e-ISSN: 2455-667X



Annals of Natural Sciences Vol. 2(1), March 2016: 79-83 Journal's URL: http://www.crsdindia.com/ans.html

Email: crsdindia@gmail.com

Annals of Natural Sciences

ORIGINAL ARTICLE

Teachers Role in Water Conservation: A Study

N. Samuel Babu¹ and Ishrath Unnisa Begum²

¹Government Mahabubia Girls Junior College, Gunfoundry, Hyderabad, Telangana ²Sri Padmavathi Mahila Vishwavidyalayam, Tirupathi, Chitoor, Andhra Pradesh Email: samdacomfort@gmail.com, ishrath81hani@gmail.com

ABSTRACT

Conservation of water is the need of the hour. The current investigation is to delineate the role of male and female teachers working in Government as well as Private schools in Balkonda Mandal in Nizamabad District of Telangana State. A questionnaire was developed which consists of forty items related to the knowledge and awareness of teachers on conservation of water in schools. The sample constitutes One hundred (100) teachers of either sex from Government and Private High schools of Balkonda Mandal in Nizamabad District of Telangana State. The findings of the investigation amply demonstrated that teachers working in Government High Schools had more awareness on water conservation than that of teachers working in Private High Schools in Balkonda Mandal of Nizamabad District in the State of Telangana.

Key words: Water conservation; awareness on conservation of water; activities for conservation of water; knowledge of the environmental programmes and conservation of water.

Received: 4th Jan. 2016, Revised: 22nd Feb. 2016, Accepted: 26th Feb. 2016 ©2016 Council of Research & Sustainable Development, India **How to cite this article:** Babu N.S. and Begum I.U. (2016): Teachers Role in Water Conservation: A Study. Annals of Natural Sciences, Vol. 2[1]: March, 2016: 79-83.

INTRODUCTION

Water is essential for life on our planet. *The conservation of water is very important and necessary to have a healthy and long-lasting life.* Conservation of water is the need of the hour today. This is because the ever-increasing population has put an immense pressure on sustaining water resources. After all, a little drop makes an ocean. Water education can be important in effecting social change toward a sustainable society.

Water Conservation is an integral part of Indian identity and cultural history. The Indus Valley Civilization flourished along the banks of the river Indus had one of the most sophisticated urban water supply and sewage systems in the world.

Article 21 of the Constitution of India, has been interpreted by Supreme Court to include all facets of life. The court order has resulted in expanding the right to life to include several other vital aspects of human life like pollution-free water and air, health, environment, and housing. Article 15(2) of the Constitution states that no citizen shall 'on grounds only of religion, race, caste, sex, place of birth or any of them' be subject to any disability, liability, restriction or condition with regard to 'the use of wells, tanks, bathing ghats.' Article 51-A (g) casts a fundamental duty on every citizen of India 'to protect and improve the natural environment including forests, lakes, rivers, wild life and to have compassion for living creatures.'

The Centre recognized the need for a decentralized structure of governance at the panchayat level. This was implemented through the 73rd and 74th Constitutional Amendments; whereby the States have the authority to give responsibility and powers to the Panchayat Raj Institutions (PRIs) and Urban Local Bodies (ULBs) for the supply of

water. The provisions introduced by this amendment provide for administrative and legislative powers. But in the last few decades the consequences of population growth, industrialization and urbanization, and the associated consumerist culture, have interfered with the natural hydrological cycle of rainfall, soil moisture, groundwater, surface water and storage of all sizes. This has led to overuse, abuse and pollution of our vital water resources and has disturbed the quality and the natural cleansing capacity of water. Water is one of the most crucial elements in our national developmental planning for the 21st century. The proper management of our limited water resources will be essential to ensure food security for our growing population and to eliminate poverty. It will be essential also to avoid the growing conflicts and the possibility of social unrest in the country in future due to water scarcity.

India has one of the largest numbers of school going children, especially in rural areas with about 6.3 lakh rural schools. As per National Family Health Survey 75 percent of the children in the age group of 6-14 years are attending schools in rural areas. A matter of concern is that out of these 6.3 lakh rural schools only 44 per cent have water supply facilities. The survey also points out that half of all Indian children are undernourished and half of all adult women suffer from anemia. At the time of the survey, 30 per cent of all children under the age of three had fever, another 20 per cent had diarrhea, and another 20 per cent had symptoms of acute respiratory infection13. These figures portray a grim picture with almost half of our country's children suffering some form of ailment. The Government of India has launched school water supply, sanitation and hygiene education programme (SSHE) through the Ministry of Rural Development under the Accelerated Rural Water Supply and Swajaldhara Programmes and the Sarva Shiksha Abhiyaan of the Ministry of Human Resource Development which has provisions for setting up schools with facilities for effective water supply and sanitation. By focusing on children today and providing them with knowledge with regard to maintaining water quality and effective sanitation practices we will be securing the upcoming generation from the threats of water and sanitation related diseases. This will not only provide a hygienic environment in schools, the children will also convey the message back home.

Squarely there is a little research carried on in the field of water conservation at the school level and the role and awareness of teachers in water conservation is never discussed and debated or delineated, even the case of teachers working in High schools in Balkonda Mandal of Nizamabad District.

Balkonda is a Mandal in Nizamabad District of Telangana State, in South India. It is located 39 KM towards East from District head quarters Nizamabad. Balkonda consist of 30 villages and 25 Panchayats.

OBJECTIVES OF THE STUDY

- **1.** To delineate the awareness on conservation of water among the High school Teachers in Government and Private schools of Balkonda Mandal in Nizamabad District in the State of Telangana.
- **2.** To study the awareness on the activities for conservation of water among the high school teachers in Government and private schools of Balkonda Mandal in Nizamabad District in the State of Telangana.
- **3.** To study the relationship between the knowledge of the environmental programmes and conservation of water among the high school teachers in both Government and Private schools of Balkonda Mandal in Nizamabad District in the State of Telangana.
- **4.** To study the active participation of teachers in water conservation and environmental protection among the high school teachers in both Government and Private schools of Balkonda Mandal in Nizamabad District in the State of Telangana.

LIMITATIONS OF THE STUDY

1. The area of investigation was restricted to Balkonda Mandal in Nizamabad District in the State of Telangana.

- **2.** The study was limited to study the following areas with regard to awareness of High school teachers working Government and Private Schools of Balkonda Mandal in Nizamabad District in the State of Telangana.
 - **a.** awareness on conservation of water
 - **b.** activities for conservation of water
 - c. knowledge of the environmental programmes and conservation of water
 - **d.** active participation of teachers towards water conservation and environmental protection.
- **3.** The investigation was restricted to study the awareness of water conservation among High School teacher working Government and Private Schools of Balkonda Mandal in Nizamabad District in the State of Telangana.

RESEARCH METHODOLOGY

This study falls under non-experimental designs and a *normative survey* is employed to elicit appropriate information from the respondents.

The universe of the present study consists of teachers of *Nizamabad District* in the State of Telangana. The sample constitutes *One hundred teachers from Government and Private High schools of Balkonda Mandal of Nizamabad District*. The sample was drawn through Stratified Random Sampling Technique. Statistical techniques like mean and t-tests with SPSS package was employed to analyze the data.

TOOL DEVELOPED FOR THE STUDY

A self-made questionnaire was developed which consists of 40 items related to teacher's awareness on conservation of water. These items were measured on Likert type 3 –point scale.

RESULTS AND DISCUSSION

The hypotheses set forth to be examined are as follows:

HO.1. There will be no significant difference awareness on conservation of water among the High School Teachers in Government and Private Schools of Balkonda Mandal in Nizamabad District in the State of Telangana.

This study opened new avenues of looking at teachers' awareness with regard to conservation of water in Government and Private High Schools of Balkonda Mandal in Nizamabad District in the State of Telangana. The findings explicitly demonstrated that the teachers working in Government High Schools had more awareness on water conservation than that of teachers working in Private High Schools in Balkonda Mandal of Nizamabad District. Further, the male teachers working Government and Private High School had more awareness on conservation water than that of the female teachers of Government and Private High Schools.

Thus, the hypothesis formulated that there will be no significant difference awareness on conservation of water among the High School Teachers in Government and Private Schools of Balkonda Mandal in Nizamabad District in the State of Telangana was rejected.

HO.2. There will be no significant difference of awareness on the activities for conservation of water among the High School Teachers in Government and Private Schools of Balkonda Mandal in Nizamabad District in the State of Telangana.

Based on the results obtained from the investigation, it appears that teachers from Government High Schools had more awareness on activities for conservation of water than that of the teachers from Private High Schools of Balkonda Mandal in Nizamabad District in the State of Telangana. Moreover, male teachers from Government as well as Private High School had more awareness on activities for conservation of water than that of the female teachers from Government and Private High Schools.

It is apparent form this piece of investigation that the teachers from Government High School had a significant awareness on the activities for conservation of water among the

High School Teachers in Government and Private Schools of Balkonda Mandal in Nizamabad District in the State of Telangana. Therefore, the hypothesis is rejected.

HO.3. There will be no significant relationship between the knowledge of the environmental programs and conservation of water among the High School Teachers in both Government and Private Schools of Balkonda Mandal in Nizamabad District in the State of Telangana.

The investigation has proved that the prudent teachers would like to enhance the knowledge of the students through their efficacy and competencies with regard to water conservation. The results indicated that teachers from Government High Schools had more knowledge of the environmental programs and conservation of water than that of teachers from Private High Schools. Interestingly, female teachers from both Government as well as Private High Schools could possess more knowledge on the environmental programs and conservation of water than that of male teachers from Government as well as Private High Schools.

Thus, the hypothesis - there will be no significant relationship between the knowledge of the environmental programs and conservation of water among the High School Teachers in both Government and Private Schools of Balkonda Mandal in Nizamabad District in the State of Telangana is rejected.

HO.4. There will be no significant difference in active participation of teachers towards water conservation and environmental protection among the High School Teachers in both Government and Private schools of Balkonda Mandal in Nizamabad District in the State of Telangana.

The results of the study amply exhibited that the teachers from Government High Schools had participated actively in water conservation and environmental protection than that of teachers from Private High schools in Balkonda Mandal in Nizamabad District in the State of Telangana. Further, male teachers from Government as well as Private High Schools had participated actively in water conservation and environmental protection than that of their counterparts in Government as well as Private High Schools.

The major finding of the study reveals that teachers both from Government as well as Private High Schools need to undergo capacity building programmes for effective conservation of water and to have a deep understanding of the various strategies involved in water conservation at High school level.

The present piece of investigation has implications for the teachers; students; heads of institutions; parents and for policy makers.

As the present study is not much comprehensive and exhaustive due to the limitations of a doctoral work, it is suggested that further investigations may be focused on the *policies and programmes* designed to improve the efficacy of the teacher's awareness of water conservation; *perceptions of students/Heads of Institutions/parents* on various methods and strategies employed in conserving water resources.

REFERENCES

- **1.** Alexander and Poyyamoli (2014). The Effectiveness of Environmental Education for Sustainable Development Based on Active Teaching and Learning at High School Level-A Case Study from Puducherry and Cuddalore Regions, Indian Journal of Sustainability of Education.Vol.7.
- **2.** Becky Dixon (2001). Purposeful Learning: A Study of Water. Early Childhood Research & Practice (ECRP) Vol.3, No.2.
- **3.** Bhamoriya, Vaibhav (2010) Adaptiveness of Water Management Institutions: Nature, Impact and Impact. PhD. Thesis, IIM Ahmedabad.
- **4.** Cankaya C. and Iscen C.F. (2015). Development of Pre-service Science Teachers' Awareness of Sustainable Water Use. Educational Research and Reviews, 10(4): 471-484.
- **5.** Chawala J.K., Khepar S.D., Siag M. and Kumar D. (2001). Quality Status and optimum utilization of Village Pond Water, A Case Study. Indian Journal of Environmental Health. 43 (3): 114-118.
- **6.** Chawala J.K., Khepar S.D., Siag M. (2002). Economic Feasibility of Renovation of Village Ponds for Irrigation in Kandi area of Punjab. Indian Journal of Environmental Health, 57(1):91-98.
- **7.** Fatoba, Joseph Oba and Aladejana, Alaba Lawrence (2014). The Attitudes of Biology Teachers and Students toward the Conservation of Natural Resources in Ekiti State, Nigeria. Journal of Education and Practice. Vol.5, No.34, 2014

- **8.** Ferreira J. and Ryan L. (2012). Working the System: A Model for System-Wide Change in Pre-Service Teacher Education. Australian Journal of Teacher Education, 37(12).
- **9.** Goel A.K. and Kumar R. (2005). Economic analysis of water harvesting in a mountainous watershed in India. Agricultural Water Management, 71(3): 257-266.
- **10.** Gupta Akhilesh, Mall R.K., Singh Ranjeet, Rathore L.S. and Singh R.S. (2006). Water resources and climate change: An Indian Perspective; Current Science, Vol. 90, No. 12.
- **11.** Jen-Gaw Lee et al (2005). E-Learning for Teachers on Water Environment Education. 3rd International Conference on Information Technology: Research and Education.
- Joseph O. Ogunbiyi and Josiah O. Ajiboye (2009). Pre-Service Teachers' Knowledge of and Attitudes to Some Environmental Education Concepts Using Value Education Strategies. Anthropologist, 11(4): 293-301.
- **13.** Kapadia Vivek P (2012). Relevance of Traditional Indian Methods of Water Management in the Present Era, in Indian Water Sector: Critical Analysis of the Present Crisis and the Roadmap Towards the Solution, India Water Week 2012.
- 14. Kumar R.D. Singh and Sharma K.D. (2005). Water Resources of India.Current Science, Vol.89, No.5.
- **15.** Kurunthachalam S.K. (2014). Water Conservation and Sustainability: An Utmost Importance. Hydrol Current Res 5:e117.
- **16.** Mahesh Kumar et al (2013). Climate smart water conservation management technologies. International Journal of Water Resources and Environmental Engineering. 5(10):556- 572.
- **17.** Middlestadt, Susan *et al* (2001). Turning on the Faucets Off: Water Conservation Education in Jordanian Schools. Journal of Environmental Education, 32(2): 37-45.
- **18.** Mumtaz Syed. S and Sawant (2015) Financial Feasibility Analysis of Water Conservation Component in Mass Housing Projects: Suburban Indian Case Review, Journal of Architectural Engineering Vol.10,pp.1061.
- **19.** Otieno, D. B. (2012). A survey of the role of primary school women teachers in environmental education and awareness building in Nairobi, Kenya (Doctoral dissertation).
- **20.** Patel AI, Bogart LM, Uyeda KE, Rabin A, Schuster MA (2010). Perceptions about availability and adequacy of drinking water in a large California school district. Prev Chronic Dis No.7(2):A39
- Prabuddh Kumar Mishra and Suresh Chand Rai (2014). A Cost-Benefit Analysis of Indigenous Soil and Water Conservation Measures in Sikkim Himalaya, India. Mountain Research and Development 34(1):27-35.
- **22.** Prasad, Sheetla. (2005). Life Styles Intervention for Promotion of Pro-environmental Behaviour among Adolescents. Project Report from Ewing Christian College, Allahabad. Supported by ERIC, NCERT, New Delhi.
- **23.** Rachel MacDonald, Claudia Fehres, Gregg Wesley (2016). Educational frameworks and Water Conservation. Water is Life is an initiative of Maurick College, The Netherlands and Raffles Institution, Singapore
- **24.** Ruthanne "Rudi" Thompson, Alice Coe, Irene Klaver, and Kenneth Dickson (2011). Design and Implementation of a Research-Informed Water Conservation Education Program. Applied Environmental Education & Communication Vol. 10, Issue. 2.
- **25.** Samuel A. and McMartin D. (2014). Teaching and Knowing beyond the Water Cycle: What Does It Mean to Be Water Literate? Creative Education, 5, 835-848.
- **26.** Shivani Chandola Barthwal and Vinod B. Mathur (2012). Teachers' Knowledge of and Attitude towards Wildlife and Conservation. A Case Study from Ladakh, India. Mountain Research and Development 32(2):169-175.
- **27.** Sudeep Kumar and Anirudh Prasad (2015). Managing Water Resources through Collective Action: A Case Study with Reference to Water User Group in a Village of Eastern Jharkhand. Water Resources Management and Sustainable Development. Vol. 13.
- **28.** Terence J. Mills, John Amend, and Dan Sebert (2010). An Assessment of Water Resource Education for Teachers Using Interactive Computer Simulation. The Journal of Environmental Education .Vol. 16, Iss.4.