SUSTAINABLE DEVELOPMENT AND ENVIRONMENTAL GOODS AND SERVICES INDUSTRY - EXPLORING LINKAGES

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Sustainable Development

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.

Source: 'Our Common Future: Report of the World Commission on Environment and Development' (Bruntland Report)

Sustainable Development

- Sustainability depends to a great extent on the interrelationship between economic progress, environmental management and individual wellbeing
- As the world's population increased, there have been two major impacts.
  - need for basic necessities such as clean water, air and living conditions has multiplied.
  - increase in population has led to an increase in industrialization which has further increased the pressure on natural resources.
- As a result, the earth is no longer able to maintain a healthy and balanced ecosystem and there is a need to balance the aspects of economic, environmental and social progress (Tietenberg and Lewis, 2012)

SUSTAINABLE DEVELOPMENT GOALS

1 NO POVERTY

2 ZERO HUNGER

3 GOOD HEALTH AND WELL-BEING

4 QUALITY EDUCATION

5 GENDER EQUALITY

6 CLEAN WATER AND SANITATION

7 AFFORDABLE AND CLEAN ENERGY

8 DECENT WORK AND ECONOMIC GROWTH

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

10 REDUCED INEQUALITIES

11 SUSTAINABLE CITIES AND COMMUNITIES

12 RESPONSIBLE CONSUMPTION AND PRODUCTION

13 CLIMATE ACTION

14 LIFE BELOW WATER

15 LIFE ON LAND

16 PEACE, JUSTICE AND STRONG INSTITUTIONS

17 PARTNERSHIPS FOR THE GOALS

SUSTAINABLE DEVELOPMENT GOALS

Environmental Goods and Services (EGS) Industry

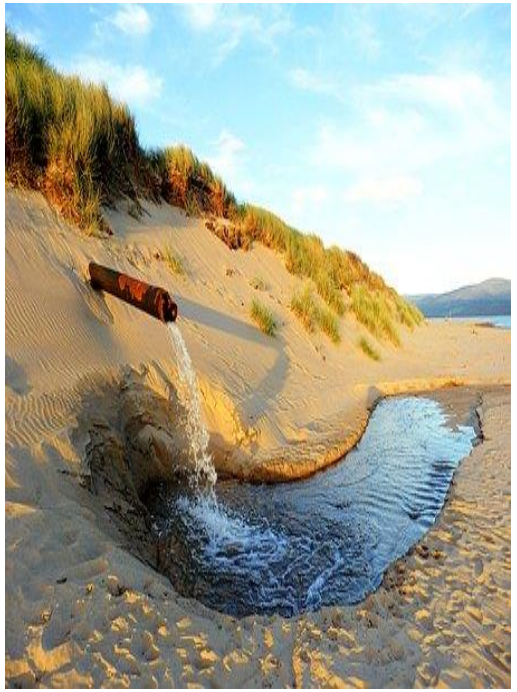
The environment industry consists of activities which

- produce goods and services to measure, prevent, limit, minimize or correct environmental damage to water, air, and soil, as well as problems related to waste, noise and eco-systems.
- These include cleaner technologies, products and services which reduce environmental risk and minimize pollution and resource use." (OECD/Eurostat)

About the EGS Industry

- It has become core business of specialized private firms. In 2010, estimated global market was US $ 776 billion and direct employment job creation of EGS industry in the European Union was estimated at about 3.4 million.
- Seen as key ingredient of industrial competitiveness, trade advantage and social stability in the context of protection of environmental resources. (Sinclair-Desgagne, 2008)
- It has potential impact on production processes which leads to strong potential leverage effect on other sectors of economy.
- In the context of sustainable development, decoupling and increasing demand for energy, it can contribute to competitiveness of other industries further upstream and downstream. (Bilsen et al, 2009)

About the EGS Industry



- Gap between need for EGS and its actual market demand and profit potential in developing countries. Mainly due to lack of environmental regulation or implementation (Bucher et al, 2014)
- Infrastructure environmental services, such as wastewater treatment or solid waste management-commonly associated with governmental service. Examples of private sector participation such as through Build-operate-transfer (BOT) schemes or public private partnerships
- Growth, competitiveness and performance of this industry are strongly linked to the policy agendas and regulatory framework conditions

About the EGS Industry

- Regulations that aim to reduce negative environmental and social impacts create business opportunities that allow for development of a new industry. Besides regulations, the EGS industry is driven by technology, which can allow these business opportunities to be exploited. (Dervojeda et al, 2013)
- By providing for incentives for environmentally friendly innovation, environmental regulations could result in international competitiveness of economies and firms (Porter, 1991)

Context of SWM in India

- Urban solid waste is managed by Municipal Corporations.
- Growth in municipal solid waste expected to go hand in hand with the increase in the GDP.
- Municipal solid waste generated about 43 million tons per annum or 120,000 tons per day (CBCP). This figure is expected to reach 160.5 million tons per annum or 440,000 TPD by 2041.
- Almost 80-90% of Municipal solid waste management budgets spent on waste collection and transport activities.
- Disposal of waste still a problem- most of these activities happen through depositing of the waste in low lying areas outside the cities (landfills).

Context of SWM in India

- The second most serious problem that city dwellers face is insufficient solid waste disposal (UNDP 1997).
- *Sharholy et al (2008); Zhu et al (2008); Asnani (2006); Gupta et al (1998):* Most urban areas either do not have adequate bins or else they are common for decomposable and non-decomposable waste.
- MSW facilitates disease and injury, especially among children, rag pickers, and employees in the waste management sector. Workers who handle refuse and individuals who live near or on disposal sites are infected with gastrointestinal parasites, worms, and related organisms

Case of a Solid Waste Management firm in Mumbai- SampurnEarth

- SampurnEarth is founded by three Social Entreprenurship students from Tata Institute of Social Sciences (TISS), Mumbai.
- Vision to make a world where waste is totally transformed into utilizable resources without any exploitation of people or the planet
- While there was a buzz about bio gas and composting, most of the players in this field were NGOs or environmentalists who had good intentions but were unable to scale up. Hence, they decided to plunge into this area in the form of a corporate.

About the firm-Operations

- Provides waste management solutions to housing societies, corporates, townships, schools and colleges.
- Works on decentralized system model which saves considerable transportation costs and eliminates related emissions.
- Services include implementing and consulting in waste audits, designing customized WM systems, installing, operating and maintaining systems, improving environmental education and awareness.
- Bio degradable waste- use of bio gas plants which have improved technology for extraction of bio gas and compost from the waste.
- Non-bio-degradable waste is redirected to recycling units leaving a very small percentage of waste going to the dumping grounds and creating near zero-waste situations.

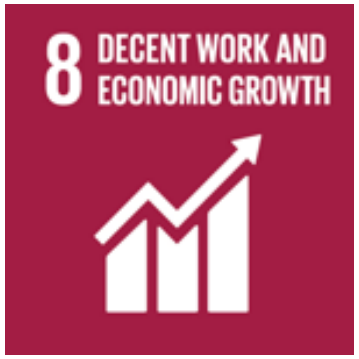
About SampurnEarth

- They realized that along with mismanagement of waste, there was also degradation of human capital involved- the ragpickers
- They tied up with an NGO- Stree Mukti Sangathan- which works with these women ragpickers.
- They gave formal employment, better working conditions, education for children and even upgradation of jobs
- Some former women ragpickers are currently running waste management systems

The Results

- Production of cleaner energy
- Reduced waste going into municipal dumping grounds- thus reducing environmental damage
- More civic responsibility as large waste generators realize the value of processing their own waste
- Increase in employment as former ragpickers become formal employees
- Improved health and living conditions of former ragpickers and their families
- Improved health and living conditions of people living close to dumping grounds
- Improvement in social status of the former ragpickers

Goals Directly affected by this case:



Concluding Remarks

- While regular industries can also positively affect certain goals, EGS industry can do so in a much more effective and direct manner
- It would make sense for governments to support EGS industries in a manner that separates it from regular industries
- The support could start from recognizing and classifying this industry separately
- It could lead to tax credits, competitive finance and policy support
- Promotion of this industry could lead to a change in the mindset of people towards the environment