan group:

CADA Beed: Mahasangvi & Khasapur project had 100% storage during the year 2006-07. Maintaining its proceeding year's status, where as in other projects, namely Kadi, Mehakari, Ruti and Talwar it had increased to 100% over last year's storage of 0 %.
CADA PUNE: Yeralwadi project had 100 % storage during the year.
CADA Solapur: Percentage of live storage on projects Higni Pargaon Mangi & Jawalgaon was (91%), (101%), (98%) and (84%) respectively.

Live storages on Bhudhihal (-14%), Bori (11%) & Ekhukh (21%) were comparatively low.
PIC Pune: Khairy, Nher and Sina projects had 100% storage this year.

Deficit Plan group

CADA Aurangabad: Karpara, Masoli, Kalyan, and Kalyan Girja Projects were 95% to 100% full during the year. Where as in Girija, Upper Dudhana & Dhamna projects average storage were 75%.

AIC Akola: On and average live storage on projects under this circle was 96%. Dnyanganga, Nirguna, Shahanoor, Uma, Paldhag etc projects had 100% live storage during the irrigation year. Storage in Mas project had 68 % storage.

BIPC Buldhana: Live storages in Man, Torna & Utawali projects were 100% full.

CADA Beed: All projects were 100% full except Saraswati, Masalga, Raigavan and Tawarja which had on and average 70% storage.

CADA Jalgaon: During last year, only Rangawali & Burai projects were100% full. However during this year, all the (10) projects under the circle had 100% designed live storage.

CADA Nashik: All (4) projects under the circle, had 100% live storage. In Ghatshil pargaon project, there was no storage for last two years which was full 100% this year.

JIPC Jalgaon: In Bahula project, the availability of water was 100%.

NIC Nanded: Almost all projects had 100% live storage for successive two years except Mahalingi project which had 64 % live storage compare to last years 100%.

UWPC Amravati: Chandrabhaga project had 100% live storage on 15th of October.

Normal Plan group:

CADA Aurangabad: Ambadi & Dheku projects were about 85% full in 2006-07, where as in Kolhi yield has been increased from 12% (2005-06) to 88% (2006-07).

AIC Akola: All 8 projects under the circle were (100%) full.

CADA Jalgaon: In Karwand, Abhora & Suki projects, over last year, the yield was increased from 33%, 66% and 89% to 100% respectively. Where as in Aner, Jamkhedi, Panzra and Malangaon projects, the yield was 100% for last two years.

CADA Nashik: In all projects under the circle, the yield was 100% for last three years.

CADA Pune: Visapur project had 100% storage.

CIPC Chandrapur: Actual live storage on Amalnalla, Pothara & Dham projects was 100 % full.

JIPC Jalgaon: In Bhokar & Mor projects the storage was 100% & 48% respectively.

NIC Nagpur: Live storage on Dongargaon Jam & Kar projects was 100%.

NIC Nanded: Nagzari & Loni had slightly increased yield compare to last year In Dongargaon the condition was a vice-versa.

PIC Pune: Water availability on Ranand, Andheli, Nazre, Tisangi Wadiwale projects was 100%. Kasarsai had 99% storage and Maswad project was 31% full during this year.

YIC Yeotmal: Adan project under the circle was 100 % full.

Surplus Plan group

CADA Nagpur: Live storages on 7 projects in Middle Wainganga sub basin had vide variation i.e. between 17 to 41%. Live storage of 8 projects was between 50 to 75%. Remaining projects had the storage between 53% to 91%. Three projects namely Makardhokda-Saiki, Mordham & Kanholibara had100% live storage.

CIPC Chandrapur: Live storage on Labhansarad, Pakkadigudam was 100% where as on Chandai & Chargaon it was 89% & 92% respectively.

Abundant Plan group:

CIPC Chandrapur: Under this Plan group Naleshwar & Ghorazari project had 83% & 45% live storage respectively.

NKIPC Thane: In Hetwane project storage built was 52%.

KIC Ratnagiri: In Natuwadi project, the storage was 90%.SIC Sangli: Percentage of availability of live storages on different projects namely Chitri Kadvi, Khumli, Patgaon, Morna, Shidhewadi & Yeoti Masoli was 100%.

Indicator II: Percentage of Actual Evaporation to Live Storage on 15th Oct.

Highly Deficit Plan group

CADA Beed: There is a huge loss of evaporation in Ruti, Talwar, Kambali, Kadi, Kada, Jakapur, Benitura, and Mehkari projects which ranges from 54% to 81%. For other projects the loss ranged from 12% to 36%.Field officers are advised to plan & utilise the optimum storage in Rabi season only so as to avoid such huge evaporation losses. Project authorities are also suggested to check the evaporation data collection procedure on these projects.

CADA Pune: Yeralwadi project had 25% evaporation losses as compared to 15th October storage.

CADA Solapur: Percentage of evaporation on different projects was as shown herewith. Ashti (48%), Hingni (35%), Mangi (29%), Bori (137%), Ekrukh (59%), Jawalgaon (36%).

PIC Pune: Khairy, Nher and Sina projects had evaporation ratio as 19%, 32% and 22% respectively. The amount of evaporation losses were low than last year.

Deficit Plan group:

AIC Akola: Morna, Uma, Nirguna & Mas projects had evaporation ratio more than 20 %. Where as ratio was low as 9% on Shahanoor project.

BIPC Buldhana: The ratio on Mun, Torna and Utavali was on and average 18 % only.

CADA Aurangabad: Projects namely Tembhapuri, Purna Nevpur, Narangi & Bordahegaon were initially in the jurisdiction of AIC Aurangabad. However, recently these projects are handed over to CADA Aurangabad for management purpose. The data regarding these projects is shown under the AIC Aurangabad. On all projects, there was on and average 35% evaporation losses compared to live storage, but in Tembhapuri, Purna Nevpur, Narangi & Bordahegaon projects, the losses were high which ranges from 50% to 71%, project authority are suggested to check the basic evaporation data collection procedure.

CADA Beed: In Belpara & Tawarja also, the evaporation losses were huge (66% & 61% respectively). In other projects, the losses were ranging from 34% to 50%. More losses can be contributed to more water use in HW season. Field officers are required to plan & to utilize the available water maximum in Rabi season to avoid such huge evaporation losses.

CADA Jalgaon: In Tondapur & Hivra projects, the field officers are required to assess the evaporation correctly. As, the actual evaporation recorded at these projects were 41%&38% of the live storage which is exceptionally excess as compared to provisions in project report & PIP.

CADA Nashik: In Haranbari project, in spite of 100% availability of designed live storage, the actual evaporation is 3% of live storage & 30% & 35% of the provisions of project report & PIP respectively. Field officers are advised to determine the real causes for assessing the evaporation correctly in future.

JIPC Jalgaon: The percentage of evaporation of Bahula project under JIPC Jalgaon was 32% of available live storage. Project authorities should give more attention to collect the evaporation readings more precisely.

NIC Nanded: Kundrala has evaporation losses of 33% and rest of the projects has the losses in permissible range of 18% to 30%.

UWPC Amaravati: On Chandrabhaga project the ratio was 7%.

Normal Plan group:

CADA Aurangabad: In Ambadi project, the percentage of evaporation losses was 66% of live storage which is exceptionally high.

AIC Akola: Evaporation percentage on all projects was on and average 29%. The same was exceptionally high on Ekburji (44%) Lower Pus (34%), Saikheda(39%) & Sonal 38%.

YIC Yeotmal: Evaporation loss compared to live storage on Navargaon was 25%. The percentage of evaporation on Adan project was 21%.

BIPC Buldhana: Live storage in Pen Takli project, was 29% of 15th October storage.

CADA Jalgaon: In Abhora project, the actual evaporation is 17% of live storage but it has been exceeded (131%) to the provisions of project report & PIP. As such it is required to asses the evaporation precisely.

CADA Pune: On Visapur Project Percentage of evaporation losses to live storage were19%.

JIPC Jalgaon: The percentage of evaporation in Bhokar & Mor projects under JIPC Jalgaon was 21% & 10% respectively which is within the limit of projected evaporation.

PIC Pune: On Ranand, Amdahl, Kasarsai, Mewed, Nazre, Tisangi and Wadiwale projects evaporation ratio was 28%.

Surplus Plan group

CADA Nagpur: Evaporation percentage on all projects was on and average 29%. The same was exceptionally high on Bagheda 66%, Betekar Bothali 57%, Chandpur 44%, and Sangrampur 69%. It was low on Bodalkasa 8%.

CIPC Chandrapur: Evaporation percentage on all projects was on and average 29%. The same was exceptionally high on Labhansarad 63%. It was low on Panchadhara7%

Abundant Plan group:

CIPC Chandrapur**:** On Naleshwar the ratio was as high as 52 % where as on Ghorarazari it was 29 %.

KIC Ratnagiri: Evaporation losses on Natuwadi project were having 4% of live storage.

NKIPC Thane: Hetwane project had 17% evaporation losses this year.

SIC Sangli: Evaporation ratio on different projects under this circle varies in the range of 7 to 10% except Sankh project, where the ratio was exceptionally high i.e. 68%.

TIC Thane: Percentage evaporation on Wandri project was 40%.

2.2.4 Indicator III: Target and Achievement of Irrigation Potential Utilisation

Highly Deficit Plan group:

CADA Beed: The achievement was very low (i.e. average 21%) on Ruti, Kada, Kadi, Kambali and Mekhari projects. Data about PIP was not supplied for Kurnoor, Khandala, Jakapur and Benitura projects Field officers are advised to prepare the PIP well before the season and utilize the available water fully to achieve the PIP target. The achievement in case of Raigavan, Harni, Khandeshwar, Turori & Sakat was more than the target set in the PIP Field officers are advised to prepare the realistic PIP according to availability & site situation.

CADA Solapur: Actual area irrigated compared to that was planned in PIP was at the ratio of:

Asti (19%), Bhudhihal (0%), Hingni Pargaon (88%), Mangi (72%), Bori (81%), Ekrukh (82%) and Jawalgaon (71%). On Bhudhihal project 60 hector. irrigation potential was utilised. No PIP was prepared for this project.

PIC Pune: In Khairy, Nher and Sina Projects the percentage of Area irrigated was 27%, 34% and 45% respectively.

Deficit Plan group:

CADA Aurangabad: Area irrigated on Galhati, Upper Dudhana and Karpara was less than 50% of the target set in the PIP. This is due to the low utilization in Rabi as compared area planned in PIP.

AIC Akola: Total actual area irrigated on projects under this circle was 10134ha against planned area of 23934 ha in PIP (42%). Achievement on Mas, Paldhag, Uma & Dnyanganga was more than 70% where as on Shahanoor it was just 15 % only. Reasons for low potential utilization on Shahanoor project needs to be sorted out for necessary action

CADA Beed: Bodhegaon has a low achievement of 23 % due to the low utilization in Rabi as compared area planned in PIP.

For Rui and Sangameshwar projects, field officers had not prepared the PIP Project authorities are advised to follow the guide lines given in this respect.

CADA Jalgaon: In Manyad project, the actual area irrigated was 69% as compared to that considered in PIP. As per field officers, there were major leakages in canal Km 0 to 7. Either this fact should be considered while preparing PIP or repairs to such places should be carried out well in advance in future. In Kanoli project, the actual area irrigated is 49% of the total area as per PIP. The field officers are required to implement the PIP more effectively in future.

BIPC Buldhana: Achievement on Mun & Torna was 53 & 47% respectively where as on Utavali it was just 3% only.

CADA Nashik: In Ghatshil Pargaon project, the % achievement of actual area irrigated is 62% as compared to the total area considered while framing the PIP.

NIC Nanded: On Karadkhed, the achievement is within 50%, this is due to less utilization of water in rabbi season.

Normal Plan group:

YIC Yeotmal: Actual area irrigated on Adan project was 48% of the area contemplated in PIP.

AIC Akola: Actual area irrigated on Boargaon project was 104%of target set in PIP. 204% achievement on Koradi project shows that, PIP was prepared with underutilization of available storage. On remaining 5 Projects achievement was between 29% (Saikheda) to 89% (Sonal).

BIPC Buldana: On Paintakli area irrigated was 47% of the planned area in PIP.

CADA Aurangabad: On Kolhi project the achievement was just 46%. It was so due to low utilization of water in Rabi season against planned in PIP.

CIPC Chandrapur: Area irrigated on Amalnalla (103%) & Pothra (97%) was satisfactory compared to area irrigated on Dham (53%).

CADA Jalgaon: In Abhora Project, 61%area is irrigated as compared to that considered in PIP.

CADA Pune: In Visapur project 103% of area of the area planned in PIP was brought under irrigation.

NIC Nagpur: Area irrigated on Dongargaon project was poor (14%) compared to the area planned in the PIP. Data regarding PIP was not made available about Jam & Kar projects.

NIC Nanded: On Nagzari & Dongargaon the achievement was 64 & 76% respectively which is better than that of Loni project (44%)

PIC Pune: In Maswad, Nazre, Tisangi and Wadiwale projects the average percentage of irrigated area was 103% of the area planned in PIP. In Ranand and Andhali project only 21% and 9% area was under irrigation. Field authorities advised to take necessary efforts for enhancing the area under irrigation.

Surplus Plan group

CADA Nagpur: On 6 projects, total area irrigated was 119% of the planned area in PIP. Area irrigated on Bodalkasa, Kesarnala, Kolar and Rengepar was more than 100%. It shows that, on these projects, PIP was prepared with under-utilization of available water.

CIPC Chandrapur: On Chandai, Chargaon & Labhansarad percentage of area irrigated to area considered in PIP was 103, 192 & 88 respectively. In case of Chargaon, PIP appears to be prepared with under- utilization of available water.

Abundant Plan group:

CIPC Chandrapur: Ghorazari & Naleshwar are Kharif paddy grown projects. Area irrigated is more that planned in PIP.

NKIPC Thane: In Hetwane project, only 19% area of that was planned in PIP was brought under irrigation. Field authorities advised to take necessary efforts for enhancing the area under irrigation.

SIC Sangli: Actual area irrigated compared to planned in PIP was at the ratio of: Kadvi (63%), Kumbhi (94%), Chikotra (173%), Kasari (66%) Patgaon (47%), Morna (83%), Yeotimasoli (139%).

TIC Thane: Irrigation potential utilization on Rajnall complex & Wandri project was (104%), (83%) compared to the PIP provisions.

Indicator IV: Water Use Pattern

Highly Deficit plan group

CADA Beed: In Harni the water utilization is zero in rabbi and maximum in H.W. Chandni had maximum utilization by reservoir lift i.e.4 times of canal. In Ruti, Kada, Kadi, Mehkari and Kurnoor, the utilization seems to be more in H.W. than in Rabi. In Turori, Jakapur & Benitura the utilization is by reservoir lift only. The Field Officers should be vigilant and use water judiciously in all the season.

CADA Pune: In Yeralwadi project out of 18.160 Mcum of water available 10.92 Mcum water was utilized for irrigation in Rabi and H.W. season through canal and reservoir lift.
CADA Solapur: On Ashti, Hingni (Pargaon), Mangi, Ekrukha projects most of the irrigation water use was on reservoir lift only though there were no provisions made in PIP.
PIC Pune: In Khairy Nher and Sina project the most of the water use is in Rabi and HW season by canal and reservoir lift (36.758 Mcum out of 69.717 Mcum).

Deficit Plan group:

CADA Aurangabad: On Kalyan & Masoli project, the utilization of water by canal in H.W. is nearly 1.5 times that in rabbi season. In rest of the projects water use by reservoir lift is more than that of canal flow.

AIC Akola: More than 66% of available water was used on canal for Rabi & HW seasons. On Morna, Nirguna Shahanoor, Dnyanganga & Uma projects, irrigation water use was predominant in Rabi season.

BIPC Buldhana: On Mun & Torna project, water use on canal in Rabi & HW season is more or less same.

CADA Beed: Utilization by canal flow & Reservoir lift is nearly same in Wan & Bodhegaon project. In Sakol, Masalga, Rui, Renapur, Sangmeshwar & Raigavan utilization is only by reservoir lift, where as it is 4 times, 7 times & 9 times of canal utilization in Tiru, Whati & Devarjan projects respectively.

CADA Jalgaon: In Manyad, Sonwad, Bhokarbari, Bori, Hiwara & Burai projects, the utilisation of available water is reasonably good.

CADA Nashik: In Kelzar project, inspite of 100% water availability, only 10% & 7% water was utilized in rabbi & H.W. season respectively as compared to PIP. More efforts are required at the field level to increase the utilization of water to fulfill the target set in the PIP.

JIPC Jalgaon: In Bahula project, the major water use (28%) is on reservoir lift.

NIC Nanded: In Kardkhed Project, the utilization of water in H.W. is more than twice the use in rabbi season, where as in Mahalingi utilization by canal is Nil.

Normal Plan group:

CADA Aurangabad: In Dheku & Kolhi the utilization by canal in H.W. is thrice & twice that of in rabbi season respectively.

AIC Akola: Goki, Lower Pus & Waghadi projects had more or less same irrigation water use in Rabi & HW season. However, in case of other projects water use in

Rabi season is more than HW season. On Koradi and Lower Pus projects 15% water use was for irrigation through reservoir lift

YIC Yeotmal: More than 50% available water was used for irrigation in Rabi on canal on Adan project.

BIPC Buldhana: On Pen Takli project, 15.117 Mcum of water was used for irrigation through reservoir lift as canal system is yet to be developed.

CADA Jalgaon: In Jamkhedi project, inspite of100% water availability, there was no water use by canals and by reservoirs lifts for irrigation. However 66% (5.798 Mcum) water was used for irrigation through releases in river.

CADA Nashik: On Adhala Project, actual water use was 70% as compared to PIP.

CADA Pune: On Visapur project, most of water use was in rabbi and H.W. by canal i.e. (26.303 Mcum out of 36.765 Mcum).

CIPC Chandrapur: on all the three projects major irrigation was on canal in Rabi Season. About 12% water was used on Dham & Pothra for lift irrigation on reservoir.

JIPC Jalgaon: In Bhokar (Mangrul) project, the actual water use for irrigation is only 39% of the total utilization considered in PIP. 44% water was remained unutilized at June end. The field officers are required to utilize the available quantity of water for irrigation fully.

NIC Nagpur: On Jam & Kar project more that 50% water was used for irrigation in Rabi.

NIC Nanded: In Dongargaon utilization in HW (2.91Mcum) is more than that of Rabi (2.52 Mcum).Where as utilization by Reservoir lift is Nil. In Loni utilization of by canal in Rabi is only 40% of PIP, where as utilization in HW is against the PIP.

PIC Pune:- In Ranand, Andhali, Kasarsai, Maswad, Nazre, Tisangi and Wadiwale projects the most of the water use was in rabbi and H.W. season by canal. NI use was of 9.201 Mcum.

Surplus Plan group

CADA Nagpur: In Bagheda, Betekar (Bothli), Bodalkasa, Chandpur, Chorkharamara, Chulband, Rengepar, Sangrampur, irrigation water use is predominant in kharif season.

Chandrabhaga, Kanholibara, Khekranalla, Kolar, Makar Dhokada, Pandhrabodi, had more irrigation water use in Rabi season.

Irrigation water use in HW season is appreciable on Chulband, Kanholibara, and Khairbanda & Khekranalla. Except Kolar project there was no irrigation water use on reservoir lift.

There is no water use for non irrigation on all projects except Chandrabhaga, Kesarnalla, Kolar, Makar Dhokada, and Pandharabodi

CIPC Chandrapur: 40% of available storage was utilised for catering water mainly in Rabi season.

Abundant Plan group:

CIPC Chandrapur: On Ghorazari project, the available live storage is utilised in Kharif and Rabbi Seasons. However, it is predominant in kharif season. On Naleshwar project 50% of available storage is utilised for kharif season.

KIC Ratnagiri: In Natuwadi project, most of the water use was in Rabi season by canal (20.849 Mcum).

NKIPC Thane: In Hetwane project most of the water use was for non-irrigation (34.391 Mcum).

SIC Sangli: - On most of the projects irrigation water use was by river lift. Provisions for water use were made for irrigation on canal in rabbi and H.W. Seasons in the PIP. Project wise water use was as shown below:

Chitri (42.12 Mcum), Kadvi (12.23 Mcum), Kumbi (37.79 Mcum) Chikotra (24.92 Mcum), Jagamhatti (20.67 Mcum), Kasari (50.01 Mcum), Patgaon (55.79 Mcum) Krishna -LIS (363.63 Mcum).

TIC Thane: On Rajnala complex and on Wandri projects most of the water use for irrigation was in Konkan season and very less water was used in HW season.

Indicator V: Irrigation System Performance (Canals)

Highly Deficit:

CADA Beed: In most of the project, the ISP realized was very low compared to the state target. The Field Officers are required to be more vigilant to improve the performance.

CADA Pune: In Yeralwadi project I.S.P. on canal in rabbi and H.W. season was 105 ha/mm3 which is satisfactory.

CADA Solapur: ISP realised on almost all project in HW was between 87 to 126 ha/Mcum which is not desirable.
PIC Pune: In Khairy Nher and Sina projects the I.S.P. on canal in rabbi season was 272.170 and 148 ha/mm3 respectively which is appreciable.

Deficit Plan group:

CADA Aurangabad: In Sukhana, Lahuki, Gadadgad and Kalyan projects, high values of ISP in Rabi season shows that, there is some lacuna in measurements either of water use or irrigated area.

AIC Akola: ISP realised on Shahanoor (96 ha/ Mcum), Nirguna (70 ha/ Mcum) in Rabi season & Mas (29 ha/ Mcum) & Morna (22 ha/ Mcum) in HW seasons are low compared to State norm.

BIPC Buldana: ISP attained on Mun & Torna in HW season was low compared to the state norm.

CADA Beed: Sindhphana project had attained its state target for this year also. There was Improvement in achievement of targets on Saraswati, Bindusara and Terna project in rabbi season, whereas it has been lowered down by about 50% in Whati & Kundalika compared to last years performance.

CADA Jalgaon: On Manyad project, the performance in rabbi and HW seasons was low (84 ha/Mcum and 67 ha/Mcum respectively) inspite of two rotations implemented in each season. As per the field officers, the low performance was due to major leakages through canal in km 0 to 7. In Kanoli, Bhokarbari & Hiwara projects, the irrigation system performance is about 50% of the Government norms.

CADA Nashik: In Ghatshil pargaon project, in spite of 1 rotation on Left bank canal and 3 rotations on right bank canal in HW Season, the irrigation system performance attained was as low as 74 & 70 ha/Mcum respectively. As per field officers, it was due to irrigation on scattered area and major leakages in canals.

NIC Nanded: The performance in Rabi & HW season in almost all projects under the circle has been improved compared to their last year's performance. Though Pethwadaj had improved its performance in Rabi compared to last year, it has yet to achieve the state target.

UWPC Amaravati: ISP attained on Chandrabhaga was low (21 ha/Mcum in Rabi) compared to the state norm.

Normal Plan group:

CADA Aurangabad: ISP for Rabi & HW season for all the projects were excessively high in Rabi for Dheku (587 ha/Mcum) & Kolhi (261 ha/Mcum). AIC Akola: On Waghadi, Goki, & Saikheda projects, ISP observed in both Rabi & HW season is below 70 ha/ Mcum.

CADA Jalgaon: On Panzara project, the irrigation system performance was 181 ha/Mcum in Rabi season & 257 ha/Mcum in HW season. The performance appears to be good as only 3 rotations were given in each season.

On Abhora project, in rabbi season the irrigation system performance observed was 70 ha/Mcum i.e. less than 50% of the Government norms. As per field officers, the performance is low due to demand received for irrigation was on scattered area. However the field officers are required to be vigilant for improvement in the performance.

CADA Nashik: In Mandohol project, the performance was as low as 54 ha/Mcum with 2 rotations in rabbi season & 64 ha/Mcum with 1 rotation in HW season. As per field officers, the area irrigated was at the tail reach and the canal losses are to the tune of 80 to 85% resulting in low performance in rabbi & HW season. The field officers are required to take necessary steps for improving the performance.

On Bhojapur project, the irrigation system performance was 92 ha/Mcum & 93 ha/Mcum with 2& 1 rotation in Rabi & HW season. As per field officers, the irrigation in Rabi and HW season was in the tail reach of canal, the demand was on scattered area and strata is pervious in the disnet system.

CIPC Chandrapur: ISP observed on Amalnall (128 ha/Mcum) & Pothra (102 ha/Mcum) in Rabi was satisfactory compared to state target.

JIPC Jalgaon: In Bhokar project, there is no flow irrigation on canals. However in Mor project, the irrigation system performance is with the norms.

NIC Nanded: The performance of Nagzari in Rabi has been reduced from 136 ha/Mcum (2005-06) to 115 ha/Mcum (2006-07), there is also reduction in performance of Loni project in HW season from 96 to 68 ha/Mcum, where as it has been increased in HW for Dongargaon project compared to last year.

PIC Pune: In Ranand, Andhali, Kasarsai, Maswad, Nazre, Tisangi and Wadiwale projects the average I.S.P. on canal in rabbi season was 125 ha/mm3 and in H.W. season it was 93 ha/mm3. The performance requires improvement

Surplus Plan group

CADA Nagpur: In HW ISP realised on Kolar (21Ha/ Mcum) Khekranalla (6Ha/ Mcum) was low as compared to the State norm.

CIPC Chandrapur: ISP realised in Rabi season on Chandai (78 ha/ Mcum), Chargaon (78 ha/ Mcum) Panchdhara (62 ha/ Mcum) was low as compared to the State norm.

Abundant Plan group

KIC Ratnagiri: In Natuwadi project the konkan I.S.P. was 10 ha/mm3 which is very low. Field Officers are advised to take efforts for improving the performance.
NKIPC Thane: In Hetwane project Rabi I.S.P. was 34 ha/mm3 which is very low.
TIC Thane: ISP in Konkan season observed on projects Rajnalla complex & Wandri were 41 & 77 ha/Mcum respectively.

Indicator VI: Percentage of Planned & Actual Non-Irrigation Use

Highly Deficit:

CADA Beed : On Ruti and Benitura projects NI water use was less than that was assumed while framing the PIP and projects Kada, Kurnoor, Turori, Banganga, Chandani, Khasapur and Sakat had used more NI water than considered in the PIP. The field officers are required to be more vigilant while preparing the PIP.

CADA Pune: In Yeralwadi project the NI use was 42% more than the PIP provision.CADA Solapur: NI water use on Ashti & Hingni Pargaon project was too low (10%) & (90%) compared to provisions in the PIP. Where as, on Jawalgaon and Ekrukh it was 123 % & 228 % of the PIP provisions.

PIC Pune: In Sina Project the N.I. use was 55% more than the PIP provisions.

Deficit Plan group:

CADA Aurangabad**:** Except Dhamna and Masoli, on rest of the projects NI water use is close to the PIP.

AIC Akola: Actual non irrigation use on Mas, Morna, Dnyanganga &Uma projects was very low compared to the quota reserved in PIP of the project. Low utilization of water against NI reservation curtails the water availability for irrigation. There fore, more attention is needed at project level while reserving water storages for NI use in PIP.

CADA Beed: - On Kundalika, Wan, Terna projects, actual NI use was nearly two to three times of planned water use in the PIP. Tawarja has less NI use than PIP. Realistic PIP should be framed considering past years NI use.

CADA Nashik: In Haranbari project, the actual NI use is more than 50% than that anticipated in PIP.

Normal Plan group:

AIC Akola: Actual non irrigation use on Sonal &Lower Pus project were just 11% 6% of the reservations considered in the PIP. There fore, more attention is needed at project level while reserving water storages for NI use in PIP

YIC Yeotmal: On Navargaon project actual NI use was 2 Mcum against provision of 2.71 Mcum in PIP

CADA Aurangabad: Dheku has no NI use inspite of provisions in PIP.

CADA Jalgaon: In Malangaon project, the actual NI use is more (117%) than that anticipated in PIP.

CADA Nashik: In Adhala project, the actual NI use is more by 143% over PIP provision.

CIPC Chandrapur: Actual non irrigation use on Amalnala was 59% of the quota reserved in PIP of the project. Low utilization of water against NI reservation curtails the water availability for irrigation. There fore, more attention is needed at project level while reserving water storages for NI use in PIP

PIC Pune: In Andhali, Kasarsai, Nazre and Tisangi project, NI use was 53%, 100%, 63%, 11% respectively.

Surplus Plan group

CIPC Chandrapur: Actual NI water use on Chargaon project was just 15% of the quota reserved in PIP of the project.

Abundant:

KIC Ratnagiri: In Natuwadi project the non irrigation use is 1.373 Mcum. There was No provision made in PIP for non-irrigation use.
NKIPC Thane: Through there was no provisions in P.I.P. the N.I. use of 34.391 Mcum was seen in Hetwane project.
SIC Sangli: NI water use on Patgaon & Kumbhi project was too low (26%) & (37%) compared to provisions in the PIP. Where as on Chikotra & Chitri it was 135 % & 115 % of the PIP provisions.

Indicator VII: Percentage of Balance Unutilized Water to live Storage on 15th October

Highly Deficit:

CADA Beed: Kada, Banganga, Mehkari and Chandani projects had 25, 19, 18 and 8 % of unutilized water at the end of irrigation year.

CADA Solapur: Percentage of unutilized water to the storage on 15th October, on Jawalgaon & Mangi was 27% & 12% respectively.
PIC Pune: In Khairy project 33% storage remained un-utilized while in Nher and Sina project 7 % and 8% water remained un-utilized at the end of the year. The field authorities are required to take efforts for utilizing available water to full extent.

Deficit Plan group:

CADA Aurangabad: Project Galhati, Upper Dudhana, Pir Kalyan, Tembhapuri, Bor Dahegaon and Anjana Palashi had 30, 23, 33, 18, 20, 47 and 18% unutilized water respectively.

AIC Akola: Unutilized storage compared to 15th October storage on Shahanoor, Morna & Dnyanganga projects was 40, 24 & 10 %. respectively. This indicates that, more efforts are necessary to determine the real causes for under utilization at project level to take suitable action for maximum utilization of available live storage.

BIPC Buldana: On Utavali project 68% un utilized storage was non creation of projected potential. Same was the case with Chandrabhaga project under UWPC Amaravati.

CADA Beed: Projects Bodhegaon, Terna, Bindusara had 28, 20 & 13% unutilized water.

CADA Nashik: In Haranbari & Kelzar projects, the unutilized water was 19% and 23% at June end respectively.

Normal Plan group:

CADA Aurangabad: Dheku had 18 % unutilized water at the end of irrigation year.

AIC Akola: Unutilized storage on Waghadi (51 %), Saikheda (12%). According to field officers in spite of routine efforts for water utilization, there was low water demand from farmers particularly in HW season.

BIPC Buldana: On Pentakli more than 47% water has remained balance. Reasons for unutilisation was attributed to non creation of projected potential

CADA Jalgaon: In Abhora & Suki projects, the unutilized water at June end was 34% & 37% of live storage respectively.

CIPC Chandrapur: Percentage of unutilized storages compared to 15th October live storage in case of Amalnalla & Dham project under CIPC Chandrapur was 18 & 7% respectively.

JIPC Jalgaon: In Bhokar (Mangrul) project, the unutilized water at June end was to the tune of 44% of live storage.

The field officers are required to utilize the available water fully so that, the unutilized water at June end will be as minimum as possible.

NIC Nagpur: On Jam & Kar 35 &8 % water has remained balance. Reasons for unutilisation were attributed to non creation of projected potential

NIC Nanded**:** Nagzari has 9% unutilized water at the end of irrigation year. Where as it is 22% in Loni project.

PIC Pune: In Andheli and Ranand projects 42% and 49% of storage remained un-utilized at the end of irrigation year. The field officers are required to take efforts for maximum utilization of water.

Surplus Plan group:

CADA Nagpur: Percentage of unutilized storages compared to 15th October live storage in case of Khairbanda, Chandpur & Sorna were 23%, 7% & 8% respectively. Project authorities may explore the project wise reasons for under utilization of available storages.

Abundant Plan group:

CIPC Chandrapur: Percentage of unutilized storages compared to 15th October live storage in case of Naleshwar was (10%).
NKIPC Thane: In Hetwane project 36% of water remained unutilized at the end of year.
SIC Sangli: Except Morna unutilized storage on remaining 8 projects was between 13% to 43 %.

Indicator IX: Actual Cropping Pattern

Highly Deficit Plan group

CADA Pune: In Yeralwadi project the major irrigation crops were in Kharif (32%) and Rabi (58%).
PIC Pune: In Khairy, Nher and Sina project 80 to 90 % crops were cultivated in rabbi and H.W. season.

Deficit Plan group:

AIC Akola: On all 8 projects under the circle, Rabi seasonal is predominant (79 to 98 %). On Dnyanganga, Morna & Paldhag HW & perennials were irrigated on 4 to 9% which were exceptionally high on Shahanoor project (21%).

BIPC Buldana: Rabi seasonal on Mun & Torana was 61 & 79 % of the total irrigated area.

CADA Jalgaon: In Manyad, Kanoli, Sonwad, Bori, Hiwara and Burai projects, the major percentage of irrigated crops (50 to 65%) was under rabbi season.

CADA Nashik: In Haranbari, Kelzar, Nagya sakya, and Ghatshil pargaon projects, the percentage of irrigated crops under rabbi season varies from 52 to 79%.

Normal Plan group:

AIC Akola: Average cropping pattern observed on projects under the circle was Rabi 69%, HW 14% & Perennials 7 %. Hw & Perennials were predominant on Goki (5%), Lower Pus (13%) & Koradi (5%).

BIPC Buldana and YIC Yeotmal: Rabi seasonal on Pentakli & Navargaon was 98 & 95 % of the total irrigated area.
CIPC Chandrapur: Rabi seasonal was predominant on Amalnala, Dham & Pothara. Its percentage was about 88 % of the total irrigated area.
CADA Jalgaon: In all the projects, the major percentage of irrigated crops (55 to 85%) was under rabbi season.

CADA Nashik: In Bhojapur and Mandhol project, 81% and 54% crops were irrigated in rabbi season respectively. However in Adhala & Alandi projects, the percentage of irrigated crops in rabbi season was below 35%.

PIC Pune: In Andhali, Kasarasai, Rammand, Mahswad, Nazre, Tisangi and Wadiwade projects, the major irrigated crops were in rabbi and H.W. season.

CADA Pune: In Visapur project perennial crops were irrigated over 40 % area.

Surplus plan group

CADA Nagpur: Average cropping pattern observed on projects under the circle was 69% Kharif & 25 % Rabi. Kharif crops were on 100 % area on Rengepar, Tekepar (LIS), Sorna & Sangrampur.
CIPC Chandrapur: Average cropping pattern observed on 3 projects under the circle was 29 % Kharif & 69 % Rabi.

Abundant plan group

CIPC Chandrapur: on Naleshwar & Ghorazari projects 100 % area was irrigated in Kharif.

Minor Projects

Indicator I: Water Availability in Tanks

Highly Deficit Plan group:

CADA Pune: Minor Projects under CADA Pune is having 48% average water availability this year.
CADA Solapur: Over all availability of water storage in M.I.Tanks under this circle was 50% of design live storage.
SIC Sangli: Over all percentage of availability of water storages in M.I. Tanks under this circle was 62% of live storage capacity.

CADA Beed: The average availability of water in reservoirs is 64% which has decreased over last year 72%.

P.I.C Pune: Minor projects under P.I.C. Pune are having 84% average water availability.

Deficit Plan group:

CADA Beed: The average availability of water has decreased to 78% with last year 91%.

CADA Aurangabad: The average availability has increased to 96% over to last years 64%.

CADA Nashik: Due to satisfactory rains, average water availability is 97%.

AIC Akola: All projects under the circle were 100 % full on 15 Th October.

CADA Jalgaon: Due to satisfactory rains, average water availability is 99%.

BIPC Buldhana: Live storages on all the projects were 100 %.

NIC Nanded: The average availability has increased to 100% over to last year 93%.

Normal Plan group:

CADA Pune: The availability of water in minor projects is 87% this year.

PIC Pune: The availability of water is 89% this year last year it was 86%.

CADA Jalgaon: Average water availability is 91%.

CIPC Chandrapur: Due to satisfactory rain during monsoon average live storages in minor projects is in the range of 96 %.

AIC Akola: Due to satisfactory rains, average water availability is 97%.

YIC Yeotmal: The availability of water in minor projects is 91% this year.

CADA Nagpur: Due to satisfactory rain during monsoon average live storages in minor projects were 96 %.

CADA Nashik: Average water availability is 98%.

NIC Nanded: The availability of water has increased to 98% over to last years 71%.

NIC Nagpur: Projects under the circle were 99% full.

UWPC Amaravati: All projects under these circles were 100% full during the irrigation year.

Surplus Plan Group

CADA Nagpur: Due to low rains during monsoon, average live storages built up in minor projects were 91% only.

CIPC Chandrapur: average storage in projects under the circle was 97%

Abundant Plan group:

NKIPC Thane:-The average water availability is 71% last year it was 95%.

CADA Nagpur: Due to low rains during monsoon, average live storages built up in minor projects were 87% only.

CIPC Chandrapur: Due to satisfactory rain during monsoon average live storages in minor projects was 92 %

KIC Ratnagiri**:** This year the average water availability is 97% which is same as last year.
SIC Sangli and TIC Thane: on % average percentage of availability of storages in M.I. tanks were 98% to 99 of its live storage capacities.

Indicator II: Percentage of Actual Evaporation to Live Storage (15th October)

Highly Deficit Plan group

CADA Pune: The percentage evaporation this year is 35% which is considerably high than 28% of last year.
CADA Solapur: On and average percentage of evaporation to 15 Th October live storage was 30%.
SIC Sangli**:** On and average percentage of evaporation to 15 Th October live storage was 24%.

CADA Beed: The average evaporation of the Minor projects is 24% which is slightly less than last year (28%).

PIC Pune: The percentage evaporation this year is18 % which is reduced from 24% of last year.

Deficit Plan group

CADA Beed: The average evaporation of the Minor project is 33% which is slightly lower than last years 37%.

CADA Aurangabad: The average evaporation of the Minor projects is 34% which is less than last year 41%.

NIC Nanded: The average evaporation of the Minor projects is 25% which has slightly increased over the last years 24%.

CADA Nashik: The average percentage evaporation to live storage is 19%.

AIC Akola & BIPC BULDANA: In Minor projects under these circles, the rate of evaporation is high i.e.25% & 29% as evaporation is measured by using data of near by laboratory or on ad-hoc basis.

CADA Jalgaon: The percentage of evaporation to live storage is 28% which is slightly higher than that of last year (2005-06) (24%).

Normal Plan group:

CADA Pune: The percentage evaporation this year is 29%.
PIC Pune: The percentage evaporation this year is 23 % which is on higher side than 18% of last year.
CADA Jalgaon: The percentage of evaporation to live storage is 16%, which is reduced as compared to last year i.e.2005-06 (20%).

CADA Nashik: The percentage of evaporation to live storage is 15%.

NIC Nanded: There 4% increase in evaporatation losses over last year (24%).

YIC Yeotmal & NIC Nagpur: Percentage of Evaporation in case of minor projects on these circles was comparatively high, that is 31% & 28% respectively.

Abundant Plan group

NKIPC Thane: The minor projects under NKIPC Thane are having percentage evaporation losses 5% as compare to last year 12%.

CADA Nagpur & CIPC Chandrapur**:** Evaporation percentage on projects under these circles was moderate i.e. 24 & 22% respectively.

KIC Ratnagiri: Percentage evaporation loss is 11% this year whereas it was 14% last year.

SIC Sangli & TIC Thane: Average percentage evaporation of evaporation on MI Tank on projects under SIC Sangli & TIC Thane were 12 & 10 % only.

Indicator III: Water Use Pattern

Highly Deficit Plan group:

CADA Pune: Rabi season water use for irrigation through canal.

CADA Solapur: Water use on reservoir of projects under this circle was about 40 % of the total water use. Water use on canal in Rabi was 12%.

SIC Sangli: Water use on reservoir of projects under this circle was about 30 % of the total water use. Water use on canal in Rabi was 14%. More than 14 % water was lost through leakages.

CADA Beed: Nearly 50% of available water in projects was used for irrigation on reservoir lifts as there are 73 storage tanks, where water use by only lifts is prospered.

PIC Pune: For minor projects water use for irrigation in Rabi & HW season on reservoir lift and canal irrigation.

Deficit Plan group:

CADA Beed: The water utilization on reservoir lift is (40%) is the major use, there after 33% of evaporation & 15 % of leakages are seen.

CADA Aurangabad: Rabi water use (16%) reservoir lift 19% are prominent in water use pattern of minor project under this circle, 58% losses together by evaporation & leakages are affecting the projects performance.

CADA Nashik: 42% water is utilized for irrigation by reservoir lift.

AIC Akola: In case of Minor projects water use is predominant in Rabi season.

13 % of storage is utilised through reservoir lift. 13% water is lost through leakages.

CADA Jalgaon: The prominent use is in Rabi season on canal and on reservoir lift. The NI use is about 10% only.

BIPC Buldhana In case of Minor projects water use is predominant in Rabi season. Water use through reservoir lift was@ 25% where as 5 % water is lost through leakages.

NIC Nanded: Rabi water utilization 18% and reservoir lift 29% are the prominent is water use pattern of minor projects under these circle.

Normal Plan group:

CADA Pune: Water use for irrigation through reservoir lift.
PIC Pune: Water use is predominant in rabbi season on canal irrigation and reservoir lift.

CADA Jalgaon: The prominent water use (38%) is in Rabi season by flow irrigation.

AIC Akola: Water use on Rabi on projects under this circle was (149 Mcum) 50% of the total live storage. Water used on reservoir lift amounts to 12 % % 16% water is lost through leakages.

BIPC Buldhana: Water use is predominant in rabbi season on canal irrigation and reservoir lift.

CADA Nashik: About 56% water is utilized for irrigation by reservoir lift.

NIC Nanded: Nearly 50% of water of total utilization is being lost by evaporation & leakages and remaining 38% by canal in Rabi & HW and 10% by reservoir lift for irrigation use are the prominent water uses.

YIC Yeotmal: 29 % water is utilized for irrigation in Rabi season.

Surplus Plan group:

CADA Nagpur: Water use in Kharif was predominant (60%) with 12% water use for HW paddy in HW season.

Abundant Plan group:

NKIPC Thane: For minor projects the maximum water use through reservoir lift.

CADA Nagpur & CIPC Chandrapur**:** Projects under CADA Nagpur had utilised 70% water for crops in Rabi where as 60% water was used for irrigating crops in Kharif season on projects under CIPC.

KIC Ratnagiri**:** Maximum water use for irrigation through canal in rabbi season.

SIC Sangli: Water use on reservoir of projects under this circle was exceptionally high i.e.66 % of the total water use. More than 14 % water was lost through leakages.

TIC Thane**:** Water use for irrigation in Rabi on canal was more than 45% of the total water use. More than 14 % water was lost through leakages.

Indicator IV: Irrigation system performance (Canals)

Highly Deficit Plan group:

PIC Pune and CADA Pune**:** Maximum water use on canal in rabbi season. The ISP is 114 ha/mm3 in rabbi season for projects under PIC Pune and CADA Pune.
CADA Solapur: Average ISP observed on the projects under the circle in HW season was 82 ha/Mcum only.
SIC Sangli: Average ISP observed on the projects under the circle in HW season was 96 ha/Mcum only.

CADA Beed: Though the water utilization on canal is very less. The performance indicators have achieved state norms; this may due to lesser no of rotations

Deficit Plan group:

CADA Beed: The HW performance is 70 Ha/Mcum which is well below the state norms. The field officers have to be vigilant to improve the performances.

CADA Aurangabad: The performance of both Rabi & HW is good with 148 & 129 ha/Mcum.

CADA Nashik: The system performance in Rabi and HW season is 170 Ha/Mcum and 133 Ha/Mcum respectively. As compared to last year, irrigation system performance in Rabi season is improved however in HW season it is lowered.

AIC Akola & BIPC Buldana**:** ISP observed on canals in Rabi season on projects under these circles appears to be appreciable. However it was too low i.e. 20 & 54 ha/Mcum in HW season.

CADA Jalgaon: The irrigation system performance in Rabi & HW season is 118 Ha/mcum & 103 Ha/mcum respectively which is slightly lower than targeted values.

NIC Nanded: The performance indicator of all three seasons is good with 157, 141 & 112 Ha/Mcum for Kharif, Rabi & HW respectively.

Normal plan group:

PIC Pune and CADA Pune: Projects under PIC Pune and CADA Pune are having good I.S.P. in all the season on canal and reservoir.

CADA Jalgaon: The system performance in Rabi and HW season are 117 ha/Mcum & 87 ha/Mcum. Irrigation system performance is lowered with compared to last year.

AIC Akola BIPC Buldana, CIPC Chandrapur & YIC Yeotmal**:** ISP observed on canals in Rabi season on projects under these circles appears to be appreciable. However it was too low i.e. between 20 to 48 ha/Mcum in HW season.

CADA Nashik: The system performance in Rabi and HW season are quietly good i.e. 249 Ha/Mcum & 114 Ha/Mcum respectively.

NIC Nanded: The performance indicator of all three seasons is good with 187, 125 & 103 ha/Mcum for kharif rabbi & HW respectively.

Surplus Plan group

CADA Nagpur & CIPC Chandrapur: The system performance on the projects under these circles both in Rabi and HW season on canal was low i.e. 37Ha/Mcum & 29 Ha/Mcum respectively.

Abundant Plan group

NKIPC Thane and KIC Ratnagiri: The I.S.P. in projects under NKIPC Thane and KIC Ratnagiri is having low performance in all the seasons. The field officers and required to plan and improvement the irrigation management more efficiently.
CADA NAGPUR & CIPC Chandrapur: The system performance on the projects under CIPC both in Rabi and HW season on canal was low i.e71 Ha/Mcum & 25 Ha/Mcum respectively.

Chapter 4

Observations and Conclusions

After consolidating and analyzing the Water Accounts of 55 Major, 194 Medium and 1722 Minor Projects in the light of information supplied by the concerned field offices, the main observations are as listed below:

4.1 Observations

4.1.1 There is wide variation (6% to 48 %) in evaporation percentage to live storage on 15 Th October. (Bor 6 %, Khadakwasla 8%, Pawna 9%, Chanakapur 7%, Lower Terna 48%, Majalgaon 31%, Manjara 36 % etc).

4.1.2 Actual irrigation water use on many projects was more than anticipated water use in PIP of the project. Lapses in discharge measurement on account of nonfunctioning of SWF, non installation of water meter on LI Schemes/ NI schemes, along with unmeasured silt storage may be responsible for apparent excess water use.

4.1.3 Annual actual Area irrigated on canal, reservoir, and river lift (of Major and Medium projects) as compared to PIP was 96 %. However the achievement on some projects (Nalganga, Pus, Chaskaman, Arunavati, Upper Penganga etc) was below 50% of the set target in PIP.

On the contrary achievement on Chanakapur (208), Manjara (140%), and Vishnupuri (126%) was much excessive over the planned area in PIP. Achievement on these projects is satisfactory but care should also be taken while preparing the PIP by considering the realistic availability of water.

4.1.3 Irrigation System Performance attained on certain projects in Rabbi (Jayakwadi stage I & II, Purna, Arunavati, Pus, Hatnur, Bhandardara, Upper Penganga etc) was below the 75% of the state norms.

4.1.4 Irrigation System Performance observed in HW on Manar, manjara, Chaskaman was satisfactory as compared to the state target. On rest of the projects there is a scope to improve the performance.

4.1.5 Realisation of good conveyance efficiency on main canals of some projects (Jayakwadi stage I & II, Purna, Hatnur, Upper Penganga) but low ISP Iin either Rabbi or HW season suggest more transit losses on distribution system of the respective projects.

It is insisted that, field officers should sort out the realistic reasons for more transite lossess on distribution system and take suitable action for improvement.

4.1.6 Percentage of Leakages on MI projects is excessively high. (25% of the water used for irigation) There are number of projects where total available water is lost in evaporation and leakages.

4.2 **Conclusions**

4.2.1 To have realistic evaporation data, it is suggested to verify the procedure adopted for collection of evaporation data and co- efficients used while calculating the loss. Where the evaporimeter are yet to be installed, the data collected at Water Resources laboratory from the same climatological zone can be used as an interim arrangement.

4.2.2 Proper action should be taken to calibrate the SWF at canal as well as distributory head, to have realistic data about irrigation water use.

4.2.3 Silt survey of Major projects of age more than 15 years may be taken in hand, so that net water availability (making suitable deductuion for silt) for different water uses can be worked out whie preparing the PIP and water account shall also be more realistic.

4.2.4 More emphasis may be given to install Water meters on NI water supply as well as Lift Irrigation Scemes so that Lapses in flow measurments of these scemes will not affect the data about canal water use

4.2.5 Project authorities are advised to prepare action plan for securing improvement in Water use efficiency and reducing the transit losses.

4.2.6 Field officers are required to concentrate on full utilisation of available water.

Chapter 5

Water Auditing of Irrigation Projects at Administrative Levels – A State Preview

5.1 Conventional method of Water Audit

In the State Water Policy as well as in the Second MWIC Report, it has been categorically mentioned to plan the use of available Water Resources & implement the Irrigation Water Management considering basin or sub-basin as a unit. On account of large number of irrigation projects, since the commencement of process of Water auditing, the water account is analyzed circle wise only, referring a project in particular wherever necessary. As mentioned here before, the State's 25 sub basins are classified in to five Plan groups in accordance with the availability of water per unit ha of CCA of that sub basins. There are about 22 Circles which deals with the Irrigation Water Management. Numbers of circles, depending upon the location of a project under their jurisdiction, are related with more than one plan group. As a result, the performance of such circles obtained by analyzing the water account can not be visualized or summarized very easily. Moreover, it was experienced that such water audit report didn't give the consolidated picture of performance of such individual circle as a whole or a region.

Analysis of a circle or region as a whole is necessary for knowing the current status of that Region /circle for taking the administrative review as well as framing the action strategy at regional as well as at circle level for bringing improvement in the performances of irrigation projects.

5.2 Water Auditing at Administrative levels

There fore, in addition to the current conventional method of water audit analysis, an attempt has been made to consolidate, evaluate/ analyze the water account region wise, circle wise. The results thus obtained gives the project category wise (Major/Medium/Minor), region as well as circle wise information about water availability, water use in different water use sectors, water losses along with area planned in PIP, Area actually irrigated & annual average irrigation System Performance achieved during the irrigation year.

Project category wise details about water availability, water use, Area irrigated, Irrigation System performance attained etc at different Administrative levels are given in Table 5.1, 5.2 & 5.3 appended here with.

5.3 State level preview

5.3.1 Water Use:

From the information shown in above mentioned tables it appears that, at state level during the irrigation year 2006-07, actual live storage of 29329 Mcum was available against total design live storage of 30253 Mcum on 15 th October.

On 55 Major, 194 Medium & 1722 Minor projects considered together (13576 + 2115+ 1500), 17191 Mcum of water was used on canals; Reservoir & River lift for irrigation purpose. Total Non Irrigation water use was (2623+278+77) 3071 Mcum,

which is more than 10 % of the actual live storage and 17 % of the water used for irrigation.

Water use on reservoir of all types of projects was 1694 Mcum which is 10 % of the total irrigation water use.

Total Water loosed on account of evaporation was 2770 Mcum (13 % of live storage), 842 Mcum (20%) & 645 Mcum (22%) on Major, Medium& Minor projects respectively. Total loss of water on account of evaporation at state level was 4254 Mcum (14.5%).

5.3.2 Area Planned and Irrigated

Data collected about 55 Major & 194 Medium projects Shows that, a gross Preliminary Irrigation Programme of (1309665 +318884) 1628549 ha was framed during the irrigation year. Against the set target, actual area irrigated was 1543393 ha (95 %).

5.3.3 System Performance

Annual average ISP observed at the state level (excluding MI projects) was 98 ha/Mcum.

5.3.4 UnUtilised storages

Unutilized storages at the end of irrigation year (excluding inflow in HW & design carry over), on Major and Medium projects were 1450 Mcum and 944 Mcum respectively. Major project wise details are given in Table 5.4. The total unutilized storage as compared to 15 the October live storage was 8.9 % of live storage on 15 th October.

5.3.5 Water Auditing at Region/ Circle Adminstrative Level

Region, Circle wise and project wise(Major Projects) data depicted in enclosed tables 5.1 to 5.4 and charts I to XVI attached herewith are self sufficient to explain the irrigation performances of any revenue region or irrigation Circle in particular. The Analysis also can be extended to respective CE'S Administrative zone by consolidating the data of concerned Circles together.

Considering the Geographical continuity of area and where more or less similar climatological condition under a Regional Chief Engineer's zone persists, the data obtained here will be helpful to concerned field officers.

Table 5.1 Project wise details of water availability, water use on Major projects

Circle	Project	Design Live Storage	Actual Live Storage	Total Irrigation Use	NI water Use	Evaporation Losses	Water Use on reservoir	Unutilised Storage	Irrigated Area (ha)		Average ISP on canals (ha/Mcum)
									PIP	Actual	
1	2	3	4	5	6	7	8	9	10	11	12
CIPC Chandrapur	Asolamendha	56	37	77	0	22	0	0	11500	10702	139
	Dina	68	53	68	0	7	0	0	11720	11392	168
	Bor	127	88	80	0	5	0	0	8540	4331	54
CADA Nagpur	Bagh	269	186	243	0	27	2	0	35718	25966	107
	Itiadoh	319	272	349	0	79	0	1	27980	26109	75
	Pench	1374	1157	1028	214	101	0	98	82100	80097	78
	Lower Wunna	189	189	115	6	41	4	8	10505	8549	74
AIC Akola	Katepurna	86	86	33	20	21	0	0	6753	4634	140
	Nalganga	69	69	35	1	10	2	7	8612	3249	93
	Pus	91	91	70	1	13	5	3	11240	3996	57
UWPC Amaravati	Upper Wardha	548	548	282	29	93	20	162	28000	13632	48
BIPC Buldana	Wan	82	82	68	6	4	0	5	12500	7460	110
YIC Yeotmal	Arunawati	169	168	65	3	50	2	0	5300	2660	41
CADA Solapur	Bhima (Ujjani)	1517	1691	1962	73	494	253	16	204390	201402	103
PIC Pune	Bhama Askhed	217	83	7	1	18	2	5	0	1358	194
	Khadakwasla	793	782	347	401	65	5	52	29446	30407	88
	Chaskaman	215	209	33	5	18	3	7	15585	4678	142
	Neera Devdhar	223	223	0	0	13	0	3	0	0	0
	Bhatghar	666	666	0	1	59	0	5	0	74	0
	Veer	266	266	1235	58	22	16	0	148291	144115	117
	Pawana	241	241	11	193	23	2	61	1503	1562	142

1	2	3	4	5	6	7	8	9	10	11	12
CADA pune	Kukadi Complex	864	863	383	4	130	25	32	61181	47444	124
	Ghod	155	155	144	7	35	10	6	0	18932	131
	Kanher	272	271	143	0	27	1	34	0	7768	54
	Dhom	331	331	269	8	32	1	16	0	18280	68
SIC Sangli	Dudhaganga	679	674	168	6	21	0	0	0	17150	102
	Radhanagari	220	218	452	51	11	0	0	45735	42495	94
	Tulshi	92	92	43	1	19	2	25	5475	5026	117
	Warana	779	788	351	8	23	0	67	39945	32971	94
	Warna LIS	0	0	343	8	23	0	0	39945	32971	96
	K LIS	2864	2864	364	46	207	0	0	0	57352	158
TIC Thane	Bhatsa	942	811	50	625	25	0	0	2500	2839	57
	Kal-Amba	159	159	110	2	9	0	0	4212	4585	42
	Surya	286	286	85	57	15	0	19	5100	4300	51
CADA Nashik	Chankapur	79	77	18	31	6	1	20	1475	3065	170
	Darna	202	202	11	24	18	8	33	0	1626	148
	Gangapur	159	159	50	202	20	2	0	1596	10554	211
	Bhandardara	304	304	276	93	6	0	21	29279	26348	95
	Kadwa	53	53	42	0	7	4	2	1800	1391	33
	Gautami	34	34	0	0	2	0	0	0	55	0
	Kashyapi	52	52	3	0	3	3	0	59	69	23
	Mukane	134	134	8	1	19	3	2	0	1288	161
	Mula	609	609	496	41	60	9	14	35362	43001	87
	NMWeir	7	6	216	28	0	0	0	0	15198	70
	Upper Godavari Complex	336	335	213	23	33	18	4	27467	21489	101
CADA Jalgaon	Girna	525	524	322	35	66	6	0	26445	21766	68
	Hatnur	255	255	100	139	102	38	0	6500	6874	69

1	2	3	4	5	6	7	8	9	10	11	12
CADA Aurangabad	Jayakwadi Stage I	2171	2171	1313	97	347	146	297	131424	113086	86
CADA Beed	Jayakwadi Stage II (Majalgaon)	312	312	216	15	98	17	5	26503	13349	62
	Lower Terna	91	91	41	3	44	10	10	4640	3926	96
	Manjra	177	176	131	18	64	10	0	9840	13752	105
NIC Nanded	Manar	138	137	125	1	21	15	0	17000	15304	122
	Purna	890	891	671	12	103	15	0	56000	36502	54
	Vishnupuri	81	40	97	24	13	52	0	10500	13248	137
	Upper Penganga	964	963	369	40	148	5	411	60000	22843	62
Grand Total		22804	22227	13576	2623	2770	712	1450	1309665	1263229	93

Table 5.1.1 Details of Water availability, Water use and Losses on Major Project

Water:Mcum

Circle	Design LS	Actual Live Storage	Total Irrigation Use	NI water Use	Evaporation Losses	Water Use on reservoir	Unutilised Storage	Irrigated Area (ha)		Average ISP (ha/Mcum)
								PIP	Actual	
1	2	3	4	5	6	7	8	9	10	11
CADA Nagpur	2151	1804	1735	220	249	6	107	156303	140720	81
CIPCChandrapur	251	177	226	0	33	0	0	31760	26425	117
AIC Akola	247	247	138	24	44	7	10	26605	11879	86
YIC Yeotmal	169	169	65	3	50	2	0	5300	2660	41
BIPC Buldana	82	82	68	6	4	0	5	12500	7460	110
UWPC Amaravati	548	548	282	29	93	20	162	28000	13632	48
PIC Pune	2621	2470	1634	658	217	29	133	194825	182204	112
CADA Pune	1624	1620	937	20	224	37	88	61181	92424	99
SIC Sangli	4634	4637	1602	119	281	2	92	131100	187965	117
CADA Solapur	1517	1691	1961	73	494	253	16	204390	201402	103
TIC Thane	1387	1256	246	684	48	0	19	11812	11725	48
CADA Nashik	1969	1966	1302	443	166	48	97	97037	124083	95
CADA Jalgaon	780	779	422	174	168	44	0	32945	28640	68
CADA Aurangabad	2171	2171	1313	97	347	146	297	131424	113086	86
CADA Beed	580	580	386	36	206	37	14	40983	31027	80
NIC Nanded	2073	2030	1259	37	146	81	411	143500	87897	70
Grand Total	22804	22227	13576	2623	2770	712	1450	1309665	1263229	93

Regionwise Abstract of Water availability, Water use and Losses on Major Project

Water:Mcum

State/Region	Design LS	Actual Live Storage	Total Irrigation Use	NI water Use	Evaporation Losses	Water Use on reservoir	Unutilised Storage	Irrigated Area (ha)		Average ISP (ha/Mcum)
								PIP	Actual	
State	22804	22227	13575	2623	2770	712	1450	1309665	1263229	**93**
Nagpur	2402	1981	1961	220	282	6	107	188063	167145	85
Amaravati	1046	1046	553	62	191	29	177	72405	35631	64
Pune	10396	10418	6134	870	1216	321	328	591496	663995	108
Konkan	1387	1256	245	684	48	0	19	11812	11725	48
Nashik	2749	2745	1724	617	334	92	97	129982	152723	89
Aurangabad	4824	4781	2958	170	699	264	723	315907	232010	78

Table 5.2 Details of Water availability, Water use and Losses on Medium Project

Water:Mcum

Project Type/Region	Circle	Design LS	A. L. Storage	Total Irrigation Use	NI water Use	Evaporation	Water Use on reservoir	Unutilised Storage	Irrigated Area		Av. ISP (ha/Mcum)
									PIP	Actual	
1	2	3	4	5	6	7	8	9	10	11	12
Nagpur	CADA Nagpur	327	221	224	13	56	7	31	46706	54073	241
	CIPC	253	223	171	13	54	11	14	26407	21938	128
	NIC Nagpur	45	45	27	3	11	3	10	0	2188	81
	GKLIS Bhandara	9	8	6	1	3	0	0	2044	778	130
	Sub Total	**634**	**497**	**428**	**30**	**124**	**21**	**55**	**75157**	**78977**	185
Amaravati	AIC Akola	413	412	263	17	103	16	69	46145	25215	96
	BIPC	125	125	52	3	29	15	43	15416	7983	154
	UWPC	8	8	6	0	1	0	0	786	618	103
	YIC Yeotmal	79	79	53	0	17	0	0	6985	2760	52
	Sub Total	**625**	**624**	**374**	**20**	**150**	**31**	**112**	**69332**	**36576**	98
Pune	CADA Pune	45	45	43	4	10	6	0	6987	6987	162
	CADA Solapur	223	119	75	5	50	50	16	12477	10549	141
	PIC Pune	225	193	115	10	50	29	22	25652	16808	146
	SIC Sangli	504	482	306	8	50	27	131	33425	43967	144
	Sub Total	**997**	**839**	**539**	**27**	**160**	**112**	**169**	**78541**	**78311**	145
Konkan	KIC Ratnagiri	27	8	23	1	1	0	0	0	199	9
	TIC Thane	898	940	71	69	14	1	436	3325	3244	46
	NKIPC Thane	145	75	3	34	7	0	31	500	95	32
	Sub Total	**1070**	**1023**	**97**	**104**	**22**	**1**	**467**	**3825**	**3538**	36
Nashik	CADA Nashik	176	176	101	16	22	19	18	12702	13369	132
	CADA JALGAON	365	314	246	22	77	14	20	27254	26082	106
	JIPC Jalgaon	30	26	8	0	7	3	4	325	633	79
	Sub Total	**571**	**516**	**355**	**38**	**106**	**36**	**42**	**40281**	**40084**	113
Aurangabad	CADA ABAD	213	198	83	13	70	33	21	20747	12358	149
	CADA BEED	458	392	187	42	163	104	20	22456	21796	117
	NIC Nanded	64	62	41	4	15	5	2	6370	5688	139
	AIC Aurangabad	65	65	11	0	32	7	14	2175	1736	158
	Sub Total	**800**	**717**	**322**	**59**	**280**	**149**	**57**	**51748**	**41578**	129
State	**Grand Total**	**4697**	**4216**	**2115**	**278**	**842**	**350**	**902**	**318884**	**279064**	132

Regionwise Abstract of Water availability, Water use, & Losses on Medium Project

Water:Mcum

Project Type/Region	Design LS	Actual Live Storage	Total Irrigation Use	NI water Use	Evaporation	Water Use on reservoir	Unutilised Storage	Irrigated Area		Average ISP (ha/Mcum)
								PIP	Actual	
State	4697	4216	2115	278	842	350	902	318884	279064	132
Nagpur	634	497	428	30	124	21	55	75157	78977	185
Amravati	625	624	374	20	150	31	112	69332	36576	98
Pune	997	839	539	27	160	112	169	78541	78311	145
Konkan	1070	1023	97	104	22	1	467	3825	3538	36
Nashik	571	516	355	38	106	36	42	40281	40084	113
Aurangabad	800	717	322	59	280	149	57	51748	41578	129

Table 5.3 Statement Showing Water Availability, Water Uses and Losses observed on Minor Projects

Water:Mcum

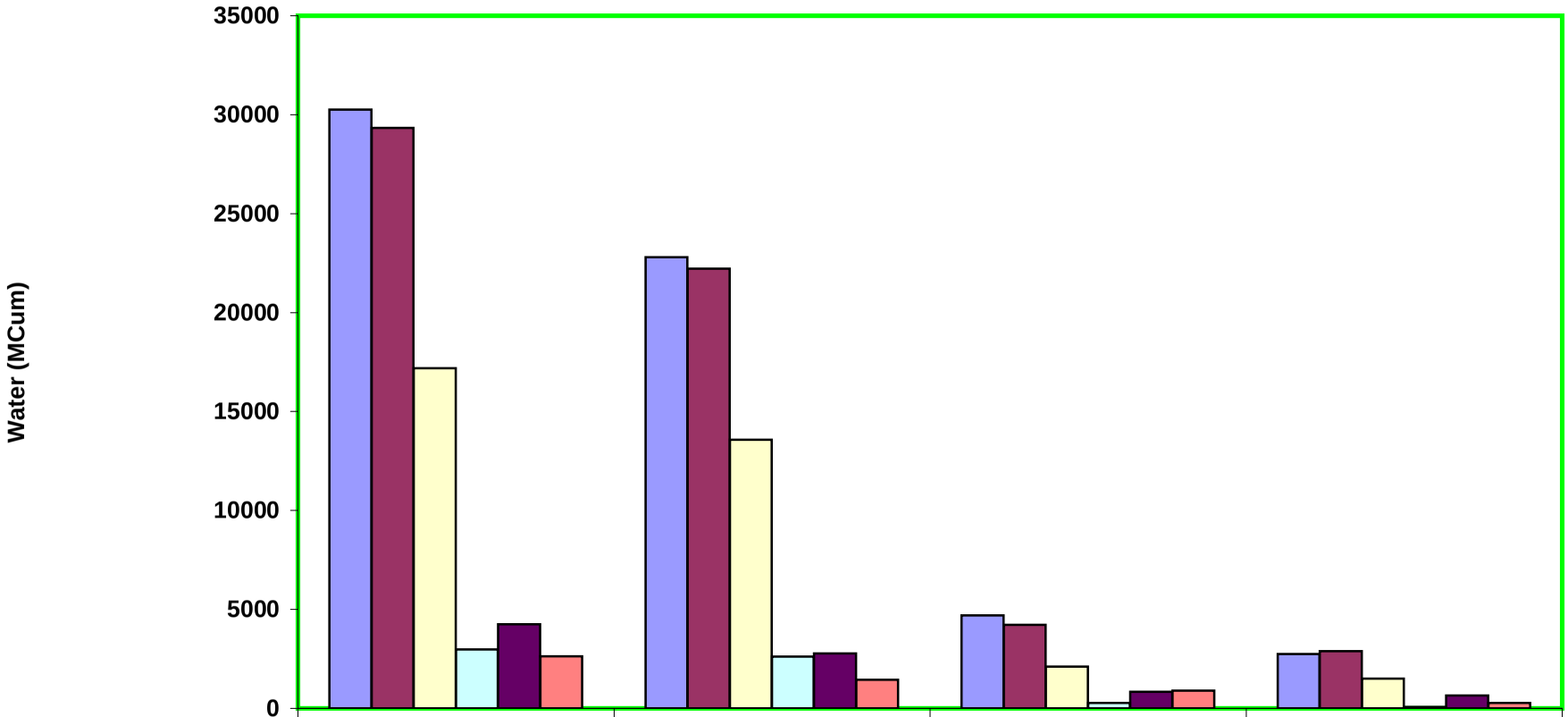
Project Type/Region	Circle	Design LS	Actual Live Storage	Total Irrig-ation Use	Evaporation	Reservoir use	Leakages	NI water Use
Nagpur	CADA Nagpur	236.00	208	116.78	37.63	6.35	6.84	2.36
	CIPC	123.90	117	87.40	23.73	1.08	9.14	0.00
	NIC Nagpur	30.15	30	15.98	10.66	2.90	0.88	1.01
	GKLIS Bhandara	0.00	0	0.00	0.00	0.00	0.00	0.00
	Sub Total	390.05	355	220.15	72.02	10.33	16.86	3.37
Amaravati	AIC Akola	514.03	500	302.73	120.87	54.74	74.10	8.68
	BIPC	94.10	93	44.77	25.68	20.23	5.12	1.07
	UWPC	9.88	10	0.00	1.43	0.00	0.00	0.00
	YIC Yeotmal	88.00	88	37.06	27.36	2.88	7.40	0.00
	Sub Total	706.01	691	384.55	175.34	77.84	86.62	9.74
Pune	CADA Pune	38.37	32	33.35	9.53	27.79	5.48	0.04
	CADA Solapur	107.53	53	26.59	15.75	19.70	3.02	2.44
	PIC Pune	117.84	154	66.64	32.79	44.84	20.67	8.78
	SIC Sangli	278.07	220	109.34	37.85	82.67	15.85	7.78
	Sub Total	541.81	460	235.92	95.92	175.01	45.02	19.04
Konkan	KIC Ratnagiri	34.82	34	5.23	3.78	0.14	18.56	0.69
	TIC Thane	111.28	110	50.63	10.89	3.52	11.73	8.23
	NKIPC Thane	90.87	65	51.96	2.93	45.52	7.61	0.00
	Sub Total	236.96	209	107.82	17.60	49.18	37.90	8.92
Nashik	CADA Nashik	173.52	170	91.61	28.23	76.62	27.60	4.15
	CADA Jalgaon	284.62	266	129.94	51.64	26.87	45.09	10.82
	JIPC Jalgaon	0.00	0	0.00	0.00	0.00	0.00	0.00
	Sub Total	458.13	436	221.56	79.87	103.49	72.68	14.96
Aurangabad	CADA ABAD	189.99	183	68.04	61.24	34.84	45.57	4.75
	CADA Beed	499.70	367	173.28	111.17	150.79	48.61	14.39
	NIC Nanded	187.38	185	88.83	49.76	30.61	30.34	1.76
	AIC Aurangabad	0.00	0	0.00	0.00	0.00	0.00	0.00
	Sub Total	877.06	735	330.14	222.17	216.24	124.51	20.90
State	Grand Total	2751.89	2886	1500.15	645.33	632.09	383.59	76.94

Table 5.4 Unutilised Storage Observed on Major Projects (2006-07)

Region	Circle	Project	Storage as on 15 th Oct. (Mcum)	Unutilised Storage (Mcum)
Aurangabad	NIC Nanded	Upper Penganga	963	411
	CADA Aurangabad	Jayakwadi Stage I	2172	297
Amaravti	UWPC Amaravati	Upper Wardha	548	162
Nagpur	CADA Nagpur	Pench	1157	98
Pune	SIC Sangli	Warana	788	67
	PIC Pune	Pawana	241	61
	PIC Pune	Khadakwasla	782	52
	CADA Pune	Kanher	271	34
Nashik	CADA Nashik	Darna	202	33
Pune	CADA Pune	Kukadi Complex	863	32
	SIC Sangli	Tulshi	92	25
Nashik	CADA Nashik	Bhandardara	304	21
	CADA Nashik	Chankapur	77	20
Konkan	TIC Thane	Surya	71	19
Pune	CADA Pune	Dhom	331	16
	CADA Solapur	Bhima (Ujjani)	1691	16
Nashik	CADA Nashik	Mula	609	14
Aurangabad	CADA Beed	Lower Terna	91	9.9
Nagpur	CADA Nagpur	Lower Wunna	189	7.7
Amaravti	AIC Akola	Nalganga	69	6.9
Pune	PIC Pune	Chaskaman	209	6.6
	CADA Pune	Ghod	155	6.1
	PIC Pune	Bhama Askhed	83	5.1
Amaravti	BIPC Buldana	Wan	82	5.1
Aurangabad	CADA Beed	Jayakwadi Stage II (Majalgaon)	312	4.6
Pune	PIC Pune	NLBC	665	4.5
Nashik	CADA Nashik	Upper Godavari Complex	335	4.3
Amaravti	AIC Akola	Pus	91	3.5
Pune	PIC Pune	Neera Devdhar	223	3.0
Nashik	CADA Nashik	Mukane	134	2.3
	CADA Nashik	Kadwa	52	2.0

Region	Circle	Project	Storage as on 15 th Oct. (Mcum)	Unutilised Storage (Mcum)
Nagpur	CADA Nagpur	Itiadoh	272	1.3
	CIPCChandrapur	Dina	53	0.5
	CIPCChandrapur	Asolamendha	37	0.0
	CADA Nagpur	Bagh	187	0.0
	CIPCChandrapur	Bor	88	0.0
Amaravti	AIC Akola	Katepurna	86	0.0
	YIC Yeotmal	Arunawati	168	0.0
Pune	PIC Pune	NRBC	266	0.0
	SIC Sangli	Dudhaganga	675	0.0
	SIC Sangli	Radhanagari	218	0.0
Konkan	TIC Thane	Bhatsa	810	0.0
Konkan	TIC Thane	Kal-Amba	159	0.0
Nashik	CADA Nashik	Gangapur	159	0.0
Nashik	CADA Nashik	Kashyapi	52	0.0
Nashik	CADA Nashik	NMWeir	6	0.0
Nashik	CADA Jalgaon	Girna	523	0.0
Nashik	CADA Jalgaon	Hatnur	255	0.0
Aurangabad	CADA Beed	Manjra	176	0.0
Aurangabad	NIC Nanded	Manar	137	0.0
Aurangabad	NIC Nanded	Purna	890	0.0
Aurangabad	NIC Nanded	Vishnupuri	39	0.0

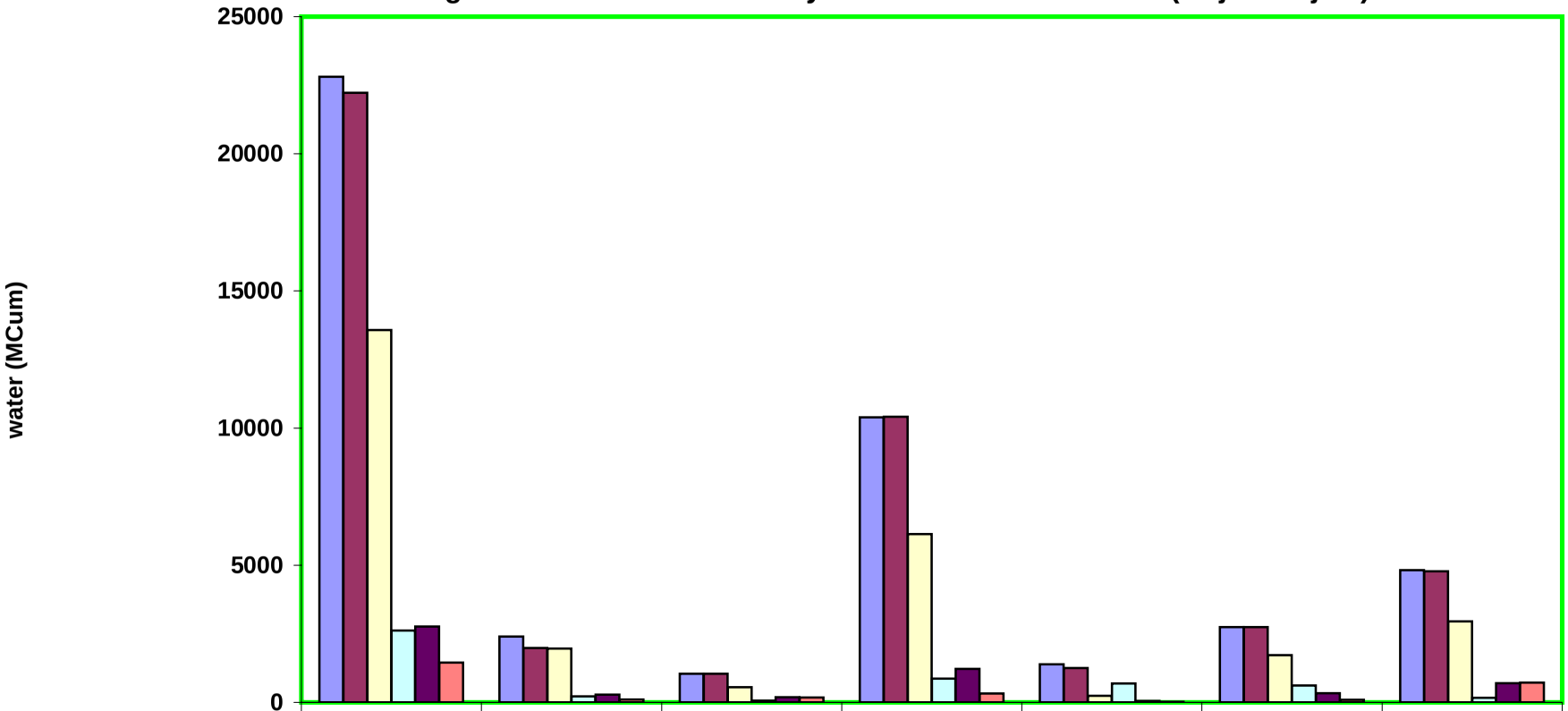
Chart I
Water Availability and Water use at State Level



	State	Major	Medium	Minor
Design LS	30253	22804	4697	2752
Actual Live Storage	29329	22227	4216	2886
Total Irrigation Use	17190	13575	2115	1500
NI water Use	2978	2623	278	77
Evaporation	4257	2770	842	645
Unutilised Storage	2632	1450	902	280

Chart II

Region wise Water Availability, Water use and Water loss (Major Project)



	State	Nagpur	Amaravati	Pune	Konkan	Nashik	Aurangabad
Design LS	2284	2402	1046	1039	137	279	424
Actual Live Storage	22227	18	1046	10418	1256	275	43
Total Irrigation Use	1357	19	553	634	245	124	298
NI water Use	283	220	0	7	6	67	10
Evaporation Losses	20	28	19	1216	48	334	9
Unutilised Storage	1450	107	17	328	19	9	23

Chart III
Circle wise Water Availability, Water Use (Major Project)

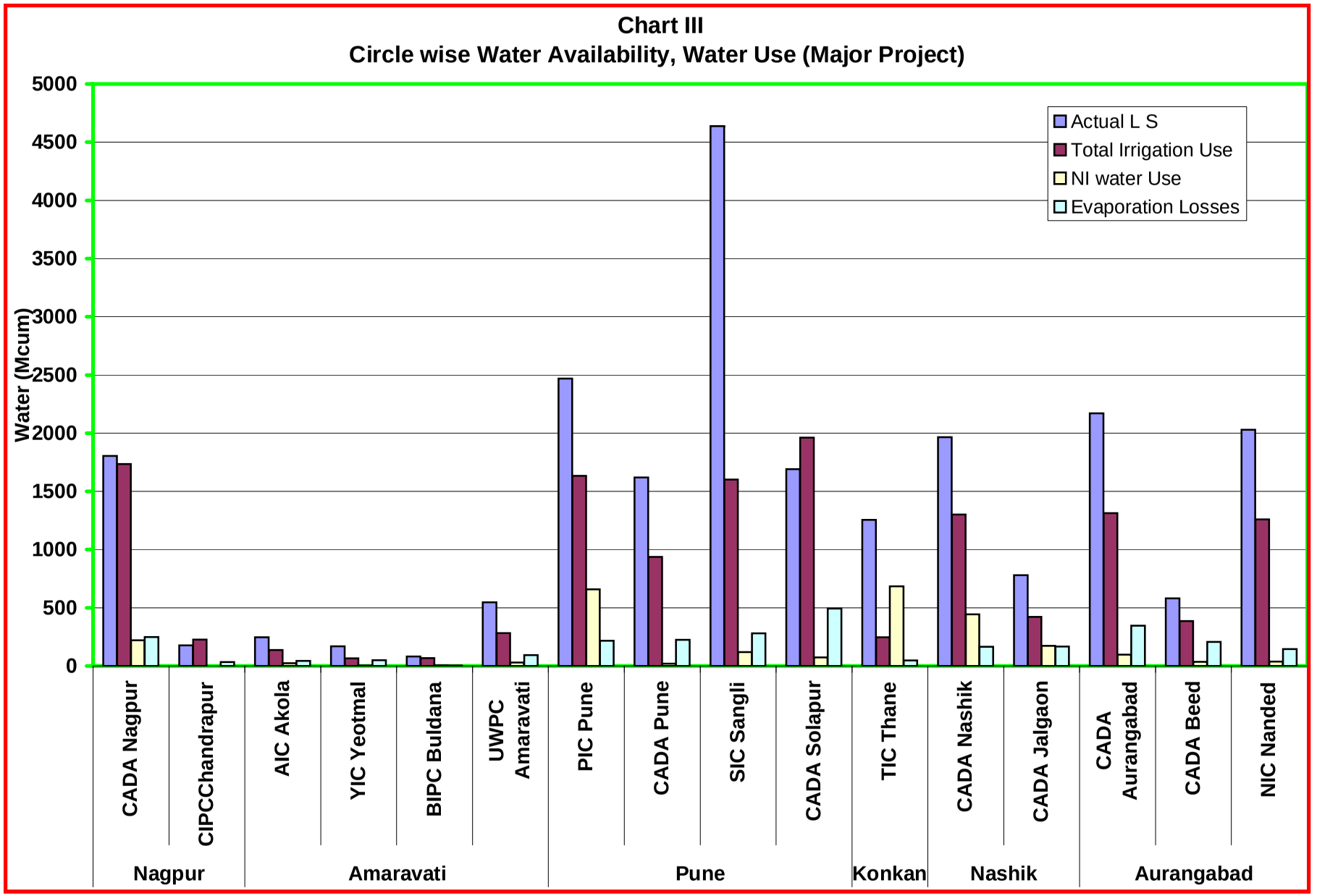
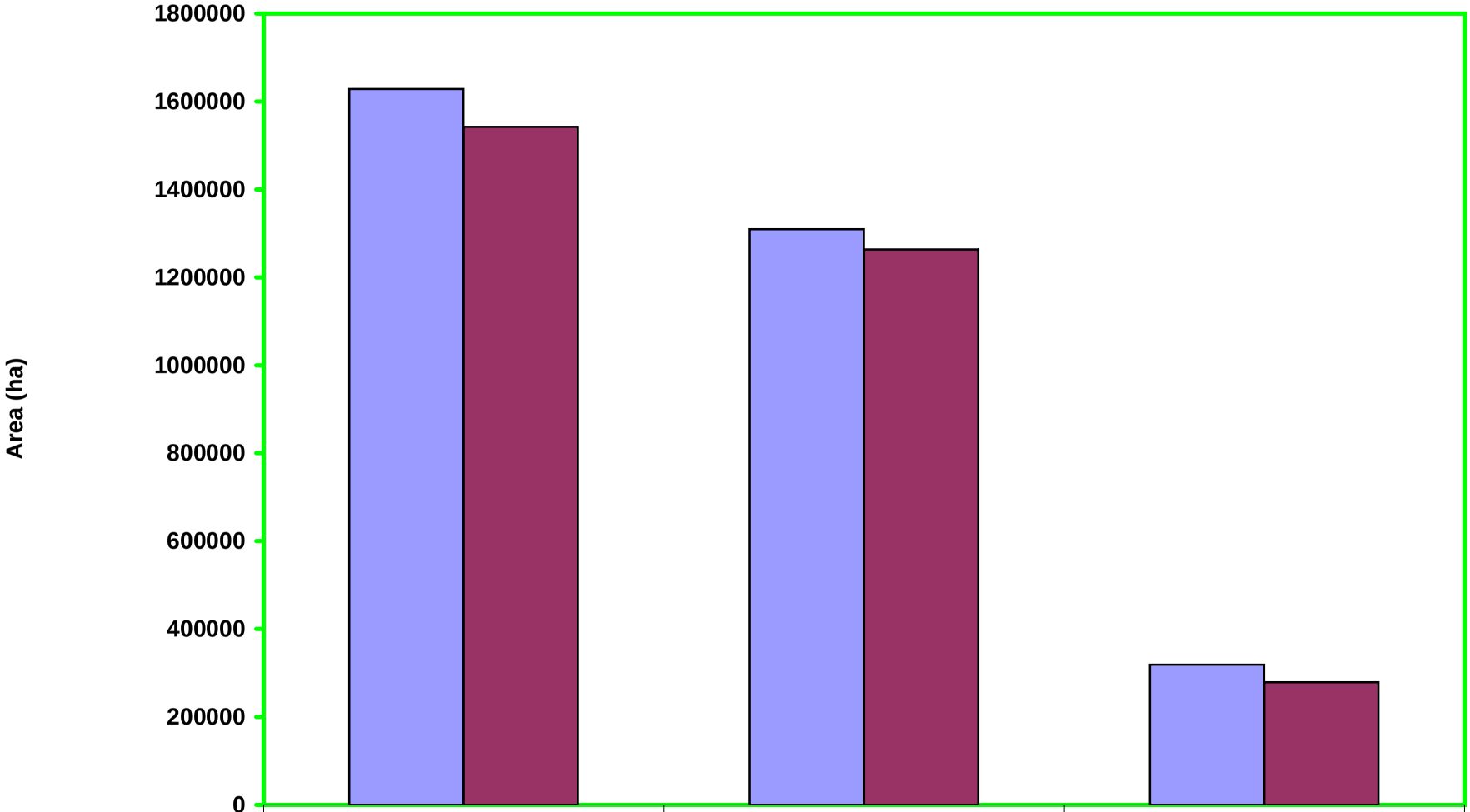


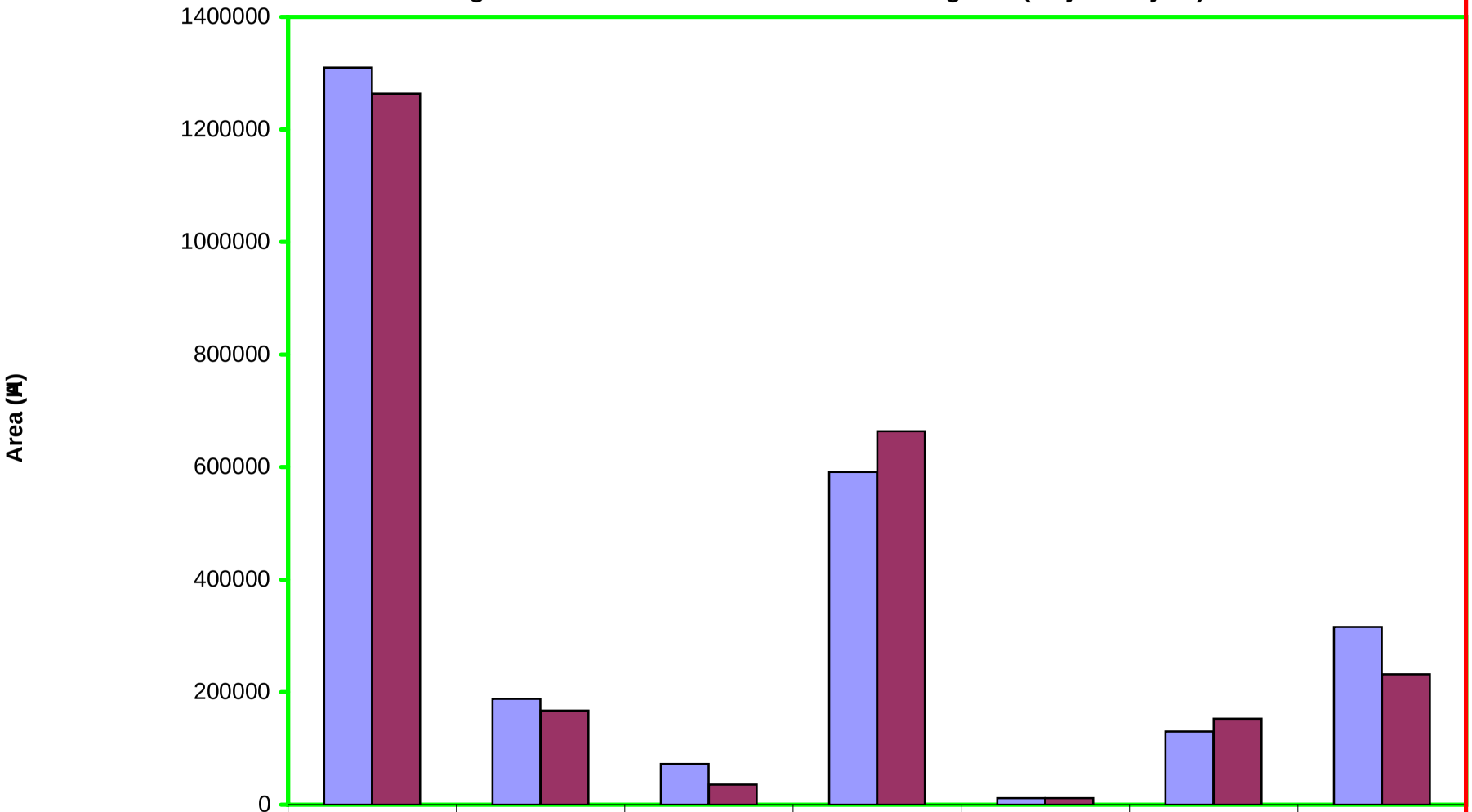
Chart IV

Details of Area planned and Actually Irrigated (Major & Medium)



	State	Major	Medium
Irrigated Area PIP	1628549	1309665	318884
Irrigated Area Actual	1542293	1263229	279064

Chart V
Region wise Area Planned and Actual Irrigated (Major Project)



	State	Nagpur	Amaravati	Pune	Konkan	Nashik	Aurangabad
Irrigated Area (ha) PIP	1309665	188063	72405	591496	11812	129982	315907
Irrigated Area (ha) Actual	1263229	167145	35631	663995	11725	152723	232010

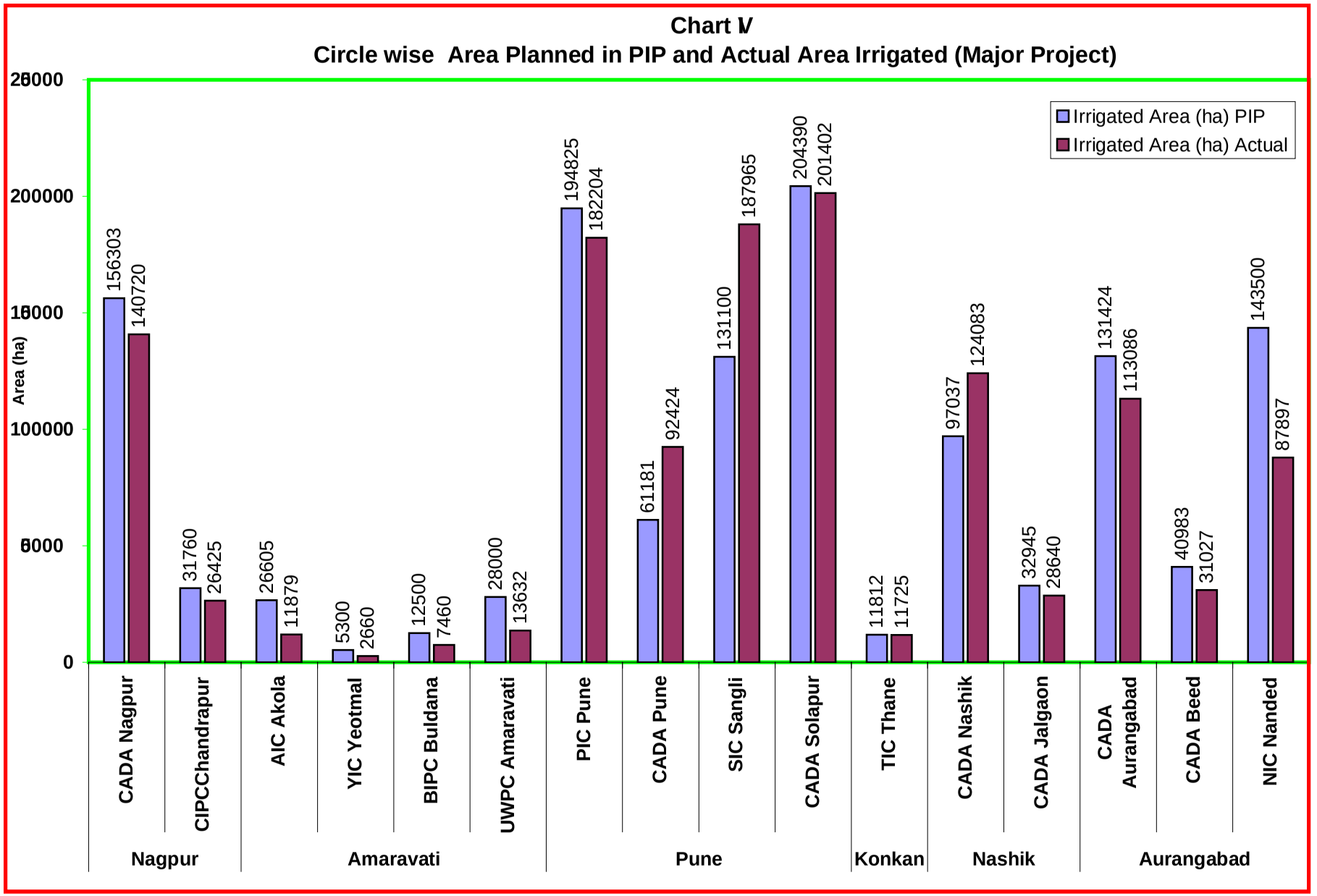


Chart V
Circle wise Area Planned in PIP and Actual Area Irrigated (Major Project)
Area (ha)
Irrigated Area (ha) PIP
Irrigated Area (ha) Actual
0
100000
200000
156303
140720
31760
26425
26605
11879
5300
2660
12500
7460
28000
13632
194825
182204
61181
92424
131100
187965
204390
201402
11812
11725
97037
124083
32945
28640
131424
113086
40983
31027
143500
87897
CADA Nagpur
CIPCChandrapur
AIC Akola
YIC Yeotmal
BIPC Buldana
UWPC Amaravati
PIC Pune
CADA Pune
SIC Sangli
CADA Solapur
TIC Thane
CADA Nashik
CADA Jalgaon
CADA Aurangabad
CADA Beed
NIC Nanded
Nagpur
Amaravati
Pune
Konkan
Nashik
Aurangabad

Chart VII
Regionwise Annual Average Irrigation System Performance observed (Major Project)

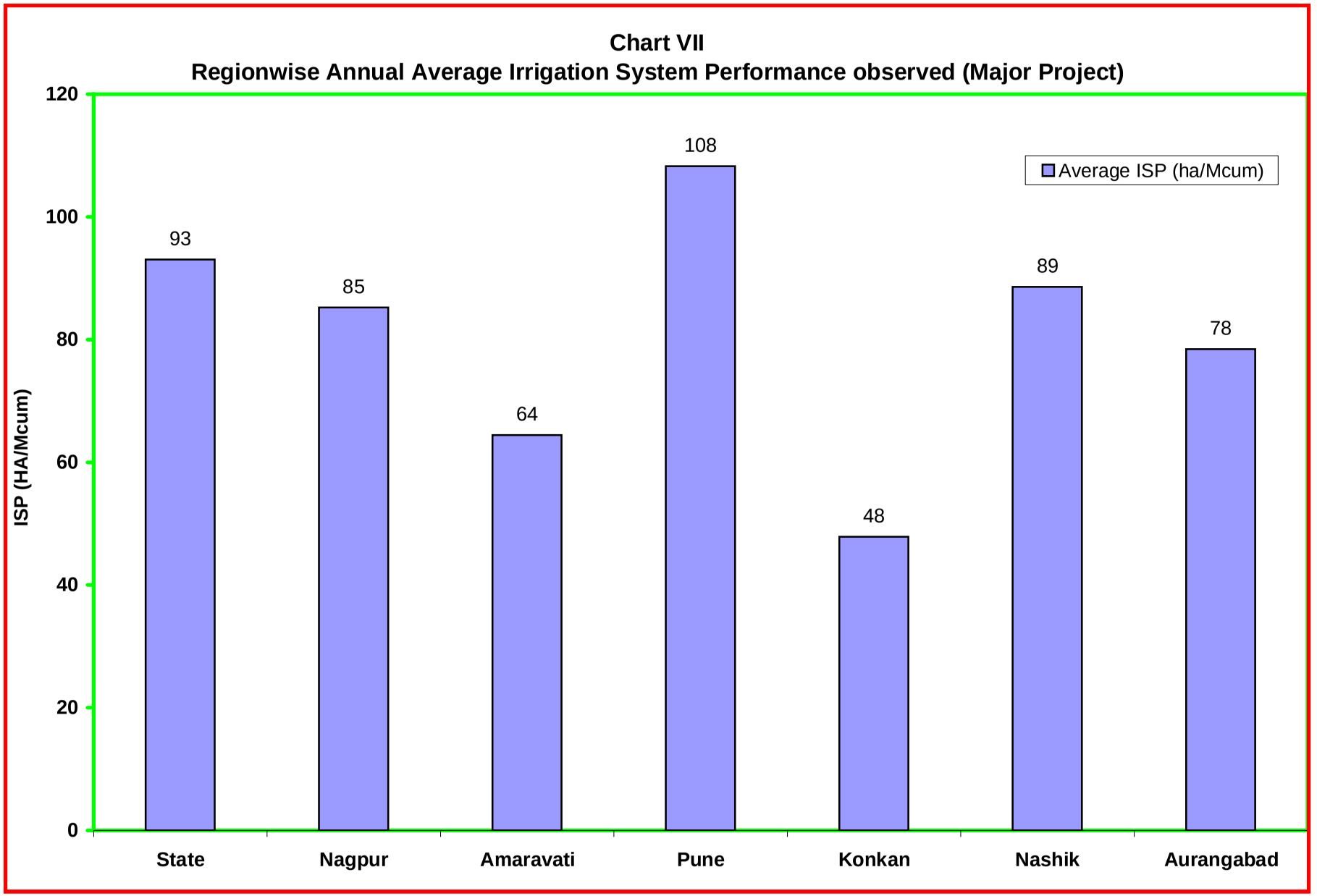
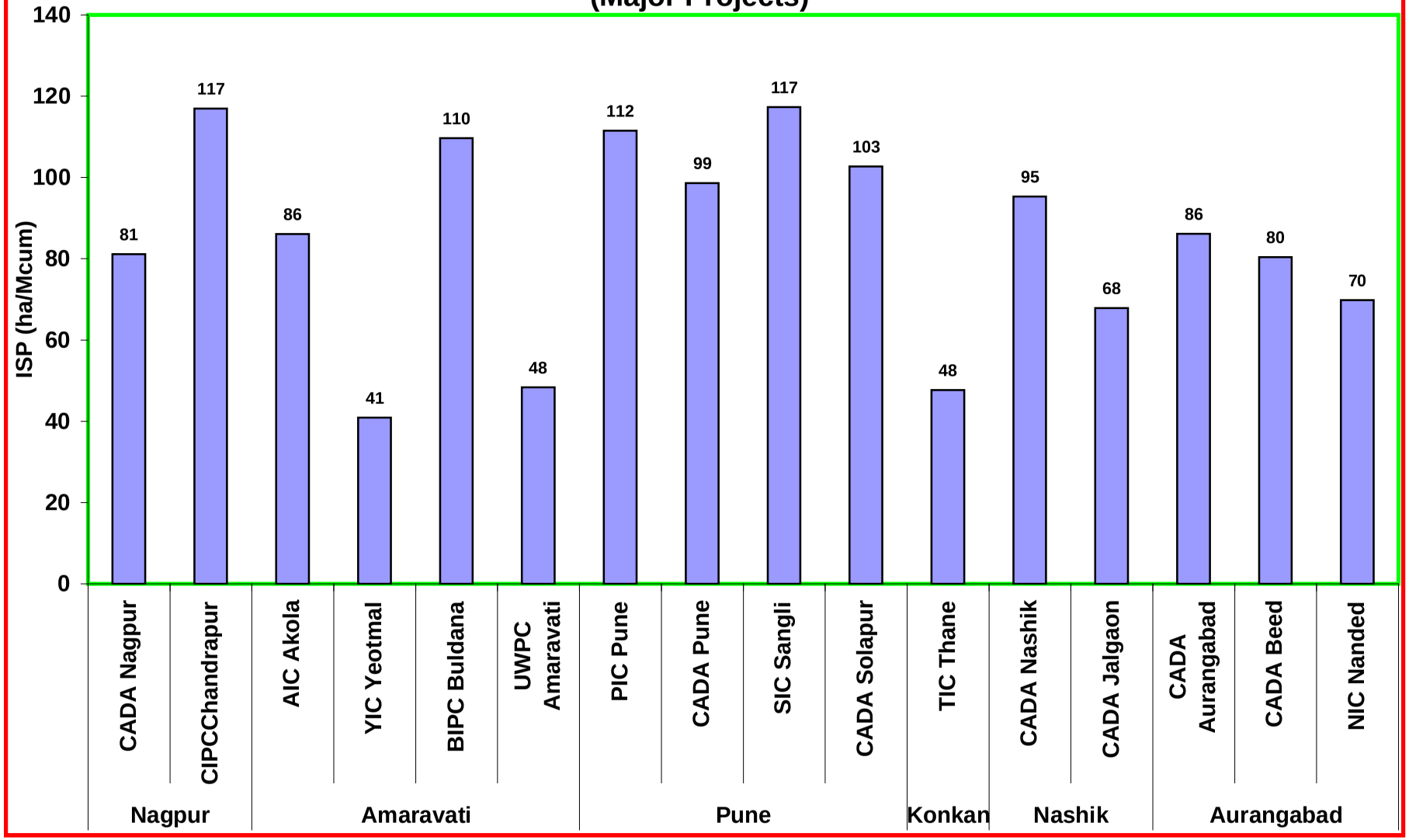


Chart VIII
Circle wise Annual Average Irrigation System Performance (ISP) Observed
(Major Projects)



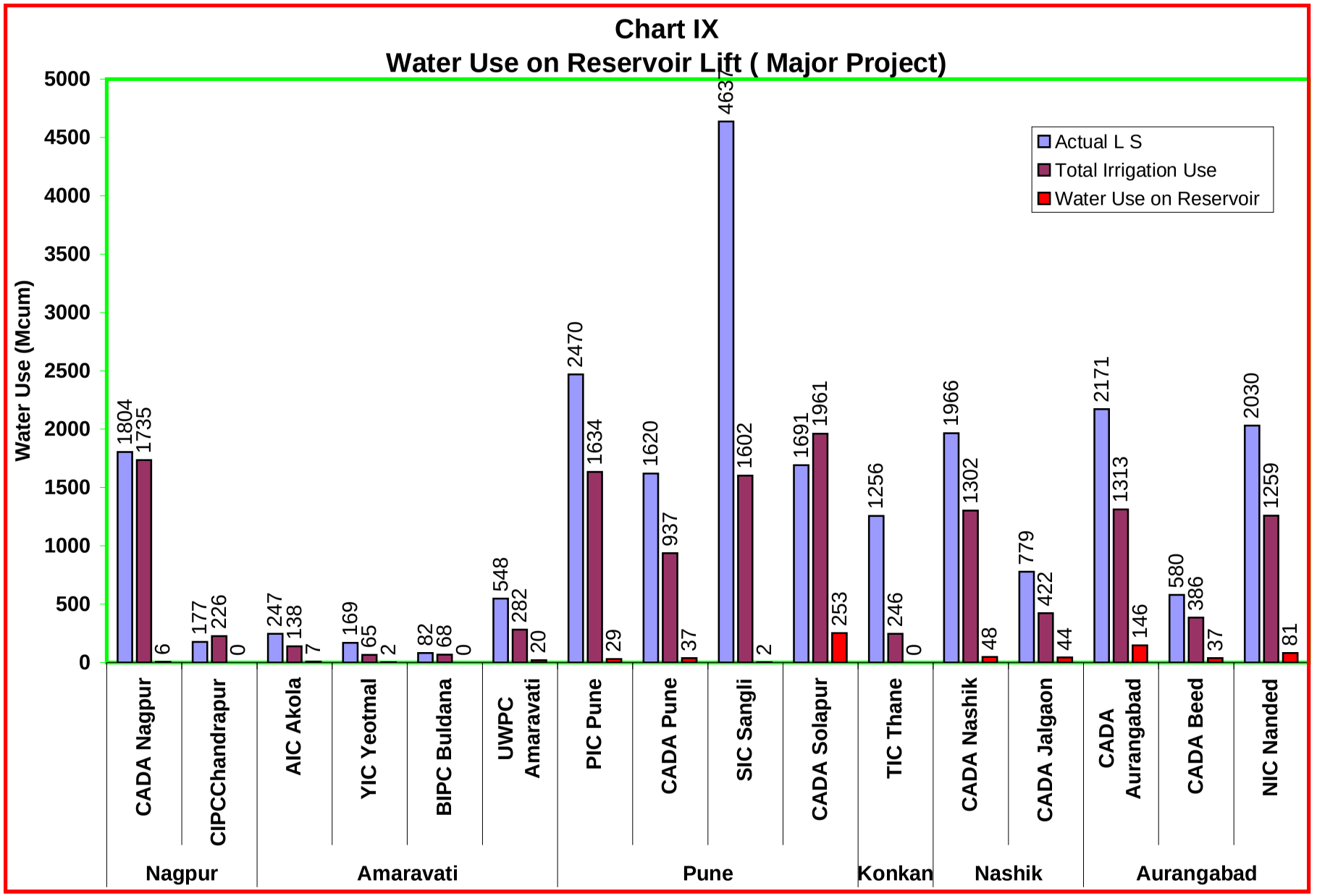


Chart IX
Water Use on Reservoir Lift (Major Project)
Water Use (Mcum)
5000
4500
4000
3500
3000
2500
2000
1500
1000
500
0
Actual L S
Total Irrigation Use
Water Use on Reservoir
1804
1735
6
177
226
0
247
138
7
169
65
2
82
68
0
548
282
20
2470
1634
29
1620
937
37
4637
1602
2
1691
1961
253
1256
246
0
1966
1302
48
779
422
44
2171
1313
146
580
386
37
2030
1259
81
CADA Nagpur
CIPCChandrapur
AIC Akola
YIC Yeotmal
BIPC Buldana
UWPC Amaravati
PIC Pune
CADA Pune
SIC Sangli
CADA Solapur
TIC Thane
CADA Nashik
CADA Jalgaon
CADA Aurangabad
CADA Beed
NIC Nanded
Nagpur
Amaravati
Pune
Konkan
Nashik
Aurangabad

Chart X
Major Projects having Unutilised Storage more than 5 %

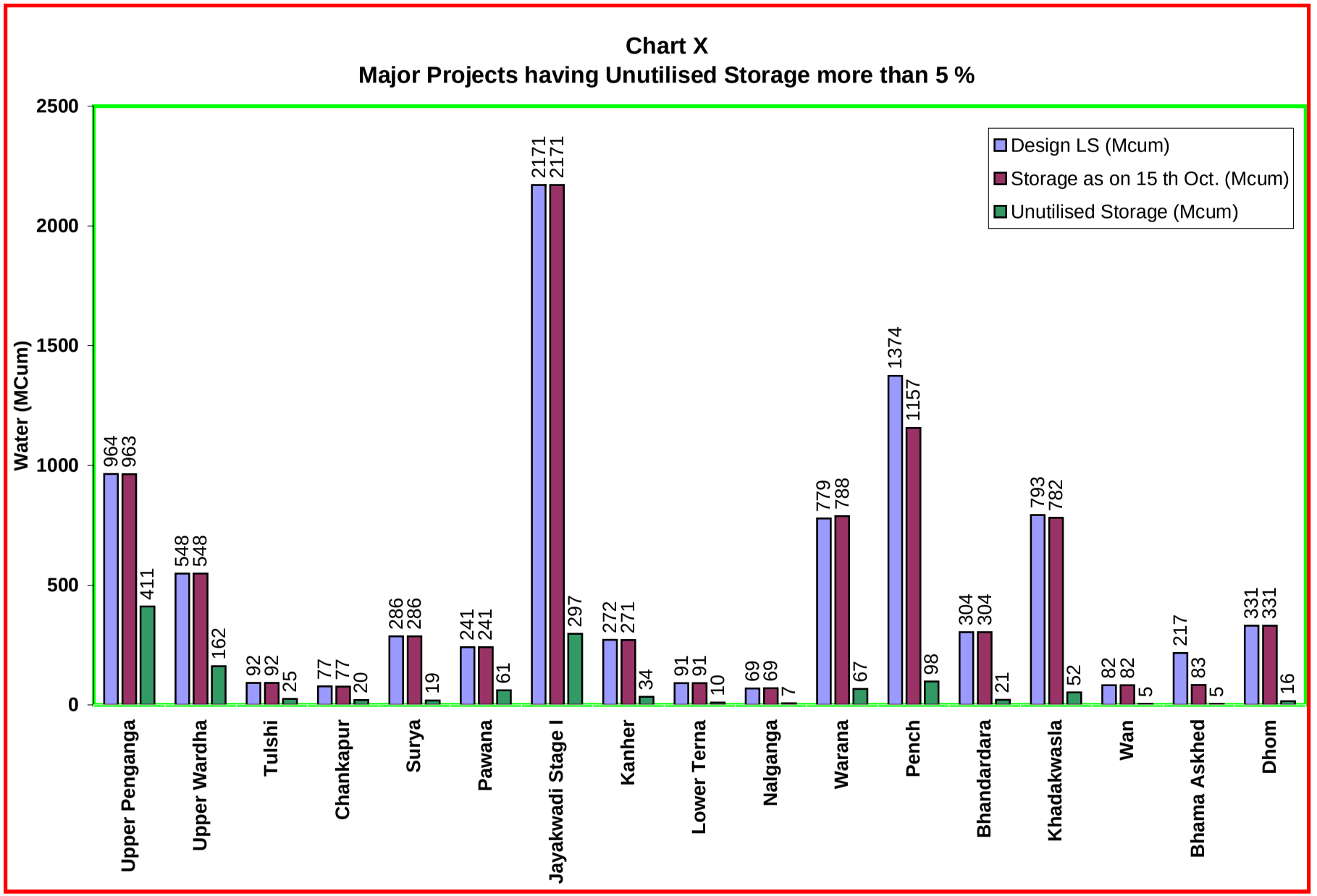
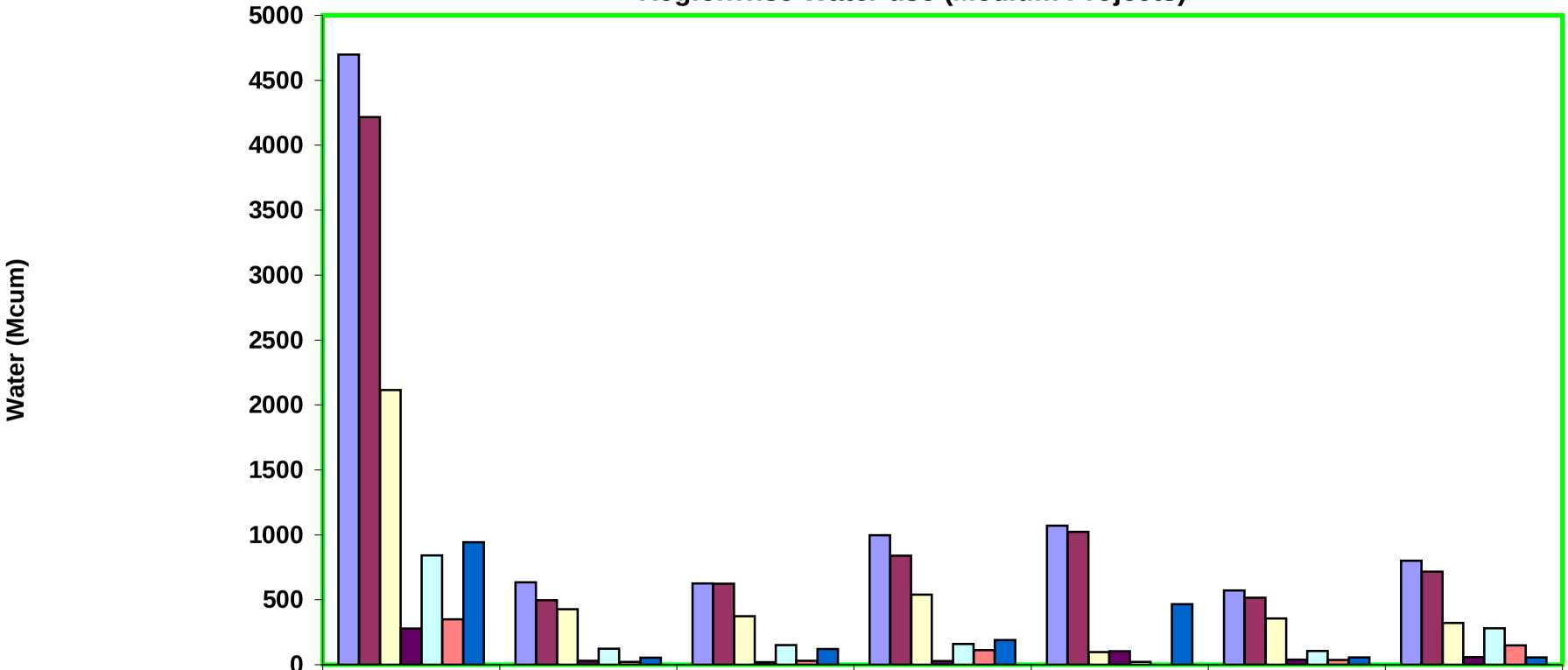


Chart XI
Regionwise Water use (Medium Projects)



	State	Nagpur	Amravati	Pune	Konkan	Nashik	Aurangabad
Design LS	4697	634	625	997	1070	571	800
Actual Live Storage	4216	497	624	839	1023	516	717
Total Irrigation Use	2115	428	374	539	97	355	322
NI water Use	278	30	20	27	104	38	59
Evaporation	842	124	150	160	22	106	280
Water Use on Reservoir	350	21	31	112	1	36	149
Unutilised Storage	944	55	120	189	467	56	57

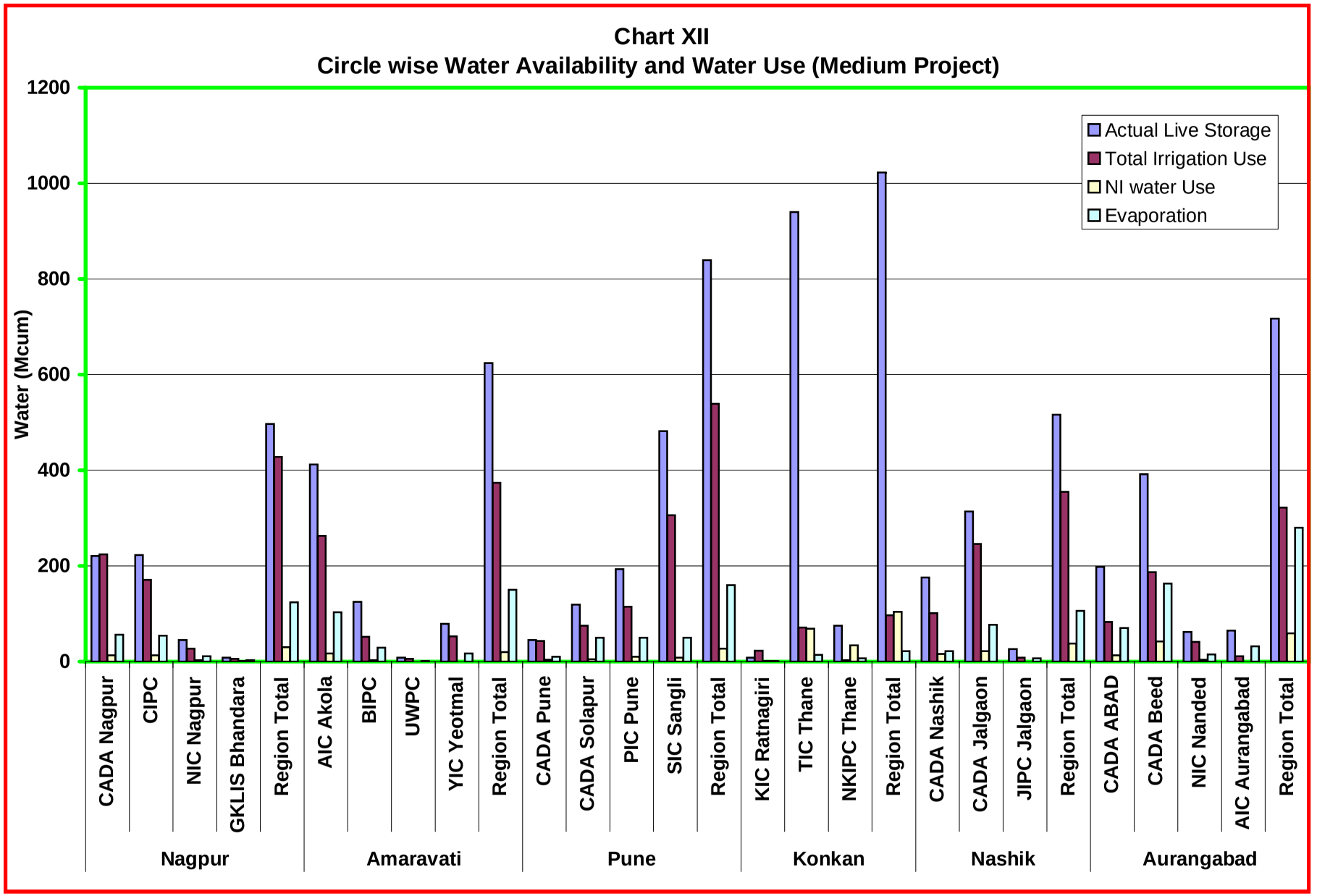


Chart XII
Circle wise Water Availability and Water Use (Medium Project)
Water (Mcum)
1200
1000
800
600
400
200
0
Actual Live Storage
Total Irrigation Use
NI water Use
Evaporation
CADA Nagpur
CIPC
NIC Nagpur
GKLIS Bhandara
Region Total
AIC Akola
BIPC
UWPC
YIC Yeotmal
Region Total
CADA Pune
CADA Solapur
PIC Pune
SIC Sangli
Region Total
KIC Ratnagiri
TIC Thane
NKIPC Thane
Region Total
CADA Nashik
CADA Jalgaon
JIPC Jalgaon
Region Total
CADA ABAD
CADA Beed
NIC Nanded
AIC Aurangabad
Region Total
Nagpur
Amaravati
Pune
Konkan
Nashik
Aurangabad

Chart XIII

Circle wise Area Planned in PIP & Actual Area Irrigated (MediumProject)

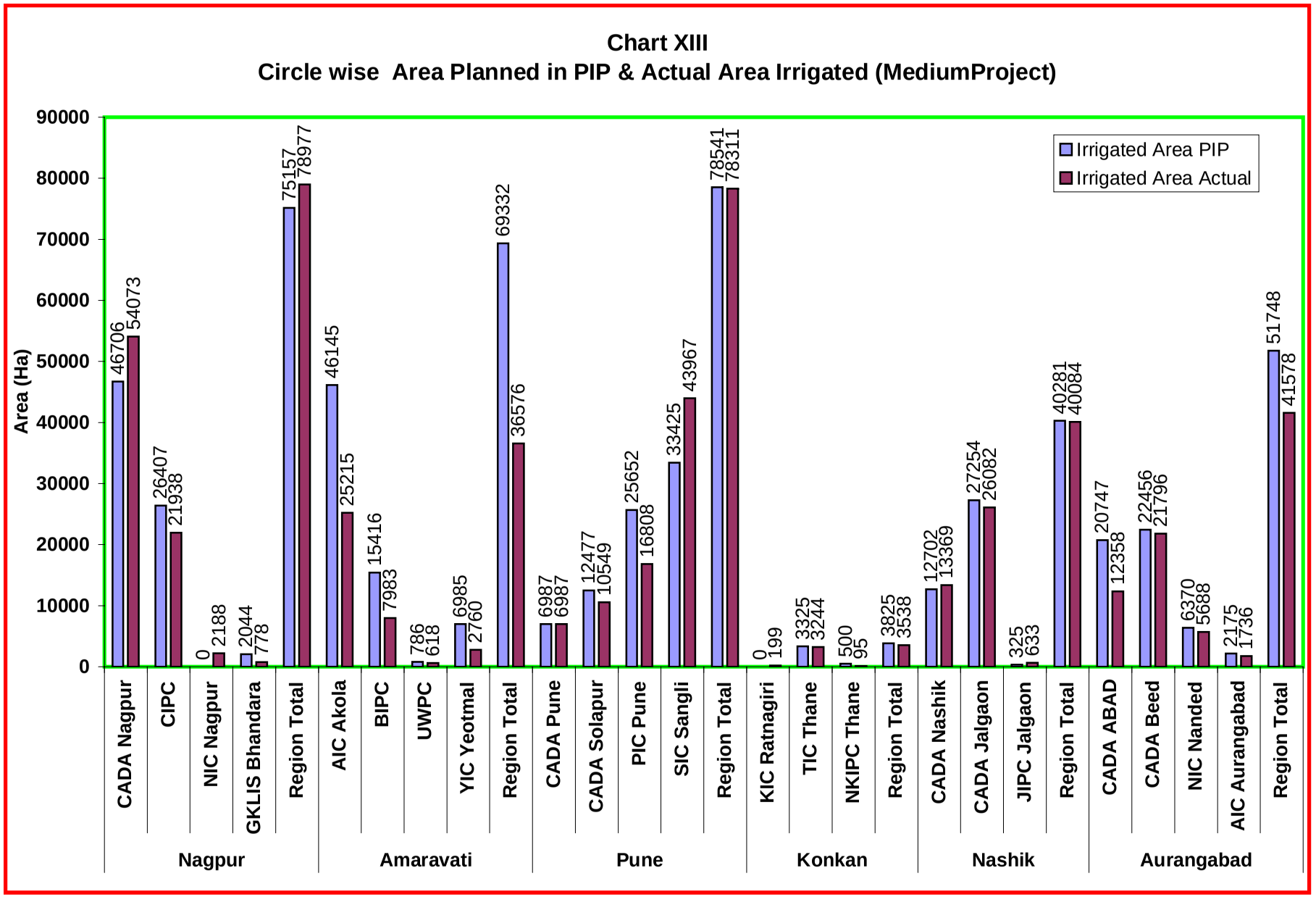


Chart XIV

Regionwise Annual Irrigation System Performance (ISP) Observed (Medium Project)

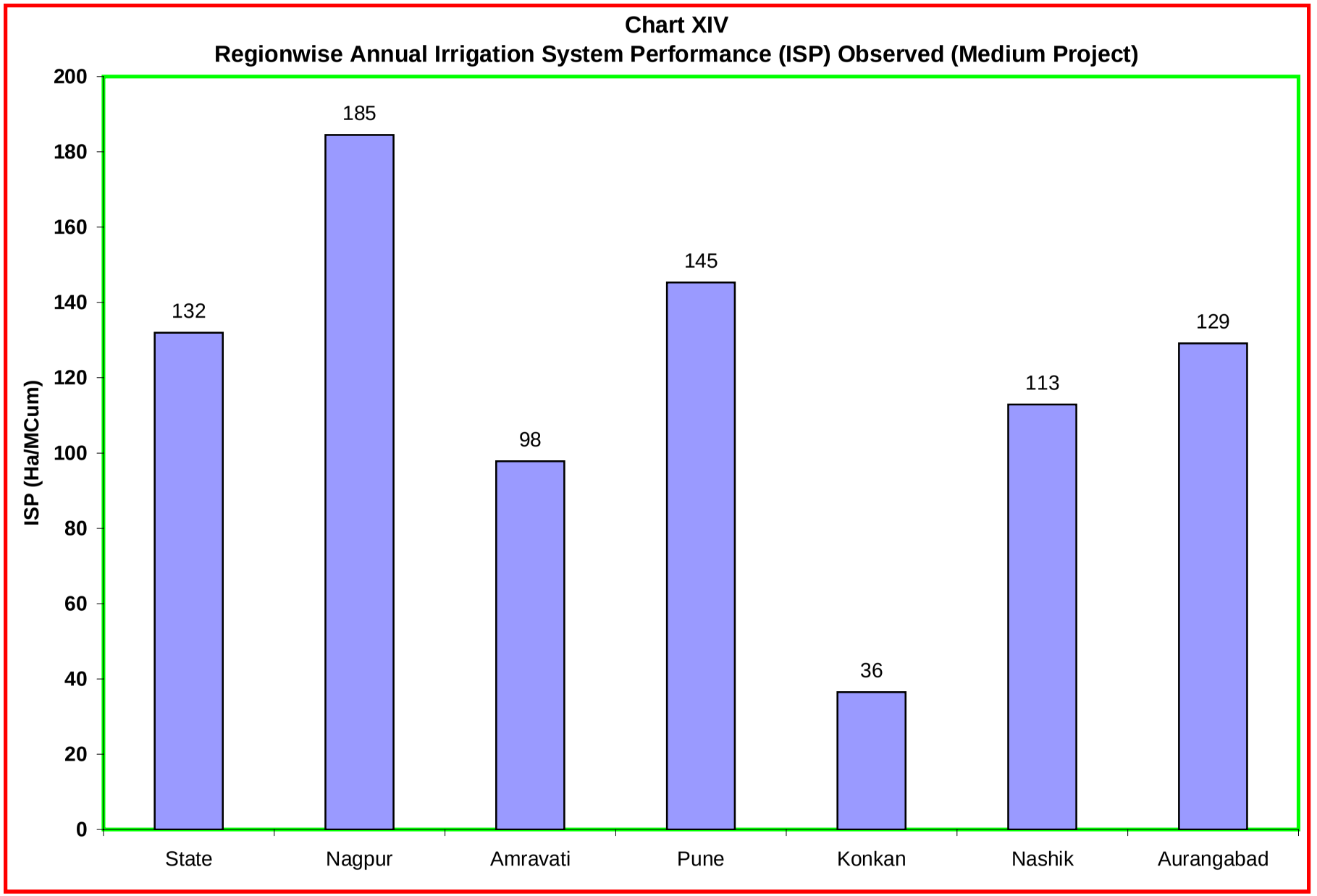


Chart XV

Circle wise Annual Average Irrigation System Performance (ISP) Observed

(Medium Projects)

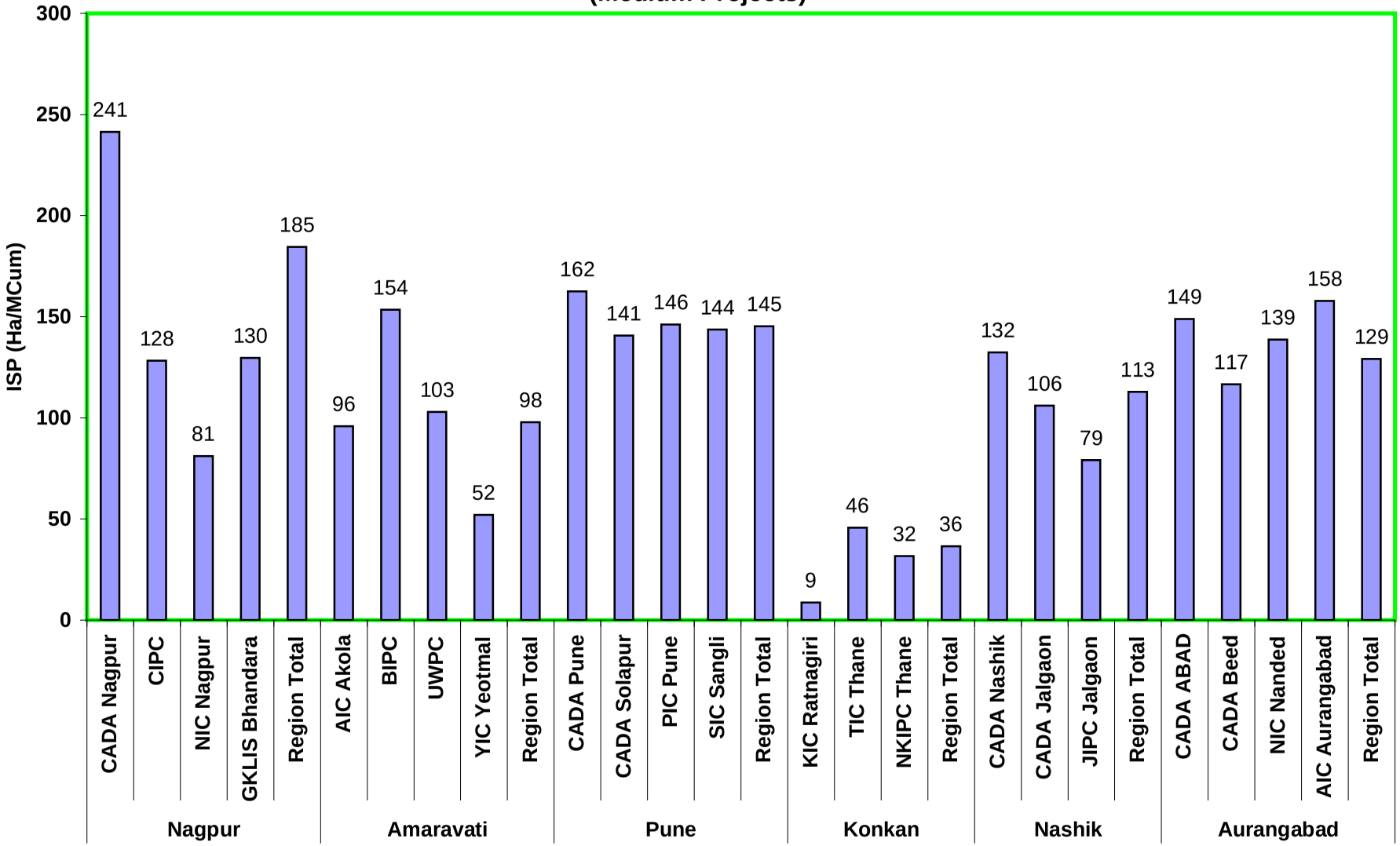
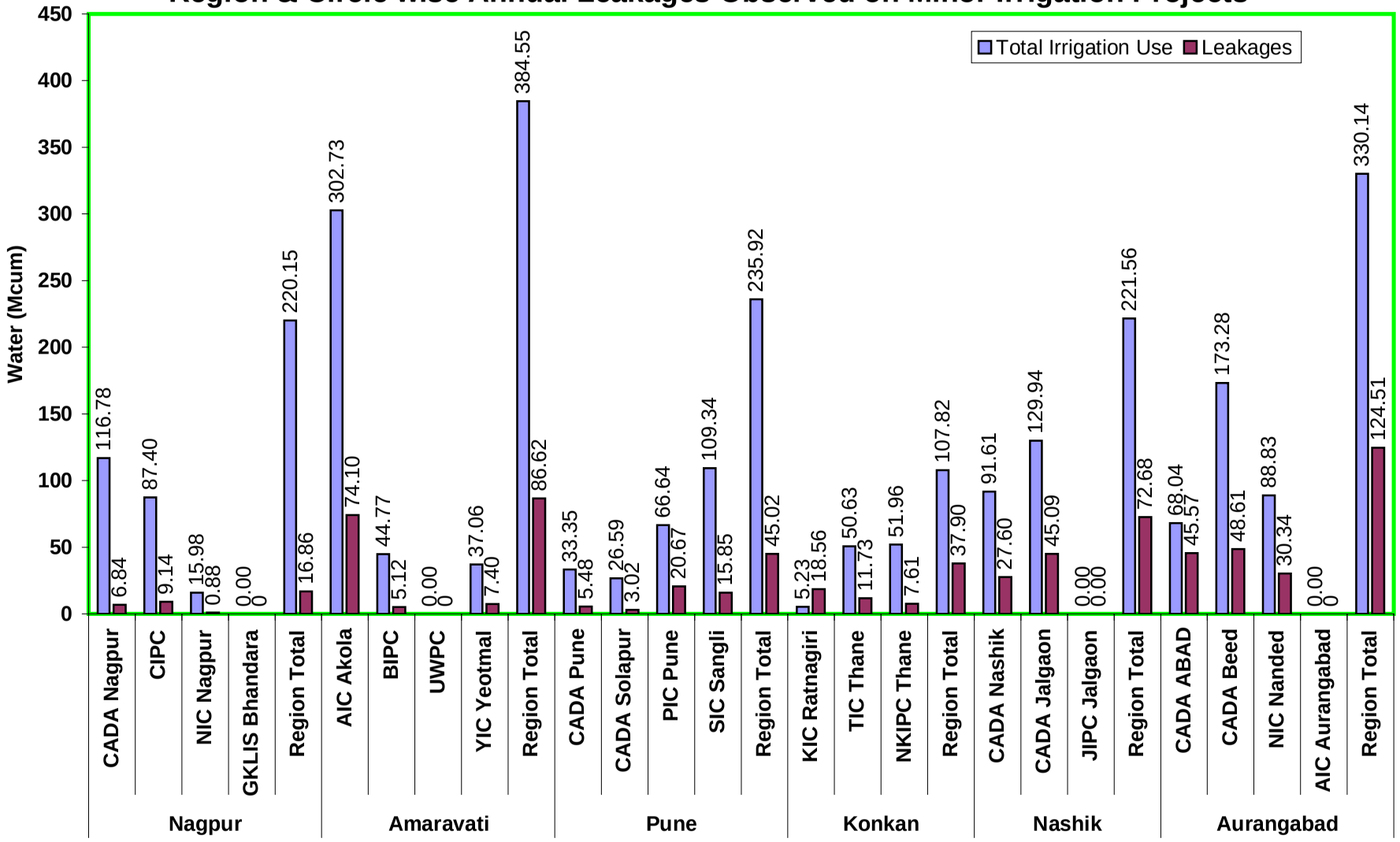


Chart XVI

Region & Circle wise Annual Leakages Observed on Minor Irrigation Projects



Annexure I
Indicators of Major Projects

Indicator I
Major Projects
Water Availability in Reservoirs on 15th Oct
%
0
20
40
60
80
100
120
Project
Highly Deficit
Deficit
Bhima (Ujjani) 111
Vishnupuri 49
Manar 99
Girna+Panzan 100
Manjra 100
Katepurna 100
Nalganga 100
Wan 100
Jayakwadi Stage I 100
JPStage II (Majalgaon) 100
Lower Terna 100
Chankapur 100
Purna 100
Normal
Bhama Askhed 38
Bor 69
NMWeir 79
Chaskaman 98
Khadakwasla 99
Arunawati 99
Upper Godavari Complex 100
Kukadi Complex 100
Upper Penganga 100
Pus 100
Lower Wunna 100
Hatnur 100
Bhandardara 100
Darna 100
Gangapur 100
Goutami Godavari 100
Kadwa 100
Kashyapi 100
Mukane 100
Ghod 100
Neera Devdhar 100
Bhatghar 100
Upper Wardha 100
Veer 100
Mula 100
Pawana 100
Surplus
Bagh 69
Pench 84
Itiadoh 85
Asolamendha 65
Dina 78
Bhatsa 86
Abundant
Radhanagari 99
Dudhaganga 99
Kanher 100
Dhom 100
Kal-Amba 100
Surya 100
Tulshi 100
Warana 101

Indicator I

Water Availability in Reservoirs

Major Projects

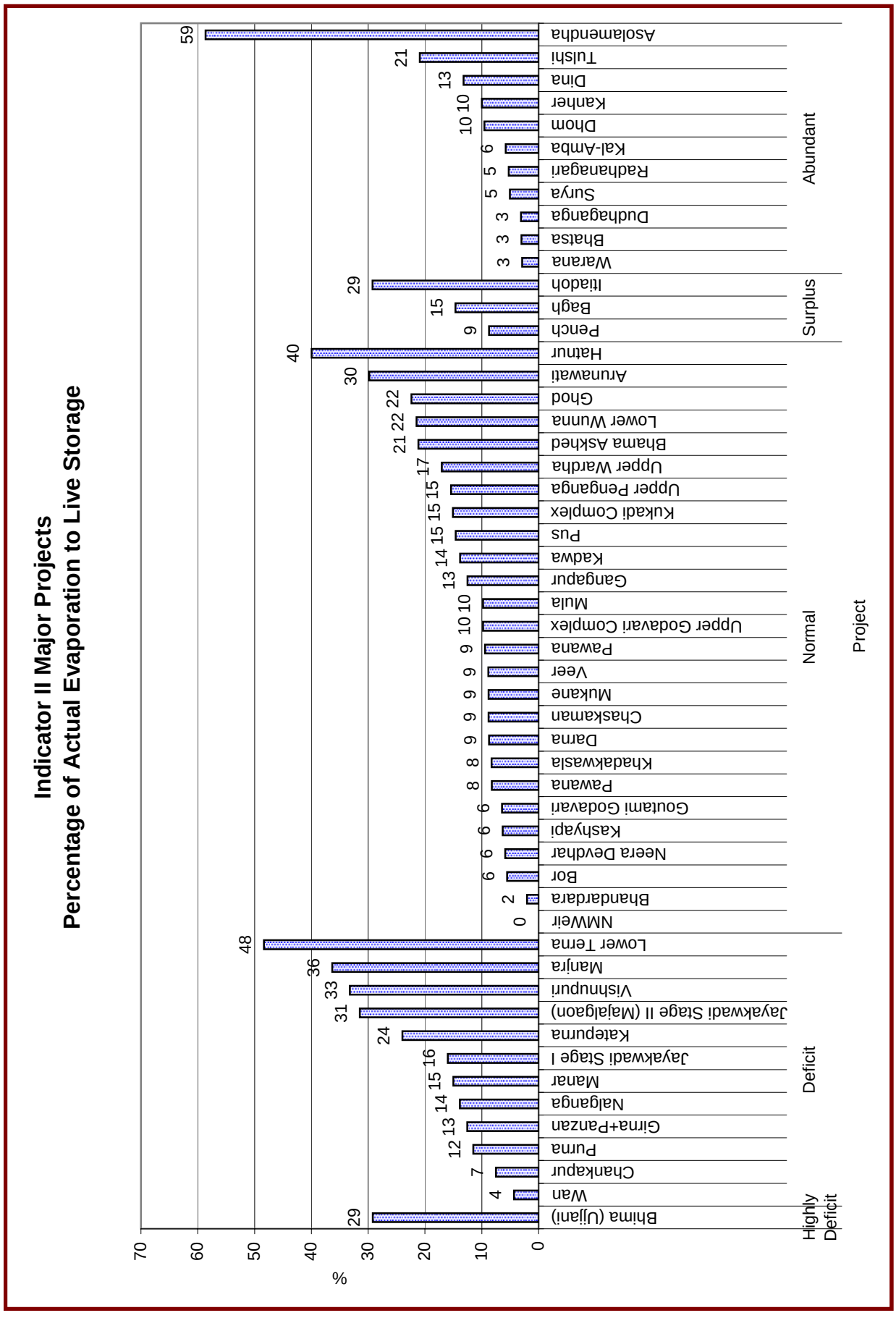
Unit: Mcum

Subbasin/Plangroup	Circle/Project	Live Storage on 15th Oct	Designed Live Storage	Percentage
Highly Deficit				
Remaining Bhima+ Man	Bhima (Ujjani)	1690.850	1517.200	111
	CADA Solapur	**1690.850**	**1517.200**	**111**
Highly Deficit		**1690.850**	**1517.200**	**111**
Deficit				
Purna (Tapi)	Katepurna	86.350	86.350	100
	Nalganga	69.320	69.320	100
	AIC Akola	**155.670**	**155.670**	**100**
Purna (Tapi)	Wan	81.955	81.955	100
	BIPC Buldhana	**81.955**	**81.955**	**100**
Lower Godavari	Jayakwadi Stage I	2170.935	2170.935	100
	CADA Abad	**2170.935**	**2170.935**	**100**
Lower Godavari	JPStage II (Majalgaon)	312.000	312.000	100
Manjra	Lower Terna	91.221	91.221	100
	Manjra	176.495	176.963	100
	CADA Beed	**579.716**	**580.184**	**100**
Girna	Girna+Panzan	523.550	525.060	100
	CADA Jalgaon	**523.550**	**525.060**	**100**
Girna	Chankapur	76.850	76.850	100
	CADA Nashik	**76.850**	**76.850**	**100**
Manjra	Manar	137.084	138.210	99
Purna+Dudhana	Purna	890.558	890.223	100
Lower Godavari	Vishnupuri	39.490	80.790	49
	NIC Nanded	**1067.132**	**1109.223**	**96**
Deficit		**4655.808**	**4699.877**	**99**
Normal				
Painganga	Arunawati	168.100	169.670	99
	YIC Yavatmal	**168.100**	**169.670**	**99**
	Pus	91.260	91.265	100
	AIC Akola	**91.260**	**91.265**	**100**
Middle Tapi (Satpuda)	Hatnur	255.000	255.000	100
	CADA Jalgaon	**255.000**	**255.000**	**100**
Upper Godavari	Bhandardara	304.100	304.100	100
	Darna	202.430	202.430	100
	Gangapur	159.420	159.420	100
	Goutami Godavari	34.080	34.080	100
	Kadwa	52.910	52.910	100
	Kashyapi	52.420	52.420	100
	Mukane	134.050	134.050	100
	Mula	608.830	608.800	100
	NMWeir	5.780	7.280	79
	Upper Godavari Complex	334.880	336.210	100
	CADA Nashik	**1888.900**	**1891.700**	**100**
Upper Bhima	Ghod	154.800	154.800	100
	Kukadi Complex	863.200	864.390	100
	CADA Pune	**1018.000**	**1019.190**	**100**
Wardha	Bor	88.450	127.420	69

Subbasin/Plangroup	Circle/Project	Live Storage on 15th Oct	Designed Live Storage	Percentage
	CIPC Chandrapur	**88.450**	**127.420**	**69**
Painganga	Upper Penganga	963.143	964.099	100
	NIC Nanded	**963.143**	**964.099**	**100**
Upper Bhima	Bhama Askhed	83.487	217.100	38
	Chaskaman	209.150	214.500	98
	Khadakwasla	781.730	793.470	99
Remaining Bhima (Neera)	Neera Devdhar	222.870	222.870	100
	Bhatghar	665.500	665.500	100
	Veer	266.440	266.430	100
Upper Bhima	Pawana	241.220	241.110	100
	PIC Pune	**2470.397**	**2620.980**	**94**
Wardha	Upper Wardha	548.140	548.140	100
	UWPC Amravati	**548.140**	**548.140**	**100**
	Lower Wunna	189.180	189.182	100
	CADA Nagpur	**189.180**	**189.182**	**100**
Normal		**7680.570**	**7876.646**	**98**
Surplus				
Middle Wainganga	Bagh	186.740	268.960	69
	Itiadoh	271.960	318.850	85
	Pench	1156.943	1374.000	84
	CADA Nagpur	**1615.643**	**1961.810**	**82**
Surplus		**1615.643**	**1961.810**	**82**
Abundant				
Upper Krishna (W)	Dhom	331.050	331.050	100
	Kanher	271.060	271.680	100
	CADA Pune	**602.110**	**602.730**	**100**
Lower Wainganga	Asolamendha	36.700	56.375	65
	Dina	52.660	67.540	78
	CIPC Chandrapur	**89.360**	**123.915**	**72**
Upper Krishna (W)	Dudhaganga	674.486	679.110	99
	Krishna LIS	2864.096	2864.096	**100**
	Radhanagari	218.300	219.970	99
	Tulshi	91.921	91.920	100
	Warana	788.030	779.348	101
	Warana LIS	0.000	0.000	
	SIC Sangli	**4636.833**	**4634.444**	**100**
North Konkan	Bhatsa	810.833	942.100	86
Middle Konkan	Kal-Amba	159.200	159.200	100
North Konkan	Surya	286.310	286.310	100
	TIC Thane	**1256.343**	**1387.610**	**91**
Abundant		**6584.646**	**6748.699**	**98**
Major Projects		**22227.517**	**22804.232**	**97**

Notes: 1) Koyana Storage is shown in Krishna LIS.

2) Storages of projects in Konkan region are of 15th Dec i.e.on onset of Konkan season.


Indicator II Major Projects
Percentage of Actual Evaporation to Live Storage
%
0
10
20
30
40
50
60
70
Highly Deficit
Deficit
Normal
Surplus
Abundant
Project
Bhima (Ujjani) 29
Wan 4
Chankapur 7
Purna 12
Girna+Panzan 13
Nalganga 14
Manar 15
Jayakwadi Stage I 16
Katepurna 24
Jayakwadi Stage II (Majalgaon) 31
Vishnupuri 33
Manjra 36
Lower Terna 48
NMWeir 0
Bhandardara 2
Bor 6
Neera Devdhar 6
Kashyapi 6
Goutami Godavari 6
Pawana 8
Khadakwasla 8
Darna 9
Chaskaman 9
Mukane 9
Veer 9
Pawana 9
Upper Godavari Complex 10
Mula 10
Gangapur 13
Kadwa 14
Pus 15
Kukadi Complex 15
Upper Pengnga 15
Upper Wardha 17
Bhama Askhed 21
Lower Wunna 22
Ghod 22
Arunawati 30
Hatnur 40
Pench 6
Bagh 15
Itiadoh 29
Warana 3
Bhatsa 3
Dudhaganga 3
Surya 5
Radhanagari 5
Kal-Amba 6
Dhom 10
Kanher 10
Dina 13
Tulshi 21
Asolamendha 59

Indicator II

Percentage Evaporation loss to Live Storage on 15th October

Major Projects

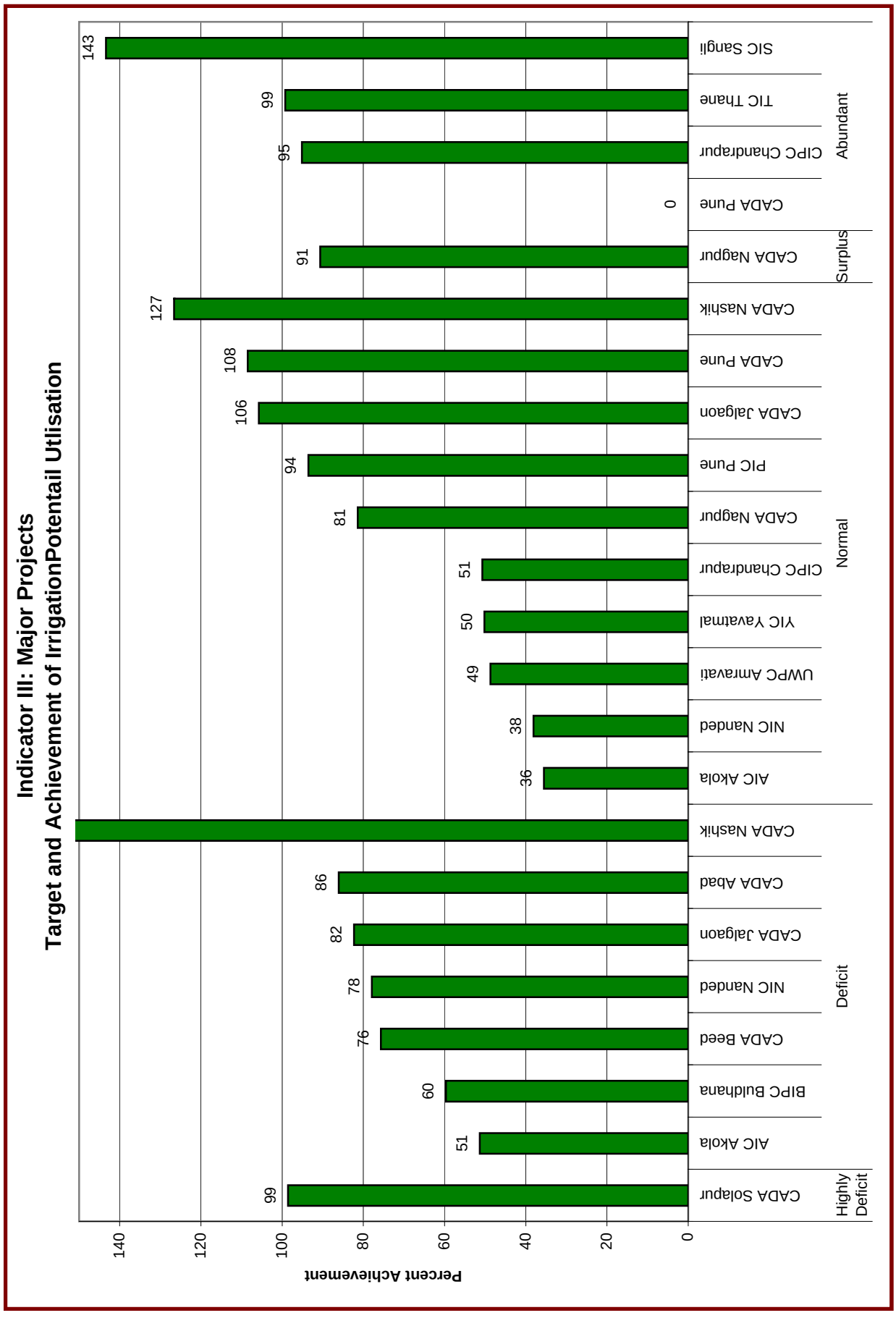
Unit: Mcum

Plangroup/Subbasin	Circle/Project	Evaporation losses	Live Storage on 15th Oct	Percentage
Highly Deficit				
Remaining Bhima+ Man	Bhima (Ujjani)	493.500	1690.850	29
	CADA Solapur	**493.500**	**1690.850**	**29**
Highly Deficit		**493.500**	**1690.850**	**29**
Deficit				
Purna (Tapi)	Katepurna	20.688	86.350	24
Purna (Tapi)	Nalganga	9.620	69.320	14
	AIC Akola	**30.308**	**155.670**	**19**
Purna (Tapi)	Wan	3.539	81.955	4
	BIPC Buldhana	**3.539**	**81.955**	**4**
Lower Godavari	Jayakwadi Stage I	346.738	2170.935	16
	CADA Abad	**346.738**	**2170.935**	**16**
Lower Godavari	Jayakwadi Stage II (Majalgaon)	98.223	312.000	31
Manjra	Lower Terna	44.104	91.221	48
Manjra	Manjra	64.103	176.495	36
	CADA Beed	**206.430**	**579.716**	**36**
Girna	Girna+Panzan	65.796	523.550	13
	CADA Jalgaon	**65.796**	**523.550**	**13**
Girna	Chankapur	5.760	76.850	7
	CADA Nashik	**5.760**	**76.850**	**7**
Manjra	Manar	20.580	137.084	15
Purna+Dudhana	Purna	102.501	890.558	12
Lower Godavari	Vishnupuri	13.114	39.490	33
	NIC Nanded	**136.195**	**1067.132**	**13**
Deficit		**794.766**	**4655.808**	**17**
Normal				
Painganga	Arunawati	50.070	168.100	30
	YIC Yavatmal	**50.070**	**168.100**	**30**
Painganga	Pus	13.320	91.260	15
	AIC Akola	**13.320**	**91.260**	**15**
Middle Tapi (Satpuda)	Hatnur	101.890	255.000	40
	CADA Jalgaon	**101.890**	**255.000**	**40**
Upper Godavari	Bhandardara	6.249	304.100	2
Upper Godavari	Darna	17.670	202.430	9
Upper Godavari	Gangapur	19.937	159.420	13
Upper Godavari	Goutami Godavari	2.196	34.080	6
Upper Godavari	Kadwa	7.318	52.910	14
Upper Godavari	Kashyapi	3.305	52.420	6
Upper Godavari	Mukane	11.810	134.050	9
Upper Godavari	Mula	59.600	608.830	10
Upper Godavari	NMWeir	0.000	5.780	0
Upper Godavari	Upper Godavari Complex	32.750	334.880	10
	CADA Nashik	**160.835**	**1888.900**	**9**
Upper Bhima	Ghod	34.630	154.800	22
Upper Bhima	Kukadi Complex	130.080	863.200	15
	CADA Pune	**164.710**	**1018.000**	**16**

Plangroup/Subbasin	Circle/Project	Evaporation losses	Live Storage on 15th Oct	Percentage
Wardha	Bor	4.892	88.450	6
	CIPC Chandrapur	**4.892**	**88.450**	**6**
Painganga	Upper Penganga	148.263	963.143	15
	NIC Nanded	**148.263**	**963.143**	**15**
Upper Bhima	Bhama Askhed	17.680	83.487	21
Upper Bhima	Chaskaman	18.412	209.150	9
Upper Bhima	Khadakwasla	64.700	781.730	8
Remaining Bhima (Neera)	Neera Devdhar	13.120	222.870	6
Remaining Bhima (Neera)	Veer	58.784	665.500	9
Remaining Bhima (Neera)	Pawana	21.990	266.440	8
Upper Bhima	Pawana	22.727	241.220	9
	PIC Pune	**217.413**	**2470.397**	**9**
Wardha	Upper Wardha	93.435	548.140	17
	UWPC Amravati	**93.435**	**548.140**	**17**
	Lower Wunna	40.680	189.180	22
	CADA Nagpur	**40.680**	**189.180**	**22**
Normal		**995.508**	**7680.570**	**13**
Surplus				
Middle Wainganga	Bagh	27.347	186.740	15
Middle Wainganga	Itiadoh	79.477	271.960	29
Middle Wainganga	Pench	101.121	1156.943	9
	CADA Nagpur	**207.945**	**1804.823**	**12**
Surplus		**207.945**	**1804.823**	**12**
Abundant				
Upper Krishna (W)	Dhom	31.605	331.050	10
Upper Krishna (W)	Kanher	27.035	271.060	10
	CADA Pune	**58.640**	**602.110**	**10**
Lower Wainganga	Asolamendha	21.512	36.700	59
Lower Wainganga	Dina	6.966	52.660	13
	CIPC Chandrapur	**28.478**	**89.360**	**32**
Upper Krishna (W)	Dudhaganga	21.028	674.486	3
Upper Krishna (W)	Krishna LIS	206.772	2864.096	7
Upper Krishna (W)	Radhanagari	11.470	218.300	5
Upper Krishna (W)	Tulshi	19.243	91.921	21
Upper Krishna (W)	Warana	22.854	788.030	3
Upper Krishna (W)	Warana LIS	0.000	0.000	
	SIC Sangli	**281.367**	**4636.833**	**6**
North Konkan	Bhatsa	24.540	810.833	3
Middle Konkan	Kal-Amba	9.220	159.200	6
North Konkan	Surya	14.500	286.310	5
	TIC Thane	**48.260**	**1256.343**	**4**
Abundant		**416.745**	**6584.646**	**6**
Major Projects		**2908.464**	**22416.697**	**13**

Notes: 1) Koyana Storage is shown in Krishna LIS.

2) Storages of projects in Konkan region are of 15th Dec i.e.on onset of Konkan season.


Indicator III: Major Projects
Target and Achievement of IrrigationPotentail Utlisation
Percent Achievement
0
20
40
60
80
100
120
140
Highly Deficit
CADA Solapur
99
AIC Akola
51
BIPC Buldhana
60
CADA Beed
76
NIC Nanded
78
CADA Jalgaon
82
CADA Abad
86
CADA Nashik
Deficit
AIC Akola
36
NIC Nanded
38
UWPC Amravati
49
YIC Yavatmal
50
CIPC Chandrapur
51
CADA Nagpur
81
PIC Pune
94
CADA Jalgaon
106
CADA Pune
108
CADA Nashik
127
Normal
CADA Nagpur
91
CADA Pune
0
CIPC Chandrapur
95
TIC Thane
99
SIC Sangli
143
Surplus
Abundant

Indicator III

Target and Achievement of Irrigation Potential Utilisation

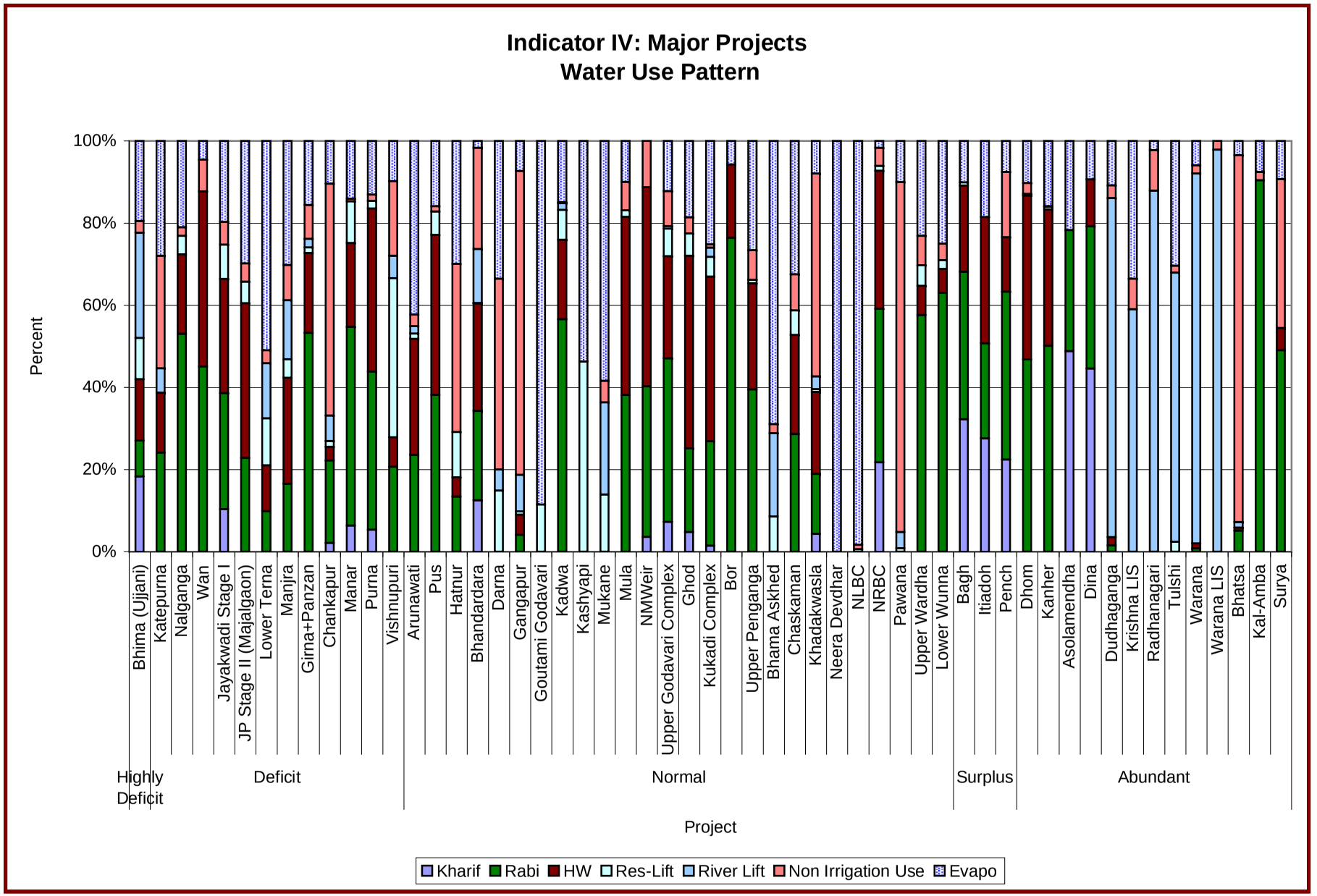
Major Projects

Unit: ha

Plangroup/ Subbasin	Circle/ Project	Achivement of Irrigation	Targets of Irrigation	Percent
Highly Deficit				
Remaining Bhima+ Man	Bhima (Ujjani)	201402	204390	99
	CADA Solapur	**201402**	**204390**	**99**
Highly Deficit		**201402**	**204390**	**99**
Deficit				
Purna (Tapi)	Katepurna	4634	6753	69
Purna (Tapi)	Nalganga	3249	8612	38
	AIC Akola	**7883**	**15365**	**51**
Purna (Tapi)	Wan	7460	12500	60
	BIPC Buldhana	**7460**	**12500**	**60**
Lower Godavari	Jayakwadi Stage I	113086	131424	86
	CADA Abad	**113086**	**131424**	**86**
Lower Godavari	Jayakwadi Stage II (Majalgaon)	13349	26503	50
Manjra	Lower Terna	3926	4640	85
Manjra	Manjra	13752	9840	140
	CADA Beed	**31027**	**40983**	**76**
Girna	Girna+Panzan	21766	26445	82
	CADA Jalgaon	**21766**	**26445**	**82**
Girna	Chankapur	3065	1475	208
	CADA Nashik	**3065**	**1475**	**208**
Manjra	Manar	15304	17000	90
Purna+Dudhana	Purna	36502	56000	65
Lower Godavari	Vishnupuri	13248	10500	126
	NIC Nanded	**65054**	**83500**	**78**
Deficit		**249341**	**311692**	**80**
Normal				
Painganga	Arunawati	2660	5300	50
	YIC Yavatmal	**2660**	**5300**	**50**
Painganga	Pus	3996	11240	36
	AIC Akola	**3996**	**11240**	**36**
Middle Tapi (Satpuda)	Hatnur	6874	6500	106
	CADA Jalgaon	**6874**	**6500**	**106**
Upper Godavari	Bhandardara	26348	29279	90
Upper Godavari	Darna	1626	0	
Upper Godavari	Gangapur	10554	1596	661
Upper Godavari	Goutami Godavari	55		
Upper Godavari	Kadwa	1391	1800	77
Upper Godavari	Kashyapi	69	59	117
Upper Godavari	Mukane	1288	0	
Upper Godavari	Mula	43001	35362	122
Upper Godavari	NMWeir	15198	0	
Upper Godavari	Upper Godavari Complex	21489	27467	78
	CADA Nashik	**121018**	**95562**	**127**

Plangroup/ Subbasin	Circle/ Project	Achivement of Irrigation	Targets of Irrigation	Percent
Upper Bhima	Ghod	18932	0	
Upper Bhima	Kukadi Complex	47444	61181	78
	CADA Pune	**66376**	**61181**	**108**
Wardha	Bor	4331	8540	51
	CIPC Chandrapur	**4331**	**8540**	**51**
Painganga	Upper Penganga	22843	60000	38
	NIC Nanded	**22843**	**60000**	**38**
Upper Bhima	Bhama Askhed	1358	0	
Upper Bhima	Chaskaman	4678	15585	30
Upper Bhima	Khadakwasla	30417	29446	103
Remaining Bhima (Neera)	Neera Devdhar	0	0	
Remaining Bhima (Neera)	Bhatghar	74	0	
Remaining Bhima (Neera)	Neera Canals (Veer)	144115	148291	97
Upper Bhima	Pawana	1562	1503	104
	PIC Pune	**182204**	**194825**	**94**
Wardha	Upper Wardha	13632	28000	49
	UWPC Amravati	**13632**	**28000**	**49**
	Lower Wunna	8549	10505	81
	CADA Nagpur	**8549**	**10505**	**81**
Normal		**432484**	**481653**	**90**
Surplus				
Middle Wainganga	Bagh	25966	35718	73
Middle Wainganga	Itiadoh	26109	27980	93
Middle Wainganga	Pench	80097	82100	98
	CADA Nagpur	**132171**	**145798**	**91**
Surplus		**132171**	**145798**	**91**
Abundant				
Upper Krishna (W)	Dhom	18280	0	
Upper Krishna (W)	Kanher	7768	0	
	CADA Pune	**26048**	**0**	
Lower Wainganga	Asolamendha	10702	11500	93
Lower Wainganga	Dina	11392	11720	97
	CIPC Chandrapur	**22094**	**23220**	**95**
Upper Krishna (W)	Dudhaganga	17150	0	
Upper Krishna (W)	Krishna LIS	57352		
Upper Krishna (W)	Radhanagari	42495	45735	93
Upper Krishna (W)	Tulshi	5026	5475	92
Upper Krishna (W)	Warana	32971	39945	83
Upper Krishna (W)	Warana LIS	32971	39945	83
	SIC Sangli	**187965**	**131100**	**143**
North Konkan	Bhatsa	2839	2500	114
Middle Konkan	Kal-Amba	4585	4212	109
North Konkan	Surya	4300	5100	84
	TIC Thane	**11725**	**11812**	**99**
Abundant		**247832**	**166132**	**149**
Major Projects		**1263229**	**1309665**	**96**

Note: Targets are as per PIP.In some projects PIP targets are not reported hence Target is shown Zero.


Indicator IV: Major Projects
Water Use Pattern
Percent
100%
80%
60%
40%
20%
0%
Bhima (Ujjani)
Katepurna
Nalganga
Wan
Jayakwadi Stage I
JP Stage II (Majalgaon)
Lower Terna
Manjra
Girna+Panzan
Chankapur
Manar
Purna
Vishnupuri
Arunawati
Pus
Hatnur
Bhandardara
Darna
Gangapur
Goutami Godavari
Kadwa
Kashyapi
Mukane
Mula
NMWeir
Upper Godavari Complex
Ghod
Kukadi Complex
Bor
Upper Penganga
Bhama Askhed
Chaskaman
Khadakwasla
Neera Devdhar
NLBC
NRBC
Pawana
Upper Wardha
Lower Wunna
Bagh
Itiadoh
Pench
Dhom
Kanher
Asolamendha
Dina
Dudhaganga
Krishna LIS
Radhanagari
Tulshi
Warana
Warana LIS
Bhatsa
Kal-Amba
Surya
Highly Deficit
Deficit
Normal
Surplus
Abundant
Project
Kharif
Rabi
HW
Res-Lift
River Lift
Non Irrigation Use
Evapo

Indicator IV

Water Use Pattern

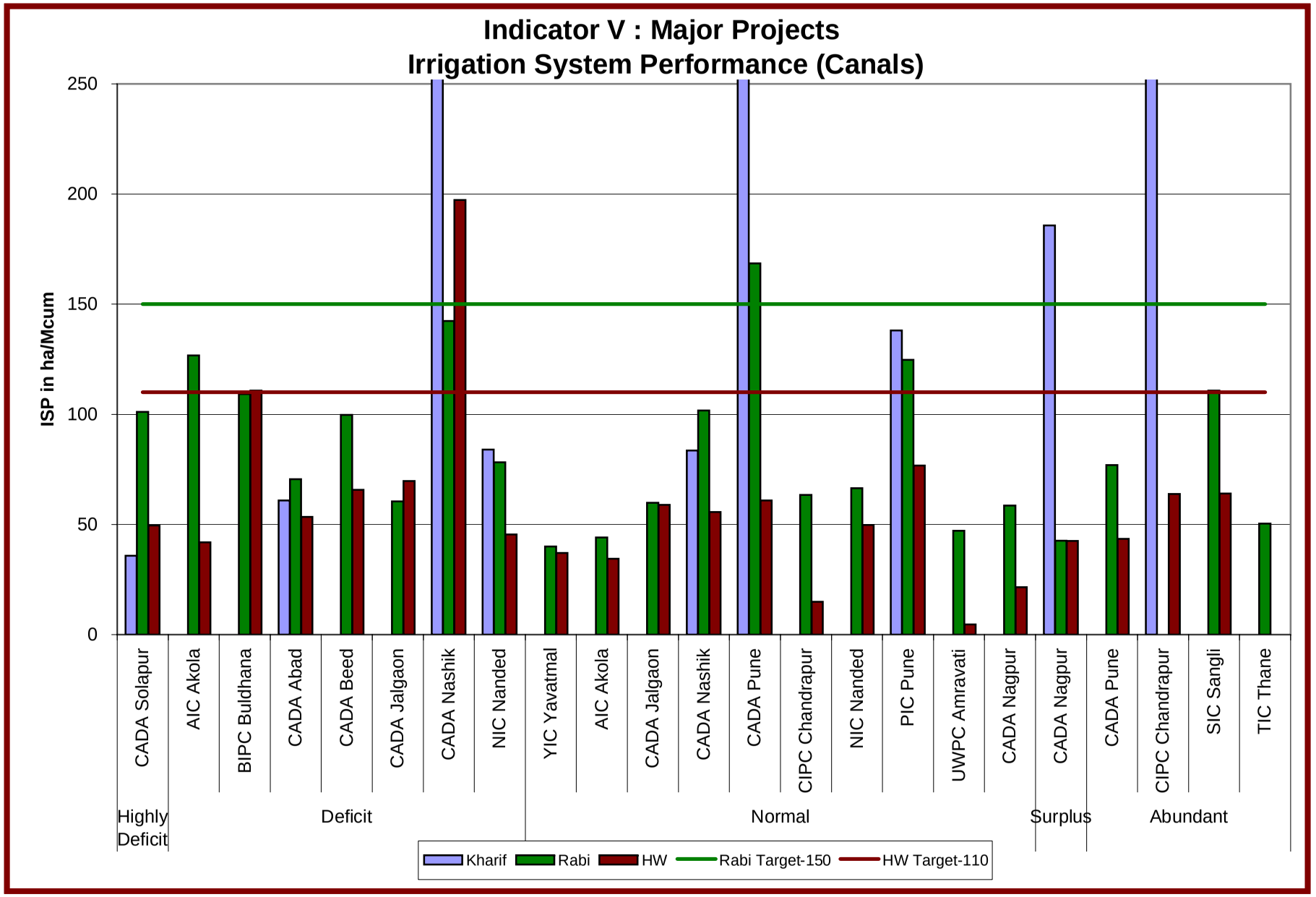
Major Projects

Unit: Mcum

Plangroup/ Subbasin	Canal Irrigation			Reservoir Annual Lift	River Annual Lift	Non Irrigation Use	Evapo-ration Losses	Gross Utilisation
	Kharif	Rabi	HW					
Highly Deficit								
Bhima (Ujjani)	462.710	220.787	377.528	252.880	646.630	72.601	493.500	2526.636
CADA Solapur	**462.710**	**220.787**	**377.528**	**252.880**	**646.630**	**72.601**	**493.500**	**2526.636**
Highly Deficit	**462.710**	**220.787**	**377.528**	**252.880**	**646.630**	**72.601**	**493.500**	**2526.636**
Deficit								
Katepurna	0.000	17.840	10.760	0.040	4.369	20.232	20.688	73.929
Nalganga	0.000	24.280	8.870	2.060	0.000	0.960	9.620	45.790
AIC Akola	**0.000**	**42.120**	**19.630**	**2.100**	**4.369**	**21.192**	**30.308**	**119.719**
Wan	0.000	34.878	32.988	0.000	0.000	5.979	3.539	77.386
BIPC Buldhana	**0.000**	**34.878**	**32.988**	**0.000**	**0.000**	**5.979**	**3.539**	**77.386**
Jayakwadi Stage I	182.620	495.732	488.300	146.255	0.000	97.357	346.738	1757.000
CADA Abad	**182.620**	**495.732**	**488.300**	**146.255**	**0.000**	**97.357**	**346.738**	**1757.000**
JP Stage II (Majalgaon)	0.000	75.164	123.961	17.354	0.000	14.649	98.223	329.351
Lower Terna	0.000	8.538	9.656	9.914	11.613	2.693	44.104	86.518
Manjra	0.000	35.004	54.862	9.605	30.516	18.170	64.103	212.260
CADA Beed	**0.000**	**118.706**	**188.479**	**36.873**	**42.129**	**35.512**	**206.430**	**628.128**
Girna+Panzan	0.000	224.537	82.130	5.659	8.880	34.705	65.796	421.707
CADA Jalgaon	**0.000**	**224.537**	**82.130**	**5.659**	**8.880**	**34.705**	**65.796**	**421.707**
Chankapur	1.200	11.090	1.840	0.800	3.430	31.240	5.760	55.360
CADA Nashik	**1.200**	**11.090**	**1.840**	**0.800**	**3.430**	**31.240**	**5.760**	**55.360**
Manar	9.332	70.610	29.801	14.827	0.000	0.880	20.580	146.030
Purna	42.122	301.815	311.651	14.743	0.000	11.846	102.501	784.678
Vishnupuri	0.000	27.630	9.570	51.690	7.310	24.235	13.114	133.549
NIC Nanded	**51.454**	**400.055**	**351.022**	**81.260**	**7.310**	**36.961**	**136.195**	**1064.257**
Deficit	**235.274**	**1327.117**	**1164.388**	**272.947**	**66.118**	**262.946**	**794.766**	**4123.557**
Normal								
Arunawati	0.000	27.925	33.427	1.540	2.115	3.377	50.070	118.454
YIC Yavatmal	**0.000**	**27.925**	**33.427**	**1.540**	**2.115**	**3.377**	**50.070**	**118.454**
Pus	0.000	32.020	32.683	4.760	0.000	1.097	13.320	83.880
AIC Akola	**0.000**	**32.020**	**32.683**	**4.760**	**0.000**	**1.097**	**13.320**	**83.880**
Hatnur	0.000	45.705	15.944	37.560	0.000	139.281	101.890	340.380
CADA Jalgaon	**0.000**	**45.705**	**15.944**	**37.560**	**0.000**	**139.281**	**101.890**	**340.380**
Bhandardara	46.912	81.817	98.190	0.328	49.262	92.636	6.249	375.394
Darna	0.000	0.000	0.000	7.832	2.704	24.437	17.670	52.642
Gangapur	0.000	11.239	13.395	2.199	24.173	201.896	19.937	272.840
Goutami Godavari	0.000	0.000	0.000	0.286	0.000	0.000	2.196	2.482
Kadwa	0.000	27.737	9.482	3.574	0.808	0.110	7.318	49.029
Kashyapi	0.000	0.000	0.000	2.845	0.000	0.000	3.305	6.150
Mukane	0.000	0.000	0.000	2.816	4.535	1.066	11.810	20.227
Mula	0.000	228.448	259.309	9.460	0.000	41.395	59.600	598.212
NMWeir	8.787	89.405	118.300	0.000	0.000	27.527	0.000	244.019
Upper Godavari Complex	19.540	106.510	66.600	18.020	1.654	22.809	32.750	267.883
CADA Nashik	**75.239**	**545.156**	**565.276**	**47.360**	**83.136**	**411.876**	**160.835**	**1888.878**
Ghod	8.900	37.960	87.470	10.090	0.000	7.390	34.630	186.440
Kukadi Complex	7.580	131.380	207.121	24.760	11.570	4.265	130.080	516.756
CADA Pune	**16.480**	**169.340**	**294.591**	**34.850**	**11.570**	**11.655**	**164.710**	**703.196**
Bor	0.000	64.750	15.130	0.000	0.000	0.000	4.892	84.772
CIPC Chandrapur	**0.000**	**64.750**	**15.130**	**0.000**	**0.000**	**0.000**	**4.892**	**84.772**
Upper Penganga	0.000	220.378	143.921	4.750	0.000	40.355	148.263	**557.666**
NIC Nanded	**0.000**	**220.378**	**143.921**	**4.750**	**0.000**	**40.355**	**148.263**	**557.666**
Bhama Askhed	0.000	0.000	0.000	2.200	5.200	0.570	17.680	25.650
Chaskaman	0.000	16.260	13.680	3.383	0.000	5.005	18.412	56.740
Khadakwasla	35.260	118.920	162.290	5.050	25.540	401.309	64.700	813.069

Plangroup/ Subbasin	Canal Irrigation			Reservoir Annual Lift	River Annual Lift	Non Irrigation Use	Evapo-ration Losses	Gross Utilisation
	Kharif	Rabi	HW					
Neera Devdhar	0.000	0.000	0.000	0.000	0.000	0.000	13.120	13.120
NLBC	0.000	0.000	0.000	0.387	0.000	0.611	58.784	59.782
NRBC	286.110	491.660	441.380	15.630	0.000	58.348	21.990	1315.118
Pawana	0.000	0.000	0.000	1.960	8.820	192.655	22.727	226.162
PIC Pune	**321.370**	**626.840**	**617.350**	**28.610**	**39.560**	**658.498**	**217.413**	**2509.641**
Upper Wardha	0.000	232.614	28.754	20.316	0.000	28.849	93.435	403.967
UWPC Amravati	**0.000**	**232.614**	**28.754**	**20.316**	**0.000**	**28.849**	**93.435**	**403.967**
Lower Wunna	0.000	102.483	9.457	3.500	0.000	6.485	40.680	162.605
CADA Nagpur	**0.000**	**102.483**	**9.457**	**3.500**	**0.000**	**6.485**	**40.680**	**162.605**
Normal	**413.089**	**2299.824**	**1785.288**	**203.561**	**136.381**	**1330.321**	**995.508**	**7163.971**
Surplus								
Bagh	87.394	97.371	56.881	2.070	0.000	0.000	27.347	271.063
Itiadoh	118.160	99.220	131.530	0.000	0.000	0.000	79.477	428.387
Pench	301.671	548.836	177.504	0.010	0.000	213.869	101.121	1343.011
CADA Nagpur	**507.225**	**745.427**	**365.915**	**2.080**	**0.000**	**213.869**	**207.945**	**2042.461**
Surplus	**507.225**	**745.427**	**365.915**	**2.080**	**0.000**	**213.869**	**207.945**	**2042.461**
Abundant								
Dhom	0.000	144.647	122.908	1.281	0.000	8.233	31.605	308.675
Kanher	0.000	85.253	56.461	1.170	0.000	0.193	27.035	170.112
CADA Pune	**0.000**	**229.900**	**179.369**	**2.451**	**0.000**	**8.426**	**58.640**	**478.786**
Asolamendha	48.410	29.218	0.000	0.000	0.000	0.000	21.512	99.140
Dina	33.290	25.840	8.570	0.000	0.000	0.000	6.966	74.666
CIPC Chandrapur	**81.700**	**55.058**	**8.570**	**0.000**	**0.000**	**0.000**	**28.478**	**173.806**
Dudhaganga	0.000	2.972	3.881	0.000	160.495	6.072	21.028	194.448
Krishna LIS	0.000	0.000	0.000	0.000	363.626	45.896	206.772	616.294
Radhanagari	0.000	0.000	0.000	0.000	452.156	50.749	11.470	514.375
Tulshi	0.000	0.000	0.000	1.529	41.506	1.100	19.243	63.378
Warana	0.000	3.078	4.584	0.000	343.433	7.500	22.854	381.449
Warana LIS	0.000	0.000	0.000	0.000	343.433	7.500	0.000	350.933
SIC Sangli	**0.000**	**6.050**	**8.465**	**1.529**	**1704.649**	**118.817**	**281.367**	**2120.877**
Bhatsa	0.000	36.085	4.915	0.000	9.403	624.874	24.540	699.817
Kal-Amba	0.000	110.020	0.000	0.000	0.000	2.420	9.220	121.660
Surya	0.000	76.500	8.500	0.000	0.000	56.550	14.500	156.050
TIC Thane	**0.000**	**222.605**	**13.415**	**0.000**	**9.403**	**683.844**	**48.260**	**977.527**
Abundant	**81.700**	**513.613**	**209.819**	**3.980**	**1714.052**	**811.086**	**416.745**	**3750.996**
Major Projects	**1699.999**	**5106.768**	**3902.938**	**735.448**	**2563.181**	**2690.824**	**2908.464**	**19607.621**

Note: Read Konkan season for projects in Konkan region for Rabi season.


Indicator V : Major Projects
Irrigation System Performance (Canals)
ISP in ha/Mcum
250
200
150
100
50
0
CADA Solapur
AIC Akola
BIPC Buldhana
CADA Abad
CADA Beed
CADA Jalgaon
CADA Nashik
NIC Nanded
YIC Yavatmal
AIC Akola
CADA Jalgaon
CADA Nashik
CADA Pune
CIPC Chandrapur
NIC Nanded
PIC Pune
UWPC Amravati
CADA Nagpur
CADA Nagpur
CADA Pune
CIPC Chandrapur
SIC Sangli
TIC Thane
Highly Deficit
Deficit
Normal
Surplus
Abundant
Kharif
Rabi
HW
Rabi Target-150
HW Target-110

Indicator V (Canals)
Irrigation System Performance (Canals)
Major Projects

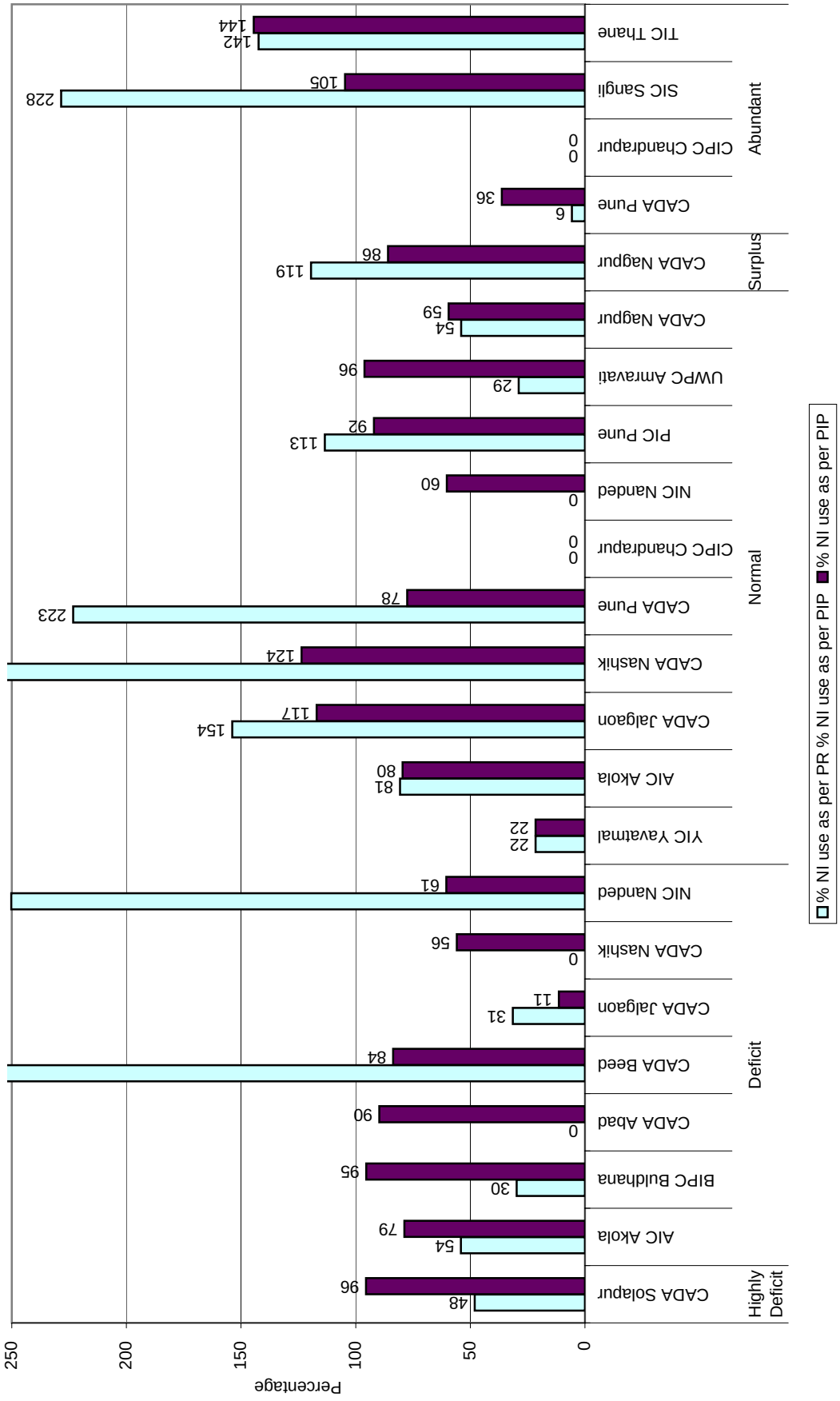
Unit: ha/Mcum

Plangroup/	Project	Irrigation System Performance		
		Kharif	Rabi	HW
Highly Deficit				
Remaining Bhima+ Man	Bhima (Ujjani)	36	101	50
	CADA Solapur	**36**	**101**	**50**
Highly Deficit		**36**	**101**	**50**
Deficit				
Purna (Tapi)	Katepurna	0	163	30
Purna (Tapi)	Nalganga	0	100	56
	AIC Akola	**0**	**127**	**42**
Purna (Tapi)	Wan	0	109	111
	BIPC Buldhana	**0**	**109**	**111**
Lower Godavari	Jayakwadi Stage I	61	71	53
	CADA Abad	**61**	**71**	**53**
Lower Godavari	Jayakwadi Stage II (Majalgaon)	0	77	46
Manjra	Lower Terna	0	115	65
Manjra	Manjra	0	146	111
	CADA Beed	**0**	**100**	**66**
Girna	Girna+Panzan	0	61	70
	CADA Jalgaon	**0**	**61**	**70**
Girna	Chankapur	353	142	197
	CADA Nashik	**353**	**142**	**197**
Manjra	Manar	146	114	127
Purna+Dudhana	Purna	70	63	39
Lower Godavari	Vishnupuri	0	154	0
	NIC Nanded	**84**	**78**	**45**
Deficit		**166**	**98**	**83**
Normal				
Painganga	Arunawati	0	40	37
	YIC Yavatmal	**0**	**40**	**37**
Painganga	Pus	0	48	32
	AIC Akola	**0**	**44**	**34**
Middle Tapi (Satpuda)	Hatnur	0	60	59
	CADA Jalgaon	**0**	**60**	**59**

Plangroup/	Project	Irrigation System Performance		
		Kharif	Rabi	HW
Upper Godavari	Bhandardara	67	93	42
Upper Godavari	Darna	0	0	0
Upper Godavari	Gangapur	0	107	80
Upper Godavari	Goutami Godavari	0	0	0
Upper Godavari	Kadwa	0	24	22
Upper Godavari	Kashyapi	0	0	0
Upper Godavari	Mukane	0	0	0
Upper Godavari	Mula	0	115	59
Upper Godavari	NMWeir	173	98	41
Upper Godavari	Upper Godavari Complex	0	77	52
	CADA Nashik	**84**	**102**	**56**
Upper Bhima	Ghod	331	165	58
Upper Bhima	Kukadi Complex	429	170	62
	CADA Pune	**376**	**169**	**61**
Wardha	Bor	0	63	15
	CIPC Chandrapur	**0**	**63**	**15**
Painganga	Upper Penganga	0	66	50
	NIC Nanded	**0**	**66**	**50**
Upper Bhima	Bhama Askhed	0	0	0
Upper Bhima	Chaskaman	0	169	116
Upper Bhima	Khadakwasla	82	100	64
Remaining Bhima (Neera)	Neera Devdhar	0	0	0
Remaining Bhima (Neera)	Bhatghar	0	0	0
Remaining Bhima (Neera)	Neera Canals	145	129	80
Upper Bhima	Pawana	0	0	0
	PIC Pune	**138**	**125**	**77**
Wardha	Upper Wardha	0	47	5
	UWPC Amravati	**0**	**47**	**5**
	Lower Wunna	0	59	22
	CADA Nagpur	**0**	**59**	**22**
Normal		**199**	**84**	**45**
Surplus				
Middle Wainganga	Bagh	254	0	62
Middle Wainganga	Itiadoh	148	0	65
Middle Wainganga	Pench	155	54	20
	CADA Nagpur	**186**	**43**	**42**
Surplus		**170**	**56**	**42**

Plangroup/	Project	Irrigation System Performance		
		Kharif	Rabi	HW
Abundant				
Upper Krishna (W)	Dhom	0	87	44
Upper Krishna (W)	Kanher	0	60	43
	CADA Pune	**0**	**77**	**43**
Lower Wainganga	Asolamendha	221	0	0
Lower Wainganga	Dina	326	0	64
	CIPC Chandrapur	**264**	**0**	**64**
Upper Krishna (W)	Dudhaganga	0	94	72
Upper Krishna (W)	Krishna LIS	0	0	0
Upper Krishna (W)	Radhanagari	0	0	0
Upper Krishna (W)	Tulshi	0	0	0
Upper Krishna (W)	Warana	0	127	56
Upper Krishna (W)	Warana LIS	0	0	0
	SIC Sangli	**0**	**111**	**64**
North Konkan	Bhatsa	0	65	0
Middle Konkan	Kal-Amba	0	42	0
North Konkan	Surya	0	56	0
	TIC Thane	**0**	**50**	**0**
Abundant		**264**	**58**	**44**
Major Projects		**159**	**78**	**55**
Note:Read Konkan season for projects in Konkan region for Rabi season.				

Indicator VI: Major Projects
Percentage of Planned & Actual Non - Irrigation Use



Indicator VI

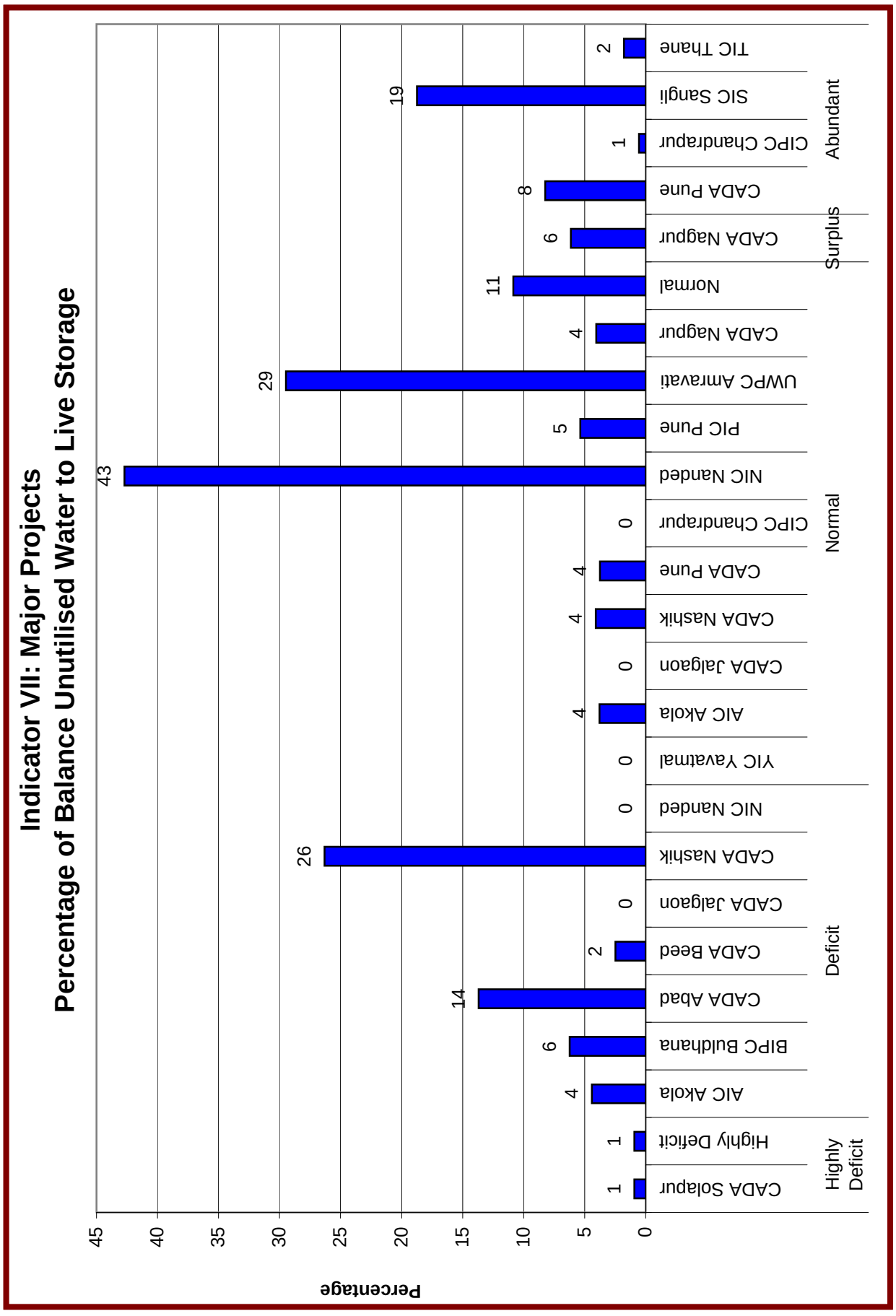
Percentage of Planned & Actual Non - Irrigation Use

Major Projects

Unit: Mcum

Subbasin/Plangroup	Circle Project	Actual Non Irrigation Use	NI use as per PR	NI use as per PIP	% NI use as per PR	% NI use as per PIP
Highly Deficit						
Remaining Bhima+ Man	Bhima (Ujjani)	72.601	150.950	76.000	48	96
	CADA Solapur	**72.601**	**150.950**	**76.000**	**48**	**96**
Highly Deficit		**72.601**	**150.950**	**76.000**	**48**	**96**
Deficit						
Purna (Tapi)	Katepurna	20.232	32.650	25.400	62	80
	Nalganga	0.960	6.510	1.500	15	64
	AIC Akola	**21.192**	**39.160**	**26.900**	**54**	**79**
Purna (Tapi)	Wan	5.979	20.079	6.270	30	95
	BIPC Buldhana	**5.979**	**20.079**	**6.270**	**30**	**95**
Lower Godavari	Jayakwadi Stage I	97.357	0.000	108.562	---	90
	CADA Abad	**97.357**	**0.000**	**108.562**	**---**	**90**
Lower Godavari	JP Stage II (Majalgaon)	14.649	0.000	20.000	---	73
Manjra	Lower Terna	2.693	9.690	4.294	28	63
	Manjra	18.170	0.000	18.170	---	100
	CADA Beed	**35.512**	**9.690**	**42.464**	**366**	**84**
Girna	Girna+Panzan	34.705	110.272	303.678	31	11
	CADA Jalgaon	**34.705**	**110.272**	**303.678**	**31**	**11**
Girna	Chankapur	31.240	0.000	55.840	---	56
	CADA Nashik	**31.240**	**0.000**	**55.840**	**---**	**56**
Manjra	Manar	0.880	2.620	4.240	34	21
Purna+Dudhana	Purna	11.846	0.000	32.000	---	37
Lower Godavari	Vishnupuri	24.235	12.150	24.850	199	98
	NIC Nanded	**36.961**	**14.770**	**61.090**	**250**	**61**
Deficit		**262.946**	**193.971**	**604.804**	**136**	**43**
Normal						
Painganga	Arunawati	3.377	15.652	15.652	22	22
	YIC Yavatmal	**3.377**	**15.652**	**15.652**	**22**	**22**
	Pus	1.097	1.360	1.380	81	80
	AIC Akola	**1.097**	**1.360**	**1.380**	**81**	**80**
Middle Tapi (Satpuda)	Hatnur	139.281	90.530	119.000	154	117
	CADA Jalgaon	**139.281**	**90.530**	**119.000**	**154**	**117**
Upper Godavari	Bhandardara	92.636	0.000	28.968	---	320
	Darna	24.437	1.530	60.230	1597	41
	Gangapur	201.896	2.730	128.690	7395	157
	Kadwa	0.110	0.600	0.250	18	44
	Kashyapi	0.000	0.000	1.415	---	0
	Mukane	1.066	0.000	0.000	---	---
	Mula	41.395	59.130	52.380	70	79
	NMWeir	27.527	0.000	0.000	---	---
	Upper Godavari Complex	22.809	23.458	61.280	97	37
	CADA Nashik	**411.876**	**87.448**	**333.213**	**471**	**124**

Subbasin/Plangroup	Circle Project	Actual Non Irrigation Use	NI use as per PR	NI use as per PIP	% NI use as per PR	% NI use as per PIP
	Ghod	7.390	5.220	6.660	142	111
Upper Bhima	Kukadi Complex	4.265	0.000	8.368	---	51
	CADA Pune	**11.655**	**5.220**	**15.028**	**223**	**78**
	Bor	0.000	6.350	0.150	0	0
Wardha	**CIPC Chandrapur**	**0.000**	**6.350**	**0.150**	**0**	**0**
	Upper Penganga	40.355	0.000	67.000	---	60
Painganga	**NIC Nanded**	**40.355**	**0.000**	**67.000**	**---**	**60**
	Bhama Askhed	0.570	4.530	0.000	13	---
Upper Bhima	Chaskaman	5.005	0.000	37.790	---	13
	Khadakwasla	401.309	407.620	417.150	98	96
	Neera Devdhar	0.000	0.000	0.000	---	---
Remaining Bhima (Neera)	Bhatghar	0.611	0.000	0.000	---	---
	Veer	58.348	0.000	61.720	---	95
	Pawana	192.655	168.320	199.200	114	97
Upper Bhima	**PIC Pune**	**658.498**	**580.470**	**715.860**	**113**	**92**
	Upper Wardha	28.849	99.712	30.000	29	96
Wardha	**UWPC Amravati**	**28.849**	**99.712**	**30.000**	**29**	**96**
	Lower Wunna	6.485	12.000	10.902	54	59
	CADA Nagpur	**6.485**	**12.000**	**10.902**	**54**	**59**
Normal		**1301.472**	**898.742**	**1308.185**	**145**	**99**
Surplus						
	Bagh	0.000	0.000	0.000	---	---
Middle Wainganga	Itiadoh	0.000	0.000	0.000	---	---
	Pench	213.869	179.000	249.000	119	86
	CADA Nagpur	**213.869**	**179.000**	**249.000**	**119**	**86**
Surplus		**213.869**	**179.000**	**249.000**	**119**	**86**
Abundant	Dhom	8.233	54.770	13.250	15	62
Upper Krishna (W)	Kanher	0.193	93.120	10.000	0	2
	CADA Pune	**8.426**	**147.890**	**23.250**	**6**	**36**
	Asolamendha	0.000	0.000	0.000	---	---
Lower Wainganga	Dina	0.000	0.000	0.000	---	---
	CIPC Chandrapur	**0.000**	**0.000**	**0.000**	**---**	**---**
	Dudhaganga	6.072	0.000	4.600	---	132
	Krishna LIS	45.896	52.000	54.000	88	85
Upper Krishna (W)	Radhanagari	50.749	0.000	47.570	---	107
	Tulshi	1.100	0.000	1.162	---	95
	Warana	7.500	0.000	6.190	---	121
	Warana LIS	7.500	0.000	0.000	---	---
	SIC Sangli	**118.817**	**52.000**	**113.522**	**228**	**105**
North Konkan	Bhatsa	624.874	425.800	428.800	147	146
Middle Konkan	Kal-Amba	2.420	54.710	2.640	4	92
North Konkan	Surya	56.550	0.000	42.080	---	134
	TIC Thane	**683.844**	**480.510**	**473.520**	**142**	**144**
Abundant		**811.086**	**680.400**	**610.292**	**119**	**133**
Major Projects		**2661.975**	**2103.063**	**2848.281**	**127**	**93**


Indicator VII: Major Projects
Percentage of Balance Unutilised Water to Live Storage
Percentage
0
5
10
15
20
25
30
35
40
45
Highly Deficit
Deficit
Normal
Surplus
Abundant
CADA Solapur
Highly Deficit
AIC Akola
BIPC Buldhana
CADA Abad
CADA Beed
CADA Jalgaon
CADA Nashik
NIC Nanded
YIC Yavatmal
AIC Akola
CADA Jalgaon
CADA Nashik
CADA Pune
CIPC Chandrapur
NIC Nanded
PIC Pune
UWPC Amravati
CADA Nagpur
Normal
CADA Nagpur
CADA Pune
CIPC Chandrapur
SIC Sangli
TIC Thane
1
1
4
6
14
2
0
26
0
0
4
0
4
4
0
43
5
29
4
11
6
8
1
19
2

Indicator VII

Major Projects

Percentage of Balance Unutilised Water to Live Storage

Unit: Mcum

Plangroup Circle Project	Storage on 30 Jun	Designed Carry Over	Inflow in Hot Weather	Net Unutilised water	Storage on 15 th Oct	Percent-age
Highly Deficit						
Bhima (Ujjani)	380.120	0.000	364.560	15.560	1690.850	0.92
CADA Solapur	**380.120**	**0.000**	**364.560**	**15.560**	**1690.850**	**0.92**
Highly Deficit	**380.120**	**0.000**	**364.560**	**15.560**	**1690.850**	**0.92**
Deficit						
Katepurna	14.633	0.000	18.939	0.000	86.350	0.00
Nalganga	26.730	18.400	1.470	6.860	69.320	9.90
AIC Akola	**41.363**	**18.400**	**20.409**	**6.860**	**155.670**	**4.41**
Wan	6.450	0.000	1.345	5.105	81.955	6.23
BIPC Buldhana	**6.450**	**0.000**	**1.345**	**5.105**	**81.955**	**6.23**
Jayakwadi Stage I	791.433	382.000	112.280	297.153	2170.935	13.69
CADA Abad	**791.433**	**382.000**	**112.280**	**297.153**	**2170.935**	**13.69**
Jayakwadi Stage II (Majalgaon)	26.800	0.000	22.246	4.554	312.000	1.46
Lower Terna	19.172	0.000	9.324	9.848	91.221	10.80
Manjra	9.105	4.420	14.590	0.000	176.495	0.00
CADA Beed	**55.077**	**4.420**	**46.160**	**14.402**	**579.716**	**2.48**
Girna+Panzan	114.230	155.650	182.508	0.000	523.550	0.00
CADA Jalgaon	**114.230**	**155.650**	**182.508**	**0.000**	**523.550**	**0.00**
Chankapur	28.610	0.000	8.380	20.230	76.850	26.32
CADA Nashik	**28.610**	**0.000**	**8.380**	**20.230**	**76.850**	**26.32**
Manar	0.000	0.000	0.000	0.000	137.084	0.00
Purna	179.989	243.520	280.721	0.000	890.558	0.00
Vishnupuri	0.000	0.000	67.999	0.000	39.490	0.00
NIC Nanded	**179.989**	**243.520**	**348.720**	**0.000**	**1067.132**	**0.00**
Deficit	**1217.152**	**803.990**	**719.802**	**343.750**	**4655.808**	**7.38**
Normal						
Arunawati	48.580	72.000	3.910	0.000	168.100	0.00
YIC Yavatmal	**48.580**	**72.000**	**3.910**	**0.000**	**168.100**	**0.00**
Pus	12.380	8.495	0.427	3.458	91.260	3.79
AIC Akola	**12.380**	**8.495**	**0.427**	**3.458**	**91.260**	**3.79**
Hatnur	107.000	0.000	149.380	0.000	255.000	0.00
CADA Jalgaon	**107.000**	**0.000**	**149.380**	**0.000**	**255.000**	**0.00**
Bhandardara	55.830	0.000	34.375	21.456	304.100	7.06
Darna	94.060	0.000	61.393	32.667	202.430	16.14
Gangapur	33.100	11.320	44.511	0.000	159.420	0.00
Goutami Godavari	0.000	0.000	0.000	0.000	34.080	0.00
Kadwa	7.000	0.000	5.000	2.000	52.910	3.78
Kashyapi	0.950	0.000	1.227	0.000	52.420	0.00
Mukane	12.319	0.000	9.992	2.327	134.050	1.74
Mula	109.350	28.300	67.313	13.737	608.830	2.26
NMWeir	7.280	0.000	190.394	0.000	5.780	0.00
Upper Godavari Complex	79.456	68.682	57.805	4.326	317.310	1.36
CADA Nashik	**399.345**	**108.302**	**472.009**	**76.512**	**1871.330**	**4.09**
Ghod	84.010	0.000	77.930	6.080	154.800	3.93
Kukadi Complex	27.900	128.550	320.310	32.020	863.200	3.71
CADA Pune	**111.910**	**128.550**	**398.240**	**38.100**	**1018.000**	**3.74**
Bor	6.790	15.800	1.770	0.000	88.450	0.00

Plangroup Circle Project	Storage on 30 Jun	Designed Carry Over	Inflow in Hot Weather	Net Unutilised water	Storage on 15 th Oct	Percent- age
CIPC Chandrapur	**6.790**	**15.800**	**1.770**	**0.000**	**88.450**	**0.00**
Upper Penganga	438.112	0.000	26.806	411.307	963.143	42.70
NIC Nanded	**438.112**	**0.000**	**26.806**	**411.307**	**963.143**	**42.70**
Bhama Askhed	76.647	1.520	69.990	5.137	83.487	6.15
Chaskaman	34.390	18.550	9.206	6.634	209.150	3.17
Khadakwasla	270.140	7.800	624.357	52.073	781.730	6.66
Neera Devdhar	90.020	0.000	86.840	3.180	222.870	1.43
NLBC	225.080	18.270	202.280	4.530	665.500	0.68
NRBC	132.770	24.210	620.689	0.000	266.440	0.00
Pawana	99.820	2.270	36.624	60.926	241.220	25.26
PIC Pune	**928.867**	**72.620**	**1649.986**	**132.480**	**2470.397**	**5.36**
Upper Wardha	311.060	0.000	149.504	161.556	548.140	29.47
UWPC Amravati	**311.060**	**0.000**	**149.504**	**161.556**	**548.140**	**29.47**
Lower Wunna	117.954	25.600	103.125	7.651	189.180	4.04
CADA Nagpur	**117.954**	**25.600**	**103.125**	**7.651**	**189.180**	**4.04**
Normal	**2481.998**	**431.367**	**2955.157**	**831.064**	**7663.000**	**10.85**
Surplus						
Bagh	0.000	16.990	50.699	0.000	186.740	0.00
Itiadoh	76.250	0.000	74.855	1.395	271.960	0.51
Pench	338.133	0.000	367.238	97.617	1156.943	8.44
CADA Nagpur	**414.383**	**16.990**	**492.792**	**99.012**	**1615.643**	**6.13**
Surplus	**414.383**	**16.990**	**492.792**	**99.012**	**1615.643**	**6.13**
Abundant						
Dhom	125.310	0.000	109.449	15.861	331.050	4.79
Kanher	105.040	0.000	71.280	33.760	271.060	12.45
CADA Pune	**230.350**	**0.000**	**180.729**	**49.621**	**602.110**	**8.24**
Asolamendha	13.640	13.890	9.687	0.000	36.700	0.00
Dina	8.678	0.000	8.187	0.491	52.660	0.93
CIPC Chandrapur	**22.318**	**13.890**	**17.874**	**0.491**	**89.360**	**0.55**
Dudhaganga	99.960	0.000	125.646	0.000	674.486	0.00
Krishna LIS	1433.535	0.000	656.637	776.898	2864.096	27.13
Radhanagari	90.110	0.000	90.840	0.000	218.300	0.00
Tulshi	48.673	0.000	23.931	24.742	91.921	26.92
Warana	257.150	0.000	190.020	67.130	788.030	8.52
Warana LIS	0.000	0.000	426.298	0.000	0.000	---
SIC Sangli	**1929.428**	**0.000**	**1513.372**	**868.770**	**4636.833**	**18.74**
Bhatsa	277.495	225.420	370.934	0.000	810.833	0.00
Kal-Amba	66.080	0.000	98.200	0.000	159.200	0.00
Surya	37.130	0.000	18.526	18.604	70.802	26.28
TIC Thane	**380.705**	**225.420**	**487.660**	**18.604**	**1040.835**	**1.79**
Abundant	**2562.801**	**239.310**	**2199.636**	**937.485**	**6369.138**	**14.72**
Major Projects	**7056.454**	**1491.657**	**6731.947**	**2226.872**	**21994.439**	**10.12**

IndicatorVIII

Conveyance Efficiency of Canals

Major Projects

Unit: Percentage

Subbasin/Plangroup	Circle/Project	Rabi		Hot weather	
		LBC	RBC	LBC	RBC
Highly Deficit					
Remaining Bhima+ Man	Bhima (Ujjani)	56	50	44	47
	CADA Solapur	**56**	**50**	**44**	**47**
Highly Deficit		**56**	**50**	**44**	**47**
Deficit					
	Nalganga	NO LBC	84	NO LBC	13
	AIC Akola	NO LBC	**84**	NO LBC	**13**
Purna (Tapi)	Wan	94	NO RBC	93	NO RBC
	BIPC Buldhana	**94**	NO RBC	**93**	
Lower Godavari	Jayakwadi Stage I	83	82	83	78
	CADA Abad	**83**	**82**	**83**	**78**
Lower Godavari	JPStage II (Majalgaon)	NO LBC	78	NO LBC	71
Manjra	Lower Terna	63	78	60	69
	Manjra	57	76	75	75
	CADA Beed	**60**	**77**	**68**	**72**
Girna	Girna+Panzan	66	66	63	83
	CADA Jalgaon	**66**	**66**	63	83
Girna	Chankapur	72	72	71	59
	CADA Nashik	**72**	**72**	**71**	**59**
Manjra	Manar	85	84	83	77
Purna+Dudhana	Purna	81	NO RBC	80	NO RBC
Lower Godavari	Vishnupuri	NO LBC	77	NO LBC	71
	NIC Nanded	**83**	**81**	**82**	**74**
Deficit		**76**	**76**	**77**	**73**
Normal					
	Pus	64	64	57	67
	AIC Akola	**64**	**64**	**57**	**67**
Middle Tapi (Satpuda)	Hatnur	NO LBC	78	NO LBC	35
	CADA Jalgaon		**78**		35
Upper Godavari	Bhandardara	47	46	51	39
	Gangapur	63	NO RBC	52	NO RBC
	Kadwa	NO LBC	45	NO LBC	40
	Mula	49	71	51	70
	NMWeir	77	24	85	13
	Upper Godavari Comple	45	65	40	35
	CADA Nashik	**56**	**50**	**56**	**39**
Upper Bhima	Ghod	38	60	56	51
	Kukadi Complex	79	67	88	73

Subbasin/Plangroup	Circle/Project	Rabi		Hot weather	
		LBC	RBC	LBC	RBC
	CADA Pune	**59**	**64**	**72**	**62**
Wardha	Bor	46	NO RBC	18	NO RBC
	CIPC Chandrapur	**46**	NO RBC	**18**	NO RBC
Painganga	Upper Penganga	85	86	96	85
	NIC Nanded	**85**	**86**	96	85
	Chaskaman	45	NO RBC	31	NO RBC
	Khadakwasla	NO LBC	34	NO LBC	29
	Neera Canals	56	51	45	51
	PIC Pune	**51**	**43**	**38**	**40**
Normal		**60**	**64**	**56**	**55**
Abundant					
Upper Krishna (W)	Dhom	56	63	39	47
	Kanher	56	59	77	46
	CADA Pune	**56**	**61**	**58**	**47**
Abundant		**56**	**61**	**58**	**47**
Major Projects		**62**	**63**	**59**	**55**

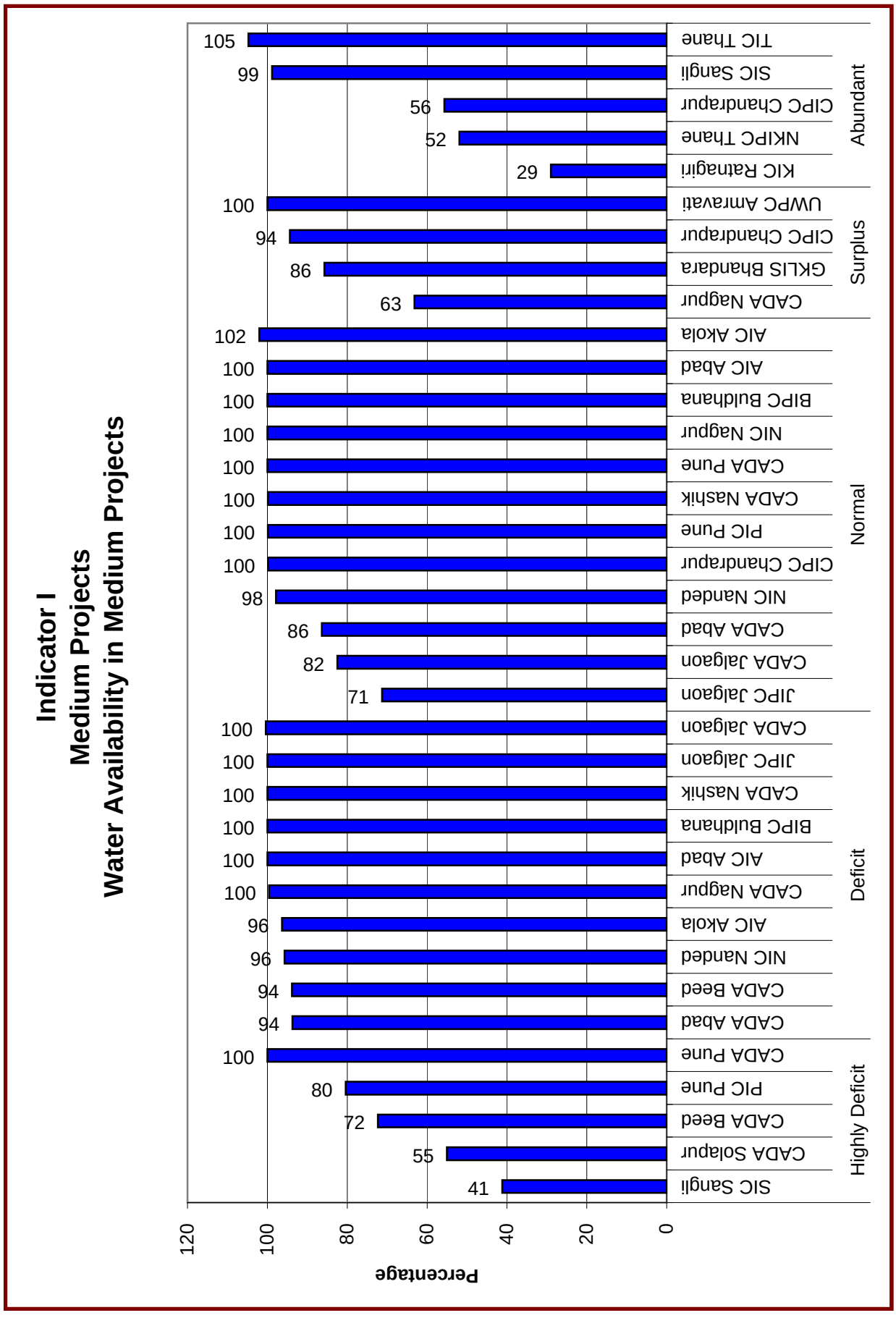
Note: The data of some projects for this indicator is not received, hence those are not shown in this table.

Indicator IX
Actual Cropping Pattern
Major Projects

Percent

Project	Kharif	TW	Rabi	HW	Perennial	Total
Bhima (Ujjani)	15.5	0.0	31.7	16.5	36.4	100.0
Nalganga	0.0	23.3	73.9	1.7	1.1	100.0
Katepurna	0.0	6.2	91.1	2.0	0.7	100.0
Wan	0.3	0.5	91.3	5.7	2.2	100.0
Jayakwadi Stage I	9.7	3.5	40.5	20.5	25.8	100.0
Lower Terna	0.0	7.0	32.1	1.6	59.2	100.0
Jayakwadi Stage II (Majalgaon)	0.0	4.5	22.9	14.2	58.4	100.0
Manjra	0.0	0.0	20.8	4.6	74.6	100.0
Girna+Panzan	14.5	13.1	67.0	4.1	1.3	100.0
Chankapur	30.5	0.0	65.2	2.3	2.0	100.0
Vishnupuri	0.0	0.6	61.1	8.6	29.7	100.0
Purna	0.0	3.5	37.0	54.0	5.5	100.0
Manar	1.9	2.5	52.9	16.5	26.2	100.0
Purna	5.6	4.4	49.8	31.7	8.5	100.0
Pus	0.0	5.1	60.5	30.2	4.3	100.0
Hatnur	0.5	2.0	71.8	3.9	21.9	100.0
Kadwa	18.4	0.0	78.0	1.6	2.1	100.0
Darna	10.9	0.0	64.0	14.6	10.5	100.0
Mukane	23.4	0.0	49.9	16.3	10.3	100.0
Kashyapi	0.0	0.0	100.0	0.0	0.0	100.0
NMWeir	22.6	0.0	60.0	2.4	15.0	100.0
Upper Godavari Complex	4.8	8.4	70.0	7.2	18.4	100.0
Mula	20.2	0.5	55.4	8.6	15.2	100.0
Bhandardara	26.1	0.0	54.6	1.3	17.9	100.0
Gangapur	33.6	0.0	52.2	1.3	12.9	100.0
Ghod	25.9	0.0	43.0	25.9	5.3	100.0
Kukadi Complex	12.8	0.1	47.9	28.7	10.5	100.0
Bor	0.0	0.8	92.7	6.4	0.1	100.0
Upper Penganga	0.0	4.8	65.3	18.8	11.1	100.0
Khadakwasla	12.5	0.0	79.2	4.9	3.5	100.0
NLBC	0.0	0.0	77.0	23.0	0.0	100.0
NRBC	26.9	0.0	46.5	21.5	5.1	100.0
Pawana	39.5	0.0	42.0	11.8	6.6	100.0
Bhama Askhed	55.7	0.0	44.3	0.0	0.0	100.0
Chaskaman	3.4	0.0	65.6	26.3	4.7	100.0
Upper Wardha	0.0	4.8	86.3	0.2	8.7	100.0
Pench	56.0	3.9	39.7	0.2	0.1	100.0
Lower Wunna	0.0	1.6	96.8	0.0	1.6	100.0
Bagh	85.8	0.0	0.0	14.2	0.0	100.0
Itiadoh	67.4	0.0	0.0	32.6	0.0	100.0
Dhom	14.1	0.1	70.7	8.6	6.5	100.0
Kanher	18.7	0.0	59.6	15.5	6.2	100.0
Asolamendha	100.0	0.0	0.0	0.0	0.0	100.0
Dina	95.2	0.0	0.0	4.8	0.0	100.0
Radhanagari	0.0	0.0	12.0	0.8	87.2	100.0
Tulshi	0.0	0.0	8.8	0.9	90.3	100.0
Dudhaganga	0.0	0.0	6.1	2.7	91.2	100.0
Warana	0.0	0.0	27.9	0.3	71.8	100.0
Warana LIS	0.0	0.0	27.9	0.3	71.8	100.0
Surya	0.0	0.0	88.1	0.9	10.9	100.0
Kal-Amba	0.0	0.0	100.0	0.0	0.0	100.0
Bhatsa	11.9	0.0	75.9	0.0	12.2	100.0

Annexure II
Indicators of Medium Projects


Indicator I
Medium Projects
Water Availability in Medium Projects
Percentage
120
100
80
60
40
20
0
Highly Deficit
SIC Sangli
CADA Solapur
PIC Pune
CADA Beed
CADA Pune
CADA Abad
CADA Beed
NIC Nanded
AIC Akola
CADA Nagpur
AIC Abad
BIPC Buldhana
CADA Nashik
JIPC Jalgaon
CADA Jalgaon
Deficit
JIPC Jalgaon
CADA Jalgaon
NIC Nanded
CADA Abad
CADA Jalgaon
PIC Pune
CADA Nashik
CADA Pune
NIC Nagpur
BIPC Buldhana
AIC Abad
AIC Akola
Normal
CADA Nagpur
GKLIS Bhandara
CIPC Chandrapur
UWPC Amravati
Surplus
KIC Ratnagiri
NKIPC Thane
CIPC Chandrapur
SIC Sangli
TIC Thane
Abundant
41
55
72
80
100
94
94
96
96
100
100
100
100
100
100
100
100
100
98
86
82
71
100
100
100
100
100
96
94
94
100
86
63
102
100
100
100
100
100
100
100
52
56
29
100
94
86
63
105
99

Indicator I

Water Availability in Reservoirs

Medium Projects

Unit: Mcum

Subbasin/Plangroup	Circle/Project	Live Storage on 15th Oct	Designed Live Storage	Percentage
Highly Deficit				
Sina	Banganga	4.964	4.964	100
	Benitura	3.953	11.471	34
	Chandani	17.780	21.570	82
Bori-Benetura	Harni	4.985	11.170	45
	Jakapur	1.809	7.962	23
Sina	Kada	8.555	8.555	100
	Kadi	5.470	5.470	100
	Kambli	1.377	3.101	44
Bori-Benetura	Khandala	0.658	5.240	13
Sina	Khandeshwar	7.760	7.760	100
	Khasapur	13.040	13.040	100
Bori-Benetura	Kurnoor	20.260	32.280	63
Sina	Mehkari	12.979	12.979	100
	Ramganga	5.337	5.337	100
	Ruti	6.495	6.573	99
	Sakat	7.240	13.480	54
	Talwar	3.229	3.232	100
Bori-Benetura	Turori	4.611	6.200	74
	CADA Beed	**130.502**	**180.384**	**72**
Upper Krishna (E)	Yeralwadi	19.600	19.600	100
	CADA Pune	**19.600**	**19.600**	**100**
Remaining Bhima+ Man	Ashti	20.900	23.010	91
Sina	Bori (Solapur)	2.211	19.250	11
Remaining Bhima+ Man	Buddhihal	0.000	27.950	0
Sina	Ekrukh	12.980	61.150	21
	Hingani (Pangaon)	32.345	32.000	101
Remaining Bhima+ Man	Jawalgaon	24.390	29.180	84
Sina	Mangi	29.940	30.404	98
	CADA Solapur	**122.766**	**222.944**	**55**
Remaining Bhima+ Man	Andhali	7.420	7.420	100
Sina	Khairy	13.730	13.740	100
Remaining Bhima+ Man	Mhaswad	14.410	46.210	31
Upper Krishna (E)	Nher	11.790	11.790	100
Remaining Bhima+ Man	Ranand	6.420	6.420	100
Sina	Sina	52.300	52.300	100
Remaining Bhima+ Man	Tisangi	24.400	24.460	100
	PIC Pune	**130.470**	**162.340**	**80**
Upper Krishna (E)	Basappawadi	0.000	6.950	0
Remaining Bhima+ Man	Sankh	5.396	14.870	36
Upper Krishna (E)	Siddhewadi	6.100	6.090	100
	SIC Sangli	**11.496**	**27.910**	**41**

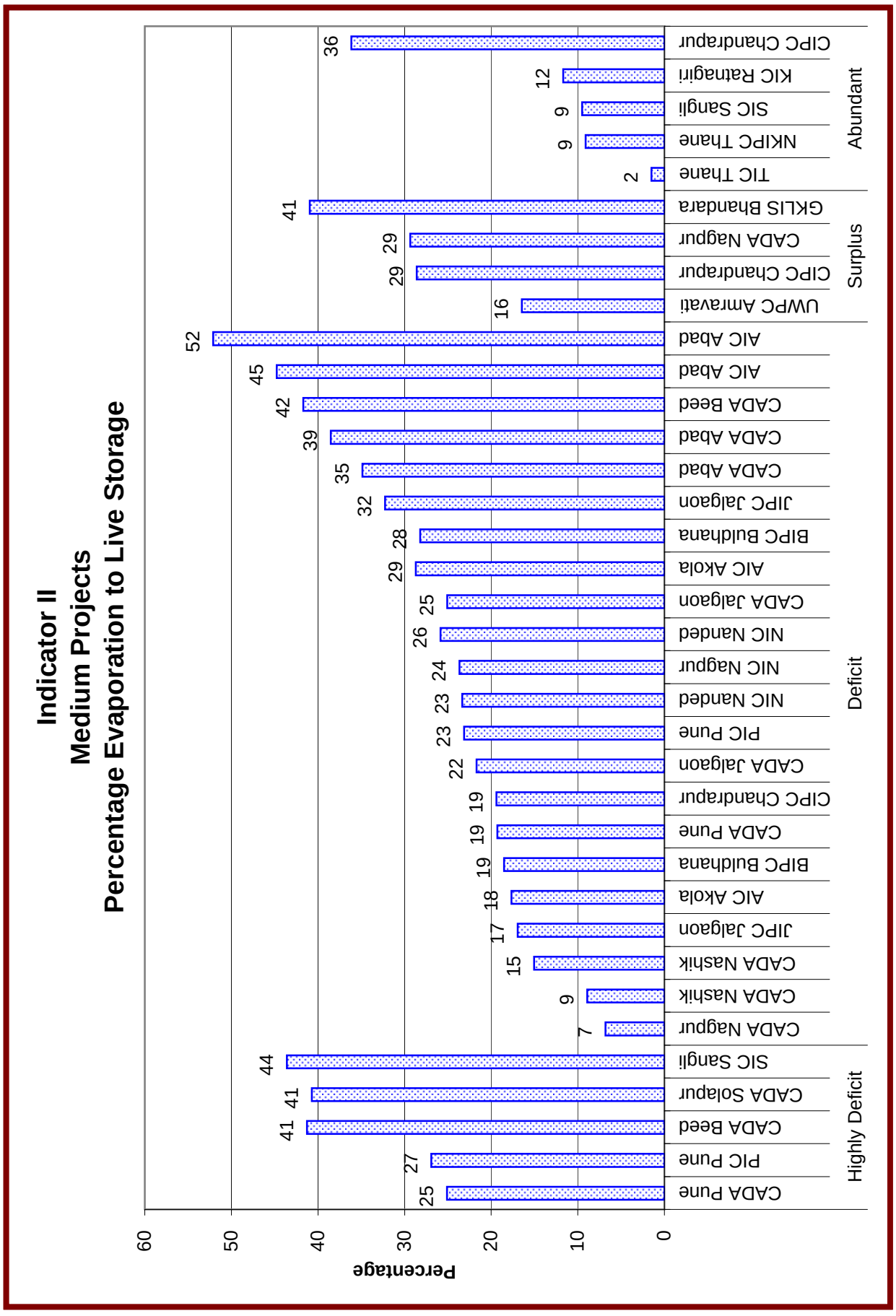
Subbasin/Plangroup	Circle/Project	Live Storage on 15th Oct	Designed Live Storage	Percentage
Highly Deficit		**414.834**	**613.178**	**68**
Deficit				
Purna+Dudhana	Anjana Palashi	13.740	13.740	100
	Purna Nevpur	9.340	9.340	100
	AIC Abad	**23.080**	**23.080**	**100**
Purna (Tapi)	Dnyanganga	33.930	33.930	100
	Mas	15.040	22.040	68
	Morna (Akola)	41.460	41.460	100
	Nirguna	28.850	28.850	100
	Paldhag	7.510	7.510	100
	Shahnoor	46.040	46.040	100
	Uma	11.680	11.680	100
	AIC Akola	**184.510**	**191.510**	**96**
Purna (Tapi)	Mun	36.830	36.830	100
	Torna	7.900	7.900	100
	Utawali	19.790	19.790	100
	BIPC Buldhana	**64.520**	**64.520**	**100**
Middle Tapi (South)	Ajanta Andhari	7.650	7.650	100
Purna+Dudhana	Dhamna	6.300	8.510	74
Girna	Gadadgad	3.612	4.642	78
Lower Godavari	Galhati	13.838	13.838	100
Purna+Dudhana	Girja	16.770	21.250	79
	Jivrekha	6.130	6.130	100
	Jui	6.030	6.030	100
	Kalyan Girija	8.470	8.470	100
	Karpara	24.829	24.900	100
	Khelna	11.070	11.070	100
	Lahuki	4.310	5.310	81
	Masoli	27.140	27.140	100
	Pir Kalyan	12.220	12.220	100
	Sukhana	18.500	18.500	100
	Upper Dudhana	9.990	13.020	77
	CADA Abad	**176.859**	**188.680**	**94**
Manjra	Belpara	5.370	5.370	100
Lower Godavari	Bindusara	7.110	7.112	100
	Bodhegaon	3.721	3.650	102
	Borna	8.971	8.971	100
Manjra	Devarjan	10.680	10.680	100
	Gharni	22.456	22.456	100
Lower Godavari	Kundalika	37.690	37.692	100
Manjra	Mahasangvi	5.880	5.880	100
	Masalga	9.636	13.590	71
	Raigavan	6.056	11.259	54
	Renapur	20.070	20.550	98
	Rui	6.447	8.605	75
	Sakol	10.949	10.949	100
	Sangameshwar (Dokewadi)	15.023	15.030	100

Subbasin/Plangroup	Circle/Project	Live Storage on 15th Oct	Designed Live Storage	Percentage
Lower Godavari	Saraswati	4.040	6.210	65
	Sindphana	7.356	7.356	100
Manjra	Tawarja	17.303	20.340	85
	Terna	19.663	19.663	100
	Tiru	15.290	15.290	100
Lower Godavari	Wan (Beed)	19.340	19.340	100
Manjra	Whati	8.035	8.270	97
	CADA Beed	**261.086**	**278.263**	**94**
Girna	Agnavati	2.760	2.760	100
Middle Tapi (South)	Bhokarbari	6.540	6.540	100
	Bori	25.150	25.150	100
	Burai	14.210	14.210	100
Girna	Hiwara	9.601	9.601	100
Middle Tapi (South)	Jamkhedi	12.340	12.340	100
	Kanoli	8.450	8.450	100
Girna	Manyad	40.777	40.270	101
Middle Tapi (South)	Rangawali	12.890	12.890	100
Middle Tapi (South)	Tondapur	4.638	4.638	100
	CADA Jalgaon	**137.356**	**136.849**	**100**
Purna (Tapi)	Chandrabhaga (Amravati)	41.088	41.248	100
	CADA Nagpur	**41.088**	**41.248**	**100**
Girna	Haranbari	33.020	33.020	100
	Kelzar	16.220	16.220	100
	Nagya Sakya	11.240	11.240	100
	CADA Nashik	**60.480**	**60.480**	**100**
Middle Tapi (South)	Bahula	16.330	16.330	100
	JIPC Jalgaon	**16.330**	**16.330**	**100**
Manjra	Karadkhed	11.050	11.010	100
Lower Godavari	Kudala	4.350	4.350	100
Manjra	Kundrala	10.417	10.417	100
	Mahalingi	3.050	4.787	64
	Pethwadaj	9.044	9.044	100
	NIC Nanded	**37.911**	**39.608**	**96**
Deficit		**1003.220**	**1040.568**	**96**
Normal				
Upper Godavari	Bor Dahegaon	11.470	11.470	100
	Narangi	11.394	11.390	100
	Tembhapuri	19.010	19.010	100
	AIC Abad	**41.874**	**41.870**	**100**
Painganga	Adan	67.250	67.250	100
Wardha	Borgaon	6.610	6.610	100
Painganga	Ekbhuji	11.970	11.970	100
	Goki	42.710	42.710	100
	Koradi	20.700	20.700	100
	Lower Pus	59.630	59.630	100
	Saikheda	27.184	27.184	100
	Sonal	16.920	16.920	100

Subbasin/Plangroup	Circle/Project	Live Storage on 15th Oct	Designed Live Storage	Percentage
	Waghadi	41.140	35.368	116
	AIC Akola	**294.114**	**288.342**	**102**
Wardha	Nawargaon	12.474	12.470	100
Painganga	Pen Takli	59.976	59.976	100
	BIPC Buldhana	**72.450**	**72.446**	**100**
Upper Godavari	Ambadi	7.920	9.427	84
	Dheku	10.130	11.530	88
	Kolhi	2.840	3.240	88
	CADA Abad	**20.890**	**24.197**	**86**
Middle Tapi (Satpuda)	Abhora	6.020	6.020	100
	Aner	59.209	59.209	100
	Karwand	21.390	21.390	100
Panzra	Malangaon	11.328	11.328	100
	Panzara	35.630	35.630	100
	Sonwad	14.360	14.360	100
Middle Tapi (Satpuda)	Sukhi	0.000	39.850	0
	Suki	39.850	39.850	100
	CADA Jalgaon	**187.787**	**227.637**	**82**
Upper Godavari	Adhala	27.600	27.600	100
	Alandi	27.460	27.460	100
	Bhojapur	10.102	10.220	99
	Ghatshil Pargaon	8.500	8.500	100
	Mandohol	8.780	8.780	100
	Waldevi	32.090	32.090	100
	CADA Nashik	**114.532**	**114.650**	**100**
Upper Bhima	Visapur	25.610	25.610	100
	CADA Pune	**25.610**	**25.610**	**100**
Painganga	Amalnalla	24.480	24.480	100
Wardha	Dham	62.510	62.510	100
	Dongargaon (Chandrapur)	12.309	12.441	99
	Pothra	34.580	34.720	100
	CIPC Chandrapur	**133.879**	**134.151**	**100**
Middle Tapi (Satpuda)	Bhokar (Mangrul)	6.405	6.407	100
	Mor	3.835	7.960	48
	JIPC Jalgaon	**10.240**	**14.367**	**71**
Wardha	Jam	24.300	24.300	100
	Kar	21.063	21.063	100
	NIC Nagpur	**45.363**	**45.363**	**100**
Painganga	Dongargaon (Nanded)	8.470	8.806	96
	Loni	8.206	8.380	98
	Nagzari	6.563	6.565	100
	NIC Nanded	**23.239**	**23.751**	**98**
Upper Bhima	Kasarsai	15.820	16.060	99
Remaining Bhima (Neera)	Nazare	16.808	16.652	101
Upper Bhima	Wadiwale	30.390	30.390	100
	PIC Pune	**63.018**	**63.102**	**100**
Normal		**1032.996**	**1075.486**	**96**

Subbasin/Plangroup	Circle/Project	Live Storage on 15th Oct	Designed Live Storage	Percentage
Surplus				
Middle Wainganga	Bagheda	1.627	4.537	36
	Betekar Bothli	1.000	3.666	27
	Bodalkasa	5.939	19.728	30
	Chandpur	11.714	28.879	41
	Chorakhmara	9.725	22.044	44
	Chulband	11.396	21.458	53
	Kanolibara	20.485	20.485	100
	Kesarnala	2.455	3.930	62
	Khairbanda	5.448	16.480	33
	Khekara Nalla	21.726	23.810	91
	Kolar	27.744	29.532	94
	Makardhokada-Saiki	25.900	25.900	100
	Managadh	4.308	7.051	61
	Mordham	4.953	4.953	100
	Pandharbodi	11.160	13.135	85
	Rengepar	1.422	3.565	40
	Sangrampur	0.642	3.866	17
	Sorna	3.047	5.733	53
	Tekepar LIS	0.000	0.000	
	Umri	3.509	5.142	68
	Wunna	6.179	21.642	29
	CADA Nagpur	**180.380**	**285.536**	**63**
Middle Wainganga	Chandai	9.528	10.690	89
	Chargaon	18.247	19.866	92
	Labhansarad	7.351	7.351	100
	Pakadigundam	11.787	11.797	100
	Panchdhara	9.800	10.390	94
	CIPC Chandrapur	**56.713**	**60.094**	**94**
Middle Wainganga	Katangi	8.060	9.400	86
	GKLIS Bhandara	**8.060**	**9.400**	**86**
Middle Wainganga	Chandrabhaga (Nagpur)	8.262	8.262	100
	UWPC Amravati	**8.262**	**8.262**	**100**
Surplus		**253.415**	**363.292**	**70**
Abundant				
Lower Wainganga	Dongargaon (Wardha)	4.440	4.440	100
	Ghorazari	19.266	43.163	45
	Naleshwar	8.480	10.230	83
	CIPC Chandrapur	**32.186**	**57.833**	**56**
Vashishthi	Natuwadi	7.895	27.230	29
	KIC Ratnagiri	**7.895**	**27.230**	**29**
North Konkan	Hetwane	75.290	144.980	52
	NKIPC Thane	**75.290**	**144.980**	**52**
Upper Krishna (W)	Chikotra	37.310	43.060	87
	Chitri	52.730	52.730	100
	Jangamhatti	31.877	26.877	119
	Kadvi	71.020	70.560	101

Subbasin/Plangroup	Circle/Project	Live Storage on 15th Oct	Designed Live Storage	Percentage
	Kasari	77.956	77.960	100
	Krishna Canal & Khodshi Backwater	16.924	0.000	
	Kumbhi	60.578	76.496	79
	Morna (Sangli)	16.740	16.640	101
	Patgaon	98.493	104.770	94
	Yeoti Masoli	7.050	7.050	100
	SIC Sangli	**470.678**	**476.143**	**99**
Middle Konkan	Amba	398.460	522.730	76
North Konkan	Rajanalla Complex	529.990	339.140	156
	Wandri	12.200	35.938	34
	TIC Thane	**940.650**	**897.808**	**105**
Abundant		**1526.699**	**1603.994**	**95**
Medium Projects		**4231.164**	**4696.519**	**90**


Indicator II
Medium Projects
Percentage Evaporation to Live Storage
Percentage
0
10
20
30
40
50
60
Highly Deficit
CADA Pune 25
PIC Pune 27
CADA Beed 41
CADA Solapur 41
SIC Sangli 44
Deficit
CADA Nagpur 7
CADA Nashik 9
CADA Nashik 15
JIPC Jalgaon 17
AIC Akola 18
BIPC Buldhana 19
CADA Pune 19
CIPC Chandrapur 19
CADA Jalgaon 22
PIC Pune 23
NIC Nanded 23
NIC Nagpur 24
NIC Nanded 26
CADA Jalgaon 25
AIC Akola 29
BIPC Buldhana 28
JIPC Jalgaon 32
CADA Abad 35
CADA Abad 39
CADA Beed 42
AIC Abad 45
AIC Abad 52
Surplus
UWPC Amravati 16
CIPC Chandrapur 29
CADA Nagpur 29
GKLIS Bhandara 41
Abundant
TIC Thane 2
NKIPC Thane 9
SIC Sangli 9
KIC Ratnagiri 12
CIPC Chandrapur 36

Indicator II

Percentage Evaporation loss to Live Storage on 15th October

Medium Projects

Unit: Mcum

Plangroup/Subbasin	Circle/Project	Evaporation losses	Live Storage on 15th Oct	Percentage
Highly Deficit				
Sina	Banganga	1.37	4.964	28
Sina	Benitura	2.12	3.953	54
Sina	Chandani	5.33	17.780	30
Bori-Benetura	Harni	1.23	4.985	25
Bori-Benetura	Jakapur	1.39	1.809	77
Sina	Kada	5.04	8.555	59
Sina	Kadi	3.56	5.470	65
Sina	Kambli	2.34	1.377	170
Bori-Benetura	Khandala	0.08	0.658	12
Sina	Khandeshwar	2.32	7.760	30
Sina	Khasapur	3.35	13.040	26
Bori-Benetura	Kurnoor	6.30	20.260	31
Sina	Mehkari	8.17	12.979	63
Sina	Ramganga	1.52	5.337	29
Sina	Ruti	3.89	6.495	60
Sina	Sakat	1.79	7.240	25
Sina	Talwar	2.62	3.229	81
Bori-Benetura	Turori	1.46	4.611	32
	CADA Beed	**53.87**	**130.502**	**41**
Upper Krishna (E)	Yeralwadi	4.92	19.600	25
	CADA Pune	**4.92**	**19.600**	**25**
Remaining Bhima+ Man	Ashti	10.04	20.900	48
Sina	Bori (Solapur)	3.03	2.211	137
Remaining Bhima+ Man	Buddhihal	0.18	0.000	
Sina	Ekrukh	7.70	12.980	59
Sina	Hingani (Pangaon)	11.44	32.345	35
Remaining Bhima+ Man	Jawalgaon	8.80	24.390	36
Sina	Mangi	8.81	29.940	29
	CADA Solapur	**49.99**	**122.766**	**41**
Remaining Bhima+ Man	Andhali	2.15	7.420	29
Sina	Khairy	2.64	13.730	19
Remaining Bhima+ Man	Mhaswad	8.11	14.410	56
Upper Krishna (E)	Nher	3.77	11.790	32
Remaining Bhima+ Man	Ranand	0.83	6.420	13
Sina	Sina	11.47	52.300	22
Remaining Bhima+ Man	Tisangi	6.15	24.400	25
	PIC Pune	**35.12**	**130.470**	**27**

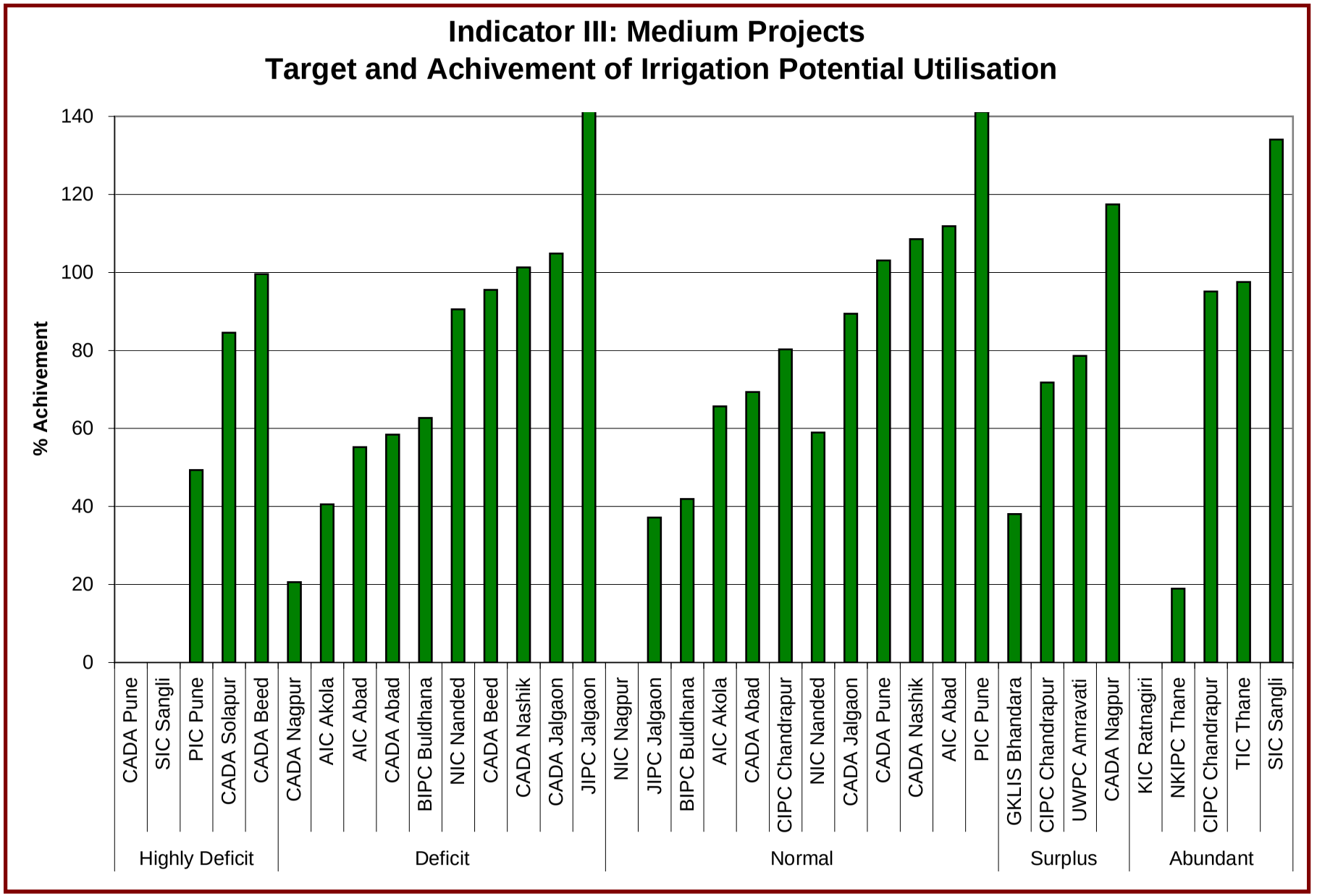
Plangroup/Subbasin	Circle/Project	Evaporation losses	Live Storage on 15th Oct	Percentage
Upper Krishna (E)	Basappawadi	0.00	0.000	
Remaining Bhima+ Man	Sankh	3.68	5.396	68
Upper Krishna (E)	Siddhewadi	1.33	6.100	22
	SIC Sangli	**5.01**	**11.496**	**44**
Highly Deficit		**148.91**	**414.834**	**36**
Deficit				
Purna+Dudhana	Anjana Palashi	3.73	13.740	27
Purna+Dudhana	Purna Nevpur	6.60	9.340	71
	AIC Abad	**10.33**	**23.080**	**45**
Purna (Tapi)	Dnyanganga	4.24	33.930	12
Purna (Tapi)	Mas	3.24	15.040	22
Purna (Tapi)	Morna (Akola)	11.00	41.460	27
Purna (Tapi)	Nirguna	5.87	28.850	20
Purna (Tapi)	Paldhag	0.86	7.510	11
Purna (Tapi)	Shahnoor	4.21	46.040	9
Purna (Tapi)	Uma	3.15	11.680	27
	AIC Akola	**32.57**	**184.510**	**18**
Purna (Tapi)	Mun	6.94	36.830	19
Purna (Tapi)	Torna	1.56	7.900	20
Purna (Tapi)	Utawali	3.45	19.790	17
	BIPC Buldhana	**11.95**	**64.520**	**19**
Middle Tapi (South)	Ajanta Andhari	2.19	7.650	29
Purna+Dudhana	Dhamna	2.02	6.300	32
Girna	Gadadgad	1.43	3.612	40
Lower Godavari	Galhati	4.38	13.838	32
Purna+Dudhana	Girja	5.19	16.770	31
Purna+Dudhana	Jivrekha	2.30	6.130	38
Purna+Dudhana	Jui	2.20	6.030	37
Purna+Dudhana	Kalyan Girija	3.50	8.470	41
Purna+Dudhana	Karpara	8.80	24.829	35
Purna+Dudhana	Khelna	5.08	11.070	46
Purna+Dudhana	Lahuki	1.16	4.310	27
Lower Godavari	Masoli	9.13	27.140	34
Purna+Dudhana	Pir Kalyan	4.43	12.220	36
Purna+Dudhana	Sukhana	5.00	18.500	27
Purna+Dudhana	Upper Dudhana	4.85	9.990	49
	CADA Abad	**61.65**	**176.859**	**35**
Manjra	Belpara	3.56	5.370	66
Lower Godavari	Bindusara	1.81	7.110	26
Lower Godavari	Bodhegaon	1.83	3.721	49
Lower Godavari	Borna	3.93	8.971	44
Manjra	Devarjan	3.94	10.680	37
Manjra	Gharni	10.41	22.456	46

Plangroup/Subbasin	Circle/Project	Evaporation losses	Live Storage on 15th Oct	Percentage
Lower Godavari	Kundalika	8.92	37.690	24
Manjra	Mahasangvi	2.10	5.880	36
Manjra	Masalga	6.12	9.636	64
Manjra	Raigavan	2.73	6.056	45
Manjra	Renapur	10.10	20.070	50
Manjra	Rui	1.77	6.447	27
Manjra	Sakol	4.37	10.949	40
Manjra	Sangameshwar (Dokewadi)	4.11	15.023	27
Lower Godavari	Saraswati	2.01	4.040	50
Lower Godavari	Sindphana	4.04	7.356	55
Manjra	Tawarja	10.55	17.303	61
Manjra	Terna	9.50	19.663	48
Manjra	Tiru	7.20	15.290	47
Lower Godavari	Wan (Beed)	7.08	19.340	37
Manjra	Whati	2.79	8.035	35
	CADA Beed	**108.84**	**261.086**	**42**
Girna	Agnavati	0.65	2.760	24
Middle Tapi (South)	Bhokarbari	1.05	6.540	16
Middle Tapi (South)	Bori	7.50	25.150	30
Middle Tapi (South)	Burai	2.48	14.210	17
Girna	Hiwara	3.63	9.601	38
Middle Tapi (South)	Jamkhedi	2.97	12.340	24
Middle Tapi (South)	Kanoli	1.62	8.450	19
Girna	Manyad	6.02	40.777	15
Middle Tapi (South)	Rangawali	1.98	12.890	15
Middle Tapi (South)	Tondapur	1.89	4.638	41
	CADA Jalgaon	**29.79**	**137.356**	**22**
Purna (Tapi)	Chandrabhaga (Amravati)	2.79	41.088	7
	CADA Nagpur	**2.79**	**41.088**	**7**
Girna	Haranbari	0.96	33.020	3
Girna	Kelzar	1.70	16.220	10
Girna	Nagya Sakya	2.73	11.240	24
	CADA Nashik	**5.39**	**60.480**	**9**
Middle Tapi (South)	Bahula	5.27	16.330	32
	JIPC Jalgaon	**5.27**	**16.330**	**32**
Manjra	Karadkhed	2.55	11.050	23
Lower Godavari	Kudala	1.42	4.350	33
Manjra	Kundrala	3.10	10.417	30
Manjra	Mahalingi	0.55	3.050	18
Manjra	Pethwadaj	2.18	9.044	24
	NIC Nanded	**9.80**	**37.911**	**26**
Deficit		**278.38**	**1003.220**	**28**

Plangroup/Subbasin	Circle/Project	Evaporation losses	Live Storage on 15th Oct	Percentage
Normal				
Upper Godavari	Bor Dahegaon	5.61	11.470	49
Upper Godavari	Narangi	5.87	11.394	51
Upper Godavari	Tembhapuri	10.34	19.010	54
	AIC Abad	**21.82**	**41.874**	**52**
Painganga	Adan	13.97	67.250	21
Wardha	Borgaon	1.27	6.610	19
Painganga	Ekbhuji	5.31	11.970	44
Painganga	Goki	12.77	42.710	30
Painganga	Koradi	5.15	20.700	25
Painganga	Lower Pus	20.16	59.630	34
Painganga	Saikheda	10.72	27.184	39
Painganga	Sonal	6.40	16.920	38
Painganga	Waghadi	8.68	41.140	21
	AIC Akola	**84.43**	**294.114**	**29**
Wardha	Nawargaon	3.14	12.474	25
Painganga	Pen Takli	17.29	59.976	29
	BIPC Buldhana	**20.43**	**72.450**	**28**
Upper Godavari	Ambadi	5.20	7.920	66
Upper Godavari	Dheku	2.32	10.130	23
Upper Godavari	Kolhi	0.53	2.840	19
	CADA Abad	**8.05**	**20.890**	**39**
Middle Tapi (Satpuda)	Abhora	1.02	6.020	17
Middle Tapi (Satpuda)	Aner	14.38	59.209	24
Middle Tapi (Satpuda)	Karwand	6.00	21.390	28
Panzra	Malangaon	2.85	11.328	25
Panzra	Panzara	8.68	35.630	24
Panzra	Sonwad	5.69	14.360	40
Middle Tapi (Satpuda)	Sukhi	0.00	0.000	
Middle Tapi (Satpuda)	Suki	8.48	39.850	21
	CADA Jalgaon	**47.10**	**187.787**	**25**
Upper Godavari	Adhala	3.01	27.600	11
Upper Godavari	Alandi	5.50	27.460	20
Upper Godavari	Bhojapur	1.02	10.102	10
Upper Godavari	Ghatshil Pargaon	2.84	8.500	33
Upper Godavari	Mandohol	1.56	8.780	18
Upper Godavari	Waldevi	3.31	32.090	10
	CADA Nashik	**17.23**	**114.532**	**15**
Upper Bhima	Visapur	4.94	25.610	19
	CADA Pune	**4.94**	**25.610**	**19**
Painganga	Amalnalla	4.86	24.480	20
Wardha	Dham	10.35	62.510	17
Wardha	Dongargaon (Chandrapur)	4.00	12.309	33

Plangroup/Subbasin	Circle/Project	Evaporation losses	Live Storage on 15th Oct	Percentage
Wardha	Pothra	6.77	34.580	20
	CIPC Chandrapur	**25.98**	**133.879**	**19**
Middle Tapi (Satpuda)	Bhokar (Mangrul)	1.36	6.405	21
Middle Tapi (Satpuda)	Mor	0.38	3.835	10
	JIPC Jalgaon	**1.74**	**10.240**	**17**
Wardha	Jam	6.18	24.300	25
Wardha	Kar	4.56	21.063	22
	NIC Nagpur	**10.73**	**45.363**	**24**
Painganga	Dongargaon (Nanded)	2.30	8.470	27
Painganga	Loni	1.66	8.206	20
Painganga	Nagzari	1.47	6.563	22
	NIC Nanded	**5.42**	**23.239**	**23**
Upper Bhima	Kasarsai	3.64	15.820	23
Remaining Bhima (Neera)	Nazare	6.14	16.808	37
Upper Bhima	Wadiwale	4.80	30.390	16
	PIC Pune	**14.58**	**63.018**	**23**
Normal		**262.45**	**1032.996**	**25**
Surplus				
Middle Wainganga	Bagheda	1.07	1.627	66
Middle Wainganga	Betekar Bothli	0.57	1.000	57
Middle Wainganga	Bodalkasa	0.46	5.939	8
Middle Wainganga	Chandpur	5.19	11.714	44
Middle Wainganga	Chorakhmara	1.27	9.725	13
Middle Wainganga	Chulband	4.36	11.396	38
Middle Wainganga	Kanolibara	4.79	20.485	23
Middle Wainganga	Kesarnala	1.13	2.455	46
Middle Wainganga	Khairbanda	2.46	5.448	45
Middle Wainganga	Khekara Nalla	2.64	21.726	12
Middle Wainganga	Kolar	7.41	27.744	27
Middle Wainganga	Makardhokada-Saiki	9.21	25.900	36
Middle Wainganga	Managadh	1.37	4.308	32
Middle Wainganga	Mordham	0.78	4.953	16
Middle Wainganga	Pandharbodi	5.37	11.160	48
Middle Wainganga	Rengepar	0.54	1.422	38
Middle Wainganga	Sangrampur	0.44	0.642	69
Middle Wainganga	Sorna	1.39	3.047	46
Middle Wainganga	Tekepar LIS	0.00	0.000	
Middle Wainganga	Umri	1.19	3.509	34
Middle Wainganga	Wunna	1.31	6.179	21
	CADA Nagpur	**52.95**	**180.380**	**29**
Middle Wainganga	Chandai	1.78	9.528	19
Middle Wainganga	Chargaon	6.36	18.247	35
Middle Wainganga	Labhansarad	4.61	7.351	63

Plangroup/Subbasin	Circle/Project	Evaporation losses	Live Storage on 15th Oct	Percentage
Middle Wainganga	Pakadigundam	2.76	11.787	23
Middle Wainganga	Panchdhara	0.70	9.800	7
	CIPC Chandrapur	**16.21**	**56.713**	**29**
Middle Wainganga	Katangi	3.30	8.060	41
	GKLIS Bhandara	**3.30**	**8.060**	**41**
Middle Wainganga	Chandrabhaga (Nagpur)	1.36	8.262	16
	UWPC Amravati	**1.36**	**8.262**	**16**
Surplus		**73.82**	**253.415**	**29**
Abundant				
Lower Wainganga	Dongargaon (Wardha)	1.68	4.440	38
Lower Wainganga	Ghorazari	5.53	19.266	29
Lower Wainganga	Naleshwar	4.43	8.480	52
	CIPC Chandrapur	**11.64**	**32.186**	**36**
Vashishthi	Natuwadi	0.92	7.895	12
	KIC Ratnagiri	**0.92**	**7.895**	**12**
North Konkan	Hetwane	6.85	75.290	9
	NKIPC Thane	**6.85**	**75.290**	**9**
Upper Krishna (W)	Chikotra	2.86	37.310	8
Upper Krishna (W)	Chitri	3.57	52.730	7
Upper Krishna (W)	Jangamhatti	3.20	31.877	10
Upper Krishna (W)	Kadvi	6.59	71.020	9
Upper Krishna (W)	Kasari	5.92	77.956	8
Upper Krishna (W)	Krishna Canal & Khodshi Backwater	2.73	16.924	16
Upper Krishna (W)	Kumbhi	5.87	60.578	10
Upper Krishna (W)	Morna (Sangli)	3.00	16.740	18
Upper Krishna (W)	Patgaon	10.21	98.493	10
Upper Krishna (W)	Yeoti Masoli	0.76	7.050	11
	SIC Sangli	**44.71**	**470.678**	**9**
Middle Konkan	Amba	9.22	398.460	2
North Konkan	Rajanalla Complex	0.00	529.990	0
North Konkan	Wandri	4.90	12.200	40
	TIC Thane	**14.12**	**940.650**	**2**
Abundant		**78.23**	**1526.699**	**5**
Medium Projects		**841.80**	**4231.164**	**20**


Indicator III: Medium Projects
Target and Achivement of Irrigation Potential Utilisation
% Achivement
0
20
40
60
80
100
120
140
CADA Pune
SIC Sangli
PIC Pune
CADA Solapur
CADA Beed
CADA Nagpur
AIC Akola
AIC Abad
CADA Abad
BIPC Buldhana
NIC Nanded
CADA Beed
CADA Nashik
CADA Jalgaon
JIPC Jalgaon
NIC Nagpur
JIPC Jalgaon
BIPC Buldhana
AIC Akola
CADA Abad
CIPC Chandrapur
NIC Nanded
CADA Jalgaon
CADA Pune
CADA Nashik
AIC Abad
PIC Pune
GKLIS Bhandara
CIPC Chandrapur
UWPC Amravati
CADA Nagpur
KIC Ratnagiri
NKIPC Thane
CIPC Chandrapur
TIC Thane
SIC Sangli
Highly Deficit
Deficit
Normal
Surplus
Abundant

Indicator III

Target and Achivement of Irrigation Potential Utilisation

Medium Projects

Unit: ha

Plangroup/ Subbasin	Circle/ Project	Achivement of Irrigation	Targets of Irrigation	Percentage
Highly Deficit				
Sina	Banganga	365	394	93
Sina	Benitura	118	0	
Sina	Chandani	1308	1633	80
Bori-Benetura	Harni	287	120	239
Bori-Benetura	Jakapur	185	0	
Sina	Kada	172	626	28
Sina	Kadi	138	453	30
Sina	Kambli	23	224	10
Bori-Benetura	Khandala	205	0	
Sina	Khandeshwar	886	660	134
Sina	Khasapur	1488	1360	109
Bori-Benetura	Kurnoor	1362	0	
Sina	Mehkari	279	1269	22
Sina	Ramganga	434	470	92
Sina	Ruti	95	507	19
Sina	Sakat	790	643	123
Sina	Talwar	63	136	46
Bori-Benetura	Turori	360	99	364
	CADA Beed	**8559**	**8594**	**100**
Upper Krishna (E)	Yeralwadi	1143	0	
	CADA Pune	**1143**	**0**	
Remaining Bhima+ Man	Ashti	2834	2600	109
Sina	Bori (Solapur)	183	226	81
Remaining Bhima+ Man	Buddhihal	60	0	
Sina	Ekrukh	482	590	82
Sina	Hingani (Pangaon)	2519	2850	88
Remaining Bhima+ Man	Jawalgaon	1345	1894	71
Sina	Mangi	3127	4317	72
	CADA Solapur	**10549**	**12477**	**85**
Remaining Bhima+ Man	Andhali	99	1113	9
Sina	Khairy	1123	4150	27
Remaining Bhima+ Man	Mhaswad	2660	1835	145
Upper Krishna (E)	Nher	735	2139	34
Remaining Bhima+ Man	Ranand	291	1356	21
Sina	Sina	3107	6925	45
Remaining Bhima+ Man	Tisangi	2406	3610	67
	PIC Pune	**10420**	**21128**	**49**

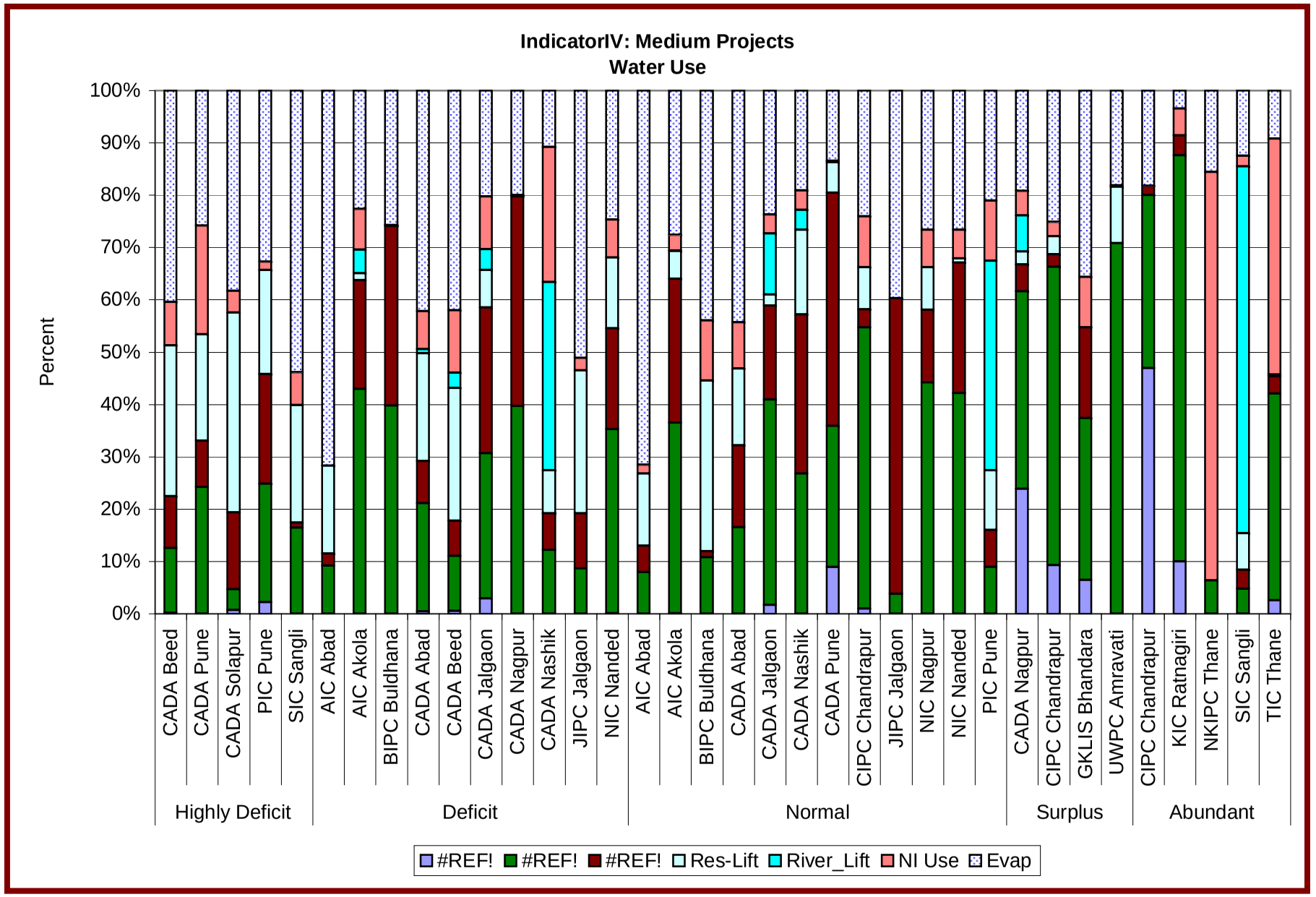
Plangroup/ Subbasin	Circle/ Project	Achivement of Irrigation	Targets of Irrigation	Percentage
Upper Krishna (E)	Basappawadi	0	0	
Remaining Bhima+ Man	Sankh	130	0	
Upper Krishna (E)	Siddhewadi	128	0	
	SIC Sangli	**258**	**0**	
Highly Deficit		**30929**	**42199**	**73**
Deficit				
Purna+Dudhana	Anjana Palashi	271	440	62
Purna+Dudhana	Purna Nevpur	408	790	52
	AIC Abad	**679**	**1230**	**55**
Purna (Tapi)	Dnyanganga	1823	2606	70
Purna (Tapi)	Mas	1177	1670	70
Purna (Tapi)	Morna (Akola)	2596	5479	47
Purna (Tapi)	Nirguna	1413	4635	30
Purna (Tapi)	Paldhag	518	664	78
Purna (Tapi)	Shahnoor	937	6393	15
Purna (Tapi)	Uma	1145	2241	51
	AIC Akola	**9609**	**23688**	**41**
Purna (Tapi)	Mun	2618	4944	53
Purna (Tapi)	Torna	462	0	
Purna (Tapi)	Utawali	20	0	
	BIPC Buldhana	**3100**	**4944**	**63**
Middle Tapi (South)	Ajanta Andhari	668	588	114
Purna+Dudhana	Dhamna	520	791	66
Girna	Gadadgad	432	601	72
Lower Godavari	Galhati	328	1405	23
Purna+Dudhana	Girja	852	1060	80
Purna+Dudhana	Jivrekha	583	898	65
Purna+Dudhana	Jui	303	507	60
Purna+Dudhana	Kalyan Girija	481	805	60
Purna+Dudhana	Karpara	1259	3252	39
Purna+Dudhana	Khelna	887	618	144
Purna+Dudhana	Lahuki	412	420	98
Lower Godavari	Masoli	1924	3840	50
Purna+Dudhana	Pir Kalyan	526	953	55
Purna+Dudhana	Sukhana	1262	1650	76
Purna+Dudhana	Upper Dudhana	438	1221	36
	CADA Abad	**10875**	**18609**	**58**
Manjra	Belpara	131	206	64
Lower Godavari	Bindusara	192	229	84
Lower Godavari	Bodhegaon	85	368	23
Lower Godavari	Borna	384	475	81
Manjra	Devarjan	649	1107	59
Manjra	Gharni	1231	1382	89

Plangroup/ Subbasin	Circle/ Project	Achivement of Irrigation	Targets of Irrigation	Percentage
Lower Godavari	Kundalika	1195	2311	52
Manjra	Mahasangvi	445	504	88
Manjra	Masalga	80	147	54
Manjra	Raigavan	471	236	200
Manjra	Renapur	713	650	110
Manjra	Rui	296	0	
Manjra	Sakol	1152	353	326
Manjra	Sangameshwar (Dokewadi)	612	0	
Lower Godavari	Saraswati	315	373	84
Lower Godavari	Sindphana	740	458	162
Manjra	Tawarja	1216	1534	79
Manjra	Terna	1032	1050	98
Manjra	Tiru	1160	924	126
Lower Godavari	Wan (Beed)	682	825	83
Manjra	Whati	459	730	63
	CADA Beed	**13240**	**13862**	**96**
Girna	Agnavati	79	90	88
Middle Tapi (South)	Bhokarbari	406	510	80
Middle Tapi (South)	Bori	1905	1568	121
Middle Tapi (South)	Burai	1502	1609	93
Girna	Hiwara	679	389	175
Middle Tapi (South)	Jamkhedi	480	0	
Middle Tapi (South)	Kanoli	415	849	49
Girna	Manyad	4106	5950	69
Middle Tapi (South)	Rangawali	1938	0	
Middle Tapi (South)	Tondapur	113	118	96
	CADA Jalgaon	**11623**	**11083**	**105**
Purna (Tapi)	Chandrabhaga (Amravati)	165	800	21
	CADA Nagpur	**165**	**800**	**21**
Girna	Haranbari	3089	3037	102
Girna	Kelzar	1512	1681	90
Girna	Nagya Sakya	1265	1072	118
	CADA Nashik	**5866**	**5790**	**101**
Middle Tapi (South)	Bahula	559	125	447
	JIPC Jalgaon	**559**	**125**	**447**
Manjra	Karadkhed	621	1250	50
Lower Godavari	Kudala	685	550	125
Manjra	Kundrala	1259	1520	83
Manjra	Mahalingi	703	300	234
Manjra	Pethwadaj	916	1000	92
	NIC Nanded	**4184**	**4620**	**91**
Deficit		**59900**	**84751**	**71**

Plangroup/ Subbasin	Circle/ Project	Achivement of Irrigation	Targets of Irrigation	Percentage
Normal				
Upper Godavari	Bor Dahegaon	135	135	100
Upper Godavari	Narangi	456	510	89
Upper Godavari	Tembhapuri	466	300	155
	AIC Abad	**1057**	**945**	**112**
Painganga	Adan	2413	4985	48
Wardha	Borgaon	610	585	104
Painganga	Ekbhuji	775	1180	66
Painganga	Goki	3296	4697	70
Painganga	Koradi	3534	1753	202
Painganga	Lower Pus	3194	6999	46
Painganga	Saikheda	846	2899	29
Painganga	Sonal	1754	2030	86
Painganga	Waghadi	1597	2314	69
	AIC Akola	**18019**	**27442**	**66**
Wardha	Nawargaon	347	2000	17
Painganga	Pen Takli	4883	10472	47
	BIPC Buldhana	**5230**	**12472**	**42**
Upper Godavari	Ambadi	617	724	85
Upper Godavari	Dheku	631	900	70
Upper Godavari	Kolhi	235	514	46
	CADA Abad	**1483**	**2138**	**69**
Middle Tapi (Satpuda)	Abhora	275	450	61
Middle Tapi (Satpuda)	Aner	3286	3943	83
Middle Tapi (Satpuda)	Karwand	1282	1664	77
Panzra	Malangaon	1325	1208	110
Panzra	Panzara	4507	5201	87
Panzra	Sonwad	2041	2015	101
Middle Tapi (Satpuda)	Sukhi	872	845	103
Middle Tapi (Satpuda)	Suki	872	845	103
	CADA Jalgaon	**14459**	**16171**	**89**
Upper Godavari	Adhala	2432	2791	87
Upper Godavari	Alandi	2258	2202	103
Upper Godavari	Bhojapur	829	0	
Upper Godavari	Ghatshil Pargaon	832	1343	62
Upper Godavari	Mandohol	602	576	105
Upper Godavari	Waldevi	550	0	
	CADA Nashik	**7503**	**6912**	**109**
Upper Bhima	Visapur	5844	5670	103
	CADA Pune	**5844**	**5670**	**103**

Plangroup/ Subbasin	Circle/ Project	Achivement of Irrigation	Targets of Irrigation	Percentage
Painganga	Amalnalla	2051	2000	103
Wardha	Dham	2175	4300	51
Wardha	Dongargaon (Chandrapur)	352	0	
Wardha	Pothra	2809	2900	97
	CIPC Chandrapur	**7387**	**9200**	**80**
Middle Tapi (Satpuda)	Bhokar (Mangrul)	0	0	
Middle Tapi (Satpuda)	Mor	74	200	37
	JIPC Jalgaon	**74**	**200**	**37**
Wardha	Jam	822	0	
Wardha	Kar	1366	0	
	NIC Nagpur	**2188**	**0**	
Painganga	Dongargaon (Nanded)	609	800	76
Painganga	Loni	482	1100	44
Painganga	Nagzari	413	650	64
	NIC Nanded	**1504**	**2550**	**59**
Upper Bhima	Kasarsai	1791	0	
Remaining Bhima (Neera)	Nazare	1646	2066	80
Upper Bhima	Wadiwale	2951	2458	120
	PIC Pune	**6388**	**4524**	**141**
Normal		**71136**	**88224**	**81**
Surplus				
Middle Wainganga	Bagheda	2197	2291	96
Middle Wainganga	Betekar Bothli	1066	1082	99
Middle Wainganga	Bodalkasa	8033	4827	166
Middle Wainganga	Chandpur	6321	6323	100
Middle Wainganga	Chorakhmara	5064	5066	100
Middle Wainganga	Chulband	6361	3235	197
Middle Wainganga	Kanolibara	1683	2097	80
Middle Wainganga	Kesarnala	235	207	113
Middle Wainganga	Khairbanda	5219	5266	99
Middle Wainganga	Khekara Nalla	522	2129	24
Middle Wainganga	Kolar	2814	2701	104
Middle Wainganga	Makardhokada-Saiki	2890	2616	110
Middle Wainganga	Managadh	1788	1062	168
Middle Wainganga	Mordham	399	479	83
Middle Wainganga	Pandharbodi	1422	1087	131
Middle Wainganga	Rengepar	1886	952	198
Middle Wainganga	Sangrampur	1099	1094	100
Middle Wainganga	Sorna	1424	993	143
Middle Wainganga	Tekepar LIS	3019	0	
Middle Wainganga	Umri	395	1185	33
Middle Wainganga	Wunna	72	1214	6
	CADA Nagpur	**53908**	**45906**	**117**

Plangroup/ Subbasin	Circle/ Project	Achivement of Irrigation	Targets of Irrigation	Percentage
Middle Wainganga	Chandai	1340	1300	103
Middle Wainganga	Chargaon	1825	950	192
Middle Wainganga	Labhansarad	1055	1200	88
Middle Wainganga	Pakadigundam	838	1500	56
Middle Wainganga	Panchdhara	525	2827	19
	CIPC Chandrapur	**5583**	**7777**	**72**
Middle Wainganga	Katangi	778	2044	38
	GKLIS Bhandara	**778**	**2044**	**38**
Middle Wainganga	Chandrabhaga (Nagpur)	618	786	79
	UWPC Amravati	**618**	**786**	**79**
Surplus		**60887**	**56513**	**108**
Abundant				
Lower Wainganga	Dongargaon (Wardha)	206	1430	14
Lower Wainganga	Ghorazari	5912	5500	107
Lower Wainganga	Naleshwar	2850	2500	114
	CIPC Chandrapur	**8968**	**9430**	**95**
Vashishthi	Natuwadi	199	0	
	KIC Ratnagiri	**199**	**0**	
North Konkan	Hetwane	95	500	19
	NKIPC Thane	**95**	**500**	**19**
Upper Krishna (W)	Chikotra	3688	2126	173
Upper Krishna (W)	Chitri	10578	0	
Upper Krishna (W)	Jangamhatti	5454	0	
Upper Krishna (W)	Kadvi	1698	2714	63
Upper Krishna (W)	Kasari	7063	10754	66
Upper Krishna (W)	Krishna Canal & Khodshi Backwater	4729	0	
Upper Krishna (W)	Kumbhi	4423	4692	94
Upper Krishna (W)	Morna (Sangli)	1281	1543	83
Upper Krishna (W)	Patgaon	5170	11076	47
Upper Krishna (W)	Yeoti Masoli	724	520	139
	SIC Sangli	**44808**	**33425**	**134**
Middle Konkan	Amba	64	20	321
North Konkan	Rajanalla Complex	2180	2105	104
North Konkan	Wandri	1000	1200	83
	TIC Thane	**3244**	**3325**	**98**
Abundant		**57313**	**46680**	**123**
Medium Projects		**280164**	**318367**	**88**


IndicatorIV: Medium Projects
Water Use
Percent
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
CADA Beed
CADA Pune
CADA Solapur
PIC Pune
SIC Sangli
AIC Abad
AIC Akola
BIPC Buldhana
CADA Abad
CADA Beed
CADA Jalgaon
CADA Nagpur
CADA Nashik
JIPC Jalgaon
NIC Nanded
AIC Abad
AIC Akola
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GKLIS Bhandara
UWPC Amravati
CIPC Chandrapur
KIC Ratnagiri
NKIPC Thane
SIC Sangli
TIC Thane
Highly Deficit
Deficit
Normal
Surplus
Abundant
#REF!
#REF!
#REF!
Res-Lift
River_Lift
NI Use
Evap

Indicator IV

Water Use Pattern

Medium Projects

Unit: Mcum

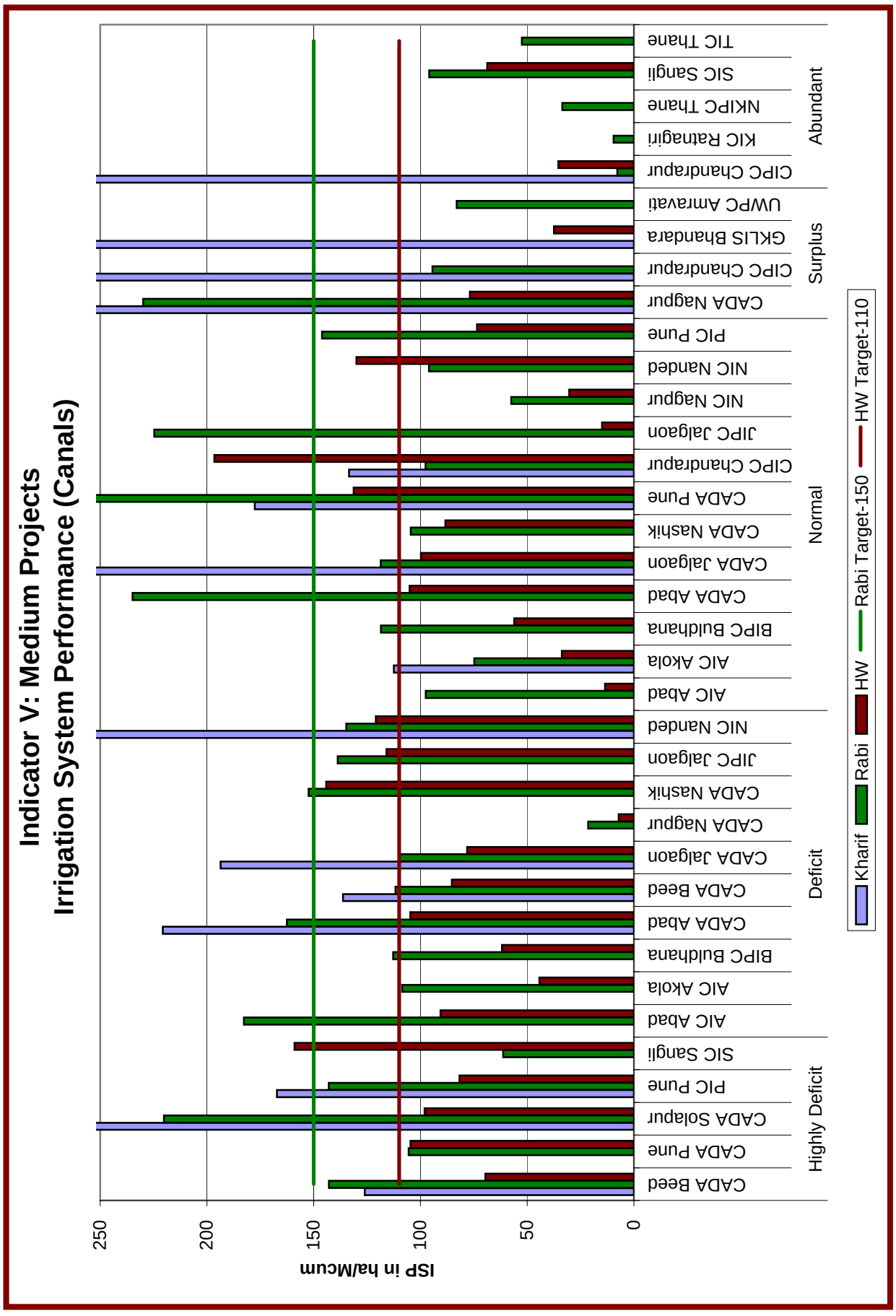
Plangroup/Subbasin	Canal Irrigation			Reservoir	River Annual	Non Irrigation	Evapo-	Gross
	Kharif	Rabi	HW	Annual Lift	Lift Irrigation	Use	ration	Utilisation
Highly Deficit								
Banganga	0.000	0.800	0.000	1.167	0.000	0.554	1.370	3.891
Benitura	0.000	0.000	0.000	1.418	0.000	0.869	2.115	4.402
Chandani	0.000	1.750	0.330	8.200	0.000	1.750	5.330	17.360
Harni	0.000	0.000	1.566	2.205	0.000	0.000	1.230	5.001
Jakapur	0.000	0.000	0.000	1.393	0.000	0.000	1.386	2.779
Kada	0.000	0.000	0.350	1.350	0.000	0.600	5.041	7.341
Kadi	0.000	0.000	1.300	0.820	0.000	0.000	3.558	5.678
Kambli	0.000	0.000	0.140	0.000	0.000	0.260	2.336	2.736
Khandala	0.238	0.470	0.000	0.122	0.000	0.000	0.080	0.910
Khandeshwar	0.000	0.650	0.440	3.440	0.000	0.000	2.320	6.850
Khasapur	0.000	3.460	1.520	3.678	0.000	1.437	3.350	13.445
Kurnoor	0.000	5.000	5.050	4.110	0.000	3.120	6.300	23.580
Mehkari	0.000	0.800	1.220	1.840	0.000	0.000	8.170	12.030
Ramganga	0.000	1.000	0.180	1.810	0.000	0.000	1.524	4.514
Ruti	0.000	0.470	0.700	1.560	0.000	0.120	3.890	6.740
Sakat	0.000	2.100	0.370	2.262	0.000	0.387	1.786	6.905
Talwar	0.000	0.000	0.100	0.800	0.000	0.150	2.623	3.673
Turori	0.000	0.000	0.000	2.195	0.000	1.918	1.461	5.574
CADA Beed	**0.238**	**16.500**	**13.266**	**38.370**	**0.000**	**11.165**	**53.870**	**133.409**
Yeralwadi	(0.917)	4.617	1.691	3.884	0.000	3.967	4.918	18.160
CADA Pune	**(0.917)**	**4.617**	**1.691**	**3.884**	**0.000**	**3.967**	**4.918**	**18.160**
Ashti	0.000	0.000	0.000	20.450	0.000	0.347	10.040	30.837
Bori (Solapur)	0.000	0.000	0.000	1.800	0.000	0.000	3.025	4.825
Buddhihal	0.000	0.000	0.000	0.054	0.000	0.000	0.178	0.231
Ekrukh	0.000	0.000	0.000	2.888	0.000	3.112	7.701	13.701
Hingani (Pangaon)	0.934	2.640	5.632	8.499	0.000	1.506	11.438	30.649
Jawalgaon	0.000	0.000	2.450	9.081	0.000	0.455	8.801	20.787
Mangi	0.000	2.545	11.113	7.106	0.000	0.000	8.811	29.575
CADA Solapur	**0.934**	**5.185**	**19.195**	**49.878**	**0.000**	**5.420**	**49.994**	**130.605**
Andhali	0.000	0.760	0.740	0.120	0.000	0.718	2.150	4.488
Khairy	0.513	0.950	0.840	1.180	0.000	0.026	2.644	6.153
Mhaswad	0.000	4.070	2.590	5.420	0.000	0.000	8.110	20.190
Nher	0.000	4.008	0.000	0.250	0.000	0.000	3.765	8.023
Ranand	0.000	0.450	1.110	0.580	0.000	0.000	0.830	2.970
Sina	0.000	5.650	12.230	11.650	0.000	0.370	11.465	41.365
Tisangi	1.850	8.387	5.040	2.160	0.000	0.538	6.154	24.129
PIC Pune	**2.363**	**24.275**	**22.550**	**21.360**	**0.000**	**1.652**	**35.118**	**107.318**
Basappawadi	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Sankh	0.000	0.282	0.084	0.594	0.000	0.000	3.680	4.640
Siddhewadi	0.000	1.250	0.000	1.500	0.000	0.580	1.330	4.660
SIC Sangli	**0.000**	**1.532**	**0.084**	**2.094**	**0.000**	**0.580**	**5.010**	**9.300**
Highly Deficit	**2.618**	**52.109**	**56.786**	**115.586**	**0.000**	**22.783**	**148.910**	**398.792**
Deficit								**0**
Anjana Palashi	0.000	1.000	0.000	1.000	0.000	0.000	3.730	5.730
Purna Nevpur	0.000	0.330	0.320	1.424	0.000	0.000	6.600	8.674
AIC Abad	**0.000**	**1.330**	**0.320**	**2.424**	**0.000**	**0.000**	**10.330**	**14.404**
Dnyanganga	0.000	5.350	3.040	0.000	1.520	2.290	4.240	16.440

Plangroup/Subbasin	Canal Irrigation			Reservoir	River Annual	Non Irrigation	Evapo-	Gross
	Kharif	Rabi	HW	Annual Lift	Lift Irrigation	Use	ration	Utilisation
Mas	0.000	6.470	4.300	0.780	0.000	0.170	3.240	14.960
Morna (Akola)	0.000	11.087	8.590	0.000	5.000	0.462	11.000	36.139
Nirguna	0.000	18.250	5.583	0.010	0.000	0.000	5.866	29.709
Paldhag	0.000	5.330	0.000	0.060	0.000	1.220	0.860	7.470
Shahnoor	0.000	7.980	7.280	0.230	0.000	6.920	4.210	26.620
Uma	0.000	7.225	1.092	0.845	0.000	0.054	3.149	12.365
AIC Akola	**0.000**	**61.692**	**29.885**	**1.925**	**6.520**	**11.116**	**32.565**	**143.703**
Mun	0.000	15.500	13.256	0.030	0.000	0.000	6.940	35.726
Torna	0.000	2.980	2.660	0.011	0.000	0.000	1.560	7.211
Utawali	0.000	0.000	0.000	0.040	0.000	0.000	3.450	3.490
BIPC Buldhana	**0.000**	**18.480**	**15.916**	**0.081**	**0.000**	**0.000**	**11.950**	**46.427**
Ajanta Andhari	0.000	2.414	0.620	0.630	0.000	1.145	2.190	6.999
Dhamna	0.000	0.954	0.000	2.355	0.000	1.404	2.015	6.728
Gadadgad	0.000	0.750	0.380	0.660	0.000	0.000	1.430	3.220
Galhati	0.000	0.912	0.785	3.164	0.000	0.000	4.379	9.240
Girja	0.000	3.320	0.290	2.070	0.000	1.200	5.190	12.070
Jivrekha	0.000	2.616	0.000	0.850	0.000	0.000	2.300	5.766
Jui	0.000	1.612	0.000	0.281	0.000	1.000	2.202	5.095
Kalyan Girija	0.000	0.930	0.980	2.290	0.000	0.000	3.500	7.700
Karpara	0.350	2.100	0.830	3.650	0.000	0.000	8.803	15.733
Khelna	0.000	2.730	0.000	0.540	0.000	2.700	5.080	11.050
Lahuki	0.000	1.488	0.615	0.710	0.000	0.000	1.160	3.973
Masoli	0.298	2.800	4.470	8.120	1.250	1.520	9.128	27.586
Pir Kalyan	0.000	0.540	0.720	2.260	0.000	1.000	4.425	8.945
Sukhana	0.000	4.230	2.020	2.320	0.000	0.540	5.000	14.110
Upper Dudhana	0.000	2.850	0.000	0.200	0.000	0.000	4.850	7.900
CADA Abad	**0.648**	**30.246**	**11.710**	**30.100**	**1.250**	**10.509**	**61.652**	**146.115**
Belpara	0.000	0.910	1.036	0.840	0.000	0.000	3.560	6.346
Bindusara	0.000	1.350	0.000	0.000	0.000	3.550	1.814	6.714
Bodhegaon	0.000	0.000	0.630	0.560	0.000	0.000	1.830	3.020
Borna	0.000	0.100	0.198	3.366	0.000	0.000	3.926	7.590
Devarjan	0.000	0.000	0.650	5.612	0.000	0.037	3.938	10.237
Gharni	0.000	4.430	3.740	4.728	0.000	1.965	10.406	25.269
Kundalika	1.050	8.100	3.600	2.350	0.000	3.289	8.917	27.306
Mahasangvi	0.000	1.190	0.000	2.840	0.000	0.533	2.098	6.661
Masalga	0.000	0.000	0.000	0.510	2.300	1.157	6.121	10.088
Raigavan	0.000	0.000	0.000	2.713	0.000	0.666	2.726	6.105
Renapur	0.000	0.000	0.000	5.043	4.000	1.315	10.096	20.454
Rui	0.000	0.000	0.000	2.143	0.000	1.000	1.769	4.912
Sakol	0.000	0.000	0.000	5.490	0.000	0.538	4.369	10.397
Sangameshwar	0.000	0.000	0.000	5.790	1.375	1.160	4.107	12.432
Saraswati	0.000	0.950	0.000	1.390	0.000	0.000	2.010	4.350
Sindphana	0.060	2.763	1.064	0.220	0.000	1.250	4.041	9.398
Tawarja	0.000	1.030	2.700	4.650	0.000	2.103	10.551	21.034
Terna	0.000	2.100	2.579	2.180	0.000	4.718	9.501	21.078
Tiru	0.000	1.950	0.000	7.490	0.000	2.390	7.195	19.025
Wan (Beed)	0.270	1.710	1.240	3.000	0.000	4.652	7.075	17.947
Whati	0.000	0.711	0.000	4.779	0.000	0.507	2.792	8.789
CADA Beed	1.380	27.294	17.437	65.694	7.675	30.829	108.842	259.152
Agnavati	0.000	0.460	0.070	0.070	0.000	0.580	0.654	1.834
Bhokarbari	0.000	2.408	2.125	0.028	0.000	0.186	1.052	5.799
Bori	0.000	7.128	8.476	0.750	0.000	7.851	7.496	31.701
Burai	0.000	7.120	6.610	0.000	0.000	1.960	2.480	18.170

Plangroup/Subbasin	Canal Irrigation			Reservoir	River Annual	Non Irrigation	Evapo-	Gross
	Kharif	Rabi	HW	Annual Lift	Lift Irrigation	Use	ration	Utilisation
Hiwara	0.000	3.349	0.540	1.226	0.072	1.014	3.631	9.832
Jamkhedi	0.000	0.000	0.000	0.000	5.798	0.000	2.973	8.771
Kanoli	0.000	4.440	0.490	0.550	0.000	1.710	1.620	8.810
Manyad	0.000	13.324	14.572	7.706	0.000	0.343	6.020	41.965
Rangawali	4.350	2.580	7.900	0.000	0.000	0.000	1.980	16.810
Tondapur	0.000	0.000	0.191	0.127	0.030	1.159	1.886	3.393
CADA Jalgaon	**4.350**	**40.809**	**40.975**	**10.457**	**5.900**	**14.803**	**29.791**	**147.084**
Chandrabhaga (Amravati)	0.000	5.566	5.614	0.037	0.000	0.000	2.794	14.012
CADA Nagpur	**0.000**	**5.566**	**5.614**	**0.037**	**0.000**	**0.000**	**2.794**	**14.012**
Haranbari	0.000	1.490	0.180	0.760	13.830	10.270	0.960	27.490
Kelzar	0.000	1.040	0.310	0.830	4.080	2.560	1.700	10.520
Nagya Sakya	0.000	3.540	3.000	2.510	0.000	0.000	2.730	11.780
CADA Nashik	**0.000**	**6.070**	**3.490**	**4.100**	**17.910**	**12.830**	**5.390**	**49.790**
Bahula	0.000	0.894	1.078	2.820	0.000	0.240	5.268	10.300
JIPC Jalgaon	**0.000**	**0.894**	**1.078**	**2.820**	**0.000**	**0.240**	**5.268**	**10.300**
Karadkhed	0.000	1.200	3.320	1.090	0.000	1.771	2.550	9.931
Kudala	0.000	1.700	0.890	0.550	0.000	0.000	1.420	4.560
Kundrala	0.000	3.310	2.170	1.450	0.000	0.840	3.100	10.870
Mahalingi	0.040	1.600	0.000	1.650	0.000	0.000	0.550	3.840
Pethwadaj	0.000	6.160	1.269	0.645	0.000	0.260	2.181	10.515
NIC Nanded	**0.040**	**13.970**	**7.649**	**5.385**	**0.000**	**2.871**	**9.801**	**39.716**
Deficit	**6.418**	**206.351**	**134.074**	**123.023**	**39.255**	**83.198**	**278.384**	**870.703**
Normal								0
Bor Dahegaon	0.000	0.420	0.160	1.320	0.000	0.000	5.610	7.510
Narangi	0.000	2.000	0.500	0.880	0.000	0.495	5.865	9.740
Tembhapuri	0.000	0.000	0.890	2.000	0.000	0.000	10.340	13.230
AIC Abad	**0.000**	**2.420**	**1.550**	**4.200**	**0.000**	**0.495**	**21.815**	**30.480**
Adan	0.000	21.342	27.784	1.490	0.000	3.070	13.966	67.652
Borgaon	0.000	5.485	0.000	0.005	0.000	0.000	1.274	6.764
Ekbhuji	0.110	5.253	0.380	1.210	0.129	1.838	5.310	14.230
Goki	0.000	16.255	16.700	0.630	0.000	1.826	12.771	48.182
Koradi	0.000	11.980	0.870	4.100	0.000	2.230	5.150	24.330
Lower Pus	0.000	19.426	22.385	5.680	0.000	0.055	20.160	67.706
Saikheda	0.000	9.360	3.098	1.410	0.000	0.150	10.722	24.740
Sonal	0.050	9.260	2.790	1.710	0.000	0.032	6.398	20.240
Waghadi	0.000	13.236	10.190	0.020	0.000	0.100	8.683	32.229
AIC Akola	**0.160**	**111.597**	**84.197**	**16.255**	**0.129**	**9.300**	**84.434**	**306.072**
Nawargaon	0.000	3.100	0.000	0.050	0.000	2.000	3.140	8.290
Pen Takli	0.000	1.919	0.535	15.117	0.000	3.318	17.294	38.183
BIPC Buldhana	**0.000**	**5.019**	**0.535**	**15.167**	**0.000**	**5.318**	**20.434**	**46.473**
Ambadi	0.000	2.112	0.539	1.196	0.000	1.232	5.200	10.279
Dheku	0.000	0.530	1.598	0.729	0.000	0.000	2.317	5.174
Kolhi	0.000	0.360	0.700	0.750	0.000	0.364	0.528	2.702
CADA Abad	**0.000**	**3.002**	**2.837**	**2.675**	**0.000**	**1.596**	**8.045**	**18.155**
Abhora	0.000	2.017	0.700	0.192	0.000	0.000	1.022	3.931
Aner	3.360	24.770	19.880	0.770	0.000	0.000	14.380	63.160
Karwand	0.000	2.643	2.320	2.050	0.630	0.341	5.997	13.981
Malangaon	0.000	5.150	2.750	0.000	0.000	0.280	2.849	11.029
Panzara	0.000	18.440	4.536	0.000	0.000	3.568	8.677	35.221
Sonwad	0.000	11.360	0.000	1.120	0.000	1.590	5.690	19.760
Sukhi	0.000	6.815	2.813	0.000	9.629	0.733	0.000	19.990
Suki	0.000	6.815	2.813	0.000	13.027	0.733	8.480	31.868

Plangroup/Subbasin	Canal Irrigation			Reservoir	River Annual	Non Irrigation	Evapo-	Gross
	Kharif	Rabi	HW	Annual Lift	Lift Irrigation	Use	ration	Utilisation
CADA Jalgaon	**3.360**	**78.010**	**35.812**	**4.132**	**23.286**	**7.245**	**47.095**	**198.940**
Adhala	0.000	8.690	10.310	5.470	0.000	1.660	3.010	29.140
Alandi	0.000	5.620	12.357	1.757	0.905	0.000	5.497	26.136
Bhojapur	0.000	5.827	1.461	0.607	0.000	0.572	1.021	9.488
Ghatshil Pargaon	0.000	0.645	1.990	3.710	0.000	0.070	2.840	9.255
Mandohol	0.000	3.440	1.320	2.140	0.000	1.090	1.560	9.550
Waldevi	0.000	0.000	0.000	0.962	2.505	0.000	3.305	6.772
CADA Nashik	**0.000**	**24.222**	**27.438**	**14.646**	**3.410**	**3.392**	**17.233**	**90.341**
Visapur	3.272	9.923	16.380	2.160	0.000	0.090	4.940	36.765
CADA Pune	**3.272**	**9.923**	**16.380**	**2.160**	**0.000**	**0.090**	**4.940**	**36.765**
Amalnalla	0.000	16.051	0.000	0.000	0.000	2.308	4.860	23.219
Dham	0.000	21.880	2.080	5.790	0.000	8.040	10.350	48.140
Dongargaon (Chandrapur)	1.034	2.088	0.000	0.000	0.000	0.224	4.004	7.350
Pothra	0.000	18.150	1.630	2.850	0.000	0.000	6.770	29.400
CIPC Chandrapur	**1.034**	**58.169**	**3.710**	**8.640**	**0.000**	**10.572**	**25.984**	**108.109**
Bhokar (Mangrul)	0.000	0.000	2.149	0.000	0.000	0.000	1.356	3.505
Mor	0.000	0.166	0.320	0.000	0.000	0.000	0.380	0.866
JIPC Jalgaon	**0.000**	**0.166**	**2.469**	**0.000**	**0.000**	**0.000**	**1.736**	**4.371**
Jam	0.000	9.419	0.380	0.950	0.000	1.712	6.175	18.636
Kar	0.000	8.404	5.189	2.350	0.000	1.149	4.557	21.649
NIC Nagpur	**0.000**	**17.823**	**5.569**	**3.300**	**0.000**	**2.861**	**10.732**	**40.285**
Dongargaon (Nanded)	0.000	2.518	2.913	0.000	0.000	0.000	2.297	7.728
Loni	0.000	2.736	2.063	0.000	0.000	0.012	1.660	6.471
Nagzari	0.000	3.355	0.100	0.160	0.000	1.120	1.465	6.200
NIC Nanded	**0.000**	**8.609**	**5.076**	**0.160**	**0.000**	**1.132**	**5.422**	**20.399**
Kasarsai	0.000	1.550	1.200	4.500	5.600	0.030	3.640	16.520
Nazare	0.000	4.666	3.698	2.370	1.824	4.247	6.140	22.945
Wadiwale	0.000	0.000	0.000	0.980	20.347	3.668	4.804	29.799
PIC Pune	**0.000**	**6.216**	**4.898**	**7.850**	**27.771**	**7.945**	**14.584**	**69.264**
Normal	**7.826**	**325.176**	**190.471**	**79.185**	**54.596**	**49.946**	**262.454**	**969.654**
Surplus								**0**
Bagheda	1.235	2.261	0.000	0.000	0.000	0.000	1.068	4.564
Betekar Bothli	2.383	1.049	0.000	0.000	0.000	0.000	0.573	4.005
Bodalkasa	10.515	3.780	0.000	0.000	0.000	1.277	0.464	16.036
Chandpur	10.488	6.341	0.000	0.171	0.000	0.000	5.186	22.186
Chorakhmara	9.441	7.208	0.000	0.000	0.000	0.000	1.273	17.922
Chulband	9.645	5.063	1.823	0.130	0.000	0.000	4.359	21.020
Kanolibara	0.000	9.014	6.079	0.330	0.000	0.000	4.792	20.215
Kesarnala	0.000	1.604	0.000	0.388	0.000	0.172	1.127	3.291
Khairbanda	10.150	2.613	0.000	0.000	0.000	0.000	2.457	15.220
Khekara Nalla	0.000	13.421	3.567	0.000	0.000	0.000	2.636	19.624
Kolar	0.000	15.632	1.700	2.919	0.000	1.115	7.414	28.780
Makardhokada-Saiki	0.000	20.774	0.000	0.340	0.000	0.143	9.210	30.467
Managadh	2.618	1.388	0.841	0.000	0.000	0.000	1.367	6.214
Mordham	0.000	2.831	0.120	0.668	0.000	0.042	0.780	4.441
Pandharbodi	1.700	5.718	0.000	0.765	0.000	1.660	5.370	15.213
Rengepar	2.172	1.270	0.000	0.000	0.000	0.000	0.539	3.981
Sangrampur	3.224	0.368	0.000	0.000	0.000	0.000	0.441	4.033
Sorna	2.249	1.424	0.000	0.000	0.000	0.000	1.394	5.067
Tekepar LIS	0.000	0.000	0.000	0.000	18.980	0.000	0.000	18.980
Umri	0.000	2.219	0.000	0.846	0.000	0.000	1.191	4.256

Plangroup/Subbasin	Canal Irrigation			Reservoir	River Annual	Non Irrigation	Evapo-	Gross
	Kharif	Rabi	HW	Annual Lift	Lift Irrigation	Use	ration	Utilisation
Wunna	0.000	0.000	0.000	0.356	0.000	8.354	1.306	10.016
CADA Nagpur	**65.820**	**103.978**	**14.130**	**6.913**	**18.980**	**12.762**	**52.947**	**275.530**
Chandai	2.033	3.872	0.000	0.023	0.000	0.000	1.780	7.708
Chargaon	3.965	10.196	0.280	1.995	0.000	0.195	6.360	22.991
Labhansarad	0.000	5.993	0.467	0.240	0.000	0.000	4.615	11.314
Pakadigundam	0.000	8.307	0.000	0.000	0.000	1.563	2.759	12.629
Panchdhara	0.000	8.420	0.790	0.000	0.000	0.000	0.700	9.910
CIPC Chandrapur	**5.998**	**36.788**	**1.537**	**2.258**	**0.000**	**1.758**	**16.214**	**64.552**
Katangi	0.594	2.871	1.603	0.000	0.000	0.890	3.300	9.258
GKLIS Bhandara	**0.594**	**2.871**	**1.603**	**0.000**	**0.000**	**0.890**	**3.300**	**9.258**
Chandrabhaga (Nagpur)	0.000	5.305	0.000	0.813	0.000	0.016	1.361	7.495
UWPC Amravati	**0.000**	**5.305**	**0.000**	**0.813**	**0.000**	**0.016**	**1.361**	**7.495**
Surplus	**72.412**	**148.942**	**17.270**	**9.984**	**18.980**	**15.426**	**73.822**	**356.836**
Abundant								**0**
Dongargaon (Wardha)	0.000	1.680	1.130	0.000	0.000	0.000	1.680	4.490
Ghorazari	18.060	11.540	0.000	0.000	0.000	0.000	5.526	35.126
Naleshwar	11.990	7.960	0.000	0.000	0.000	0.000	4.430	24.380
CIPC Chandrapur	**30.050**	**21.180**	**1.130**	**0.000**	**0.000**	**0.000**	**11.636**	**63.996**
Natuwadi	2.670	20.849	1.024	0.000	0.000	1.373	0.922	26.838
KIC Ratnagiri	**2.670**	**20.849**	**1.024**	**0.000**	**0.000**	**1.373**	**0.922**	**26.838**
Hetwane	0.000	2.818	0.000	0.000	0.000	34.391	6.854	44.063
NKIPC Thane	**0.000**	**2.818**	**0.000**	**0.000**	**0.000**	**34.391**	**6.854**	**44.063**
Chikotra	0.000	0.000	0.000	0.000	24.925	0.444	2.864	28.233
Chitri	0.000	0.000	0.000	0.000	42.120	2.362	3.570	48.052
Jangamhatti	0.000	0.000	0.000	0.000	20.607	0.625	3.200	24.432
Kadvi	0.000	0.000	0.000	0.000	15.215	0.230	6.585	22.030
Kasari	0.000	0.000	0.000	0.000	50.014	1.157	5.916	57.087
Krishna Canal & Khodshi Backwater	0.000	14.670	12.310	19.200	0.000	0.570	2.730	49.480
Kumbhi	0.000	0.000	0.000	0.000	37.792	0.359	5.872	44.023
Morna (Sangli)	0.000	0.000	0.000	5.660	3.731	0.675	3.000	13.066
Patgaon	0.000	0.000	0.000	0.000	55.795	0.806	10.210	66.811
Yeoti Masoli	0.000	2.310	0.920	0.000	1.240	0.169	0.760	5.399
SIC Sangli	**0.000**	**16.980**	**13.230**	**24.860**	**251.439**	**7.397**	**44.707**	**358.613**
Amba	2.200	8.108	2.845	0.630	0.000	69.479	9.220	92.482
Rajanalla Complex	0.000	28.172	0.941	0.000	0.000	0.000	0.000	29.113
Wandri	1.695	24.680	1.150	0.000	0.000	0.000	4.895	32.420
TIC Thane	**3.895**	**60.960**	**4.936**	**0.630**	**0.000**	**69.479**	**14.115**	**154.015**
Abundant	**36.615**	**122.787**	**20.320**	**25.490**	**251.439**	**112.640**	**78.234**	**647.525**
Medium Projects	**125.889**	**855.364**	**418.921**	**353.268**	**364.270**	**283.994**	**841.804**	**3243.509**
Note: Read Konkan season for projects in Konkan region for Rabi season.								


Indicator V: Medium Projects
Irrigation System Performance (Canals)
ISP in ha/Mcum
250
200
150
100
50
0
Kharif
Rabi
HW
Rabi Target-150
HW Target-110
Highly Deficit
CADA Beed
CADA Pune
CADA Solapur
PIC Pune
SIC Sangli
AIC Abad
AIC Akola
BIPC Buldhana
CADA Abad
CADA Beed
CADA Jalgaon
CADA Nagpur
CADA Nashik
JIPC Jalgaon
NIC Nanded
Deficit
AIC Abad
AIC Akola
BIPC Buldhana
CADA Abad
CADA Jalgaon
CADA Nashik
CADA Pune
CIPC Chandrapur
JIPC Jalgaon
NIC Nagpur
NIC Nanded
PIC Pune
Normal
CADA Nagpur
CIPC Chandrapur
GKLIS Bhandara
UWPC Amravati
Surplus
CIPC Chandrapur
KIC Ratnagiri
NKIPC Thane
SIC Sangli
TIC Thane
Abundant

Indicator V (Canals)
Irrigation System Performance (Canals)
Medium Projects

Unit: ha/Mcum

Plangroup/ Subbasin	Project Circle	Irrigation System Performance		
		Kharif	Rabi	HW
Highly Deficit				
Sina	Banganga	0	150	0
Sina	Benitura	0	0	0
Sina	Chandani	0	174	97
Bori-Benetura	Harni	0	0	64
Bori-Benetura	Jakapur	0	0	0
Sina	Kada	0	0	87
Sina	Kadi	0	0	64
Sina	Kambli	0	0	165
Bori-Benetura	Khandala	126	196	0
Sina	Khandeshwar	0	155	136
Sina	Khasapur	0	174	139
Bori-Benetura	Kurnoor	0	121	47
Sina	Mehkari	0	85	50
Sina	Ramganga	0	132	122
Sina	Ruti	0	35	25
Sina	Sakat	0	150	122
Sina	Talwar	0	0	15
Bori-Benetura	Turori	0	0	0
	CADA Beed	**126**	**143**	**70**
Upper Krishna (E)	Yeralwadi	0	105	105
	CADA Pune	**0**	**105**	**105**
Remaining Bhima+ Man	Ashti	0	0	0
Sina	Bori (Solapur)	0	0	0
Remaining Bhima+ Man	Buddhihal	0	0	0
Sina	Ekrukh	0	0	0
Sina	Hingani (Pangaon)	413	169	84
Remaining Bhima+ Man	Jawalgaon	0	0	106
Sina	Mangi	0	273	103
	CADA Solapur	**413**	**220**	**98**
Remaining Bhima+ Man	Andhali	0	47	49
Sina	Khairy	0	272	80
Remaining Bhima+ Man	Mhaswad	0	153	124
Upper Krishna (E)	Nher	0	170	0
Remaining Bhima+ Man	Ranand	0	149	72
Sina	Sina	0	148	43
Remaining Bhima+ Man	Tisangi	214	115	162
	PIC Pune	**167**	**143**	**82**

Plangroup/ Subbasin	Project Circle	Irrigation System Performance		
		Kharif	Rabi	HW
Upper Krishna (E)	Basappawadi	0	0	0
Remaining Bhima+ Man	Sankh	0	121	159
Upper Krishna (E)	Siddhewadi	0	8	0
	SIC Sangli	**0**	**61**	**159**
Highly Deficit		**310**	**145**	**86**
Deficit				
Purna+Dudhana	Anjana Palashi	0	141	0
Purna+Dudhana	Purna Nevpur	0	309	91
	AIC Abad	**0**	**183**	**91**
Purna (Tapi)	Dnyanganga	0	147	234
Purna (Tapi)	Mas	0	142	29
Purna (Tapi)	Morna (Akola)	0	128	22
Purna (Tapi)	Nirguna	0	70	25
Purna (Tapi)	Paldhag	0	96	0
Purna (Tapi)	Shahnoor	0	95	21
Purna (Tapi)	Uma	0	142	0
	AIC Akola	**0**	**109**	**44**
Purna (Tapi)	Mun	0	113	65
Purna (Tapi)	Torna	0	114	45
Purna (Tapi)	Utawali	0	0	0
	BIPC Buldhana	**0**	**113**	**62**
Middle Tapi (South)	Ajanta Andhari	0	232	0
Purna+Dudhana	Dhamna	0	157	0
Girna	Gadadgad	0	233	395
Lower Godavari	Galhati	0	109	97
Purna+Dudhana	Girja	0	157	66
Purna+Dudhana	Jivrekha	0	165	0
Purna+Dudhana	Jui	0	160	0
Purna+Dudhana	Kalyan Girija	0	146	39
Purna+Dudhana	Karpara	100	132	102
Purna+Dudhana	Khelna	0	231	0
Purna+Dudhana	Lahuki	0	173	124
Lower Godavari	Masoli	362	99	92
Purna+Dudhana	Pir Kalyan	0	150	119
Purna+Dudhana	Sukhana	0	152	141
Purna+Dudhana	Upper Dudhana	0	146	0
	CADA Abad	**221**	**163**	**105**
Manjra	Belpara	0	68	22
Lower Godavari	Bindusara	0	142	0
Lower Godavari	Bodhegaon	0	0	40
Lower Godavari	Borna	0	142	86
Manjra	Devarjan	0	0	125
Manjra	Gharni	0	90	35
Lower Godavari	Kundalika	130	49	103
Manjra	Mahasangvi	0	93	0

Plangroup/ Subbasin	Project Circle	Irrigation System Performance		
		Kharif	Rabi	HW
Manjra	Masalga	0	0	0
Manjra	Raigavan	0	0	0
Manjra	Renapur	0	0	0
Manjra	Rui	0	0	0
Manjra	Sakol	0	0	0
Manjra	Sangameshwar (Dokewadi)	0	0	0
Lower Godavari	Saraswati	0	158	0
Lower Godavari	Sindphana	417	202	120
Manjra	Tawarja	0	100	138
Manjra	Terna	0	160	100
Manjra	Tiru	0	232	0
Lower Godavari	Wan (Beed)	100	128	66
Manjra	Whati	0	73	0
	CADA Beed	**136**	**112**	**85**
Girna	Agnavati	0	93	229
Middle Tapi (South)	Bhokarbari	0	69	81
Middle Tapi (South)	Bori	0	128	102
Middle Tapi (South)	Burai	0	156	59
Girna	Hiwara	0	87	298
Middle Tapi (South)	Jamkhedi	0	0	0
Middle Tapi (South)	Kanoli	0	58	161
Girna	Manyad	0	84	67
Middle Tapi (South)	Rangawali	194	229	64
Middle Tapi (South)	Tondapur	0	0	178
	CADA Jalgaon	**194**	**110**	**78**
Purna (Tapi)	Chandrabhaga (Amravati)	0	21	7
	CADA Nagpur	**0**	**21**	**7**
Girna	Haranbari	0	254	317
Girna	Kelzar	0	87	168
Girna	Nagya Sakya	0	129	131
	CADA Nashik	**0**	**152**	**144**
Middle Tapi (South)	Bahula	0	139	116
	JIPC Jalgaon	**0**	**139**	**116**
Manjra	Karadkhed	0	50	113
Lower Godavari	Kudala	0	156	110
Manjra	Kundrala	0	223	108
Manjra	Mahalingi	600	140	0
Manjra	Pethwadaj	0	96	172
	NIC Nanded	**600**	**135**	**121**
Deficit		**187**	**119**	**73**
Normal				
Upper Godavari	Bor Dahegaon	0	36	0
Upper Godavari	Narangi	0	111	42
Upper Godavari	Tembhapuri	0	0	0
	AIC Abad	**0**	**98**	**14**

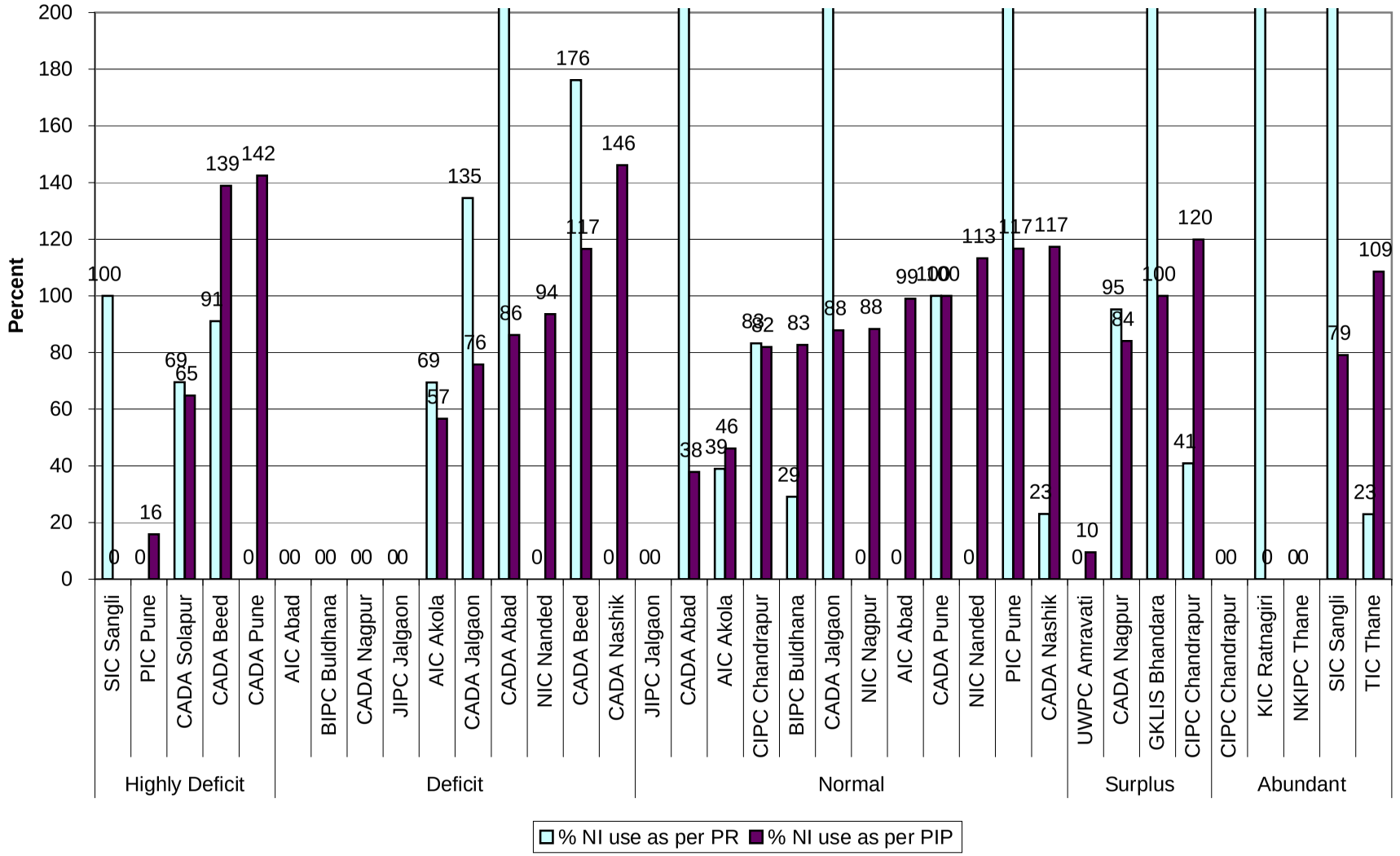
Plangroup/ Subbasin	Project Circle	Irrigation System Performance		
		Kharif	Rabi	HW
Painganga	Adan	0	59	32
Wardha	Borgaon	0	91	0
Painganga	Ekbhuji	0	98	24
Painganga	Goki	0	51	38
Painganga	Koradi	0	147	80
Painganga	Lower Pus	0	49	33
Painganga	Saikheda	0	71	17
Painganga	Sonal	360	141	30
Painganga	Waghadi	0	42	36
	AIC Akola	**113**	**75**	**34**
Wardha	Nawargaon	0	112	0
Painganga	Pen Takli	0	129	56
	BIPC Buldhana	**0**	**119**	**56**
Upper Godavari	Ambadi	0	142	130
Upper Godavari	Dheku	0	587	98
Upper Godavari	Kolhi	0	261	103
	CADA Abad	**0**	**235**	**105**
Middle Tapi (Satpuda)	Abhora	0	70	169
Middle Tapi (Satpuda)	Aner	281	50	50
Middle Tapi (Satpuda)	Karwand	0	186	165
Panzra	Malangaon	0	189	128
Panzra	Panzara	0	181	257
Panzra	Sonwad	0	167	0
Middle Tapi (Satpuda)	Sukhi	0	87	99
Middle Tapi (Satpuda)	Suki	0	87	99
	CADA Jalgaon	**281**	**119**	**100**
Upper Godavari	Adhala	0	103	110
Upper Godavari	Alandi	0	139	75
Upper Godavari	Bhojapur	0	92	93
Upper Godavari	Ghatshil Pargaon	0	211	72
Upper Godavari	Mandohol	0	54	64
Upper Godavari	Waldevi	0	0	0
	CADA Nashik	**0**	**105**	**88**
Upper Bhima	Visapur	178	277	131
	CADA Pune	**178**	**277**	**131**
Painganga	Amalnalla	0	128	0
Wardha	Dham	0	71	0
Wardha	Dongargaon (Chandrapur)	133	102	0
Wardha	Pothra	0	102	447
	CIPC Chandrapur	**133**	**98**	**196**
Middle Tapi (Satpuda)	Bhokar (Mangrul)	0	0	0
Middle Tapi (Satpuda)	Mor	0	225	116
	JIPC Jalgaon	**0**	**225**	**15**
Wardha	Jam	0	62	0
Wardha	Kar	0	52	33

Plangroup/ Subbasin	Project Circle	Irrigation System Performance		
		Kharif	Rabi	HW
	NIC Nagpur	**0**	**58**	**30**
Painganga	Dongargaon (Nanded)	0	39	176
Painganga	Loni	0	125	68
Painganga	Nagzari	0	115	80
	NIC Nanded	**0**	**96**	**130**
Upper Bhima	Kasarsai	0	136	80
Remaining Bhima (Neera)	Nazare	0	150	71
Upper Bhima	Wadiwale	0	0	0
	PIC Pune	**0**	**146**	**74**
Normal		**215**	**101**	**70**
Surplus				
Middle Wainganga	Bagheda	965	444	0
Middle Wainganga	Betekar Bothli	322	284	0
Middle Wainganga	Bodalkasa	409	987	0
Middle Wainganga	Chandpur	383	362	0
Middle Wainganga	Chorakhmara	322	281	0
Middle Wainganga	Chulband	311	623	104
Middle Wainganga	Kanolibara	0	94	130
Middle Wainganga	Kesarnala	0	111	0
Middle Wainganga	Khairbanda	411	400	0
Middle Wainganga	Khekara Nalla	0	37	6
Middle Wainganga	Kolar	0	150	21
Middle Wainganga	Makardhokada-Saiki	0	136	0
Middle Wainganga	Managadh	368	562	54
Middle Wainganga	Mordham	0	89	42
Middle Wainganga	Pandharbodi	250	148	0
Middle Wainganga	Rengepar	434	742	0
Middle Wainganga	Sangrampur	307	299	0
Middle Wainganga	Sorna	442	302	0
Middle Wainganga	Tekepar LIS	0	0	0
Middle Wainganga	Umri	0	140	0
Middle Wainganga	Wunna	0	0	0
	CADA Nagpur	**377**	**230**	**77**
Middle Wainganga	Chandai	509	78	0
Middle Wainganga	Chargaon	230	78	0
Middle Wainganga	Labhansarad	0	169	0
Middle Wainganga	Pakadigundam	0	101	0
Middle Wainganga	Panchdhara	0	62	0
	CIPC Chandrapur	**325**	**94**	**0**
Middle Wainganga	Katangi	1209	0	37
	GKLIS Bhandara	**1209**	**0**	**37**
Middle Wainganga	Chandrabhaga (Nagpur)	0	83	0
	UWPC Amravati	**0**	**83**	**0**
Surplus		**379**	**187**	**66**

Plangroup/ Subbasin	Project Circle	Irrigation System Performance		
		Kharif	Rabi	HW
Abundant				
Lower Wainganga	Dongargaon (Wardha)	0	99	35
Lower Wainganga	Ghorazari	327	0	0
Lower Wainganga	Naleshwar	238	0	0
	CIPC Chandrapur	**292**	**8**	**35**
Vashishthi	Natuwadi	0	10	0
	KIC Ratnagiri	**0**	**10**	**0**
North Konkan	Hetwane	0	34	0
	NKIPC Thane	**0**	**34**	**0**
Upper Krishna (W)	Chikotra	0	0	0
Upper Krishna (W)	Chitri	0	0	0
Upper Krishna (W)	Jangamhatti	0	0	0
Upper Krishna (W)	Kadvi	0	0	0
Upper Krishna (W)	Kasari	0	0	0
Upper Krishna (W)	Krishna Canal & Khodshi Backwater	0	82	67
Upper Krishna (W)	Kumbhi	0	0	0
Upper Krishna (W)	Morna (Sangli)	0	0	0
Upper Krishna (W)	Patgaon	0	0	0
Upper Krishna (W)	Yeoti Masoli	0	181	96
	SIC Sangli	**0**	**96**	**69**
Middle Konkan	Amba	0	2	0
North Konkan	Rajanalla Complex	0	77	0
North Konkan	Wandri	0	41	0
	TIC Thane	**0**	**52**	**0**
Abundant		**239**	**43**	**47**
Medium Projects		**317**	**43**	**72**

Note:Read Konkan season for projects in Konkan region for Rabi season.

Indicator VI: Medium Projects
Percentage of Planned & Actual Non - Irrigation Use



Indicator VI

Percentage of Planned & Actual Non - Irrigation Use

Medium Projects

Unit: Mcum

Plangroup Subbasin	Circle Project	Actual Non Irrigation Use	NI use as per PR	NI use as per PIP	% NI use as per PR	% NI use as per PIP
Highly Deficit						
	Banganga	0.554	1.370	0.040	40	1385
	Benitura	0.869	3.798	3.798	23	23
	Chandani	1.750	2.550	0.040	69	4375
	Harni	0.000	0.000	0.000		
	Jakapur	0.000	0.000	0.000		
	Kada	0.600	0.000	0.270		222
	Kadi	0.000	0.000	0.000		
	Kambli	0.260	0.000	0.000		
	Khandala	0.000	0.000	0.000		
	Khandeshwar	0.000	0.000	0.000		
	Khasapur	1.437	1.380	0.080	104	1796
	Kurnoor	3.120	2.520	2.520	124	124
	Mehkari	0.000	0.000	0.000		
	Ramganga	0.000	0.000	0.000		
	Ruti	0.120	0.000	0.480		25
	Sakat	0.387	0.000	0.025		1548
	Talwar	0.150	0.000	0.150		100
	Turori	1.918	0.638	0.638	301	301
	CADA Beed	**11.165**	**12.256**	**8.041**	**91**	**139**
	Yeralwadi	3.967	0.000	2.785		142
	CADA Pune	**3.967**	**0.000**	**2.785**		**142**
	Ashti	0.347	0.000	3.450		10
	Bori (Solapur)	0.000	2.100	0.511	0	0
	Buddhihal	0.000	0.000	0.000		
	Ekrukh	3.112	0.000	2.520		123
	Hingani (Pangaon)	1.506	1.450	1.680	104	90
	Jawalgaon	0.455	4.250	0.200	11	228
	Mangi	0.000	0.000	0.000		
	CADA Solapur	**5.420**	**7.800**	**8.361**	**69**	**65**
	Andhali	0.718	0.000	1.363		53
	Khairy	0.026	0.000	0.220		12
	Mhaswad	0.000	0.000	2.370		0
	Nher	0.000	0.000	1.180		0
	Ranand	0.000	0.000	0.000		
	Sina	0.370	0.000	0.238		155
	Tisangi	0.538	0.000	5.070		11
	PIC Pune	**1.652**	**0.000**	**10.441**		**16**

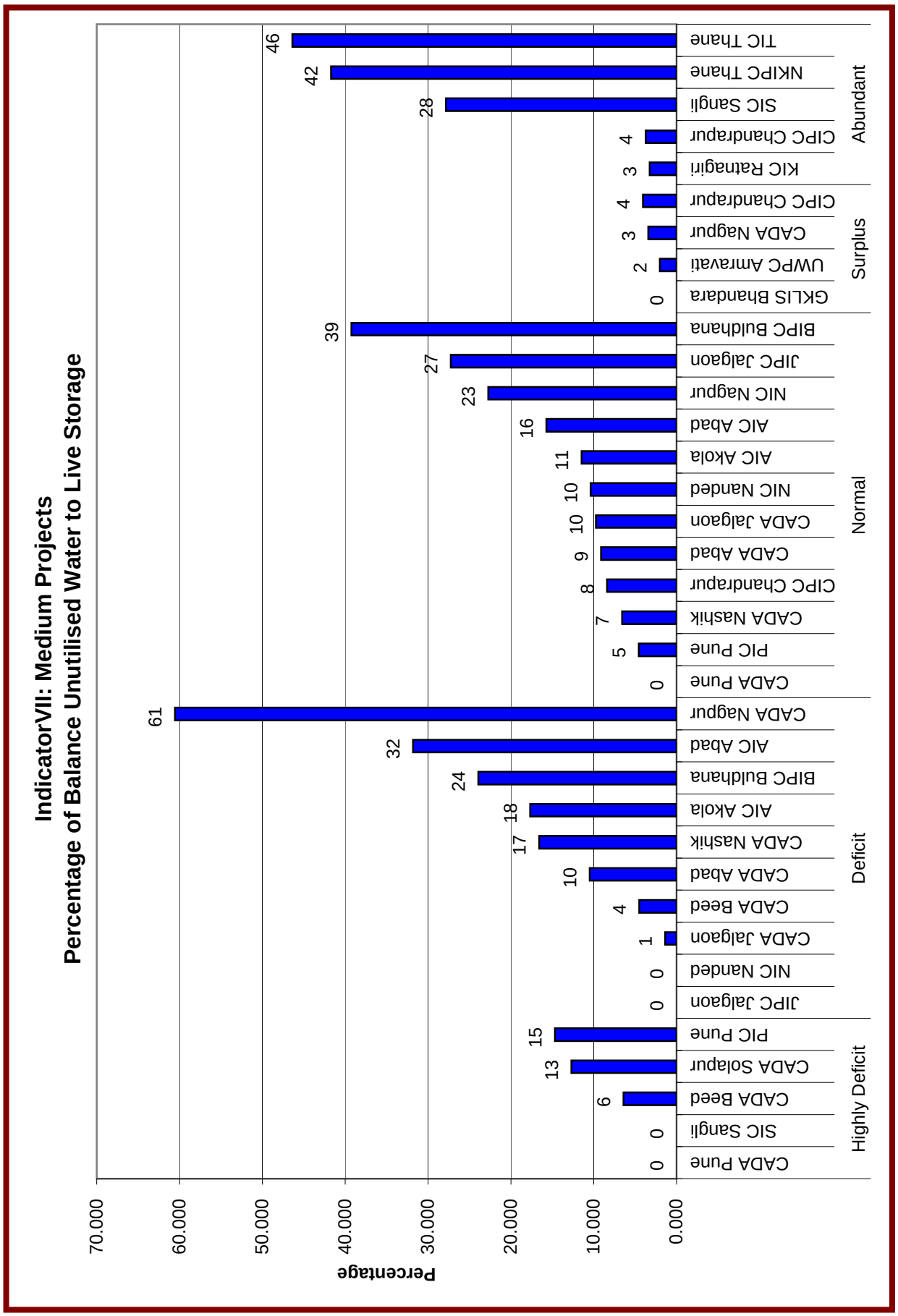
Plangroup Subbasin	Circle Project	Actual Non Irrigation Use	NI use as per PR	NI use as per PIP	% NI use as per PR	% NI use as per PIP
	Basappawadi	0.000	0.000	0.000		
	Sankh	0.000	0.000	0.000		
	Siddhewadi	0.580	0.580	0.000	100	
	SIC Sangli	**0.580**	**0.580**	**0.000**	**100**	
Highly Deficit		**22.783**	**20.636**	**29.628**	**110**	**77**
Deficit						
	Anjana Palashi	0.000	0.000	0.000		
	Purna Nevpur	0.000	0.000	0.000		
	AIC Abad	**0.000**	**0.000**	**0.000**		
	Dnyanganga	2.290	6.990	5.500	33	42
	Mas	0.170	7.720	1.000	2	17
	Morna (Akola)	0.462	0.000	2.120		22
	Nirguna	0.000	0.000	2.100		0
	Paldhag	1.220	0.370	1.000	330	122
	Shahnoor	6.920	0.000	7.000		99
	Uma	0.054	0.920	0.920	6	6
	AIC Akola	**11.116**	**16.000**	**19.640**	**69**	**57**
	Mun	0.000	5.126	0.000	0	
	Torna	0.000	0.118	0.118	0	0
	Utawali	0.000	0.750	0.750	0	0
	BIPC Buldhana	**0.000**	**5.994**	**0.868**	**0**	**0**
	Ajanta Andhari	1.145	0.000	1.135		101
	Dhamna	1.404	0.000	0.510		275
	Gadadgad	0.000	0.000	0.000		
	Galhati	0.000	0.000	0.000		
	Girja	1.200	3.200	1.410	38	85
	Jivrekha	0.000	0.000	0.000		
	Jui	1.000	0.000	1.110		90
	Kalyan Girija	0.000	0.000	1.500		0
	Karpara	0.000	0.000	0.000		
	Khelna	2.700	0.000	2.700		100
	Lahuki	0.000	0.000	0.000		
	Masoli	1.520	0.000	3.360		45
	Pir Kalyan	1.000	0.000	0.000		
	Sukhana	0.540	0.000	0.470		115
	Upper Dudhana	0.000	0.000	0.000		
	CADA Abad	**10.509**	**3.200**	**12.195**	**328**	**86**
	Belpara	0.000	0.000	0.000		
	Bindusara	3.550	0.000	3.650		97
	Bodhegaon	0.000	0.000	0.000		
	Borna	0.000	0.000	1.500		0
	Devarjan	0.037	0.000	0.000		
	Gharni	1.965	0.000	2.140		92

Plangroup Subbasin	Circle Project	Actual Non Irrigation Use	NI use as per PR	NI use as per PIP	% NI use as per PR	% NI use as per PIP
	Kundalika	3.289	0.000	1.040		316
	Mahasangvi	0.533	0.000	0.620		86
	Masalga	1.157	0.000	0.980		118
	Raigavan	0.666	0.283	0.950	235	70
	Renapur	1.315	3.903	1.190	34	111
	Rui	1.000	2.360	1.000	42	100
	Sakol	0.538	0.000	0.620		87
	Sangameshwar (Dokewad	1.160	0.000	0.000		
	Saraswati	0.000	0.000	0.000		
	Sindphana	1.250	0.000	1.250		100
	Tawarja	2.103	3.890	3.340	54	63
	Terna	4.718	4.810	2.660	98	177
	Tiru	2.390	0.000	2.390		100
	Wan (Beed)	4.652	2.260	2.660	206	175
	Whati	0.507	0.000	0.450		113
	CADA Beed	**30.829**	**17.506**	**26.440**	**176**	**117**
	Agnavati	0.580	0.580	0.580	100	100
	Bhokarbari	0.186	0.000	0.235		79
	Bori	7.851	7.080	11.000	111	71
	Burai	1.960	2.490	2.110	79	93
	Hiwara	1.014	0.000	1.143		89
	Jamkhedi	0.000	0.000	0.240		0
	Kanoli	1.710	0.000	1.710		100
	Manyad	0.343	0.000	0.342		100
	Rangawali	0.000	0.000	0.000		
	Tondapur	1.159	0.850	2.180	136	53
	CADA Jalgaon	**14.803**	**11.000**	**19.540**	**135**	**76**
	Chandrabhaga (Amravati)	0.000	9.619	0.000	0	
	CADA Nagpur	**0.000**	**9.619**	**0.000**	**0**	
	Haranbari	10.270	0.000	6.660		154
	Kelzar	2.560	0.000	2.120		121
	Nagya Sakya	0.000	0.000	0.000		
	CADA Nashik	**12.830**	**0.000**	**8.780**		**146**
	Bahula	0.240	0.000	0.000		
	JIPC Jalgaon	**0.240**	**0.000**	**0.000**		
	Karadkhed	1.771	0.000	1.700		104
	Kudala	0.000	0.000	0.050		0
	Kundrala	0.840	0.000	0.840		100
	Mahalingi	0.000	0.000	0.280		0
	Pethwadaj	0.260	0.000	0.200		130
	NIC Nanded	**2.871**	**0.000**	**3.070**		**94**
Deficit		**83.198**	**63.319**	**90.533**	**131**	**92**

Plangroup Subbasin	Circle Project	Actual Non Irrigation Use	NI use as per PR	NI use as per PIP	% NI use as per PR	% NI use as per PIP
Normal						
	Bor Dahegaon	0.000	0.000	0.000		
	Narangi	0.495	0.000	0.500		99
	Tembhapuri	0.000	0.000	0.000		
	AIC Abad	**0.495**	**0.000**	**0.500**		**99**
	Adan	3.070	11.760	11.760	26	26
	Borgaon	0.000	0.000	0.000		
	Ekbhuji	1.838	0.760	2.000	242	92
	Goki	1.826	0.000	1.830		100
	Koradi	2.230	10.680	3.000	21	74
	Lower Pus	0.055	0.000	0.920		6
	Saikheda	0.150	0.650	0.650	23	23
	Sonal	0.032	0.000	0.000		
	Waghadi	0.100	0.000	0.000		
	AIC Akola	**9.300**	**23.850**	**20.160**	**39**	**46**
	Nawargaon	2.000	2.713	2.713	74	74
	Pen Takli	3.318	15.580	3.720	21	89
	BIPC Buldhana	**5.318**	**18.293**	**6.433**	**29**	**83**
	Ambadi	1.232	0.000	1.820		68
	Dheku	0.000	0.300	2.400	0	0
	Kolhi	0.364	0.000	0.000		
	CADA Abad	**1.596**	**0.300**	**4.220**	**532**	**38**
	Abhora	0.000	0.000	0.000		
	Aner	0.000	0.000	0.000		
	Karwand	0.341	0.000	0.350		97
	Malangaon	0.280	0.000	0.240		117
	Panzara	3.568	0.890	3.569	401	100
	Sonwad	1.590	0.000	1.590		100
	Sukhi	0.733	0.000	1.250		59
	Suki	0.733	0.000	1.250		59
	CADA Jalgaon	**7.245**	**0.890**	**8.249**	**814**	**88**
	Adhala	1.660	0.000	1.160		143
	Alandi	0.000	0.000	0.000		
	Bhojapur	0.572	2.580	0.572	22	100
	Ghatshil Pargaon	0.070	0.000	0.070		100
	Mandohol	1.090	0.000	1.090		100
	Waldevi	0.000	12.170	0.000	0	
	CADA Nashik	**3.392**	**14.750**	**2.892**	**23**	**117**
	Visapur	0.090	0.090	0.090	100	100
	CADA Pune	**0.090**	**0.090**	**0.090**	**100**	**100**

Plangroup Subbasin	Circle Project	Actual Non Irrigation Use	NI use as per PR	NI use as per PIP	% NI use as per PR	% NI use as per PIP
	Amalnalla	2.308	3.930	3.930	59	59
	Dham	8.040	8.770	8.700	92	92
	Dongargaon (Chandrapur)	0.224	0.000	0.000		
	Pothra	0.000	0.000	0.270		0
	CIPC Chandrapur	**10.572**	**12.700**	**12.900**	**83**	**82**
	Bhokar (Mangrul)	0.000	0.200	0.000	0	
	Mor	0.000	0.370	0.000	0	
	JIPC Jalgaon	**0.000**	**0.570**	**0.000**	**0**	
	Jam	1.712	0.000	1.850		93
	Kar	1.149	0.000	1.390		83
	NIC Nagpur	**2.861**	**0.000**	**3.240**		**88**
	Dongargaon (Nanded)	0.000	0.000	0.000		
	Loni	0.012	0.000	0.000		
	Nagzari	1.120	0.000	1.000		112
	NIC Nanded	**1.132**	**0.000**	**1.000**		**113**
	Kasarsai	0.030	0.000	0.030		100
	Nazare	4.247	2.550	6.780	167	63
	Wadiwale	3.668	0.000	0.000		
	PIC Pune	**7.945**	**2.550**	**6.810**	**312**	**117**
Normal		**49.946**	**73.993**	**66.494**	**68**	**75**
Surplus						
	Bagheda	0.000	0.000	0.000		
	Betekar Bothli	0.000	0.000	0.000		
	Bodalkasa	1.277	0.000	0.080		1596
	Chandpur	0.000	0.000	0.000		
	Chorakhmara	0.000	0.000	0.000		
	Chulband	0.000	0.000	0.000		
	Kanolibara	0.000	0.000	0.000		
	Kesarnala	0.172	0.000	0.243		71
	Khairbanda	0.000	0.000	0.000		
	Khekara Nalla	0.000	0.000	0.000		
	Kolar	1.115	0.000	1.378		81
	Makardhokada-Saiki	0.143	0.000	0.155		92
	Managadh	0.000	0.000	0.000		
	Mordham	0.042	0.000	0.044		95
	Pandharbodi	1.660	1.850	1.738	90	96
	Rengepar	0.000	0.000	0.000		
	Sangrampur	0.000	0.000	0.000		
	Sorna	0.000	0.000	0.000		
	Tekepar LIS	0.000	0.000	0.000		
	Umri	0.000	0.000	0.000		
	Wunna	8.354	11.550	11.550	72	72
	CADA Nagpur	**12.762**	**13.400**	**15.188**	**95**	**84**

Plangroup Subbasin	Circle Project	Actual Non Irrigation Use	NI use as per PR	NI use as per PIP	% NI use as per PR	% NI use as per PIP
	Chandai	0.000	0.000	0.000		
	Chargaon	0.195	1.266	1.266	15	15
	Labhansarad	0.000	0.000	0.200		0
	Pakadigundam	1.563	3.030	0.000	52	
	Panchdhara	0.000	0.000	0.000		
	CIPC Chandrapur	**1.758**	**4.296**	**1.466**	**41**	**120**
	Katangi	0.890	0.300	0.890	297	100
	GKLIS Bhandara	**0.890**	**0.300**	**0.890**	**297**	**100**
	Chandrabhaga (Nagpur)	0.016	0.000	0.168		10
	UWPC Amravati	**0.016**	**0.000**	**0.168**		**10**
Surplus		**15.426**	**17.996**	**17.712**	**86**	**87**
Abundant						
	Dongargaon (Wardha)	0.000	0.000	0.000		
	Ghorazari	0.000	0.000	0.000		
	Naleshwar	0.000	0.000	0.000		
	CIPC Chandrapur	**0.000**	**0.000**	**0.000**		
	Natuwadi	1.373	0.041	0.000	3349	
	KIC Ratnagiri	**1.373**	**0.041**	**0.000**	**3349**	
	Hetwane	34.391	0.000	0.000		
	NKIPC Thane	**34.391**	**0.000**	**0.000**		
	Chikotra	0.444	0.000	0.330		135
	Chitri	2.362	2.060	2.060	115	115
	Jangamhatti	0.625	0.000	0.820		76
	Kadvi	0.230	0.000	0.220		105
	Kasari	1.157	0.000	1.162		100
	Krishna Canal & Khodshi	0.570	0.570	0.570	100	100
	Kumbhi	0.359	0.000	0.960		37
	Morna (Sangli)	0.675	0.000	0.000		
	Patgaon	0.806	0.000	3.060		26
	Yeoti Masoli	0.169	0.000	0.169		100
	SIC Sangli	**7.397**	**2.630**	**9.351**	**281**	**79**
	Amba	69.479	303.610	64.000	23	109
	Rajanalla Complex	0.000	0.000	0.000		
	Wandri	0.000	0.000	0.000		
	TIC Thane	**69.479**	**303.610**	**64.000**	**23**	**109**
Abundant		**112.640**	**306.281**	**73.351**	**37**	**154**
Medium Projects		**283.994**	**482.225**	**277.718**	**59**	**102**


IndicatorVII: Medium Projects
Percentage of Balance Unutilised Water to Live Storage
Percentage
70.000
60.000
50.000
40.000
30.000
20.000
10.000
0.000
CADA Pune
SIC Sangli
CADA Beed
CADA Solapur
PIC Pune
JIPC Jalgaon
NIC Nanded
CADA Jalgaon
CADA Beed
CADA Abad
CADA Nashik
AIC Akola
BIPC Buldhana
AIC Abad
CADA Nagpur
CADA Pune
PIC Pune
CADA Nashik
CIPC Chandrapur
CADA Abad
CADA Jalgaon
NIC Nanded
AIC Akola
AIC Abad
NIC Nagpur
JIPC Jalgaon
BIPC Buldhana
GKLIS Bhandara
UWPC Amravati
CADA Nagpur
CIPC Chandrapur
KIC Ratnagiri
CIPC Chandrapur
SIC Sangli
NKIPC Thane
TIC Thane
Highly Deficit
Deficit
Normal
Surplus
Abundant
0
0
6
13
15
0
0
1
4
10
17
18
24
32
61
0
5
7
8
9
10
10
11
16
23
27
39
0
2
3
4
3
4
28
42
46

Indicator VII

Medium Projects

Percentage of Balance Unutilised Water to Live Storage

Unit: Mcum

Plangroup Circle Project	Storage on 30 Jun	Designed Carry Over	Inflow in Hot Weather	Net Unutilised water	Storage on 15 th Oct	Percent-age
Highly Deficit						
Banganga	1.670	0.710	0.040	0.920	4.964	19
Benitura	0.000	0.000	0.231	0.000	3.953	0
Chandani	6.030	0.000	4.610	1.420	17.780	8
Harni	0.000	0.000	0.010	0.000	4.985	0
Jakapur	0.000	2.214	0.000	0.000	1.809	0
Kada	6.545	0.000	4.445	2.100	8.555	25
Kadi	3.732	0.000	3.020	0.712	5.470	13
Kambli	0.741	0.000	1.200	0.000	1.377	0
Khandala	0.000	0.000	0.000	0.000	0.658	0
Khandeshwar	2.100	3.040	1.470	0.000	7.760	0
Khasapur	4.280	0.000	5.260	0.000	13.040	0
Kurnoor	1.780	0.000	1.030	0.750	20.260	4
Mehkari	2.579	0.000	0.296	2.283	12.979	18
Ramganga	0.121	0.000	0.000	0.121	5.337	2
Ruti	0.000	0.000	0.000	0.000	6.495	0
Sakat	0.100	0.000	0.201	0.000	7.240	0
Talwar	0.668	0.000	0.623	0.045	3.229	1
Turori	0.756	0.000	0.755	0.001	4.611	0
CADA Beed	**31.102**	**5.964**	**23.191**	**8.352**	**130.502**	**6**
Yeralwadi	17.108	0.000	17.945	0.000	19.600	0
CADA Pune	**17.108**	**0.000**	**17.945**	**0.000**	**19.600**	**0**
Ashti	0.000	0.000	7.007	0.000	20.900	0
Bori (Solapur)	0.000	0.000	0.092	0.000	2.211	0
Buddhihal	0.000	0.000	0.524	0.000	0.000	
Ekrukh	0.650	0.000	0.000	0.650	12.980	5
Hingani (Pangaon)	10.233	0.000	5.442	4.791	32.345	15
Jawalgaon	12.770	0.000	6.166	6.604	24.390	27
Mangi	5.100	0.000	1.562	3.538	29.940	12
CADA Solapur	**28.753**	**0.000**	**20.793**	**15.583**	**122.766**	**13**
Andhali	4.890	0.000	1.770	3.120	7.420	42
Khairy	6.350	0.000	1.752	4.598	13.730	33
Mhaswad	37.320	0.000	35.250	2.070	14.410	14
Nher	5.460	1.530	3.080	0.850	11.790	7
Ranand	5.690	0.000	2.550	3.140	6.420	49
Sina	21.960	0.000	17.686	4.274	52.300	8
Tisangi	4.020	1.700	1.230	1.090	24.400	4
PIC Pune	**85.690**	**3.230**	**63.318**	**19.142**	**130.470**	**15**
Basappawadi	(0.810)	0.000	0.000	0.000	0.000	
Sankh	10.311	0.000	10.686	0.000	5.396	0
Siddhewadi	6.100	0.000	8.960	0.000	6.100	0
SIC Sangli	**15.601**	**0.000**	**19.646**	**0.000**	**11.496**	**0**
Highly Deficit	**178.254**	**9.194**	**144.893**	**43.077**	**414.834**	**10**
Deficit						
Anjana Palashi	6.450	0.000	0.000	6.450	13.740	47
Purna Nevpur	0.895	0.000	0.000	0.895	9.340	10
AIC Abad	**7.345**	**0.000**	**0.000**	**7.345**	**23.080**	**32**

Plangroup Circle Project	Storage on 30 Jun	Designed Carry Over	Inflow in Hot Weather	Net Unutilised water	Storage on 15 th Oct	Percent-age
Dnyanganga	15.420	6.400	5.650	3.370	33.930	10
Mas	0.310	0.000	0.250	0.060	15.040	0
Morna (Akola)	10.070	0.000	0.001	10.070	41.460	24
Nirguna	0.000	0.000	0.010	0.000	28.850	0
Paldhag	0.390	0.000	0.000	0.390	7.510	5
Shahnoor	18.690	0.000	0.000	18.690	46.040	41
Uma	0.000	0.000	0.000	0.000	11.680	0
AIC Akola	**44.880**	**6.400**	**5.911**	**32.580**	**184.510**	**18**
Mun	2.902	0.000	0.986	1.916	36.830	5
Torna	0.580	0.000	0.610	0.000	7.900	0
Utawali	15.322	0.000	1.795	13.527	19.790	68
BIPC Buldhana	**18.804**	**0.000**	**3.391**	**15.443**	**64.520**	**24**
Ajanta Andhari	0.790	0.000	0.662	0.128	7.650	2
Dhamna	0.590	2.210	1.108	0.000	6.300	0
Gadadgad	0.000	0.750	0.000	0.000	3.612	0
Galhati	4.108	0.000	0.000	4.108	13.838	30
Girja	1.935	0.000	1.025	0.910	16.770	5
Jivrekha	0.000	0.000	0.000	0.000	6.130	0
Jui	0.567	0.000	0.305	0.262	6.030	4
Kalyan Girija	0.300	0.000	0.820	0.000	8.470	0
Karpara	1.846	0.000	0.000	1.846	24.829	7
Khelna	0.000	0.000	0.000	0.000	11.070	0
Lahuki	0.000	0.000	0.000	0.000	4.310	0
Masoli	4.576	0.000	0.889	3.687	27.140	14
Pir Kalyan	4.080	0.000	0.090	3.990	12.220	33
Sukhana	4.420	0.000	3.170	1.250	18.500	7
Upper Dudhana	2.360	0.000	0.020	2.340	9.990	23
CADA Abad	**25.572**	**2.960**	**8.089**	**18.521**	**176.859**	**10**
Belpara	0.000	0.000	0.000	0.000	5.370	0
Bindusara	0.890	0.000	0.000	0.890	7.110	13
Bodhegaon	1.011	0.000	0.000	1.011	3.721	27
Borna	0.192	0.000	0.000	0.192	8.971	2
Devarjan	0.110	0.000	0.000	0.110	10.680	1
Gharni	6.259	0.000	7.553	0.000	22.456	0
Kundalika	6.370	0.000	1.222	5.148	37.690	14
Mahasangvi	1.732	0.000	1.788	0.000	5.880	0
Masalga	2.070	0.000	3.150	0.000	9.636	0
Raigavan	0.000	0.000	0.546	0.000	6.056	0
Renapur	0.760	0.000	0.311	0.449	20.070	2
Rui	1.564	1.061	1.778	0.000	6.447	0
Sakol	2.317	0.000	2.256	0.061	10.949	1
Sangameshwar (Doke	0.000	0.000	0.200	0.000	15.023	0
Saraswati	0.000	0.000	0.000	0.000	4.040	0
Sindphana	0.002	0.000	0.000	0.002	7.356	0
Tawarja	0.000	0.000	2.628	0.000	17.303	0
Terna	5.218	0.000	3.655	1.563	19.663	8
Tiru	1.430	0.000	7.660	0.000	15.290	0
Wan (Beed)	2.720	0.000	0.400	2.320	19.340	12
Whati	2.483	0.000	2.809	0.000	8.035	0
CADA Beed	**35.128**	**1.061**	**35.956**	**11.746**	**261.086**	**4**

Plangroup Circle Project	Storage on 30 Jun	Designed Carry Over	Inflow in Hot Weather	Net Unutilised water	Storage on 15 th Oct	Percent-age
Agnavati	0.000	0.000	0.980	0.000	2.760	0
Bhokarbari	0.822	0.000	0.095	0.727	6.540	11
Bori	0.000	0.000	0.000	0.000	25.150	0
Burai	0.000	0.000	2.010	0.000	14.210	0
Hiwara	0.000	0.000	0.198	0.000	9.601	0
Jamkhedi	0.000	0.000	0.307	0.000	12.340	0
Kanoli	0.570	0.000	0.000	0.570	8.450	7
Manyad	0.000	2.150	0.016	0.000	40.777	0
Rangawali	0.100	0.000	6.130	0.000	12.890	0
Tondapur	1.284	0.285	0.406	0.593	4.638	13
CADA Jalgaon	**2.776**	**2.435**	**10.142**	**1.890**	**137.356**	**1**
Chandrabhaga (Amra	36.325	0.000	11.447	24.877	41.088	61
CADA Nagpur	**36.325**	**0.000**	**11.447**	**24.877**	**41.088**	**61**
Haranbari	12.650	0.000	6.330	6.320	33.020	19
Kelzar	5.790	0.000	2.090	3.700	16.220	23
Nagya Sakya	0.000	0.000	0.400	0.000	11.240	0
CADA Nashik	**18.440**	**0.000**	**8.820**	**10.020**	**60.480**	**17**
Bahula	0.000	0.000	0.000	0.000	16.330	0
JIPC Jalgaon	**0.000**	**0.000**	**0.000**	**0.000**	**16.330**	**0**
Karadkhed	0.380	3.750	0.000	0.000	11.050	0
Kudala	0.000	0.000	0.200	0.000	4.350	0
Kundrala	0.000	0.000	0.000	0.000	10.417	0
Mahalingi	0.000	0.000	0.000	0.000	3.050	0
Pethwadaj	0.000	0.000	0.092	0.000	9.044	0
NIC Nanded	**0.380**	**3.750**	**0.292**	**0.000**	**37.911**	**0**
Deficit	**189.649**	**16.606**	**84.049**	**122.421**	**1003.220**	**12**
Normal						
Bor Dahegaon	2.250	0.000	0.000	2.250	11.470	20
Narangi	0.998	0.000	0.000	0.998	11.394	9
Tembhapuri	5.470	1.190	0.950	3.330	19.010	18
AIC Abad	**8.718**	**1.190**	**0.950**	**6.578**	**41.874**	**16**
Adan	2.560	0.000	2.423	0.137	67.250	0
Borgaon	0.000	0.000	0.000	0.000	6.610	0
Ekbhuji	1.490	1.079	0.351	0.060	11.970	1
Goki	2.450	0.000	1.900	0.550	42.710	1
Koradi	0.400	0.000	0.950	0.000	20.700	0
Lower Pus	6.190	8.500	6.584	0.000	59.630	0
Saikheda	14.259	0.000	10.896	3.363	27.184	12
Sonal	0.000	0.000	0.170	0.000	16.920	0
Waghadi	36.338	0.000	4.270	32.068	62.368	51
AIC Akola	**63.687**	**9.579**	**27.544**	**36.178**	**315.342**	**11**
Nawargaon	3.388	0.000	7.548	0.000	12.474	0
Pen Takli	31.325	0.000	2.898	28.427	59.976	47
BIPC Buldhana	**34.713**	**0.000**	**10.446**	**28.427**	**72.450**	**39**
Ambadi	0.000	0.000	0.329	0.000	7.920	0
Dheku	1.800	0.000	0.000	1.800	10.130	18
Kolhi	0.157	0.000	0.051	0.106	2.840	4
CADA Abad	**1.957**	**0.000**	**0.380**	**1.906**	**20.890**	**9**

Plangroup Circle Project	Storage on 30 Jun	Designed Carry Over	Inflow in Hot Weather	Net Unutilised water	Storage on 15 th Oct	Percent-age
Abhora	3.888	0.000	1.818	2.070	6.020	34
Aner	0.000	0.000	0.000	0.000	59.209	0
Karwand	1.460	0.000	0.000	1.460	21.390	7
Malangaon	0.131	0.000	0.243	0.000	11.328	0
Panzara	0.000	0.000	0.658	0.000	35.630	0
Sonwad	0.190	0.000	3.230	0.000	14.360	0
Sukhi	0.000	0.000	6.723	0.000	0.000	
Suki	30.890	0.000	16.169	14.721	39.850	37
CADA Jalgaon	**36.559**	**0.000**	**28.841**	**18.251**	**187.787**	**10**
Adhala	3.020	0.000	1.600	1.420	27.600	5
Alandi	1.500	0.000	1.453	0.047	27.460	0
Bhojapur	0.000	0.000	0.000	0.000	10.102	0
Ghatshil Pargaon	1.300	0.000	2.080	0.000	8.500	0
Mandohol	1.100	0.000	1.490	0.000	8.780	0
Waldevi	8.760	0.000	2.702	6.058	32.090	19
CADA Nashik	**15.680**	**0.000**	**9.325**	**7.525**	**114.532**	**7**
Visapur	5.006	0.000	11.056	0.000	25.610	0
CADA Pune	**5.006**	**0.000**	**11.056**	**0.000**	**25.610**	**0**
Amalnalla	5.980	0.000	1.483	4.497	24.480	18
Dham	13.460	0.000	9.080	4.380	62.510	7
Dongargaon (Chandra	5.624	1.737	1.530	2.357	12.309	19
Pothra	34.720	0.000	38.400	0.000	34.580	0
CIPC Chandrapur	**59.784**	**1.737**	**50.493**	**11.234**	**133.879**	**8**
Bhokar (Mangrul)	4.705	0.000	1.914	2.791	6.405	44
Mor	0.000	0.000	0.000	0.000	3.835	0
JIPC Jalgaon	**4.705**	**0.000**	**1.914**	**2.791**	**10.240**	**27**
Jam	24.300	0.000	15.759	8.541	24.300	35
Kar	15.517	0.000	13.742	1.775	21.063	8
NIC Nagpur	**39.817**	**0.000**	**29.501**	**10.316**	**45.363**	**23**
Dongargaon (Nanded	0.029	0.000	0.073	0.000	8.470	0
Loni	1.820	0.000	0.000	1.820	8.206	22
Nagzari	1.723	0.000	1.130	0.593	6.563	9
NIC Nanded	**3.572**	**0.000**	**1.203**	**2.413**	**23.239**	**10**
Kasarsai	4.250	0.000	5.493	0.000	15.820	0
Nazare	4.197	0.000	4.881	0.000	16.808	0
Wadiwale	5.830	0.095	2.871	2.864	30.390	9
PIC Pune	**14.277**	**0.095**	**13.245**	**2.864**	**63.018**	**5**
Normal	**288.475**	**12.601**	**184.899**	**128.482**	**1054.224**	**12**
Surplus						
Bagheda	0.000	0.000	0.058	0.000	1.627	0
Betekar Bothli	0.129	0.000	0.521	0.000	1.000	0
Bodalkasa	2.858	0.000	2.799	0.059	5.939	1
Chandpur	4.372	0.000	3.465	0.907	11.714	8
Chorakhmara	2.283	0.000	1.176	1.107	9.725	11
Chulband	2.840	0.000	1.268	1.572	11.396	14
Kanolibara	6.289	1.728	4.509	0.052	20.485	0
Kesarnala	0.000	0.370	0.015	0.000	2.455	0
Khairbanda	1.788	0.000	0.513	1.275	5.448	23
Khekara Nalla	2.891	2.324	0.642	0.000	21.726	0
Kolar	3.929	4.060	3.687	0.000	27.744	0
Makardhokada-Saiki	2.640	1.425	3.658	0.000	25.900	0
Managadh	0.951	0.000	0.951	0.000	4.308	0
Mordham	3.164	0.491	2.634	0.039	4.953	1

Plangroup Circle Project	Storage on 30 Jun	Designed Carry Over	Inflow in Hot Weather	Net Unutilised water	Storage on 15 th Oct	Percent-age
Pandharbodi	7.243	0.000	6.575	0.668	11.160	6
Rengepar	1.460	0.000	1.460	0.000	1.422	0
Sangrampur	0.309	0.000	0.309	0.000	0.642	0
Sorna	0.449	0.000	0.000	0.449	3.047	15
Tekepar LIS	0.000	0.000	0.000	0.000	0.000	
Umri	0.004	0.634	0.030	0.000	3.509	0
Wunna	7.523	0.000	8.489	0.000	6.179	0
CADA Nagpur	**51.123**	**11.032**	**42.759**	**6.129**	**180.380**	**3**
Chandai	6.087	0.000	8.614	0.000	9.528	0
Chargaon	10.604	0.000	9.780	0.824	18.247	5
Labhansarad	3.336	0.000	4.707	0.000	7.351	0
Pakadigundam	1.880	0.000	0.406	1.474	11.787	13
Panchdhara	4.460	0.000	4.460	0.000	9.800	0
CIPC Chandrapur	**26.367**	**0.000**	**27.967**	**2.298**	**56.713**	**4**
Katangi	0.000	0.000	0.001	0.000	8.060	0
GKLIS Bhandara	**0.000**	**0.000**	**0.001**	**0.000**	**8.060**	**0**
Chandrabhaga (Nagpı	6.053	0.624	5.263	0.166	8.262	2
UWPC Amravati	**6.053**	**0.624**	**5.263**	**0.166**	**8.262**	**2**
Surplus	**83.543**	**11.656**	**75.990**	**8.593**	**253.415**	**3**
Abundant						
Dongargaon (Wardha	1.020	0.000	1.020	0.000	4.440	0
Ghorazari	1.332	0.000	0.978	0.354	19.266	2
Naleshwar	10.230	0.000	9.390	0.840	8.480	10
CIPC Chandrapur	**12.582**	**0.000**	**11.388**	**1.194**	**32.186**	**4**
Natuwadi	12.940		12.685	0.255	7.895	3
KIC Ratnagiri	**12.940**	**0.000**	**12.685**	**0.255**	**7.895**	**3**
Hetwane	54.280		22.872	31.408	75.290	42
NKIPC Thane	**54.280**	**0.000**	**22.872**	**31.408**	**75.290**	**42**
Chikotra	15.102	0.000	3.407	11.695	37.310	31
Chitri	15.910	0.000	0.440	15.470	52.730	29
Jangamhatti	4.000	0.000	0.000	4.000	31.877	13
Kadvi	44.572	0.000	14.245	30.327	71.020	43
Kasari	42.578	0.000	17.865	24.713	77.956	32
Krishna Canal & Kho	0.028	0.000	20.629	0.000	16.924	0
Kumbhi	20.145	0.000	0.000	20.145	60.578	33
Morna (Sangli)	11.530	0.000	10.530	1.000	16.740	6
Patgaon	46.702	0.000	23.337	23.365	98.493	24
Yeoti Masoli	3.010	0.250	2.430	0.330	7.050	5
SIC Sangli	**203.577**	**0.250**	**92.883**	**131.045**	**470.678**	**28**
Amba	66.080	0.000	102.525	0.000	398.460	0
Rajanalla Complex	434.870	0.000	0.000	434.870	529.990	82
Wandri	10.470	1.270	7.800	1.400	12.200	11
TIC Thane	**511.420**	**1.270**	**110.325**	**436.270**	**940.650**	**46**
Abundant	**794.799**	**1.520**	**250.153**	**600.172**	**1526.699**	**39**
Medium Projects	**1534.719**	**51.577**	**739.983**	**902.745**	**4252.392**	**21**

Indicator IX

Actual Cropping Pattern

Medium Projects

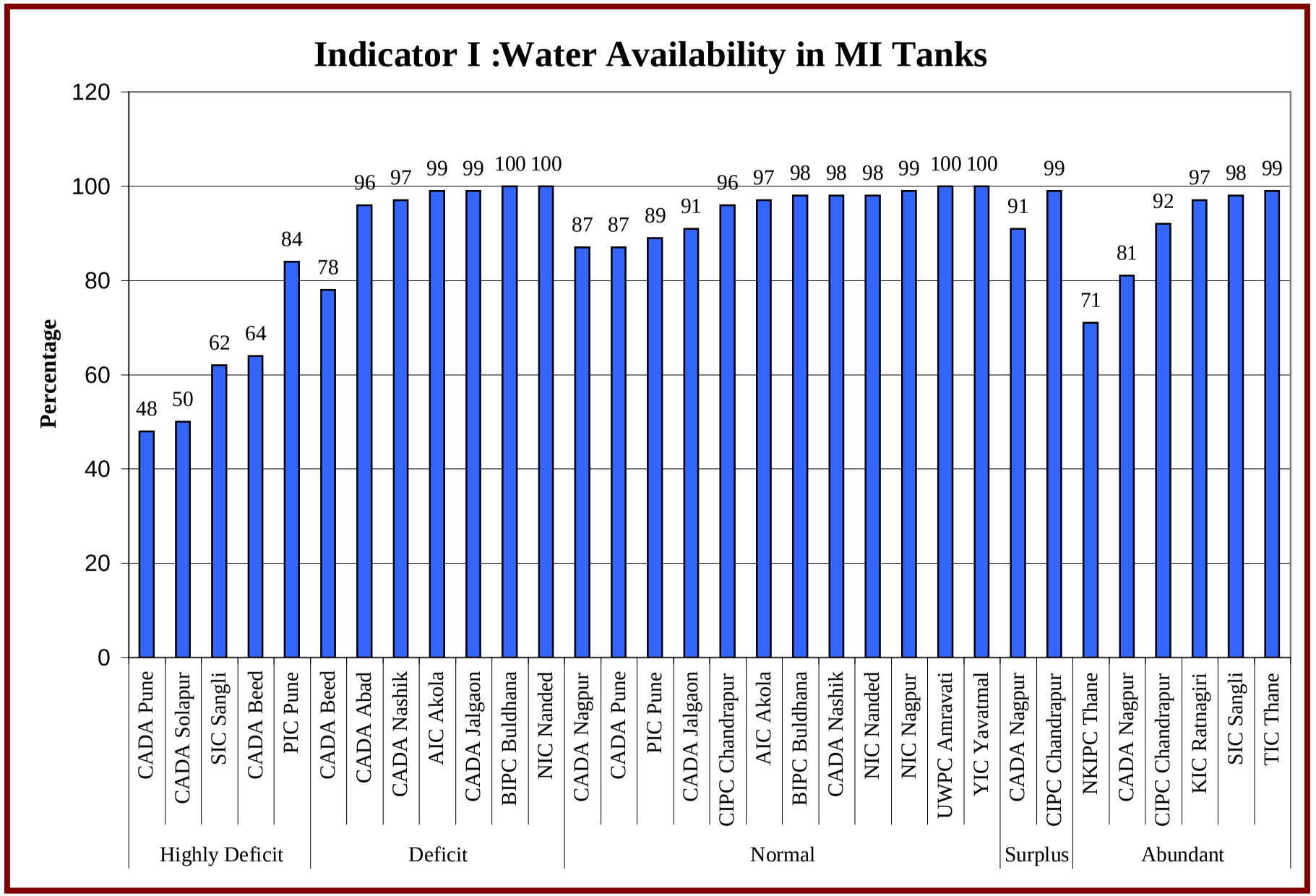
Project	Kharif	TW	Rabi	HW	Perennial	Percent Total
Benitura	0.0	54.1	9.5	0.0	36.5	100.0
Kadi	0.0	0.0	30.3	63.0	6.7	100.0
Kada	0.0	0.4	58.1	7.8	33.7	100.0
Sakat	0.0	0.0	72.2	27.8	0.0	100.0
Jakapur	0.0	0.0	44.3	6.5	49.2	100.0
Turori	0.0	0.0	48.4	14.7	36.9	100.0
Talwar	0.0	0.0	55.8	40.8	3.4	100.0
Banganga	0.0	0.0	89.2	10.8	0.0	100.0
Ruti	0.0	0.0	64.0	21.9	14.1	100.0
Harni	0.0	0.0	74.2	0.0	25.8	100.0
Khandeshwar	0.0	0.0	59.1	29.9	11.0	100.0
Chandani	0.0	0.0	57.1	23.7	19.2	100.0
Kurnoor	0.0	2.7	67.3	9.1	20.9	100.0
Khasapur	0.0	0.0	59.8	3.0	37.2	100.0
Khandala	7.9	0.0	71.6	0.0	20.5	100.0
Ramganga	0.0	0.0	70.4	24.6	5.0	100.0
Mehkari	0.0	1.4	45.4	16.6	36.6	100.0
Kambli	0.0	0.0	0.0	83.3	16.7	100.0
Yeralwadi	31.9	0.0	58.0	8.4	1.7	100.0
Jawalgaon	0.0	0.0	54.8	4.5	40.7	100.0
Hingani (Pangaon)	9.9	5.8	49.1	16.0	19.2	100.0
Bori (Solapur)	3.6	24.4	58.8	13.0	0.2	100.0
Buddhihal	59.9	0.0	34.6	5.4	0.0	100.0
Mangi	1.1	0.0	45.5	27.8	25.5	100.0
Ekrukh	1.2	0.0	74.8	4.6	19.3	100.0
Ashti	3.4	0.0	14.9	0.0	81.7	100.0
Nher	0.0	0.0	86.5	12.8	0.8	100.0
Andhali	0.0	0.0	56.5	42.6	0.8	100.0
Mhaswad	0.0	0.0	82.0	18.0	0.0	100.0
Sina	9.3	0.0	52.1	37.0	1.7	100.0
Khairy	20.9	0.0	60.2	18.8	0.0	100.0
Ranand	0.0	0.0	56.7	43.3	0.0	100.0
Tisangi	14.9	0.1	71.8	1.1	12.1	100.0
Sankh	0.0	18.5	57.4	24.2	0.0	100.0
Siddhewadi	0.0	0.0	100.0	0.0	0.0	100.0
Anjana Palashi	0.0	27.1	71.3	0.0	1.6	100.0
Purna Nevpur	0.0	0.0	92.3	7.7	0.0	100.0
Nirguna	0.0	16.5	77.6	5.9	0.0	100.0
Shahnoor	0.0	1.6	77.3	0.1	21.0	100.0
Uma	0.0	2.9	88.6	8.5	0.0	100.0
Mas	0.0	4.3	92.0	3.2	0.5	100.0
Dnyanganga	0.0	10.3	77.9	11.4	0.4	100.0
Paldhag	0.0	13.0	82.6	0.0	4.4	100.0
Morna (Akola)	0.0	2.8	85.4	5.5	6.3	100.0
Torna	0.0	0.0	78.9	20.5	0.6	100.0
Mun	0.0	0.0	62.2	37.8	0.0	100.0
Utawali	0.0	0.0	0.0	100.0	0.0	100.0
Jui	0.0	5.1	94.2	0.0	0.8	100.0
Jivrekha	0.0	3.4	92.0	3.0	1.5	100.0
Masoli	1.1	0.3	7.4	14.4	76.9	100.0

Project	Kharif	TW	Rabi	HW	Perennial	Percent Total
Ajanta Andhari	0.0	11.4	88.6	0.0	0.0	100.0
Karpara	0.0	10.0	70.0	16.4	3.6	100.0
Dhamna	0.0	11.8	87.1	0.0	1.1	100.0
Sukhana	0.0	3.8	79.7	0.0	16.5	100.0
Lahuki	0.0	6.2	93.8	0.0	0.0	100.0
Girja	0.0	0.0	100.0	0.0	0.0	100.0
Galhati	0.0	12.7	73.3	2.2	11.8	100.0
Gadadgad	0.0	14.9	76.5	0.8	7.8	100.0
Kalyan Girija	0.0	4.6	85.5	0.0	9.9	100.0
Upper Dudhana	6.7	0.8	92.2	0.0	0.3	100.0
Pir Kalyan	0.0	2.7	78.8	0.2	18.4	100.0
Khelna	0.0	9.2	88.1	0.0	2.8	100.0
Devarjan	0.0	1.2	3.2	1.8	93.7	100.0
Kundalika	0.6	1.7	11.7	11.2	74.9	100.0
Masalga	0.0	0.0	8.8	0.0	91.3	100.0
Raigavan	0.0	0.0	24.4	0.0	75.6	100.0
Gharni	0.0	0.5	32.9	1.2	65.4	100.0
Renapur	2.9	0.0	13.7	2.3	81.0	100.0
Sakol	0.0	2.1	15.1	1.8	81.0	100.0
Mahasangvi	0.0	0.0	76.6	4.5	19.0	100.0
Borna	0.0	0.0	11.9	4.4	83.6	100.0
Sangameshwar (Dokewadi)	0.0	0.0	26.4	3.6	70.0	100.0
Bodhegaon	0.0	0.0	2.4	2.4	95.3	100.0
Bindusara	0.0	0.0	100.0	0.0	0.0	100.0
Saraswati	0.0	8.3	34.3	0.0	57.4	100.0
Belpara	10.0	0.0	36.2	6.4	47.4	100.0
Whati	0.0	0.4	14.8	4.6	80.2	100.0
Sindphana	11.9	0.3	70.7	1.9	15.3	100.0
Tawarja	0.2	0.0	6.3	0.8	92.7	100.0
Terna	0.0	0.0	24.9	4.9	70.2	100.0
Wan (Beed)	3.1	1.0	19.9	1.3	74.6	100.0
Tiru	0.0	3.4	36.6	2.0	57.9	100.0
Rui	0.0	0.0	69.3	5.4	25.3	100.0
Tondapur	17.7	40.8	39.9	1.3	0.3	100.0
Burai	5.4	13.7	65.4	14.9	0.5	100.0
Manyad	13.7	11.9	62.6	5.6	6.2	100.0
Kanoli	40.3	0.6	53.6	5.6	0.0	100.0
Jamkhedi	0.0	0.0	86.0	8.5	5.4	100.0
Hiwara	26.6	0.0	72.1	1.3	0.0	100.0
Agnavati	0.0	54.3	42.5	0.8	2.4	100.0
Bhokarbari	32.8	16.0	45.8	5.4	0.0	100.0
Rangawali	52.1	0.0	26.3	11.6	10.0	100.0
Bori	27.0	6.2	58.2	0.9	7.8	100.0
Chandrabhaga (Amravati)	0.0	0.8	93.1	0.5	5.6	100.0
Nagya Sakya	10.0	0.0	52.2	37.8	0.0	100.0
Kelzar	2.8	0.0	83.5	4.7	8.9	100.0
Haranbari	6.7	0.0	74.5	5.6	13.1	100.0
Bahula	0.0	0.0	49.4	50.6	0.0	100.0
Pethwadaj	2.1	1.7	65.4	14.6	16.2	100.0
Mahalingi	18.1	43.1	34.2	2.8	1.8	100.0
Kudala	0.0	0.5	53.3	15.2	31.0	100.0
Kundrala	0.0	5.8	60.3	18.6	15.2	100.0
Karadkhed	0.1	4.1	13.8	71.3	10.7	100.0
Tembhapuri	0.0	2.1	94.5	0.0	3.4	100.0

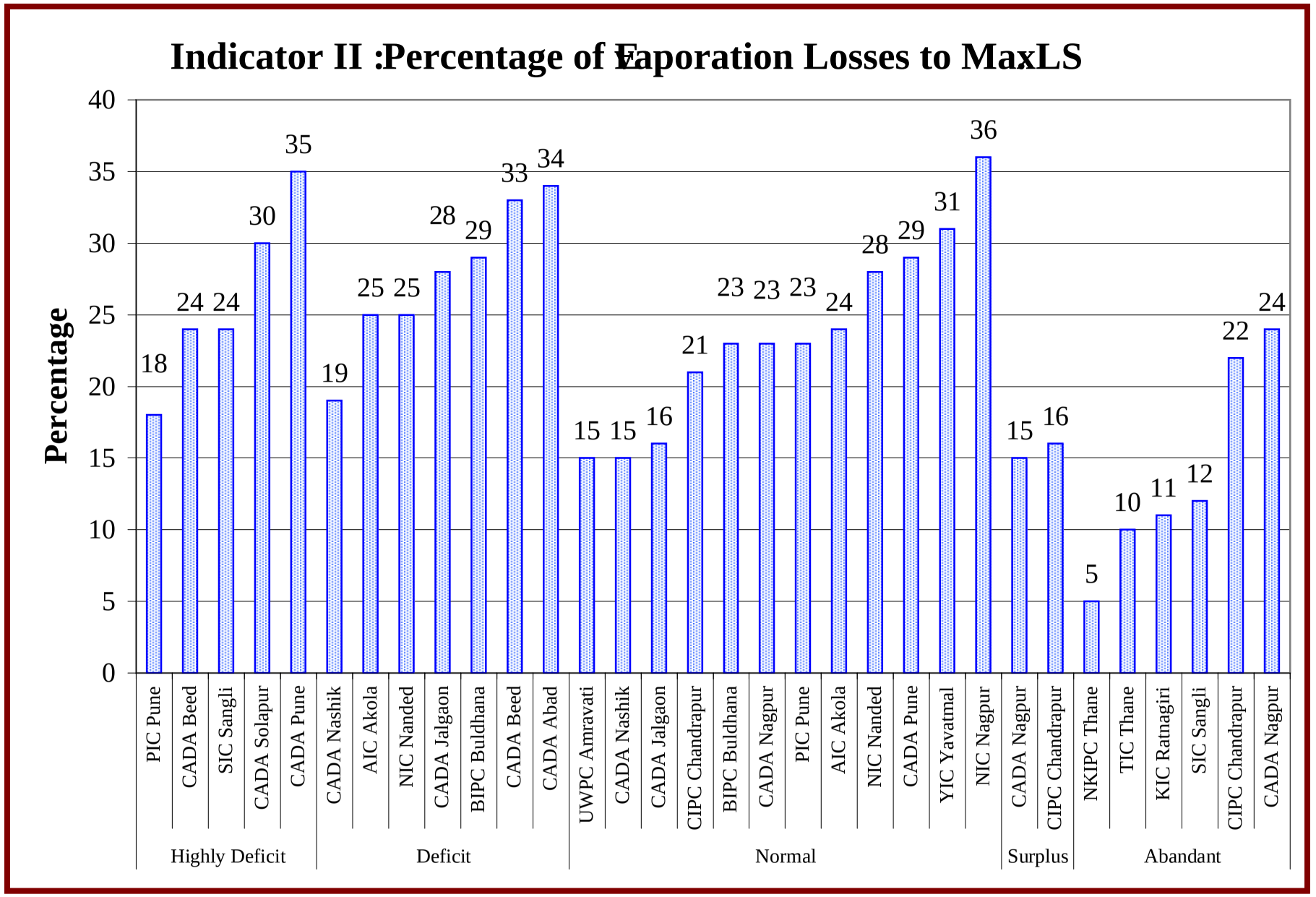
Project	Kharif	TW	Rabi	HW	Perennial	Percent Total
Bor Dahegaon	0.0	1.6	95.1	0.0	3.4	100.0
Narangi	0.0	9.4	86.7	2.6	1.3	100.0
Lower Pus	0.0	1.2	58.5	27.1	13.2	100.0
Adan	0.0	1.2	61.3	3.8	33.7	100.0
Saikheda	0.0	51.3	36.7	12.0	0.1	100.0
Sonal	1.7	7.5	86.6	2.9	1.3	100.0
Goki	0.0	8.4	61.4	25.7	4.5	100.0
Borgaon	0.0	5.7	94.3	0.0	0.0	100.0
Koradi	0.0	0.5	93.5	0.5	5.5	100.0
Ekbhuji	0.0	0.1	87.1	12.8	0.0	100.0
Waghadi	0.0	14.0	51.2	34.5	0.3	100.0
Nawargaon	0.0	5.2	94.8	0.0	0.0	100.0
Pen Takli	0.0	3.2	85.6	0.9	10.4	100.0
Ambadi	0.0	0.6	87.7	3.8	7.9	100.0
Kolhi	0.0	2.0	83.0	15.0	0.0	100.0
Dheku	0.0	5.4	79.8	14.8	0.0	100.0
Abhora	0.0	0.0	56.1	38.5	5.4	100.0
Sukhi	0.0	11.2	55.6	16.6	16.6	100.0
Sonwad	40.9	1.6	56.1	0.9	0.5	100.0
Aner	15.3	32.4	45.5	4.7	2.0	100.0
Malangaon	31.7	0.0	67.3	0.0	1.0	100.0
Karwand	16.2	14.3	60.3	9.1	0.0	100.0
Panzara	36.8	0.0	62.0	0.3	1.0	100.0
Suki	0.0	11.2	55.6	16.6	16.6	100.0
Bhojapur	0.0	0.0	90.8	1.7	7.5	100.0
Mandohol	20.1	0.0	53.6	26.2	0.0	100.0
Ghatshil Pargaon	0.0	0.0	54.1	42.1	3.8	100.0
Adhala	39.7	0.0	31.4	28.9	0.0	100.0
Waldevi	6.0	0.0	47.5	42.0	4.6	100.0
Alandi	14.5	0.0	50.3	3.8	31.5	100.0
Visapur	11.8	0.0	33.0	32.0	23.1	100.0
Pothra	0.0	0.7	99.3	0.0	0.0	100.0
Amalnalla	0.0	17.7	82.3	0.0	0.0	100.0
Dongargaon (Chandrapur)	36.9	0.0	63.1	0.0	0.0	100.0
Dham	0.0	7.0	85.4	0.5	7.0	100.0
Mor	0.0	0.0	50.2	49.8	0.0	100.0
Jam	0.0	0.0	98.5	1.5	0.0	100.0
Kar	0.0	0.0	77.0	23.0	0.0	100.0
Dongargaon (Nanded)	0.8	0.0	17.4	81.6	0.2	100.0
Nagzari	0.0	0.0	94.5	4.8	0.6	100.0
Loni	0.0	9.4	58.5	30.3	1.9	100.0
Wadiwale	0.3	0.0	25.5	17.7	56.6	100.0
Nazare	0.0	0.0	80.4	5.8	13.8	100.0
Kasarsai	23.7	0.0	25.8	21.3	29.2	100.0
Chorakhmara	100.0	0.0	0.0	0.0	0.0	100.0
Chulband	93.9	0.0	0.0	5.9	0.2	100.0
Chandpur	99.9	0.0	0.0	0.1	0.0	100.0
Bodalkasa	100.0	0.0	0.0	0.0	0.0	100.0
Betekar Bothli	100.0	0.0	0.0	0.0	0.0	100.0
Kanolibara	0.0	0.0	80.7	19.3	0.0	100.0
Bagheda	100.0	0.0	0.0	0.0	0.0	100.0
Khairbanda	99.6	0.0	0.0	0.4	0.0	100.0
Khekara Nalla	0.0	25.2	69.9	2.7	2.2	100.0
Kolar	0.0	16.6	75.1	1.8	6.4	100.0

Project	Kharif	TW	Rabi	HW	Perennial	Percent Total
Mordham	0.7	3.1	84.2	1.2	10.9	100.0
Pandharbodi	25.4	0.0	74.6	0.0	0.0	100.0
Rengepar	100.0	0.0	0.0	0.0	0.0	100.0
Sangrampur	100.0	0.0	0.0	0.0	0.0	100.0
Kesarnala	0.0	9.3	82.3	2.1	6.2	100.0
Sorna	100.0	0.0	0.0	0.0	0.0	100.0
Wunna	0.0	0.0	100.0	0.0	0.0	100.0
Tekepar LIS	92.2	0.0	7.8	0.0	0.0	100.0
Managadh	95.5	0.0	0.0	4.5	0.0	100.0
Umri	0.3	8.4	83.5	2.0	5.9	100.0
Makardhokada-Saiki	0.0	0.0	100.0	0.0	0.0	100.0
Pakadigundam	0.0	25.7	74.3	0.0	0.0	100.0
Chargaon	48.4	0.0	51.6	0.0	0.0	100.0
Panchdhara	0.0	2.0	97.5	0.0	0.5	100.0
Labhansarad	0.0	0.0	100.0	0.0	0.0	100.0
Chandai	74.1	0.0	25.9	0.0	0.0	100.0
Katangi	92.3	0.0	0.0	7.7	0.0	100.0
Chandrabhaga (Nagpur)	1.0	0.9	87.7	1.2	9.3	100.0
Ghorazari	100.0	0.0	0.0	0.0	0.0	100.0
Dongargaon (Wardha)	0.0	7.9	74.2	17.9	0.0	100.0
Naleshwar	100.0	0.0	0.0	0.0	0.0	100.0
Natuwadi	0.0	0.0	100.0	0.0	0.0	100.0
Hetwane	0.0	0.0	100.0	0.0	0.0	100.0
Yeoti Masoli	0.0	0.0	72.8	0.0	27.2	100.0
Patgaon	0.0	0.0	7.1	5.4	87.5	100.0
Morna (Sangli)	0.0	0.0	64.8	0.0	35.2	100.0
Kumbhi	0.0	0.0	9.5	0.5	90.1	100.0
Krishna Canal & Khodshi Backwa	17.2	0.0	33.2	3.5	46.1	100.0
Kasari	0.0	0.0	16.2	0.0	83.8	100.0
Jangamhatti	0.0	0.0	15.1	0.0	84.9	100.0
Chitri	0.0	0.0	5.9	1.0	93.1	100.0
Chikotra	0.0	0.0	35.7	0.0	64.3	100.0
Kadvi	0.0	0.0	38.4	0.0	61.6	100.0
Wandri	0.0	0.0	99.0	1.0	0.0	100.0
Rajanalla Complex	0.0	0.0	100.0	0.0	0.0	100.0
Amba	0.0	0.0	100.0	0.0	0.0	100.0

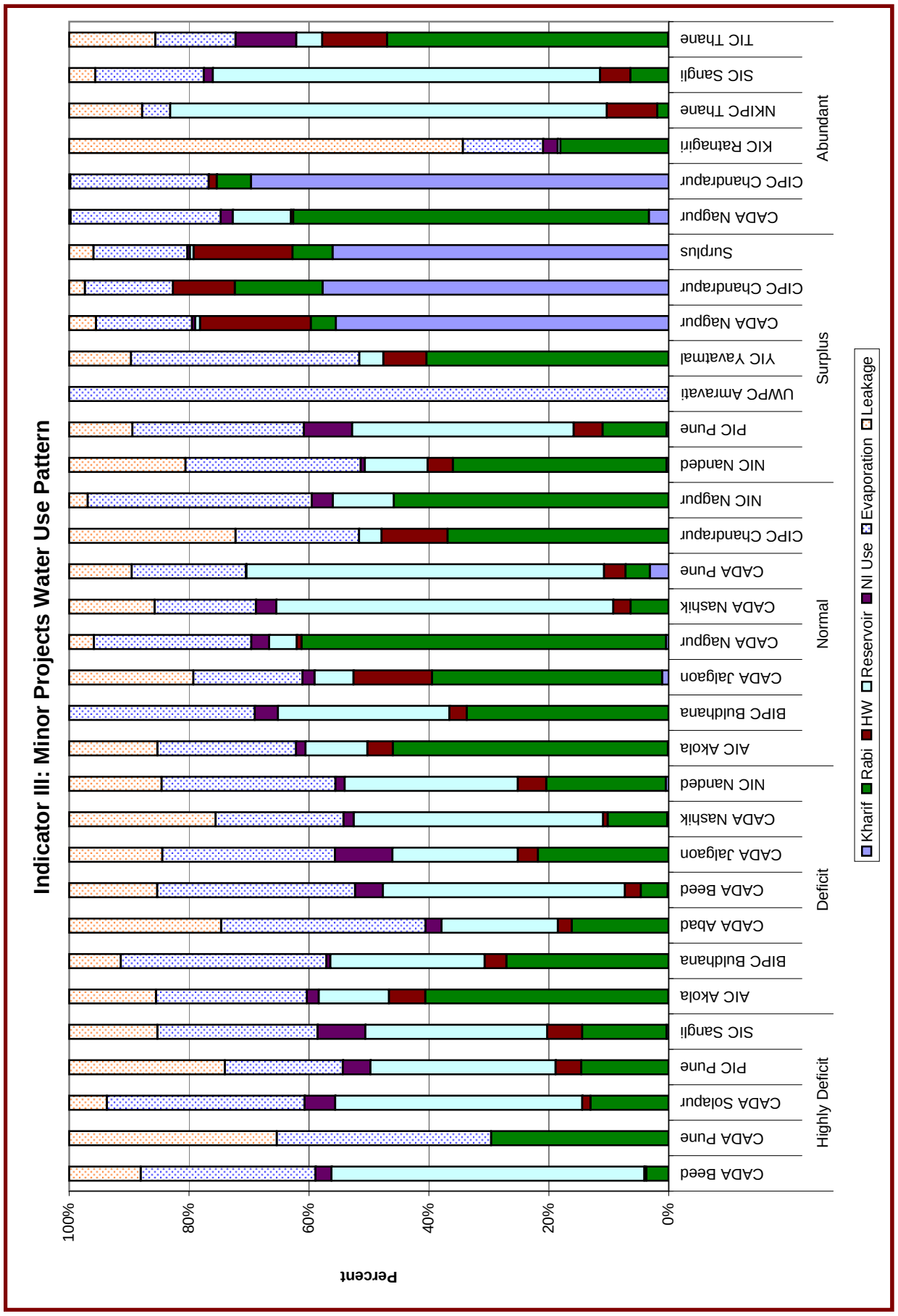
Annexure III
Indicators of Minor Projects


Indicator I :Water Availability in MI Tanks
Percentage
120
100
80
60
40
20
0
48 50 62 64 84 78 96 97 99 99 100 100 87 87 89 91 96 97 98 98 98 99 100 100 91 99 71 81 92 97 98 99
CADA Pune
CADA Solapur
SIC Sangli
CADA Beed
PIC Pune
CADA Beed
CADA Abad
CADA Nashik
AIC Akola
CADA Jalgaon
BIPC Buldhana
NIC Nanded
CADA Nagpur
CADA Pune
PIC Pune
CADA Jalgaon
CIPC Chandrapur
AIC Akola
BIPC Buldhana
CADA Nashik
NIC Nanded
NIC Nagpur
UWPC Amravati
YIC Yavatmal
CADA Nagpur
CIPC Chandrapur
NKIPC Thane
CADA Nagpur
CIPC Chandrapur
KIC Ratnagiri
SIC Sangli
TIC Thane
Highly Deficit
Deficit
Normal
Surplus
Abundant

Indicator I :Water Availability in MI Tanks			
			Unit : Mcum
Circle	Live Storage Observed	Designed Live Storage	Percentage
CADA Pune	1840	3820	48
CADA Solapur	5239	10753	50
SIC Sangli	89907	145064	62
CADA Beed	111277	173764	64
PIC Pune	49897	59413	84
Highly Deficit	**306.250**	**489.595**	**63**
CADA Beed	25573	32931	78
CADA Abad	182659	189986	96
CADA Nashik	66044	67994	97
AIC Akola	180762	182329	99
CADA Jalgaon	83218	83828	99
BIPC Buldhana	70070	70680	100
NIC Nanded	79263	79410	100
Deficit	**917.723**	**1000.859**	**92**
CADA Nagpur	32011	36726	87
CADA Pune	30225	34545	87
PIC Pune	104410	117840	89
CADA Jalgaon	180911	200789	91
CIPC Chandrapur	28556	29709	96
AIC Akola	39163	40701	97
BIPC Buldhana	23230	23740	98
CADA Nashik	103512	105522	98
NIC Nanded	105919	107949	98
NIC Nagpur	29775	30151	99
UWPC Amravati	9879	9879	100
YIC Yavatmal	88000	88000	100
Normal	**1057.744**	**1115.571**	**95**
CADA Nagpur	134304	146682	91
CIPC Chandrapur	53466	53922	99
Surplus	**168.870**	**182.604**	**92**
NKIPC Thane	64842	90872	71
CADA Nagpur	42780	52589	81
CIPC Chandrapur	53448	58249	92
KIC Ratnagiri	35876	38816	97
SIC Sangli	190007	191907	98
TIC Thane	110137	111276	99
Abundant	**435.191**	**480.809**	**91**
Total	**2885.777**	**3269.439**	**88**


Indicator II :Percentage of Evaporation Losses to MaxLS
Percentage
0
5
10
15
20
25
30
35
40
18
24
24
30
35
19
25
25
28
29
33
34
15
15
16
21
23
23
23
24
28
29
31
36
15
16
5
10
11
12
22
24
PIC Pune
CADA Beed
SIC Sangli
CADA Solapur
CADA Pune
CADA Nashik
AIC Akola
NIC Nanded
CADA Jalgaon
BIPC Buldhana
CADA Beed
CADA Abad
UWPC Amravati
CADA Nashik
CADA Jalgaon
CIPC Chandrapur
BIPC Buldhana
CADA Nagpur
PIC Pune
AIC Akola
NIC Nanded
CADA Pune
YIC Yavatmal
NIC Nagpur
CADA Nagpur
CIPC Chandrapur
NKIPC Thane
TIC Thane
KIC Ratnagiri
SIC Sangli
CIPC Chandrapur
CADA Nagpur
Highly Deficit
Deficit
Normal
Surplus
Abandant

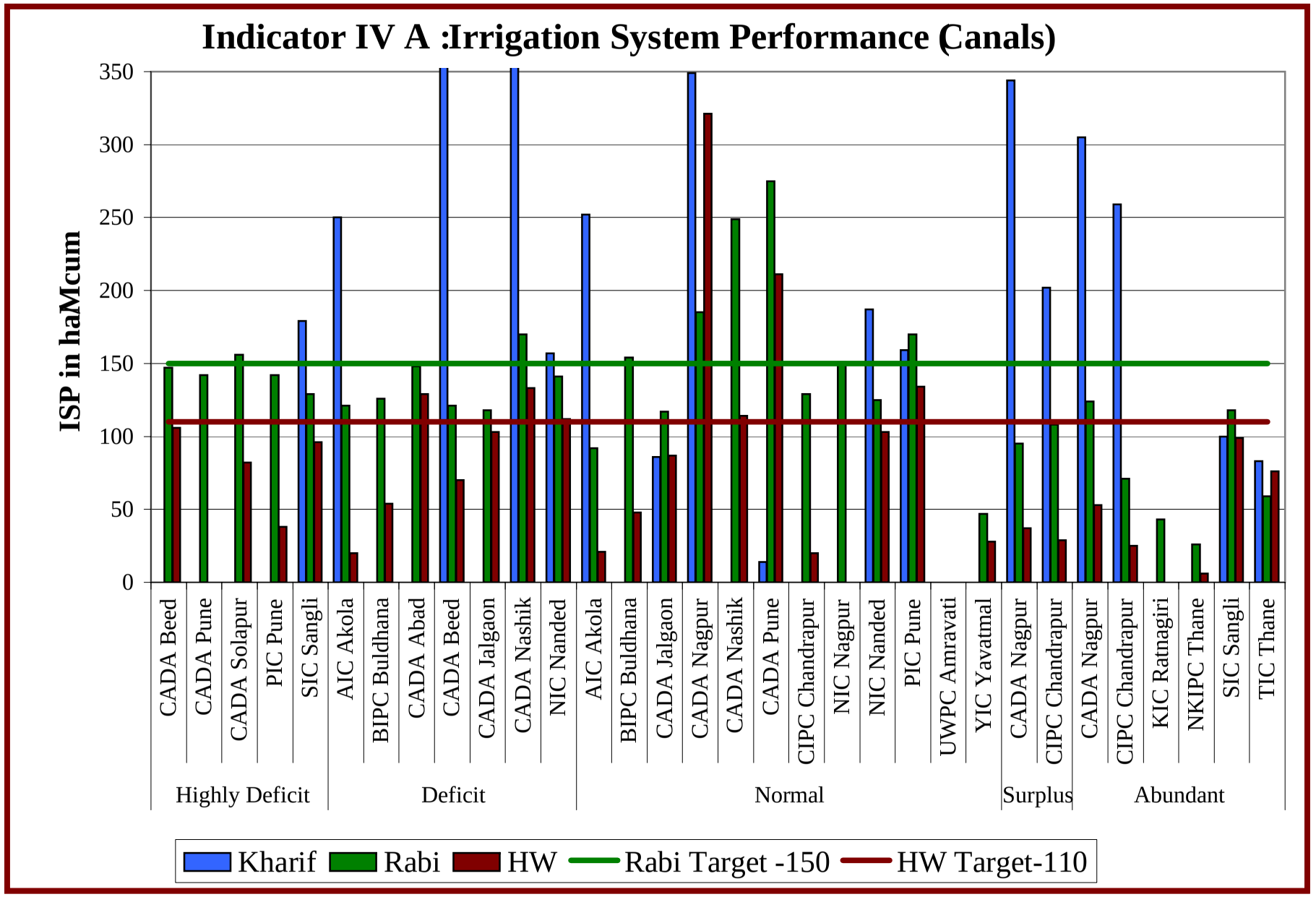
Indicator II : Percentage of Evaporation Losses to Max. Live Storage in Minor Irrigation Tanks			
			Unit : Mcum
Circle	Evaporation Losses	Max. Live Storage Observed	Percentage
PIC Pune	9.033	49.897	18
CADA Beed	26.189	111.277	24
SIC Sangli	21.578	89.907	24
CADA Solapur	15.749	53.329	30
CADA Pune	0.640	1.840	35
Highly Deficit	**73.188**	**306.250**	**24**
CADA Nashik	12.555	66.044	19
AIC Akola	45.629	180.762	25
NIC Nanded	20.087	79.236	25
CADA Jalgaon	22.902	83.218	28
BIPC Buldhana	20.310	70.070	29
CADA Beed	84.985	255.734	33
CADA Abad	61.238	182.659	34
Deficit	**267.705**	**917.723**	**29**
UWPC Amravati	1.432	9.879	15
CADA Nashik	15.676	103.512	15
CADA Jalgaon	28.740	183.011	16
CIPC Chandrapur	5.940	28.556	21
BIPC Buldhana	5.370	23.310	23
CADA Nagpur	7.327	32.011	23
PIC Pune	23.760	104.410	23
AIC Akola	75.238	319.136	24
NIC Nanded	29.677	105.919	28
CADA Pune	8.887	30.225	29
YIC Yavatmal	27.363	88.000	31
NIC Nagpur	10.660	29.775	36
Normal	**240.070**	**1057.744**	**23**
CADA Nagpur	19.858	133.404	15
CIPC Chandrapur	5.809	35.466	16
Surplus	**25.667**	**168.870**	**15**
NKIPC Thane	2.929	64.842	5
TIC Thane	10.893	110.137	10
KIC Ratnagiri	3.775	33.676	11
SIC Sangli	16.272	130.307	12
CIPC Chandrapur	11.980	53.448	22
CADA Nagpur	10.443	42.780	24
Abandant	**56.292**	**435.191**	**13**
Total	**662.922**	**2885.777**	**23**


Indicator III: Minor Projects Water Use Pattern
Percent
100%
80%
60%
40%
20%
0%
Kharif
Rabi
HW
Reservoir
NI Use
Evaporation
Leakage
Highly Deficit
CADA Beed
CADA Pune
CADA Solapur
PIC Pune
SIC Sangli
Deficit
AIC Akola
BIPC Buldhana
CADA Abad
CADA Beed
CADA Jalgaon
CADA Nashik
NIC Nanded
Normal
AIC Akola
BIPC Buldhana
CADA Jalgaon
CADA Nagpur
CADA Nashik
CADA Pune
CIPC Chandrapur
NIC Nagpur
Surplus
NIC Nanded
PIC Pune
UWPC Amravati
YIC Yavatmal
CADA Nagpur
CIPC Chandrapur
Surplus
CADA Nagpur
CIPC Chandrapur
KIC Ratnagiri
NKIPC Thane
SIC Sangli
TIC Thane
Abundant

Indicator III :Water Use Pattern
Minor Irrigation Tanks

Unit : Mcum

Circle	Water Use							
	Kharif	Rabi	HW	Reservoir	NI Use	Evaporation	Leakage	Total
CADA Beed	0.000	3.320	0.330	46.879	2.410	26.189	10.731	89.859
CADA Pune	0.000	0.530	0.000	0.000	0.000	0.640	0.620	1.790
CADA Solapur	0.000	6.225	0.668	19.699	2.442	15.749	3.016	47.799
PIC Pune	0.000	6.681	1.971	14.160	2.107	9.033	11.906	45.858
SIC Sangli	0.280	11.389	4.705	24.554	6.434	21.578	11.923	80.862
Highly Deficit	**0.280**	**28.145**	**7.674**	**105.292**	**13.393**	**73.188**	**38.196**	**266.167**
AIC Akola	0.100	73.444	11.040	21.217	3.560	45.629	26.266	181.256
BIPC Buldhana	0.000	16.040	2.160	15.266	0.397	20.310	5.120	59.293
CADA Abad	0.000	29.017	4.177	34.844	4.754	61.238	45.570	179.599
CADA Beed	0.350	11.552	6.934	103.912	11.980	84.985	37.875	257.588
CADA Jalgaon	0.000	17.342	2.679	16.608	7.630	22.902	12.347	79.508
CADA Nashik	0.140	5.850	0.440	24.470	0.990	12.555	14.375	58.820
NIC Nanded	0.325	13.817	3.300	19.983	1.080	20.087	10.672	69.264
Deficit	**0.915**	**167.062**	**30.730**	**236.300**	**30.391**	**267.705**	**152.226**	**885.327**
AIC Akola	0.401	149.148	13.859	33.520	5.117	75.238	47.829	325.112
BIPC Buldhana	0.000	5.840	0.500	4.960	0.668	5.370	0.000	17.338
CADA Jalgaon	1.680	60.668	20.703	10.263	3.186	28.740	32.738	157.978
CADA Nagpur	0.117	16.988	0.231	1.286	0.830	7.327	1.159	27.938
CADA Nashik	0.000	5.879	2.681	52.153	3.156	15.676	13.223	92.768
CADA Pune	1.468	1.882	1.677	27.792	0.039	8.887	4.864	46.609
CIPC Chandrapur	0.000	10.620	3.170	1.080	0.000	5.940	7.990	28.800
NIC Nagpur	0.000	13.076	0.000	2.900	1.010	10.660	0.880	28.526
NIC Nanded	0.363	36.123	4.293	10.625	0.681	29.677	19.663	101.426
PIC Pune	0.276	8.865	4.007	30.682	6.676	23.760	8.764	83.030
UWPC Amravati	0.000	0.000	0.000	0.000	0.000	1.450	0.000	1.450
YIC Yavatmal	0.000	29.010	5.170	2.875	0.000	27.363	7.400	71.818
Normal	**4.305**	**338.099**	**56.291**	**178.136**	**21.363**	**240.088**	**144.510**	**982.792**
CADA Nagpur	69.018	5.152	22.977	1.006	0.702	19.858	5.585	124.298
CIPC Chandrapur	22.838	5.785	4.088	0.000	0.000	5.809	1.044	39.564
Surplus	**91.856**	**10.937**	**27.065**	**1.006**	**0.702**	**25.667**	**6.629**	**163.862**
CADA Nagpur	1.369	24.719	0.152	4.055	0.826	10.443	0.095	41.659
CIPC Chandrapur	36.147	2.985	0.689	0.000	0.000	11.980	0.104	51.905
KIC Ratnagiri	0.000	5.096	0.000	0.135	0.694	3.775	18.558	28.258
NKIPC Thane	0.000	1.180	5.260	45.524	0.000	2.929	7.613	62.505
SIC Sangli	0.020	5.708	4.566	58.119	1.359	16.272	3.924	89.968
TIC Thane	0.060	38.196	8.850	3.520	8.235	10.893	11.733	81.487
Abundant	**37.596**	**77.884**	**19.517**	**111.353**	**11.114**	**56.292**	**42.027**	**355.783**
Total	**134.952**	**622.126**	**141.276**	**632.086**	**76.962**	**662.939**	**383.588**	**2653.930**


Indicator IV A :Irrigation System Performance (Canals)
ISP in haMcum
350
300
250
200
150
100
50
0
CADA Beed
CADA Pune
CADA Solapur
PIC Pune
SIC Sangli
AIC Akola
BIPC Buldhana
CADA Abad
CADA Beed
CADA Jalgaon
CADA Nashik
NIC Nanded
AIC Akola
BIPC Buldhana
CADA Jalgaon
CADA Nagpur
CADA Nashik
CADA Pune
CIPC Chandrapur
NIC Nagpur
NIC Nanded
PIC Pune
UWPC Amravati
YIC Yavatmal
CADA Nagpur
CIPC Chandrapur
CADA Nagpur
CIPC Chandrapur
KIC Ratnagiri
NKIPC Thane
SIC Sangli
TIC Thane
Highly Deficit
Deficit
Normal
Surplus
Abundant
Kharif
Rabi
HW
Rabi Target -150
HW Target-110

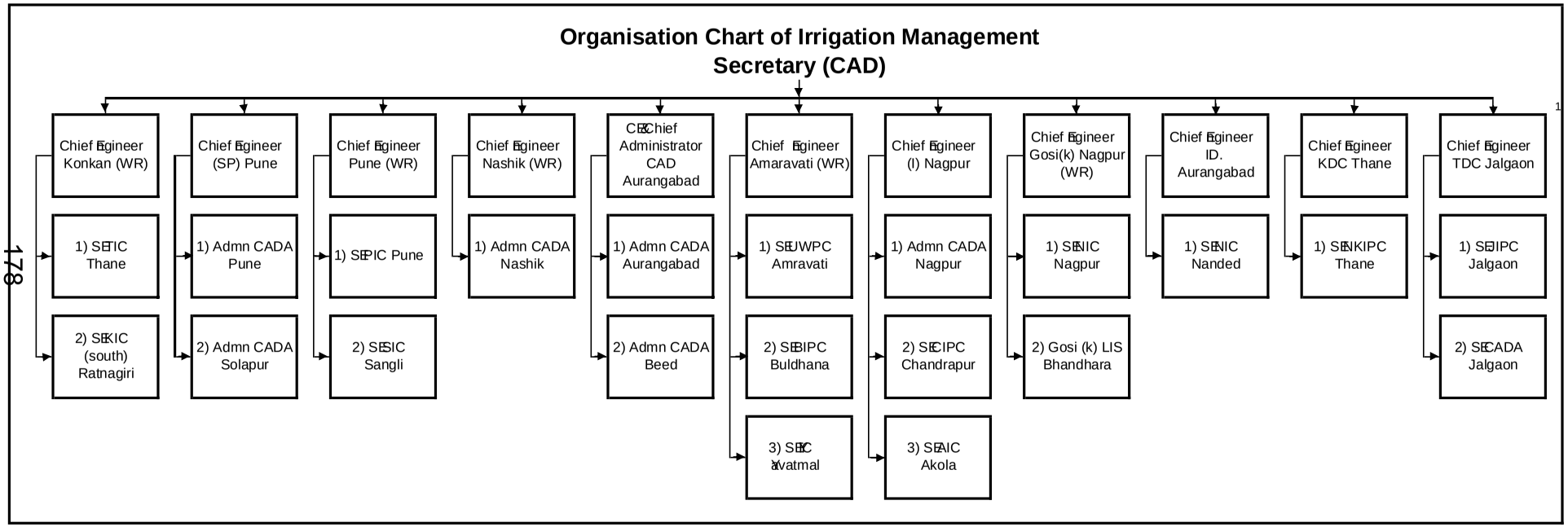
Indicator IV :Irrigation System Performance Minor Irrigation Tanks Unit : ha/Mcum			
Circle	Canal		
	Kharif	Rabi	HW
CADA Beed	0	147	106
CADA Pune	0	142	0
CADA Solapur	0	156	82
PIC Pune	0	142	38
SIC Sangli	179	129	96
Highly Deficit	**179**	**139**	**79**
AIC Akola	250	121	20
BIPC Buldhana	0	126	54
CADA Abad	0	148	129
CADA Beed	406	121	70
CADA Jalgaon	0	118	103
CADA Nashik	386	170	133
NIC Nanded	157	141	112
Deficit	**297**	**129**	**67**
AIC Akola	252	92	21
BIPC Buldhana	0	154	48
CADA Jalgaon	86	117	87
CADA Nagpur	349	185	321
CADA Nashik	0	249	114
CADA Pune	14	275	211
CIPC Chandrapur	0	129	20
NIC Nagpur	0	151	0
NIC Nanded	187	125	103
PIC Pune	159	170	134
UWPC Amravati	0	0	0
YIC Yavatmal	0	47	28
Normal	**97**	**112**	**72**
CADA Nagpur	344	95	37
CIPC Chandrapur	202	108	29
Surplus	**309**	**102**	**36**
CADA Nagpur	305	124	53
CIPC Chandrapur	259	71	25
KIC Ratnagiri	0	43	0
NKIPC Thane	0	26	6
SIC Sangli	100	118	99
TIC Thane	83	59	76
Abundant	**260**	**83**	**60**
Total	**288**	**114**	**63**

ANNEXURE - IV

SEDIMENTATION STUDIES OF MAJOR AND MEDIUM RESERVOIRS, DONE AT M.E.R.I., NASHIK BY REMOTE SENSING TECHNIQUE.

Sr. No.	Name of reservoir	District	Basin/ Sub basin	C'ment area Sq.km.	Gross Storage Mm3	Live Storage Mm3	Dead Storage Mm3	Year of first impounding	Year of Siltation Survey	Siltation period years	Live storage lost due to sediment Mm3	%loss in Live storage	%Annual loss in Live storage	Designed rate of siltation ha-m/100 sq.km./ year	Observed rate of siltation ha-m/100 sq.km./ year	%of live storages covered
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	Karanjwan	Nashik	Godavari	248.00	176.00	166.00	10.00	1974	2001-03	28	14	8.38	0.3	3.57	20.34	90
2	Gangapur	Nashik	Godavari	357.40	212.51	200.51	12.00	1965	2002-03	37	19	9.52	0.4	3.57	11.48	80
3	Darna	Nashik	Godavari	404.00	202.00	200.61	1.39	1916	2001-03	86	14	6.82	0.13	3.57	3.22	82
4	Majalgaon	Beed	Godavari	3840.00	454.00	312.00	142.00	1987	2003-04	15	28	8.82	0.52	n.a.	4.31	92
5	Ozarkhed	Nashik	Godavari	182.00	69.91	61.00	8.91	1984	2002-03	18	1.93	3.06	0.19	3.57	5.89	87
6	Bhandardara	A'nagar	Godavari	121.73	313.00	304.00	9.00	1926	2002-03	77	0	0	0	n.a.	0	95
7	Waghad	Nashik	Godavari	119.00	76.00	72.00	4.00	1979	2002-03	23	2	3.07	0.133	3.57	7.31	98
8	Lower Terna	O'bad	Godavari	1787.00	160.00	114.00	46.00	1989	2002-03	13	23	20.16	1.55	7.5	16.25	100
9	Mukane	Nashik	Godavari	129.60	214.16	203.97	10.19	1994	2002-03	9	12	5.85	0.73	5.144	51.44	80
10	Manjara	Beed	Godavari	2373.00	251.00	173.00	78.00	1982	2000-02	20	23	13.16	0.65	3.57	4.84	100
11	Ujjani	Solapur	Krishna	14856.00	3320.00	1517.00	1803.00	1977	99-2001	24	159	10.55	0.44	3.57	11.35	100
12	Dhom	Satara	Krishna	217.50	382.00	331.00	51.00	1977	99-2000	23	6	1.93	0.08	3.57	13.36	70
13	Kanher	Satara	Krishna	204.56	286.00	272.00	14.00	1984	99-2000	16	3	1.2	0.075	3.57	12.25	57
14	Veer	Pune	Krishna	1756.00	279.00	266.00	13.00	1965	99-2000	35	22	8.28	0.23	3.57	3.31	91
15	Panshet	Pune	Krishna	120.30	303.00	294.00	9.00	1970	99-2000	30	15	5.07	0.17	3.57	33.25	89
16	Bhatghar	Pune	Krishna	331.50	673.00	673.00	0.00	1925	99-2000	75	101	15.5	0.2	n.a.	38.336	71
17	Varasgaon	Pune	Krishna	130.00	374.00	362.00	12.00	1992	99-2000	8	0	0	0	3.57	0	70
18	Upper Wardha	Amravati	Wardha	4302.00	786.00	615.00	171.00	1990	2002-03	12	26	4.25	0.35	3.57	4.26	86
19	Bor	Wardha	Wardha	380.75	139.00	127.00	12.00	1965	2002-03	37	5	3.96	0.1	3.57	3.15	88
20	Lower Wunna	Nagpur	Wardha	1076.00	153.00	136.00	17.00	1997	2002-03	6	1	0.46	0.07	7.5	1.54	78
21	Totala Doh	Nagpur	Wainganga	4283.00	1241.00	1091.00	150.00	1980	2002-03	22	46	4.23	0.19	3.57	4.46	88
22	Vaitarna	Nashik	Konkan	160.80	353.96	331.31	22.65	1976	2001-03	28	0.215	0.064	0.002	n.a.	0.478	73

Reference: MERI's Letter No. TS-4/60/2007, date 4-1-2007


Organisation Chart of Irrigation Management
Secretary (CAD)
Chief Engineer Konkan (WR)
1) SE TIC Thane
2) SE KIC (south) Ratnagiri
Chief Engineer (SP) Pune
1) Admn CADA Pune
2) Admn CADA Solapur
Chief Engineer Pune (WR)
1) SE PIC Pune
2) SE SIC Sangli
Chief Engineer Nashik (WR)
1) Admn CADA Nashik
CE & Chief Administrator CAD Aurangabad
1) Admn CADA Aurangabad
2) Admn CADA Beed
Chief Engineer Amaravati (WR)
1) SE UWPC Amravati
2) SE BIPC Buldhana
3) SE & C Yavatmal
Chief Engineer (I) Nagpur
1) Admn CADA Nagpur
2) SE CIPC Chandrapur
3) SE AIC Akola
Chief Engineer Gosi(k) Nagpur (WR)
1) SE NIC Nagpur
2) Gosi (k) LIS Bhandhara
Chief Engineer ID. Aurangabad
1) SE NIC Nanded
Chief Engineer KDC Thane
1) SE NKIPC Thane
Chief Engineer TDC Jalgaon
1) SE JIPC Jalgaon
2) SE CADA Jalgaon