SHREE RAMCHANDRA EDUCATION SOCIETY'S

SHREE RAMCHANDRA COLLEGE OF ENGINEERING

REPORT ON

Preliminary Energy Audit at Bakori Village, Dist-Pune.

ORGANIZED BY

National Service Scheme (NSS)

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Ref. No: SRCOE/ NSS/ 2016-17/

Date: 14/03/17

A Report on

Preliminary Energy Audit at Bakori Village, Dist-Pune.

Preamble:

Our NSS team had organized a camp at Bakori village Ta. Haweli Dist. Pune, in which an initiative of energy audit of each home in the village was undertaken. Small documentary film in regional language on importance of energy to be adopted for energy saving and energy conservation was shown to create awareness among the villagers, as a result few of the villagers undertook energy conservation projects.

At this juncture I congratulate both the NSS volunteers and coordinators of each department for organizing such a wonderful program which is of society relevant. I wish all the best to future endeavors of NSS program and I am extremely thankful to university authorities for giving us wholehearted support to this activity of national importance.

The energy audit would give a positive orientation to the energy cost reduction, preventive maintenance, and quality control programs which are vital for production and utility activities. Such an audit program will help to keep focus on variations that occur in the energy costs, availability, and reliability of supply of energy, help decide on the appropriate energy mix, identify energy conservation technologies, retrofit for energy conservation equipment, etc.In general, the energy audit is the translation of conservation ideas andm hopes into reality, by lending technically feasible solutions with economic and other organizational considerations within a specified time frame.

What is an energy audit?

An energy audit is an analysis of a facility, indicating how and where that facility can reduce energy consumption and save energy costs. Its insight to energy efficiency and conservation can lead to significant savings on the company's utility bill.

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Energy Audit:

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The Information To Be Collected During The Detailed Audit Includes:

1. Energy consumption by type of energy, by department, by major equipment

2 Energy cost and tariff data

3 Sources of energy supply (e.g., electricity off the grid or self generation)

4 Energy Management procedures and energy awareness training programs

Within the establishmen

Energy Audit Analysis:

Recommendations Use focused light for reading place or table lamp. Sometime recommended to avoid full room lighting it leads to wastage of illumination and disturbance of sleep to housemates which disturb their work efficiency at working place. Man hour efficiency reduction is the national waste. Also insufficient sleeps leads to health problems. All Interior walls should be painted using Enameled paint which would reflect light. Good light ventilation and Air ventilation Unnecessary power consumption by negligence of use.

It is recommended to replace fluorescent lamps by CFL which are handy by construction and possi bility of breakage is less. Installation is easy and the labour charge required for replacement of burnt tubes and defected choke lamps is a costly affair. Disposal of burnt tubes will disturb the habitat place of both human being and animals. The release of krypton and argon gases is more dangerous, it may lead to ecological imbalance if it in mass destruction Switch off the photocopier machine at the main outlet itself when not in use. Fans Running without capacitor or under rated capacitor will draw more current therefore use of correct rated capacitor will reduce the power consumption.

Our NSS volunteers and coordinators have done energy audit of few of the homes and give guidance to conserve energy,through this audit we realized the per month usage of energy of every home. It is given in the table attached with this report.

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REMEDIES

Appliances

1.Unplug your appliances when they're not in use

Your TV, computer, microwave and even some washing machines have a standby mode, which means they're still using energy even when they're not in use.

2.Buy appliances with a good energy rating

The more stars, the better – but think about size first. Often it's easier for a larger model to be more efficient (and therefore have more stars) than a smaller one. However, since it is bigger, its overall energy consumption is usually higher.

3.Pick the right washing machine

Although they usually cost more to buy, most front-loader washing machines save you money over time and are kinder to the environment because they use less power, water and detergent than top loaders.

- See our washing machine reviews for the most energy-efficient models.

4.Choose an energy-efficient fridge

Your fridge and freezer is working non-stop and the energy it consumes adds up quickly. All new fridges sold in Australia must meet Minimum Energy Performance Standards (MEPS).

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Serial No.	House no.	Number Of Unit
1	W303	37
2	E109	48
3	E108	90
4	E104	108
5	E101	67
6	E107	85
7	E509	45
8	S202	75
9	N110	50
10	N105	52
11	N107	112
12	E502	130
13	E503	63
14	S209	48
15	N102	48
16	E505	28
17	E508	78
18	S205	128
19	E102	28
20	N144	48
21	S201	96
22	E103	111
23	S207	28
24	E503	108
25	E502	58
26	W302	87
27	N111	65
28	N111	70
29	N101	108
30	N103	46
31	N112	40
32	N114	114
33	W301	98
34	E101	115
35	S205	82
36	N107	224
37	N106	20
38	S204	148
39	N215	106
40	S208	45
41	N104	87
42	N113	54
43	E116	37
44	E506	43
45	S210	57
46	S203	38

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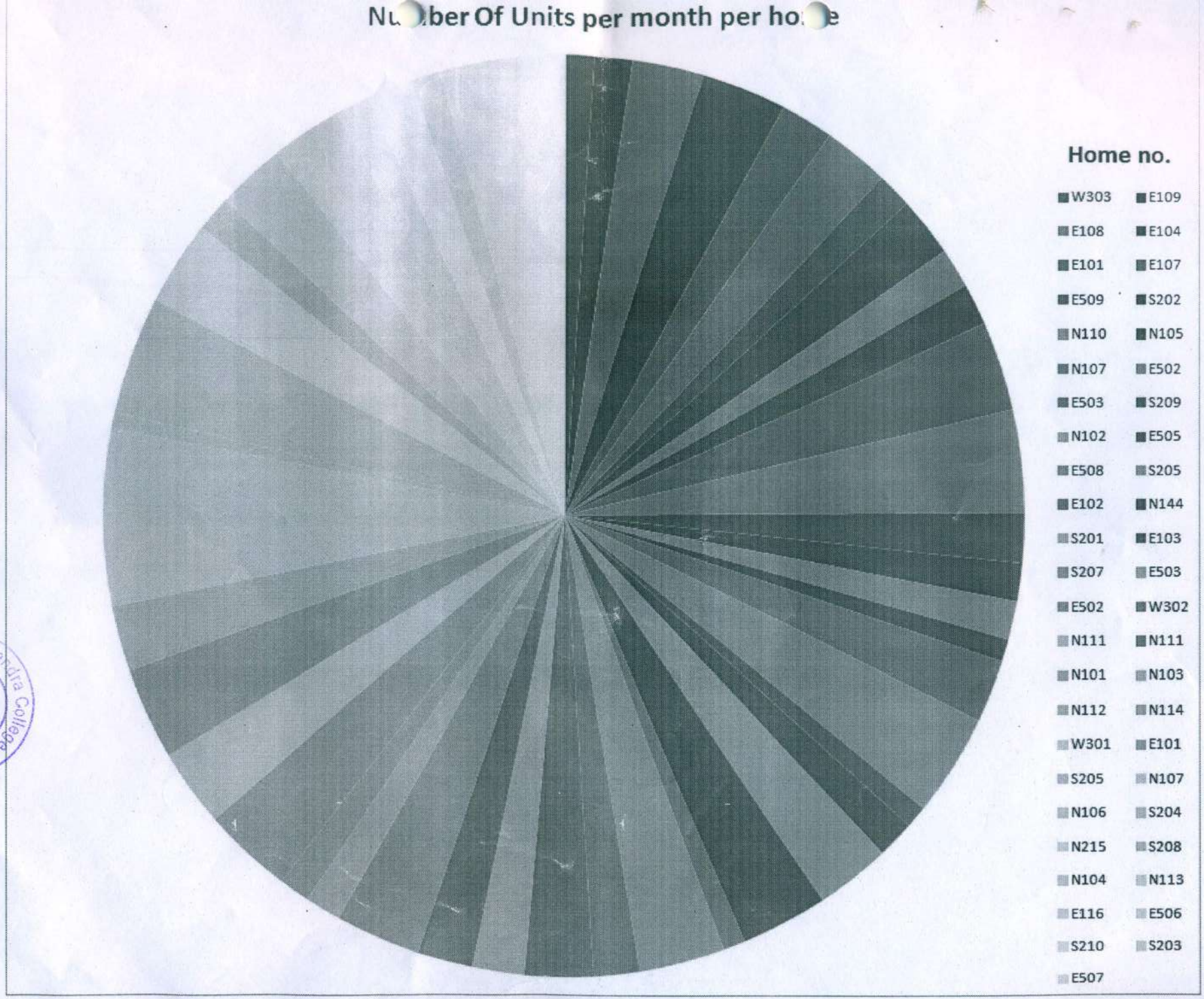

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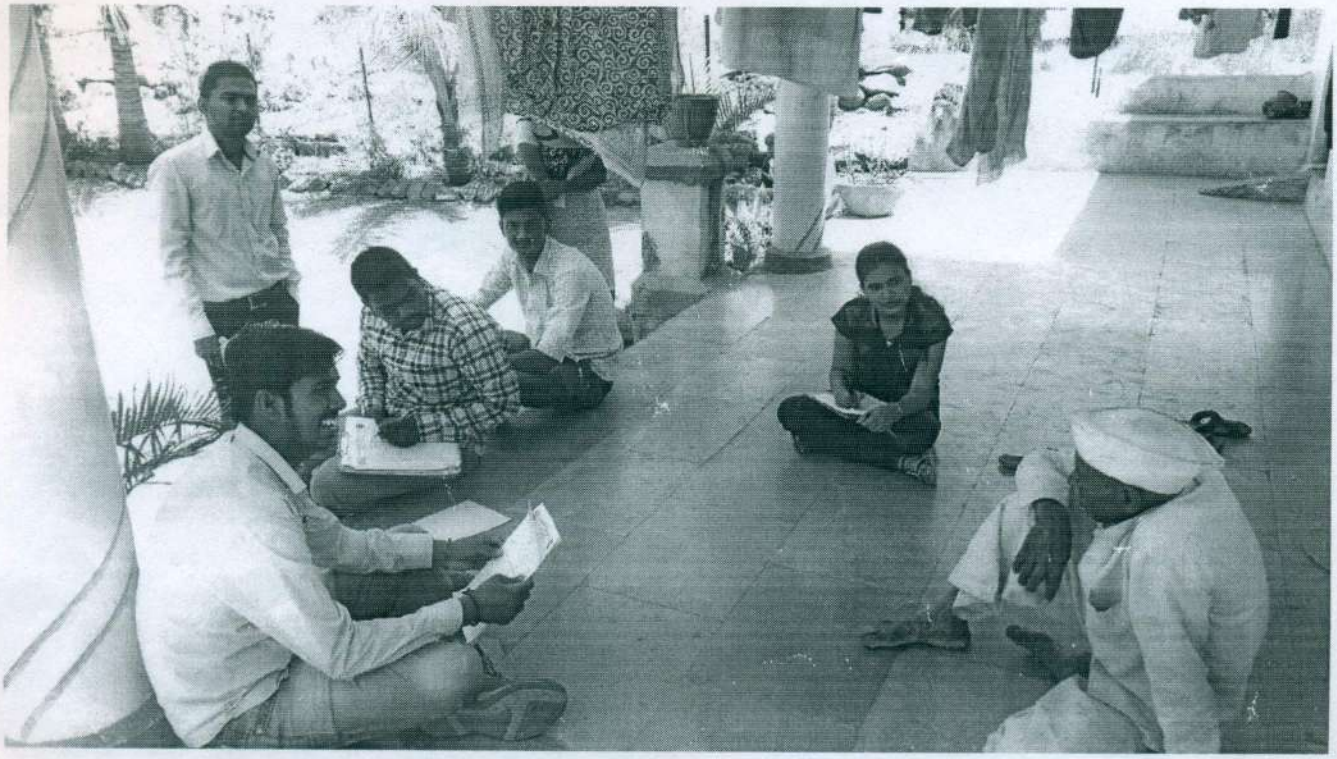

Snapshot of doing energy audit and water audit at Bakori village.

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SHREE RAMCHANDRA COLLEGE OF ENGINEERING

REPORT ON

CONSERVATION OF WATER AND ITS AUDIT AT BAKORI VILLAGE, DIST-PUNE.

ORGANIZED BY

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Ref. No: SRCOE/ NSS/ 2016-17/ Date: 15/03/17

A Report on
Conservation of Water and its Audit at Bakori Village, Dist-Pune.

Preamble:

Water is a precious natural resource with almost fixed quantum of availability. With continuous growth in country's population, per capita availability of utilizable water is going down, whereas with ever-rising standard of living of people all around, rapid industrialization and urbanization, demand of fresh water is going up continuously. Unabated discharge of industrial effluents into water bodies is further aggravating the situation of scarcity of water of acceptable quality. In spite of the fact that fresh water is rapidly becoming scarce it is continued to be used wastefully.

Declaring water conservation a national mission, in June 2003, the Prime Minister of India, appealed to all countrymen to collectively address the problem of alarmingly progressive water shortage, by conserving every drop of water and suggested for conducting water audit for all sectors of water use and the same legacy is being followed by successive governments. Water audit is an effective management tool for minimizing losses, optimizing various uses and thus enabling considerable conservation of water not only in irrigation sector alone but in other sectors such as domestic, power and industrial as well.

Our NSS team had organized a camp at Bakori village Ta. Haweli Dist. Pune, in which an initiative of water audit of each home in the village was undertaken. Small documentary film in regional language on importance of waterand techniques to be adopted for water saving and water conservation was shown to create awareness among the villagers, as a result few of the villagers undertook water harvesting projects.

At this juncture I congratulate both the NSS volunteers and coordinators of each department for organizing such a wonderful program which is of society relevant. I wish all the best to future endeavors of NSS program and I am extremely thankful to university authorities for giving us wholehearted support to this activity of national importance.

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Water Audit:

Water audit helps to determine the amount of water used and lost from a distribution system due to domestic wastewater and other reasons such as agricultural use, building construction etc. Comprehensive water audit gives a detailed profile of the distribution system and water uses, thereby facilitating easier and effective management of the resources with improved reliability.Elements of water audit include a record of the amount of water supply delivered to metered and unmetered users, water loss and suggested measures to address water loss (through leakages and other unaccounted for water losses). In domestic water supply, water audit is considered very important,since treatment of water to bring it to drinking water standard costs a lot of money to the supplier. Water audit compares the amount of water supplied with the amount billed and accounts for the water loss.

Discharge Analysis:

The domestic wastewater, return flows from irrigation, and effluents from the industries need to be studied for conformity to environment standards, possibility of recovery of valuable by-products and the opportunity for recycling of waste water.

The discharge water of few homes of the Bakori village is analyzed and the source of water to the villagers is from grampanchayat water storage tank and few draw it from their own borwells. Water is supplied to each home between 06.30 am to 08.30 am. It is observed that lot of water is wasted due to leakages from the pipelines and the same is reported to office bearers of grampanchayat.

Our NSS volunteers and co-ordinators have done water audit of few of the homes and given guidance to conserve water, through this audit we realized the per day usage of water of every home. It is given in the table attached with this report.

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Water audit of Bakori village Dist. Pune

Sr. No.	House No.	Number of family members	washing hands or face (litres/day)	brushing teeth and showering (litre/day)	Drinking water (litres/day)	House cleaning (litres/day)	cleaning vegetables & cooking (litres/day)	Gardening (litres/day)	washing clothes (litres/day)	Dish washing (litres/ day)	Toilet (litres/day)	Farm animal Drinking and washing (litres/day)	washing bike or car (litres/day)	wet cleaning of house (litres/day)	water for air cooling system (litres/day)
1	S-208	4	20	80	20	40	15	20	40	20	40	90	20	0	50
2	S-209	7	35	60	25	40	10	25	50	35	50	0	50	25	0
3	S-207	8	16	160	40	40	20	20	40	10	30	10	0	0	0
4	S-202	7	10	140	35	60	15	0	45	45	50	0	0	0	40
5	S-201	5	25	106	25	25	15	45	35	30	35	0	0	0	40
6	E-109	8	8	75	40	80	12	0	40	15	80	90	0	0	0
7	E-107	5	10	100	25	60	8	0	50	10	50	0	0	0	0
8	E-106	2	5	40	10	40	5	0	20	15	20	0	0	0	0
9	E-508	6	30	150	30	40	10	20	50	30	60	20	0	0	80
10	E-504	4	40	100	20	10	15	20	60	40	40	240	30	0	60
11	E-503	6	18	120	30	40	18	20	30	30	50	0	20	0	0
12	E-502	5	15	100	15	40	15	50	40	30	40	0	30	0	0
13	E-501	5	25	125	25	30	8	50	50	25	35	90	0	0	0
14	N-110	4	20	100	20	20	5	40	40	15	40	200	0	0	0
15	N-103	8	40	200	40	40	10	0	45	40	40	0	0	0	0
16	N-101	6	30	120	30	30	15	40	40	15	30	0	0	0	0
17	N-113	5	10	100	25	50	10	0	50	10	50	10	0	0	40
18	N-115	7	35	175	35	35	8	0	60	35	35	0	0	0	40
19	E-103	10	30	200	50	60	10	0	70	10	80	0	0	0	50
20	E-509	7	21	175	35	40	8	0	50	10	60	0	0	0	0
21	E-507	6	30	100	30	60	5	0	40	10	50	0	20	0	50
22	N-105	5	10	100	25	50	5	20	50	10	40	40	0	0	50
23	N-104	6	30	150	30	60	10	60	30	30	50	0	0	0	0
24	N-106	3	9	60	15	30	15	30	40	20	30	0	30	0	0
25	N-107	3	9	60	15	20	5	10	30	20	30	0	20	0	0
26	N-109	4	10	80	25	40	10	0	50	20	30	0	0	0	30
27	W-301	6	10	60	25	20	8	0	50	15	50	0	20	0	0
28	N-111	4	20	100	20	30	10	20	40	40	30	0	20	10	0
29	N-108	10	30	200	30	40	10	40	50	30	70	0	30	0	0
30	N-112	7	35	175	35	40	15	0	35	35	60	0	20	0	0
31	N-114	4	20	100	20	60	12	0	40	20	30	0	20	0	0
32	E-102	7	35	175	35	40	16	0	60	35	60	150	0	0	0
33	E-101	4	20	100	20	40	8	20	35	30	40	0	20	0	0
34	E-506	6	18	120	18	40	15	50	40	30	40	120	20	0	50
35	E-505	5	25	100	25	30	5	40	40	15	30	40	0	0	0
36	S-211	8	40	160	30	30	15	5	40	14	60	90	40	0	0
37	W-303	6	30	120	30	30	5	60	50	15	50	0	0	0	0
38	W-302	4	20	100	20	40	5	0	40	20	30	0	0	0	0
39	S-210	6	30	90	30	40	15	50	40	20	40	90	20	20	0
40	E-108	5	10	100	25	30	12	0	30	15	40	0	20	0	0
41	E-105	13	10	180	39	25	12	0	50	20	40	80	20	0	0
42	S-203	5	25	100	25	30	5	40	40	15	40	0	20	0	0
43	E-104	4	20	80	20	80	10	50	30	30	30	0	50	10	0
44	S-204	8	40	200	40	30	15	20	40	40	70	0	20	0	0
45	S-205	6	30	120	15	30	10	0	60	15	50	0	30	0	0
46	S-206	4	20	80	20	40	5	0	40	20	30	140	0	25	0
47	N-102	11	55	220	33	30	5	40	40	15	80	150	0	0	0
TOTAL		279	1084	5,656	1270	1855	495	905	2035	1069	2115	1650	590	90	580

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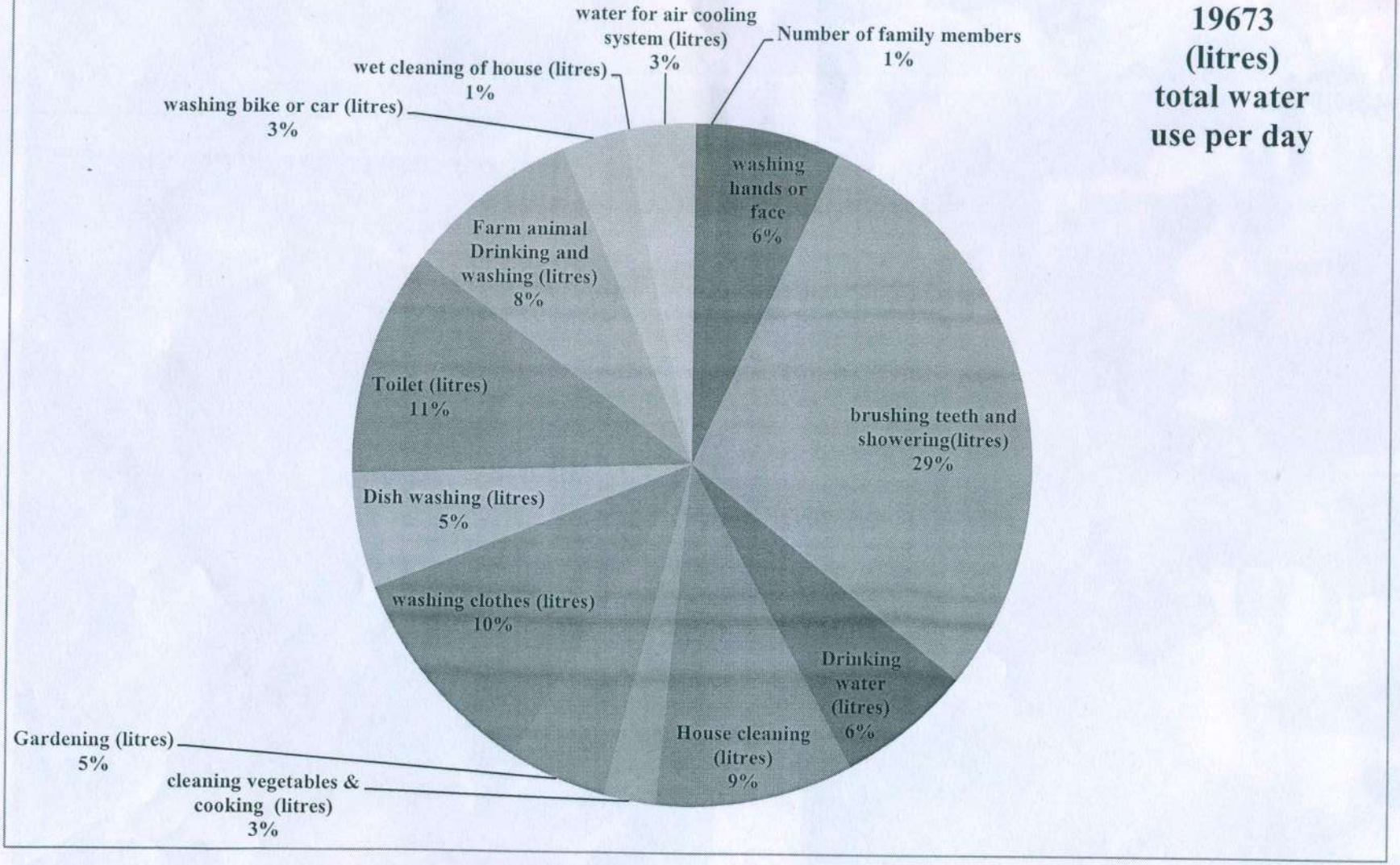
Water audit of Bakori village Dist. Pune



19673 (litres) total water use per day

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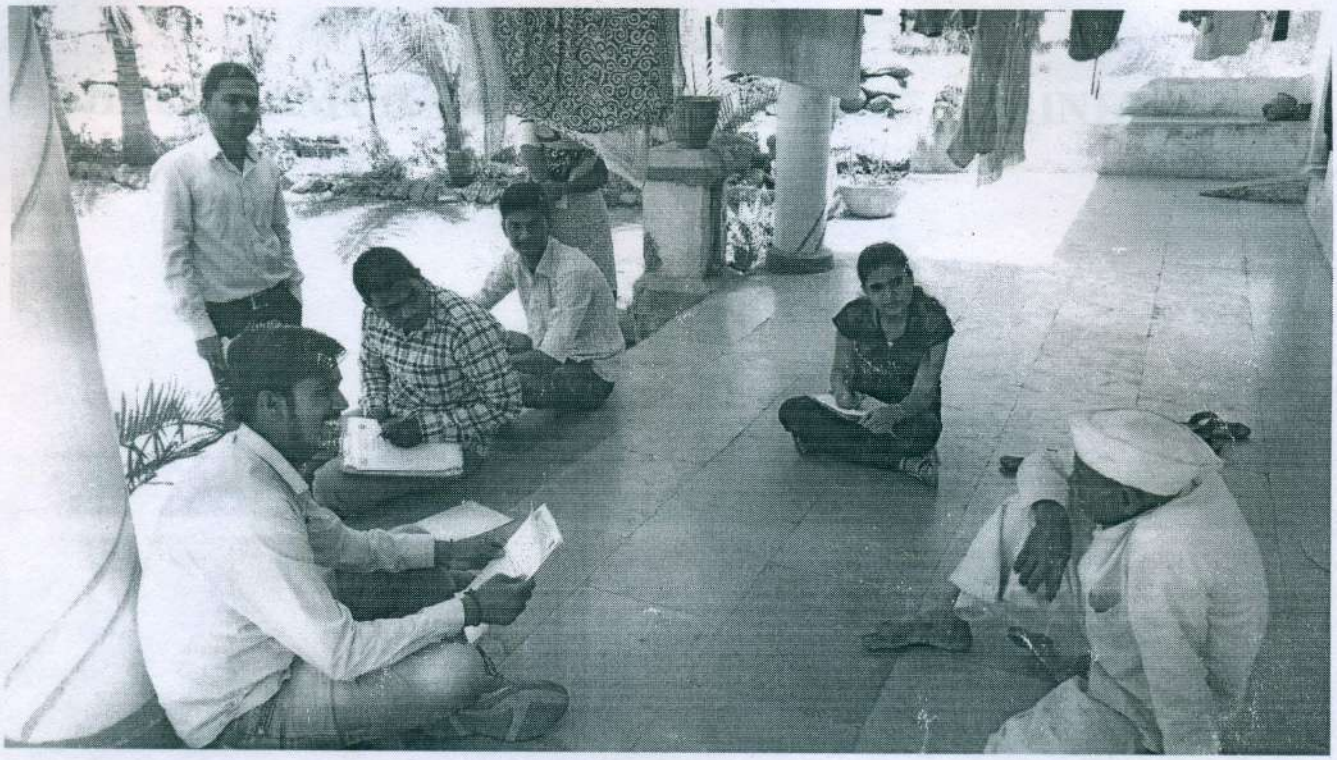

Snapshot of doing energy audit and water audit at Bakori village.

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