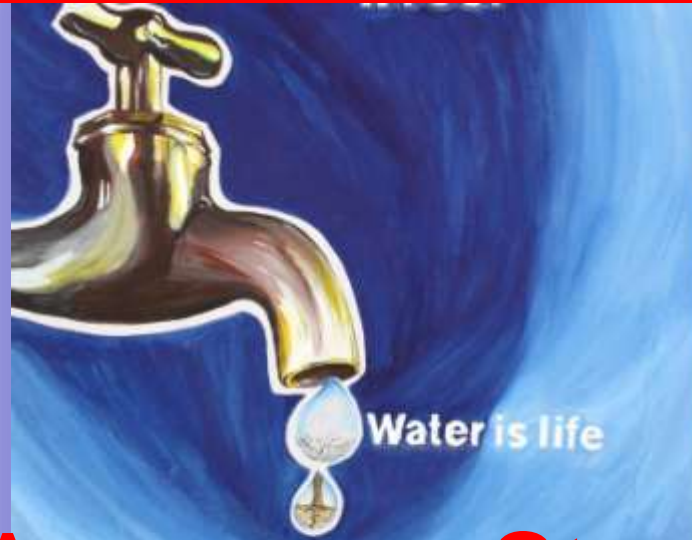


WELCOME

Malkapur 24X7 Water System




A success Story

Geographical Location of Malkapur



- **Malkapur–**
 - Village Panchayat converted into Nagar Panchayat in 2008.
 - Located on N H 4.

Malkapur Demography

- 1991 Census population 5976
- 2001 Census population 22395
- Present population 35000
- Decadal growth 1991-2001 274% 
- Area 9.5 sq. km.
- A town having Medical college, Industry and Irrigated agriculture, trade as main economic drivers
- A town adjacent to Karad in Maharashtra.

Pre Project Scenario

- Old system designed in 1988 for 14000 population expected in 2010
- Old system fell inadequate in capacity and coverage.
- Newly developed areas provided with 11 Bore wells with power pumps.
- People started feeling the heat, getting water once in two to three days and unscheduled.
- Increase in demand for water tankers.

OLD SYSTEM

The Project

- A new system from Perrenial Koyna river planned and approved for Rs 947.54 lakhs.
 - For population 67196 expected in 2030
 - At 55 litres per capita per day
 - System with existing small distrijet -12.5 Km was commissioned in 2005.
 - Distribution was rethought for 24X7 in 2006.
 - A revised project was approved for 1225.13 lakhs



NEW SYSTEM

Conceiving 24X7 Water System

- MJP requested then Panchayat to accept 24X7 system & a visit was arranged to MJP's similar pilot efforts in Badlapur near Mumbai
- Panchayat accepted to have 100 % metered 24X7 system with water rates on volumetric basis.
- A micro detailing of demand from each house was surveyed and future developments predicted & incorporated.
- Design of system was done using the latest software "WaterGems", which has a power to predict the flow and pressure in the system at different time of the day.

Innovative material & equipments used

- Pipes used in distribution network are of PE 100 grade in rolls with strictest quality assurance from raw material till finished pipe
- Connections with electro fusion welded PE tapping tees, ferrule, MDPE pipe of single length from ferrule to house
- 100% AMR Water meter, read with drive by system.
- AMR data transferred to computer for billing and analysis.
- AMR type bulk water meter for on line water audit.
- Pressure sensors to calibrate the hydraulic model and monitor the system health.
- Automation of pumps to switch them 'on' & 'off' remotely using GSM communication.



Peoples Participation

- Panchayat paid popular contribution of 10% amounting to 105 lakhs by collecting from citizens.
- Prior consultation & visit.
- Awareness creation about metered system.
- Awareness creation about careful use of water with 24 hour availability.
- Informing people of telescopic rates and its importance.
- Informing ladies of improvement in water quality and useful utilization of their time saved due to 24X7 water availability.
- Awareness towards monthly billing and benefits of switching to metered rates than flat rates.

Demand Management – A crux to success

- Demand management played important role.
- People's awareness in avoiding wastage of water and importance of water resulted in reduction in use.
- Telescopic tariff acted as a financial measure to use the water cautiously.
- People using less water rewarded with 15% concession.



• Key Results.....

Result Area	Pre project	Post Project
Timeliness	2 to 3 days alternate	24 x 7
Water quality	No guarantee	100% samples potable
Water saving	Before 100% metering 19 to 20 Hrs/ day pumping.	Pumping reduced to 13 – 14 Hrs. (30% saving)
Energy saving		3.30 lakh Kwh / Annum electricity saved.
Reduction in O & M Cost	4 Pump operators, & 22 valve man. 3 Meter readers if ordinary meters.	2 Pump operators, & No valve man. No meter reader due to AMR.
N R W	Range in India 25 to 40%	9 – 12%
O & M Cost recovery	36%	100%
Water charges recovery	Y 2008-09 - Rs. 16 lakhs	Y 2009-10 - Rs. 55 lakhs
Consumer complaints	200 plus per month	3 to 7 per month.

24X7 Water Systems – Myths & Reality

MYTHS

- Metered supply leads to rise in water bills

[LINK](#)

- 24X7 availability will increase the consumption

[LINK](#)

REALITY


- Reduction in bills for 60% of the consumers as they get charged to what they use.
- Aware consumer and telescopic rates can manage the demand to the extent that the consumption gets reduced

The Reality is demonstrated by the observations in Malkapur.

Replications.....

- In Urban sector, 24x7 water system implementation is started at -
Badalapur, Amaravati, Yavatmal, Nagpur, Navi Mumbai, Sangli.
- In Rural sector, -
Jalochi (Pune), Thangaon(Nasik), Tambave, Kapil (Satara).
- Villages shown willingness-
Karve, Rethare, Vijaynagar, Saidapur, Ving, Banawadi, Lonand, Kolki (Satara), Kavate Piran (Sangli)
- At five Engineering and Polytechnic colleges presentations made to build the capacity of students.

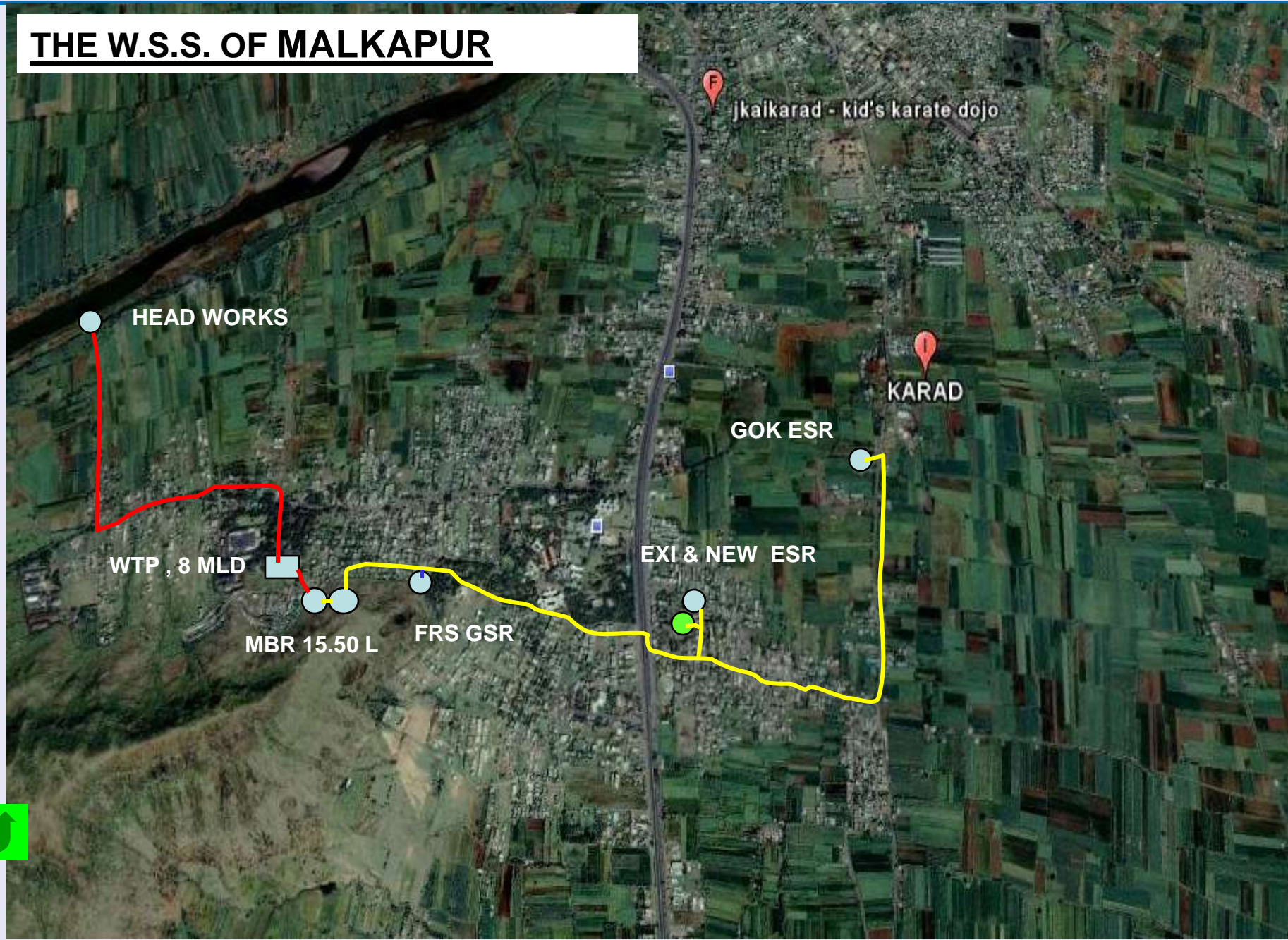
□ INNOVATIVE-

- 
- **Taking ISO for System** – Nagar Panchayat has taken ISO certification for Water treatment Plant.
 - **Express Feeder for 24 Hrs electricity** – For supply 24 Hrs electricity through Express Feeder, the funds made available by Govt of Maharashtra.
 - **HSC at every property** – It is slogan of Nagar Panchayat and the Rate Contract is finalized for making HSC to consumer who applied for it.
 - **GIS for Water Supply** – Nagar Panchayat has appointed an agency for making GIS of water supply including application software.

**MAHARASHRA JEEVAN PRADHIKARAN
& MALKAPUR NAGAR PANCHAYAT**

THANK YOU !

THE W.S.S. OF MALKAPUR



OLD W.S.S. OF MALKAPUR

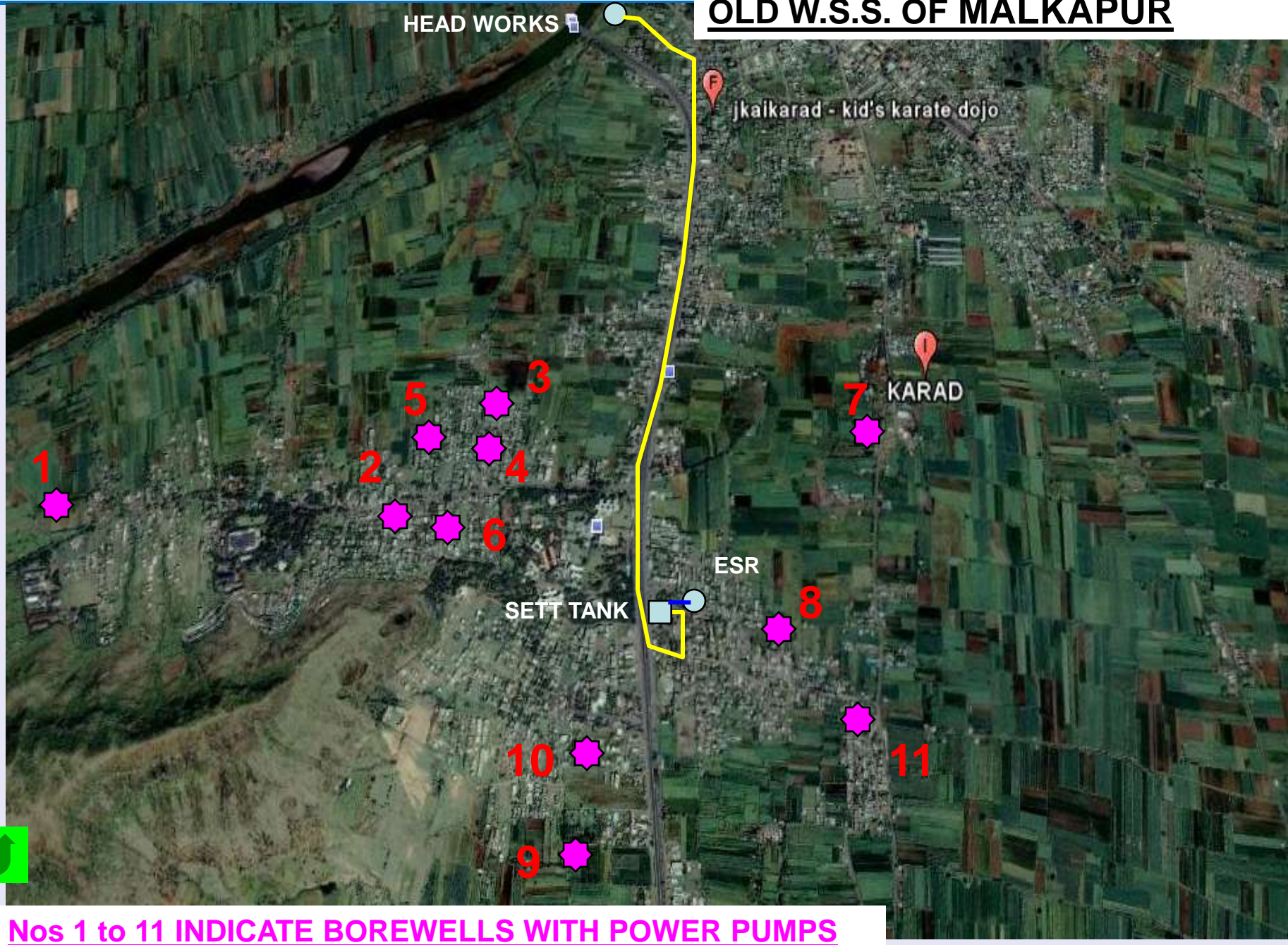
HEAD WORKS

jkaikarad - kid's karate dojo

KARAD

ESR

SETT TANK



Nos 1 to 11 INDICATE BOREWELLS WITH POWER PUMPS



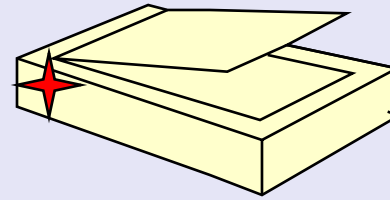


Pipe with tapping tee and ferrule



LINK

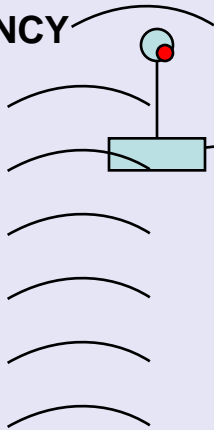
BLUETOOTH ANTENA



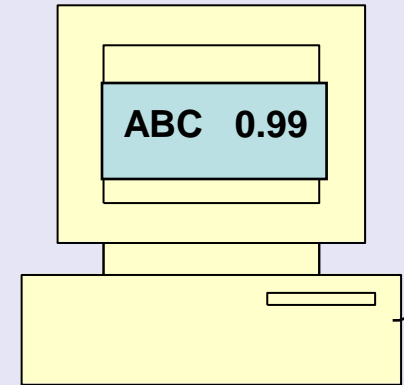
BLUETOOTH RECEIVER



FREQUENCY
RECEIVER
ANTENA



FREQUENCY RECEIVER



DESK TOP COMPUTER

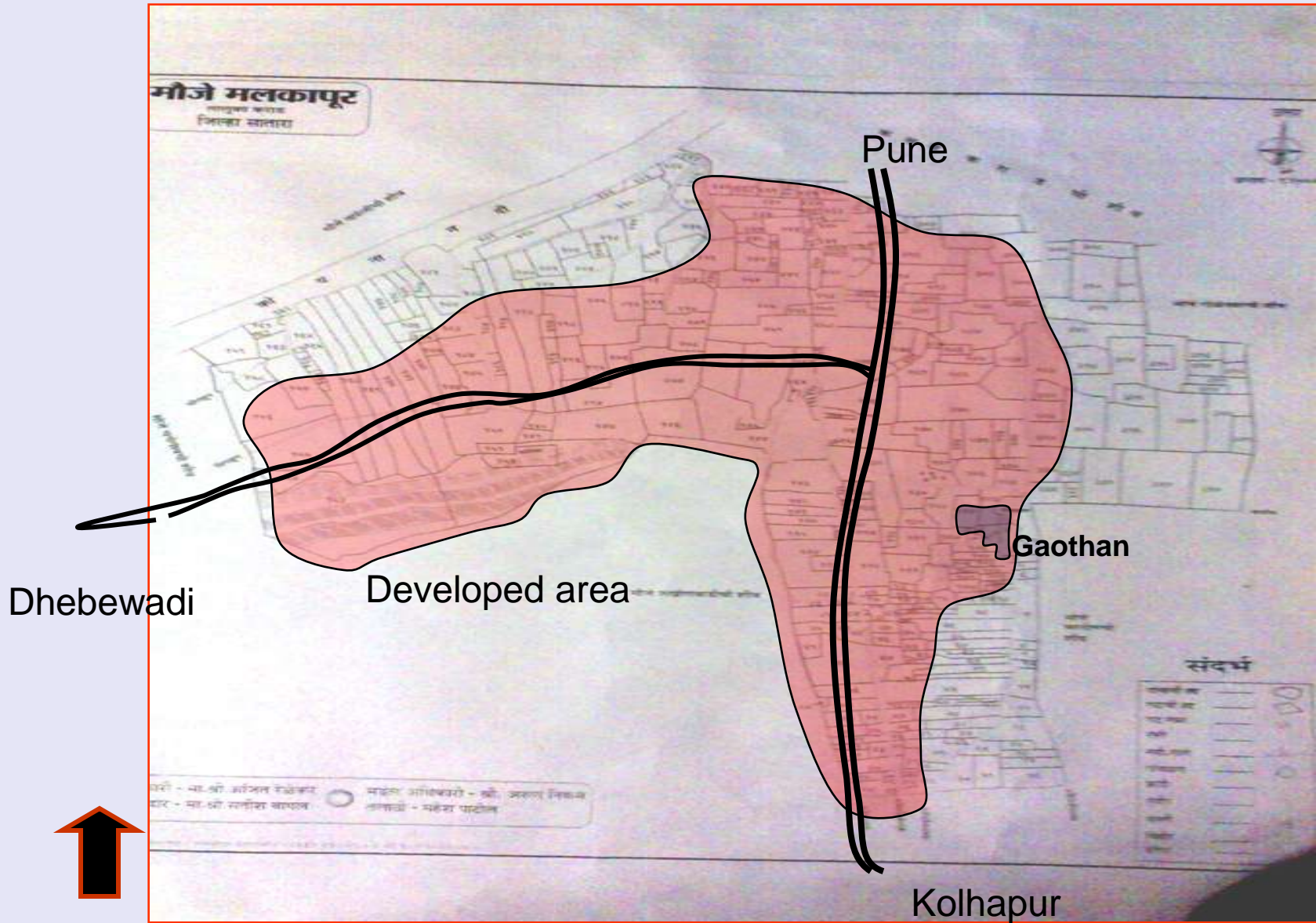


AMR WATER METER

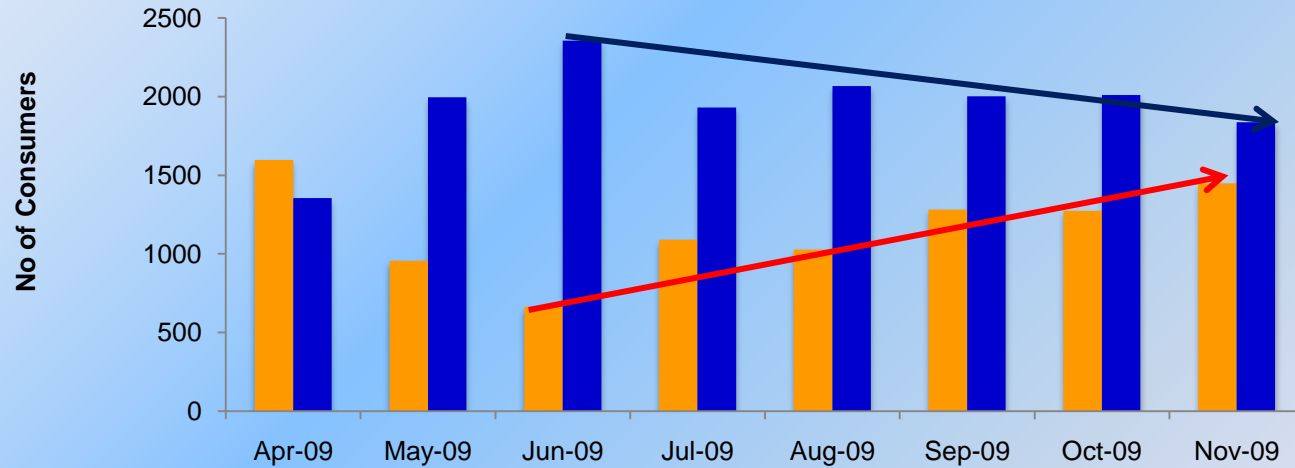


AUTOMATIC METER READING SYSTEM

VILLAGE MAP



Bill abstract

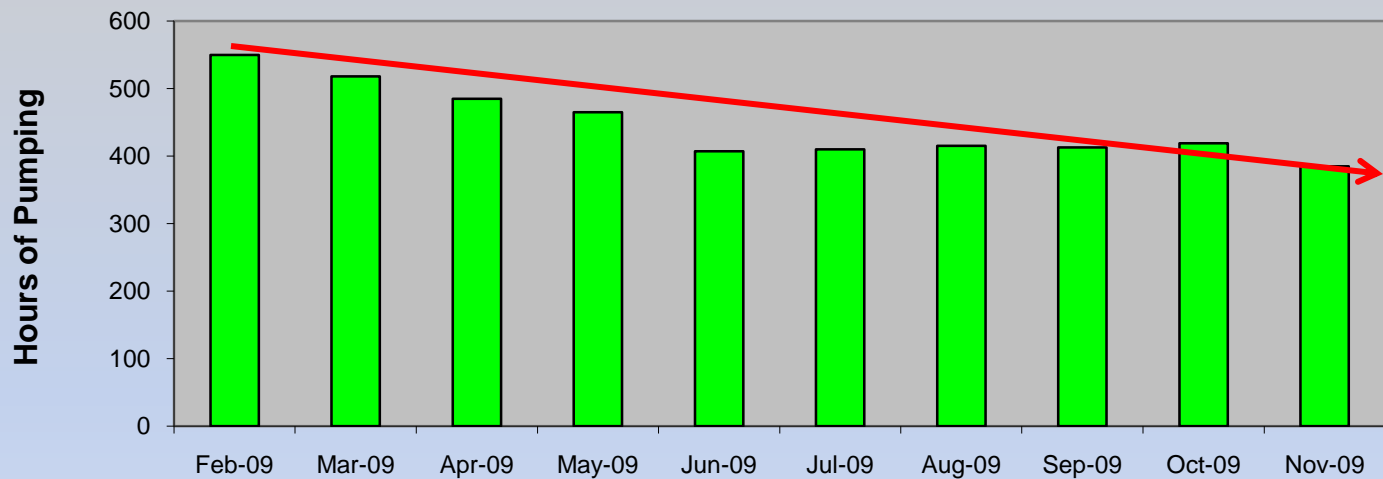


	Apr-09	May-09	Jun-09	Jul-09	Aug-09	Sep-09	Oct-09	Nov-09
Below Rs. 100	1596	956	663	1089	1026	1282	1274	1448
Above Rs. 100	1355	1995	2356	1930	2066	2002	2010	1836

Months

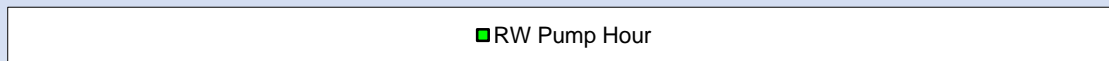
Below Rs. 100 Above Rs. 100

Bill abstract



	Feb-09	Mar-09	Apr-09	May-09	Jun-09	Jul-09	Aug-09	Sep-09	Oct-09	Nov-09
■ RW Pump Hour	550	518	485	465	407	410	415	413	419	385

Months



BACK

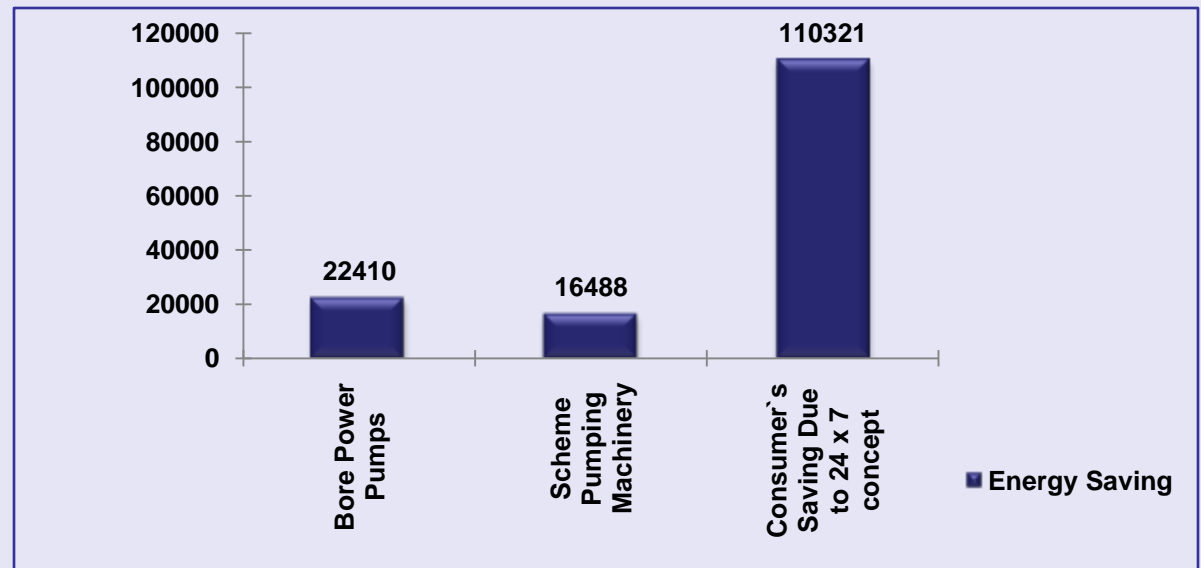
ENERGY SAVING

Year	Energy consumed in 2008-09 kWh	Energy consumed in 2007-08 kWh	Total Energy saved in kWh
Bore Power Pumps	112050	134460	22410
Scheme Pumping Machinery	388776	405264	16488
Consumer`s Saving Due to 24 x 7 concept (2 to 6 Mth)	-110321	0	110321
Total consumption	390505	539724	149219
Av. Total Water Supplied in year - ML	1600	1728	
Av kWh / ML	244.06	312.34	68.28
			21.86%

❖ Avg. energy consumption of **11Bore Power Pump** is **1,34,460 KWh per Year** which is now totally saved.

❖ The average saving of **16323 KWh per month (195876 KWh per year)** by consumers who used to use electric motors for lifting water into their over head tanks.

Hence Net Saving will be 3,30,336 kWh per Year.



PRESSURE MONITORING

POINT NO

PRESSURE

RANGE

Z 5 / 3- JAGTAP HOUSE

0.35

0.80 – 4.0

Z 5 / 4- PARVE HOUSE

1.22

0.90 – 4.0

Z 5 / 2- GHARE HOUSE

2.11

1.20 – 4.0

Z 5 / 1- SORATE HOUSE

1.68

1.00 – 4.0

BACK



CERTIFICATE OF COMPLIANCE



This is to certify that the
QUALITY MANAGEMENT SYSTEM of

MALKAPUR NAGAR PANCHAYAT WATER TREATMENT PLANT

Malkapur Nagar Panchayat, Malkapur, Tal. Karad, Dist. Satara,
Maharashtra, India.

has been assessed by International Certification Services Pvt. Ltd. and registered as
complying with the requirements of the following International Standard:

ISO 9001:2008

The Quality Management System applicable to:

**Scope: Treatment And Supply Of Potable Water To The City Of
Malkapur.**

Registration No. : RQ91/6391
Registered Date : 05th February, 2010.
Expiry Date : 04th February, 2013.



JAS-ANZ



Shanku Kulkarni

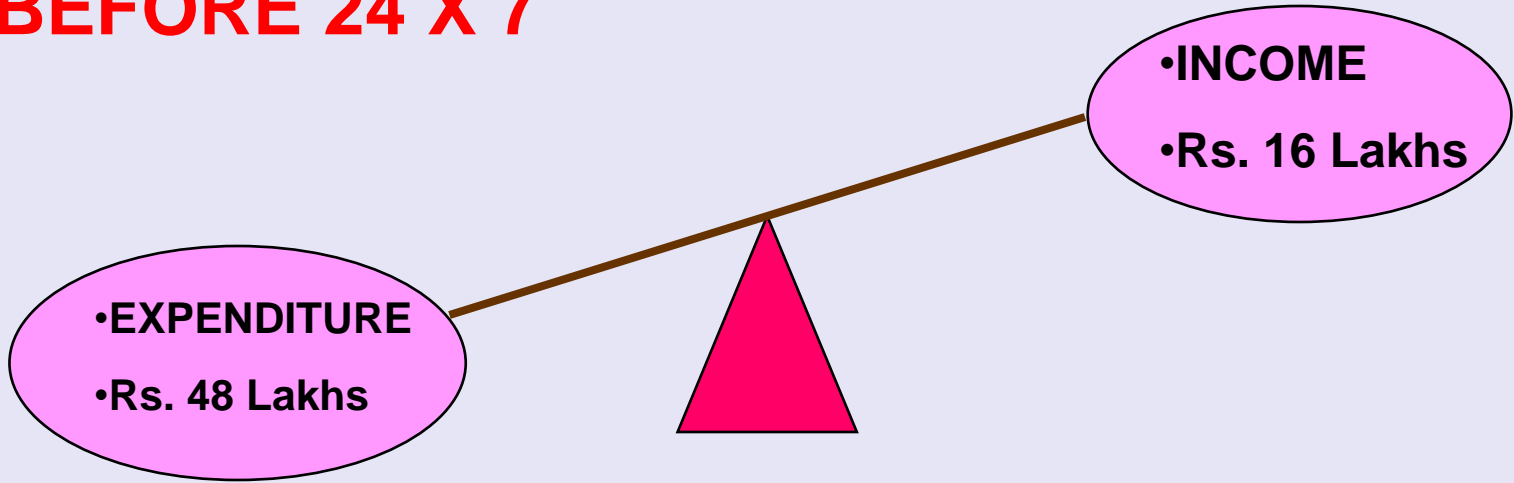
Director
International Certification Services

Accredited by Joint Accreditation System of Australia and New Zealand

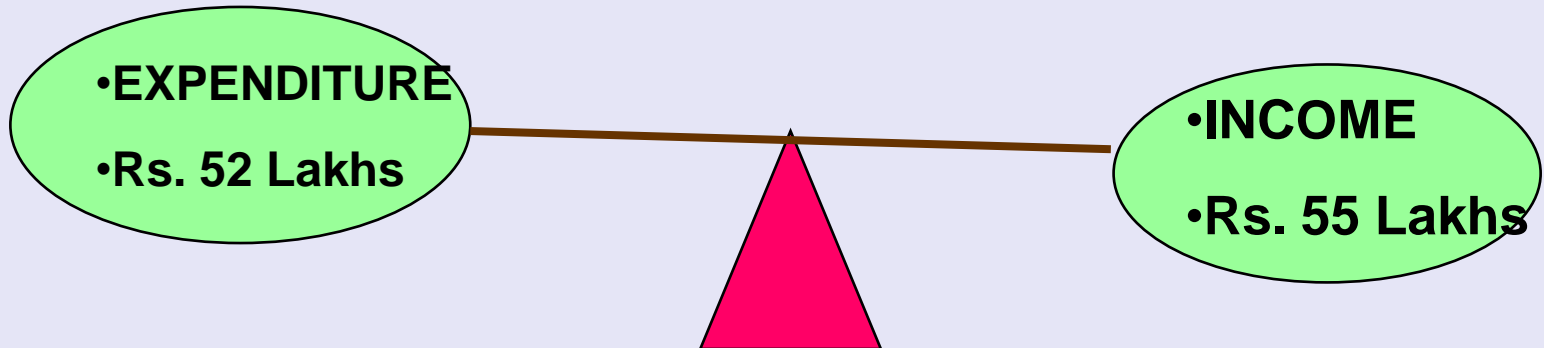
Validity of this certificate is based on periodic audits of the management system defined by the above scope and is contingent upon prompt written notification of significant changes to the management system and/or its components thereof shall be immediately communicated to ICS.
Further clarifications regarding the scope of this certificate and the applicability of ISO 9001:2008 requirements may be obtained by consulting the above certification body.

International Certification Services Pvt. Ltd., 3-7, Chand Shekhri, Juhu Road, Juhu, Mumbai - 400 049, India

•BEFORE 24 X 7



•AFTER 24 X 7





•TELESCOPIC TARRIF

•RATE PER KILOLITRS

•Rs 10.00 / KL

•Rs 7.00 / KL

•Rs 4.50 / KL

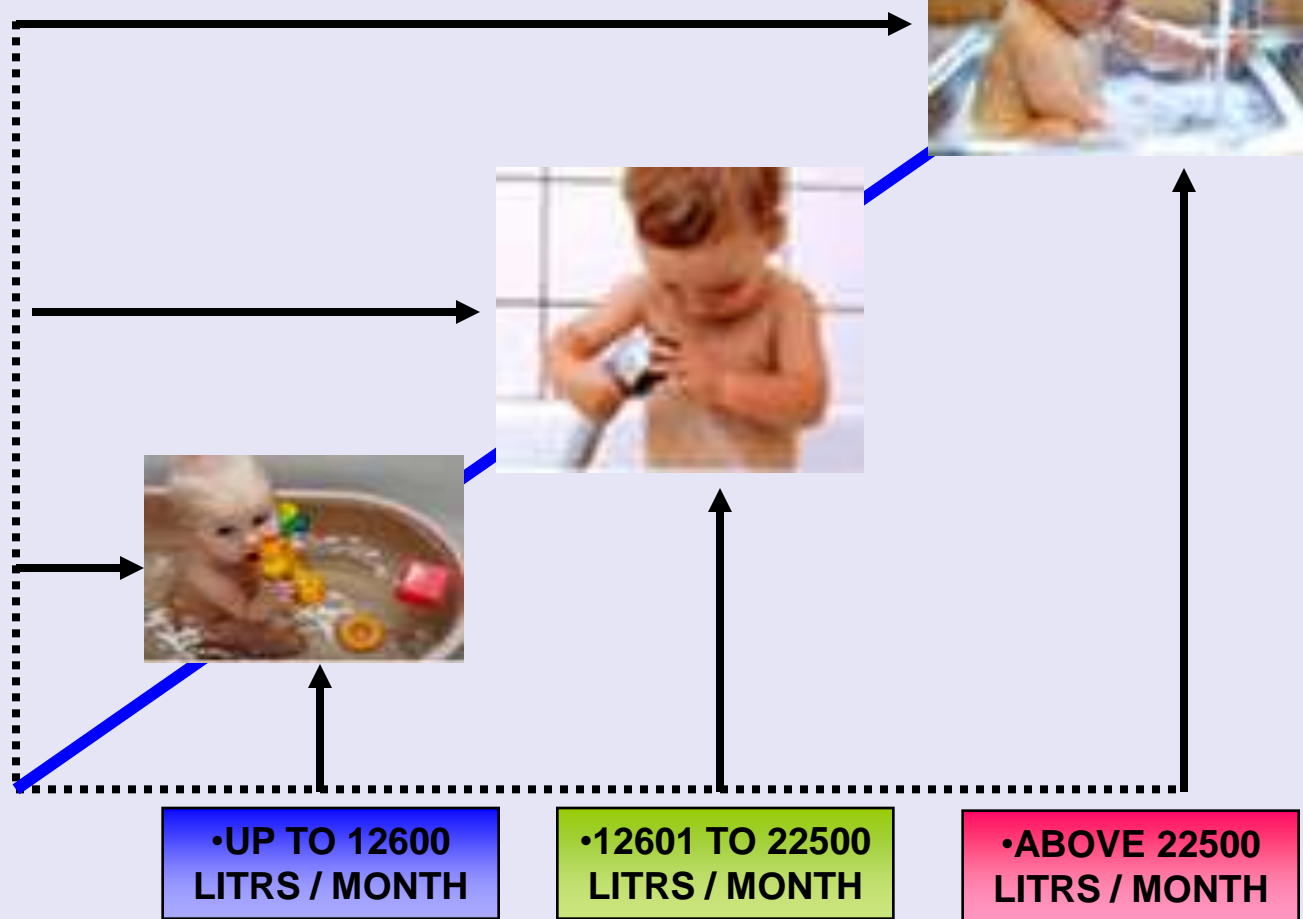


•UP TO 12600
LITRS / MONTH

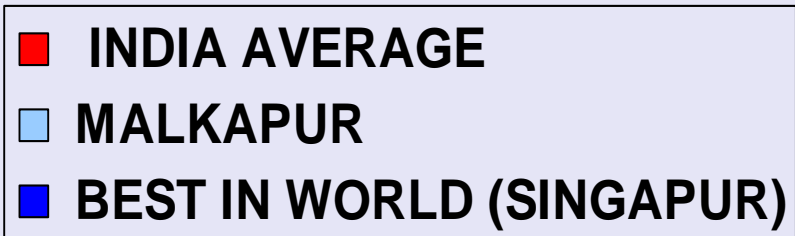
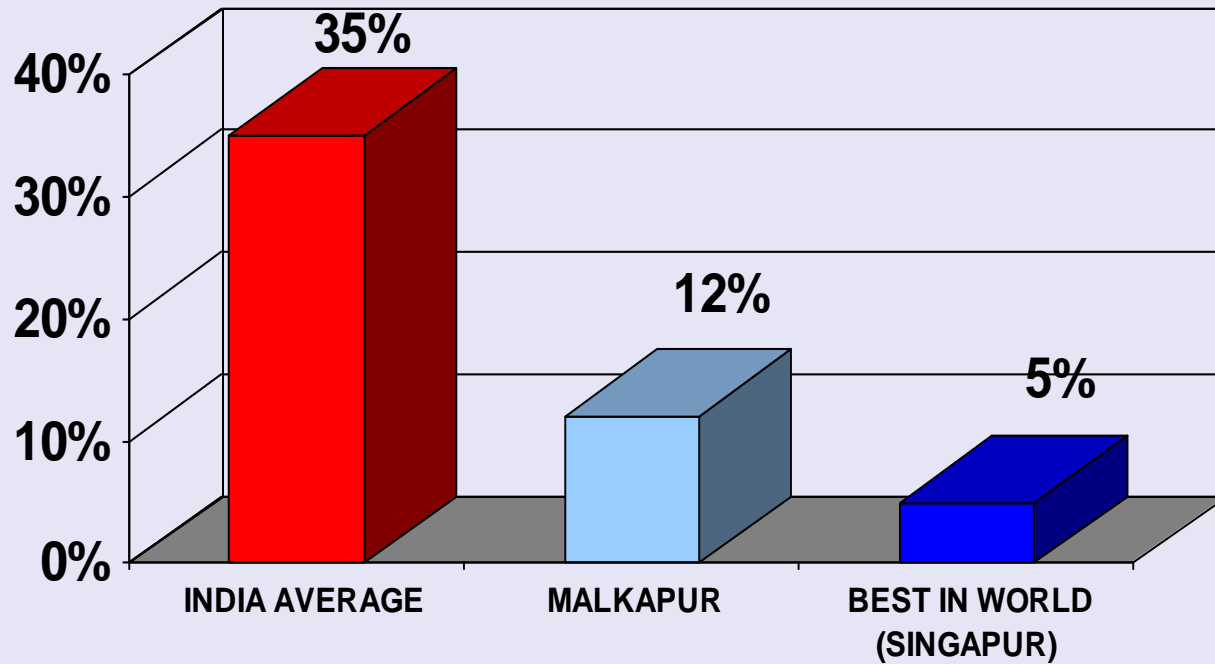
•12601 TO 22500
LITRS / MONTH

•ABOVE 22500
LITRS / MONTH

•WATER USAGE



• N R W LEVEL



•WATER AUDIT

