

Livelihood Expansion through Value Creation in Circular Economy : A Case Study in Bishnupur Weavery

Arnab Mahapatra

*Research Scholar, Department of Economics
The University of Burdwan, West Bengal*

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ABSTRACT

Livelihood aspect is one of the most significant ones in economies. The expansion of livelihood is another important aspect of sustenance. Several measures have been taken up to expedite the expansion yet adoption of circular economic framework stands out. The circular economic framework based on 'recycle-reuse-redesign-remanufacture-reduce' type of structure not only reduces the volume of wastes out of economic activities, but also puts in place alternative job opportunities, which broaden the horizon of livelihood. The adoption of the circular economic framework lays bare its potential to replace the traditional modes of production and consumption with a new one, which leads to efficient resource utilization as well as environmental sustainability. Moreover, the circular economic framework results in the application of innovation in production and consumption to turn these gainful as resource extraction, its uses as well as environmental aspects are seriously taken into consideration by means of proper management. A sort of eco-consciousness is behind the application of circular economic framework.

Such a 'waste-to-wealth' framework of the circular economic model not only leads to successful expansion of livelihood options, but also promotes alternative use of innovation to efficiently use of resources. As an eventual outcome, environment is protected from degradation.

The paper makes an attempt to re-look and evaluate in terms of a case study how application of circular economic framework diversifies livelihood or employment options in the context of the use of innovation in production and consumption. Also how risks can be mitigated through such diversification is also attempted to be evaluated.

Key-words: Circular economy, Diversification, Eco-consciousness, Efficient, Environment, Innovation, Livelihood, Resource, Risks.

I. INTRODUCTION:

The livelihood issue is one of the serious concerns of any economy as it is directly associated with the sustenance of people (Gigli, et al. 2003). The sustenance issue is also intricately associated with the efficient utilization of resources as well as the environmental preservation (Bocken, et al. 2013). The entire dimension of livelihood is premised on such economic efficiency of resource utilization and environment (Figgie, et al. 2018; Korhonen, et al. 2018). What is required for proper expansion of livelihood is efficient utilization of resources together with environmental sustainability (Korsunova, et al. 2022). It indeed necessitates the application of such a framework, which strengthens the foundation of efficient utilization of resources alongside environmental sustainability. It requires the foundation of the circular economic framework, which puts in place alternative use of wastes, produced owing to different economic activities, leading to the economization of wastes. Such an attempt to create values out of wastes is a hallmark of reduction of wastes to use productively, resulting in environmental sustainability.

Moreover, the products owing to economization of wastes lead to opening up of alternative job opportunities as the processes of economization, involving application of new production and consumption patterns, resource-efficient technologies, and redesigning and re-manufacturing need engagement of people with skills and acumen (Diaz & Marsillac, 2017). The alternative job opportunities in the circular economic framework are one of the significant outcomes of the successful application of the

circular economic construct. The alternative job opportunities add values to the entire system as it involves further production in the circular economic framework, which invariably broadens the base of livelihood (Hill, 2017).

The circular economy, with its acceptance is gaining credence with each passing day, is a restorative and regenerative in nature (Johnson, et al. 2016). It increases value creation in each phase of the system as well reduces value destruction in the overall system (Bastein, et al., 2013). It replaces the 'end-of-life' concept with restoration, indulging in the processes of recycling and reusing, economizing wastes (World Economic Forum, 2012). It eliminates wastes through the superior design of materials, products, systems and business models (Ellen MacArthur Foundation, 2015). It necessarily decouples growth from environment (World Economic Forum, 2015). In other words, it makes sure that no waste is left behind as wastes are recycled and reused subsequently into new products. Thus, the circular economic framework, while economizing wastes, is making strides in developing new products with the application of new techniques. Such environmentally sustainable way of production and products invariably are demanded by eco-conscious people more, leading to further production, giving way to employment (World Economic Forum, 2015).

With broadening the foundation of livelihood, the alternative job opportunities in the context of the circular economic frameworks, livelihoods get diversified on a large-scale when it comes to circular economic construct. With the diversification of livelihood, comes risk mitigation perspective. The joining of the existing labour force into the new ones invariably mitigates the risks associated with finance and other sorts of uncertainty. As a result, livelihood options expanded under the circular economic framework. The restorative and regenerative nature of the circular economic construct furthers the progress of such expansion of livelihood with the continuing alternative production in the circular framework. The icing on the cake of such a policy is environmental protection.

The paper seeks to critically evaluate how the application of the circular economic framework expands livelihood with the necessary diversifications to mitigate risks in a case study. The case study typically demonstrates the efficacy of circular economic model to re-orient livelihood and brings forth environmental sustainability.

II. LITERATURE REVIEWS:

There are many significant literatures on the aspects of livelihood expansion and the circular economic framework. In fact, the relationship between these two in the present context has been largely debated and elucidated. This relationship between these two is quite significant in the present scenario where alternative approaches to employment and environment sustainability are gaining credence.

Korsuniova, et al. (2022) has significantly brought forth the aspects of the relationships between employment expansion and the circular economic framework in the context of environmental sustainability. Their study have significantly highlighted the necessity to putting in place the circular economic framework to generate new employment opportunities as well as broaden the base of the existing employment framework to develop an ecosystem of alternative employment. Low income countries, as they have pointed out, must take into account the importance of circular economic framework in this respect of broadening livelihood aspects.

Kuzuma, et al. (2022) has identified the circular economic framework to be a driving force of alternative employment opportunities in the context of environmental sustainability. They have explained the importance of circular economic framework to generate opportunities for employment in resource-scarce economies. They have extolled the circular economic framework to encourage an alternative production and consumption system for promoting efficiency in the usage of resources and as a result, livelihood options are broadened up.

Nzeadibea, et al. (2015) have critically analysed how the application of the circular economic construct leads to social sustainability in livelihood. The social sustainability in the livelihood aspect is attached to the expansion of livelihood aspects intricately. The sustainable livelihood aspects need to be taken into consideration owing to the resource efficiency and environmental sustainability. The livelihood horizon has been expanded owing to alternative production and consumption processes owing to the application of the circular economic framework.

Sallu, et al. (2010) have spoken of the necessity of introducing circular economic framework to put in place alternative employment generation. They have succinctly pointed out the importance of ensuring resilience against all odds like rising unemployment, quick resource exhaustion etc. They have pinned hopes on the application of the circular economic framework to

extend the opportunities of alternative employment and diversify employment opportunities to mitigate risks.

Zimmerer (2014) has clearly pointed out that the application of the circular economic framework and the alternative employment promotion in the context of it. It lays emphasis on the conservation of resources through the circular economic framework and the subsequent employment generation. The alternative employment generation prevents out-migration of people. Such alternative employment opportunities also have some environmental advantages, as they have argued properly. Thus, livelihood issues are intricately associated with efficient use of resources in the circular economic framework and invariably, the 'recycle-reuse' framework paves the way for alternative production and consumption, leading to alternative employment.

Rijanta (2008) has advocated for the introduction of the circular economic framework in order to combat the imminent crises of migration and the subsequent unemployment in developing and underdeveloped countries. The alternative economic framework in terms of circular economy paves the way for alternative employment as resources are properly utilised in the said framework. The crises of unemployment are strongly handled in this framework when many job opportunities are created. The reuse of wastes in this framework in a bid to extend product life cycle gives way to new production, which paves the way for new employment, leading to a link between circular economy and livelihood issues. The circular economic framework leads to alternative production and consumption patterns, resulting in a change in the conventional wasteful processes, which is the prelude to development of livelihood.

III. CASE STUDY: BISHNUPUR WEAVING INDUSTRY

- 1.1. **Location:** The historical city of Bishnupur is located in the district of Bankura, West Bengal. It is 132 kilometres away from Kolkata, the capital of West Bengal. The place is famous for its historical importance as it is dotted with historical monuments, crafts and Baluchari Saree.
- 1.2. **Motivation:** The researcher has selected this historically significant place of the district of Bankura for the study relating to the circular economic framework and its close association with the livelihood issues because of the following reasons:
 - a. Most of the people of this place are associated with weaving of Baluchari saree. Bishnupur is

famous for the Baluchari saree and about half of the population is directly associated with this saree (Banerjee & Chakrabarti, 2022). In such a situation, wastes out of weaving are treated in the circular economic framework, are a matter of discussion and analysis.

- b. Wastes out of weaving activities constitute the major part, others being quite negligible in the context because of less historical and economic significance, of recycling in the circular economic framework.
- c. Production of different products from wastes in the circular economic framework is instrumental in generation of new markets for these products, which are economically and ecologically significant.
- d. Such a new dimension of the circular economic framework shows ample potential to alternative job creation and diversification of existing jobs, mitigating risks and sustaining culture and traditions.

1.3. Circular economic framework : Waste-to-wealth:

The wastes out of weaving activities were left unprocessed earlier. It created mounds of wastes, which not only created a visual pollution, but also polluted the environment. It was not at all sustainable. Things have started changing for good when these wastes are used for producing new commodities in the circular economic framework. Thus, wastes are transformed into wealth or the 'value-creating substances'.

Before the application of the 'recycle-reuse-remanufacture-redesign' type of circular economic framework, wastes generated out of weaving activities are left unprocessed, causing great damage to environment. The application of the circular economic framework has brought the much-needed change. It not only changes the behaviour of people regarding the use of wastes, but also generates employment in different stages, right from collection of wastes to involvement in the process of recycling to being marketed eventually to create values.

Wastes of weaving activities are collected first to be recycled. The collection process is exercised by people hired or weavers themselves to certain specific extent. For the process of collection and accumulation of wastes to be recycled, people are hired at Rs. 15-20 per kilogram collection. Invariably, it generates employment for those, who are engaged in the process.

After the collection, these are to be transported to these areas where wastes are recycled. People are also hired for transporting

these to the area where these are recycled. They are paid Rs. 30-35 a kilogram for transporting these to the sites where these are recycled. It is also a source of employment. After being recycled for reusing wastes into products of different types, these are to be transported to markets for selling these. For the process of recycling wastes, a handsome number of people are engaged. Each is paid Rs. 100-110 per day for conducting the process of recycling wastes to transform these into products. These products include various decorative items, necessary daily usable items, such as towel, handkerchief etc.

For transporting these products to markets, again a number of people are engaged. Each is paid Rs. 110-120 for transporting these products to market for sale. When these products are ready for sale, these are sold in the market by people. Again, a handsome number of people are engaged in the process. People, who are likely to purchase these products out of wastes, are strongly influenced by environmental factors. In other words, people are becoming increasingly conscious about environmental sustainability and purchasing such products on a large scale. The prices of the products vary in between Rs. 10 and Rs. 300. Thus, wastes are valued in economic framework in the context of the circular economic construct. Wastes are transformed into 'wealth' or 'value-creating substances' in the circular economic framework, given the changing tastes and preferences of consumers towards environment.

1.4. Discussion: The adoption of the circular economic framework has beaconed a change in the conventional practices of production and consumption, as elucidated in terms of eco-effectiveness of the concerned framework (Kjaer & Pigosso, 2019). The changes in the outlook of both the producers and consumers are a striking outcome of the adoption of the circular economic framework to indulge in recycling wastes and subsequently reusing into different products (materials), consumed increasing by people. The eco-effectiveness, which is a driving force to introduce the concerned framework, underpins the minimization of negative externalities exerted on environment by different wasteful activities as well as maximization of ecological, economical and social benefits (Baldi & Polder, 2017). The maximization of ecological and economic benefits refers to the minimization of the volume of wastes produced and in turn, maximization of economic benefits out of different activities. In

other words, the twin aspects that are closely associated with the adoption of the circular economic framework include resource efficacy and environmental degradation prevention (Kazancoglu, et al., 2021). The adoption of circular economic framework is a step towards such economic and environmental sustainability (Ilic & Nikolic, 2016). The 'recycle-reuse-remanufacture-reduce' type of framework for both the production and consumption makes the necessary changes for the economies.

In case of weaving industry of Bishnupur, Bankura, West Bengal, the adoption of the circular economic framework has made a significant change. The recycling of wastes out of weaving activities leads to opportunities for re-using the wastes into different products. Moreover, because of the alternative use of wastes to produce various products paves the way for application of innovation as well as generation of employment opportunities. The techniques used for recycling wastes are new or the products produced through the application of process innovation (new techniques applied to producing goods) are unique in nature, realized as product innovation (Robertson, 1967). Because of such product and process innovations, new products are produced through recycling of wastes produced out of weaving activities. Moreover, new products, because of their eco-friendliness and reasonable prices (recycled products, durable in nature and wastes are reduced giving way to use productively), are demanded by people, who are increasingly turning to eco-friendly. Thus, there is a necessity to organizing production of more such goods (recycled goods), which require the employment of more labour force. Also, such goods have ample marketing opportunities because of the transition of the preference of people from conventional goods to the eco-friendly goods (recycled goods). While recycling and producing such eco-friendly goods, employment is generated in different stages as the entire process, right from recycling to producing final products to transporting to markets, as labourers are engaged in the stages. In every stage, wastes are used in productive and judicious manner. Thus, the volume of wastes gets substantially reduced and negative externalities are reduced as well to a large extent (Ellen MacArthur Foundation, 2012). With every point of producing products from wastes in the circular economic framework, employment is generated because of the engagement of labourers from collection to recycling wastes to manufacturing products to

marketing these. As consumers emphasise these recycled eco-friendly products more than conventional wasteful ones, the volume of sale is on the rise. Thus, values are created out of wastes.

Thus, in the course of creating values out of wastes in the circular economic framework, innovations are properly used and consequently, employment is generated on a large scale. Thus, wastes, in the context of the circular economic framework, are turned into 'wealth' or 'value-creating substances'. As more firms are entering such production, the level of employment tends to rise and so as the volume of such production (through recycling). Thus, wastes out of weaving activities, are no longer considered to be pollutants, but to be potential inputs of new products through recycling. Hence, 'waste-to-wealth' approach to sustainability is maintained in the circular economic framework.

IV. LIVELIHOOD ISSUES AND CIRCULAR ECONOMY : AN INTRICATE RELATION

The restorative nature of the circular economy is at the core of generating new employment opportunities. The circular economic framework is at the centre of introducing new techniques of production and consumption. In fact, the new approaches to production and consumption are also resource-efficient in nature in the context of the circular economic framework because new processes of production as well as new category of products produced by means of 'recycle-redesign-remanufacture' type of production activities in the context of the circular economic framework opens up avenues for new landscape of consumption and the subsequent marketing (Anggraeni, et al., 2019). The new products create values when these are being marketed. The marketing of new products out of recycling and subsequently being reused is not only fundamental to waste reduction, but also instrumental in value creation. Such a process of value creation is actually boosting up the possibilities of new job creation.

The issues of livelihood are one of the most contentious ones, which have struck the global economy (Foxen, et al., 2016). Policy-makers are in search of new production and consumption process for putting in place resource-efficient and environmentally sustainable system. The circular economic framework is one of such options, where the discarded or wastes are reused into new products. The 'waste-to-wealth' dimension of the circular economic framework is the most important in the context, where the closed-loop system is throwing weights behind the

extension of product life cycle, which is genuinely environmentally sustainable. The driver of the circular economic model is the outlook of generating new opportunities, not scarcity (Lacy & Rutqvist, 2016). It represents a powerful integrative framework to solve the societal problems associated with environment and resource depletion (Didenko et al., 2021). In this restorative and regenerative model of the circular economic framework, wastes are recycled and reused. When it comes to recycling wastes for remanufacturing different products out of wastes are produced. Such a production has also several stages, where wastes are extensively used as raw materials. In each stage, wastes are reused through the process of recycling, which add value to economies. Eventually, final products are produced, which are to be marketed. It again paves the way for value creation. This value creation is fundamental to new job opportunities.

The entire process of value creation involves employment of labour force in varying degrees. The processes of production in the circular economic framework require new techniques of production, which are to be handled by skilled labour force. The engagement of labourers in marketing of products is also a significant source of employment. It expands the base of livelihood as many people diversify their employment opportunities in the context of the circular economic framework.

When the circular economic framework is being increasingly used, new technique of production must be applied in the form of innovation. As the tastes and preferences of people have undergone changes owing to adopting environmentally sustainable products, people prefer eco-friendly goods to conventional goods. To be in sync with the demand of people, more firms engage to produce such goods in the circular economic framework. As more firms are engaged in production of goods in the circular economic framework, the employment of labour increases. In other words, as more and more firms are engaged in producing such un-conventional (eco-friendly products) products, labourers are employed more in the production of such goods. Either fresh labourers (those who are engaged in the production of eco-friendly goods only) or existing labourers (who are engaged in both the production of eco-friendly goods and other goods) are employed, which not only creates new job opportunities, but also diversifies existing jobs.

Furthermore, as more eco-friendly products are produced (with the help of circular economic framework), the wage rate of the

labourers is increased. With the increased wage rate, more labourers are attracted to producing such products. Thus, labour employment is increased with the increased wage rate following the production of eco-friendly recycled products.

As the products in the context of the circular economic framework increase, the employment of labour also increases.

When more innovations are applied to produce new goods (eco-friendly goods), more labourers are to be employed for a smooth conduct of the process. As demand among people for such goods is one the rise, the producers are on a spree to apply more innovations to increase the production. Such an increase in production of these goods necessarily requires more employment of labour force. Thus, with the increase in the application of innovation, the employment of labourers also increases.

As a result of applying the circular economic framework in the production and consumption processes, there are following outcomes:

- a. With an increase in the production of eco-friendly goods in the context of the circular economic framework, the employment of labour increases.
- b. As people prefer such eco-friendly goods, the employment of labour also increases.
- c. As wage rate is increase owing to the increased production in the circular economic framework, the employment of labour is not only increased, but also gets diversified.
- d. As innovations experience an increase following increased production in the circular economic framework, the employment of labour is also increased.

REFERENCES:

- [1]. Korsunova, A., Kourula, A., Halma, M., Levanen, J., & Toivanen, M.L. (2022). Necessity-driven circular economy in low income contexts: How informal sector practices retain value for circularity. *Global Environment Change*, 76(2), 156-162.
- [2]. Yap, N.T. (2006). Towards a Circular Economy. *Greener Management International*, 50(2), 11-24.
- [3]. Kuzuma, E.L., Sehnem, S., Jabber, A.B.L.S., & Campos, L.M.S. (2022). Circular economy indicators and levels of innovation. *International Journal of Productivity and Performance*, 71(3), 24-34.
- [4]. Nzeadibe, T.C. & Mbahb, P.O. (2015). Interrogating the social sustainability of a livelihood. *Review of African Political Economy*, 42(144), 279-298.
- [5]. Sallu, S.M., Twyman, C., & Stringer, L.C. (2010). Resilient or Vulnerable Livelihoods? Assessing Livelihood Dynamics and Trajectories in Rural Botswana. *Ecology and Society*, 15(4), 10-24.
- [6]. Zimmerer, K.S. (2014). Conserving agrobiodiversity amid global change, migration and non-traditional livelihood networks: the dynamic uses of cultural landscape knowledge. *Ecology and Society*, 19(2), 20-35.
- [7]. Rai, N.D., & Uhl, C.F. (2004). Forest Product Use, Conservation and Livelihoods: The Case of Uppage Fruit Harvest in the Western Ghats, India. *Conservation and Society*, 2(2), 289-313.
- [8]. Rijanta, R. (2008). Livelihood strategies, responses to the crisis, and the role of non-agricultural activities in five villages in the Special Region of Yogyakarta, Amsterdam University Press.
- [9]. Visbal, L.J.S., Carreon, J.R., Corona, B., & Worrel, E. (2022). The Social Impacts of Circular Strategies in the Apparel Value Chain: A Comparative Study between Three Countries. *Circular Economy and Sustainability*, 48(30), 145-160.
- [10]. Kothari, A. (2013). Development and Ecological Sustainability in India: Possibilities for the post-2015 Framework. *Economic and Political Weekly*, 48(30), 144-154.
- [11]. Brown, H. (2018). Towards A Circular Energy Economy: Cross-sector Successes in Brazil and India. *Consilience*, 20(2), 23-42.
- [12]. Cassidy, L., & Barnes, G.D. (2012). Understanding Household Connectivity and Resilience in Marginal Rural Communities through Social Network Analysis in the Village of Habu, Botswana. *Ecology and Society*, 17(4), 25-31.
- [13]. Roberts, M.S. (2019). Sustainability and traditional livelihood systems in Northern Lao PDR with an Emphasis on Edible Insects. *International Review of Modern Sociology*, 45(2), 93-123.
- [14]. Agena, T. (2007). The relationship between economic activities and environmental degradation in Africa. *Journal of the Historical Society of Nigeria*, 17(2), 28-40.

- [15]. Benkenstein, A., & Chevallier, R. (2020). Partnership for a green transition and energy access: Strategic priorities for Africa and Europe. South African Institute of International Affairs, <https://www.jstor.org/stable/resrep28399>.
- [16]. Kurian, M., Dietz, T., & Murali, K.S. (2005). Rural Compliance in Participating Watershed Management: Is it A Sufficient Guarantee of Sustainable Rural Livelihood?. *Conservation & Society*, 3(1), 43-47.
- [17]. Rangarajan, M., & Shahabuddin, G. (2006). Displacement and relocation from protected areas: Towards a biological and historical synthesis. *Conservation & Society*, 4(3), 359-378.
- [18]. Conroy, C., & Litvinoff, M. (1989). The Greening of Aid: Sustainable livelihoods in practice. *Community Development Journal*, 24(4), 323-326.
- [19]. Robertson, T.S. (1967). The Process of Innovation and the Diffusion of Innovation. *Journal of Marketing*, 31(1), 345-360.
- [20]. Foundation, E.M. (2015). Towards a Circular Economy: Business Rationale for an Accelerated Transition. Ellen MacArthur Foundation. <https://ellenmacarthurfoundation.org/towards-a-circular-economy-business-rationale-for-an-accelerated-transition>.
- [21]. Banerjee, A., & Chakrabarti, G. (2022). The sociotechnical System of Silk Weaving in Bishnupur Region in West Bengal. *Journal of South Asian Development*, 17(1), 108-133.