

## TRADITIONAL KNOWLEDGE FOR SUSTAINABLE DEVELOPMENT:

### A GEOGRAPHICAL ANALYSIS

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#### ABSTRACT

Sustainable development is a development that meets the needs of the present without comprising the ability of future generations to meet their own needs. Sustainable development is a continuous process that considers all human and natural resource as a means to achieve certain goals or objectives. This development process should not be contradictory with nature. So, sustainable development should be ecologically comfortable, economically viable and socially acceptable. Sustainable development refers to the process of development, through the judicious utilization of the natural resources, keeping in mind the needs of the future generations. Traditional or community knowledge refers to the knowledge possessed by different communities and societies all over the world. Traditional knowledge is empirical, is acquired through practice and experience and is therefore related to cultural and physical resources of the location. Community knowledge includes scientific knowledge that is the basis of industrial development and traditional knowledge and both have separately contributed in their own way towards the process of development of mankind. Industrialized societies rely mainly on scientific knowledge whereas others are rich in traditional knowledge. But, there is a need of integration of traditional knowledge and scientific knowledge of societies for sustainable development. To formulate policies for sustainable development will require a closer cooperation between scientists and the holders of traditional knowledge which include local people in general and indigenous people in particular. Now efforts are going on to collect local and indigenous knowledge with local problems and upgrading this knowledge for local use. This has resulted in the generation of employment and an overall elevation in the socio-economic status in selected areas.

**KEYWORDS:** Community Knowledge, Sustainable Development

#### INTRODUCTION

Sustainable development is a development that meets the needs of the present without comprising the ability of future generations to meet their own needs (WCED 1987: 43). This definition emphasizes the need for the present generation to ensure intergenerational equity by safe guarding the interests of future generations through maintaining the natural resources capital of this planet intact. Sustainable development is a continuous process that considers all human and natural resource as a means to achieve certain goals or objectives. This development process should not be contradictory with nature. So, sustainable development should be ecologically comfortable, economically viable and socially acceptable. This word is now considered *panacea* or medicine to combat all development related problems (Roy 2000: 415).

Sustainable development refers to the process of development, through the judicious utilization of the natural resources, keeping in mind the needs of the future generations. The strategies that may be adopted for this purpose can be through indigenous community knowledge, the harness of technology and adopting new innovative practices in the everyday

life. Also of vital importance is the participation and cooperation of the people at the grassroots level and various governmental and non-governmental organizations to bring about the process of sustainable development.

Community knowledge refers to the knowledge possessed by different communities and societies all over the world that is utilized to carry out day to day activities. Community knowledge includes (i) scientific and codified knowledge associated with occupations and life styles influenced by the industrialization and (ii) knowledge associated with traditional occupations, practices in local cultures still engaging a large majority of populations, especially in developing countries. These two type of knowledge are broadly categorized as modern of scientific knowledge and traditional experiential knowledge. In general, modern scientific knowledge is codified, systematically classified, is acquired through institutionalized learning and in many ways has a universal character.

Traditional knowledge, on the other hand, is empirical, is acquired through practice and experience and is therefore related to cultural and physical resources of the location. Traditional knowledge, not being connected to industrialization, is thus seen as providing alternate and additional approaches to achieving sustainable development. Several indigenous or traditional knowledge and practices developed through the centuries by different indigenous and local communities being sustainable are also receiving attention of sustainable development efforts. Community knowledge includes scientific knowledge that is the basis of industrial development and traditional knowledge and both have separately contributed in their own way towards the process of development of mankind. Industrialized societies rely mainly on scientific knowledge whereas others are rich in traditional knowledge. But, there is a need of integration of traditional knowledge and scientific knowledge of societies for sustainable development.

## **OBJECTIVES**

The study is related to community knowledge for sustainable development. For solving many sustainable development problems at local level, proper interaction between science and local and indigenous cultures is important in order to find viable solutions. The main objectives of this study are as follows –

- To identify and highlight the contribution of traditional knowledge system in the development of science.
- Comprehend and describe the importance of traditional knowledge in sustainable development of the communities.
- To describe the benefits of partnership between scientific and traditional knowledge for sustainable development.
- To suggest ways of innovation in the indigenous techniques of our region using scientific methods to met the aim of sustainable development.
- Recognize, support and encourage research into the role of women's traditional knowledge that has been often neglected.

## **TRADITIONAL KNOWLEDGE AND MODERN SCIENTIFIC KNOWLEDGE**

Traditional knowledge is the indigenous knowledge possessed by various local communities accumulated through traditional and present day to day activities. The basis of the knowledge lies in relating community and its social, economic and cultural activities to local environment. Traditional knowledge develops within certain cultural groups or communities over a given period of time and within specific environmental and social setting. At the same time, these communities have accepted and adopted elements from other knowledge system. The practitioners of traditional knowledge tend to view people,

animal, plants, and other elements of the universe as interconnected by a network of social relations and obligations. Traditional knowledge provides the basis for many aspects of everyday life and occupation, like (i) agriculture and animal husbandry (ii) preparation, conservation and distribution of food (iii) hunting, fishing and gathering (iv) location, collection and storage of water (v) coping with disease and injury (vi) interpretation of weather and climatic phenomena (vii) making of clothes and tools (viii) construction and maintenance of shelter (ix) management of ecological relations of society and nature (x) study of land and sea (xi) adjustment to environmental and social change. Traditional knowledge is the foundation of modern scientific knowledge.

Science and technology have contributed immensely in the process of development mankind has taken tremendous strides in the understanding of nature in the fields of medicine, agriculture, industry, engineering, etc. that were unimaginable without science and technology. At present Information and communication technology have made it possible to connect with other nations with speed and ease as never before. But it is true that modern science often builds on traditional knowledge and through methodical testing and experimentation expands and deepens the observed knowledge. Modern agriculture, astronomy, chemistry, engineering, etc. is the perfection of the traditional empirical methods which gave rise to modern scientific technology. But traditional knowledge and scientific knowledge system requires active involvement of the scientific community which can give unique value of traditional knowledge system.

## **INTEGRATION OF SCIENTIFIC AND TRADITIONAL KNOWLEDGE FOR SUSTAINABLE DEVELOPMENT**

It is seen that quite often scientific methods and resulting approaches in specific communities or localities do not work. Several genetically engineered new varieties of rice seed have failed to give expected results in different localities or situations. Several biodiversity conservation methods have failed to give expected results because those type of strategies adopted were not compatible with the local system. Sometimes the process of change is not accepted by the people, so it cannot be sustained. The attainment of sustainable development calls for balanced interrelated policies aimed at economic growth, poverty reduction, human welfare and social equity amongst all nations and communities.

Governments all over the world and other stakeholders have realized that it is not only necessary to respect varied cultures and traditions but also that the enrichment of diversity is in itself the path for overall sustainable development. Accordingly the two forms of knowledge should be combined, enhanced and harnessed and greater use of both scientific knowledge and technology and traditional knowledge and practices need attention (Pandey 1998; 135). Many issues related to sustainable natural resources management and biodiversity conservation require the partnership between scientific and traditional knowledge.

In this research paper efforts are being made to harness the traditional practices and knowledge in the local communities along with scientific inputs in various areas to bring about the process of sustainable development faster. They are as follows.

### **Health and Medicine**

Medicinal practices based on traditional knowledge provide for the primary health care needs of around 80% of the world's population in India, Traditional systems of medicine and health care such as Ayurveda, Siddha and Unani, is actively supported and researched. In China, the Chinese and Tibetan system of medicine predominate the healthcare scene.

This type of indigenous medicine has now gained acceptance and recognition in western countries where they are much in demand. Historically, the scientifically backed allopathic system of medicine also has its roots in the traditional knowledge which continues till now. The early medical practitioners gained information about the herbs used by the local healers and tested the effects on their patients. On the basis of the empirical observations, subsequent chemists identified the active components present in the particular herb. Medicine like quinine, aspirin, reserpine, digoxin, etc. are all derived from plants. Traditional medicine is available not only in curative medicine but also in the preventive medicines, cosmetics and other activities related to medical science that are taken as supplements to diet. Indigenous knowledge in medicine is therefore extremely valuable for the scientist who involved in drugs manufacturing and discovery.

### **Agriculture and Forestry**

Indigenous knowledge in agriculture is very vast and diverse. This knowledge has been collected, accumulated and perfected over centuries. This indigenous knowledge of soil management, agricultural practices, animal husbandry, irrigation system, crop breeding, harvesting, storage have been traditionally used successfully and in a sustainable manner. Traditional knowledge of the use of pesticides, insecticides, etc are also the result of sustainable development of agriculture. The information about the plant is obtained from the local farmers.

### **Conservation of Bio-Diversity**

Indigenous knowledge is also a potential source for conservation of biodiversity. Local people are knowledgeable about their indigenous flora and fauna and with their help, the scientists have been able to discover new species. In N.E India ethno-botanical research has focused on “sacred groves “occurring throughout these areas that are protected and managed by local people and communities. These groves are specific pockets of forest occurring in various parts of the region that are considered sacred and common people are prohibited to use these pockets. These prohibitions have managed to preserve the ecosystem.

### **Artisanal Technologies**

The N.E India is very rich in artisanal technology. Artisans in village and non-industrialized settings have been producing and continue to produce a variety of product. Artisanal products like handicraft, pottery, wood work, leather work, metal work carpet weaving have been used by mankind since the beginning of the civilization. The knowledge and skill of their production methods and technologies is mostly possessed by particular individuals, families or communities and is acquired through learning by doing only. The knowledge is passed from one generation to the next in the same family. The indigenous technologies have been perfected over hundreds of years using locally available materials and designs appropriate to the culture of the region. Such production units are widespread in rural and tribal areas and have often been the basis of small scale industries.

Besides, different communities in rural and tribal areas use forest and plant products to construct houses, boats, carts as well as storage and household goods. But those types of materials are biodegradable and low capital inputs. These technologies are, however, facing extinction under the impact of industrialization. Now the council for scientific and industrial research (CSIR), NEDFI is working with several rural communities to understand their specific problems and upgrade their traditional skill and with inputs of scientific tools and approaches. The approaches is to identify prevailing traditional practices, study problems specific to particular regions and provide scientific inputs to arrive at ecologically and culturally acceptable technologies for these regions.

To promote sustainable development, partnership between the scientific and technological communities and indigenous people in many areas are essential. The collaboration must be founded upon mutual respect and understanding, transparent and open dialogue, and informed consent and just returns for the holders of traditional knowledge through reward and benefits.

These commitments are important as the fields of traditional and scientific knowledge extend into areas involving business, government and development processes. In the formulation of partnership the issue of ownership of knowledge must be understood and acknowledged. The holders of traditional knowledge must be fully recognized as the rightful owners of their intellectual heritage. Scientific research must pay due attention, and give due credit to those people who produce and that knowledge.

## SUMMARY AND CONCLUSIONS

Community knowledge refers to the combined traditional and scientific knowledge. It is known that traditional knowledge is sustainable as it has evolved after thousands of years of observation and experience. This form of knowledge interlinks and establishes a holistic relationship between man and nature. It has supported life in a sustained way and continues to do so today. However, with globalization, this form of knowledge has been ignored completely and is gradually becoming extinct. Scientific knowledge has evolved over a period of a few hundred years and has its roots in traditional knowledge. The development process based on science and technology is no doubt faster but it has proved to be detrimental for our environment as is evident from the present dismal scenario of the global environment. Today greatest challenges which the world community is facing are the issues of socio –economic growth, poverty reduction, human welfare and development and the protection of the earth's resources, common and life support system.

People, govt. and the scientific community all over the world have now realized the importance of sustainable developmental strategies. These groups have stressed the need for harnessing both scientific knowledge and technology in one hand, and traditional knowledge on the other hand to solve many issues related to sustainable natural resource management and biodiversity conservation. Thus formulating policies for sustainable development will require a closer cooperation between scientists and the holders of traditional knowledge which include local people in general and indigenous people in particular. Now efforts are going on to collect local and indigenous knowledge with local problems and upgrading this knowledge for local use. This has resulted in the generation of employment and an overall elevation in the socio-economic status in selected areas.

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