



ISSN: 0975-833X

RESEARCH ARTICLE

GREEN ECONOMY PRACTICE: A QUERY OF “WHETHER” OR “HOW”
(A CASE OF MANUFACTURING INDUSTRIES IN TIGRAI REGIONAL STATE, ETHIOPIA)

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ARTICLE INFO

Article History:

Received 02nd October, 2014
Received in revised form
20th November, 2014
Accepted 18th December, 2014
Published online 23rd January, 2015

Key words:

Environment,
Green Economy,
Large Manufacturing Industry.

ABSTRACT

With due consideration to green economy, the idea of connecting the environment to economy and society turn into ought to do issue in today's turbulent world. But despite the intent, the practice is not lucid. Thus, the prime essence of this study was to assess the practice green economy in relation to environmental dimension in manufacturing industry in Tigray region. The study was a cross sectional and used primary and secondary source of data in which a structured questionnaire was developed to get data from 61 respondents composed of managers/CEO of large manufacturing industry. The finding shows that, better corporate image and marketing strategy as exceedingly important in motivating firms to participate in green economy related activities. Moreover, those large manufacturing industry faces the bigger influence so as to espouse green economy activities from environmental organizations specifically to environmental protection matters. Besides, company's effort in undertaking environmental studies annually so as to contribute on environmental protection aspects is low. Consequently, despite noteworthy involvements in practicing green economy activities, its facets are not yet fully maintained in those manufacturing industries

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1. INTRODUCTION

The emergence of the green economy represents the next stage in the evolution of the environmental sector and is growing in step with increasing public awareness of environmental impact. It can be said that the green economy has experienced rapid growth, in part, as the result of changing demand, where greater emphasis is placed on the sustainability of products and services. Greater public awareness, together with government policy, regulatory requirements and financial incentives influence organizations to embrace green technology and adopt greener practices. Companies operating in almost every sector of the economy now consider the 'greenness' of their operations in decisions that differentiate their products and services, realizing that in many cases their decisions present long-term cost saving opportunities. There is a danger in characterizing the green economy as a unique and isolated phenomenon as it would suggest that the business opportunities it presents are entirely new and unrelated to the environmental sector or broader developing country economy. It is also important to recognize the employment outcomes resulting from the continued growth of the green economy will be built upon the existing skill-sets of the environmental workforce and integrated into new sectors of the economy as

demand for green products and services continues to grow. Many nations and companies woke up to the concept of green economy only after being astonished by public response to issues they had not previously thought were part of their responsibilities. In Ethiopian context green economy is almost immature, it was intended to be inclusive in its approach, not to assume that “green economy” was a concept familiar to Ethiopian companies. But recently the government has designed its green economy policy namely “Ethiopia Climate-Resilient Green Economy (CRGE)” which is expected to reshuffle the trend of green economy in the country specifically and in the world in general.

The general objective of the study is to investigate green economy practice with due consideration to environmental dimension among manufacturing industry, moreover it specifically finds out how green economy looked as a strategy from an organizational perspective and it investigates the motive to engage in green economy facet. It also assesses the decision making and implementation practice of green economy activities and examines stakeholders influence so as to involve in green economy related aspects

1.2. RESEARCH RATIONALE

The concept of the green economy has become a matter of urgency to a large extent because it provides a response to the multiple crises that the world has been facing in recent years – the climate, food and economic crises with an alternative of

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growth while protecting the earth’s ecosystems and, in turn, bestowing to poverty alleviation. In this sense, the transition to a green economy will entail moving away from the system that allowed, and at times generated, these crises to a system that proactively addresses and prevents them (Khor, 2010 a). The ambiguity in relation to green economy among developing countries can have different cynical dimensions, the first focal skepticism among developing countries is that, all countries is treated in the same manner in relation to green economy; this would lead to failures either for environment or development aspect of green economy. This sound more since levels and stages of development among countries are not equivalent in fact. Developing countries are also afraid by implication the “green economy”, can be inappropriately made use of by countries for trade protectionist purposes, and that in particular developed countries may use this as a principle to demonstrate unilateral trade measures against the products of developing countries (Khor, 2010 b).

As of the green economy, developing countries are doubtful that some developed countries have been providing their companies with major subsidies for the research and development (R&D) of environmentally sound technologies. This lacks developing countries since they lack the financial resources to match the developed countries' subsidies. Another latent problem to developing countries is like what (Khor, 2010 b) “environmental standards and trade relation; developing countries that are unable to meet the standards face the prospect of losing their exports. The full and effective participation of developing countries in setting international standards is also needed as many important standards are currently “globalised” from those of developed countries without the concomitant support to developing countries to assist them to comply with such standards” (Khor, 2010 a).

More specifically, the ever-increasing impact global economy made the green economy policies of corporations is more open to public critique. The media, non-governmental organizations (NGOs), and activist groups have constantly questioned activities companies in developing countries (Hongmei, 2006). Having different sectors in an investment, manufacturing industry is highly exposed for green economy consideration because unlike others it needs huge investment amount and it’s near for environmental pollution. The application of green economy is expected to create sustainable and long term benefit for an organization but there exists invisible placement of responsible organ for green economy in organization hierarchy, the same is true for the individual responsible for. Moreover it unclear whether those manufacturing industries integrate green economy into their daily operations even there is indistinct and uncertain application of it.

Today, the perceptions of green economy tend to be no homogenous concept in the global environment. The rules, ethical principles were indispensable to keep a balance. There is no border to apply green economy practice among different sectors for which its basic consideration is the planet and its inhabitant. As the result of higher expansion in manufacturing investment, industries are expected to do more however the low involvement of manufacturing industries in regard to green economy practice makes it companies to concentrate

only on short term profit maximization without consideration of environmental and sustainable development aspects.

2.3. MATERIALS AND METHODS

3.1 Research Design

Mainly descriptive research is employed to design the research; moreover, multi stage sampling has been employed, consequently, out of the existing manufacturing industry in Tigray regional state which is classified as large, medium and small only large manufacturing industries have been purposely considered for the study.

3.1.1 Data Type and Source

In this study both primary and secondary type of data has been considered. Primary data source helps in getting direct information from primary stakeholder while secondary data source significantly help in analyzing existing documents about green economy like report from both organization and government. The companies featured in this research were assigned without any prior knowledge of their green economy activities involvement.

Source of Primary Data

Mangers /CEO of each sample manufacturing industry

Mangers (organization leader) are responsible to determine the organization’s corporate objectives providing expertise, advice and direction. Hence, managers of each sample industry were questioned in regard to points ranging from the very attitude of their company along with their perceived expectation up on the expected result of green economy.

Local resident around manufacturing industry

Focused group discussion has been conducted with residents around those manufacturing industry. It is expected that residents around these manufacturing industry are highly exposed to environmental disruption which can be made by these companies.

Governmental officials

Macro level data was gathered by asking higher level governmental officials so as to see the programs which are made by the government so as to address green economy.

Participant observation

Observation has been made on the existing green economy related activities that mainly dealt with environmental issues.

Source of Secondary Data

Organizational report

The researcher expects to have these organization reports to see whether the companies have already incorporated the

program of maintain green economy in their strategic plan. Moreover, the organizational report helps to understand the level of investment made by the companies in regard to green economy practice. Moreover, governmental allowed data from public organizations was used.

Source of Tertiary Data

Related literature

Literatures that articulate around the concept of green especially in regard to its application and related problem will be explored so as to see the gap among existing literature and common consensus of the topic among different empirical findings.

3.1.2 Sampling Technique

Out of the existing manufacturing industries in Tigray regional state which is classified as large, medium and small only large manufacturing industries have been purposely considered for the study. Green economy, mainly in this study refers to large manufacturing industry whether public or private under legal forms of incorporation which includes sole proprietorship, partnership, Limited Liability Company and corporation. It is expected that large manufacturing industries are actively pursuing and documenting green economy environmental activities. Existing literature recommend that there is a positive correlation between firm size and green economy related activities. There are some additional reasons that larger manufacturing industry are expected to involve in green economy practice, such as; They are considered as they have better access to financial and other resources (Brammer and Millington 2006 cited in Xiaouo Han 2010). In addition larger investments on manufacturing industry have high impact to environmental damage. The classification by Tigray regional state agency of Investment and bureau of trade and industry shows categorization of manufacturing industry as small, medium and large. Accordingly there are 73 large manufacturing industries in the region since 1983 Ethiopian calendar (1991 Gregorian calendar) in which 5 of them are on pre implementation stage and 3 are inactive, hence, census of 65 large manufacturing industries has been made. However 4 questionnaires were unreturned.

3.1.3 Data Collection

Questionnaire

In order to meet the researcher objectives, questionnaire was distributed to the managers of each industry so as to get organizational response in terms of green economy practice.

Interview

In addition to questionnaire, interview was conducted with responsible individuals from government officials of Ethiopian federal democrat public government.

Focused group discussion

Apart from census of those large manufacturing industries, Sample of the focused group discussion was drawn from the

representative of community which includes community elders, women's association, and youth association; accordingly, one focused group discussion compose 5-7 individuals was conduct in each zone. They mainly asked in relation to the environmental dimension of green economy. It is expected that residents around manufacturing industry are highly exposed to environmental distraction made by these companies.

Observation

The application of projects that had been implemented in the name of social responsibility activities has considered as green economy practice. Hence, these activities has observed and checked whether they are performed in the interest of beneficiary (community) or company.

3.1.4 Methods of Data Processing and Analysis

Qualitative Data Analysis

In order to analyze qualitative data constant comparison/grounded theory in which the researcher chunks the data into smaller meaningful parts. Then, the researcher labels each chunk with a descriptive title or a "code". Moreover, to explore the objectives of the study, the researcher has used descriptive statistics frequency, percentage and means to describe the responses obtained. For such reason a questionnaire that has a five points of rating scale had been prepared and categorized in to two mean ranges because of the nature of the questions in the questionnaire. Accordingly, the following mean range has applied in order to obtain average response.

- $\Rightarrow 1-5 =$ which is strong disagreement/ very little extent up to strong agreement/very great extent
- $\Rightarrow 1-5 =$ which is very high importance/ involvement up to no importance/involvement

Within these five points of scales, the interval for breaking the range distance in measuring the variables is going to be calculated by the formula adopted from Vichea, (2005).

$$\frac{(n - 1)}{n} = \frac{(5 - 1)}{5} = \frac{4}{5} = 0.8$$

Meaning mean value of the variables falling within:

- 4.20-5.00 has been taken as strong agreement/very great extent and no importance/involvement as per the nature of the question.
- 3.40-4.19 has been taken as agreement/great extent and little importance/involvement as per the nature of the question.
- 2.60-3.39 has been taken as indifferent/some extent in the agreement and average importance/involvement as per the nature of the question.
- 1.80-2.59 has been taken as disagreement/little extent and high importance/involvement as per the nature of the question.

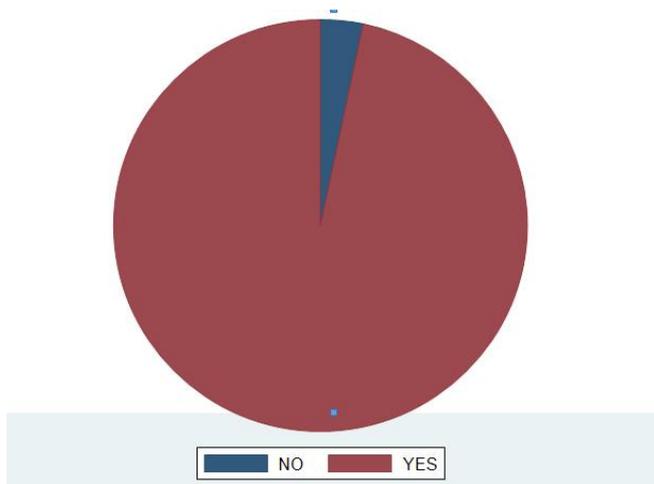
- 1.00-1.79 has been taken as strong disagreement/very little extent and very high importance/involvement as per the nature of the question.

4. RESULTS AND DISCUSSION

4.1 Green Economy Practice and Understanding

It is believed that investigate green economy without considering the context within which businesses operate depends on the context and specific situation. Contextual characteristics, such as social, cultural, political and economic characteristics of the operating environmental of the businesses are critical considerations when addressing green economy related issues. The meaning of green economy is not the same for everyone, green economy areas of application might change overtime; accordingly its application among manufacturing industry varies as per their involvement, taking this in to consideration the consecutive figure deals with familiarity of green economy term.

Figure 4.1 Familiarity with the Term of Green economy in Large Manufacturing Industry



Source: Own Survey, 2014

In view of the above Figure 4.1, while asking those respondents about their familiarity with green economy, 90% replied as they know the term of green economy while those remaining 10% of respondent indicates the contrary. Moreover, in relation to their understanding some respondents also responded that, green economy is one way of dealing with reducing the environmental impact, means of working together with society, in addition, it is also an ethical manner of doing business as well it builds the company reputation.

The relevance of green economy has been loudly advocated by senior and most figurative personality in this world. To this regard, late prime minster of Ethiopia, Prime Minister Meles Zenawi which is known for his multi dimensional elucidation of the environmental impact on African continent ascertains that any developmental actor which considers its entity as a growth oriented and developmental should know how to provide an insight into an alternative reading and attitude

towards the green economy. This signifies that knowing the aspects of green economy ought to be momentous.

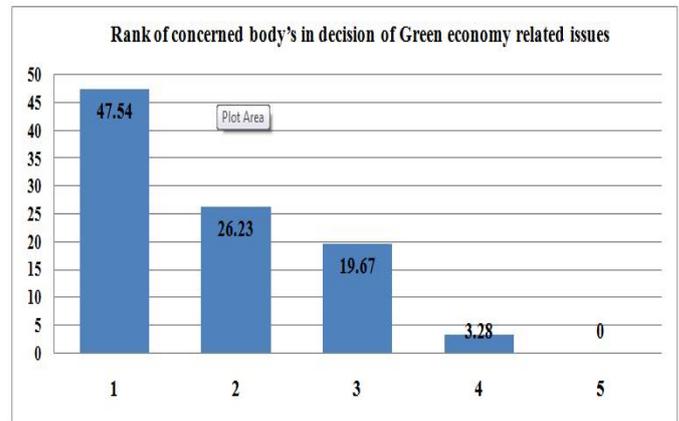
In regard to green economy policy statement and the existence of the program, majority of the respondent which accounts 34.43% replied that they have policy statement. Furthermore, all respondent agreed that they already have green economy activities and program. Despite the fact that there are different drivers for green economy involvement, its linkage with organization strategy is essential, hence the respondents devised with question that ask whether their green economy activities are closely related to their business strategy, accordingly 50.82% and 19.67% respondent replied agree and strongly agree respectively.

Accordingly, average response agreement (3.45 mean) on policy statement shows remarkable attitude by those large manufacturing industry in designing policy statement for their green economy activities in which this concern is significant in their embark for attainment of their green economy goal. Moreover, regardless of its success these firms green economy activities are closely related to their business strategy (3.50 mean), which entail as they have optimist stand in obtaining the benefit of green economy.

4.1.1 Decision in Green Economy Practice

Sound green economy program requires decision and follow up so as to attain the expected benefit; hence in light of decision and coordination of the implementation, the respondent had been devised to rank list of concerned body.

Figure 4.2 Rank Distribution of Concerned Body’s In Decision



Source: Own Survey, 2014

1=Chief executive officer 2=Marketing head 3=Cross functional team
4=Board of director 5=Human resource department

Consequently, this result implies that mostly decisions of green economy activites are made by chief executive officers, however, it doesn’t mean that all decisions are made by chief executive officers, since the activities and programs vary among manufacturing industy the same is true the deciders vary among chief excecutive officer, marketing head, cross functional teams and board of directors. Consequently, the existence of decider in this regard creates good platform for green economy initiative.

Table 4.1. Distribution of Frequency and Percentage of Respondents on Understanding Green economy

Observation	Strongly disagree (1)		Disagree (2)		Indifferent (3)		Agree (4)		Strongly Agree (5)		Mean	
	Frequency	%	Frequency	%	Frequency	%	Frequency	%	Frequency	%		
The primary responsibility of business is to make a profit	61	4	6.56	4	6.56	-	-	8	13.11	45	73.77	4.40
Our firm has Green economy code of ethics	61	8	13.11	5	8.19	5	8.19	24	39.34	19	31.15	3.67
Our firm has Green economy policy statement	61	10	16.39	7	11.48	6	9.84	21	34.43	17	27.87	3.45
Our firm has Green economy activities	61	-	-	-	-	-	-	30	49.18	31	50.82	3.62
Our Green economy activities are closely related to our business strategy	61	10	16.39	4	6.56	4	6.56	31	50.82	12	19.67	3.50

Source: Own Survey, 2014

4.1.2 Coordinating The Implementation of Green Economy Activities

Unlike the decision the responsibility in coordinating the implementation of green economy activities is highly made by cross-functional teams which are found in the manufacturing industry. As per the result obtained from the respondents, they rank cross functional teams, human resource department and chief executive officer as first, second and third correspondingly in relation to coordinating the implementation of green economy activities. The result implies that, there is no common concerned department in all those large manufacturing firms to decide on green economy related issues and to facilitate the implementation of green economy activities. Moreover, some respondents indicate that there are situations in which owners of the factory made their own decision to participate on green economy initiatives, as per the respondents answer, mostly owners, make hasty decision and command on green economy activities especially when there is nationwide government sponsored activities and programs. Green economy requires integration between decider and implementer of the activities. However, there is not sound integration between decision and implementation in those large manufacturing industry especially when owners make unilateral decisions for which this disintegration lead to incapability of handling green economy activities.

4.1.3 Green Economy And Motive To Engage

In regard to motive for green economy involvement, majority of the total respondents replied that their main motive to engage in green economy activities is to gain support from the local community for their business operation. In other word, respondents highly agreed (1.95 mean) in the 5 point rate Likert scale that local community have high importance in motivating firms to engage in green economy specially environmental aspect. The motivation for engaging in social responsibility related practices is driven by some kind of self interest regardless of whether the activity is strategically driven for commercial purposes alone, or whether it is also partly driven by an individual's personal altruistic concern for social responsibility activities (Hemingway, 2002).

It is not possible for all firms to gain green economy benefit in all areas of motivation to engage, the benefit one firm receives is not always similar with another firm, accordingly, those manufacturing industries are mainly motivated to green economy related activities so as to maintain support of local community to their operation and some also consider gaining marketing advantage as main motive to involve. Hence, those large manufacturing industries have positive outlook on local community to engage in green economy activities.

Table 4.2. Distribution of Percentage and Frequency on Motive to Engage In Green economy

Observation	Very high importance (1)		High importance (2)		Average importance (3)		Little importance (4)		No importance (5)		Mean	
	Frequency	%	Frequency	%	Frequency	%	Frequency	%	Frequency	%		
Better corporate image, marketing and advertising strategy	61	28	45.90	16	26.22	6	9.84	7	11.48	4	6.56	2.07
A commitment to reducing the company's impact on the environment	61	17	27.87	21	34.43	9	14.75	6	9.84	8	13.11	2.45
Employee satisfaction and fulfillment	61	22	36.07	6	9.84	15	24.59	14	22.98	4	6.56	2.54
Reduce government oversight/ pressures, gain regulatory ease	61	18	29.51	8	13.11	19	31.15	6	9.84	10	16.39	2.70
Gain support of local communities	61	33	54.10	8	13.11	14	22.95	2	3.28	4	6.56	1.95

Source: Own Survey, 2014

Table 4.3. Influence of Stakeholder so as to Green economy

	Observation		No influence		Some influence		Strong influence		Very strong influence	
	Frequency	%	Frequency	%	Frequency	%	Frequency	%	Frequency	%
Suppliers in delivering environmental friendly inputs	61	39	63.93	8	13.11	8	13.11	6	9.84	
Chamber of commerce	61	38	62.30	11	18.03	12	19.67	-	-	
Local Community	61	4	6.56	11	18.03	43	70.49	3	4.92	
Employee	61	4	6.56	13	21.31	35	57.38	9	14.75	
Environmental organizations in terms of environmental protection	61	12	19.67	4	6.56	26	42.62	19	31.15	
Regulators or legislators	61	2	3.28	14	22.95	30	49.18	15	24.59	
Customers	61	2	3.28	14	22.95	28	45.90	17	27.87	

Source: Own Survey, 2014

4.1.4 Stakeholder Influence in Green Economy Activities Adoption

Any business interacts with a wide range of parties. Satisfying stakeholders is the driving force of the corporations; the adoption of environmentally societal activities implies concern for a wider range of stakeholders, the public, bystanders, employees, consumers, and the regional and global environment (Asemamaw, 2011).

As it is revealed on the Table 4.3 above, the influence that manufacturing industry has so as to involve and improve their green economy activities vary among different groups. Consequently, those large manufacturing industry faces the bigger influence so as to adopt green economy activities from environmental organizations in terms of environmental protection having response rate of 31.15%, 42.62%, 6.56% and 19.67% on the 4 point Likert scale which signify very strong influence, strong influence, some influence and no influence respectively. The least influential to adopt green economy initiatives and programs is Suppliers in delivering environmental friendly inputs trade unions. This show that still there is a long way to go in relation to suppliers so as to care for environmentally friendly related raw materials while supplying.

4.2 Environmental Dimension of Green economy

Respondents has depicted with question whether they established a precautionary approach to different environmental challenges. Consequently, 50.82%, of the total respondent replied that they established a precautionary approach to solid waste. This signifies that companies are watchful to solid waste protection from destructing the environment. The study also shows that subsequently to solid waste and aesthetic (odor) a precautionary approach has been established to aesthetic effects (noise), effluent discharges and green house gas by manufacturing industry to reduce environmental challenges.

4.2.1 Involvement on Environmental Protection Related Investment

Greater part of the respondents responded that they primarily investment in new pollution reducing technology/ equipment

with response rate of 40.98% which suggest very high involvement. Furthermore, subsequent to new pollution reducing technology/ equipment, highest investment since establishment has been made to protection of biodiversity/ land/ forest/ natural resources with total respondent of 37.70% and 19.67% replied very high involvement and high involvement respectively on the 5 point rate Likert scale. likewise, 16.39% of the respondent replied very high involvement in investing on environmentally friendly raw materials and packaging while 13.11% replied they has very high involvement in investment on employee and community environmental protection training. Least involvement has been made on environmental monitoring systems for emissions/ effluents in which 8.20% of the respondent replied very high involvement.

Hence, respondents highly agreed on involvement in new pollution reducing technology, protection of natural resource and environmentally friendly raw materials with 2.48, 2.50 and 2.54 mean respectively. The results show that, those manufacturing industry wants to address their environmental protection role via aspects related to pollution reducing activities which is a notable step to deal with environmental distraction. Results of focused group discussion made with inhabitants living nearby to these factories indicate that, there has been noise and air pollution environmental destruction until recent times (estimated 2-3 years back) especially by those cement, limestone and tannery factories but now as a result of consultation with the administrators of the factories and concerned individuals the problem begins to ease but it is not fully eradicated. Also, residents live nearby some specific industry told the researcher that, leaked wastes are still affecting life of their livestock's while they searching for potable water and grass land. Moreover, the observation made by the researcher shows similar trend, based on the observation, those large manufacturing industries are recently making huge investment in pollution reducing technology. Specifically, cement, pharmaceutical and tannery factories which are found on the region owned by EFFORT (Endowment Fund for Rehabilitation of Tigray) are making a noteworthy investment so as to address their green economy environmental dimension.

3. CONCLUSION

As it revealed on the study, majority of the firms has green economy code of ethic along with green economy policy statement but it is observed that the existence of the policy statement is not binding to apply green economy related activities. Even though, they have the policy statement, the actors in the sector (manufacturing industries) at times ignore their green economy policy statement while they perform green economy related initiatives and activities. In relation to decision of green economy activities, the study result implies that mostly decisions of green economy activities are made by chief executive officers. However, it doesn't mean that all decisions in regard to social responsibility activities are made by chief executive officers, in some company's decisions are made by marketing head, cross functional teams and board of directors. But, unlike the decision, the responsibilities in coordinating the implementation of green economy activities lay as a responsibility of cross functional teams which are found in those manufacturing industry. Moreover, those large manufacturing industry faces the bigger influence from environmental organizations to design and involve in green economy related activities. Despite the fact environmentalist exceedingly belongs to the facets and activities of green economy, it should be maintained and considered as a task of any developmental actor.

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