Indian Journal of Communication Review

ABOUT THE JOURNAL

The Indian Journal of Communication Review is a peer reviewed research publication of the Department of Mass Communication, Aligarh Muslim University, a premier central university in India having graded 'A' by NAAC. The Journal aims to facilitate the understanding of the process of communication by publishing articles that develop communication theory, report empirical research and describe advances made in research methodology. In this era, which is pulsating with swift shift in communication paradigm, not only the spectrum of communication is witnessing a constant upsurge but also quantum and salience of research is distinctly scaling up. These are the key drivers, which are setting a new horizon for breaking new grounds in communication research. The journal intends to contribute further to this thrust area by publishing high quality content in the field of communication research.

The IJCR derives strength from the highly qualified faculty of the department engaged in well-structured research programmes, which focus on specialised areas including: Science and technology communication, Print media, Broadcast media, New Media, Film Studies, Advertising, Corporate Communication and Public Relations, Urdu Journalism, Development Communication, Human Rights and Media. Eminent teams of academicians serving on the editorial advisory board and the panel of reviewers also provide strength to the quality endeavours of the journal. The IJCR attempts to report research work in sync with the latest trends in communication research, and contribute to the existing body of work in media and communication studies.

Indian Journal of Communication Review
Vol.5 | No.1 | March 2017 | ISSN No. 2454-9339

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Editor's Note

It is recognised that in the process of social change and development, the intertwined concepts like communication and culture play a significant role. Culture is intrinsic to society and permeates all aspects of life; it actually constitutes the environment in which development happens. Culture creates the conditions which facilitate economic and social progress, and therefore, becomes an enabler of development. The UNESCO Convention on the Protection and Promotion of the Diversity of Cultural Expressions (2005) emphasises the need to integrate culture in development policies at all levels in order to create a favourable environment for sustainable development and foster the diversity of cultural expressions. Over the years, the concept of development has taken a multidimensional approach, whereby the question of cultural promotion has since been strongly stressed. Further, the importance of Communication for Development in achieving the Sustainable Development Goals (SDGs) is being increasingly acknowledged by international agencies, national governments and NGOs.

Since the publication of the Brundtland Commission's report on the global environment and development in 1987, we have been confronted with several different discourses of 'sustainable development', some of which are mutually exclusive. Understanding sustainability requires multiple perspectives in a wide spectrum of economic, ecological, social, cultural and political positions. In this special issue of the Indian Journal of Communication Review, scholars from different disciplines presented their ideas and expressed their viewpoints on different aspects of sustainable development.

Charu Lata Singh's paper explores the Changing Dimensions of Globalisation and its implications on indigenous culture and sustainable development. Sudharma Haridasan and Nasar Ahmed Shah outlined the importance of libraries in the preservation of and promotion of culture and its values among the present as well as future generations. Afrina

communication channels for establishing proper coordination between the disaster management authorities and the people during the natural calamities. Sana Abbas and Pitabas Pradhan explored the news media agenda on sustainable development through content analysis of four mainstream dailies of India.

Asad Faisal Farooqui made a detailed analysis of Aligarh Institute Gazette and Tehzib-ul-Akhlaque and outlined the contribution of Sir Syed Ahmed Khan in developing scientific temper and rational outlook among the people. Pitabas Pradhan's paper emphasises the importance of corporate social responsibility in the process of sustainable development. Pratha Bhardwaj and Pitabas Pradhan in their paper emphasised the importance of employee communication in meeting sustainable development goals. Sandeep Sharma emphasised the critical role played by elected representatives of Panchyati Raj institutions in the process of sustainable development.

Afrina Rizvi

Changing Dimensions of Globalisation, Indigenous Culture and Sustainable Development

Prof. Dr Charu Lata Singh[1]

Globalisation is generally understood to mean integration of the economy of the country with the world economy under policies of liberalisation. In recent times the dimensions of globalization in its true spirit have witnessed change in the notions and actual definitions of Globalisation as given in post truth era. Several major trends pertaining to globalization consist of: demographic, scientific, governance, and economic interdependence. The various factors associated with trends in globalization, have shown the effects on different aspects of globalization. But, the advances in technology have significantly impacted the societies in their interdependence and inter-relationships. Technology has allowed global commercial and political transactions to take place at increasingly faster rates, and at greater volumes across national borders. This has also led to other challenges regarding global commerce and polity, which involves the complex coordination, interaction and compliance of current international and domestic fronts. Such moves are associated with indigenous concerns bound with native culture. This suggests the path of correction or of self-centricism which is to be explored with recent examples at global arena. The transition period that we live in assumes that we transform the progress which threatens us into a human, social and environmental progress as the foundation of our common survival, sustainable development and healthy and happy living is what we look at. This is an exploratory and descriptive study based on the recent political developments, deriving the co-relation with the indigenous cultural aspects and sustainable development thereto. The need of the hour is, therefore, also to question the unrestrained globalization.

Keywords: Globalisation, Indigenous Culture and Sustainable Development, Protectionist Policies and De-globalisation

The last three decades have witnessed moves in global arena which made the existence of nations and their people dependent and interdependent. Global

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movements in public and private world of human affairs and liberties of expression have led to human development and benefit in their local spaces on global scale and is based on universal values and institutions arising from responsibility, human solidarity and social communities. The world started developing on the inherent Indian idea of 'VasudhaivKatubkam' as part of globalisation. In recent developments such ideals may result to be seen as the thought of the past. The recent moves of Brexit or developments in US in relation to borders, is a direct reflection on how the world is giving importance to the confined borders with underlying features and moving away from interdependence of globalizedtrajectories.

The countries in international arena can be seen trying to ride on the indigenous issues woven with culture and nationalism thereby concentrating on the personalized emotions of people which touch the core of their hearts. This in turn is resulting in winning the confidence of the people and coming to power. The examples are the political rise of Trump in United States of America, Theresa May in England, Narendra Modi in India. The phenomenon is termed by thinkers as 'Rise of the Right'.

Research Questions

Probable questions regarding the dominant phenomenon of last three decades of globalisation make us to ponder upon the emerging global scenario are:

- Whether the period which we are witnessing as a transition period is going to pose a challenge in the phenomena of living together collectively.

- Do our concerns of human, social and environmental progress - as the foundation of our common survivalface challenge.

- Does sustainable development designed as a comprehensive process as part of globalization in present space and time need to be reconsidered, redesigned

- Can culture be seen acting, as a driver of sustainable development. What is the impact of culture-based initiatives in achieving sustainable development.

Methodology

The exploratory and descriptive study is based on the recent political developments, deriving the co-relation with the indigenous cultural aspects and sustainable development thereto.

The research tries to explore and seek answers to the questions by studying the political developments in last one year in ten countries across the world which have been in news exhibiting the change in the global scene and changing the notions with regard to globalisation and democracy. The parameters of study are: Political developments; social and cultural aspects; Economic and global sustainable development imperatives. The inferences are drawn as per the analyses of these parameters.

Globalization and Development

The strong claims made by the advocates of globalization need to be carefully scrutinized without any bias. The many failures, economic distortions and pitfalls of globalization need to be clearly exposed. The economic policies will have to be restructured to give an impetus to the local development of key technologies that play a crucial role in the modem economy and satisfy the most pressing immediate needs of the vast majority of the people.

Historically, it is the Great Depression of 1929 which shook and shattered the international monetary system. This led to the formation of monetary blocs and institutions to support these blocs and was supposed to lead the economic development to other nations.

- During the WW II period in 1944, the Allied Forces met at Bretton Woods to create a new monetary order, hence the international trade came to be called as 'Bretton Woods System'.

- During the deliberations it was decided that, hence forth, governments would act responsibly in managing the international fiscal system so that it does not result in economic depressions. The United States of America assumed the responsibility of managing for establishing the post-war economic order that prevented economic nationalism and encouraged free trade and increased interaction among nations.

- Thus, a first collective international monetary order was formed to take care of the international trade and economic growth while maintaining political harmony. As a result of Bretton Wood initiatives the two institutions which came into existence were International Monetary Fund and International Bank for Reconstruction and Development (IBRD) in 1946, which is known as World Bank.

- The General Agreement on Tariffs and Trade (GATT) was formed in 1947 and in the year 1995 after long discussions and negotiations on various international economic issues, the World Trade Organization (WTO) was formed.

- In the second half of the last century two crucial developments to keep up the sustainable development in the globalized nations took place in the global economy. The first one was the growth or maintaining of regional economic sub-systems and the second, the growth of multi-national

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corporations or MNCs that functioned across national boundaries. For survival in the sub-settings various regional economic groups like the European Union, SAARC, ASEAN, OPEC etc. came into existence.

- The growth of MNCs provided scope for increased economic activity and emergence of transnational corporations as well and the national and international bodies felicitated the activity. These moves wove the world into complex threads of economic interdependence.

Globalisation and interdependence over the period however, has also created problems for economies in the field of investment, capital movement, technology and indigenous structures of development.

Decline

- With the passage of time there have been voices of anti-globalization, more so in underdeveloped countries. It was felt that unrestricted globalization is in many ways responsible for huge poverty and uneven development, and has created grave infrastructural mismatches and that these institutions of IMF and World Bank have helped only the developed world in real sense.

- It was conceived that the key sectors of modern industry chase the scientific and technological advances of the west but neglect indigenous technology.

- Foreign Direct Investment (FDI) in the last few years indicated that a considerable amount of investment went not into creation of new companies but in takeovers.

- All the investments provide technological/ research assistance to their US counterparts. None of them help transfer technology and knowhow to the indigenous companies or agencies. All the technology is developed and marketed by the parent company.

- Further, these companies provide all perks and privileges to exploit indigenous intellectual capital. Moreover, these initiatives are given preferential treatment at all levels in establishments.

- Globalization also made the countries inter-dependent on their defense areas.

- It is considered that globalization cannot actually bring modernization as it is selective in its manners of providing benefits to the countries.

- In the backdrop of all these inhibitions and perceptions the unrestrained globalization has been facing challenges.

Professor Dinu Marin said, "globalization is perceived as inadequate in two ways: a) as a new concept that boost continuity of control of variables of general and b) as a solution to congestion expected understanding of the limitations of access to power in the international system".

In reality economic globalization will be formally completed when the goods, services, capital and labor will flow freely, and governments and local authorities in any country will treat firms equally, irrespective of nationality or origin. The process will end when the differences between the countries of the world will not be generating sufficient benefits to allow for some profit.

UK guardian Correspondent Jeremy Seabrook wrote, "Globalisation is a declaration of war upon all other cultures. And in cultural wars, there is no exemption for civilians, there are no innocent bystanders".

In the process of globalization, the other dimensions such as culture, environment, society and politics play an important role and cannot be seen as clearly demarcated and independent from each other.

Indigenous Culture and Development

Culture must be an integral part of development. Development cannot be patterned on an outside model. Culture is an all-embracing concept that includes all aspects of human life, a complex whole, which includes knowledge, art, beliefs, morals, law, custom and any other capabilities and habits acquired by man as a member of society.

In the western concept of development, the scene is quite unfavorable for the poor third world. Dogmas of societal development that have been developed by western theorists purport to provide a holistic approach to society. Solutions are global in nature, and therefore applicable to all societies irrespective of the unique indigenous norms and values that distinguish individual societies for each other. In the last few years, universalistic western norms and values have been introduced to "rather enforced in"the development process.

Indigenous norms and values cannot be reconciled with the spirit of uncontrolled capitalism, which is central to most Eurocentric development agencies. Imposing western norms that damage and often destroy indigenous values, has come to be accepted as a primary necessity of western-style development, although this is not clear in the ongoing discourse. As long as an exploitative world economic system founded upon capitalism remains the dominant world economic ideology driving the first world's relations with the third world, development cannot be pursued from the inside. Talcott Parsons writes that adopting universal values and norms is a key to modernity and that the end-product is development.

Max Weber based his work on the belief that as western society develops, more of its members act in ways guided by the principles of rationality and less by customs of tradition.In his view, the coming of the modern era represents the social birth of the individual as a relatively free agent not bound by rigid and unquestioning conformity to past tradition.

Therefore development, according to modernization theory, depends upon so-called traditional and primitive values being displaced by modern ones, and the

view that substantial economic growth cannot occur without changes in, say, technology, the level of capital investment, and market demand. However, quite a bit of contrary evidence shows that such growth does not always require major alterations to value systems and social institutions.

Karl Marx's philosophy paints a very negative view of indigenous value patterns' function in the development process. Ironically, Marxism identified development as the modern western ideal. His is the theoretical background from which dependency theory emerges, a theory that is reluctant to allow the introduction of respect for indigenous thought into its philosophy. The traditional sector is seen as unproductive and as an obstruction to the development of an economy with its own independent dynamism.

The Director-General of UNESCO, Irina Bokova, recently declared that "culture is what makes us who we are. It gives us strength; it is a wellspring of innovation and creativity; and it provides answers to many of the challenges we face today... We must do far more to place culture at the heart of the global sustainability agenda... at the global level and on the ground across the world." She also affirmed that, "all cultures are different, but humanity must stand united around human rights and fundamental freedoms.

The economic policies need to be restructured to give an impetus to the local and cultural development that can play a crucial role in the modem economy and satisfy the most pressing needs of the vast majority of the people.

"Culture shapes the way we see the world. It therefore has the capacity to bring about the change of attitudes needed to ensure peace and sustainable development which, we know, form the only possible way forward for life on planet Earth. Today, that goal is still a long way off. A global crisis faces humanity at the dawn of the 21st century, marked by increasing poverty in our asymmetrical world, environmental degradation and short-sightedness in policy-making. Culture is a crucial key to solving this crisis. (Source: World Culture Report, UNESCO Publishing, Paris, 1999). Culture is regarded as the set of distinctive spiritual, material, intellectual and emotional features of a society or a social group as understood in the broadest sense, while defining the constitutive elements of well-being, dignity and sustainable human development. The intrinsic linkages between culture and development have been recognized since long. However, it has only been comparatively recently that the need to integrate a consideration for culture within development efforts has been reflected in international development policy documents. Indeed, one of the identified gaps in the MDGs has been their focus on outputs rather than on processes, what has been described as a concern for the "what" at the expense of the "how".

The cultural resources of a community can stimulate or be converted into inclusive economic development by promoting that community's unique identity,

traditions, and cultural products, generating jobs, revenue and market opportunities and contributing to the reduction of poverty. Indeed, the statistics show that this is one of the fastest-growing sectors of many economies. Inclusive social development is an area where the intrinsic value of culture is often acknowledged, with culture being recognized as providing a sense of belonging and of being part of a cohesive community, while at the same time helping people to maintain close links to their roots and to the land, with which many identify, especially indigenous peoples. In addition, safeguarding and respecting cultural diversity helps foster an environment that is conducive to tolerance and mutual understanding and one where minorities are acknowledged and society as a whole is more inclusive, stable and resilient.

Culture and heritage are also major sources of learning and inspiration, and they can act as a spring for creativity, which strengthens innovation and entrepreneurship. Culture also contributes to environmental sustainability. Traditional cultural activities, particularly those associated with the care of the land, can help promote more sustainable by providing indigenous scientific knowledge in tackling ecological challenges, preventing the loss of biodiversity, reducing land degradation, mitigating the effects of climate change and supporting resilient communities that are better able to cope with various disasters.

Along with, regard to peace, conflict prevention and reconciliation, culture-sensitive development acknowledges diversity and promotes the ability of individuals to access cultural assets that can contribute considerably in building the culture of "living together".

One major example of this has been the rehabilitation of the site of Angkor in Cambodia, in which the international community has worked for over twenty years to help reunite a nation torn by the internal and regional conflicts. Cultural programmes can also help foster the appreciation of cultural diversity and the appreciation of the universal element that Data on the contribution of culture to sustainable economic development are available at http://www.unesco.org/new/en/culture/themes/culture-and-development/

Sustainable Development and the Globalized World

As a process, sustainable development has the opportunity to refresh and rush to the global economic balance. Sustainable development is aimed at the needs of present without compromising the ability of future generations to meet their needs. Sustainability is based on the idea that human activities are dependent on environment and resources and health, social security and economic stability of society are essential to define quality of life. Sustainable development today

would not be possible without the contribution of each individual as we usher into technologically advanced information society which in reality render globalization weak. Internationalization rising from shadow of the state mechanisms are altered and raised to new indigenously rooted individual conditions. The forces of globalization have been influencing each other for long which led to the worldwide phenomenon of oligopoly and created marginalized societies dominated by the developed. Globalization is identified with the rapid evolution of the world towards a common economic space, so that developments in one area of the world can have profound consequences on individuals and communities in other parts of the world.

Ushering into the Era of de-globalisation

Today our socio-economic, cultural and technological ways of life are interesting. We see divergent politics in the culturally and technologically converging global spaces of post truth era. We are moving more from 'think global, act local' to 'think local and act global'. We are seeing moves viz., anti-muslim, anti-immigrant, anti-refugee, anti LGBT and at the same time focusing on anti-terrorism, global warming and other environmental issues, which have direct impact on the sustainable developments in various countries as well as have global implications. Based on the recent developments in the following countries and their being in news over last six months, the following implications in socio-economic and cultural aspects and their subsequent reflection on sustainable development can be drawn as given below:

Table 1: USA

S no	Categories	Developments
1	Recent Political Developments	÷ Conservatives under Trump won the elections ÷ Protectionist policies taking ground. ÷ Trump, far from calling for extending FTAs, has called for revision even of the existing North American Free Trade Agreement-the Trans-Pacific Partnership (TPP) and the Trans-Atlantic Trade and Investors Partnership (TTIP) ÷ Sealing of borders ÷ Banning immigrants on the basis of religion. ÷ Restrictions on outsourcing.
2	Social and Cultural Developments	÷ Rise of the right ideology ÷ Rise of cultural unification, ÷ Disillusioned social moves on the basis of emotions. ÷ Inward looking policies ÷ Conservationist elements in society get high ÷ Anti-women stances divide the women base ÷ Blocking/confinement strategies on rise ÷ Religious/racial alienation ÷ Bringing together disheartened masses on emotional nationalistic appeals ÷ Prevalence of reactionary atmosphere

| 3 | Economic and Global Sustainable Development al Imperatives | ÷ Indigenous economy to grow
÷ Less trade to reduce foreign funding.
÷ Trump declared during the presidential election campaign that he would put a 45% tariff on Chinese imports
÷ Resource conservation and cutting on out sourcing to result in incompetency due to lack of competition in US companies hence, less economic development
÷ Economic Uncertainties to continue
÷ Globally unemployment to rise
÷ Progress in Women lead initiatives to get a hit as they are not on same levels of thinking.
÷ Religious alienation to negatively impact sustainable development
÷ On the whole sustainable economic development to be hit badly. |

Table 2: UK

S no	Categories	Developments
1	Recent Political Developments	÷ Conservatives rise under Theresa May come to power ÷ Brexit happens; Britain gets away from EU .It was a successful campaign for Britain to leave the European Union, it was warned of the hordes of immigrants that would come from Turkey's imminent accession to the union. ÷ Claims were made that EU membership costs Britain £350m ($468m) a week, the longer they kept the magnitude of those costs in the spotlight. ÷ Moves to do away with DFID(Department of International Development) ÷ Inward looking policies. ÷ Denying of work visas.
2	Social and Cultural Implications	÷ Immigration crises ÷ Blocking/Confinement strategies on rise ÷ Religious/racial alienation on the rise ÷ Bringing together disheartened masses on emotional nationalistic appeals. ÷ Prevalence of reactionary atmosphere ÷ Fight against terrorists
3	Economic and Global Sustainable Developmental Imperatives	÷ Economic slowdown ÷ Foreign aid to be stopped and used for Britain's Interest, it will hit sustainable development in global. ÷ Moves to do away with DFID (Department of International Development) will have negative impact on sustainable development. ÷ It will be a move to get away from global approach

Table 3: India

S no	Categories	Developments
1	**Recent Political Developments**	÷ Rise of populist political forces under Narendra Modi ÷ Economic openness and ease of business policies ÷ Socialist liberalist polices on rise: ÷ Jan Dhan, ÷ Digital India, ÷ Skill India, ÷ Make in India ÷ Swachchh India ÷ Betibachao, BetiPadhao ÷ Demonetization and Remonetisation ÷ End of caste and minority politics
2	**Social and CulturalImplicati ons**	÷ Rise of the large lower and middle classes ÷ Gender Equality and women empowerment ÷ Socio –economic reforms ÷ Social Security mechanisms ÷ Cultural unification ÷ Nationalistic feelings/ emotions on rise ÷ Divisive society uniting on micro alignments ÷ Caste and minority loses space to development agendas ÷ Huge benefits to agriculturists. ÷ Atmosphere of hope ÷ Large expectations from ruling groups
3	**Economic and Global Sustainable Developmental Imperatives**	÷ India, is sharply increasing its economic openness. ÷ The percentage of India's economy devoted to trade is, at current exchange rates, now even slightly above China's ÷ High percentages of trade in GDP ÷ India remains a bright star in the global economy where we are seen as driving the global growth ÷ Economic slowdown due to de-monetisation but did pick up after that. ÷ Community development will add to economy and sustainable development, ÷ Rise in Indigenous and traditional knowledge ÷ Health and education benefits reaching to large number of people. ÷ Indigenous economy to grow. ÷ Startup initiative to keep sustaining development process.

Table 4: France

S no	Categories	Developments
1	**Recent Political Developments**	÷ Seeing huge wave in favour of centrist forces under Emmanuel Macron's political leadership ÷ Marine le pen, president of national conservative party, a serious challenger to socialists President, Francois Holland in 2017 presidential elections and a fight to Emanuel.
2	**Social and CulturalImplicati ons**	÷ Marine's sharp remarks to ban healthcare for migrants take a hit. ÷ Wants to ban free education for migrant children also seems to have lost ground ÷ Instances of terrorism on rise ÷ Huge racist atmosphere prevails resulting in killings ÷ Immigrations on high
3	**Economic and Global Sustainable Developmental Imperatives**	÷ Trade will be hit ÷ Economic slowdown ÷ Sustainable development will be adversely affected.

Table 5 : Japan

S no	Categories	Developments
1	**Recent Political Developments**	÷ Shinzo Abe, the rightist came to power for second term
2	**Social and CulturalImplicati ons**	÷ Conservationist elements in society get high
3	**Economic and Global Sustainable Developmental Imperatives**	÷ High on trade ÷ Able to manage financial imbalances ÷ Sustainable developmental prospects are positive.

Table 6: Austria

S no	Categories	Developments
1	**Recent Political Developments**	÷ Australian Prime minister while banning the full face veil expressed that all the religions should follow the rule irrespective of religion, those who do not want to follow, may leave the country,
2	**Social and CulturalImplications**	÷ Move that external appearances of citizens should not reflect on their religion; whether liberal of religiously motivated or uniformity is what is being looked at in place of diversity. ÷ Racial discrimination high ÷ Immigration problems are on rise ÷ Crime rates gang up. ÷ Insecure atmosphere due to immigrants ÷ Society turning inward.
3	**Economic and Global Sustainable Developmental Imperatives**	÷ Due to Immigration and Brexit the economy is hit quite considerably

Table 7: Sweden

S no	Categories	Developments
1	**Recent Political Developments**	÷ Right wing parties topping the Opinion polls
2	**Social and Cultural Implications**	÷ Rise of anti-migration party ÷ centre-left government is under fire for its handling of the migrant crisis
3	**Economic and Global Sustainable Developmental Imperatives**	÷ Flat Growth ÷ Sweden's economy is expected to remain in good shape this year and next. ÷ However, possible spill overs from Brexit and uncertainty stemming from growing protectionist policies could hinder the small and highly open economy.

Table 8 : China

S no	Categories	Developments
1	Recent Political Developments	÷ Largest closed economy becomes more economically globalised.
2	Social and Cultural Implications	÷ Opening up on social fronts. ÷ Imitating the western model and liberal socialist ideology ÷ Boost English Language ÷ Younger generations open to western culture
3	Economic and Global Sustainable Developmental Imperatives	÷ Increased international trade ÷ China has shown its 'thought leadership' on globalisation by initiatives which go beyond the approach of the US in GATT and the WTO in relation to long term economic development ÷ China has signed 14 free trade pacts with 22 countries and regions in Asia, Latin America, Oceania, and Europe. ÷ China has global economy

Table 9 : Poland

S no	Categories	Developments
1	Recent Political Developments	÷ Members of Poland government assert the previous president who died in a plane cash was assassinated by Russia ÷ Post truth nuances getting rooted ÷ Us moves forces to Poland to check against Russia
2	Social and Cultural Implications	÷ Demonstrations on the rise against curbs on Democracy
3	Economic and Global Sustainable Developmental Imperatives	÷ Poland seeking development under EU as a democratic country.

Table 10: Venezuela

S no	Categories	Developments
1	Recent Political Developments	÷ Socialist country voted against socialist party icon, Hugo Chavez
2	Social and Cultural Implications	÷ Demonstrations against Nicolas Maduro as people feel he has turned dictatorial. ÷ Women protest against Nicolas Maduro ÷ Opposition parties holding demonstrations
3	Economic and Global Sustainable Developmental Imperatives	÷ Economy wrecked down under Maduro ÷ People ask for currency reforms ÷ People were given three days to get rid of most widely used currency , the 100 Bolivar ÷ Sustainable development is hit badly.

Analysis and Findings

The above analysis clearly shows as per the objectives that the period which we are witnessing is a transition period is posing a challenge to the phenomena of living together collectively. Our concerns of human, social and environmental progress - as the foundation of our common survival face challenge.

Sustainable development designed as a comprehensive process as part of globalization in present space and time need to be reconsidered, redesigned each country is focusing on protectionist policies of their country first rather than the dictum of global society as whole

Globalisation as a concept and driver of sustainable development is questionable today seeing the developments in these countries. Definitely the indigenous view of development having own native models of developments close to the cultures and nationalistic ideologies is what is going to work.

The era, which is technologically, united but heading towards de-globalised world where somewhat reversal of the phenomena are taking place. The China, Poland and other communist nations are becoming liberal or globalized and open in their outlook and political and economic spheres of action whereas the liberal democracies are starting to become more inward and less liberal.

Economic theory states that international trades lead to sustainable economic development: numerous and repeated factual studies show a positive correlation between the trade openness of an economy and its speed of economic development and of its sustainability. The powerful effects of foreign trade show that the US and European countries are moving inward and towards protectionism while the countries like India and China are rapidly growing as global economies.

Under the recent developments, it is possible that the proposed Regional Comprehensive Economic Partnership (RCEP) and the FTA between the ten member states of the Association of Southeast Asian Nations (ASEAN) (Brunei, Myanmar, Cambodia, Indonesia, Laos, Malaysia, the Philippines, Singapore, Thailand, Vietnam) and the six states with which ASEAN having existing FTAs (Australia, China, India, Japan, South Korea and New Zealand) would play major role in global sustainable development. Already China's existing FTAs, like RCEP, emphasiseharmonisation of national standards with international supervision and interference reduced to an absolutely necessary minimum. Thereby making China as the world's largest nation supporting and acting as a pillar of globalisation.

Conclusion

Though the world may be moving towards de globalization, the global environmental problems cannot be studied in isolation. The global network among the actors and at the thematic areas is one of the features of globalization. There are issues related to areas such as global warming, ozone hole, melting of glaciers or cutting of tropical forests which talk about the global problems requiring global approach. Even the regional and local issues such as river pollution and terrorist infiltration have a character of going beyond the boundaries.

The socio-cultural dimension is underlined by the fact that the world has become a "global village", through innovative networks and communication platforms intruding right into the traditional communities and their practices.

The transition period that we live in assumes that we transform the progress which threatens us into a human, social and environmental progress - as the foundation of our common survival. Sustainable development and health should be designed as a comprehensive process in space and time, to benefit the entire world.

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http://www.dailymail.co.uk/indiahome/indianews/article-3398171/ls-world-taking-right-wing-turn-2016.html#ixzz4XMYfyTtb

From a rights-based perspective, the integration of culture into the post-2015 development agenda is also a means of enabling people to "choose the lives that they value."

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Role of Libraries in Promoting Cultural Values

Sudharma Haridasan[1] & Nasar Ahmed Shah[2]

Cultural values are commonly understanding as those thoughts and artifacts that support the historical aspects of any community that get transcended from one generation to another with similar attitudes and behaviour.

This paper explains the importance of libraries in sustaining themselves and acquiring cultural materials to be preserved for the promotion of cultural values. The purpose of this paper is to discuss the role of different organizations at National and International level such as Councils, Cultural Heritage Institutions, Cultural Centers, and Digital Library Projects working for the preservation of cultural heritage and values through their libraries. The study concludes emphasizing the role of libraries in bridging the gap between multi-cultural societies of today as well as providing an avenue for research and development.

Keywords: Values; Community; Culture; Cultural Centers; Heritage

Since the beginning of the last century, information is being regarded as a "national resource" or the source of development, energy and national strength. It is indispensable now and the only way for a community promotes development is through the proper utilization of information available at its end. One of the renowned historian and educator (Wayne Weigand, 1997)has pointed out that "the common misconception that libraries are part of the world of information is upside down. In particular, to put it simply, libraries are concerned primarily with the messages that constitute the human record and only secondarily with the medium by means of which messages are transmitted". It has been realized with time, that Public library is the most effective means for presenting a plethora of information at the doorstep to all the people who are capable of using the service. "By the end of nineteenth century, some countries had started building their delicate network of cultural institute and centers across the world They intended to share their knowledge, as well as their language and culture, in the geographical areas and corridors across their own borders" (Prieto andBoj, 2016). The evolution of the digital age has impelled profound impact on libraries and information centers, subsequently certain organizations and projects have been established for digitizing materials that are having intrinsic and heritage value.

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These cultural centers have grown concurrently, and presently they have developed into major institutions with specific features in the form of libraries adeptly acquire wealthy materials, for accumulating cultural values of their precedents for the new generation. Today much of the world's cultural and educational resources are being produced, distributed and accessed in digital form. "The documentary heritage deposited in libraries and archives constitutes a major part of the collective memory and reflects the diversity of languages, peoples and cultures. The first and most urgent need was to ensure the preservation and promotion of the documentary heritage of national and regional importance. It is just as important to make this heritage accessible to as many people as possible, using the most appropriate technology, whether inside or outside the countries of its location. The need to safeguard this new form of indexed heritage calls for international consensus on its storage, preservation and dissemination. Such principles should seek to adapt and extend present measures, procedures, legal instruments and archival techniques (UNESCO, 2006)".

Definition of Terms
Culture
"Culture is a term used by social scientists to express a way of life. Every human society has a culture. Culture includes the society's arts, beliefs, customs, institutions, inventions, language, technology, and values". Culture produces similar behaviour and thought among people in a particular society. The definition of culture adopted from Linton (1945) states "the culture of a society is the way of life of its members; the collection of ideas and habits which they learn; share and transmit from generation to generation".

Cultural Heritage
The understanding of the concept cultural heritage is debatable. It is often used synonymously with terms such as cultural property, cultural patrimony or cultural resources. The World Bank (1994) defined cultural heritage as "a record of humanity's relationship to the world, past achievements, and discoveries. It is the present manifestation of the human past. Cultural heritage refers to sites, structures, and remains of archaeological, historical, religious, cultural, or aesthetic value".
UNESCO, in its Draft Medium Term Plan 1990-1995 defined cultural heritage as "the entire corpus of material signs either artistic or symbolic handed on by the past to each culture and, therefore, to the whole of humankind. As a constituent part of the affirmation and enrichment of cultural identities, as a legacy belonging to all humankind, the cultural heritage gives each particular place its recognizable features and is the storehouse of human experience".

The International Council on Monuments and Sites (ICOMOS) has defined cultural heritage as "an expression of the ways of living developed by a community and passed on from generation to generation, including customs, practices, places, objects, artistic expressions and values".

Cultural heritage constitutes those aspects of the past that is cherished and is expected to be preserved for future generations. The preservation of cultural heritage is what enables protecting the identity of humans and is a reflection of the way of life in a region or society. The different Cultural heritage sites around the globe are important sources for world's cultural heritage. United Nations Educational Scientific and Cultural Organisation (UNESCO) have supported this task through its various initiatives for preserving the resources relating to cultural heritage has gained momentum across the world.

Benefits of Cultural Heritage

"Cultural heritage is of great value to man and its society. It contributes to artistic, educational or social development. Cultural heritage is a source of esthetical value, experience value, existence value, historic value, economic value and knowledge value (Nypan, 2007)".

Alegbeleye (2002)corroborating his view, submits that "culture and places of cultural significance play an important role in the development of contemporary cities. They represent not only sources of identity and meaning for individuals and communities but now constitute an important economic resource for postindustrial cities. There is an increasing link between culture and the economy, as cultural resources become strategic tools for economic growth and development".

Cultural heritage is also considered as valuable educational resource. "Cultural and historical records and artifacts preserved in libraries, archives and museums are often consulted by humanities researchers to obtain much of their research data (Cathro, 2006)". It has been understood that "providing access to works of arts, artifacts, collectables, historical treasures and similar items is essential to the advancement of research, teaching and learning (Manaf, 2007)".

Libraries and Cultural Knowledge
Libraries an Overview

Libraries during the earlier stages of evolution were in the form of storehouse of books which has been drastically changed since the middle of the 20th century. Today they are considered as places for keeping records of a civilization.

Recently, libraries have emerged as repositories of information sources and services that can be accessed virtually without any barrier in terms of language or distance. Rapid developments in technology viz. computers, telecommunications, and information communication technologies have enabled

the storage and retrieval of information in different forms and remotely. "Although libraries have changed significantly over the course of history but their cultural role has not changed, they continue to keep the business, legal, historical, and religious records of a civilization. They are the place where a toddler can hear his first story and a scholar can carry out his research.(The New Encyclopedia Britannica, 2010)". "Libraries of all types should reflect, support and promote cultural and linguistic diversity at the international, national, and local levels, and thus work for cross-cultural dialogue and active citizenship (IFLA, Multicultural Communities: Guidelines for Library Services 3rd edition, 2009)".

Analytical study of related literature

Libraries form an important part of the social, cultural and educational aspect of any society. Traditionally, libraries preserved and disseminated local, regional knowledge and cultural components. By doing so, libraries preserved cultural identities, bridged the past to the present, and shaped the future. Some of the studies related to the importance of cultural preservation in libraries have been reviewed and discussed here.

Weigand (1997) argues about the importance of a library "as an institution and physical place that is central to the promotion of culture especially through reading, social interaction, as well as for the building and exchange of social capital". Rogers and Freiberg (1969) observed, that "having access to libraries and their documents is in a way a manifestation of the freedom of expression, information and consultation of documentary material from different parts of the world, either physically or in the online format". Harris (1998) and Aabo (2005) identified "public libraries to be a means of great benefit and opportunity for citizens, in its multiple forms, shapes and sizes, available in the vicinity of homes or rather immersed in the community or a locality". Hiraldo and Pujol (2001) "made an adequate distinction mainly as having two categories of libraries according to the function of the activities they offered. Primarily as centers where they function to support teaching and dissemination of language, there are also libraries that offered other activities usually on the social, educational and cooperative fields of which local citizens were the greatest beneficiaries". Prieto (2015) highlighted that" libraries in cultural centers were among the most frequented, prominent and visible areas among cultural venues. They offered a complete range of services not only for foreign language students or citizens interested in the country's culture but also for those with a wide and general range of interests ranging from digital literacy, general information on cooperation programs and scholarships to simply getting connected to the internet". Kerslake and Kinnel (1997) indicated that "entering the library of a cultural center provides access to the outside world of information which user wants to view, and it does so in an unrestricted and anonymous way". According to these authors, the above mentioned features of libraries are essential for freedom of expression and the

development of citizens.

Ogden (1994) states that "traditionally, libraries and archives independently have undertaken activities to preserve collections by providing proper housing, protection from mutilation and theft, library binding, and occasional repair and restoration". Boock and Vondracek (2006) "highlighted several past involvements of libraries in the preservation of documents to enhance access since medieval times when monks fastidiously transcribed documents by hand. They also indicated that libraries had started massive newspaper microfilming and digitization projects to successfully reformat thousands of rare collections and crumbling newspapers as effective means of preserving print holdings". Bradley (2005)observed that "libraries, museums and other cultural institutions spend enormous amounts of money and time to digitalize materials which is in a documentary form in order to provide improved access and increase usage of their collections". Jones (2001)observed thatdigitization had a major role to playin the preservation of precious materials by converting them to high quality images that are available electronically reducing wear and tear of fragile items. Mulrenin and Geser (2002) concurs that "the conversion of documents into bits and bytes opens up a completely new dimension of reaching traditional and new audiences by providing access to cultural heritage resources in ways unimaginable a few decade back".

The above studies indicate that libraries have in no way remained as store house for acquiring materials only, rather its activities have shifted from its traditional role to expanding and exploring new solutions, focusing directly for the welfare of the society in general and sustainable development of human culture and heritage in particular.

Libraries preserving cultural heritage for the promotion of Cultural Values

The main work of libraries lies in the functioning of cultural institutions that are concerned with the organization, preservation, and transmission of the human artifacts having vast manifestations in cultural heritage, in all its recorded forms.

"Libraries, archives, museums, art galleries, institutions, cultural and research centers across the world hold precious collections on culture in a variety of media format, presenting a vast body of knowledge accumulated to make their collections accessible for intended users. All these types of organizations disseminate information on cultural heritage resources to the public and academic communities, to promote cultural values for the sustainable development. Many museums have integrated libraries or research centers; and many libraries, particularly academic libraries, house archival collections and learning materials worthy of exhibition (Riley Huff, 2009)".

Role of Libraries in Promoting Cultural Values

Libraries have ever since their inception contributed to this culturally diverse society by working closely with the mission of its parent organizations, which is intensely associated with the promotion of research, information, literacy, education and culture. The activities of libraries that promote cultural values and preservation role are discussed briefly under the following points.

Digital Preservation of Materials

The digitization of information sources as manuscripts, archives, photographs, museum artifacts, or works process of art, has been undertaken by libraries and other cultural institutions all over the world. Many institutions are involved in developing digital libraries for creating content of local languages to make the material more easily read and understood by the users. Some initiatives in this direction have a global perspective like Europeana, Google Book Search and the World Digital Library which are hallmarks in digital preservations.

Libraries have always been part of UNESCO's main objectives promoting universal access to information. One of UNESCO's main mandates was to promote free flow of knowledge in education, science, culture and communication. UNESCO established a steering Sub Committee on Technology (2004) to support the development of open source digital preservation and access repository. To achieve this it collaborates with a number of agencies for the creation of digital and other repositories. UNESCO is supporting World Digital Library to expand and grow worldwide. IGNCA (Indira Gandhi National Centre for Arts), National Library of India, National Archives and Ministry of Culture, Government of India provides funds through various projects to digitize documentary heritage materials which are available in libraries, museums, cultural centers as well as non-governmental organizations.

Promoting Regional Languages

Culture is also transmitted through symbols and the most prevalent symbol is oral language. Languages have complex implications in areas dealing with education, communication, social integration as well as development are of strategic importance to the entire world. "Libraries promote linguistic diversity and respect for the mother tongue, it facilitates the harmonious coexistence of several languages by safeguarding linguistic and cultural heritage and supports expression, creation and dissemination in all relevant languages, collectively supports the preservation of oral tradition and intangible cultural heritages. Language plays a vital role in development, in ensuring cultural diversity and intercultural dialogue and also in attaining quality education for all and strengthening cooperation in building inclusive knowledge societies and preserving cultural heritage, and in mobilizing political will for applying the benefits of science and technology for sustainable development (UNESCO)".

Libraries are now collectively promoting multilingualism and linguistic diversity, preserving endangered languages. An example is of "The Mother Tongue Library" project in Sweden, through this project children as well as adults participate in storytelling sessions in 18 different languages. Besides this, Raja Rammohun Roy Library Foundation (RRRLF) supported by the Ministry of Culture, Government of India under special assistance scheme provides assistance to libraries in developing adequate stock of books and reading materials in different Indian languages to promote linguistic diversity through learning in the diverse area of Indian culture. UNESCOs assisting projects for protecting linguistic diversity in libraries worldwide have firmly supplied libraries with materials on linguistic heritage promoting linguistic diversity in cyberspace, and now these libraries are promoting regional languages through these acquired materials, thus becoming platforms for promoting regional languages.

Display of Cultural Entities

It is through this process that libraries during special occasions like birth centenaries of prominent persons, birth anniversaries, showcase their photographs, paintings, contributions in the form of publications, newspaper cuttings which let the new generations to know about how was the cultural bonding between people in the society earlier. Libraries have archived manuscripts written in earlier times and preserved them using various means for the last many years. Development of these libraries-in-museums can be seen in the Ljubljana Museum whose mission is 'about people and for the people,' its main aim is to bring the cultural objects of communities that are underrepresented to the museum so that its activities are known to the wider audience. Another example is that ofBIBIANA the cultural institution from Slovakia which provides a series of exhibitions designed to present culture and history of people living in Slovakia viz. Roman, Jewish, Ruthenia and Croatian minorities by conducting theatre performances, workshops and video documentaries and by organizing exhibitions. (European Commission, Intercultural Dialogue, 2008).

Knowledge Repositories

Knowledge Repositories in the libraries that deal with culture and heritage are a collection of documented sources maintained for consultation and use by future generations. Such repositories act as tools that help the common man know about the life and culture of earlier times. Some prominent repositories are discussed in the following paragraphs.

The ICOMOS Open Archive: Eprints on Cultural Heritage is an institutional repository related to conservation including historic monuments, landscapes and sites. The ICOMOS Open Archive project was developed by the UNESCO-ICOMOS Documentation Centre with the aim of storing all the scientific

documentation produced by ICOMOS. It is an open archive that stores all the scientific documentation produced by ICOMOS. It is a subject archive open to the international scientific community related to cultural heritage conservation. Its goal is to create a worldwide archive specialized in the area of conservation, restoration, management and enhancement of cultural heritage, facilitating the dissemination and exchange of technical specialized information for the scientific community.

Acting as Research Libraries for the Promotion of research

Libraries have a crucial role to play by promoting and supporting research, they provide necessary resources as well as support for overall research activities through information access to the resources. Consequently a multicultural library whose primary objective is to conserve heritages and cultural approached materials promotes research by preserving primary sources of information as evidences for carrying future researches in any field of studies. A multicultural library acquires globally recognized heritage material to provide evidences for scientific researches in archaeological, historical and cultural aspects.

In this regards International Federation of Library Associations and Institutions (IFLA) has developed an online database to enable libraries and holders of documentary heritage collections to easily and effectively register their collections for the promotion of researches through these cultural materials. Another example is that of Chester Beatty Library an art museum and library situated in Dublin city is unique in its collection including works from across Asia, the Middle East, North Africa and Europe. Intercultural museum programme has been developed by the library to create a balance of display in its exhibitions of Islamic, East Asian and European both in its Sacred Traditions and Art of the Book galleries. Intercultural Learning Zone for visitors to access intercultural learning resources is also part of the library. This zone enables the exploration of historical cultural and religious aspects of the traditional collections, which may be researched from different angles. Intercultural dialogue plays a key role in the Library's mission and encourages visitors to compare, contrast and explore the historical, cultural, scientific and religious aspects of its collections. In addition to the Library's exhibitions and programmes Irish people and international visitors can discover other cultures as represented in the Islamic, East Asian and European collections. New multi-ethnic communities can share cultural aspects of their heritage through the education and public programmes.

Promoting Shared Democracy

Libraries play an important role in the political life of any community. Libraries cater different communities and their related interests by providing learning and cultural information. Libraries are centers promoting democratic environment in

terms equal access to information for all without any discrimination. "The library serves democracy by providing a neutral forum in which all types of information and all points of view find equal voice" (Patricia Wilson Berger).

Documentary heritage is a cornerstone of all democratic societies because they are essential resource for supporting economic, social and cultural domains, as well as for fostering innovations. In this context various UNESCO recommendations place documentary heritage higher in the priorities of national and international agendas, for strengthening policy cooperation and measures available at different levels, as well as to encourage development of projects to support new models of documentary heritage management.

Present libraries in embassies also provide traditional as well as modern services from loan to access for both print as well as e materials. They support and serve in matters relating to education, literacy, cooperation, social issues and development. This is seen as promoting cultural values in other countries through diplomatic ways which in a way promotes cultural activities.

Towards Sustainable Development

Sustainable development is a key for overall development, raising concerns on how we are going to shape this world for future generations, is itself a question, before developed and developing nations. "It is development in such a way that meets the needs of the present without compromising the ability of future generations to meet their own needs" (Brundtland Report, United Nations World Commission on Environment and Development, 1987). This cannot only be achieved by technological solutions, political regulation or financial instruments alone, but there is a "need to change the way we think, and act in a way which requires quality education and learning at all levels and in all social contexts" (The UN Secretary General's Global Education First Initiative 2012-2016). Libraries play vital roles in shaping the behaviour and act of people by promoting competencies like critical thinking, imagining future scenarios and making decisions in a collaborative way for the sustainable development. Multicultural libraries act as gateways to knowledge and culture (UN SDG's).

Similarly, in this context UNESCO (UNESCO ESD 2005-2014) has been recognized globally as the leading agency in bringing "Education for Sustainable Development' (ESD) (2005-2014) programme. It enables countries to constructively and creatively address present and future global challenges and create more sustainable and resilient societies. UNESCO supported countries to build ESD capacities, generate and scale-up actions, focusing on key issues like climate change, biodiversity, disaster risk reduction, water, cultural diversity, sustainable urbanization and sustainable lifestyles as entry points for promoting sustainable development practices through education". As far as the objectives

of IFLA (IFLA Strategic Plan 2016-2021) is concerned, it believes that "access to information must be recognized as critical to supporting governments to achieve development goals, and enabling citizens to make informed decisions to improve their own lives. It also believes that high-quality library and information services help guarantee access. IFLA was engaged with its members, civil society and the development community to advocate for access to information to be included in the post-2015 UN development agenda. The post-2015 framework succeeds the Millennium Development Goals (MDGs) and set the agenda for development for at least next decade". Similarly, IFLA has been actively engaged in raising the awareness and importance of Universal Literacy into Developmental Plans at regional and national levels, through advocating the policy and practical implementation of the Sustainable Development Goals (SDGs), to fulfill the United Nations vision of "Transforming our World: the 2030 Agenda for Sustainable Development" and "The to reduce poverty, exclusion and inequality, build accountable public institutions to achieve sustainability will be shared by all countries" (UNESCO Universal Declaration on Cultural Diversity, 2002).

Conclusion

Summarizing the role of libraries in inculcating cultural values, the above discussion clearly highlights that libraries are at no bay in terms of promoting cultural values, it can further be pointed out that libraries exist for bringing societies to live together and develop in themselves a thinking of diversified community of existence. By providing free places or spaces to public, libraries help to generate quality education and ideas in the minds of people which is a backbone for any democratic setup. Libraries, by preserving cultural heritages ensure free access to everyone irrespective of their identities with any community for the promotion of cultural values.

Today libraries are associated with Organizations, Councils, Cultural Heritage Institutions, Cultural Centers and Digital Library Projects emphasizing on the conservation, preservation and improvement of cultural heritage materials for enabling its use and for disseminating its specialized information to society in general and the scientific community in particular, to bring the world to desired and righteous path of Sustainable development.

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Disaster Occurrence and Science Communication – with special reference to Bihar Floods

Prof. Afrina Rizvi[1] & Shahnaaz Zabi[2]

Fighting disasters and creating awareness to stop spreading the disaster is one very important feature in disaster risk reduction. The Nepal Earthquake, the Hurricane Katrina and Hurricane Sandy in the United States, the Bhopal Gas Tragedy, the Chernobyl Nuclear Reactor accident, flash floods in Uttarakhand, floods in Germany, the tsunamis, Syria conflict, and the Ebola crisis in West Africa were all different disasters but one common feature among all was the mobilisation of quick response of the communities and local people to effectively reduce the risk of further spreading the disasters. Media and scientific communities played a vital role in spreading the word across the world and mobilising humanitarian response. In order to manage the risks from any disaster, it is important to understand the science behind the disaster. For dealing with any disaster or crisis, media-based communication is vital but not sufficient in meeting the multiple information needs of disaster risk reduction and disaster management. Therefore, participatory communication including local groups, non-media communicators should come together in improving disaster resilience practices. This paper discusses the climate change effects in increasing natural disasters in India focusing majorly on the disastrous floods in Bihar. It suggests the importance of science communication in simplifying disaster resilience by improving people's scientific understanding about the disasters and their occurrence. With the worsening disaster situations in the country it is vital to develop ways that can improve disaster mitigation. Studies should be carried to explore the importance of science communication in disaster management across the globe.

Climate Change and Increasing Natural Disasters in India

Natural disasters and climate change are the major concerns of the 21st century. The Intergovernmental Panel on Climate Change (IPCC) is continuously providing evidences on the changing weather patterns, warming of the oceans, rising of sea-levels, increasing global temperatures and degrading ecosystem. Concomitantly, the Centre for Research on the Epidemiology of Diseases is

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indicating a rise in the occurrence of natural disasters across the globe. Besides frequency, natural disasters are rising in terms of scope and destructive capacity. Urgent and resolute mitigations actions are required at global level to reduce the destructive capacity of the natural disasters. The extreme events and abrupt change in the climate have the potential to coalesce and generate destructive forces, which may cause mega-disasters.

The frequency of climate related disasters including, droughts, earthquakes, floods and cyclones are expected to increase if countries don't leapfrog to cleaner and resistant economies. Each 1 degree increase in temperature, reduces the yield of grains by 5 per cent. From 1880 to 2012, the average global temperature increased by 0.85°C. The warmer climate between 1981 and 2002, has effected major crops like wheat and maize to experience yield reduction by 40 mega tonnes per year, at the global level. Some parts of the world even suffer severe droughts due to the warming temperature. According to the United Nations Sustainable Development report (2015), the world's average surface temperature is projected to rise over the 21st century and is likely to surpass 3 degrees Celsius this century. It is even expected that the temperature may rise even more in some areas of the world. Reducing carbon emissions is a major concern for world. Different countries are coordinating at the international level to generate adaptable and affordable solutions to this major issue. The glaciers are melting, leading to the rise in sea-level. The oceans have warmed and are expanding due to the amount of melting ice. In every successive decade since 1979, the Arctic's sea ice extent shrinks by 1.07 million km^2 due to ice loss. It is predicted that by 2065 the average sea level will rise by 24-30cm and further increase to 40-63cm by 2100. If the on-going emissions of greenhouse gases continue, the oceans will keep warming and the sea levels will keep rising leading to a number of disasters.

The International Federation of Red Cross and Red Crescent Societies (IFRC) reports that the Asia-Pacific region experiences 60 per cent of the world's major natural disasters and India is even more prone to these disasters due to its geological and geographical setting. The United Nations Economic and Social Commission for Asia and the Pacific shows that the major natural disasters in Asia and the Pacific region between the years 1970 to 2014 is comparatively more than the other regions in the world.

India has been prone to disasters due to its unique geo-climatic conditions. The lower Himalayas due to its young formation of the hills are indeed very prone to landslides. Deforestation because of rising population and increasing tourism has resulted in denuded hill slides. Therefore, in India places like Kashmir, Himachal Pradesh, Uttarakhand and Sikkim suffer major landslides and avalanches. Among the major natural disasters, floods are the most common in India. The heavy

southwest monsoon rains provide dependable natural source of irrigation to the Indian farmers but it also causes the Brahmapurta and other rivers to distend their banks. However, excess rainfall also may ruin the crops. Meanwhile, due to weakening monsoon circulation there is rapid warming in the Indian Ocean and reducing land-sea temperature. This further result in the more extreme rainfall events intermittent with longer dry spells over central India in the recent decades. The heating up of land and water bodies due to global warming also has become a reason to cyclone in the country. The Bay of Bengal intensely heats up during summers giving rise to humid and unstable air masses that produce cyclones. Another reason for disasters in India are the poor implementation of the building codes. Buildings are constructed on the sides of the landslide-prone mountains or in flood plains. Such illegal activities lead to maximum exposure of humans to natural hazards. This increases the risk of more human loss.

India has been ranked third after China and the USA among the top five most disaster hit countries in 2015. The United Nations Office for Disaster Risk Reduction (UNISDR) in a study released that India suffered 19 disasters in 2015, recording the year to be the hottest year, claiming 2,800 deaths and over Rs 22000 crore economic damage in a year. India regularly experiences heavy rains, sunstroke, cyclone, floods and droughts in some part of the country. These calamities tend to cause extensive damage to lives as well as property. As the current seismic zone map of the country, over 59 per cent of India's land area is under threat of moderate to severe seismic hazard.

With the enormous change in climate, the occurrence of natural disaster has become very frequent in the recent times. The rising greenhouse gas emissions from human activities is leading to rising temperature, changing weather patterns and rising sea-level. The changing temperature is adversely effecting every continent on earth which leads to disruption in human livelihood, economies and ecosystems. This is increasing the sheer number of disasters by manifold posing threat to humankind. During the time of threat or disaster, information seeking swells and it is then the responsibility of the mass media system to disseminate news at the earliest and also suggest optimal preventive measures for reducing the damage. Effective communication tools are needed for optimum disaster communication. Communication forms the important component in response and recovery during disasters.

Generally, natural disasters strike without warning. However, these days there are numerous technologies that can help in predicting or forecasting disasters and disseminate early warning. For disasters that hit without warning, can be handled with proper post disaster response. Building teams to immediately reach the disaster hit spot well prepared for any emergency; medical teams for medical emergencies, post trauma care is vital, and locating people at the disaster site are

all big cause of worry. Creating awareness among the public is important in mitigating the consequences of the disaster. Even a little knowledge on how to deal with the disaster and act proximately can be advantageous in minimising the risk and arming the public with knowledge, so as to save as many lives as possible. Communication during and immediately after the disaster situation is important as it connects affected people and communities. Reliable and accessible communication is the key to community's resilience (Nayak, 2012). Along with the disaster management organisations at centre and state level, it is important for the journalists to take part in communicating actively and precisely during disasters. The media along with the disaster management personnel should identify the danger spots and mark those spots. These spots should be under surveillance to avoid any mishap.

Undoubtedly, disaster management has evolved a long way in managing the risks and vulnerability of the disasters. A combination of innovative mechanisms are introduced to prevent the creation of risks ab initio. Making use of science and technology to support the disaster management planning and preparations can help reduce the scale of humanitarian losses. Science can prove to be resourceful in disaster preparation and mitigation.

In a report 'Humanitarian Emergency Response Review to the Government' presented by Lord Ashdown in March 2011, he identified areas of change in which Disaster organisations should respond towards emergencies and recommended actions on how science should be used in that response. In response to this report, the Government of United Kingdom made policy commitments in science in two areas:

1. Improve the use of science in both predicting and preparing for the disasters, drawing on the Chief Scientific Advisors' network across government. Ensure scientific data on disaster risks is used to inform and prioritise country and regional level work on resilience,
2. Work with others to find new ways of acting quickly in 'slow onset' disasters to stop them from becoming major emergencies.

Following these recommendations, the Government's Chief Scientific Advisor (GCSA) was appointed to lead the UK government's action in this area. The GCSA addressing this task commissioned "a Foresight project looking ahead 20-30 years to examine the future impact of disasters, informed by the best current research across the natural sciences, health, social sciences and economics. It will also look at what effect emerging science and technology may have on managing those impacts, particularly in politically or economically fragile states."

Disaster Mitigation Mechanism involving Science Communication

In this age, science and technology is affecting everyone's life and is having a great influence on our culture. It is shaping our lives in so many different ways. Therefore, it is important to communicate science correctly and widely. Almost every public policy involves science. Science is supported publicly for which public understanding of science should be given ample importance. Literature on the disaster mitigation mechanism in India as well other parts of the world was gathered. Communication theories on dissemination of scientific information have been derived from the West to examine the communication strategies used in India during a disaster. Better and timely communication, between the disaster management authorities and the people, about the survival knowledge and skills to potentially lessen the impact of natural disasters may reduce the risks.

With the development in the mass communication process disaster or emergency management has improved to a great extent involving the local and national governing body immediately after the disaster occurred, in order to minimize the loss. In the 19th century, several countries in the west created disaster assistance organisations that added to the disaster response efforts which includes, American Red Cross (1881), the US army, the National Weather Service, and the US coast guards. (ICMA, 2008). The National Governors' Association of USA in the year 1979 characterised disaster management in four temporal stages including: mitigation, preparedness, response and recovery. The Red Cross and Red Crescent societies define disaster management as 'as the organisation and management of resources and responsibilities for dealing with all humanitarian aspects of emergencies, in particular preparedness, response and recovery in order to lessen the impact of disasters'

The disaster management in India mainly concentrates on preparedness, response and recovery arrangement. Preparedness is viewed as "actions taken in advance of an emergency to develop operational capabilities and to facilitate an effective response in the event an emergency occurs" (Godschalk, 1991, p.l36). Mileti (1991, p. 215) states, "preparedness includes such activities as formulating, testing, and exercising disaster plans; providing training for disaster responders and the general public; and communicating with the public and others about disaster vulnerability and what to do to reduce it." However, 'people do not have extensive knowledge about the hazards in there are' due to which they lack interest or concern in the planning and preparedness activities. (Kreps, 1991, pp. 30-54).

In India, in the process of disaster management, mitigation tends to be an implicit requirement. To achieve successful mitigation practices in India, Bhimaraya A

Metri (2006) discussed the concept of Quality Circles. 'A QC is a small group of individuals working in an organization or living in the same area coming together voluntarily to solve their work related problems or improvement of their work environment, relations or even their personal problems inside their organizations.' QC, in the context of disaster mitigation is a small group of 15-30 villagers who voluntarily meet together on a regular basis to identify improvements in their respective disaster areas using proven techniques for analysing and solving disaster related problems coming in way of achieving and sustaining excellence leading to mutual upliftment of villagers as well as the country. It is 'a way of capturing the creative and innovative power that lies within the villagers or rural community.'

Nambiarsuggests two essential disaster planning elements including: (1) Integrating the panchayati raj institutions and urban local bodies in disaster risk planning and management, and (2) augmenting the capacity by training the individuals. According to her, awareness building and communication in a pre-disaster phase must include, preparedness messages through multimedia (newspaper, radio, television, mobile phones and internet), training in disaster response for community groups and institutions, early warning systems, evacuation routes, demarcation of safety zones, as well as conducting public information campaigns. She coined the phrase 'safety culture' which shall be inbuilt within the community to aware the onset of the disaster, through a robust communication strategy.

During disasters, the best way to manage the crisis is to provide efficient and timely information that can be beneficial in identifying the threats and competently responding to it. Gao H., Barbier G. &Goolsby R. (2011) write about the importance of crowdsourcing that allows people to participate people in various tasks for disaster management, "from simply validating a piece of information or photograph as worthwhile to complicated editing and management". Discussing both the pros and cons of crowdsourcing, the researchers explain that leveraging crowdsourcing for disaster relief can aid in gathering reports immediately after the disaster, using social media. The data collected can be used in creating tag clouds, trends, and other filters. These data can be then categorized according to the urgency and help relief agencies to concentrate on the issues and events that are most important to the relief effort. Providers of the data can include geo-tag information for messages sent from some platforms (such as Twitter) and devices (including handheld smartphones). These data can help the relief organisations accurately locate specific requests for help. However, crowdsourced applications do not provide a common mechanism for collaboration and coordination between disparate relief organisations and hence multiple organisation may provide help to an individual

request at the same time. Also, all information provided on crowdsourced applications may not be accurate. "Fraud reports from malicious persons might appear as normal requests on crisis map." The current crowdsourcing applications (e.g. Ushahidi) do not have adequate security features which may endanger relief workers in publicising details about relief efforts as they might be targeted by nefarious groups.

Robert L. Zimmerman(2015) in his article 'Building Codes and Resilience to Natural Disasters in Asia-Pacific' stated that the two major challenges that the Asia-Pacific Economic Commission (APEC) faces in increasing disaster resilience are poverty and corruption. To improve disaster resiliency in these areas a second-party or a third party inspection system should be instituted to ensure code enforcement. This will help in reducing corruption in code enforcement and ensure building structures that are disaster resilient. His another recommendation to increase the resilience of buildings against natural disasters is to provide financial assistance to owners in poor communities to enable their homes and workplaces to meet building codes. For this, not only the APEC nations but other nations too may institute financial assistance programs.

The Government of India have adopted mitigation and prevention as essential components of their development strategies. The Tenth Five Year Plan documents has a detailed chapter on Disaster Management. The plan emphasizes the fact that development cannot be sustainable without mitigation being built into development process. Each State is supposed to prepare a plan scheme for disaster mitigation in accordance with the approach outlined in the plan.

A multidisciplinary approach within physical science needs a broader scope to include sociological knowledge and techniques which might be applied in areas of understanding the incentives that make governments and communities act to reduce volcanic risk, and improving the communication of volcanic uncertainties in volcanic emergency management and long-term planning and development. (Barclay, Hayness et al, 2016). Recently, the Intelligent Disaster Decision Support System (IDDSS) was developed to support homogenous data aggregation, manipulation and visualisation, which can be used by to resolve disaster management issues. The IDDSS provided a platform for integrating a wide range of road network, traffic, geographic, economic and meteorological data as well as dynamic disaster and transport models (Anbarasi and Mayilvahanan, 2016). There is much need for such techniques to efficiently collect data, organize and disseminate appropriate data for efficient disaster management and disaster recovery tasks.

To reduce any kind of disaster vulnerability, it is important to increase knowledge about the presence and consequences of natural and technological hazards, and

empowering individuals, communities and public agencies with the knowledge of reducing the risk of the hazards and responding effectively after any disaster.

Science Communication in Bihar Floods

In the recent times, much importance is being given to the role of science and science communication in improving disaster management during the three phases of a disaster – pre-disaster, during disaster and post-disaster. This paperexplores the disaster management planning and preparedness of theBihar. Bihar is perennially affected by flood and earthquakes causing severe destruction to this impoverished and densely populated state. The Bihar Disaster Management Department is well quipped and dynamic in responding to efficiently to these major disasters. However, there are still gaps that needs to be bridged for more resilience. Reports about the short comings of delivery and coordination of different aids during these disasters have made headlines. Coordination with the government of the stricken state, coordination with local communities, coordination with international and national NGOs, coordination between the emergency and the reconstruction phases are the major concerns and communication is the key to improve this synchronisation. As discussed above countries like UK have appointed Scientific Advisors to examine and improve the disaster response process. Scientific information about disasters help in learning about the reason of the disaster and even the future impact of these disasters. Of course, natural disasters are unforeseen and hence a 'perfect disaster management' solution cannot exist but learning and implementing ideas and recommendations can always bring improvement in the existing approaches.

Located on the eastern part of the country, Bihar is one of the most flood prone state in India, with 76 per cent of the total population, in the north Bihar living under the recurring threat of flood devastation. A number of rivers flowing through Bihar have their catchments in the steep and geologically nascent Himalayas. Kosi, Gandak, BurhiGandak, Bagmati, KamlaBalan, Mahananda and Adhwara Group of rivers originates in Nepal, carry high discharge and very high sediment load and drops it down in the plains of Bihar. Flood of 2004 demonstrates the severity of flood problem when a vast area of 23490 Sq Km. as badly affected by the floods of Bagmati, Kamla&Adhwara groups of rivers causing loss of about 800 human lives, even when Ganga, the master drain was flowing low. Beside floods, Bihar is also prone to earthquakes. The 1934 Munger and Muzaffarpur earthquake was one of the worst earthquakes in India's history killing almost 30,000 people. (NIDM, Bihar)

The International Federation of Red Cross and Red Crescent Societies in an article 'Disaster Risk Initiatives help save lives in Bihar floods' quotes the-then Secretary of the state of Bihar, S.P. Singh - "community based approach is sustainable over

the long run because it gives a sense of ownership to the community members. The (Bihar state) branch has formed a pool of local trainers who focus primarily on disaster management concepts such as community-based preparedness and risk reduction activities." Greater the level of awareness on risk reduction, better will be the sustainable efforts, helping to reduce losses due to hazards.

The Tata Institute of Social Sciences, Mumbai assessed the prevailing situation in the flood-affected districts of Bihar. The relief work in those areas were seen to be extremely slow. Government was not encouraging any NGO to start relief camps, a large number of people who were affected remained cut off from all channels of contacts, the evacuation process had been unable to reach all areas, the victims need for food, shelter, medicines and clothing were far from being met by the government, serious issues of sanitation, hygiene and clean drinking water existed, shortage of medicine, milk for children and clothing were also mentioned. Based on the rapid assessment of the situation, the TISS team identified the intervention of civil society groups and state actors in the areas of coordinating rescue and relief work by setting up a two-way communication mechanism between the organisations and individuals which would bring better feedback about the ground situation. The district administration should identify areas with the help of civil society and start relief camps and temporary settlements with supply of food, medicines and clothing. People need to be 'listened to', responded and feel cared for, and an assessment exercise needs to be done in terms of damage of lives, property and livelihoods. For this, interaction with people living in the relief camps as well as those living in the temporary settlements are required. Informal discussions with individuals and groups should be carried in a systematic manner. (Jha&Raghavan, 2008)

The use of new information and communication technologies during humanitarian emergencies and disasters is evolving steadily. Primarily, the role of science communication in predicting and preparing for the disasters in Bihar has not being studied much.The Indian government has dedicated many years in studying and understanding natural disasters and the mechanism in dealing with these disasters. However, there are still too many gaps at national and local levels. A long term road map of cooperation and collaboration has to be drawn, along with action plans to reduce disaster risk with specific and actionable activities. Bihar has been not new to natural disasters. Even though the state government is incessantly bringing in new ways to reduce mortality rate, every year the death toll reads hundreds and thousands. Infrastructure, dams, and early warning systems are being majorly focused on yet there is too much work to be done in these areas which are being performed at a very slow pace. And the triggering death tolls every year is a testimony to it.

The state has extremely low literacy rate and hence, infusing scientific knowledge regarding the occurrence and mitigation of the disasters is a tough task but even if small steps are taken it may help in the long run. Government run schools in Bihar have textbooks which elaborately describe the different types of disasters and ways to deal with those disasters. But the effect of these textbook knowledge are terribly exposed during the tough times of disasters.

People have learnt ways to handle the crisis situation. Media tries to communicate scientific information regarding disasters but even this area seems a little gloomy. There is no specific training or education provided to local journalists for practicing science communication. Hoardings and banners with safety methods are put up in almost all disaster hit areas but a large population is uneducated. Visual mediums for carrying scientific information is rarely carried by the government. Thus, it is vital to understand people's scientific temper and scientific knowledge regarding the natural disasters and their actions during the crisis. This will benefit the government in improving the population's scientific knowledge and guide them in dealing with disasters and the after effects of the disasters.

Media's Role in Disaster Management

Media plays and important role as a source of information on disasters for the public. In 1979 in the USA, the National Research Council organised workshops on media and disasters. It was the first time when specific attention was given to the role of mass media in disaster situation. The reports of this workshop was published by the National Academy of Science with the name 'Disasters and Mass Media', which focused on the role of media in disaster mitigation and awareness. Media provide the updates an information on the catastrophe and the occurrences right from the early stages of the disaster.

However, in many disasters, it was seen that the media remained focused on the single story event (Joseph Scanlon &Alldred, 1982), such as the coverage of 2005 earthquake in Pakistan, ice Storm in Ottawa, Hurricane Katrina in USA and fires in Russia. As Miller &Goidel (2009) have noted, during Hurricane Katrina, the media had the invaluable role of reporting the 'breaking news' and everyday developments of the disaster, but were unable to gather contextually rich information about the causes and consequences of the natural disaster. Disaster reporting is a very difficult task and therefore, even in developed countries like the USA media faced immense criticism for rumoured facts and sketchy information during hurricane Katrina in September 2005 (Mann, 2007:231). In case of disaster reporting, there is need to develop professional skills of journalists and other communicators who can communicate skillfully about the disaster. Professional training is vital in the field of science reporting. Science

journalists in particular should draw attention to imminent threats to life and safety of the people. Continuous training by emergency response coordinators could improve state and country disaster preparedness, and that coordination with the media reporting on disasters could be improved. (Prizzia, 2005)

The core function of media is not only to inform about the crisis but also to suggest ways to safeguard from the crisis. Since mass media acts as a critic to the democracy, its role is also to scrutinize the public officials in protecting the general public during any crisis. 'The media is a dynamic interpreter that analyses events and even prescribes what should be done' (Peters, 2009). Media such as television and newspapers also tend to favour the dramatic components of the disaster if they are available to "pump up ratings" and to be critical of governments (Ardalan, Linkov, Shubnikov, &Laporte, 2008).

It is a challenge to the reporters covering disaster to identify authentic resources that can provide early notification and realistic stories from the disaster-hit zone. Timely and accurate information with complete background information of the reasons behind the disaster needs to be gathered before disseminating it to the audience. Gillespie(2014) in an article in the Guardian says that journalists writing bout climate change rarely produces content that resonates with people and the actual idea of climate change. They portray devastating and haunting visuals of the changing climatic phenomena. Rather than deploying such ideas of the climate change evidences, there must be content which is 'a little dystopian but most importantly potentially more utopian.'

For effective reporting, skilful and trained development journalists are required. Media institutions should provide workshops for skill building and training journalists in international reporting, critiquing reporting on developing countries, and sensitizing both the media and the public. Trained reporters, photojournalists, and editors can provide worthy news. Science communication has revolutionised the disaster risk management practices. Scientists, especially those involved in Intergovernmental Panel on Climate Change, are communicating to the public to help them understand and prepare for the disasters. The revolutionised weather forecasting practices and communications of early warnings of disasters, and the early warning system for tsunamis are effective ways of disaster risk communication. It is an effective approach to undertake science communication with public concerned issues. Lectures, face-to-face talks between scientists and media, new media and science cafes are ways in which disaster threats can be countered.

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Sustainable Development Issues in the Indian Print Media

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Mass media could play a vital role in achieving the millennium development goals, of which sustainable development happens to be the top priority. It sets the agenda for public discourse on sustainable development issues and catalyzes consensus building for policy formulation and action programmes. Public understanding of sustainability issues result inlong-term economic progress, promote a healthy environment, ensure optimum utilization of natural resources, and boost democratic governance. The mass media's attempts to raise mass consciousness on sustainability issues by adhering to the basic journalistic principles truth, accuracy, objectivity, balance also contribute to bolster its own credibility. On the contrary, the media also de-prioritize sustainable issues and report more elite content to cater to corporate interests. Where does the Indian media stand in terms of reporting sustainability issues? Does it devote adequate editorial space the issue deserve? This paper exploresthe reporting of sustainable development issues in the mainstream print mediathrough content analysis of four mainstream dailies.

Sustainable development is defined as the development that can fulfill needs of the present generation without compromising the ability to meet the needs of the future generations. It is a long-term, participatory process that leads to the improvement of environment quality, raising standard of living, optimum utilization ofresources, reduced production of wastes and disaster management. Sustainable Development requires an integration of economic, social and environment approaches towards development. It refers to attaining social equity and environment protection with the optimum utilization of natural resources. Sustainability reporting is therefore a vital step to bring a change towards a sustainable society that aims to make a sound environmental policy to

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raise living standards. Sustainable Development demands clean and pollution free environment and enshrines the good quality natural resources for both present and the future generation.

In Sept 2015, UN Member States approved the 2030 Development Agenda and a set of Sustainable Development Goals (SDGs). The Sustainable Development Goals succeeded the Millennium Development Goals at the end of 2015 and articulated a new global development agenda to eradicate poverty and shift the world onto a path of Sustainable Development by 2030

The broad objectives of sustainable development are: reducing waste and pollution, preservation of resources, meeting essential needs such as food, water, and sanitation, ensuring a sustainable level of population, conserving and enhancing the resource base, reorienting technology and managing risk and proper strategy formulation

Media and Sustainability Issues

Media has a critical role in promoting Sustainable Development, of which environment occupies a central stage. With the alarming rise of environmental pollution, there is an urgent need to preserve environment and improve its quality. Media stimulates public debate on sustainable development issues so as to create wider awareness.Media's commitment to sustainable development goals, however, depends upon several factors like the national media system and policies, ideology of the owner(s), professionalism in management functioning. At a time when profit prioritization rules the media more than its social responsibility, media's commitment to sustainable development issues is feeling the heat. Available literature suggest that media's commitment to reporting of the sustainable development vacillate between the extremes of sometimes being awfully responsible and sometimes outright irresponsible.

Media catalyzes positive changes in society by providing the information that influences public opinion, and serve as a promoter of education and public awareness in order to lead a sustainable society. It helps in adopting ways to create awareness and paves the way for the achievement of sustainable way of living. Media makes society conscious about sustainability issues and influence to take actions for a sustainable future. It plays a pivotal role in behavioral changes towards sustainability and influencing policy decisions.Responsible journalism involves understanding of problems and encourage search for workable solutions.

The Millennium Development Goals Report 2012 that described the role of mass media in all eight development areas are:-

1. Eradicating extreme poverty and hunger.
2. Achieving universal primary education.
3. Promoting gender equality and empowering women.

4.   Reducing Child Mortality Rate
5.   Improving maternal health
6.   Combating HIV/AIDS, Malaria and other diseases
7.   Ensuring Environmental Sustainability
8.   Developing a Global partnership for development.

Theoretical Framework of the Study

Maxwell McCombs and Donald Shaw (1976) in the Agenda Setting Theory describe that media influence public about various issues. Media is successful in telling people 'what to think about' rather than telling them 'what to think'. In this process mass media aims to bring cognitive change among individualsand to structure their thinking. Framing theory (Goffmann, 1974) suggests that media brings attention on certain events and places them to the audience. It also influences the choice that people make about how to process that information. The media tells audiences not only 'what to think about' but also 'how to think about'. It is interpreted as an extension of the agenda setting theory.

Magic Bullet Theory suggests that media stimuli are assumed to operate like magic bullets that means an intended message is directly received and wholly accepted by the receiver. The media (magic gun) fire the message directly into audience head without their knowledge, which induce instant reaction from the audience mind. Audiences are passive receivers that means mediainjects the message into audience mind and it cause changes in audience behavior and psyche towards the message.

The shift from magic bullet theory to the selective influence theories lead to complex conceptualizations. It initiated the concept of selectivity with which audiences attended to the media, interpreted what they were exposed to, remembered that content, and thereby influenced in their actions. The four basic principles of selective influence theories are concerned with selective attention, selective perception, selective recall and selective action.

Cultivation theory was developed primarily by Gerbner and his associates; he discussed how television shapes and maintains audiences- i.e. cultivate audiences' conceptions of the real world(in other words their construction of reality).This theory suggests that prolonged watching of television can induce a certain paradigm about violence in the world. The major effect that concerns cultivation theorists is not violent behavior but the use of emotions, such as fear, anxiety and alienation among people adopting symbolic and violent worlds of the media perceived as reflections of society.

Objectives of the Study

- To determine print media's orientation to sustainability issues
- To examine the coverage of sustainable development issues.
- To analyze the content on Sustainable Development both quantitatively and qualitatively.
- To make an intra-media comparison of the nature of reporting of sustainability issues of the four selected mainstream newspapers.

Review of Literature

In a study on the role of mass media in creating environmental awareness and imparting information about new agricultural technologies among the rural people, Nimish Kapoor (2011) explains that different sources of mass media were not fully utilized in the area under study that hindered not only the awareness level of the respondents but also adversely affected the adoption level of new farming technologies by the rural people.

Srinivas Melkote in a paper 'Mass media support of Sustainable Development' discusses the role of media in promoting development, especially in the Third World discusses the debate on Sustainable Development and how media is used and can be used to support Sustainable Development. Dominant paradigm of modernization provides rationality, objectivity and other philosophical principles. Industrialization was considered as the route to successful economic growth and encouraged Third World countries to invest in a program of industrialization such as hydro-electric projects, steel industries and a diversity of manufacturing units.

VanajaDanthuluri(2015) examines various environment issues that are prevailing in India such as scarcity of resources, environmental degradation, loss of bio-diversity, land or soil pollution, noise pollution, preservation of forest, poor management of waste. Economic development is helpful in improving environmental management and adoption of factors to increase community participation in overall improvement in quality of life.

Ashish Kothari(2013) in his paper titled 'Development and Ecological Sustainability in India: Possibilities for the Post-2015 framework' aims to discuss Millennium Development goals and focused on policies that are required to bring necessary changes in Indian economy for the achievement of human well-being with ecological sustainability. It presents goals and targets relating to sustainable development that include key linkages with other goals and emphasizes some challenges to achieve such a framework and steps that should be taken for Sustainable Development. This paper proposes a sustainability centered framework of well-being for India that is composed of set of principles and goals, with the aim of contributing to the ongoing discussion on post 2015

'development' goals. It attempts to spell out the goals, targets and indicators for sustainability.

Siddegowda and Jagadish (2013) in their research paper titled 'Role of media in achieving Millennium Development Goals state that Sustainable Development' state that Sustainable Development is a mode of human development that demands wise utilization of resources to meet human needs. It ensures sustainability of natural systems and environment so that these needs can be met both in the present and in the future. The achievement of Millennium Development Goals is necessary to reach the target of Sustainable Development. Media serves as a lifeline in creating awareness among people and ensures Universal Primary Education, reduction of Child Mortality Rate and improvement in maternal health. N.Subramaniam (2007) describes several factors like environmental threats, population growth, urbanization, energy use and global warming, waste management and water scarcity that are detrimental to our society. To maintain sustainability issues, various solutions have been successfully adopted. These solutions are helpful in combating various environmental problems. Some of these solutions include geothermal power, solar energy, wind energy, bio-energy, solar photo voltaic, bio refinery technology, solar thermal power stations and ocean energy. The use of alternative fuels such as biodiesel, bio alcohol, chemically stored electricity hydrogen non-fossil natural gas etc has also increased. It is concluded that construction industry consumes 40% of the total energy and about one half of world's major resources. Green and intelligent buildings and LEED certification have been evolved for the sustainable development construction industry.

Pramod Dabrase and Ramachandra, in their research paper. 'Energy and Environmental sustainability: Some key issues in Rural Kolar, Karnataka, India' explain the importance of Sustainable Development to cope with the serious issue of environmental degradation. The improper availability of planning and increasing environmental deterioration has adversely affected ecological balance. Population is growing at an alarming rate and dearth of resources demand maintenance of environmental equality. Earth Summit (Rio'92) is helpful in taking up voluntary program for Sustainable Development in poor rural countries to keep a check on environmental degradation. Kolar district of Karnataka is chosen to develop an Integrated Regional Energy Plan considering the availability of resources, present consumption patterns and development priorities. It concludes that educational awareness plays a vital role in the adoption of proper environmentally sound energy techniques. Two ecologically distinct cluster of villages – Anthragange (Kolar taluk) and Andarhalli (Chickballapur taluk) were chosen to explore the criteria and indicators of sustainability and role of non-conventional energy interventions such as biogas, solar, etc. on sustainability.

M.S Parmar and Raju C. John (2010) in their research paper titled 'Coverage of Environment aspects: A study among English dailies' discuss that media plays a vital role in bringing awareness regarding various environmental issues such as global warming, thinning of the ozone layer, increasing pollution of various kinds, depletion of non-renewable resources, desertification of farm lands, loss of bio-diversity, uncontrolled population explosion etc. Content Analysis method is applied in four English dailies – The Times of India, The Hindu, The Indian Express and Free Press for the duration of one year from May 2006 to April 2007 that comprised 1452 issues for the study. It has been concluded that coverage on water issues was better in The Hindu followed by The Times of India, The Indian Express and Free Press. The coverage of environmental issues related to air was better in The Hindu followed by The Times of India, Indian Express and Free Press and the coverage of noise related issues in all selected newspapers was very poor. The Hindu provided maximum coverage to environment issues.

According to Yadav (2011) in his journal,' Role of communication in climate change and Sustainable Development' notes that media plays a crucial role in reporting sustainability issues. Nowadays global warming and climate change are majorly reported. Media has reported attention on environment issues and also serves as an agenda builder which prompts educating the society about protection of natural resources such as Ganga River Action Plan, Chipko Movement, Narmada BachaoAandolan and Appiko Movement. Total commitment of the media is required to disseminate objective and balanced news and to strengthen the understanding of sustainability issues. Different forms of media- print, electronic, inter-personal communication channels, folk media, radio, mobile technology, and Web based technologies have geared up in focusing environmental issues.

Research Questions

Q1. Do the Indian media play its expected role in achieving Sustainable Development Goals?

Q 1(a) Where do sustainable development issues stand in the overall schemeof news priority of Indian print media?

Q1 (b) Where does Indian print media's reporting of sustainable development issues stand vis-à-vis the global media reporting?

Q2. How the mainstream newspapers in India are framing Sustainable Development issues?

Q2(a) Which Sustainable Development issues are mainly reported in newspapers?

Q2(b) Does there exist any significant intra-media differences in the reportingof sustainability issues?

Research Designs and Methods

To study the quantity and quality of reporting of sustainable development issues in the print media, four mainstream English daily newspapers i.e. The Times of India, The Hindu, The Indian Express and Hindustan Timeswere selected as the population for the study.

Issues of the selected newspapers from December 1, 2016 to December 15, 2016 were selected as samples for the analysis.

Contents of the sample newspapers were analyzed both quantitatively as well as qualitatively to know the scheme of news priority of the selected newspapers.

To know the quantum of coverage of different issues within the purview of sustainable development, the media content has been organized under different categories: Environment, Economic Growth, Education, Rural and agricultural, Resource allocation, Health, Energy conservation, Poverty eradication, Global Partnership, Wildlife care, Forest conservation.

Data Analysis and Interpretation

Table 1: Reporting of sustainability issues in 'The Times of India'

Categories	No. of news stories	Total editorial space (in cm sq.)	Category wise area of news stories (in cm sq.)	Percentage
Environment	8	23133.84	2566.34	11.09%
Economic Growth	2	3354.37	150.51	4.4%
Education	3	5056.95	205.89	4.07%
Rural and agricultural	3	3376.86	358.59	10.61%
Resource allocation	7	13315.78	1323.77	9.94%
Health	6	9872.88	796.48	8.06%
Energy conservation	2	3181.5	450.7	14.16%
Poverty eradication	1	1699.04	131.92	7.76%
Global Partnership	1	1650	260.8	15.80%
Wildlife care	1	1699.04	110.84	6.52%
Forest conservation	2	5035.8	409.37	8.12%

This table transpires that environmental stories were majorly covered in the Times of India followed by news stories on resource allocation,health, education, rural and agriculture,economic growth,energy conservation, and forest conservation.Less coverage was given to stories on poverty eradication, global partnership and wildlife care.

Table 2: Reporting of sustainability issues in 'The Indian Express'

	No. of news stories	Total editorial space (in cm sq.)	Category wise area of news stories (in cm sq.)	Percentage
Environment	12	21869.93	2561.18	11.71%
Economic Growth	5	7841.89	757.6	9.6%
Education	0	-	-	-
Rural and agricultural	3	4675.77	394.92	8.4%
Resource allocation	4	6289.41	789.76	12.5%
Health	1	1667.7	382.7	22.94%
Energy conservation	2	3191.5	648.06	20%
Poverty eradication	1	1598.94	102.3	6.39%
Global Partnership	0	-	-	-
Wildlife care	0	-	-	-
Forest conservation	0	-	-	-

This table shows that The Indian Express cover maximum stories on environment with highest area and other categories such as economic growth, resource allocation, rural and agricultural, energy conservation, health and poverty eradication related news stories were covered in that order. There were no stories on education, global partnership, wildlife care and forest conservation.

Table 3: Reporting of sustainability issues in 'The Hindu'

Categories	No. of news stories	Total editorial space (in cm sq.)	Category wise area of news stories (in cm sq.)	Percentage
Environment	11	19503.87	2869.56	14.71%
Economic Growth	4	6589.28	585.1	24.05%

Education	6	9853.52	1865.17	18.92%
Rural and agricultural	3	4993.67	1256.1	25.15%
Resource allocation	5	8190.16	1110.55	1.34%
Health	2	3288.31	302..35	9.19%
Energy conservation	1	1649.84	122.21	7.40%
Poverty eradication	3	4920.12	550.23	11.18%
Global Partnership	1	1640	79.92	4.28%
Wildlife care	3	4893.76	636.27	13.01%
Forest conservation	0	-	-	-

From this table it is clear that The Hindu mainly covered environment stories whereas news stories on education,resource allocation,economic growth,poverty eradication, rural and agricultural, wildlife care,health,energy conservation and global partnershipfound some space. There was no news related to forest conservation.

Table 4: Reporting of sustainability issues in 'The Hindustan Times'

Categories	No. of news stories	Total editorial space (in cm sq.)	Category wise area of news stories (in cm sq.)	Percentage
Environment	14	23385.27	2255.56	9.54%
Economic Growth	3	6397.28	574.89	8.98%
Education	2	3132.08	517.5	16.52%
Rural and agricultural	2	3257.1	507.18	15.57%
Resource allocation	6	11256.19	1071.4	9.51%
Health	1	1674.86	205	12.23%
Energy conservation	1	1582.68	102.7	6.48%
Poverty eradication	1	1598.94	102.3	6.39%
Global Partnership	1	3224.5	386.31	11.98%
Wildlife care	0	1659.9	217.8	13.12%
Forest conservation	0	-	-	-

This Table shows that environment stories found maximum space in The Hindustan Times. News stories on resource allocation, economic growth, education, rural and agriculture were also given some space. News related to energy conservation, poverty eradication and global partnership also found little space. There was no news story on wildlife care and forest conservation.

Table 5: Comparison of sustainability reporting in selected newspapers

Categories	The Times of India (No. of news stories)	The Hindu (No. of news stories)	Hindustan Times (No. of news stories)	The Indian Express (No. of news stories)
Environment issues	8	11	14	12
Economic Growth	2	4	3	5
Education	3	6	2	0
Rural and agricultural	3	3	2	3
Resource allocation	7	5	6	4
Health	6	2	1	1
Energy conservation	2	1	1	2
Poverty eradication	1	3	1	1
Global Partnership	1	1	1	0
Wildlife care	1	3	0	0
Forest conservation	2	0	0	0
Total coverage of SD issues	36	39	31	28

This table evinces the comparison of reporting on sustainability issues in four newspapers- The Times of India, The Hindu, The Indian Express and The Hindustan Times. The Hindustan Times covered maximum news on environment issues followed by The Indian Express, The Hindu and The Times of India. The Hindu reported maximum news stories on sustainable development i.e.39, whereas The Times of India covered 36 news stories, The Hindustan Times reported 31 news stories and The Indian Express gave least coverage to Sustainable Development, it reported only 28 news stories.Only The Times of India reported issues related to forest conservation among the selected four newspapers.

Conclusion

The study revealed that Sustainable Development has become an important concept in creating awareness. Thecontents from the four sampled newspapers were analyzed to understand different sustainability issues.In the analysis of data, the coverage of Sustainable Development is divided into eleven categories- Environmental stories, Economic Growth, Education, Rural and Agricultural, Resource allocation, Health, Energy conservation, Poverty eradication, Global partnership, Wildlife care and Forest conservation.

After studying different categories of sustainability issues, it has been found that environmental storieshad highest coverage with maximum area in the allselected newspapers. News stories on resource allocation also found ample coverage in sampled newspapers.Education, economic growth, rural and agricultural issues found some space in selected newspapers. Health related news stories found little space in all newspapers except The Times of India which reported maximum news on health. There was less coverage on issues like energy conservation, poverty eradication, wildlife care and global partnership. Content on forest conservation found no space in selected newspapers except The Times of India which has covered less news stories on forest conservation. With the Content Analysis of newspapers for 15 days, it has been found that The Hindu reported maximum sustainability issues and the least coverage to sustainability issues was given by The Indian Express.

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Sir Syed's Vision of Science Communication: A Study of Science Content of Aligarh Institute Gazette and Tehzib-ul-Akhlaque

Asad Faisal Farooqui[1]

Sir Syed (1817-1898) was one of the multifaceted personality of nineteenth century, whose journalistic work also influenced the society. He had started two journals 'Aligarh Institute Gazette' (March 1866) and 'Tehzib-ul-Akhlaque' (25 December 1870), to disseminate scientific rationality in the Urdu society of nineteenth century. These two journals played imperative role and contributed immensely in eradicating the superstitions from the society and enhancing scientific and empirical thinking. This paper tries to discussed the contribution of 'Aligarh Institute Gazette' and 'Tehzib-ul-Akhlaque' in cultivating scientific temper among Indian society by analysing the scientific content of these two journals.

Key Words: Sir Syed, Aligarh Institute Gazette, Tehzib-ul-Akhlaque, Science Communication.

Sir Syed Ahmad Khan, one of the torch-bearers of modern education in India, also participated in this mission with scientific zeal to change the mind-set of the country. He was fully aware of the pitiable conditions (both morale and intellectual) of his countrymen and also visualised the changes that were taking place in the society. So, fulfil his dream of making the nation scientifically and rationally active, he initially established a scientific society at Ghazipur on January 9, 1864, which soon shifted to Aligarh (April 1864) as Sir Syed was transferred to Aligarh. Shortly, in Aligarh, Society emerged as the centre of all the scientific activities. The Society sought to promote liberal, modern education and western scientific knowledge among the Indians. Through the platform of this society, Sir Syed tirelessly worked for the cause of social welfare, he convinced people to adopt scientific methods in their life. This Society regularly organised scientific exhibitions, demonstrations and lectures especially on scientific developments taking place in the agriculture field. Scientific society had a scientific museum and a library of its own. Models of modern tools and instrument used in agriculture practices were exhibited for public. Another area in which the Society worked

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relentlessly was the translation of western knowledge and scientific books in Urdu. The society also declared that no religious work will be considered for publication.

Through Scientific Society, Sir Syed not only used print media but various other methods of communication, to enhance and inculcate scientific understanding and to popularise science among masses. In this connection IftikharAlam Khan, whose seminal work on various aspects of Sir Syed's life helped in understanding his vision, fittingly mentions:

Sir Syed changed the rules and regulation of Scientific Society for lectures, demonstrations, museum, exhibiting experiment in laboratory. Society used these methods for science promotion activities. This clearly shows that Sir Syed tried well to use these new tools with print media in diffusion of science among masses.

Discussing the origin of modern agricultural journalism, agricultural scientist Dr. R.D Sharma elaborated how Sir Syed promoted agricultural science that sowed the seed of agricultural journalism in India:

> The modern agricultural journalism was started in the mid nineteenth century with the publication of translations of three English books on Weather, European agriculture and Agricultural implements. This effort was the result of a letter written on 30 December 1865 by Sir Syed Ahmad Khan-the famous founder of Aligarh University-to Mr. I.H. Prinsep-the Collector of Aligarh. A scientific society was established in 1865 and a weekly paper AligarhInstituteGazette was started in 1866. This encouraged people to write on agriculture. Most of the books and periodicals were published in Hindi, Bengali and other Indian languages.

In the beginning, he introduced reformist agenda that gradually nurtured the scientific awakening among the Urdu knowing community. He published two periodicals Akhbar Scientific Society or Aligarh Institute Gazette (Organ of Scientific Society), and the TehzibulAkhlaq or Muslim Social reformer (1870) represented a landmark in Science Journalism in Urdu. His periodicals made an everlasting impression on Urdu Journalism.

Highlighting the contribution of Sir Syed's scientific and literary writings Julie F. Codell, writes:

> Following the Rebellion, Urdu papers disappeared but a Muslim revival connected with the scientific and literary writings of Sir Syed Ahmad Khan inspired papers in the north in Delhi, Meerut, Agra, Lucknow, Aligarh, and Lahore.

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Sir Syed meticulously worked for promoting rational and intellectual moorings among Indians especially Urdu knowing people. In order to accomplish it, he not only developed a new wave of modern and scientific thinking by founding Scientific Society at Aligarh, under banner of which society had organised many scientific literacy programmes and also translated many scientific and modern books. Also through his writings in above two periodicals, he brought forth a new and simple style of journalism by abandoning the prevalent heavily loaded, ornamental, pseudo-literary, metaphorical and rhyming sentence structured style. He also discarded the earlier popular traditional calligraphy and used type in his periodicals.

Akhbar Scientific Society/ Aligarh Institute Gazette

The Aligarh Institute Gazette, a weekly, was launched on March 1866 by Sir Syed under the aegis of scientific society. It had two names; the Aligarh Institute Gazette in English and Akhbar Scientific Society in Urdu. Initially, it used to be published on every Friday. It carried sixteen pages. Since June 1877, it became bi-weekly and was published on Saturdays and Tuesdays. In 1896, it again became a weekly, which continued till the death of Sir Syed.

Layout:

Careful study of issues of the 'Aligarh Institute Gazette' available at Maulana Azad Library, AMU, Aligarh reveals that it was a tabloid that was published primarily in two languages Urdu and English, but it also published material in Arabic and Persian. In the title page, the masthead comprised English and Urdu names. The English title appeared semi-roundly at the top, followed by the Urdu title in two bold straight lines. The masthead also carried dateline in Urdu and English, and also volume and issue number.

Its each page was divided into two columns but when its size was changed from tabloid to 25x 16/8 in 1896, as TehzibulAkhlaq was incorporated in Gazette, the page carried out four columns. The Gazette published that it would carry 16pages but, in many instances it crossed the limit of 16 pages.

Scientific Content:

As earlier stated, the Gazette was a multilingual newspaper, published in Urdu and English. It also published material in Arabic and Persian language as well. Analysis of Urdu content of The Aligarh Institute Gazette shows that it carried innumerable news stories, a number of articles, editorials, features, reports, book reviews, advertisements and notices. Sticking to the topic of the research, only Urdu science content was selected for discussion. Discussing the content of Aligarh Institute Gazette, ShafeyKidwai writes:

It harped on a model of journalism that gave no room to unvarnished and juicy news stories. It was launched to enlighten the readers and news items, reports, articles and editorials all threw light on new aspect of life. New discovery, gradual decline of superstitions and traditions, slackening grip of fatalism and cultivation of positive and rational thinking got maximum space.

The Gazette frequently published news stories on health, development and scientific aspects. Stories on education, setting up of new schools, construction of roads and bridges and government's effort towards development process, sanitation issues, vaccination of smallpox were usually covered by Gazette. News stories related to health and hygiene also got due space.

Article writing is the specialised styles of writing and it acts as a vehicle of public opinion. Newspapers through articles try to educate people collectively and enhance their knowledge on important issues and events. Earlier to Sir Syed's journalism, Urdu newspapers carried articles that usually discussed the polemical religious issues, but Sir Syed rejected the discussion on polemical religious issues. Gazette had published more than 2,000 articles on 25 different topics which included science and health. As Gazette's primary concern was to inculcate scientific thinking and rational views among the Urdu knowing people, so to promote this purpose it published many articles related to scientific inventions, scientific explanation of common phenomenon, causes of natural disasters, symptoms, causes and treatment of diseases, and hygiene and sanitation issues.

Analysis of various issues of Aligarh Institute Gazette reveals that as many as 70 articles pertaining to science, agriculture and health issues appeared in Gazette providing plethora of information on various subjects.

A list of few selected articles is given below:

Topics	Subject	Date of Appearance
Naqal Darkhwastbanam Sahab Collector Rawaj Aala tareeqay bagharz kashtkaari (A plan for improving agriculture in India)	*Agriculture*	April 20, 1866
Dehaat Ke Safai (Conservancy and Villages)	*Health and Hygiene*	April 27,1866
Aik Nai Roshni Aijaad Hui Hai (Invention of a new light composed of oxygen, nitrogen and magnesium)	*Science Discovery*	August 24,1866
Aijad Ajeeb: Photography (A wonderful invention: photography)	*Science Discovery*	August 31, 1866

Tareef Ilm Ke miagiriki (Definition and description of Chemistry)	*Science*	September 28, 1866
Shaab Saqib (Meteor)	*Astronomy*	October 10, 1866
Taarbarqi (Telegraph)	*Science Discovery*	December 14, 1866
Aik Ajeeb Kala Aanta Goondhne Ki (An interesting machine Kneading Machine)	*Scientific invention*	November 23, 1866
Aik Guftugu Jezamion kay Bab Main (Discussion on Leprosy)	*Health*	March 31, 1867
Hindustan kay Zalzalon ka Bayan (Earthquakes in India)	*Geology*	June 28, 1867
Lecture Ajaib at Ilm-Tabaiat (Phenomenon of Physical Sciences)	*Science*	June 28 ,1867
Risalah Ilaj Haiza (Treatment of Cholera under homeopathic System)	*Health*	July 10,1868 by Sir Syed
Paani Ansar Nahin hai (Water is not an element)	*Science*	October 2,1867
Homeopathic (Homeopathy)	*Health*	October 25,1867
Lecture Quwwat Electricity (Power of Electricity)	*Science discovery*	May 29, 1869
Zahreelay Saanp kaatnay ka Ilaj (Treatment from Venomous Snake)	*Health*	September 10,1869
Sehat wa Safai per Mazmoon (Preservation of Public Health and Hygienic condition of Food)	*Health*	August 9,1869
Kunwon Ke Hifazat (Conservancy of wells)	*Hygiene*	September 24 1869
Need for upgradation of Irrigation facilities	*Agriculture*	October 1,1869
How to treat Snakebite	*Health*	May 1, 1874
Cholera yani Haiza (Cholera as an Epidemic)	*Health*	September 17, 1875
Tib-e-Unani kay Fawaid (Advantage of Unani System of Medicine)	*Health*	July 28, 1876
Dum daar Sitaray aur un ki dum (Comet)	*Astronomy*	July 6, 1878
Maweshi key Beemari ka Ilaj (Veterinary Science)	*Veterinary*	August 17,1878
Bhairaur Bakri ke beemari aur Uska Ilaj (Treatment of Common Diseases of Sheep and Goat)	*Veterinary*	August 9 1879
Darbara Lazmi Karnay Teeka kay Hindustan Main (Necessity for making vaccination Compulsory)	*Health*	Nov 11,1879 by Sir Syed
(*Chechak se Mahfooz Rahnay ke liyeTeeka laganay ka masauda*	*Health*	October 18,1879 by Sir Syed

Gahra Jotna aur Mittika Plat Dena (Deep Cultivation)	Agriculture	August 7 ,1880
Hawa main Safar Karna (Flying)	New invention	February 28, 1882
Aatishfishan (Volcano)	Science	September 9, 1883
Allopathic System of Medicine	Health	September 29, 1885
The Victory of Electricity	Science	Feb 2,1886
Teeka Mahfoozi Haiza (Cholera)	Health	May 2, 1893
Taaoon (Plague)	Health	April 3, 1897
Microbes	Science	April 24, 1897
Jabran Alhaidgi aur wabaka Insdad (Coercive segregation and stamping out plague)	Health	May 15,1897
Diseases of Kidney and liver	Health	July 17, 1897

In the Gazette, science articles were contributed by Munshi Zakaullah, Wazeer Hasan, Waheeduddin Saleem, Haji Mohammad Ismael, Syed Sajjad Hussain, Syed Hussain Bilgrami, Pundit Bishembarnath Goswami, Jugut Singh, Iqbal Ali, and Prof Rama Shankar Misra, Ahmad Shafi, Siraj Ahmad, Kashi Naath. The Gazette also published reviews on science books. In total, 29 science books were reviewed in which 19 were related to physical science, 7 were on medical sciences and 3 belonged to mathematics.

Gazette also frequently borrowed science content from the contemporary periodicals both English and Urdu such as Friends of India, Bangalee, Hindu Patriot, Englishman, Bengal Harkaru, Native Indian, Mufaasalite, Lahore Chronicle, Dehli Gazette, Pioneer, Times, Najmul Akhbar, Qasim-ul-Akhbar, Banglore, Akhbar Khair Khwah-e-Punjab, Akhbar-e- Alam, Noor-ul-Absar, Allahabad, Lawrence Gazette, Meerut, Humha-e-Punjab, Lahore, Punjabi Akhabar, Lahore, Rahnuma-e-Punjab, Akhbar Urdu Guide-Calcutta, Indian Medical Gazette, Hindu Prakash, Mukhzin-ul-Fawaid-Hyderabad, Awadh Akhbar, Risalah Anjuman Punjab, Mazhar-ul-Uloom, Patiala Akhbar.

The Gazette also started publishing features on variety of topics and events including new discoveries, scientific advancements and wildlife. They were usually borrowed from the reputed English newspapers. It published informative features on chimpanzee of Indonesia (October 19, 1866), Whale (September 10, 1875), Elephant (August 7, 1876) and Pearl and other aquatic creatures (January 18, 1879). In addition to articles, features on scientific issues and events, it also carried several editorials on scientific development and issues.

Tehzib-ul -Akhlaque

'Tehzib-ul-Akhlaque', published by Sir Syed Ahmad Khan, appeared from Aligarh on Yakum Shawwal 1287 Hegira (25 December 1870). Its English name was "The Mahomedan Social Reformer". Sir Syed after returning from England started this

paper especially for Muslims. 'TehzibulAkhlaque' had no fixed duration, it appeared once or twice or thrice in a month, but since 1896 it became a weekly. It usually consisted of 8 or 12 pages. Occasionally the page limit went up to 20. It was printed on type in Aligarh Institute Press.

Layout:

Analysis of the files of Tehzib-ul-Akhlaque preserved in Maulana Azad Library, Aligarh Muslim University reveals that the upper half of the masthead was devoted to the English name - The Mahomedan Social reformer. The first part of English name 'The Mahomedan' appeared in semicircle and the rest of the name 'Social Reformer' appeared in a 3-inch-long horizontal box. The upper half carrying floral decoration was followed by the Urdu name which also appeared in a similar horizontal box. The masthead also consisted of volume, issue number and dateline. It contained only Hegira years and the Islamic months.

Life of Tehzib-ul-Akhlaque was divided into three phases. In the first instance it was published for six years and seven months, from 1870 (1287 H) to 1876 (1293 H). After a gap of three years and seven months, it reappeared in April, 1879 (1296) and continued upto July, 1881 (1299 H). In other words, it continued for two years and three months. Third time, after a gap of 13 years it again started in April, 1894 (1311H) and continued up to February, 1897, and then closed down permanently.

Sir Syed edited the 'Tehzib-ul-Akhlaque' single handedly in its first and second phase but when it reappeared in April 1894; it was edited by M. Enayatullah, son of a renowned scholar Molvi Zakaullah. Besides Sir Syed Ahmad Khan, few prominent personalities who had contributed in this magazine immensely were Nawab Mohsin-ul-Mulk, Nawab Viqar-ul- Mulk, Nawab Aazam Yaar Jung, Molvi Chiraagh Ali, Nazir Ahmad, Khwaja Altaf Hussain Hali, Molvi Shibli Nomani, Molvi Zakaullah and M. Enayatullah.

This periodical created a stir in Urdu Journalism and contributed a lot in enriching the Urdu contents through presenting articles on varied subjects including science. It adopted a simple and lucid style of writing to enhancing discussion on educational, social, economic and religious issues. It helped to eradicate the superstitions and narrow dogmas from the Muslim society, so that society became more rational and pluralistic. Soon it became popular and established a prestigious place amongst the educated class, and developed a high standard in contemporary Urdu journalism. Eminent journalism scholar Shafey Kidwai, discussing the contribution of Tehzib-ul-Akhlaque to science, expressed:

Tehzib-ul-Akhlaq came into being for uprooting the Muslim aversion to modern Sciences and also to acquaint them with the scientific propositions and new discoveries. Its emphasis on scientific breakthrough went a long way in cultivating an interest in sciences and technology among the Muslims.

For Tehzib-ul-Akhlaq, a growing acquaintance with science was central to educational, cultural and intellectual regeneration.

Deliberating on scientific content of 'Tehzib-ul-Akhlaqe', Nafees Bano a scholar of Sir Syed's Journalism aptly highlighted the role of this journal as the purveyor of modernism and torchbearer for the new generation:

The educational and science articles of 'Tehzeeb-ul-Akhlaque' became guiding force behind the intellectual development of the coming generations. These writing was not only organised the thinking aptitude but also inculcate new thoughts and imaginations among them. These articles profoundly discussed the impact of science and religion on each other but also explained similarities and differences between two. Unequivocally the coming generation got essence from these articles and thoughts and ideas disseminated definitely impacted them. (My Translation)

Science content:

Tehzib-ul-Akhlaque was essentially a views paper. It published many articles on science and related fields. Its only aim was to create awakening in the Muslim society, so that they could understand the changing scenario of the world rationally, and could do the needful especially in popularising modern sciences among them. So, to accomplish this purpose, more than 17 science articles got space in the pages of this journal, which provided information about the world of science. Most of these articles were contributed by Sir Syed and Molvi Zakaullah. A careful study of few of its article is given below:

Sir Syed's article 'Tafseer-ul-Samawat' published in the issue of 15 Rabi-ul-Sani 1291 H, issue 5, Volume 5 explained the scientific interpretation of origin of Universe in the context of modern science. According to Sir Syed, most of the Tafseers of Quran discussed the origin of universe in the context of medieval Greek Science. But now, when discovery of telescope revolutionised the world of science and altered the earlier claim, it is imperative to explain the tafseer under modern science. Sir Syed also used illustration of universe as viewed by telescope and under Unani science. The article throw light on the creation of universe. Sir Syed's another article 'Duniya Kab Bani aur Kitni Muddat main-aurMazhab Islam say uski mutabaqat' published in the issue of YakumZeqaida1311. He explained the big bang theory of Universe and its compatibility with Islam.

In a volume of 1296 H, Mohammad Abul Hasan contributed an article on "Qadeemaur JadeedUloom" (Old and Modern Sciences), in which author

compared the old and modern sciences.

Munshi Zakaullah's article 'Ilm Hait Kay Chutkalay' published in the issue of 1311 H was a descriptive article on the physics of optics and temperature. Another article of Zakaullah"Harkat Zameen Ka Muaina Aaini", carried by Tehzibul Akhlaque Yakum Zill Hijja 1312 H, that discussed the rotation of the earth. With graphics and a big map of the earth, he proved the continuous movement of the earth. In another article on 'Nature', he analyzed the dynamics of natural phenomena. Zakaullah also wrote introductory articles on chemistry and astronomy in easy to understand style.

The issue of Yakum Rabiul Saani 1312 H carried Enayatullah's article "Natural Science Ke Ajaae baat" (Wonders of natural science). The article, introductory in nature, discussed the air, sun, moon and the earth and also threw light on some vital scientific facts. An excerpt from this article would acquaint us with the style of scientific writing propagated by 'Tehzib-ul-Akhlaque':

> 'Through our telescopes, which have reached utmost perfection, we can visualise the complete physical appearance of moon and also examine it as we see the far away thing on earth. Due to this we could know about the geology and physical condition of moon up to a particular extent. (My Translation)

'Tehzib-ul-Akhlaque', contributed immensely in strengthen Sir Syed's mission of convincing the Muslims to acquire modern education. It published 17 articles for bridging the gap between the religious beliefs and the scientific proposition.

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CSR as a Corporate Sustainability Strategy: The Indian Scenario

Dr. Pitabas Pradhan[1]

Though corporate social responsibility has been evolving as a core business commitment since the mid-20th century, the global campaign for sustainable development has brought it to the center stage of corporate strategy. In recent years, legal interventions enforcing CSR, and the need for corporate branding as a competitive strategy have made CSR more visible. As a growing body of research suggests that CSR commitment earns for a company the reputation as a responsible corporate citizen, corporate entities increasingly attempt to demonstrate a moral sense besides an economic sense. New spaces of human sufferings are explored for corporate intervention, which has perceptibly broadened the scope of corporate social responsibility. Corporate bodies engage themselves, through their CSR foundations and NGOs, in various developmental activities to improve the quality of life of the people in their plant communities and beyond. As such, CSR helps to realize a company's overall public relations goals. This paper analyses the levels of CSR engagement, and the core areas of CSR intervention in India to deconstruct the public relations goals and their outcomes.

The resources on which a corporate body grows belong to the society. It owes a lot to the society in return for the social resources it exploits. Industries also release wastes like fly ash, red mud, waste water, smoke etc., which pollute the environment, water bodies, and the air, thereby causing innumerable problems to humans, livestock, and the flora & fauna. About 66.49 million tons of Fly ash is being generated in India, of which only 36.26 million tons could be reutilised, and the rest constitute potential threat to the environment. Aluminium plants release 120 million tons of redbud causing huge damage to soil fertility. The Huge volume of waste water released by industries pollute rivers and other water bodies, creating drinking water scarcity in certain regions. Air pollutions is in alarming state in parts of the country including the national capital region. The 'polluters must pay' principle expects the industries to minimise the environmental impacts of their products and operations.

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Further, various groups within and outside the plant contribute in the growth of a company. These stakeholders deserve a part of the profit, and the company owes a lot to improve their quality of life. The company's activities must create a positive impact on their lives.

In terms of quality of life index, healthcare profile of the people, an enabling environment, employability, India leaves much to be desired. The huge need for social sector investments on health, education, environment, cleanliness cannot be left for the government to meet alone. The corporate sector is expected to volunteer to take a part of the responsibility. By so doing business would be helping itself, because its long-term success is linked to economic health of the society. Declining socio-economic profile of the populace will, indeed, hurt corporate health. In a country, where the rich poor gap is consistently widening, where benefits of the economic growth goes merely to one percent super rich, CSR rather becomes a necessity.

Are the Indian companies fulfilling their responsibilities towards the stakeholder

Are these units doing enough in return for the benefits they get?

Are their actions commensurate with the changing socio-economic realities?

This article analyses the CSR engagement of the corporate sector in India.

Objectives of the study:

To examine the commitment of corporate India to CSR, the study analyses:

- The basic foundations of CSR as a business philosophy;
- The scope of CSR programming;
- Trends in CSR engagement of corporate India;

Linkage between CSR and organizational legitimacy;

Concept of Corporate Social Responsibility

Archie B. Caroll, an early CSR theorist defines CSR as a broader concept by saying that:

"The social responsibility of business encompasses the economic, legal, ethical, and discretionary expectations that society has of organisations at a given point in time" (Caroll, 1979:500).

Caroll proposed a Pyramid of CSR depicting the four domains in a hierarchy order. Being at the bottom and the widest, the economic domain explains the corporate desire to be profitable. The legal domain suggests business obligation to obey the law. Ethical domain hints business' ethical responsibilities or moral standards or principles. Philanthropic domain expects an organisation to be a good corporate citizen (Caroll, 1991:39-48). These domains may of course overlap, as an organization may get simultaneously engaged in more than one of these roles.

Business for Social Responsibility (www.bsr.or) defines CSR as "… operating a business in a manner that meets or exceeds the ethical, legal, commercial and public expectations that society has of business…."(IFC,2002).

According to the World Business Council for Sustainable Development, "CSR is the continuing commitment by business to behave ethically and contribute to economic development while improving the quality of life of the workforce and their families, as well as of the local community and society at large…".(Mazurkiewcz,2003).

The European Union defines CSR as "… the concept that an enterprise is accountable for its impact on all relevant stakeholders. It is the continuing commitment by business to behave fairly and responsibly and contribute to economic development while improving the quality of life of the work force and their families as well as of the local community and society at large…" (Mazurkiewcz, 2004:5).

Chuck Robbins, CEO of Cisco affirms that "What is good for people, society, and the planet, is good for business" (Cisco, 2017). Therefore, minimizing environmental impact of the products and operations, and maximizing positive impacts on the lives of people is at the core of all CSR activities. A company should attempt to reduce waste, recycle items, and reuse material, for sustainable growth. CSR activities of business flow from the principles of sustainability, accountability, transparency (Crowther & Aras, 2008:14).

ElisabetGarriga and DomenecMele have identified four focal issues in the theories of CSR, which offer the framework for practice of corporate social responsibility. The CSR interventions mostly emphasize: long-term profit goals, responsible business, integration of social demand, and ethically contributing a good society (Garriga and Mele, 2004:66).

Corporate engagement in CSR can be found at different stages of Caroll's pyramid as various factors (institutional, individual, and environmental) impact upon their CSR engagement (Keinert, 2008:118-147):

Institutional factors:

Organizational structure and firm size, resource availability, development stage of the firm, decision maker personality and values, corporate culture and organizational ethical climate, board composition etc. influence a company's level of CSR intervention.

Individual factors:

At individual level, gender influence, cultural background, minority background, religious background, Ethics education, and other demographic factors influence CSR engagement.

Environmental Factors:

Industry attributes, competitive environment, government regulation and incentives etc. define CSR engagement.

Public Relations Strategies in CSR

Public opinion provides the philosophical and political environment in which organizations prosper or perish. A favorable public opinion may offer stimulus for growth, whereas an unfavorable public opinion may become a critical threat. Public relations programmes shape and are shaped by public opinion. PR helps management to remain responsive to public opinion and engages itself in the management of problems and issues through ethical communication and action programmes.

The central effort of public relations is "to reconcile in public interest those aspects of personal and corporate behavior which have a social significance" (Childs, 1940). Central to this concept is adjusting an organization to its environment. The ideal public relations function adjusts those policies, procedures and actions found in conflict with the public interest and organizational survival. Problems can be turned into public relations opportunities to demonstrate citizenship.

Business cannot prosper and grow unless the society also prospers and grows. PR plays central role in fulfilling corporate participation in social change, and in increasing sensitivity to the social impact of corporate decisions and activities. Corporate entities cheerfully participate, financially and socially in the social causes through CSR activities, primarily to:
Demonstrate good corporate character and citizenship; Set good examples for those who emulate corporate practices; and Advance the quality of life in a community.

CSR and Corporate Sustainability

For its survival and growth, a corporate body uses different types of resources – material, machine and human resource- all of which belongs to the society. Without the raw material, water, electricity and other resources, it cannot survive. In return for all these resources, a company owes   a lot to the society, it is under moral obligation to give something back to the community in which it operates. An expression of a company's commitment to the society broadly constitute its corporate social responsibility.

The innumerable sufferings of people due to Union Carbide's Bhopal Gas Tragedy speaks a lot about the disastrous consequences of irresponsible corporate behavior. It not only caused loss of thousands of lives, victimizing thousand others, the company's fortune also came to a disastrous end. As such, a company' irresponsible actions not only affect its employees, shareholders, community, environment, and the natural resources, but also its own fat. If its actions are found to be against social expectations, then the public may make a company's survival difficult. Perhaps, this was in mind when Arthur Page, founder

of the world's first public relations department said: "business in a democratic society begins with public permission and ends with public approval". On the contrary, by engaging itself in addressing social problems, a company may gain reputation as a responsible corporate citizen, thereby giving it a competitive advantage. Therefore, along with an economic perspective of maximizing its earnings, a company must have a moral sense too.

Emphasizing on profit not being viewed as an end in itself rather it being used only a means to serve the larger society, Keith Dayton has said:

> "We are not in business to make maximum profit for our shareholders. We are in business for only one reason- to serve society. Profit is our reward for doing it well. If business does not serve society, society will not tolerate our profits or even our existence".

The Dow Chemical's former chairman has argued:

> "The business community's efforts to solve social problems must be integrated with long term profit growth. If done properly, solving social problems is both good business and good citizenship, for the two goals are wholly compatible" (Murphy, 1985: 480).

Arjay Miller, past president of Ford Motor Company has said

> "The ability of a corporation to protect and enhance shareholder's equity depends crucially upon prosperity, goodwill, and confidence of a larger community" (Ghosh, 2001).

The stakeholder theory claims that a company has different stakeholders, and its financial performance depends on good stakeholder management (Simpson & Taylor, 2013:223), beyond protecting the interests of its shareholders. The legitimacy theory argues that an organisation can legitimately exist if the society finds the organisation behaving according to values that the society holds. Corporate bodies engage on social and environmental activities as part of their attempt to prove their legitimacy. Therefore, CSR initiatives of a company focus on its markets, products, employees, society, and the environment.

A company cannot justify its existence, if its negative impacts on the society and the people are beyond an acceptable limit and it fails to create any positive impact through its actions. A socially responsible organization is under obligation to minimize negative impacts and maximize positive impacts on the society through its actions. Therefore, CSR must be viewed as a means for long-term corporate survival and excellence.

CSR engagement is not a wasteful expenditure, rather it is viewed as a long-term investment for corporate sustainability. It contributes to enhance corporate image and gives a company competitive advantage. It may demonstrate organizational commitment, enhance financial performance, help management

of organizational crises, and increase opportunities for partnerships and alliances (Keinert, 2008:101). CSR may help in winning new business, increase in customer retention, strengthening stakeholder relations, attracting and retaining employees, media attention and enhanced reputation (Fasset, 2012).

Evolution of CSR as a Business Philosophy

Philanthropy is as old as civilized life, as it was being practiced in one form or other. But, CSR as a modern concept evolved due to growing scrutiny of business and need to respond. In the early twentieth century, dominant response of business towards social engagement was rather negative. Corporate leaders mostly believed that "business of business is business". In the 1920s and 30s, the changing environment of business induced in corporate leaders a concern for the people involved with corporations.The attempts to improve quality of life of the stakeholders earned the corporations reputation as good citizens. In 1970s and 80s corporates increasingly engaged in social, cultural, educational and other welfare programmmes. Corporates played leadership roles in addressing burning social issues of the day, demonstrating super-citizen-leader roles.

The growing concern for environment and climatic variations have renewed interest in CSR, and new concepts such as corporate citizenship and corporate sustainability were forcefully advocated. The rising threat, and global attempts to collectively work for environmental sustainability, rechristened CSR as broader function. The BrundtlandCommission Report and Elkington'sTriple (P) Bottom Line, encompassing pursuit of profit with care for environment and for social concern, repositioned corporate sustainability as an umbrella term incorporating corporate social. Chuck Robbins believes that "what is good for the world and good for business are more closely connected today than ever before" (Cisco, 2015).

CSR Engagement of Corporate India

Industry's negative impacts on society and the environment comes from the huge volume of coal ash generated by coal-based plants, red-mud released by refineries, release of smoke and carbon dioxide, release of industrial toxic water. These industrial wastes pollute the land, water bodies, air and cause innumerable damage to the flora and fauna. They cause diseases to humans, livestock and the vegetation.Minimising the negative impacts is primary responsibility of the industries causing it. They should accept the 'polluters should pay' principle with latter and spirit and volunteer CSR as a dignified response. At the same time they should also take upon themselves moral responsibility to create a wholesome environment for healthy life.

But, a gloss over the data and literature on CSR in India suggest that the CSR engagement varies from company to company. Some confine their CSR

engagement at the level of legal compliance to the directives. Some rise above the threshold of legal compliance and address problems of people involved with their business. Many corporate owners demonstrate leadership in solving social problems. Some other corporate owners demonstrate highest level of voluntarism and attempt to solve burning problems of the humanity. As already mentioned earlier, a corporation's CSR engagement is subject to influence of several institutional, individual, and environmental factors. To enhance corporate spending on CSR activities, the Company's Act 2013, made provision for statutory spending of a part of their profit on CSR by certain companies.

During the last three years, since the new Companies Act came into force in 2014 making CSR spending mandatory, Corporate India has spent more than 28000 crores on CSR activities (PTI, 2017).

Of the total CSR spending, over 70 percent came from private sector companies. Health, education, poverty eradication, drinking water, sanitation, rural development, Swatch Bharat campaign, women empowerment, facilities for the aged received maximum CSR funds.

CSR expenditure of 5097 companies for the year 2015-16 who have filed their Annual Financial Statements till 31st December, 2016 with MCA reveals that the companies have spent Rs. 9822 crore during the financial year 2015-16.

Table-1:Top Ten CSR Spending Companies in 2014-15 and 2015-16

Company	CSR Spending in 2014-15	Spending in 2015-16
Reliance Industries	652.0	761.0
NTPC LTD	491.8	283.0
ONGC LTD	421.0	495.0
TCS LTD	294.2	285.0
South Eastern Coalfields LTD	270.9	---
ITC LTD	247.5	214.0
Central Coalfields LTD	212.8	---
NMDC LTD	210.1	189.0
Tata Steel LTD	204.5	171.0
Infosys LTD	202.3	240.0
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ICICI Bank	--	156.0
Oil India LTD	--	133.0
	3207.1	**2783.0**

Source: CSR Reports, Ministry of Corporate Affairs, Govt. if India Website

During 2014-15, of the 7334 companies reported, 3139 companies spend 8803 crores. Ten top spending companies spend 32 % of the total CSR spend. Of the CSR work during 2014-15, 4 percent were executed through company's own foundation, 53 percent by the companies directly, 4 percent executed in association with other companies, and the rest 39 percent projects were executed by society/ trust/ Section 8 companies. A total of 142 PSUs made positive CSR expenditure, whereas 84 PSUs did not spend any money on CSR. Among the non-PSUs, 2997 made positive CSR expenditure as compared to 4111 companies with no CSR spending during 2014-15. Of the Total CSR expenditure, Maharashtra got lion's share of 1101.71 crores, Tamil Nadu and Karnataka being distant second and third with 446.98 and 363.05 crores respectively.

Table-2: Sector-wise Distribution of CSR expenditure (Rs.in Crores):

Name of Sector	2014-15	2015-16
Health, Poverty Eradication		
Safe drinking water	2246(26)	3117
Education, Livelihood	2728 (32)	3073
Rural development	1017(12)	1051
Sustainable Environment,		
Conservation of resources	2246(26)	923
Swachh Bharat Kosh	121(1)	355
Gender equality, Women empowerment,	326(4)	213
Care for the aged		
Prime Minister's National Relief Fund	192(2)	136
Promotion of Sports	160(2)	95
Art, culture, and Preservation of Heritage	157(2)	90
Slum area development	123(1)	09
Clean Ganga Fund	19	03
Other Sectors	165(2)	497

Source: A snapshot of CSR Spent for 7334 Companies in FY 2014-15 available at
http://www.mca.gov.in/MinistryV2/csrdatasummary.html

On Education, Health and wash, women empowerment and contribution to PM Relief fund, the Non-PSUs contributed the major share (4322.25 Crores) compared to the PSUs contribution of (1169.65 crores). On Environment, sports promotion, art and culture, slum development, Swachchh Bharat Kosh, and Clean Ganga Fund, PSUs contribution (951.91 crores) was much more than the other sectors. On these sectors, the Non-PSUs spent a total of RS. 840.93 crores. The top reasons for underspending of the CSR allocation: budget advanced to the

concerned agency but it could not be spent, suitable projects not found, multi-year projects etc. But in majority of the causes no reason was mentioned.

Table-3: CSR Activities of top 10 CSR Spending Companies:

Company	Major Sectors of CSR	CSR Spent Engagement (In Crores)
Reliance Industries	Rural transformation, Healthcare, Promotion of Education, Sports, Disaster response, Sports, Disaster Response. Art, culture and protection of heritage, Urban renewal	674
NTPC LTD	Swachchh Vidhyalya Abhiyaan, Healthcare & Sanitation Education & skill development, Rural DevelopmentEnvironment, Drinking Water, Sports, Capacity Building, Protection of National Culture and Heritage.	277.81
ONGC LTD	Healthcare, Education Skill Development, Adoption of Monuments and iconic places, Environmental sustainability Swachchh Bharat Abhiyaan, SC-ST and tribal welfare, Sports.	525.9
TCS LTD	Education & skill development, health & wellness, Environmental and biodiversity Energy & water conservation.	446 (380spent)
South Eastern Coalfields LTD	Healthcare, Education, environmental sustainability, Art and culture, Skill development, Sports, Rural development, Swachchh Vidyalaya Abhiyaan	120.24 (42.50spent)
ITC LTD	Environmentaland natural capital, rural Development education and vocational skills, preventive healthcare, Sanitation and drinking water,livelihoods, art and culture, sports.	275.96
Central Coalfields LTD	Sports & Culture, Swachchh Vidyalaya Abhiyaan Drinking Water, Education, Sanitation, Infrastru-cture, Environment& SD, Health, Skill Development, Social Empowerment, Rural Development.	3029.18

NMDC LTD	Education, Drinking water, Health and hygiene, Infrastructure, Rural Development, Environment, Skill development	174.183
Tata Steel LTD	Health care, Drinking water, education, skill development, livelihood, environment, art, culture, and heritage, sports, Rural development, old age care.	193.61
Infosys LTD	Healthcare, Destitute care, Eradication of hunger, Education, Rural development, Disaster relief and rehabilitation, Art and culture, Environmental sustainability	291.90

Source: Corporate Annual Reports of the Companies

Findings and Conclusions

The ratio of PSUs which made positive CSR expenditure to those which did not is much higher compared to the ratio of non-PSUs which made positive CSR expenditure to those which did not. The financial capital of the country Maharashtra got lion's share of the total CSR spending followed by Tamil Nadu and Karnataka.

On Education, Health and hygiene, women empowerment and contribution to the Prime Minister'srelief fund, the Non-PSUs contributed the major share. Whereas on environment, sports promotion, art and culture, slum development, Swachh Bharat Kosh, and clean Ganga fund, PSUs contribution was much more than their expenditure on other sectors. On these sectors, the PSU spending was more than the Non-PSUs expenses. The CSR commitment of some companies is evident from the fact that 39 companies spent on CSR despite incurring losses in the previous year. Doing CSR work through the company's own CSR foundation is a major mode of intervention. Most of the companies have their own CSR and sustainability policies. The legal framework created through the Companies (Amendment) Act 2013, providing for statutory CSR expenditure has streamlined CSR reporting in the country. The major CSR interventions of corporate India includes: Rural transformation, Healthcare and hygiene, Education and skill development, sustainable environment and conservation of natural resources, disaster response and rehabilitation, preservation of art, culture and heritage etc.

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Corporate Sustainability Initiatives and Role of Employees:A Case Study of Qasimpur Power House Ltd.

Pratha Bharadwaj[1] & Dr. Pitabas Pradhan[2]

Organizational sustainability as a business approach argues that societal and environmental responsibility must be given due consideration in drafting economic priorities of organizations. Recognition of the former may escalate economic and cultural growth. Employees can play a pivotal role in establishing and maintaining organizational sustainability, as they want to encompass benefits to a wider community, on social, environmental and economic dimensions. Organizations also recognize sustainability as a tool to recruit, retain and inspire the workforce. As the employees in particular and the public in general increasingly recognize their rights vis-à-vis the responsibilities of organizations, organizational sustainability is also promoted as a competitive strategy. Against this backdrop, this study explores the relevance of organizational sustainability in an age of globalization. Through case study of the Qasimpur Powerhouse now also known as Harduaganj Thermal Power Station, a power manufacturing unit under state public sector in Uttar Pradesh , this paper analyses the role of employees in propagating organizational sustainability through voluntary participation in sustainability programmes, adopting personal sustainability plans, setting up green teams etc. Social survey being the core method of the study, a questionnaire has been used as the primary tool to gather data on employees awareness and participation in sustainable initiatives especially conservation of energy and resources.

Keywords: Corporate Sustainability, Employee Engagement, CSR, Corporate Image.

Sustainable Development refers to a strategy, which seeks to 'meet the needs of today without compromising the ability of future generations to meet their development needs'. It emphasizes on a long-term, integrated approach that jointly addresses economic, environmental, and social issues, whilst avoiding the over consumption of key natural resources. Sustainable development encourages

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us to develop processes and technologies to minimize environmental degradation. It includes techniques to tackle the effects of climate change, pollution & other environmental factors that may harm people's health & livelihood. Economic progress cannot be over emphasized overlooking social progress, as everybody has the right to a clean, healthy & safe environment. However, economic prosperity of a country holds equal importance to feed the growing population. Therefore, the ultimate choice is to implement sustainable development practices in a rational manner.

CSR being a broad concept, the way it is understood and implemented differs greatly across companies and countries. It addresses many and various topics such as human rights, corporate governance, health and safety, environmental effects, working conditions and contribution to economic development. Whatever the definition is, the main purpose of CSR is to drive change towards sustainability. Corporate Social Responsibility (CSR), in fact, is an umbrella term that expresses the duty of every corporate body to protect the interest of the society. Even though today the main motive of business is to earn profit, corporate organizations should take initiative for welfare of the society and should perform their activities within the framework of environmental norms.

Though profit is important, making profit alone is not sufficient for the survival of an organization. It has to fulfill its responsibilities towards the society and community in which it operates. Community is important for an organization because it provides raw materials, work force and environment to prosper. Therefore, a mutually beneficial relationship between the two parties is very important. Further, good CSR, contributes to make the brand more attractive that may give it a competitive edge over the competitors.

Being influenced by the global campaign for sustainable development, corporate bodies have reprioritized their strategies. The CSR commitments mostly depend on the ideology of the owner and policies of the management. As such, four different levels of corporate involvement in community affairs is noticed (Pradhan, 2004). Some companies limit their involvement to statutory compliance of the legal requirements, whereas others raise much above the restricted mindset and do exemplary work pertaining to sustainable development initiatives.
Against this backdrop, this paper explores the sustainable development initiatives of the Qasimpur Power House Ltd, a state public sector unit engaged in electricity generation from coal.

Objectives of the Study
Primary objective of this study is to examine the sustainable development commitment of the Qasimpur Powerhouse Ltd and explore the role of employee

in this initiative. The study, in particular, seeks to:

- Analyze the sustainable development initiatives of the Qasimpur Powerhouse.
- Explore the involvement of employees in the sustainable development initiatives of the company.
- Understand the perceptions of employees regarding sustainable development programmes of the company.
- Explore the scope for more effective CSR intervention of the company.

Review of Literature

A gloss over the available literature pertaining to corporate sustainable initiatives reveals a general lack of India specific studies. Some important studies are produced hereunder to build the framework for the present analysis.

Liz Abbett, Anna Coldham& Ryan Whisnant in the, 'Organizational Culture & the Success of Corporate Sustainability Initiatives: An Empirical Analysis (2010) has found sustainability as a distinct competitive opportunity but not all companies are addressing these opportunities & challenges. Their empirical research comprising of Competing Values Framework intended to describe the relationship between company culture & sustainability across 23 companies, executed through an online survey supplemented with secondary research & interviews with participating companies, concluded that sustainability initiatives are more successful when they closely match the level of collaboration occurring within the company. They argue that cultural dimensions should be considered while designing sustainability initiatives.

In the book, 'Corporate Social Responsibility & Sustainable Business- A Guide to Leadership Tasks & Functions'(2009), Alessia D' Amato, Sybil Hendersen& Sue Florence claim that organizations nowadays are taking responsibilities for the ways their operations effect societies & natural environment. Improving the quality of relationship between companies, employees & other key stakeholders is very important. They highlighted some current developments & have drawn similarities & differences in the three angles of Triple Bottom Line (TBL)- the environmental, societal & business arenas. The authors have used a systematic search of academic & professional literature on leadership & CSR, a random search of articles & books on CSR & a review of bibliographic references from articles. They concluded that CSR is becoming a leading principle of top management & of entrepreneurs. The number of observations in research in this field clearly delineated models, leadership competencies, accountability & structure of partnerships as well as organizational challenges, limitations & ethics. Jay Liebowitz in an article, 'The Role of HR in achieving a Sustainability Culture' (2010) explains that HR function can be instrumental in creating a culture of sustainability and environmental stewardship. It involves creating win-win

collaboration among multiple stakeholders who are in conflict with each other. HR department of accompany plays a significant role in the creation of company's sustainability culture. Human Resource System including Recruiting, Employee Selection, New Employee Orientation, Training & Development, Performance management etc. Jay Liebowitz concluded that there is plethora of roadblocks that could stall an organization's sustainability efforts like lack of top management support, insufficient resources, insufficient collaboration among different departments etc. When companies are able to reduce their costs and increase their sales via their sustainability initiatives, the surrounding communities benefit and decrease in water and air pollution and increase in regional commercial development. These initiatives can lead to financial success for the organization and for the surrounding community.

Lisa Greenwood, Joseph Rosenbeck& Jason Scott in their paper, 'The Role of the Environmental Manager in Advancing Environmental Sustainability & Social Responsibility in the Organization' (2012) stated that the changing business climate has led many organizations to embrace environmental sustainability & social responsibility. To define these roles, an electronic survey was administered to professionals in different departments. Survey consisted of 35 questions derived from action items identified in ISO 2600 Social Responsibility Standard ISO (2009). The authors concluded that environmental managers' roles and responsibilities have been evolving with special preference on pollution prevention & control and these managers can play a major role in environmental sustainability and social responsibility initiatives like health and safety, operations, facility management etc.

Dr. J. Venkatesh, Prof. Lissy TA, Prof Vaishnavi Bhatt in their paper, 'Sustainable Development & the Role of HRM: An empirical Study of the IT Sector in India' (2014) discussed about various green initiatives of HR units in IT sector in India. Quantitative method of research to empirically examine the relationship between the various green HR practices of the organization and overall effectiveness of Sustainable Development achieved by the organization was employed. Employees from over 100 IT companies across India were selected as sample. Exploratory Factor analysis with varimax rotation to identify common factors among items that were highly correlated was applied. Variables are training and development, employee autonomy & E-HRM & Charity Programs. The authors concluded that several companies like Verizon, IBM, Dell, Intel etc are significantly attaining a high level of sustainable development through various environmental friendly measures. There has been a revolution in the last decade in the It sector in India. Organizations should focus more on creating awareness among the employees regarding benefits of SD by generating more employee training programs and initiatives like charity programs.

The report 'Driving Success Human Resources & Sustainable Development' in collaboration with World Business Council for Sustainable Development, HRH The Prince of Wales Business and Environment Programme& University of Cambridge describes three critical challenges like Recruiting & Retaining top talent, Creating incentives for exceptional performance & enhancing critical competencies. It highlights the variety of ways in which companies are beginning to respond to sustainable development opportunities. Case studies of different companies have been adopted to gather the data. The paper argues that important for the companies to continually enhance their workforces' skills to response to the emerging demands of customers, investors & society as a whole.

Methods of the Study

The core methodology of the study include case study of the sustainable development initiatives at Qasimpur Powerhouse Ltd and in-depth interview of selected top level executives, which was supported by a social survey among the employees to have a realistic picture of the company's sustainable initiatives.

The Sample Size for the survey consists of 30 employees, selected randomly from among various departments like HR, Welfare, Electrical etc.

Principal tool of data collection is a pre-structured questionnaire comprising 10 questions, which was administered among the sample respondents.

Opinions collected was codified and presented in tabular form.

Simple arithmetic tools like percentage and weighed average methods were used for the analysis of data.

Data Analysis and Interpretation

The sample respondents were asked, through a pre-structured questionnaire, about the company's sustainable development initiatives and role of the employees in planning and execution of such initiatives. The opinions socollected are presented in tables 1-10.

Being asked whether they have heard about the term 'Sustainable Development' by selecting the yes no response, the data in table -1 was obtained.

Table 1: Employees are aware of the term, 'Sustainable Development':

Response	Number of respondents	Percentage of total
Yes	26	86.6%
No	4	13.3%

Data provided in the table 1

transpires that 86.6% employees have heard the term 'Sustainable Development' but 13.3% employees are unaware of it, which reflects wider awareness of the employees about the sustainable development campaign.

Table 2: The Company emphasizes on people & environment along with its

Response	Number of respondents	Percentage of total
Fully Agree	29	96.6%
Partially Agree	1	3.33%
Do not Agree	0	0

Economic priorities:

The respondents were asked about whether the company gives emphasis on people and planet along with its economic priorities, the response in table -2 was obtained.Table-2 evinces that 96.6% employees fully agree that their company gives emphasis on people and environment besides its economic priorities. 3.33% employees partially agree.

Table 3: Responsibilities of an organization towards thesociety/community in which it operates (CSR):

Issue	Number of respondents	Percentage of total
Environment	15	50%
Drinking water	12	40%
Medical Camps	12	40%
Social infrastructure	9	30%
Education	6	20%
Tree plantation	4	13.3%
Blanket distribution	3	10%
Employment	1	3.33%

50% employees responded that their company gives importance to the environment. 40% employees responded that the company provides clean drinking water and organizes medical camps. 30% employees consider developing social infrastructure as an important responsibility. Emphasis on education & tree plantation has been given by 20% & 13.3% employees respectively.

Table 4: Company takes adequate steps to protect the environment:

Response	Respondents	Percentage of total
Yes	16	53.3%
No	0	0
Much more is expected	14	46.6%

53.3% employees agree that their company takes adequate steps to protect the environment around the thermal plant. While 46.6% employees think that more effective measures are needed to be taken by the organization.

Table 5: Major sustainability initiatives of the company:

Issue	Number of respondents	Percentage of total
ESPU	17	56.6%
Medical aid	17	56.6%
Tree plantation	7	23.3%
Water dams	5	16.6%
Blanket distribution	5	16.6%
Employment	5	16.6%
Education	5	16.6%
Drinking Water	2	6.6%
Village development	2	6.6%
Extracurricular activities	2	6.6%

According to 56.6% employees the company takes adequate initiatives regarding ESPU installation. Also, 56.6% employees stated that medical aid is provided on regular basis. Activity like tree plantation has acquired 23.3%. 16.6% employees emphasized on water dams, blanket distribution, employment and education respectively. Whereas drinking water, village development and extracurricular activities get 6.6% each.

Table 6: Steps taken by the company to minimize negative impact of coal ash on the community:

Issue	No. of respondents	Percentage of total
ESPU	23	76.6%
Ash handling	16	53.3%
Medical facility	12	40%

As per 76.6% employees, the company takes effective steps to control air pollution by installing ESP units. While 53.3% employees stated that the company constructs water dams & ash ponds as a part of ash handling mechanism. 40% employees laid emphasis on free health camps.

Table 7: Company involves employees in implementation of sustainable development initiatives:

Response	No. of respondents	Percentage of total
Fully involves	14	46.6%
Partially involves	16	53.3%
Does not involve	0	0

46.6% employees agree that their company fully involve them in the implementation of SD initiatives. While the majority of employees i.e. 53.3% think that they are partially involved in SD/CSR policies of their company.

Table 8: Employees' contribution in SD/CSR initiatives of the company:

Issue	No. of respondents	Percentage of total
Full participation in CSR activities	17	56.6%
Tree Plantation	6	20%
Vocational Training	5	16.6%
Medical Camps	5	16.6%
Drinking Water	4	13.3%
Blanket Distribution	3	10%

56.6% employees fully participate in the SD/CSR initiatives of Qasimpur Powerhouse. 20% employees contributed in tree plantation activity. 16.6% employees helped in organizing medical camps and vocational training camps respectively. Drinking water get 13.3% and blanket distribution activity get 10%.

Table 9: Employees are satisfied with SD/CSR initiatives of the company:

Response	No. of respondents	Percentage of total
Fully satisfied	21	70%
Partially satisfied	9	30%
Not satisfied	0	0

70% employees are fully satisfied with the SD/CSR initiatives of their company while 30% employees expect more involvement in the SD/CSR initiatives.

Table 10: Suggestions given by employees to improve company's SD

Issue	No. of Respondents	Percentage of total
Environment protection	17	56.6%
Free health checkups	6	20%
Public Awareness	5	16.6%
Drinking Water	2	6.6%
Clean electricity	2	6.6%
Extracurricular activities	2	6.6%
Ash Handling	1	3.33%

56.6% employees suggested that serious measure regarding environment protection need to be taken around Qasimpur Powerhouse plant. While free health checkups get 20% and creating public awareness get 16.6% each. 6.6% employees suggested providing facilities like drinking water, clean electricity and extracurricular activities respectively.

Findings and Conclusion

The study has found that the global campaign on sustainable development and the corporate sector as an important factor in the attainment of the millennium development goals has created impressive awareness among the public. Over 86 % employees having heard the term 'Sustainable Development' provides an eloquent testimony for this.

Over 95 percent employees see their company emphasize on the people and planet along with its economic priorities, is a laudable step forward for Indian Corporate involvement in the SD realizing the sustainable development dreams. This also hints at some degree of voluntarism on part of corporate India, the commitment is only expected to further strengthen in the future.

Among the notable CSR initiatives of the company under study include: organization of Medical Camps for the community people, provision of pure drinking water & clean environment, and development of social infrastructure in that order. Tree plantation has been given relatively less attention, which needs to be given more attention for the protection of environment around the plant. The employees are evenly divided on the company's initiatives to protect the environment around the thermal plant, as 46.6 percent expect the company to do more. Half of the employees are convinced that the company takes adequate initiatives regarding ESPU installation and the same number also claim that medical aid is provided on regular basis. On activities like tree plantation & water dams, the company lives much more to be desired.

What can be seen as laudable step by a state PSU is that, overwhelmingly, the employees believe that their company takes effective steps to control air pollution by installing Electrostatic Precipitator Units (ESP units) to trap and remove dust particles from the exhaust gas stream. The employees are happy for their involvement in the company's SD/CSR initiatives, which will go a long way in developing a sense of involvement among the employees.

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A Study of Communication Strategies of Panchayat Pradhans with Special Reference to Himachal Pradesh

Sandeep Sharma[1]

Better understanding of communication at grassroots level is crucial to achieve sustainable development. Elected representatives of Panchyati Raj institutions are key stakeholders in the process of sustainable development and local governance. Their communication skills, knowledge and participation can be determinant factors for not only in achieving sustainable development goal but also for pulling out 70 per cent of country's population out of the quagmire of poverty, illiteracy, inequality and backwardness. This paper has tried to investigate how elected representatives of Panchayati Raj institutions are empowering themselves to successfully accomplish their role as head of the village community. The sources of information utilized by them for gathering information regarding government schemes, their role and responsibility have been examined thoroughly. This paper also expounds on the feedback pattern and the channels of communication utilized by elected representatives of Panchyati Raj institutions.

Communication is a basic human need. He needs to communicate in order to keep up his daily activity. Communications helps him increase his knowledge so that he can develop and maintain his social institutions of government, education, religion, family and economic system. At present time, there is hardly any such facet of human life, which is not influenced by communication.

It's not just a matter of individual need, but communication plays an important role at societal and organizational level too. Presently, every organization; be it governmental of non-governmental, is utilizing communication as a means for attaining its goals. In such a situation, Panchayati Raj Institutions (PRIs) are not exception.

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To make these institutions the catalysts of grassroots democracy, the Center and the State governments are putting great efforts to empower them by utilizing different communication strategies. One such example is Capacity Building Program (CGP) for the Elected Representatives (ERs) of PRIs. These elected representatives have some crucial roles and responsibilities to accomplish as provided by the Constitution of India. Therefore they cannot remain ignorant and non-participant to this whole process of democratic decentralization. Neither can they remain completely dependent on governments for their empowerment. As a result, being people's representatives they also need to device their own plans and strategies to empower themselves.

Against this background the study has tried to investigate what communication strategies are being utilized by ERs particularly Pradhans of Gram Panchayats to make themselves aware of their roles and responsibilities, power and functions and governments' development programmes. Secondly, what communication tools and channels are they using to communicate with officials, village people, NGOs, SHGs and local politicians etc? In broader sense, this study is an endeavor to understand the communication strategies used by the ERs of Panchayt Raj Institutions.The study was carried out in Sirmour district of Himachal Pradesh. By keeping in view the research variables-literacy and gender, a sample of 32 pradhans is drawn purposively to meet the research objectives. With the help of questioner technique, data has been collected and analyzed qualitatively and quantitatively.

Capacity building programmes, ERs are given training about the functioning of PRIs and they are also made aware of the host of government development programmes. But these training programmes are not full-proof. A Baseline study to Assess Training Needs of Elected Representatives of PRIs in Himachal Pradesh[10] points out that there are many shortcomings therein the capacity building program, which needs to be sorted out immediately. It recommended that a multipronged approach is required and NGOs, SHGs should be made integral part of the training process and ERs should be trained in such a way as they will not only become able to successfully discharge their constitutional duties but also they become a sustainable human resource for grassroots development. In such a situation, a study providing detailed information regarding the awareness level of ERs, their sources of information, and their communication channels and media habits holds paramount importance. The quest for such information is a guiding light of this research endeavor. Though the researcher has tried to put all his efforts to provide a complete picture of communication strategies of PanchaytPradhans, by primarily utilizing appropriate research methodology, the study certainly has some limitations, which are discussed in the subsequent chapter.

Objectives of the Study

The major goal of the study is to understand the communication strategies being used by Panchayat Pradhans to successfully discharge their duties and to increase their level of awareness regarding their roles and responsibilities, and government programmes meant for rural development. Further, this study also aims at to develop a conceptual model of communication strategy of ERs of PRIs.

Objectives-

1. To know what sources are being used by panchayat pradhans to get information regarding their roles and responsibilities and development programmes.
2. To know what communication channels are being used by Pradhans to get and disseminate information to the intended audiences.
3. To know the feedback pattern of Pradhans.
4. To develop a conceptual model of communication strategy of Pradhans.

Review of Literature

To give this study a robust theoretical foundation researcher has divided this section into three sub-sections. First sub-section focuses on evaluation of several communication theories pertaining to communication strategies covering fundamentals of communication, elements and process of communication. Under this sub-section related literature by the communication scholars like John Parry (1969), Ahuja &Chabbar (1989), Watzlawick, BeavinBavelas, and Jackson (2011), David Berlo (1960), Wofford, Gerloff, and Communis (1977), Mcquail, Windahl, (1981) have been given special importance. The second sub-section elaborates on the communication approaches to development scholars like Wilbur Schramm, Daniel Lerner, Walt Rostow, Elihu Katz and Lazarsfeld, Jan Servaes, (1996), Juan Diaz Bordenave (1996) and Uma Narual (2006) are covered at length.

The third section deals with some recent studies having significance to this research in 2010-11 Panchayati Raj Department of Himachal Pradesh carried out a Baseline Study to Assess Training Needs of Elected Representatives of PRIs. This study was focused on- what Elected Representatives of Panchayati Raj Institutes learned from the training Program and what kind of improvements were required in there. On the basis of some observations the Panchayati Raj Department has made some crucial recommendation- "Elected Representatives constitutes a dynamic category. To have Elected Representatives who understand the provision of Panchayati Raj

well there is a need for awareness campaign in the general masses regarding Act, features and common RPI guidelines of all the schemes. All channels of communication should be used to provide information of the functioning and challenges of PRIs... There is a feeling that training of PRI representatives as well as PSs should go beyond schemes and procedures. It should cover moral education, training in mobilization, coordination between different tiers of PRIs, and conflict resolution. Among other issues the important ones are: training in leadership, communication, motivation, training in adjustment (interpersonal relationships) when the social structure and power structure of villages is changing. Social Scientists and NGOs can help in this." The study clearly indicates that "communication" at grass root level of governance is of paramount importance. Without communication, the goal of participatory democracy and decentralization of power cannot be achieved.

A document "From Reservation to Participation- Capacity Building of Elected Women Representatives and Functionaries of Panchayati Raj Institutions" produced by Union Government in collaboration with UNDP goes a step ahead and emphasizes on multi-faceted approach to empower Elected Women Representatives. According the document, involvement of NGOs, SHGs and Media at grass root level have provided Elected Women Representatives with an alternate source of information and strong communication network. This approach has produced spectacular results. This document presses on the fact that if training programs are supplemented with Media, NGOs and SHGs interventions then high level of awareness among the ERs is feasible against all the hindrances of illiteracy, gender and cast discrimination.

Study Design and Method

This study has utilized both quantitative and qualitative approaches, however, not equitably to reach closest to the research objectives. Maximum of the data was generated and analyzed primarily with the help of quantitative approach whereas qualitative approach was used mainly to get detailed answers to the open ended questions included in the questionnaire. The rationale behind choosing mixed approach was that the study was required to gather both qualitative and quantitative data for accomplishment of the major goal of the study i.e. 'to know the communication strategies being used by Panchayat Pradhans'. The study is carried out in Sirmour district of Himachal Pradesh. District Sirmour has 228 Panchayats. District is divided into six development blocs- Ponta Sahib, Shillai, Pachhad, Sangrah, Nahan, and Rajgarh. All the blocks are included in this study. Sirmour was a natural selection, since it's one of the two districts out of total 12 districts of Himachal Pradesh, which are receiving Backward Region Grand Fund (BRGF) from the Union Ministry of Panchayti Ra(PIB,2011)[11].

Study Sample

From the total population of 228 Pradhans, a sample of 32 Pradhans was drawn. The sample consisted of only those Pradhans, who were graduates of or postgraduates. They constitute 14 percent of the total Panchayat Pradhans of district Sirmour and about six percent of the total highly literate Pradhans all over the state.

Out of the total 32 highly literate Pradhans, only 28 could be reached. The others could not be accessed for varied reasons. Therefore, the results of this study are drawn on the basis of 28 sample size.

Literacy, gender, proximity to city and town, age, caste, economic standard, designation were the variables identified. But, Out of the above mentioned variables only Literacy, genders were chosen for the study.

The goal of this study also was to generate qualitative and quantitative data so the both format of questionnaire were used.

There are total 228 Panchayat Pradhans in Sirmour district. Across the literacy line the distribution is as such[12]-

Level of literacy	No. of	Male	Female	Total%
Illiterate	15	4	11	6.5
Partially literate (1-8th)	70	30	40	30.7
Moderately literate (9-12th)	111	64	47	48.6
Highly literate (graduation and above):	32	18	14	14
Total	228			100

Discussion

The data has been analyzed and discussed under three sub-heads - Sources of Information, Channels for Information Dissemination and Feedback Pattern.

Sources of Information

The nine sources were drawn under this category, further sub-divided into formal and informal sources. Among the formal sources were- Panchayat Secretaries (PSs), Panchayat Booklets (PBs), Block Development Office (BDO), District Panchayat Office (DPO) and others.

The study indicates that PSs and BDO are considered the most helpful formal sources by Pradhans to get information on various development schemes as about 90% of Pradhans fall under this category. Between PSs and BDO, PSs are leading just by four per cent, which implies that in spite of physical proximity to

PSs, Pradhans opt to approach BDO. The study further reveals that there are more female Pradhans (54.54%) than males (41.17%) who found BDO more helpful than PSs. But there is ambiguity on how Pradhans are approaching BDO. Are they meeting BDO officials in person or seeking their help over phone?

The study has found out that face-to-face and 'over-phone' are the two most popular channels used by Pradhans.

Panchayat Booklets are provided to Pradhans during their training programme. These booklets mainly contain details about power and functions of PRIs and some major government schemes like Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) and Indira AawasYojna (IAY) etc. Surprisingly, these booklets were rated as the most helpful only by three percent Pradhans. It is an interesting finding because these booklets are specially prepared for the literate Pradhans and if they don't find them helpful, their utility comes under questions.

Informal sources used by Pradhans to get information regarding development schemes were- former Pradhans and Pradhans of other Panchayats, news media (newspaper, radio, TV), internet and NGOs. The study shows news media like newspaper, TV and radio have emerged as prime sources of information for ERs, particularly for those who are literates.

Former Pradhans and Pradhans of other Gram Panchayats have not been given much consideration in previous studies related to empowerment of ERs of PRIs. But this study indicates that they are being frequently consulted by the both male and female Pradhans, especially by the Pradhans, who are new entrant to the system.

The study suggests that highly literate Pradhans are not dependent only on one or two sources to get information related to any government programmes. They are utilizing multitude of formal and informal sources for this purpose.

Information Related to Pradhans' Roles and Responsibilities

Formal sources included in this category were- PBs, PSs Training Officers (TOs), BDO, DPO and Panchayat Inspectors (PIs). The training programmes were deliberately kept out from this category for the main objective of the study was to evaluate sources of information other than training programs.

The Pradhans' views on the most helpful source of information related to their roles and responsibilities were diverse. The finding suggests that credibility not convenience was the main criteria for source selection among Pradhans. Every Pradhans wanted to be extra sure for mainly two reasons- one, to avoid legal debacles and second, to be vigilant so that no one, in some cases especially PSs, could take advantages of them. This was why nearly 36% of Pradhans chose PBs

as the most credible source of information. Other sources like PSs and BDOs etc. were chosen on the basis of interpersonal relationship. In absence of interpersonal relation with officials, PBs were natural selection.

Informal sources taken under this study were- former Pradhans and Pradhans of other Panchayats, family member or other educated person of village, internet, NGOs and others. 'Others' was kept out of analysis as it scored no point.

The majority, as can be seen from the responses to a question about most useful informal sources, ex/other Pradhans and internet were considered as the most helpful. The finding indicates that Pradhans share a lot of information with each other and clear their doubts regarding their roles and responsibilities. In the same line of thought incumbent Pradhans share information and experiences with the former Pradhans of the Panchayat.

PSs as an Information Source

There were about 46% of Pradhans who believe PSs could not always be trusted as a source of information.There are several reasons expressed by them and observed by the researcher for this negative trend.Some of them stated that their PSs were lacking information. In such a situation, how can one rely for information on such a person who himself is not adequately informed. Most of the PSs are mere matriculate. When a graduate or post-graduate person becomes a Pradhan, there comes a status gap which ultimately results in low information sharing.In an environment of mistrust, maximum Pradhans states that if a matter is very sensitive, they crosscheck information from other sources like BDO, internet and IPs. It is clearly depicted in the Figure 5.2 and 5.5.

Media as a source of Information

Among other media like TV, internet and radio, newspaper has remained a dominant medium of information for literate Pradhans. Internet was also reported as most helpful by nearly 22%. Most of the Pradhans used internet for accomplishing panchayat related work followed by SNSs. It's quite stunning that SNS ripples are also being felt in rural landscape. The purpose of SNSs use was not enquired in this study. It would be an interesting research to find it out if Pradhans are utilizing SNS for development purpose.

It's a common belief that rural areas are either misinterpreted or inadequately represented in news media. Against this, the study has come up with an encouraging finding that about 90% of Pradhans had contacts with local journalists and had utilized this platform to raise their problems and issues related to their villages. Most of the Pradhans found newspaper helpful, but they looked unhappy with some journalists as they don't take Pradhans' input on any issue

related to the particular village. They also allege that mostly journalists adopt a biased approach in dealing with any news.

Panchayat Pradhans used several channels mainly for three purposes- to get information, to disseminate information and to get public feedback. In the entire categories face-to-face channel was prominently used. It seems quite obvious since at local level, face-to-face communication is both possible and beneficial. It is possible for a Pradhan to meet personally with most of his village people. He can inform people and get their feedback personally over phone or by meeting them in person. Ward Members, Anganwadi Workers and MahilaMandals were also found helpful by Pradhans for disseminating and spreading awareness regarding development programmes and getting feedback of villagers. It indicates that WMs, AWs and MM are also strong channels between PRIs and local population. They are helpful in creating such local network which can efficiently disseminate a good amount of information with the least time and efforts. To make this channel even stronger, it is very important that they should be adequately trained and included in decision making process.

It's also evident from the study that nukkad-natak are also being used by Pradhans. Though, the use of banners and posters is very limited. May be it's because the maximum people of villages are not literate.

It is noteworthy that internet is making its presence felt even in rural landscape. The study further confirms the fact that education leads to independence and empowerment. Contrary to the dominant belief that women ERs work as proxy for their husbands or other male members of the family, this study reveals that educated women are equally competent in utilizing information sources and channels to empower themselves as compare to their male counterpart.

Feedback Pattern

It is evident from the finding that all the Pradhans valued people's feedback as a crucial part of local self-governance but they did not find it helpful always.
Pradhans who found feedback unhelpful stated that it was not a good idea to listen to everyone. According to them excess of views create more confusion. Some Pradhans even stated that opposition always criticizes. There is no rationale in always listening to them. Few respondents had quite interesting reason for not always listening to people as- 'Most people only speak when there is a matter of their personal interest. Only a few speak when there is a matter of public interest. We are not for the first but for the latter.'
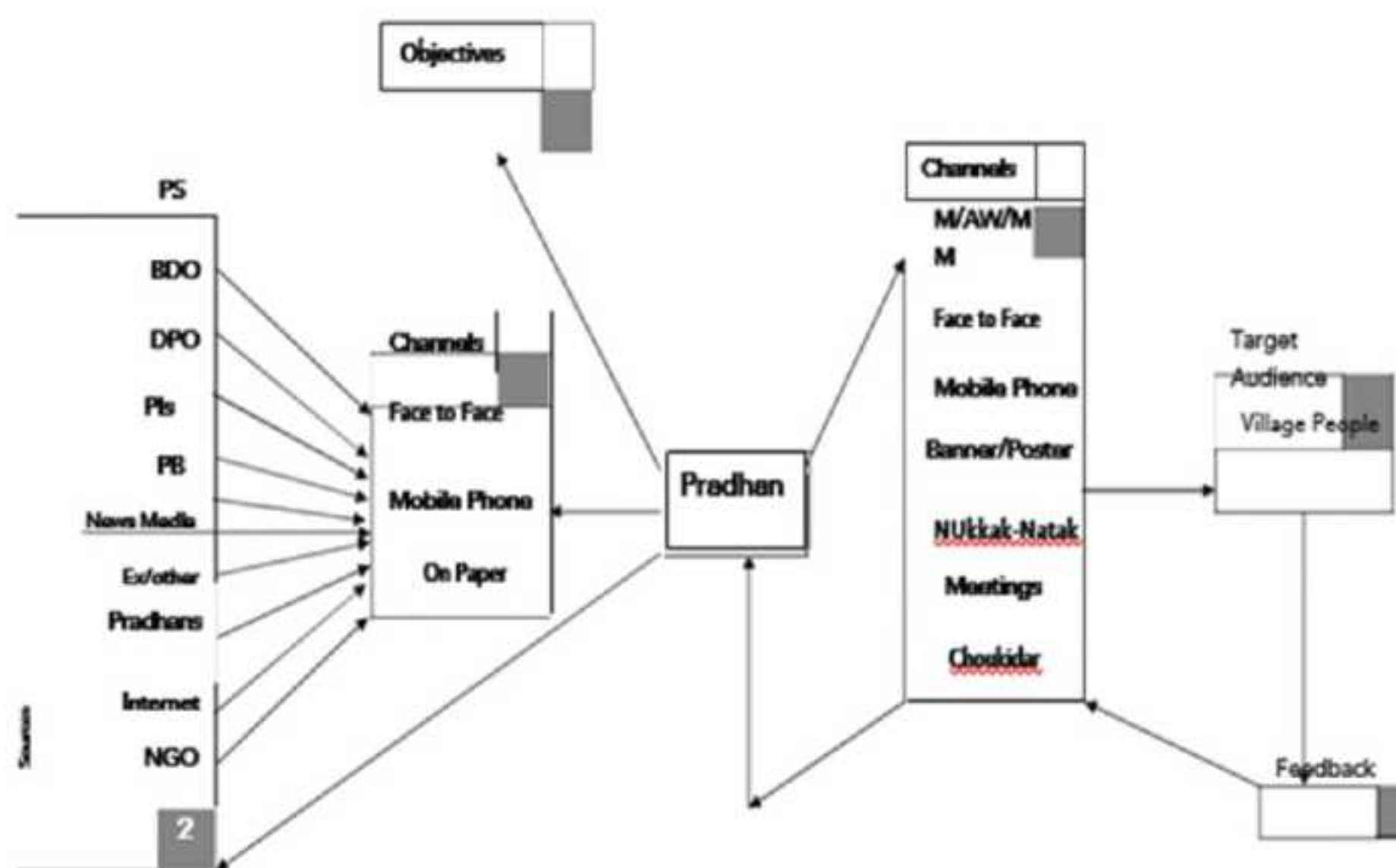
Communication Strategy Model of Pradhan

There are five basic elements of this model- objective, source of information, information channel, target audience and feedback. With the help of these elements Pradhan implements his communication strategy in the following six steps.

Communication Strategy Model of Pradhan

On the basis of the above discussion it can be concluded that Pradhans have developed a good understanding of feedback pattern and secondly, it can be inferred that feedback pattern at Panchayat level is predominantly politically motivated.

Objective- Objective is the first step. Here, Pradhan decides what kind of information he requires. For example: when a government launches an employment scheme for rural youth, it becomes very necessary for a Pradhan to get more information regarding this scheme. In another example, sometimes governments, with an act of law, establish new rules and regulations for Gram Panchayats. In such a situation, Pradhan is supposed to be aware of these rules and regulations. This way, to fulfill this information need becomes the main objective of a Pradhan.

Information Source- 'Information source' is the second step. After knowing what kind of information is required, Pradhan decides which source would be most credible for him to get information. For example: in the above mentioned second case, Pradhan may seek his secretary's help. But in case secretary is not enough credible or is poorly informed, then Pradhan may switch to other sources like, BOD, DPO PI etc.

A Pradhan has host of sources at his disposal to obtain information regarding his roles and responsibilities and development schemes. PSs, BDO, DPO, PIs, and PBs etc. are formal sources. Former Pradhans, Pradhans of other Gram Panchayats, news media (newspaper, TV, radio), internet and NGOs etc. are informal sources

Channel for information gathering- Selection of channels is third step. After selecting a credible source of information, Pradhan takes decision about information channel. He chooses a channel or channels, which are most suitable. Criteria for channels' selection are varied. Sometime a channel is chosen on the basis of the nature of information required. On very sensitive matters, Pradhan may prefer face-to-face interaction rather than phone call. Second criterion is the nature of source. For example: it is not always possible for every Pradhan to approach government officials like BDO, DPO and PI etc. Main channels Pradhan utilizes for information gathering are face-to-face interaction, mobile phone and written form

Channels for Information Dissemination- After getting information through appropriate channel from most credible source, Pradhan takes decision about what kind of information he has to disseminate among village people. For example: When a government launches a development scheme, Pradhans are instructed to assure its successful implementation. People's participation is the key to meet this goal. For peoples' participation, level their awareness is the key. By utilizing various communication channels, Pradhan tries to accomplish this goal. Channels used by Pradhan for information dissemination: Ward Members, Mahila Mandal, Anganwadi Workers, Face to face interaction, Telephones, Choukidars, Banners/posters, Gram Sabha, Gram Panchayat meetings, and informal meetings.

Target audience-Villagers, Ward Members, Anganwadi Workers, village Youth Clubs, Mid-day-Meal workers, Manila Mandal members, and primary school teachers are the main target population of Pradhans with whom they share information and seek feedback regarding development programmes

Feedback- Feedback is the sixth step. In this step village people by utilizing various channels give their feedback about development schemes and Panchayat functioning. On the other hand, Pradhans also uses multitudes of sources to get

information from village people. Feedback channels are as- Face-to-face interaction, Telephones/cell phone, written form, Gram sabha/ gram panchayat meetings and informal meeting, Ward Members/Anganwadi Workers/MahilaMandals.

Conclusion

Highly literate Pradhans are not dependent on one or two sources to get information regarding government schemes. They are utilizing both formal and informal sources for this purpose. More than 70 % highly literate Pradhans are such those who are making use of more than four sources.

Pradhans considers PSs and BDO as most helpful formal sources of information. For male, Pradhans BDO is more helpful than PSs, while for female, PSs are more helpful. In respect of informal sources, news media (newspaper, TV and radio) seem to dominate the scene. About 58 % highly educated Pradhans (both males and females) are finding news media helpful in enhancing their knowledge about development schemes. For information related to their roles and responsibilities, more than 70 % of Pradhans are utilizing more than three sources. There seems no much difference in the numbers of sources utilized by both male and female Pradhans.

Panchayat booklets (the material provided during training programs) is most helpful formal source for both male and female Pradhans to get information and clear confusions regarding their roles and responsibilities. While on the other hand, most helpful informal sources for this purpose are internet, former Pradhans and Pradhans of other Panchayats.

Majority of the highly educated male Pradhans (58%) think that PSs is a very credible source of information whereas majority of females (55%) feels PSs as only an average credible source.

Among the mass media, newspaper is considered most helpful source of information by more than 64 percent Pradhans. Use of internet is higher among male Pradhans (76.47%) than their female counterparts (36.36%). The main purpose of internet use is for doing Panchayat related work, followed by social networking.

A majority of Pradhans get most of the information through face-to-face interaction. While for information dissemination and awareness, Ward Members, Anganwadi Workers, and MahilaMandals are considered most helpful. This is too followed by followed by face-to-face interaction.People's feedback regarding development schemes and Panchayat is regarded very important by all the Pradhans, but not always helpful. Face to face interaction and Gram Sabha meeting are two main channels for gathering feedback.

In nutshell, highly literate Pradhans are wisely and deliberately deciding on- what information they need, what source would be most credible and economically viable, and what channel would be most suitable for this purpose. Additionally they are also going beyond Gram Panchayat and Gram Sabha meeting to make people aware of development programs. They are attending school functions, sport tournaments and informal meetings to spread awareness. They also understand the value of feedback in development process and think it necessary to take peoples advice and suggestions on variety of issues.

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