

## The New Media and the Promotion of Ecological Entrepreneurship

RAJENDRA KUMAR DASH<sup>1</sup> & AMARENDRA KUMAR DASH<sup>2</sup>

<sup>1</sup>GMR Institute of Technology, India

<sup>2</sup>Rajiv Gandhi University of Knowledge Technologies Nuzvid, India

In an era of rapid economic transformations and attendant anxieties, the quest for sustainable development has been a major discursive engagement. This article uses three case studies to discuss how electronic media promotes the discourse of ecological entrepreneurship (EE). Three case studies are undertaken: (i) The UN's new media engagement, (ii) The YouTube as a source of EE knowledge and action, and (iii) YourStory as a site for promoting green start-ups. The objective is to demonstrate how the new media has come a long way to forward the transformative discourse of EE that can stimulate the appropriate behavior leading to the green social economy.

**Keywords:** Sustainability, ecological entrepreneurship, entrepreneurial discourse, electronic media, communication strategy

Entrepreneurs are the innovators who provide innovation or creative destruction that gives society a new way of addressing problems. Entrepreneurship also involves practices beyond mere wealth-creation (Verduijn et al., 2014). Schumpeter (1942, p. 9) argues that "environmental problems are inherently uncertain, ... calls for innovation, as most of them are caused by the outdated applications of old, polluting and inefficient technology". New entrepreneurial discourses, especially those built upon the idea of sustainable and inclusive development, are required to stimulate social change. Therefore, new entrepreneurs need to focus on innovations at the level of production method, technological development, product/service distribution system, or even developing a new organizational form (Lennox & York, 2011; Tillery & Young, 2009). Therefore, Ecological Entrepreneurship (EE) is the need of the hour.

Ecological Modernization Theory (Hajer, 1995; Mol, 1995) provides the rationale for EE. Joseph Huber, the father of Ecological Modernization Theory (Mol, 1995), believes that entrepreneurs are the transformative agents in the process of eco-modernization which takes care of ecological crises (Gibbs, 2009; Mol & Spaargaren, 1993; Tillery & Young, 2009). Eco-sensitive entrepreneurial action, therefore, is the preferred solution to our environmental problems because it combines environmental awareness and conventional entrepreneurial activity to achieve entrepreneurial success (Anderson, 1998).

EE is an off-shoot of the concept of ecological modernization linked to the idea of sustainable development of the 1990s. Sustainability, then, was founded on a vision of an integrated approach to technical, economic, social, political, and ecological issues. Early programmes based on ecological modernization were Eurocentric and corporate-driven. They required: i) Collaboration between governments, and ii) A strong economy and the

---

Correspondence to: Amarendra Kumar Dash, Department of English, Rajiv Gandhi University of Knowledge Technologies Nuzvid, Andhra Pradesh, India.

capacity to invest in change (Mol & Sonnenfeld, 2000). Sustainability today, however, is a broader, inclusive concept with a stronger social justice element emphasizing the needs of the poor, future generations, and other species beyond humans.

EE as a construct operates both as a set of ideas as well as action. Ideas are enabled and mediated by texts – linguistic or semiotic – and are collaged and collapsed into specific knowledge categories known as discourses. EE as a real-world practice and EE as a discursive formulation are co-constitutive because ideas trigger action and actions shape our thought and knowledge formation. Contributing to such action-discourse co-formulations, the mass media operates as a catalyst of ecopreneurship in several ways: i) by reporting of EE action and events, ii) by presenting the analysis of EE in terms of what is praiseworthy and what is missing, iii) by narrating consumers' response to eco-products and services, iv) by publishing public policy and support for EE, v) by reporting the latest developments in EE internationally, vi) by appealing to the people to adopt eco-sensitive lifestyles, vii) by appealing to the industries to switch over to eco-friendly systems of production, and viii) by demonstrating the appalling impact of human actions on the ecosystem.

Media contribution to the promotion of EE can be established by linking two important hypotheses: the Panacea Hypothesis and the Impressionable Years Hypothesis. The Panacea Hypothesis assumes that green, clean, and low-carbon economy led by eco-entrepreneurs will somehow safeguard us from the vagaries of the aging and polluting industrial economies. The Impressionable Years Hypothesis posits that compared to old and matured people, it is easier to change the minds of the young people during their impressionable years.

The information and technology (IT) revolution has cast its far-reaching influence on the global population, especially, the younger generations. Access to laptops, smartphones, and the internet has made it convenient for the youths to reap the best out of the knowledge-driven economy. Because of the wider use of smart phones, the electronic and the new media have come together: mobile and somewhat customized. Against this backdrop, the thrust of this article is to discuss how the new media has been used as a platform for disseminating EE and has been acting as a catalyst for change in our media-savvy generation.

## Literature Review

In recent years, EE has emerged as an important agent of change because eco-innovations inevitably lead to competitive advantages of companies and countries. It is argued that if companies and countries want to be successful in the international market, they cannot simply rely on having low-cost products as their sole competitive advantage. They have to explore innovative environmental technologies, services, and processes to garner a better competitive advantage. The long term sustainability of our economic system does not depend only on quantitative growth, but also on the ecological aspects of growth and sustainable development (Klimova & Zitek, 2011, p. 2). Also, there are also some practical business reasons that justify the need for EE, which is as follows:

First, our finite resources, such as forests, minerals or gas are limited in their supply. Once consumed, many of them cannot be recreated and therefore, unless used judiciously, at some point in time, we will be left with diminishing/zero natural resources. Economic activities mandate a cycle of production, circulation, and consumption generating large-scale waste and pollution, which seriously affect the ecosystem in terms of greenhouse gas accumulation and potential climate change (Volery, 2002). Thus economic policies

and business ventures have to be grounded in EE, constantly looking for alternatives such as recycling or finding new sources of energy, such as wind, water, and solar (Arber & Speich, 1992; Barnes, 1994).

Second, the global population growth and the attendant pressure on the ecosystem also calls for EE. The world population is expected to increase by 50 percent by 2050 which will lead to greater ever increase in consumption (World Business Council for Sustainable Development, 2002). Besides, rapid urbanization projected by the UN study forecasts that, by 2050, as many as 66 percent of the world's population will be living in urban areas (United Nations, 2014). Although to some extent, large scale consumption is important for relieving poverty in many emerging economies, the negative impact of the same on the ecosystems cannot be overlooked (Volery, 2002). EE, therefore, is important to find the new technologies to protect the environment and to ensure that there are enough resources to fill the needs of the current population as well as future generations (Mulder, 2007).

Third, loss of biodiversity necessitates EE action as the antidote to environmental problems. The corrosive rates of industrial expansion, urban sprawling, and human encroachment into wildlife habitats have ensured that the extinction of other living species are the fastest they have ever been in human history and are accelerating. Goodland (1991) also reports that the tropical forest, the world's richest species habitat, has already been 55 percent destroyed and the loss is continuing.

The UNEP (2005) and the International Panel on Climate Change (2007) recognize that economic development is one of the main causes of environmental degradation. Economic activities require large inputs of energy and materials. The process generates large quantities of waste leading to the degradation of environmental quality. That is why business and industry are often viewed as one of the largest contributors to environmental degradation (Cohen & Winn, 2007). Scholars also agree that despite the decades of economic growth and increase in the quality of life, the period of industrial expansion had a substantial negative effect on the ecosystem (Boulding, 1966; Dean & McMullen, 2007; Schmidheiny, 1992; World Resources Institute, 2004).

According to the World Resources Institute (2000), around 40 percent of agricultural lands worldwide has been severely degraded through erosion, salinization, nutrient depletion, biological degradation, and pollution. More than 20 percent of global forest cover has been removed due to logging and conversion to other land uses and deforestation has a significant impact on biodiversity, e.g., loss of unique plant and animal species. Around 20 percent of fishes and shellfishes have been diminished due to overfishing, destructive trawling techniques, and destruction of nursery habitat. Pollution problems have plagued coastal lands because of the use of synthetic chemicals and fertilizers. The fact remains that global warming adversely impacts the ecosystem through rising sea levels, warming of the ocean temperatures, and changing storm frequency. Similarly, human consumption and interference have significantly affected the world's stock of fresh water and grassland.

The literature on EE reveals a range of approaches, strategies, and value systems embedded in EE to promote insights into a diverse range of green entrepreneurs, upholding short, medium, and long term approaches sustainability. There is a demand for radically green modes of entrepreneurship these days which must be founded upon long term visions of a sustainable society. In spite of the huge outcry, overall research on the communication of EE is surprisingly thin. Moreover, although community engagement and education are important means of developing an eco-driven society, the role of ecological communication as an integrative instrument has not been paid due attention.

EE discourses are shaped and reshaped by EE actions and communications at the international, national, and regional level. In this study, we have incorporated three case

studies to divulge the synergy between the new media and EE. First, at the international level, the UNO works seamlessly to forward ecological action and wisdom. Second, YouTube is a global platform for promoting any type of education and awareness programmes including EE. Third, a recent development, YourStory an online repository, provides the entrepreneurs with the opportunity to tell their experiences to the broader audiences. In this context, three research questions are raised:

RQ1: What are the strategies adopted by the UN for disseminating the information related to EE?

RQ2: How do YouTube contribute to EE?

RQ3: What is the role of YourStory in forwarding EE in India?

## Case Studies

### Ecological Action and Communication of the UN and Its Allies

One of the global apex bodies, the United Nations is committed to sustainable and inclusive economic growth alongside social development and environmental protection that benefits nature and mankind (UNESCAP, 2012a). Its Conference on Sustainable Development (Rio +20) emphasizes on people-centric sustainable development. Its intergovernmental and multi-stakeholder plan of action, Agenda 2030, puts faith in sustainable development to fulfill Millennium Development Goals (UNESCAP, 2012b). When it comes to trade and commerce, the UN advocates inclusive business strategies that include poor people as participants in low-carbon and climate-resilient growth (UNDP, 2008).

The UN Environment New York Office caters to cooperation between UN Environment's Division of Communication and the UN Department of Public Information. It promotes events and exhibitions at UN Headquarters to observe the World Environment Day, the Champions of the Earth awards ceremony, and other programmes in coordination with its partners. Key information with relation to programmes such as the UNEP Inquiry, the 10 Year Framework Programmes on Sustainable Consumption and Production (10YFP) or the Women's Sustainable Energy project, etc. are disseminated among member states, UN agencies, media professionals and other stakeholders ([www.unenvironment.org](http://www.unenvironment.org)).

The UN's communication strategy also includes i) social media engagement, ii) building a powerful digital platform, and iii) earned media outreach. With infographics, animations, and video contents, the UNEP uses social media campaigns to educate, empower and inspire people to discuss critical environmental challenges and to stimulate problem-solving attitude. It facilitates meaningful interactions and novel solutions and demonstrates live examples of eco-innovation to push forward the sustainable living movement.

The United Nations Decade of Education for Sustainable Development (2005-2014) focused on right education and training through which the principles, values, and practices leading to sustainability can be passed on to the target populations integrating the needs of the present world without compromising the future of humankind. The United Nations General Assembly entrusted the UNESCO with the responsibility of promoting awareness and understanding of sustainable development. The mission was to impart the knowledge and understanding of survival, growth, protection, and development of our planet. Recognizing the positive impact of media in influencing and shaping public opinion, the UNESCO invited all electronic and print media organizations, media professionals, training institutions, students to participate in the Decade of Education for Sustainable Development. (Table 1).

Table 1. The scope of the United Nations Decade of Education for Sustainable Development

Society	Human rights, peace and human security, gender equality, cultural diversity and intercultural understanding, health HIV and AIDS, governance
Environment	Natural resources (water, energy, agriculture, biodiversity) climate change, rural development, sustainable urbanization, disaster prevention, and mitigation
Economy	Poverty reduction Corporate responsibility and accountability Challenges of the market economy

Source: (Bird, Lutz, & Warwick, 2008 )

The UNESCO reported specific issues on sustainability in the media following a strategy: (i) Discussing sustainability, (ii) Asking the right questions, (iii) Delivering warnings, and (iv) Selling the story (Bird, Lutz, & Warwick, 2008). The path to a different future was demonstrated by showing positive examples of reconstructive works of a range of entrepreneurs varying from individuals to agencies to institutions

YouTube as the Source of EE Knowledge and Applications

One of the approaches to describe the ‘green’ is to identify the ‘green production sector’ or ‘environmental industry.’ Eastwood et al. (2001) find out 11 categories of green production: (i) Pollution control and treatment, (ii) Waste disposal and collection, (iii) Recycling and re-use, (iv) Energy conservation, (v) Consultancy and monitoring, (vi) Heritage and eco-tourism, (vii) Research and education, (viii) Forestry and organic farming, (ix) Eco-capital equipment, (x) Alternative ‘green’ product production, and (xi) ‘In-firm’ green production.

Based on this classification, a keyword search was carried out on YouTube. With a mixture of random and convenient sampling methods, a total of 55 videos, five from each of the 11 categories, were analyzed to observe the key drivers and characteristics of EE.

Table 2. Product environmental life cycle management about EE

Process	Operation
Procurement	Avoidance of ecologically damaging materials Free from resources from environmentally sensitive areas
Content	Does not result in harmful byproducts Does not contain toxic materials Organic ingredients/contents Recycled content
Production	Uses less energy than comparable non-green product/service Improves energy efficiency Uses less water Controls emission of greenhouse gases Uses green technologies
Design	Green design principles
Packaging	Minimal packaging Reusable or recyclable packaging
Supply chain	Minimal transportation Eco-friendly transport Minimum wastage during transportation
End-of-life solution	Biodegradable Can be fully recycled on disposal Can be returned for reusing/recycling
Comparative	Less polluting than comparable non-green product/service
Competitive	Organic and eco-friendly products at affordable price cost almost the same or less than the inorganic products

The UNESCO reported specific issues on sustainability in the media following a strategy: (i) Discussing sustainability, (ii) Asking the right questions, (iii) Delivering warnings, and (iv) Selling the story (Bird, Lutz, & Warwick, 2008). The path to a different future was demonstrated by showing positive examples of reconstructive works of a range of entrepreneurs varying from individuals to agencies to institutions

### YouTube as the Source of EE Knowledge and Applications

One of the approaches to describe the 'green' is to identify the 'green production sector' or 'environmental industry.' Eastwood et al. (2001) find out 11 categories of green production: (i) Pollution control and treatment, (ii) Waste disposal and collection, (iii) Recycling and re-use, (iv) Energy conservation, (v) Consultancy and monitoring, (vi) Heritage and eco-tourism, (vii) Research and education, (viii) Forestry and organic farming, (ix) Eco-capital equipment, (x) Alternative 'green' product production, and (xi) 'In-firm' green production.

Based on this classification, a keyword search was carried out on YouTube. With a mixture of random and convenient sampling methods, a total of 55 videos, five from each of the 11 categories, were analyzed to observe the key drivers and characteristics of EE.

The framework developed by Eastwood *et al.* (2001) was a product-based classification of green business rather than the process-based. As it was focused solely on the core green industries and green products, it excluded businesses that make or deliver everyday products and services. The videos were observed with special attention to the greening processes, and the different stages were analyzed and recorded in the order of the life cycle of the products (Table 2).

Three EE videos from YouTube are explained to explicate the processes involved in the non-product sector.

#### 1. *Air Pollution Control for Incineration at the Metro Plant<sup>1</sup>*

The Metropolitan Council Environmental Services (MCES) owns and operates eight wastewater treatment plants that serve the seven-county metro areas, such as Blue Lake, Eagles Point, East Bethel, Empire, Hastings, Metro, Seneca, and St. Croix Valley, in the province of Minnesota, USA. Among its environment-related work, operating and maintaining regional sewers and wastewater treatment are well-known. The MCES's Metropolitan Wastewater Treatment Plant (Metro Plant) has in place a wastewater solids processing system, even as it employs the newest environmentally sustainable methods for processing solids removed from wastewater at the Metro Plant. The process eliminates bacteria, generates energy, and reduces solids disposal. MCES has a good track record of environmental compliance. The Metro Plant has one of the most advanced and highest performing incineration systems in the USA. Committed to protecting public health and the environment, the Metro Plant facility has been officially recognized as an environment-friendly system.

As of date, MCES owns and operates eight wastewater treatment plants in the Twin Cities seven-county area. Industries and the vast majority of homes in the Twin Cities metropolitan area are connected to one of the Council's wastewater treatment plants through an extensive network of sewer pipes. Wastewater is anything but clean, because it is used in the bath, flushes of a toilet or wastes from the washing machine is treated at the Metro Plant. Such otherwise unusable water is carried through a pipe off the property into a municipal sanitary sewer pipe which is connected to a regional sewer interceptor, and thus finally it goes to the wastewater treatment at the Metro Plant. Metro Plant Solids

Management Facility Plan, located southeast of downtown Saint Paul, treats 180 million gallons of wastewater every day for 66 communities and processes 850 wet tons of solids every day for 73 communities. The Metro Plant needs additional solids processing capacity to preserve existing wastewater treatment plant infrastructure and serve regional population growth. MCEs proposes to construct a fourth incinerator, found to be the most cost-effective and sustainable alternative to meet the region's wastewater needs.

The Metro Plant has been processing wastewater solids with incineration since 1938 and with fluid bed incinerators since 2005. Incineration of wastewater solids is an efficient thermal combustion process that reduces the number of solids by 95% and eliminates pathogens. Metro Plant incinerator emissions are regulated by the Minnesota Pollution Control Agency and the Environmental Protection Agency. The three existing incinerators have consistently been 50% below the emission standards for new incinerators. The fourth incinerator will continue the trend of exceptional air quality.

The Metropolitan Wastewater Treatment Plant, located in St. Paul on the Mississippi River, is owned and operated by the Metropolitan Council. Wastewater solids (sewage sludge) are presently incinerated in six multiple hearth incinerators (MHIs). The proposed project will replace the MHIs with three fluid bed incinerators and an alkaline stabilization system that will produce bio-solids for agricultural utilization. The Metro Plant began treating wastewater and incinerating dewatered sewage solids (sludge) in 1938. By 1984, the Metro Plant had become the largest advanced WWTP on the Mississippi River. In 1997, the annual average daily flow treated at the plant was 225 million gallons per day (mgd). By the year 2005, this flow is projected to be 234 mgd, and by the end of the planning year (2025) the flow to the plant is projected to be 261 mgd. The corresponding solids quantities to be processed are 265 dry tons per day of sludge in 2005 and 299 dry tons per day of sludge in 2025. Treatment capability is maintained during times of flood by a levee and floodwall that protect the Metro Plant treatment processes area.

## II. *How a Waste-to-Energy Plant Works*<sup>2</sup>

Edmonton EcoPark, famously known as the London Waste EcoPark, is a waste-to-energy - or energy-from-waste plant and handles the waste mainly from seven North London boroughs. Located on the River Lee Navigation at Edmonton, it is a waste-to-energy plant that burns waste to provide electricity for the National Grid and through it to the seven boroughs: Barnet, Camden, Enfield, Islington, Hackney, Haringey, and Waltham Forest. The facility was commissioned and began operations in 1971, by the Greater London Council. Its incinerator is currently Britain's largest and it handles non-recycled waste from the boroughs mentioned. The waste is converted into electricity, bottom ash, air pollution control residue, and flue gases. Nearly 55 megawatts (MW) of electricity are generated, sufficient power to meet the needs of 24,000 households. The current facility has served to generate electricity from north London's waste for over 45 years.

The London Waste EcoPark converts municipal and industrial solid waste into electricity through an ecologically sound, cost-effective means of energy recovery. Waste is collected from households through pipes and stacked at the plant store for processing. An appropriate amount of solid waste is put in the incinerator which burns the waste or plant fuel. The combustion of organic substances contained in waste materials at high temperatures produces heat. Further, the heat is used in a boiler to convert water into steam. The steam then moves the blades of a turbine to generate electricity. Last but not least, 4. The generated electricity is sent, along with power lines, to the final users such as homes, offices, businesses, and industry.

### III. *Re-Greening the Desert with John D. Liu*<sup>3</sup>

If climate change has threatened the very existence of planet Earth and human beings, the solution lies in the worldwide restoration of ecosystems, especially the hydrological cycles. Many individuals have made it the mission of their life and one such is the 1953-born Chinese American filmmaker and ecologist, John Dennis Liu. Inspired by the Chinese efforts to green the deserts, the journalist-turned-ecologist understood that destruction of biomass, organic matter, and biodiversity by humans should not only be stopped but also concentrated efforts should be undertaken to change the climate change. D. Liu laments the death of hydrological ecosystems and has focused on restoring them worldwide. He observes that due to the wrong agricultural exploitation of water resources in many parts of China, sustainable development has been risked to the extent of desertification. Mindless grazing by sheep of the shrubs and plants has resulted in soil erosion and consequent shallowness of the Yellow River. While untimely floods are frequent, dust storms are regular happenings in dry seasons. Such climate hazards are mostly man-made, and there are many such examples to establish that local problems become national problems soon. The answer to climate change, Liu claims, lies in restoring the ecosystems.

Liu's experience and expertise in possibilities in re-greening areas turning into desert have made him travel to several countries. Founder of the Commonland Foundation that works on large scale landscape restoration projects with a business approach, John Liu also founded Ecosystem Restoration Camps in 2017, a worldwide movement that aims to restore damaged ecosystems on a large scale. He has written extensively on the potential for the restoration of large-scale damaged ecosystems to stop desertification. His work to green deserts and to restore biodiversity has been found not only to be realistic but also profitable — hence called green gold. Liu's efforts at stopping the desertification of Jordan have earned him great recognition as much as his work in Ethiopia, China, and the Netherlands. A visiting professor and Research Fellow at several universities worldwide, Liu highlights the need to emulate Nature in saving Nature for preventing climate change. In China, Uganda, Ethiopia, and several other countries, Liu's re-greening programmes include vegetation cover on hillsides for stopping soil erosion and dust formation, preservation of rainwater near the hills and on the fields for rejuvenation of shrubs and plants, and restoration of the landscape.

#### YourStory: The Web Portal for Entrepreneurship

YourStory is an online portal floating business analysis, reports and stories of entrepreneurs and change makers across the globe. Under the caption "SMB Stories," it brings out the unheard stories of small and medium businesses. For our purpose, the website was scanned with keywords such as 'ecology' and 'environment.' A total of 22 stories were retrieved and subjected to close study reading. The analysis of the eco-entrepreneurial stories suggests that entrepreneurs fill in the gaps as it is easier to create a new economic space than trying to change economically and politically powerful existing markets. Three stories are explicated here to reveal the rigor of the stories in YourStory.

##### I. *Making Brooms out of Waste Plastic*<sup>4</sup>

The government of Manipur declared a complete ban on the use of plastic bags in June 2018 and made such use punishable under Section 15 Environment Protection Act, 1966. Plastic carry bags, plastic water bottles as well as soda bottle pose a serious threat to the



environment. The only solution has been to recycle and reuse them. Saddened by the common sight of plastic bottles in ponds, rivers and other water bodies, near schools, offices and places of community gathering the elderly Usham Krishna Singh took the help of his son Ashok to collect the waste plastic and started recycling them for reuse.

They collected the raw materials from Loktak Lake, which can be called the lifeline of Manipur. Most of the city's waste goes into this lake, thereby posing serious threats to the environment and ecology of Manipur. To save the lake and environment, the father-son duo worked on the idea of making brooms out of plastic bottles. With an initial investment of rupees 20, 000, the start-up began. When a broom made of recycled plastic in the market sells at the cost of Rs 150 - Rs 200, Krishna and his son can produce 20-30 brooms a day. However, the buck does not stop there. Earning an income was the last idea of Krishna, who found a creative and useful way to recycle plastic and help his villagers earn something. An enthusiastic Krishna has formed a self-help group (SHG), namely 'Usham Bihari and Maipak Plastic Recycle Industry.' These days, nearly ten villagers are earning a good source of income by helping Krishna and his son. Krishna and his son have become celebrities in their own right, as crusaders to save the environment using the three 'R's of waste management.

## II. *IIT-IIM Alumnus Grows Food Forests*<sup>5</sup>

The concept of 'Food Forests' — the production of crops and fruits and vegetable without using chemicals — has been popularized in Madhya Pradesh by Sandeep Saxena, a chemical engineering graduate from IIT Kanpur and an IIM Lucknow alumnus. Sandip helps farmers in growing organic food forests and thereby in reducing the use of insecticides and pesticides which are increasingly becoming a threat to the eco-system. Sandip gave up his job to help farmers of his state curb soil erosion and degradation of soil quality due to use of chemicals over the years. In his own words, "I was deeply stirred. I had an inner urge to find a solution to this since agriculture has always been the mainstay of the Indian economy." Aranyaani, an NGO founded by Sandip, has raised 'food forests' on 2,500 acres of fallow lands.

The central idea is to grow a proper forest to maintain ecological balance with sustainable development. In creating food forests, the soil is not tilled during plantation. On the other hand, seed balls — seed wrapped up in soil materials — are sown into the land. Sandip claims this helps in maintaining the nitrogen cycle of the soil and its fertility. Banyan and Peepal trees are planted in the center of the selected land, which enhances diversity and increases natural production.

Further, fruit-bearing trees are planted around the central zone in between which vegetable shrubs and bushes are grown with others. In the food forests, lemon, cranberry, and other small plants are planted in the open spaces as they do not grow tall enough to disturb the growth of other plants. The outer circumference is a favorite area for the production of lentils and legumes. It is found that the artificial forest follows the law of nature's seasons and assists the human consumption of plants while maintaining sustainable growth.

## A Mission to Make Biodegradable, Waterless Hygiene Products Affordable for All

Although the stories presented are highly informative, some of them tend to be highly persuasive. One such story is about Manisha Agarwal, Founder, and Director of Kolan, a start-up company that strives to make biodegradable, waterless hygiene products affordable for all. The story unleashes a sequence of rhetorical appeals (Table 3).

Table 3. The narrative structure and the rhetorical modes in the Kolan story

The narrative structure	The rhetorical modes
Manisha narrates her travels across India, and her direct experience of high levels of pollution in the nation where personal and public hygiene seemed to be a matter of luxury.	Ethos <i>The authority to speak about something because of vivid experience</i>
She gives vent to her apprehensions as a mother about the health of her children in the background of pollution.	Pathos <i>A mother's concern for children</i>
She cites the age-old Indian aphorism which views cleanliness as next to godliness.	Ethos <i>Seeking authority from traditions</i>
She attributes the general unhygienic conditions in India to the combined effect of costly and unaffordable hygiene products and the public apathy for cleanliness.	Logos <i>States the reasons for why India lacks in cleanliness</i>
She comes from a family of entrepreneurs, and thanks to the support of her husband Rahul Agarwal, decided to launch Kolan in 2017.	Ethos <i>Family background supports her authority to launch an enterprise.</i>
Her Unique Selling Propositions: "value for money" as well as "eco-friendly products."	Pathos <i>Concern for people and nature</i>
In the short time since inception, Kolan has sold thousands of products worth around Rs 32 lakh. On average, it sells one every minute.	Ethos <i>Sates her command over the market</i>
Some estimates have valued the size of the personal hygiene market in India at Rs 1000 crore. With her new range of enzymatic organic household cleaners, she targets a turnover of Rs 10 crore by 2020.	Logos <i>Sates the logic of expansion</i>
She uses the digital media for marketing promotion as mobile phones, and data packs have become cheap enough for the general public to have it.	Logos <i>Sates the logic of choosing the specific media</i>

Ethos: refers to the authority to say something

Logos: refers to the logic of saying something

Pathos: refers to creating an emotional connection

Source: <https://yourstory.com/smbstory/kolan-is-on-a-mission-to-make-biodegradable-waterless-hygiene-products-affordable-for-all>

It is understood that because of their scale of production, matured markets create massive ecological problems. They are slow to change because of their conventions and modes of production and distributions. On the other hand, it has been convenient for these starters to integrate eco-sensitive principles into their business. YourStory floats some such cases and provides a solid platform where people and professionals from diverse background can come together, interact, and learn.

## Conclusion

Development of responsible societies is the central thrust of all reconstructive discourses these days. Since business and economic activities continue to contribute negatively to the sustainability of our ecosystem, ecological sustainability is one of the most serious concerns before the responsible community. Responsible development, when defined contextually, becomes the custodian of all sustainability drives. In this framework, EE is the most potent force in the overall transition towards a more sustainable business paradigm.

The three cases and related examples discussed above vindicate the multilateral contributions of the New Media in promoting EE action and knowledge. The UN actively supports international collaborations on sustainable development those work as policy frameworks for EE. It worked seamlessly using social media strategies, powerful digital platform and earned media outreach to usher an era of sustainability. The YouTube contains thousands of video documentaries on EE and, by default, serves as a very good self-learning library for the up-coming entrepreneur. YourStory floats hundreds of narratives on eco-friendly start-ups and serves as a site of demonstration and interaction for ecopreneurs.

Significant discursive change is the hallmark of strong EE because it bridges the gap between economic and environmental interests. Furthermore, major changes in discursive practices are considered essential, where ecological principles are seen as the required policy goal of both institutions and businesses (Gouldson & Murphy, 1997; Mol & Sonnenfeld, 2000). The new media, because of its wider reach and affordability, can stimulate a *change* like the political debates: shifting the discursive focus away from *jobs-or-environment* to *jobs-and-environment*. Because of the whole range of new awakenings, governments will no longer fear that intervening to protect the environment will be bad for economic growth and will steadily move away from populist welfare to productive welfare of the people.

Triggered by a set of urgencies, the drive towards EE has emerged from an intellectual, emotional, and ethical approach to life and business. The ecological entrepreneur is holistic in approach: one who guards economic, social, and environmental sustainability simultaneously. EE is a reward-based approach to addressing environmental problems, rather than a punitive approach. Ecological entrepreneurs are instrumental in reshaping the way we approach the environment and its relation to business. Therefore, the systematic promotion of EE may prove more successful in changing entrepreneurial values and practices in the long run. The new media plays a vital role in redirecting eco-entrepreneurial behavior and creating eco-consumers and, therefore, it can be utilized as a potent instrument for socio-economic transformation.

## Notes

<sup>1</sup><https://www.youtube.com/watch?v=t6Qeg-fq5dg>

<sup>2</sup><https://www.youtube.com/watch?v=ImtOuAed5nM>

<sup>3</sup><https://www.youtube.com/watch?v=IDgDWbQtIKI>

<sup>4</sup><https://yourstory.com/2019/01/recycling-plastic-bottles-brooms>

<sup>5</sup><https://yourstory.com/socialstory/2019/03/iit-iim-alumnus-farmers-food-forests-ormbq0zvtd>

## References

- Anderson, A. R. (1998). Cultivating the Garden of Eden: Environmental entrepreneuring. *Journal of Organizational Change Management*, 11(2), 135-144.
- Arber, W. & Speich, C. (1992). Why the earth's genetic biodiversity cannot be a matter of indifference. In D. Koehlin, & K. Muller (Eds.), *Green Business Opportunities: The Profit Potential* (pp. 1-21). London: Pittman.
- Bird, E., Lutz, R., & Warwick, C. (2008). *Media as partners in education for sustainable development: a training and resource kit*. UNESCO series on journalism education. Paris: UNESCO.

- Boulding, K. E. (1966). The economics of the coming spaceship earth. In H. Jarrett (Ed.), *Environmental quality in a growing economy* (pp.3-14). Baltimore, MD: The John Hopkins University Press.
- Cohen, B., & Winn, M, I. (2007). Market imperfections, opportunity, and sustainable entrepreneurship. *Journal of Business Venturing*, 22(1), 29-49.
- Council, M. (2018, June 13). Retrieved April 06, 2019, from <https://www.youtube.com/watch?v=t6Qeg-fq5dg>
- Dean, T. J., & McMullen, J. S. (2007). Toward a theory of sustainable entrepreneurship: Reducing environmental degradation through entrepreneurial action. *Journal of Business Venturing*, 22 (1), 50-76.
- Documentary, V. (2017, May 07). Retrieved April 06, 2019, from <https://www.youtube.com/watch?v=IDgDWbQtIKI>
- Eastwood, D., Eaton, M., Guyer C., and Stark T. (2001). An Examination of Employment Change in Northern Ireland's Environmental Industry 1993–2003. *European Environment*, 11, 197-210.
- EngineeringTimelines. (2010, November 24). Retrieved April 06, 2019, from <https://www.youtube.com/watch?v=ImtOuAed5nM>
- Gibbs, D. (2009). Sustainability entrepreneurs, ecopreneurs, and the development of a sustainable economy. *Greener Management International*. 55, 63-78.
- Goodland, R. (1991). *Tropical deforestation: Solutions, ethics, and religion*. Environment Department Working Paper No. 43, Washington, DC: The World Bank.
- Gouldson A., & Murphy J. (1997). Ecological Modernization: Restructuring Industrial Economics. In *Greening the Millennium? The New Politics of the Environment* Ed M Jacobs. Oxford: Blackwell Publishers: 74-86
- Hajer, M. (1995). *The politics of environmental discourse: Ecological modernization and the policy process*. UK: Oxford University Press
- India, T. C. (2019, January 19). This father-son duo is sweeping in change by recycling plastic bottles into brooms. Retrieved from <https://yourstory.com/2019/01/recycling-plastic-bottles-brooms>
- India, T. C. (2019, March 28). IIT IIM alumnus is helping farmers grow 'Food Forests' without chemicals. Retrieved from <https://yourstory.com/socialstory/2019/03/iit-iim-alumnus-farmers-food-forests-ormbq0zvtd>
- International Panel on Climate Change (2007). *Climate change 2007: Synthesis report*, Geneva: Switzerland, IPCC. Retrieved from [http://www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4\\_syr.pdf](http://www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4_syr.pdf)
- Klimova, V., & Zltek, V. (2011). *Eco-innovations as a result of companies innovations activities*. Retrieved from <http://ebookbrowse.com/gdoc.php?id=205689947&url=c489eb5f1984c7bbd5b7d6d8b930f353>.
- Lennox, M., & York, J. G. (2011). Environmental entrepreneurship. In A. J. Hoffman & T. Bansal (Eds.), *Oxford handbook of business and the environment*, Oxford, UK: Oxford University Press.
- Mansur, R. (2019, January 03). Kolan is on a mission to make biodegradable, waterless hygiene products affordable for all. Retrieved from <https://yourstory.com/smbstory/kolan-is-on-a-mission-to-make-biodegradable-waterless-hygiene-products-affordable-for-all>
- Mol, A. & Spaargaren, G. (1993). Environment modernity and the risk society: The Apocalyptic horizon of environment reform. *International Sociology*, 8(4), 431-59.
- Mol, A. P. J. (1995). *The refinement of production: Ecological modernization theory and the chemical industry*. Utrecht, Netherlands: Van Arkel.

- Mol, A. P. J., & Sonnenfeld, D. A. (2000). Ecological modernization around the world: An introduction. *Environmental Politics*, 9 (1), 1-14.
- Mulder, K.F. Innovation for sustainable development: From environmental design to transition management. *Sustain. Sci.* 2007, 2, 253–263.
- Schmidheiny, S. (1992). *Changing course: A global perspective on development and the environment*. Cambridge, MA: MIT Press.
- Schumpeter, J. (1942). *Capitalism, socialism, and democracy*. New York: Harper
- Tillery, F., & Young, F. (2009). Sustainability entrepreneurs: Can they be the true wealth generators of the future. *Greener Management International*, 55, 79-92.
- UNDP (2008). *Creating Value for All: Strategies for Doing Business with the Poor*. United Nations Development Programme.
- UNEP (2005). *United Nations Environment Programme 2004 Annual Report*. Nairobi, Kenya: United Nations Environment Program. Retrieved from [http://books.google.com/books?id=hB2cQqrp5vAC&printsec=frontcover&source=gbs\\_ge\\_summary\\_r&cad=0#v=onepage&q&f=false](http://books.google.com/books?id=hB2cQqrp5vAC&printsec=frontcover&source=gbs_ge_summary_r&cad=0#v=onepage&q&f=false)
- United Nations Economic and Social Commission for Asia and the Pacific, 2012a. A/RES/66/288.
- United Nations Economic and Social Commission for Asia and the Pacific, 2012b. A/69/L.85.
- United Nations, (n.d.). Retrieved from <https://www.unenvironment.org/regions/north-america/new-york-office/communication-outreach>
- United Nations, Department of Economic and Social Affairs, Population Division (2014). *World Urbanization Prospects: The 2014 Revision, Highlights (ST/ESA/SER.A/352)*.
- Verduijn, K., Dey, P., Tedmanson, D., & Essers, C. (2014). Emancipation and/or oppression? Conceptualizing dimensions of criticality in entrepreneurship studies. *International Journal of Entrepreneurial Behaviour & Research*, 20 (2), 98–107.
- Volery, T (2002). EE: rationale, current issues, and future challenges. In U. Figlisteraller, H. J. Pietner, T. Volery, W. Weber. (Eds). *Radical change in the world: Will SMEs soar or crash?* St. Gallen: KMU Verlag, pp. 541-553.
- World Business Council for Sustainable Development (2002). *Tomorrow's markets: Global trends and their implications for business*, WBCSD. Retrieved from [http://oldwww.wbcsd.org/web/publications/tm\\_cover.pdf](http://oldwww.wbcsd.org/web/publications/tm_cover.pdf)
- World Resources Institute (2000). *Pilot Analysis of Global Ecosystems Grassland Ecosystems*. Washington, D.C.: World Resources Institute.
- World Resources Institute (2004). *World Resources 2002-2004*. Washington, D.C.: World Resources Institute.

**Rajendra Kumar Dash** (Ph.D., Ravenshaw University, India, 2013) is an Associate Professor of English in GMR Institute of Technology Srikakulam, Andhra Pradesh, India. His research interests include modern word literature and socio-linguistics communication.

**Amarendra Kumar Dash** (Ph.D., Indian Institute of Technology Kharagpur, India, 2012) is an Assistant Professor in the Department of English in Rajiv Gandhi University of Knowledge Technologies Nuzvid, Andhra Pradesh, India. His research interests include discursive and pragmatic analysis of media texts, market culture, and environmental issues.