Journal of Advances and Scholarly Researches in Allied Education
Vol. 15, Issue No. 9, October-2018, ISSN 2230-7540

Methods to Improve Water Quality and Their Relevance

Monika[1]* Dr. Krishan Pal Singh[2]

[1] Research Scholar, OPJS University, Churu, Rajasthan

[2] Associate Professor, OPJS University, Churu, Rajasthan

Abstract – Water is a vital part of our lives. No one will live without water for a longer periods. Water quality is also significant, as polluted water will rise among living organisms to many diseases. Therefore different approaches are used to improve the water quality. In certain situations, the water is filtered using successful micro-organism methods. That technology should be environmentally sustainable. This approach was used to increase the consistency of the water in different rivers.

It is found that the level of water quality is declining year by year with the rise in population. Hence, there is a growing need to improve water safety. In this paper we highlight treatment of Bokashi ball to enhance water quality.

Key Words: Bokashi ball, Water, Quality, Improve

----------X----------

INTRODUCTION

Bokashi balls can be used for water tank purification. These balls are easy to use, more accommodating to the climate. These boules are capable of removing toxic particles from liquids. Ses balls are of support in the development of the organism.

This can also be put in the greenhouse and can be helpful for plant growth. This balls may also be put in the lake or river to increase the consistency of the water. It is observed that the places near every river or lake where there are many factories and industries, the region's water quality is found to be bad due to the mixing of the nearby factories and industries' waste particles.

Water sources like fish, ducks or other species have to suffer a lot from polluted water. The Bokashi balls should be used at these kinds of sites to enhance the consistency of the water.

We were attempting to increase the consistency of a pond 's water. A cut was taken from a marsh, filled with mud. 500 grammes of Bokashi was used for 5 kilogrammes of clay. Bokashi are unique micro-organisms of vaccinated origin. At Bokashi, molasses were then introduced.

Water was then poured into 100 ml solution, which was extracted from micro-organisms. Then this mixture was stored in a warm place for a week and put in a dark place to replicate in micro-organisms.

Then they are permitted to place these Bokashi balls in water and an improvement in water quality has been noticed. Bokashi balls contain special bacteria which function as a philtre to purify the water. By using the Bokashi ball process, the odour from water places such as pond or river can be minimised by covering the food waste through the microorganisms.

A variety of particles of the lactic and bacteria are used in successful micro-organic composition. These micro-organisms have the capacity to recover their reproductive abilities. This system has significant environmental effects. This approach can also be used in different fields such as fisheries, fisheries and waste product management etc.

With the aid of Bokashi Ball therapy, the integrity of water places such as reservoir, pool, or rivers can be preserved and further enhanced. The greatest benefit of using Bokashi ball is that these balls have the ability to slow the growth of the algae. This may also be used to decompose the sludge, eliminating the odours of ammonia and methane that are poor in appearance.

The pH level of water can also be increased by regulating the dissolved oxygen and the need for chemical oxygen using Bokashi balls. Government is also taking effective steps to reduce water contamination, but government officials are not doing this handily, since all residents need to make

efforts of their own if they really want to achieve improved water quality. All should be conscious that they are not contaminating the water. And water quality can be preserved.

USAGE OF BOKASHI BALL TREATMENT TO WATER QUALITY IMPROVING

The water is made purify in Bokashi ball treatment by removing the sludge and reducing the nutrients. This procedure has the potential to alter the nature of water-residing living species. Therefore weed growth is diminished as it becomes less fertiliser.

The microbial processes are preserved in water and nutrients, and the water absorbs other organic substances. Therefore the sludge is triggered in the water resulting in a reduction in the volume of sludge at the bottom of the water source.

Bokashi balls are about the size of a tennis ball and are built for a longer time of therapy. They are put in the sludge and their effect in the lower sections of the water-bodies can be even greater.

The following estimates show the water quality before and after water conservation technology is introduced. Figure 1 indicates the low water quality before water treatment is used and Figure 2 indicates the better water quality after water treatment is applied.

Figure 1: Before Treatment

Figure 2: After Treatment

Since using the Bokashi ball procedure, a significant improvement in the amount of dissolved oxygen and pH of the water was found.

The following table shows the concentration of dissolved oxygen after treatment with Bokashi Ball.

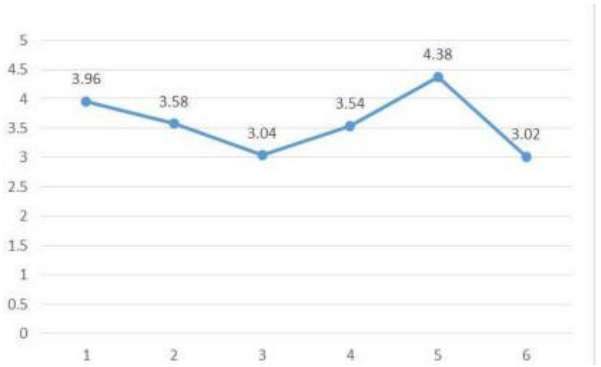

Figure 3: Change in the level of Dissolved Oxygen of water

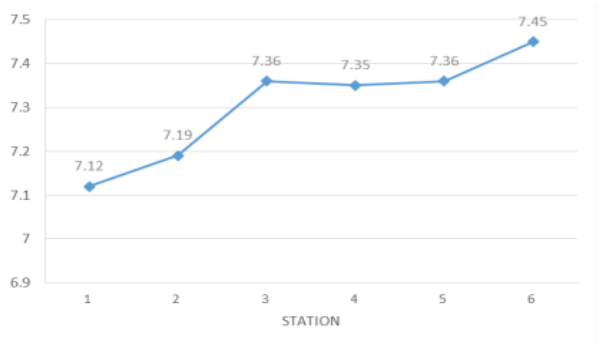

Figure 4: Change in pH level of water

Figure 4 shows the change in pH level of water on using Bokashi ball treatment.

DISCUSSION

Water services are crucial to human health and the natural world, and they play an significant role in economic growth and sustainability. Meeting the growing need for water has become today's key priority in water supply management. Globally, demand for fresh water is on the rise, and its adequate availability is considered essential as water quality primarily declines as a result of contamination.

Water quality depletion causes water shortages and reduces its supply for human and ecological use and thereby affects optimal water resource management. In this sense, the protection of adequate water quality in rivers, dams, reservoirs, etc. is important to protect public health and habitats.

To this end, water authorities must meet the growing commercial, residential, and agricultural demand, as well as environmental conservation

requirements and environmental development requirements. The degradation of the water quality of most rivers would create significant environmental issues that may hinder sustainable regional growth.

Biological treatment, especially the use of microorganisms to improve the quality of contaminated water, is successful and common due to low capital and expense relative to chemicals. Consequently, there has been a growing interest in the use of biological water purification techniques as the best solution, both environmentally and economically.

The Bokashi ball system is an option low cost to increase water quality and has tremendous potential to enhance the water's chemical and physical properties. The restoration of contaminated and degraded water bodies which restore aquatic environments and ecosystems through this technology will definitely lead to sustainable water resource management in the area concerned.

In addition, Bokashi ball technology's ability is well known in developing sustainable practices for livestock, animal husbandry, nature livestock, environmental stewardship, building, human health and hygiene, manufacturing, and community activities.

The water from contaminated water supplies can be changed using the Bokashi ball system and turned into a means of water supply. There is growing evidence that the majority of rivers become degraded to a number of degrees with the growth of population and economy and have impaired efficient control of water supplies.

In this case, the Bokashi ball system will help administrators and politicians make decisions on water management initiatives and make certain changes to various users' water allocations. Furthermore, it is possible to create modern and sustainable forms of water supply (e.g.) waste water reuse and water treatment and use of low quality water) using Bokashi ball-based water quality management strategies.

Thus the optimum delivery of water quality and quantity would help meet the growing domestic, commercial, and agricultural demand and ensure water supply sustainability in India. This will not only address the current growing need for freshwater but will also guarantee that freshwater supplies are sufficient for the future in the long run.

A thorough understanding of the multi-purpose nature of river basins and their environmental maintenance has become critical nowadays with the depletion and quality degradation of water supply. In recent years, sustainable modelling of water management has attracted substantial attention and several researches have outlined the basic sustainability requirements that are integrated into a river basin model for long-term optimisation.

CONCLUSION

Locally adopted Bokashi ball technology is emerging as one of the sustainable strategies to reduce water pollution and thus increase the water quality in our rivers and drains. The outcomes of the national projects have shown the efficacy of Bokashi ball technology in river safety, and will continually be used as a basis for extending Bokashi ball technology in India to help restore, improve, and preserve our river ecology.

Bokashi ball is simple and convenient to use, safe, unharmful, low cost and economically competitive and this has improved the efficacy of this technology's use. In addition, frequent monitoring of river basin water contamination levels, sufficient purification process and citizen engagement in water supply management will definitely help managers make better decisions on quality and control of water supplies.

REFERENCES

1. Ahmad, S. and S. P. Simonovic (2014). Spatial system dynamics: a new approach for simulation of water resources systems, ASCE J Comput Civ Eng., 18(4), pp. 331–340.

2. Dhote, S. and S. Dixit (2010). Water quality improvements through macrophytes- a review, Environmental Monitoring and Assessment, 152, pp. 149-153.

3. Downs, T. J., Mazari-Hiriart, M., Domínguez-Mora, R. and I. H. Suffet (2010). 'Sustainability of least cost policies for meeting Mexico City's future water demand', Water Resource Research, 36(8), pp. 2321–2339.

4. Cai, X., D.C. McKinney, L.S. Lasdon, A framework for sustainability analysis in water resources management and application to the Syr Darya basin, Water Resource Research, 38(6), 21. pp. 1–21.14.

5. Diver, S. (2011). Nature Farming and Effective Microorganisms, Rhizosphere II: Publications, Resource Lists and Web Links from Steve Diver.

Corresponding Author

Monika*

Research Scholar, OPJS University, Churu, Rajasthan