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## **1.0 INTRODUCTION**

Sustainable development has been defined in many ways, but the most frequently quoted definition is from *Our Common Future*, also known as the Brundtland Report: Science for sustainable development is not yet an autonomous discipline.

"Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs. It contains within it two key concepts:

- The concept of **needs**, in particular the essential needs of the world's poor, to which overriding priority should be given; and
- The idea of **limitations** imposed by the state of technology and social organization on the environment's ability to meet present and future needs."

All definitions of sustainable development require that we see the world as a system—a system that connects space; and a system that connects time. The sustainable development has gained due attention on international framework not only by researchers but chiefs of several countries. This is historic movement when all nations will unite around a shared vision for the future of the planet with 17 goals together entails monitoring over 169 indicators countries can commit to attaining by 2030. The next challenge is figure out how to measure progress towards archiving these goals. Initially sustainable development was discussed globally in UN conference on human environment Stockholm in 1972. In 1987 UN world commission on environment development published a report on “Our Common Future”. In UN Earth Summit—after Johannesburg conference in 2002 on sustainable development, 2005–2014 was declared as “Decade for Education for sustainable Development.”

When we think of the world as a system over space, we grow to understand that air pollution from North America affects air quality in Asia, and that pesticides sprayed in Argentina could harm fish stocks off the coast of Australia.

And when we think of the world as a system over time, we start to realize that the decisions our grandparents made about how to farm the land continue to affect agricultural practice today; and the economic policies we endorse today will have an impact on urban poverty when our children are adults.

We also understand that quality of life is a system, too. It's good to be physically healthy, but what if you are poor and don't have access to education? It's good to have a secure income, but what if the air in your part of the world is unclean? And it's good to have freedom of religious expression, but what if you can't feed your family?

The concept of sustainable development is rooted in this sort of systems thinking. It helps us understand ourselves and our world. The problems we face are complex and serious—and we can't address them in the same way we created them. The purpose of this paper is to briefly review on recent literature on science for sustainable development and also determine the new direction of the emerging field.

## **2.0 ISSUES IN SUSTAINABLE DEVELOPMENT GLOBAL COMMITMENT**

The Global SD Goal 4(SDG) with in the Agenda 2030 seeks to ensure inclusive and equitable quality education and promote lifelong learning opportunities to all.

The challenges being faced by the education sector call innovative approaches and sustained efforts to foster education development in general and quality education in particular without compromising on access and equity. The main thrust will be devise effective strategies to address the divergent challenges for the growth of education in India and realizing the potential of the country's" demographic dividend."

## **2.1 ECONOMIC AND POLITICAL INTERLINKAGES**

The implementation of sustainable development strategies has turned out to be tricky, because it must address very serious issues within economic and political contexts that are marked by strong inertia. The issues appear at every level and affect practically every area of national policy. The various approaches reflect different points of view, and in particular: more or less constrained free market practices, a desire to place people at the heart of the economy, the greater or lesser determination of the various countries in the world, and the balance between short, medium, long, and very long-term interests. Moreover, there is no denying that the interdependence of modern-day economies means that environmental problems must be dealt with on a worldwide level, which does not simplify the

implementation of the necessary strategies, particularly because of differences in levels of development.

## **2.2 CONSENSUS OF MULTIPLE AGENCIES**

The aim of sustainable development is to define viable schemes combining the economic, social, and environmental aspects of human activity. These three areas must therefore be taken into consideration by communities, companies, and individuals. The ultimate goal of sustainable development is to find a coherent and long-lasting balance between these three aspects. In matters of sustainable development, the consensus of all the participants in society is required in order to define objectives and implement them: private and public sector companies, associations, NGOs, unions, and citizens.

## **2.3 RE-THINKING OF GROWTH OBJECTIVE**

In the field of sustainable development we require re-think our economy and our growth in favor of a society that is more economical in its use of raw materials and energy. Some of these challenges include: climate change, energy consumption, waste production, threats to public health, poverty, social exclusion, management of natural resources, loss of biodiversity, and land use. In this context, sustainable development approaches are now essential obligations.

## **2.4 NEED FOR SOCIAL COHESION**

In order to be sustainable, development must also be harmonious. At least a certain amount of social cohesion must exist on a planetary scale in order to create the conditions for the peace we need. Major differences between the situations of economic players are sources of tension and conflict. The North/South economic divide and the unequal distribution of the consumption of the planet's natural resources between the world's populations are notable potential causes of tension.

## **2.5 REPLICATING DEVELOPED WORLD MODEL**

Every country in the world seems to view the standard of living in the USA at the start of the 21st century as the ideal objective. The means of achieving this objective comes up against a simple equation. This equation provides an evocative illustration: the USA (accounting for 5% of the world's population) consumes 25% of the world's oil production! Most specialists agree that, at current rates of consumption, oil reserves will run out within 50 years. It is therefore obvious that the development model of the United States of America, on which the

European model is based, cannot be applied on a worldwide scale. Energy-wasting practices must therefore be replaced by a sustainable development model.

## **2.6 FORECASTING RESOURCE DEPLETION**

Like any human activity, the production and consumption of energy can affect the entire biosphere. It is clear that certain systems, sectors, and regions will be harder hit than others by these large-scale phenomena. It is therefore important to anticipate the exhaustion of reserves in order to prevent or limit the impact of this. In terms of sustainable development, energy efficiency is the first lever to reduce the consumption of natural resources. Technological progress must contribute to improving energy performance.

## **2.7 CONSUMERISM PHENOMENON**

Household appliances (microwave ovens, washing machines, tumble driers, etc.) and convenient and useful, but they consume a large amount of energy. Their consumption can be as much as 40% of a family's electrical consumption (excluding heating, hot water, and cooking), and 60% for households with a large amount of equipment. The freezer is one of the major consumers of electricity in a household. Its average consumption can be as much as 20% of a household electricity bill. Frost build-up also leads to unnecessarily high energy consumption because of the energy used to maintain the mass of ice thus formed. Even the washing machine is not favorable sustainable development. Of all household appliances, it is the biggest consumer of energy. Its average consumption can reach 500 kWh, which represents almost 15% of a family's annual electricity consumption (excluding heating). But the present life styles in all countries force the consumers to go for these products and do not motivate them to look for a life beyond these gadgets.

## **2.8 FOCUS ON INNOVATION**

The environmental responsibility of manufacturers is to continue to develop innovative solutions that favor sustainable development. The innovative environmental commitments should be integrated into the daily activities of the company. They involve the responsibility of all participants in the company, in accordance with the sustainable development approach. This commitment to sustainable development promotes awareness and obtains the support of all industrial partners. But in the rat race of maximizing the profits in short time period makes the sustainable innovations to take a back seat.

## **2.9 Old and New Problems Occurring Simultaneously**

Age-old public health hazards such as inadequate and unsafe food and water, microbiological contamination of the environment and poor sanitation and environmental hygiene are still prevalent. In addition, new environment problems have emerged, some of which appear to threaten the entire ecosystem. While factors associated with the development process and the changing use of technology has resulted in considerable gains to people throughout the world, they have also presented additional threats to people's health. Many of the "newer" hazards associated with chemical contamination of the environment are as significant for developing countries as they are for industrialized countries. Countries nevertheless differ with respect to the spectrum of health, environment and development problems with which they have to deal and to which they give priority. The level of economic development and the policy choices of individual countries are important factors determining the nature of the problems faced and the ways in which they are addressed.

In industrialized countries, typical health and environmental problems include outdoor air pollution, radon in homes and schools, the "sick building" syndrome, toxic chemicals in drinking-water, non-ionizing electromagnetic radiation and pesticide residues in food. In developing countries, health and environmental problems are often related to poverty and arise largely as a result of such factors as rapid, uncontrolled urbanization and agricultural and land-use practices.

## **2.10 LOCAL VERSUS GLOBAL ISSUES**

Health concerns associated with air and water pollution, water supply and sanitation, waste disposal or chemicals and food may be particularly relevant at the local or micro level (for example, lead in household dust or environmental tobacco smoke), or may be important at the regional or global level (for example, depletion of the ozone layer, global climate change, long-range transport of air pollution or marine pollution). The problems to be dealt with are often simultaneously global and local

## **2.11 RURAL AND URBAN ISSUES**

Problems may differ in urban, as opposed to rural, environments. With massive urbanization occurring on a global scale, international interest and concern has centered increasingly on the state of the environment and human health in cities. It is estimated that by the year 2025 over five thousand million people will be living in cities. In the developing countries of the world, already more than 200 cities have populations of one million or more.

## **2.12 DEMAND FOR FOOD**

It is time to rethink how we grow, share and consume our food. If done right, agriculture, forestry and fisheries can provide nutritious food for all and generate decent incomes, while supporting people-centered rural development and protecting the environment. But right now, our soils, freshwater, oceans, forests and biodiversity are being rapidly degraded. Climate change is putting even more pressure on the resources we depend on. A profound change of the global food and agriculture system is needed if we are to nourish today's 925 million hungry and the additional 2 billion people expected by 2050. The food and agriculture sector offers key solutions for development, and is central for hunger and poverty eradication.

## **3.0 SUMMARY**

As this article has shown, sustainable development is no longer just a possible alternative: it is the path of reason. Several means of action already exist. Decisions involving their implementation concern all the economic participants. Each person on his own level can be a participant in this gigantic project, which will affect the lives of future generations. The need of the hour is public-spirited innovation policy that combines highly desirable savings with the protection of natural resources, which are all the more precious because they are becoming so rare. Let's make living a pleasant experience for the present and future generations to come!

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