"IMPACT OF WATER SUPPLY ON ECONOMIC GROWTH: A CASE STUDY OF INDIA"

A

Major Project

submitted

in partial fulfillment

for the award of the Degree of

B.A. Economic (honors)

To

Amity School of Economics

Faculty Guide
Shivani Jaswal
Assistant Professor
Grade – I
Amity School of Economics

Submitted By:
Aayushi Kanodia
A6018215068
B.A. Economic(h)
Vth SEMESTER
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Amity School of Economics

Amity University, Uttar Pradesh

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Candidate's Declaration

I hereby declare that the work, which is being presented in the summer training report, entitled **"IMPACT OF WATER SUPPLY ON ECONOMIC GROWTH – A CASE STUDY OF INDIA"** in partial fulfillment for the award of Degree of "B.A. (H) Economics" **submitted to the Amity School of Economics,** Amity University, Uttar Pradesh is a record of my own investigations carried under the Guidance of Ms Shivani Jaswal, of Amity School of Economics.

I have not submitted the matter presented in this report anywhere for the award of any other Degree.

(Signature of Candidate)

Aayushi Kanodia

Enrolment No.: A6018215068.

Programme/Semester: B.A. (H) Economics/ VI semester

Batch: 2015-2018

Counter Signed by

Ms. Shivani Jaswal
Assistant Professor
Grade - I
Amity School of Economics

Amity School of Economics

CERTIFICATE

This is to certify that Aayushi Kanodia of, B.A. (H) Economics, 2015-2018, III Semester , has presented a Summer Training Report Title "IMPACT OF WATER SUPPLY ON ECONOMIC GROWTH- A CASE STUDY OF INDIA" in partial fulfillment for the award of the degree of Bachelors of Arts in Economics under Amity University, Uttar Pradesh.

Date: 19-03-2018

Faculty Guide
Ms. Shivani Jaswal
Assistant Professor
Grade - I
Amity School of Economics

Prof. (Dr.) Shalini Singh Sharma
Director
Amity School of Economics

Amity School of Economics

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Aayushi Kanodia

A6018215068

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ABSTRACT

Water consumption in fast growing developing economies is increasing at a very fast rate. In countries such as India, operating in the third phase of demographic structure, high birth rate and low death rate, will soon face the problem of water shortage in next two-three decades. Out of seventeen sustainable development goals by United Nations, availability of clean and safe drinking water to all the rural areas of the world is a major topic. This paper analyzes the impact of water supply on economic growth of India.

Water is a vast subject having different usage and consumption purposes. Therefore, in order to make the research work more subjective, only ‘drinking water’ has been taken as the main parameter. Since the demand and supply of water is different in urban and rural areas, analysis of the objective has been done separately for both the sectors. Consumption of water in rural area is majorly confined to irrigation purpose where as in urban areas it has high usage in domestic and industrial sector.

The following paper highlights the demand and supply gap of water in rural and urban areas of the country. The analysis proves that firstly with increase in living standards and income, there is shift of population from rural to urban area. Secondly it shows that the supply of water is not sufficient for the growing population. As a result, this situation generates the need for adoption of sustainable measures for water conservation in the upcoming future.

From empirical research and data analysis, it is significantly visible that the per- capita availability of annual water in India has declined by 70 percent from 1951 in the time span of sixty years. From annual average availability of 5177 cubic meter in 1951, it has gone down to 1545 cubic meter in 2011. Therefore, the objective of this paper is to prove that with growing population, water consumption is also increasing but with decrease in its availability over the period of time.

Keywords: water-supply, over population, drinking water service, rural growth, urban growth sustainable development.

I. INTRODUCTION

Water, the most common and easily available liquid on earth, is an important natural resource for both economic and social development of any country. Growth of an economy is largely dependent on resource available with it. Water an important resource; required by both labor and capital, majorly influences economic productivity. Water shortage or scarcity is broadly understood as lack of access to clean and safe water for consumption purpose. It becomes a renewable source only if well managed. Out of seventeen sustainable development goals given by United Nations, availability of safe and clean drinking water poses a great challenge to sustainable development. This paper as result analyses the impact of water supply on economic growth of India, as one of the developing county in the world.

India with current population of 1.2 million (Census of India, 2011) is the second most populated country in the world. A per Census of India, 2011, the current per capita water availability of water is 1545 cubic meter. This figure has been down by 70% of that by 1951 data in time span of 60 years. The per capita availability of water as per Census in 1951 was 5177 cubic meter. This has been down to 1861 cubic meter as per data of Census 2001 and further to 1545 cubic meter for Census 2011. This has been continuously declining due to proportionate increment in population. It has also been projected that the average annual water availability in the country will reach to 1447 billion cubic meter by 2050 from current (as per census 2011) average annual water availability of 1869 billion cubic meter. Supply and usage of water in India can be understood further in two sub sections, that is under rural and urban areas. Supply and usage of water is further streamlined to basic drinking water services as a part of total population, rural population and urban population.

According Census 2011, India's urban population has grown by 90.99 million between 2001-2011. In comparison to rural population, it has increased by 31.8%. This is 2.6 times increment with respect to rural population, 12.8% corresponding in the same decade. Overall there has been dip in the growth rate of rural population from 18.09% (1991-2001) to 12.8% (2001-2011) and marginal rise in urban population from 31.4% to 31.8% in the same time span. On the basis of empirical data, a shift of population from rural to urban cities is seen relating to various socio-economic factors as discussed further in paper.

With constant rise in population in both urban and rural cities, the problem of water supply and usage has also risen. There is a problem of demand supply gap of water between the rich and poor section of the economy. The paper has been categorized in four chapter including statistical data analysis. The first chapter details about the supply and demand gap of water in India. Supply of water all over India and demand for water as per it's consumption in rural and urban India. The second last chapter briefs about the water related health and sanitation problem. The last chapter will emphasize on the sustainable measures and policies towards water conservation with increase in population.

II. OBJECTIVE

- To prove as population increases, water consumption also increases, but availability of water decreases.
- To show with increase in population, least basic drinking water supply decreases.
- To show the demand and supply gap in water due to over consumption of water.

A. Research Methodology

A descriptive and analytical method of research has been adopted. Data has been collected mainly from government websites and word bank data. Other sources of data include journals and research papers. To analyze the significance of data and prove the objective, regression tool has been used.

III. SUPPLY OF WATER

According to Central Water Commission, the source of water on the earth is precipitation including snowfall. According to it, India's average annual precipitation is estimated at 4000 BCM (CWC, 2005), out of which a portion is absorbed in ground water, a portion of it is lost as evapo- transpiration and rest appear as surface water. Out of 1869 BCM water resource potential in form of natural run off in the rivers, only 1122 BCM is utilizable due to topography and geographical issues (690 BCM- surface water and 43 BCM- ground water)

Basin No.	Basin	Surface water availability	Surface water utilizable	Percent utilizable surface water	Replenish able ground water resource	Total utilizable resource
Billion Cubic Metre						
1	Indus	73.31	46.00	*62.7*	31.23	77.23
2	Ganga, Brahmaputra, Barak and other Basins	1110.62	274.00	*24.7*	209.85	483.85
3	Godavari	110.54	76.30	*69.0*	37.50	113.80
4	Krishna	78.12	58.00	*74.2*	26.65	84.65
5	Cauvery	21.36	19.00	*89.0*	10.15	29.15
6	Subernarekha	12.37	6.81	*55.1*	5.13	11.94
7	Brahmani & Baitarani	28.48	18.30	*64.3*	6.70	25.00
8	Mahanadi	66.88	49.99	*72.6*	17.72	67.71
9	Pennar	6.32	6.86	*108.5*	5.10	11.96
10	Mahi	11.02	3.10	*28.1*	3.12	6.22
11	Sabarmati	3.81	1.93	*50.7*	2.98	4.91
12	Narmada	45.64	34.50	*75.6*	12.90	47.40
13	Tapi	14.88	14.50	*97.4*	7.36	21.86
14	Ten composite Basins	286.02	81.03	*28.3*	57.30	138.33
Total		1869.37	690.32	*36.92*	433.69	1124.01

Supply of water in India is majorly obtained from 19 major basins. The per-capita availability from these basins ranges by low as 240m^3 in the Sabarmati basin to as high as 17,000m^3 in the Brahmaputra basin. On the other hand, water consumption varies from 243m^3 in the Meghna basin to 1,670m^3 in the Indus basin (Bhatt, 2014). Table 1 shows tabulated data for available and utilizable water from major basins of India

The average rainfall received by India is about 1770mm which corresponds to an annual precipitation of about 4000 BCM (including snowfall). As per the data of pre- monsoon 2013, compared to decadal mean of pre- monsoon (2002-2012), 56% of wells showed declined in ground water level in various parts of the country (CGWB, 2015). Lack of infrastructure and storage facilities, only 18% of this rainfall is utilized. 80% of annual precipitation is received during the monsoon season, June to September. Problem of inadequate infrastructure and efficient storage structure impedes the government from storing surplus rain water for dry season. This further leads to problem of water scarcity and situation droughts, currently faced in southern parts of India. Out of 4000 BCM of annual precipitation, 1047 BCM is lost due to transpiration, evaporation and runoff leaving only 1953 BMC as available water and 1123 BCM for usage purpose. Table 2 gives a brief description of water availability in India as a whole.

A. GENERAL	
Geographical area	329 M. ha.
Area as % of world area	2.4 %
Forest cover	20.97 %
Population as on 1.3.2006	1114.2 million
Population as % of world population	17.2 %
Annual rainfall (2005)	1208 mm
Major river basins (catchment area > 20,000 sq. km)	12 253 M. ha.
Medium River Basins (Catchment area < 20,000 sq. km.)	46 24.6 M. ha.
B. Water Resources	
Average annual Precipitation	4000 BCM
Avg. precipitation during Monsoon (Jun-Sept)	3000 BCM
Natural Runoff	1986.5 BCM
Estimated utilizable surface water resources	690 BCM
Total utilizable ground water resources	433 BCM
Total annual utilizable water resources	1123 BCM
Per capita water availability	1720.29 cum

IV. DEMAND FOR WATER

India being one of the most populated country, is the highest freshwater consumer. With 65% of ground water resource, it plays an important role in developing country's economic and social infrastructure. The largest sector of water consumption is agriculture followed by domestic usage and industrial usage. The demand for water from the rural sector accounts majorly in agriculture, for irrigation purpose. According to NCWIRD, 284 kg per head is the estimated food and feed demand for 2025 with a slight increment to 300 kg per head by 2065. This slight increment accounts for improved standard of living. An increment of 10% is observed in total demand for feed, wastage, seed etc. As a result, the overall food requirement for 2050 is 529 million tones and for 2065 is 567 million tones. Therefore, the estimated water requirement for irrigation (along with other factors such as irrigated and unirrigated areas yield) is about 807 BCM for 2050 and 853 BCM for 2065.

Under domestic consumption of water (drinking purpose majorly) for 2050 and 2065, NWICRD estimated per capita demand for rural and urban sectors as 220 lpcd and 70 lpcd by 2025 respectively. However, it is also possible that with increase in standard of living and lifestyle, rural demand may rise to 150 lpcd. On the basis of trend in population growth rate, it is estimated that 60% of population by 2050 and 65% of population by 2065 shall reside in urban sectors. As a result, this change in structure shall lead to only higher demand for water to 119 BCM and 123 BCM by 2050 and 2065 respectively (Jain K., 2011). Table 3 shows data on the same.

Item	Unit	Year 2025	Year 2050	Year 2065
Population	Million	1333	1692	1718
Percentage urban		0.45	0.6	0.65
Percentage rural		0.55	0.4	0.35
Norm – urban area	lpcd	220	220	220
Norm – rural area	lpcd	70	150	150
Demand – urban	BCM	48.17	81.52	89.67
Demand – rural	BCM	18.73	37.05	32.92
Total	BCM	66.90	118.58	122.59

Table 3: Domestic water requirement for the year 2050 and 2065

	Year 2010*		Year 2050*		Revised estimates	
Uses	Low	High	Low	High	2050	2065
Irrigation	543	557	628	807	826.7	852.9
Domestic	42	43	90	111	118.6	122.6
Industries	37	37	81	81	90.0	90.0
Power	18	19	63	70	70.0	75.0
Inland navigation	7	7	15	15	15.0	15.0
Environment – afforestation	0	0	0	0	1.0	1.0
Environment – ecology	5	5	20	20	90.0	90.0
Evaporation losses	42	42	76	76	80.0	80.0
Total	694	710	973	1180	1291	1327
Population (million)	1286	1333	1346	1581	1692	1718

Table 4: Total water requirement (BCM) for the year 2050 and 2065

V. DATA ANALYSIS

In order to prove the objective of this paper that is with growing population, availability of drinking water decreases in both rural and urban area, data analysis has been done for the same. Parameters used in this analysis are as follows:

- Urban population growth (annual percent)
- Rural population growth (annual percent)
- Population growth (annual percent)
- People using at least basic drinking water service (% of population)
- People using at least basic drinking water service, rural (% of rural population)
- People using at least basic drinking water service, urban (% of urban population)
- Time series taken: 2000-2015

Table 5 shows the data collected for the above mentioned parameters from 2000 to 2015 for India. This data has been collected from World Bank open data website. In order to prove the objective of this paper, statistical tool- regression model has been used for the same. Regression analysis is a technique used to find relationship between independent variable and dependent variable. In this paper the dependent variable (Y) is basic drinking water service and independent variable (X) is the population growth. For analysis purpose, three regression model have been made, such that (Y= mX + c):

1. Model 1:
   - Y = People using at least basic drinking water service (% of population)
   - X = population growth (an
   - nual percent)
2. Model 2:
   - Y = population using at least basic drinking water service, rural (% of rural population)
   - X = rural population growth (annual percent)
3. Model 3:
   - Y = People using at least basic drinking water service, urban (% of urban population)
   - X = urban population growth (annual %)

Series Name	population growth (annual%)	People using at least basic drinking water services (% of	rural population (% of total population)	People using at least basic drinking water services, rural (% of rural	urban population (% of total population)	People using at least basic drinking water services, urban (% of
2000	1.8	80.4	1.5	75.8	2.6	92.4
2001	1.7	80.9	1.4	76.4	2.6	92.4
2002	1.7	81.4	1.2	77.0	2.9	92.5
2003	1.7	81.9	1.2	77.7	2.8	92.5
2004	1.6	82.4	1.2	78.3	2.8	92.5
2005	1.6	82.9	1.1	78.9	2.7	92.6
2006	1.5	83.4	1.1	79.5	2.7	92.6
2007	1.5	83.8	1.0	80.1	2.6	92.6
2008	1.5	84.3	1.0	80.7	2.6	92.6
2009	1.4	84.8	0.9	81.3	2.5	92.7
2010	1.4	85.3	0.9	81.9	2.5	92.7
2011	1.3	85.7	0.8	82.5	2.4	92.7
2012	1.3	86.2	0.7	83.2	2.4	92.8
2013	1.2	86.7	0.7	83.8	2.4	92.8
2014	1.2	87.1	0.6	84.4	2.3	92.8
2015	1.2	87.6	0.6	85.0	2.3	92.8

Table 5: Data related to population growth and drinking water in India

Three set of regression model (run via MS Excel) are shown in the next page. Inference drawn from these model is as follows:

- The null hypothesis in all three model is that as population increases, people using at least basic drinking water (total, urban and rural) decreases.
- All the three model are statistically significant as the P- value is less than chosen significance level during the test (5%). Therefore, the null hypothesis is accepted.
- All the three models are closely fitted to the regression line.
- Also the coefficient of X in all three models is negative. Thus, helping in proving the objective.

- Model 1: (population growth (annual %))

  people using at least basic drinking water = -11.313X + 100.7309

  Model 2: (rural population growth (annual %))

  people using at least basic drinking water, rural =

  -11.0167X + 91.39206

  Model 3: (urban population (annual%)

  people using at least basic drinking water, urban =

  -0.66587X + 94.34442

- According to given data set and literature review, a sharp trend in decline of rural population growth is observed. With increase in standard of living and better opportunities, a shift from rural to urban area is observed over the past 15 years.

The following sections shows all the three regression model-

SUMMARY OUTPUT								
Regression Statistics								
Multiple F	0.988271							
R Square	0.976681							
Adjusted I	0.975015							
Standard E	0.358859							
Observati	16							
ANOVA								
	df	*SS*	*MS*	*F*	*gnificance F*			
Regressio	1	75.5109	75.5109	586.3561	7.94E-13			
Residual	14	1.802919	0.12878					
Total	15	77.31382						
	Coefficients	*andard Err*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*ower 95.0%*	*pper 95.0%*
Intercept	100.7309	0.694928	144.9516	1.22E-23	99.24042	102.2214	99.24042	102.2214
X Variable	-11.313	0.467195	-24.2148	7.94E-13	-12.3151	-10.311	-12.3151	-10.311

Model 1: population growth (annual %) and basic drinking water service

SUMMARY OUTPUT								
Regression Statistics								
Multiple R	0.99345							
R Square	0.986943							
Adjusted R	0.98601							
Standard E	0.343839							
Observati	16							
ANOVA								
	df	*SS*	*MS*	*F*	*gnificance F*			
Regressio	1	125.1064	125.1064	1058.205	1.36E-14			
Residual	14	1.655151	0.118225					
Total	15	126.7615						
	Coefficients	*andard Err*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*ower 95.0%*	*pper 95.0%*
Intercept	91.39206	0.348531	262.2208	3.03E-27	90.64453	92.13958	90.64453	92.13958
X Variable	-11.0167	0.338663	-32.5301	1.36E-14	-11.7431	-10.2904	-11.7431	-10.2904

Model 2: rural population growth and basic drinking water in rural

SUMMARY OUTPUT								
Regression Statistics								
Multiple R	0.83163							
R Square	0.691609							
Adjusted R	0.669581							
Standard E	0.079015							
Observati	16							
ANOVA								
	df	*SS*	*MS*	*F*	*gnificance F*			
Regressio	1	0.196025	0.196025	31.39694	6.51E-05			
Residual	14	0.087408	0.006243					
Total	15	0.283433						
	Coefficients	*andard Err*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*ower 95.0%*	*pper 95.0%*
Intercept	94.34442	0.306402	307.9104	3.2E-28	93.68725	95.00159	93.68725	95.00159
X Variable	-0.66587	0.118835	-5.6033	6.51E-05	-0.92074	-0.41099	-0.92074	-0.41099

Model 3: Urban Population Growth (Annual %) And Basic Drinking Water, Urban

VI. PROBLEMS RELATED TO WATER SCARCITY (HEALTH AND SANITATION)

India at current situation might be having enough water resources to meets its population demand but shall soon face the problem of scarcity. An initial impact of it can be seen from the recent droughts faced by southern India due to lack of monsoon. According to Economic Times of India, 'Indian government declared eight states as drought affected, namely Kerala, Rajasthan, Madhya Pradesh, Karnataka, Uttarakhand, Uttar Pradesh, Andhra Pradesh and Tamil Nadu. It declared 2,264 blocks across different states as irrigation deprived.' Apart from the problem of draught other problems related to water shortage are adverse health problems such as jaundice, typhoid, jaundice, diarrhea, HIV/AIDS, Malaria, Cholera, Filariasis etc.

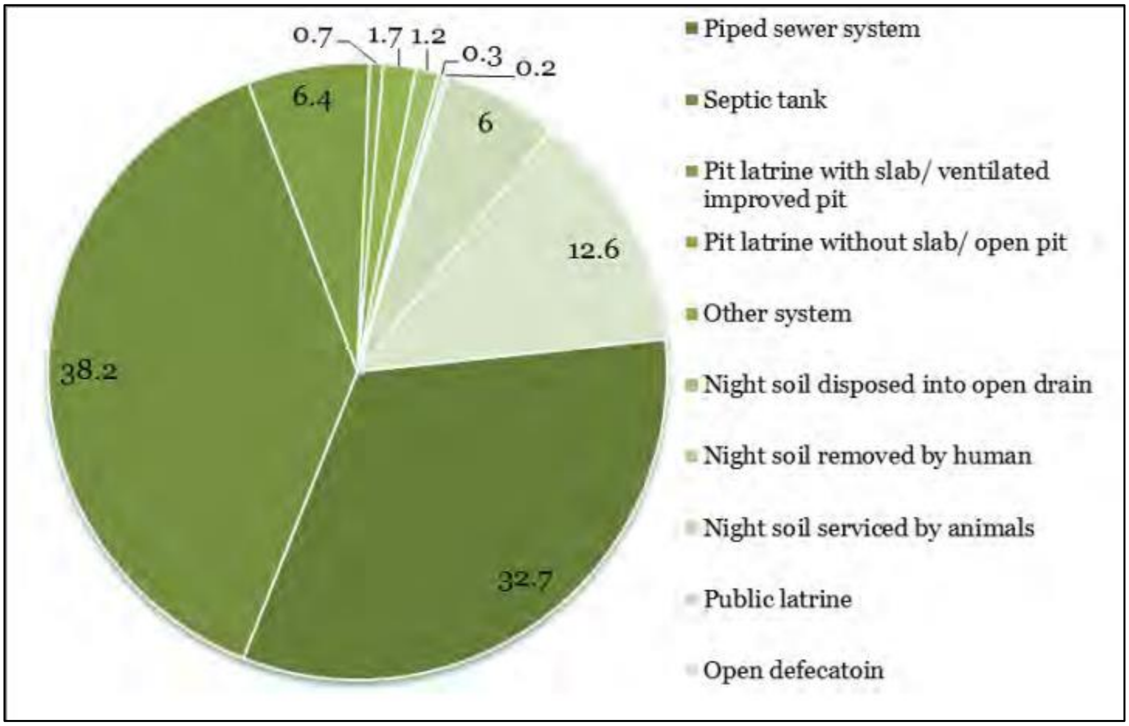

Figure 1: distribution of toilet facilities in urban households of India, 2011

With growing demand of water in the urban sector (shift of rural to urban), urban sanitation is discussed further in the paper. According to IIHS study, 81% of urban hoseholds have access to toilet facilities, 6% to public toilet and 12% to open defcation. As a result, 10 million people still defacte in open areas. Open defecation or not having proper toilet facilities is one of the major problem faced by urban areas. Figure 1 shows distribution of toilet facilities in urban households of India, 2011.

According to a study conducted by IIHS, type of condition of toilets in urban areas also varies at a wide range. Toilet facility in urban slums and the poorer section are often dysfunctional and unhygienic to use. Most of them are not in a state of usage. Table 6 shows data related to improved sanitation facility in total population, urban population and rural population.

From table 6, it is very much evident that percentage of usage of improved sanitation facilities in rural and urban sector has improved over the past one and half decade. However, percentage of households with basic sanitation facility has decreased in past two decades from 32% to 17%. Also number of households having unimproved toilets/open defecation has decreased from 72mn to 64mn. A tabulated information of the same is shown in table 7.

year	Improved sanitation facilities (% of population with	Improved sanitation facilities, rural (% of rural population with	Improved sanitation facilities, urban (% of urban population
2000	25.6	14.5	54.5
2001	26.6	15.5	55.1
2002	27.6	16.5	55.7
2003	28.6	17.5	56.2
2004	29.6	18.5	56.8
2005	30.6	19.5	57.4
2006	31.6	20.5	58
2007	32.6	21.5	58.5
2008	33.6	22.5	59.1
2009	34.6	23.5	59.7
2010	35.5	24.5	60.3
2011	36.5	25.5	60.8
2012	37.5	26.5	61.4
2013	38.5	27.5	62
2014	39.5	28.5	62.6
2015	39.6	28.5	62.6

Table 6: sanitation facilities in total, urban and rural India

Year	Popn India (millions)	% of Urban Popn	Improved	Shared	Unimproved	Open Defecation
1990	862	26%	49%	19%	4%	28%
2000	1042	28%	52%	20%	6%	22%
2008	1181	29%	54%	21%	7%	18%
2011	1210	31%	77%	6%	4%	13%

Table 7: Access to improved urban sanitation.

Measures adopted by government towards health and sanitation in urban and rural areas:

By April 2004, it became mandatory for the Department of Drinking Water Supply under Ministry of Rural Development to provide safe drinking water in all rural habitations. In order to fulfill this target various programs and policies were adopted, such as: Accelerated Water Supply Program (AWSP), Pradhan Mantri Gramodaya Yojana- Rural Drinking Water (PMGY- RDW). With a considerable investment of Rs.34,000 crores, the department has been able to fully cover 91.06% rural habitation and partial coverage of 7.93% of rural habitation. The main objective of AWSP is to provide water facility to all rural habitation, particularly those not in reach. It also focuses on monitoring quality of water and surveillance through a Catchment Area Approach. in 2001-02, Accelerated Rural Water Supply Program was funded by Rs.1975 crores which got

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incremented to Rs.2110 crores in 2002-2003. Out of the proposed coverage of 63,869 habitations, the program was able to cover 27,668 habitations by January 28, 2003.

Under the field of rural sanitation, Central Rural Sanitation Program has been adopted which was restructured in 1999 to Total Sanitation Campaign (TCS). Function of TCS is to provide assistance in form of interaction between the government, people and active NGO. With demand oriented construction norms (increase in household involvement), it also focuses on software and school sanitation facilities. The total budget of TCS is summed up to Rs.2032 crores for 185 districts.

The urban sector witnessed emergence of scheme such as Accelerated Urban Water Supply Program in 1993-94. The aim of this program was to provide water to towns with population less than 20,000 as per Census of 1991. By December 31, 2002 an estimated cost of Rs.951.16 crores had been sanctioned to 736 schemes under this program.

The Housing and Urban Development Corporation (HUDCO) had extended loan and subsidy to the low cost sanitation scheme. The objective of this scheme was to completely remove manual scavenging that is to convert existing dry latrine to low cost pour flush latrine. By December 31, 2002 a project of cost Rs.1468.72 crores had got sanctioned for 860 schemes in 1496 towns. With this scheme, 387 towns were declared scavenger free (website: indiabudget.nic.in).

VII. TOWARDS SUSTAINABLE DEVELOPMENT

A. National Water Policy

National water policy (NWP) formulated by Ministry of Water Resources of the GOI had been set up for the planning and development of water resources and its optimum utilization as per its requirement. It was first adopted in September 1987, later revised in 2002 and 2012. Salient features of it mainly focus on sustainable development of water resources such that t leads to its judicious allocation and appropriate pricing. Another main agenda of this policy is to have regular monitoring tool to measure water demand and supply (at national and state level), ground water usage and water table movement. It also focuses on usage of non-conventional sources of water in path of sustainable development. At the end it aims to construct master plan for flood control and development in drought prone areas. Adoption of various water conservation technique such as rainwater harvesting, reduction in subsidies on power supply, policies against ground water pollution, recycling of industrial waste etc. shall help in achieving sustainable development goals related to water usage.

B. Policies And Recommendation

According to my opinion, adoption of common techniques or high end water conservation techniques is not sufficient enough to reach the desired goal until its users are aware of it. Awareness and economic applicability of such techniques is shall only provide solution. More over investment in research and development in the field of conservation methods is very much important. It is often observed that new methods are very expensive for common man usage. Therefore, government intervention in form of subsidies is required to make usage of high end techniques available to common man.

Water can only be conserved if either its usage is reduced or it is reused. India being one of the most highly populated country and largest user of ground water source can work little in light of reduction in water consumption. However, policies related to reuse of water or compulsory percentage of reduction of water consumption can help in conservation. Taking example of countries like Israel and Saudi Arabia, both dessert countries yet declare to have water surplus by using 85% and 65% of wastewater respectively. Similarly, Singapore is reusing 30% of its water.

However, it is important to note that, governments' measure to provide water at subsidized rate or providing free water supply will not resolve the problem of water scarcity. Such methods shall only lead to exploitation of water resource leading to further problem of water scarcity.

VIII. CONCLUSION

At current situation, India is not a water deficit country. The problem of water scarcity and drought has risen in some parts of the country only because of lack of appropriate infrastructure and water storage structure. As proved in this research paper, with increasing population, water consumption is also increasing but its availability is gradually declining. This decline in water supply shall turn to problem of water scarcity in next two to three decades, if appropriate measures are not taken in present time.

Shortage of water supply shall not only impede the health of the country but will adversely affect the economic growth as well. Since water forms the base of construction of any sector (agriculture, domestic and industrial), shortage of it will only lead to problem in future economic growth. To conclude, India needs to urgently work on development of infrastructure for storage of surplus water such that the problem of upcoming future droughts could be managed effectively.

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