



## Ecocentrism and Circular Economy: A Waste-to-Wealth Approach

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### Abstract

The sustenance of living beings, including human beings is strongly reliant on the protection of environment. The protection of environment and eco-centrism go hand in hand as the latter strongly vouches for the care for both biotic and abiotic components of environment. The 'respect for nature' is strongly grounded on how human beings could justify the interconnectedness and interdependence of every component of environment and it is, no doubt, synonymous with the conscientious use of resources and taking concrete measures to reduce wastes, which pose to be a serious threat to environment. One of such measures happens to be recycling wastes to get these accommodated into economic systems in order to create value from them. The value creating aspect of waste products not only has economic benefits, but also has deep-rooted social implications. Such 'waste-to-wealth' outlook requires badly the circular economic framework, which is closed-loop, facilitating recycling of wastes in order to use these again in economic frameworks. The present paper seeks to re-look and evaluate the efficacy of the eco-consciousness in implementing circular economic framework to ascertain creating values from wastes. It also attempts to delve into how ecocentrism stimulates sustainable development in the context of 'waste-to-wealth' approach.

**Keywords:** Circular economic framework, eco-centrism, eco-consciousness, efficacy, respect for nature, sustainable development, waste-to-wealth

### Introduction

The growing need of protection of environment is being strongly felt by one and all. We, the stakeholders of environment, feel the necessity to safeguarding environment from the increasing deterioration because of diverse anthropogenic reasons. Ecological damage, caused by irrational behaviour of human beings, is the cause of grave concern in association with the sustenance. Developmental processes alone cannot serve the needs of human beings. Unbridled development attempts ignore the importance of environmental sustainability. Rapacious developmental activities pose continuous threats to environment at large and these almost ring the death knell of the civilization specifically.

Historically, many civilizations faced downfall owing to the stark ignorance of the environmental needs. In present times, civilizations would have met the same fate, had environmental protection not been given due importance. The environmental sustainability has been strongly felt by policy makers across the globe in the twentieth century, which is given much importance after the World Commission on Environment and Development, popularly known as Brundtland Commission, comes up with the concept of sustainable development, emphasizing intergenerational equity, in 1987. The environmental sustainability, in present era, forms the foundation of every policy measure.

While we take cognizance of sustainable development, we cannot ignore the concept of eco-centrism. The concept of eco-centrism, intertwined with the sustainable development, contends both biotic and abiotic components and explains the importance of taking care of these. The eco-centrism lavishes upon how the entire eco-system can be protected. It lays

ample stress on taking concrete steps to maintain ecological balance. In other words, eco-centrism emphasizes eco-systemic co-operation (Pal, 2019). The eco-centrism elucidates the life-centred world view of environment (Taylor, 1982). The eco-centrism considers ecosystem a complex web of interconnected and interdependent elements. The eco-centrism focuses on the obliteration of the distinction between biotic and abiotic components of the environment. It considers the sustenance of all components and protection of the entire ecosystem.

Such eco-centric view of environment, to a large extent, delves into environmental protection as a holistic approach. It also throws weight behind environmental concerns alongside day-to-day developmental activities. It stresses action-oriented outlook to safeguard environment from the ills unleashed by developmental activities. Such an approach finds ample support in embracing an economic framework where resources can be utilized judiciously. The judicious utilization of resources could be concomitant with reducing wastes out of diverse economic activities and increasing economic benefits. One such measure in this direction happens to be recycling wastes to be reused in economic frameworks. Recycling and reusing of wastes not only increase the life cycle of products, but also create values out of wastes. Such a 'waste-to-wealth' exercise stimulates the implementation of the circular economic framework, where recycling and reusing are possible.

The waste-to-wealth exercise, which refers to transforming wastes into productive assets through recycle and reuse processes, in the circular economic framework is the consequence of the growing eco-consciousness. The conscientious use of resources through mitigating wastes and

enhancing economic benefits by means of transforming wastes into different productive assets through value creation actually paves the way for circular economic framework. The eco-centric holistic view of environment leads to eco-consciousness, which invariably gives birth to recycling and reusing techniques.

The paper seeks to evaluate the efficacy of the holistic eco-centrism in stimulating the waste-to-wealth approach. In other words, the paper is devoted to discussing, analysing and elucidating how eco-centrism inspires one and all to embrace the circular economic framework to expedite the application of waste-to-wealth, resulting in sustainable development. It also tries to delve into how ecological sustainability brings forth economic sustainability in a waste-to-wealth context.

### Objectives

The concerned paper seeks to answer the following questions, which form the objectives of the paper

- a) How could eco-centrism bring forth waste-to-wealth approach?
- b) How could environmental sustainability ensure economic sustainability in the context of the circular economic framework with special reference to waste-to-wealth outlook?
- c) How far waste-to-wealth framework could ensure sustainable development through the practical application of the eco-centrism?

### Literature Review

There are several literatures on the concept of eco-centrism and how it turns out to be a pivot to sustainable development. The sense of eco-centrism is at the core of undertaking several steps to protect and preserve environment.

Holmes Rolster (2012) <sup>[41]</sup> dwells on how environmental ethics is instrumental in developing a sense of sustainability. He stresses on the importance of a sense of preserving environment in order to sustaining life on earth. Every aspect of environmental protection can be maintained out and out if the behaviour of people turns out to be ethical and co-operative.

Peter Singer (1986) calls a spade a spade about environmental ethics and its far-reaching consequences on lives and livelihood of people. He makes sure that ethical behaviour results in judicious use of natural resources and it leads to mitigation of wastes. Wastes in any form can be reduced to a large extent, leading to sustenance of life, if ethical sense of environment can be developed.

Daniel W. Bromley and Jouni Paavola (2002) push for formulating a policy for environmental protection in order to a economic and humane utilization of resources. Furthermore, they are unequivocal in devising a policy which is helpful in sustenance of life on the planet. Here ethical dimension has been stressed to buttress the inclination of people to embrace the ethos of sustainable development to protect environment.

Andrew Light and Holmes Rolston (2007) <sup>[42]</sup> attempt to analyse the importance of the growing sense of eco-centrism among people to embrace the concept of sustainability. Sustainable development and responsible usage of resources, coupled with protecting the interests of people are in sync with the strong sense of eco-centrism, a natural love and care for every component of the environment we live. Such a sense, as depicted by them is instrumental in bringing not only the change in attitude, but also making them responsible towards environment.

Tom Regan (1932) puts forth the argument in favour of the ethical viewpoint of the environment. In fact, what makes environmental ethics very pertinent to the present context is the need for sustenance and survival. The inclusiveness of the environmental ethics takes cognizance of every dimension of environment in general and ecosystem with sustainability in particular. However, eco-centrism drives people to make a clear sense of how people could encourage judicious utilization of resources.

### Circular Economy and Value Creation

Circular economy and the resultant value creation out of it is at the core of the former's increasing appreciation. In fact, circular economy, which is a closed-loop framework, facilitates recycling of wastes, hitherto left out and paves the way for reuse of wastes in terms of new products. The circular economic framework leads to decoupling of economic growth from resource consumption (Esposito *et al.* 2018). In fact, the circular economic framework involves sharing, leasing, reusing, repairing, refurbishing and recycling of existing materials and products as long as possible, which eventually extends the life cycle of products (Jensen 1998) <sup>[37]</sup>. The circular economy itself underpins the process of reduction of wastes as much as possible (Anton *et al.* 2019). In other words, the circular economic framework not only creates an improved as well as extended life cycle, coupled with the use of the product itself, but also minimizes overall energy consumption (Lancy & Rutquist, 2016) <sup>[38]</sup>. From the perspective of the judicious utilization of resources together with the minimization of wastes, circular economic framework is being increasingly embraced and adopted to a large extent.

However, the extension of the lifecycle of various products creates values out of what has been dumped so far. The recycling, refurbishing and reusing of products help create value out of wastes. Such a creation of value invariably makes room for employment as well as innovation. The creation of value out of wastes also indulges in the creation of market.

Such a perspective of value creation through circular economic framework makes it unique. The application of the processes of recycling and reusing wastes into new products enhances resource efficiency with the creation of commercial value (Salvador *et al.* 2019) <sup>[43]</sup>. The circular economic framework places immense importance on how value creation can be made out of wastes by means of employment generation and market creation. Such a value-creating notion of the circular economic framework stands it out in respect of responsible production and consumption. In this way, the circular economic construct fuels the sense of eco-centrism and subsequently, promotes sustainable development and eventually, results in a balance between environmental protection and development.

The creation of value out of wastes is an innovative approach. Wastes, earlier dumped unused, are now treated as raw materials for production. Such a transformation through circular economic framework is quiet epoch-making and contextual. The growing sense of environmentalism is at the core of coming up with various environmental protection strategies. One of the significant approaches happens to be the transformation of wastes into wealth through the creation of values. Such a creation of value turns the wastes into a means to wealth. It encourages multidimensional use of wastes, once disregarded.

A case study made by the researcher is presented here to demonstrate how wastes are transformed into wealth or a value-creating entity.

### • The Case

The researcher has visited Mejia Thermal Power Station (MTPS) under Gangajalghati Block in the district of Bankura, West Bengal. The adjoining areas as well as the catchment areas of this thermal power station were largely impacted by fly ashes. Fly ashes are generated out of the functioning of the thermal power plant. The buildings as well as the crops were terribly damaged in the adjacent places. Daily emission stood at 7,000 tonnes. The effect of the pollution was so intense that local people agitated for the closure of 6 units, responsible for massive pollution. Many villagers fled homes fearing various skin and lungs diseases. The lives and livelihoods are on the tenterhook because of the fly ash pollution. One of the hardest hit villages was Latiaboni village. Fly ash settling on water-bodies and water sources polluted these. The sustenance became utterly difficult.

Things have started changing when circular economic framework is put in place to recycle fly ashes for reuse. Recycling fly ashes to produce bricks, which are environmentally sustainable, is a typical example of value creation through wastes. Fly ash bricks are in great demand owing to its eco-friendliness. The red clay bricks encourage pollution. It also damages the quality of soil as soil is extracted on a large scale to manufacture red clay bricks. Besides, the red clay bricks are more expensive than fly ash bricks. The increasing acceptance of fly ash bricks is a striking testimony to eco-consciousness. The choice of fly ash bricks over red clay bricks is due to the following reasons:

- Fly ash bricks are more porous than red clay bricks.
- Fly ash bricks are lighter in weight and less costly than clay bricks.
- Fly ash bricks are made of waste materials which come from the combustion of coal in thermal power plants while clay bricks are made of clay collected from fertile land or the top soil.
- Fly ash bricks are eco-friendly as the chief constituent is ash.

Based on the eco-friendly nature of the fly ash bricks people are more inclined to purchasing fly ash bricks. The fly ashes generated out of the thermal power plants are economically used and thus, the pollution owing to fly ashes gets remarkably reduced. When the circular economic construct is in place, fly ashes are collected instead of being left behind. Local people are engaged to collect fly ashes at Rs. 30-50 per tonne and these are trucked in. It is a potent source of employment.

Another point of employment happens to be the transportation of these fly ashes to brick kilns where these bricks are manufactured. People from the adjoining villages as well as the catchment areas open up transportation businesses for transporting fly ashes to production points. Many transportation companies run by local people have come up in the place. It is invariably a potent source of employment.

Based on these fly ashes fly ash bricks are constructed in kilns. The places where kilns come up provide people of these places and the adjoining places with sufficient employment opportunities. In exchange for a handsome wage of Rs. 250-300, they work with the brick kilns. Besides, these bricks are sold in local markets at Rs. 3.50 – 4.00, which are in great demand. It is also more economical in comparison with the

red clay bricks. The process of the sale involves many local people. It also provides employment.

In short, the increasing acceptance of fly ash bricks not only reduces fly ashes but also creates ample employment opportunities for local people and beyond.

### Remarks

We find certain specific takeaways relating to utilizing fly ashes instead of dumping untreated:

- a) Fly ashes causing pollution to a large extent are managed economically to reduce the volume. It reduces the scale of wastes.
- b) Fly ashes are used as the chief constituents of bricks, which make the bricks eco-friendly.
- c) Wastes are reduced and economic benefits are maximized.
- d) New employment opportunities are created following new products out of wastes.
- e) Development is made sustainable following the reuse and recycling of wastes instead of dumped unused.

It can be concluded that development can be made sustainable by reducing the volume of wastes through recycling and reusing these. Wastes, dumped unused earlier, are used to produce new products to generate employments through recycle in the backdrop of circular economic framework. In this way, wastes are reduced, new employment opportunities are created and above all, development is made sustainable.

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