Swachh Bharat Abhiyan: A Step towards Environmental Protection

Er. Neha Thakur[1], Er. Harneet Kaur[2]

[1]*Student, Rayat Institute of Engineering and Information Technology Ropar*
[2]*Assistant Professor, Rayat Institute of Engineering and Information Technology Ropar*

Abstract- **Swachh Bharat Abhiyan i.e. Clean India Abhiyan, a national level campaign, recently launched by the Government of India is a major step towards the protection of degrading environment. The objectives of the campaign include elimination of open defection, conversion of insanitary toilets to pour flush toilets, eradication of manual scavenging and above all to bring about a behavioural change in people regarding healthy sanitation practices and to ensure public participation in achieving these objectives. Globally, India continues to be the country with highest number of people practicing open defection. If Swachh Bharat Abhiyan(SBA) is implemented properly with all its stakeholders taking their respective responsibilities, there is no wonder that one day India will become an open defection free country. A brief about this programme, objectives, related health concerns and its role in environmental protection.**

Index Terms- **Swachh Bharat Abhiyan, sanitation, open defection, toilets, environmental protection.**

1. INTRODUCTION

The Government of India adopted a demand driven approach by the name Total Sanitation Campaign (TSC) in 1999, which was later renamed as the Nirmal Bharat Abhiyan (NBA). A financial subsidy was provided to households for constructing latrines. To give a boost to the TSC, the government also launched the Nirmal Gram Puraskar (NGP), an incentive program that sought to recognize the achievements and efforts of Panchayati Raj Institution (PRIs) in encouraging full sanitation coverage in their Gram Panchayats. Covering all households with IHHLs (Individual Household Latrine), cluster toilets, community toilets, the prime minister has given his approval for restructuring of the Nirmal Bharat Abhiyan into Swachh Bharat Abhiyan (Gramin). NBA has been restructured into the Swachh Bharat Abhiyan with two sub-Abhiyans – Swachh Bharat Abhiyan (Gramin) and Swachh Bharat Abhiyan (Urb Swachh Bharat Abhiyan) A Step towards Environmental Protection.

2. OBJECTIVES OF SBM

The Swachh Bharat Abhiyan has the following objectives:

1. Elimination of open defecation
2. Eradication of Manual Scavenging
3. Modern and Scientific Municipal Solid Waste Management
4. To effect behavioural change regarding healthy sanitation practices
5. Generate awareness about sanitation and its linkage with public health
6. Capacity Augmentation for Urban Local Bodies (ULB's)
7. To create an enabling environment for private sector participation in Capex (capital expenditure) and Opex (operation and maintenance)

3. COMPONENTS OF SBM

The Swachh Bharat Abhiyan has the following components:

1. Household toilets, including conversion of insanitary latrines into pour-flush latrines
2. Community toilets
3. Public toilets
4. Solid waste management
5. IEC & Public Awareness
6. Capacity building and Administrative & Office Expenses (A & OE)

3.1 *By Public Toilets*, it is implied that these are to be provided for the floating population / general public in places such as markets, train stations, tourist places, near office complexes, or other public areas where there are considerable number of people passing by.

3.2 *By Community toilets*, it is implied that a shared facility provided by and for a group of residents or an entire settlement. Community toilet blocks are used primarily in low-income and/or informal settlements / slums, where space and/or land are constraints in providing a household toilet. These are for a more or less fixed user group.

3.3 *Open defecation* (OD) is the practice of defecating outside or in public. This may be done as a result of cultural practices or having no access to toilets. Open defecation is practiced all over the world in nature or camping type situations and represents no health and environmental problems when done in sparsely populated settlements and when the "cat method" is used, i.e. covering the faces with some soil, leaves or sand.

4. LITERATURE SURVEY

1) Cornelia carnage, jian Wu,Kyle Williams, Sujatha Das G,C.Lee proposed that online digital libraries that store and index research articles not only make it easier for researchers to search for scientific information, but also have been proven as powerful resources in many data mining, machine learning and information retrieval applications that require high-quality data. In this paper, we proposed novel features that result in effective and efficient classification models for automatic identification of research articles. Experimental results on two datasets compiled from the CiteSeerxdigital library show that our models outperform strong baselines using a significantly smaller number of features.

2) V.Sharmila,I.Vasudevasudevan,Dr.G.Tholkappia arasu described that Pattern mining is an important research issues in data mining with few kinds of applications. . In this paper we proposed a fuzzy estimated and similarity - based self-generating algorithm for text classification. It overcomes the low frequency problem, and also calculates the similarity between the different pattern and word in effective manner. Experimental on RCV1 data collection and TREC topics implement that the proposed result achieves better performance

3) Damien Hanyurrwimfura,LiaoBo, Dennis Njagi and jean pauldukuzumurimyi introduced that Finding research papers about particular topic of study is the most time consuming activity for many people including students, professors and researchers. We proposed a new method to research paper organization and retrieval that is amenable to closely research papers and intertwined research topics. With our centroid and relationship based clustering approach, research papers are arranged and grouped within the most probable research topics or subjects.

4) Dr. A. Bharathi,R.Shilpa told in their paper that Data mining is the computer-assisted process of digging through and analyzing enormous sets of data and then extracting the meaning of the data and it is the process of analyzing data from different perspectives and summarizing it into useful information. Data mining plays an important role in terms of prediction and analysis. Crimes are a social nuisance and cost our society dearly in several ways. Crime investigation has very significant role of police system in any country. Clustering is the task of grouping a set of objects in such a way that objects in the same group are more similar to each other than to those in other groups. This paper presents detailed study on clustering techniques and its role on crime applications. This study also helps crime branch for better prediction and classification of crimes.

5) Mythili S and MadhiyaE proposed that Clustering is the grouping together of similar data items into clusters. Clustering analysis is one of the main analytical methods in data mining; the method of clustering algorithm will influence the clustering results directly. This paper discusses the various types of algorithms like k-means clustering algorithms, etc…. and analyzes the advantages and shortcomings of the various algorithms. In each type we can calculate the distance between each data object and all cluster centers in each iteration, which makes the efficiency of clustering is not high. This paper

provides a broad survey of the most basic techniques and identifies .This paper also deals with the issues of clustering algorithm such as time complexity and accuracy to provide the better results based on various environments. The results are discussed on huge datasets.

6) S.C Punitha and M.Punithavalli explained that the amount of digital information is created and used is steadily growing along with the development of sophisticated hardware and software. This paper studies the working of two sophisticated algorithms. The first work is a hybrid method that combines pattern recognition process with semantic driven methods for clustering documents, while the second uses an ontology-based approach to cluster documents. Through experiments, the performance of both the selected algorithms is analyzed in terms of clustering efficiency and speed of clustering.

7) Chun-Ling Chena, Frank S.C. Tsengb, Tyne Lianga With introduced that the rapid growth of text documents, document clustering has become one of the main techniques for organizing large amount of documents into a small number of meaningful clusters. In our approach, the key terms will be extracted from the document set, and the initial representation of all documents is further enriched by using hypernyms of Word Net in order to exploit the semantic relations between terms. Then, a fuzzy association rule mining algorithm for texts is employed to discover a set of highly-related fuzzy frequent item sets, which contain key terms to be regarded as the labels of the candidate clusters. Finally, each document is dispatched into more than one target cluster by referring to these candidate clusters, and then the highly similar target clusters are merged.

8) Malik Tahir Hassana, AsimKarimb, Jeong-Bae Kimc, MoonguJeonaI said that Ideally, document clustering methods should produce clusters that are semantically relevant and readily understandable as collections of documents belonging to particular contexts or topics. In this paper, we present CDIM, an algorithmic framework for partitioned clustering of documents that maximizes the sum of the discrimination information provided by documents. CDIM exploits the semantic that

term discrimination information provides better understanding of contextual topics than term-to-term relatedness to yield clusters that are describable by their highly discriminating terms.

9) Yanjun Lia, Soon M. Chungb, John D. Holt. Introduced that most of existing text clustering algorithms used the vector space model, which treats documents as bags of words. Thus, word sequences in the documents are ignored, while the meaning of natural languages strongly depends on them. In this paper, we propose two new text clustering algorithms, named Clustering based on Frequent Word Sequences (CFWS) and Clustering based on Frequent Word Meaning Sequences (CFWMS). A word is the word form showing in the document, and a word meaning is the concept expressed by synonymous word forms. A word (meaning) sequence is frequent if it occurs in more than certain percentage of the documents in the text database. The frequent word (meaning) sequences can provide compact and valuable information about those text documents.

10) CongnanLuoa, Yanjun Lib, Soon M. Chung told in a paper that Clustering is a very powerful data mining technique for topic discovery from text documents. The partitioned clustering algorithms, such as the family of k-means, are reported performing well on document clustering. In this paper, we proposed to use the neighbours and link for the family of k-means algorithms in three aspects: a new method to select initial cluster centroids based on the ranks of candidate documents; a new similarity measure which uses a combination of the cosine and link functions; and a new heuristic function for selecting a cluster to split based on the neighbours of the cluster centroids.

11) YangYan,LihuiChen,WilliamChandra proposed a new heuristic semi-supervised fuzzy co-clustering algorithm(SS-HFCR) for categorization of large web documents. In this approach, the clustering process is carried out by incorporating some prior knowledge in the form of pair-wise constraints provided by users into the fuzzy co-clustering framework. Each constraint specifies whether a pair of documents "must" or "cannot" be clustered together. Moreover, we formulate the competitive

agglomeration cost function which is also able to make use of prior knowledge in the clustering process.

12) Hai-Tao Zheng, Bo-Yeong Kang, Hong-Gee Kim told in research that Text document clustering plays an important role in providing better document retrieval document browsing, and text mining. Traditionally, clustering techniques do not consider the semantic relationships between words, such as synonymy and hypernymy. To exploit semantic relationships, ontologies such as Word Net have been used to improve clustering results. To address these issues, we combine detection of noun phrases with the use of word Net as background knowledge to explore better ways of representing documents semantically for clustering. First, based on noun phrases as well as single-term analysis

5. CONCLUSION AND FUTURE SCOPE

Changing mindset is very important. Since most of the I.E.S. funds are with states, the State Governments will have to focus on interpersonal communication through students, ASHA workers, Anganwadi workers, Doctors, Teachers, and Block Coordinators etc., including house to house visits. Also, distribution of information through short films, use of T.V., Radio, Digital Cinema, and Pamphlets will be carried out. Local and National sports/Cinema icons are required to be engaged by states to spread the message of safe sanitation practices to change mindsets. Inter personal Communication through N.G.Os., SHG's, School Children, and Local Women's Groups etc., for dissemination of information and for motivation of the people would also be explored. Herein is the opportunity to and responsibility of the citizens, media, social media, civil society organizations, professionals, youths, students, and teachers etc., to declare their ownership of the campaign by simply reporting the instances of manual scavenging. We all can at least do that.

REFERENCES

[1] "Swachh Bharat campaign should become mass movement: Narendra Modi". The Economic Times, Retrieved 2 October 2014.

[2] "PM reviews preparations for launch of Abhiyan Swachh Bharat". Retrieved 7 October2014.

[3] "Swachh Bharat: PM Narendra Modi launches 'Clean India' Abhiyan". Zee News. Retrieved 2 October 2014.

[4] "Swachh Bharat Abhiyan: PM Narendra Modi to wield broom to give India a new image". The Times of India. Retrieved 2 October 2014.

[5] "As it happened: PM Narendra Modi's 'Swachh Bharat Abhiyan'". Retrieved 2 October2014.

[6] "Time to clean up your act", Hindustan Times

[7] "Swachh Bharat Abhiyan: PM Modi govt builds 7.1 lakh toilets in January". First post.

[8] Swachh Bharat Abhiyan: Is Modi's scheme a success one year later?, Hindustan Times, 1 October 2015

[9] "Swachh Bharat Abhiyaan: Government builds 7.1 lakh toilets in January". Times of India economic times.

[10] http://moud.gov.in/SwachchBharat

[11] http://en.wikipedia.org/wiki/Open_defecation

[12] http://opendefecation.org/

[13] http://en.wikipedia.org/wiki/Swachh_Bharat_Ab hiyan

[14] http://swachhbharat.mygov.in/

[15] http://sbm.gov.in/tsc/NBA/NBAHome.aspx