ENVIRONMENTAL PROBLEMS AND ECOPRENEURSHIP- ROLE OF COLLEGE LEVEL ENTREPRENEURSHIP EDUCATION IN KERALA

ANUPAMA. P. NAIR
Assistant Professor, Department of Economics
Government College for Women,
Thiruvananthapuram, Kerala- 695014

Abstract

The Kerala Model of Economic development is well celebrated for the tremendous progress made by the state in terms of literacy and other human development indices and to certain extends ecological sustainability. The present scenario of the world economy is increasing wants, limited resources and the growing ecological problems associated therewith. Kerala economy too faces the same situation. It is high time to pay attention to the role that can be played by green entrepreneurs simply called the ecopreneurs in tackling ecological problems. Several studies have proved that ecopreneurs can surely help solve ecological problems and reduce environmental degradation.

This paper focuses on the major ecological challenges faced by Kerala economy at present and highlights the need for nurturing environmental friendly ecopreneurs for addressing these problems. It also discusses the role of entrepreneurship education at college level for fostering an ecopreneurship culture among the upcoming Kerala youth. Some of the ecofriendly entrepreneurship ideas suited to our economy is also mentioned in this paper. Attempts made by the University of Kerala in nurturing entrepreneurship oriented education and the recent problems encountered in this area are also highlighted in the study.

Keywords - Ecopreneurship, Entrepreneurship, Education, Entrepreneurship Education

I. INTRODUCTION

The twin concepts of innovation and entrepreneurship are vital for the welfare of a country characterised by a society of socio-cultural diversity. Entrepreneurship is a social phenomenon and it is not inherent within a person, rather it exists in the interaction between people. It is the future of the modern society which gives a ray of hope for the unemployed to earn a living and maintain a decent life and also for the economic development of a country. To be a successful entrepreneur, it requires acquiring various skills and efforts in learning to understand a business. Entrepreneurship and education raises the competence of establishing a business. Entrepreneurship education involves teaching and learning of the skills and knowledge required for a person to become successful initiator, innovator, manager and risk bearer of business. It gives students an idea of how a business is run and developed. Furthermore, this subject will foster curiosity, creativity and initiative holistic thinking toward entrepreneurship.

One of the biggest challenges faced by Kerala economy at present is environmental degradation and the ecological problems associated therewith. The Kerala folk are much concerned about the increasing levels of deforestation, land
degradation, declining water quality, pollution of various types, loss of biodiversity and the resulting climatic change. There is growing need to devise strategies for addressing these issues. Ecopreneurship can be viewed as one of the various ways through which ecological problems can be addressed. Ecopreneurship refers to carrying out activities that keep environment clean together with meeting the desired business objective. Innovative mechanisms must be invented and practiced for inculcating the real spirit of ecopreneurship culture in the nerves of the upcoming generation. This can easily be achieved by imparting entrepreneurship education at the college level especially at the graduation level. Kerala economy has started working towards the same since 2013.

**Statement of the Problem**

Kerala, a small state occupying just 1.18% of the total area of India, is situated at Western Ghats of Indian peninsula. It has an area of about 38863 square Km, which accounts for about 1.2% of the total geographical area of the country. The state has a coast line of about 560 km. The state is known after the well celebrated Kerala Model of Development. The state has topped literacy levels and Human development parameters. But despite these progresses, Kerala continues to be inflicted with a series of environmental issues and ecological problems associated with them. These problems range from mild pollution to loss of biodiversity.

**Significance of the Study**

One of the biggest challenges of Kerala economy is the problem of environmental degradation and various issues affecting the ecology. It is high time to harness the innovative abilities of our youth, by fostering a spirit of ecopreneurship among them to tackle these environmental issues. Students with entrepreneurial qualities should be identified and trained. This can be achieved through Entrepreneurship Education which involves teaching and learning of needed skills and knowledge that equip one to become successful initiator, innovator, manager and risk bearer of business undertakings right from school or at least with graduation. Thus entrepreneurship development becomes an integral part of the education system. Hence the significance of this study.

**II. OBJECTIVES**

1. To outline the major environmental problems faced by Kerala at present
2. To examine the role played by entrepreneurship education in stimulating ecopreneurship
3. To study the initiative taken by Kerala university in promoting entrepreneurship education

**Methodology**

Methodology depends on the nature of the problem and objective of the study. This is purely a theoretical paper. Secondary information provided by various authors and researchers have been made use of for the study. Necessary information has also been assembled from various journals, books, Government reports, etc.

**Conceptual Frame Work-- Ecopreneurship, Entrepreneurship, Education, Entrepreneurship Education**

Ecopreneurship sometimes referred to as “Green Entrepreneurship and Environmental Entrepreneurship implies the creation of an innovative company that supplies environmentally friendly products and services, that is “entrepreneurship through environmental lens”.

(Schaltegger,2005). Ecopreneurship as per this paper means entrepreneurial action for preserving the natural environment.
Entrepreneurship is the process of planning and organising a small business venture, through the use of resources to create, develop and implement solutions to problems, to meet people’s need. Igbo (2009)

Education is a cultural process through which a society ensures that necessary and desirable knowledge, skills, attitudes and values are perpetuated through teaching and learning processes. Gillet (1969)

Entrepreneurship Education is the teaching and learning of needed skills and knowledge that equip one to become successful innovator, initiator, manager and risk bearer of business undertaking. Cope (2003). In entrepreneurship education the unemployed graduates are taught these skills and trained to take their fate in their hands to become successful entrepreneurs. This study views entrepreneurship education as skills imparted at the Graduation level which enables a person to take up entrepreneurial activity for the conservation of environment.

Environmental problems faced by Kerala economy

Major environmental hazards faced by Kerala can be titled as follows.

Deterioration of surface, ground and river water quality

Kerala enriched with 44 rivers, 2 fresh water lakes, other estuaries and backwaters, is severely inflicted with the problems of dumping of solid waste, bathroom and effluent discharges. Clean water has become a precious commodity now a day. The ground water quality problems in Kerala include problems caused due to mineralogical origin, industrial effluents, agricultural wastes, solid waste, burial grounds, etc. Ground water pollution due to industrial waste has been reported from places of Cochin, palakkad and other parts of kollam, kannur and Kozhikode. The municipal and industrial landfills operating in different places of Kerala is a matter of great concern as far as ground water safety is considered. Rivers in Kerala are on the verge of death due to deforestation, indiscriminate sand mining, wet land filling, lack of rain, construction of dams and barrages, discharge of toxic industrial waste such as phosphates, sulphides, ammonia, fluorides and heavy metals. Protecting both surface and ground water is essential for sustaining life.

Intensive Sand mining and mining of mineral resources

The construction boom fuelled by inflow of foreign remittances has lead to indiscriminate mining of sand from rivers. This removal of sand has resulted in lowering and sinking of river beds causing serious threats to drinking water and water for irrigation. Its posing threat to the stability of bridges and banks. This problem is intensified with the mounting mining of mineral resources like mineral sand and china clay which contribute to more than 90% of the total value of mineral production in the state.

Pollution

The use of plastics is increasing in Kerala day by day. The chemicals used to manufacture plastics are highly toxic which can even cause disease like cancer. The number of motor vehicles in Kerala goes on increasing which has led to air pollution and noise pollution. Another pollution type is pollution of the water which has already been mentioned. Indiscriminate use of pesticides and fertilizers has led to serious environmental issues. Government records show that aerial spraying of endosulfan has killed 486 people and affected the health of thousands of others until 2008 in kasargod. Now the government of Kerala banned the use of endosulfan in the state.
Environmental problems created by Tourism and Pilgrimage and Environmental Refugees

Environmental problems increase proportionately as tourism and pilgrimage activities increases. They take the form of beach encroachment, construction of buildings not sustainable to development, unscientific disposal of waste system, indiscriminate use of plastics, etc. Other direct results of tourism include deforestation, pollution of various types, etc. The indigenous communities are often found victims of tourism development. Environmental refugees are people who cannot gain a safe livelihood in their own home countries because of drought, desertification, soil erosion and other environmental problems. Eloor in our state is reported to bear the growing number of environmental refugees. It is assumed that the number of such refugees will surely increase in our state in the coming years due to large scale environmental degradation, severe population pressures, landlessness, poverty and pollution.

Loss of Biodiversity

Biodiversity supports variability of species on earth. The current challenge of biodiversity is the interference of human beings on environment. Large conversion of agricultural land, introduction of exotic crops, mechanized farming, encroachments, collection of firewood, unscientific collection of other non-timber produce, forest fires and the degrading of natural forests are the main factors contributing to loss of biodiversity. Another serious threat to biodiversity in the state is tree felling which leads to loss of habitat for many epiphytic and arboreal species, Soil erosion and change of the soil properties.

Climatic change due to Deforestation

Another serious environmental concern is with regard to climatic change. Kerala’s climate is tropical monsoon with seasonal rainfall and hot summer. Climatic changes occur due to emission of green house gases and heavy population pressure which in turn leads to deforestation. Declining forest area causes higher concentration of carbon dioxide in the atmosphere. The sustainability of habitat for wild animals is also seriously in danger. Besides, methane emissions from various sources also results in climatic change.

Ecopreneurship and Environment - A Theoretical Framework

One of the earlier theories for environmental entrepreneurship is provided by the Schumpeterian theory. According to Schumpeter (1942), given that the current solutions to our environmental problems are inadequate for sustainability, there is a need for entrepreneurial action to develop something new, whether it’s a production method, technological development, or even a new organizational form. (Lennox and York, 2011, p.9; Tillery and Young, 2009)

According to Ecological Modernization theories,” the environmental problems facing the world today, act as driving force for future industrial activity and economic development” (Murphy, 2000, p.3). The theory views entrepreneurs as the central agents of change in that process of transformation to avoid an ecological crisis.(Gibbs, 2009; mol and Spaargaren,1993; Tillery and young,2009) entrepreneurial action, therefore, is the best solution to our environmental problems because ecopreneurs can combine environmental awareness and entrepreneurial activity to achieve entrepreneurial success. (Anderson, 1998)

Another view is that in order to sustain our resources, ecopreneurship is important to constantly look for alternatives such as recycling new sources of energy. (Arber and speech, 1992; Barnes, 1994)
Biodiversity loss also justifies ecopreneurship to tackle environmental problems. Given the need for environmental sustainability, there is a need for a new kind of entrepreneur who will incorporate environmental concerns into consideration of their bottom-line (Volery, 2002.p.542)

Role of Entrepreneurship Education in Promoting Ecopreneurship

After having examined the major environmental problems faced by Kerala, the question before us is How to stimulate future Ecopreneurship? Currently the ecopreneurial abilities of our students are limited. Entrepreneurship education with a specific focus on energy conservation, sustainability and renewable energy is one of the mechanisms that can be used to stimulate future entrepreneurial behaviour in energy related “green”sectors. (Fletcher, knoll and Jamicki, 2012). Entrepreneurship education has the “profound moral responsibility to increase students’ environmental awareness, knowledge and skills and values needed to create just and sustainable future” (Cortese, 2003, p.17). the goal is to expose students to ecopreneurship and sustainability issues so they will know “how to operate on renewable energy and to eliminate the concept of waste by making every waste product a raw material or nutrient for another species or activity or returns it into the cycle of nature” (McDonough and braungart,2002,p.18)

Entrepreneurship Education Curriculum towards Ecopreneurship

Let us now focus on what should be the main components of an entrepreneurship education curriculum for stimulating ecopreneurship. According to Cope (2003) any curriculum pertaining to entrepreneurship education should focus on three main elements. They are –

- Entrepreneurship development that should enable one to develop business ideas, identify business opportunities and risk taking behaviour.
- Business management where one learn to control and run business. Learning about financial planning, decision making, time management, credit management and record keeping form part of business management.
- Skill acquisition that involves acquisition of practical skill to undertake and complete activities like communication skills, interpersonal abilities, digital skills, marketing, management and financial skills.

One of the main curriculum issues in entrepreneurship education is whether to evolve a sole course for ecopreneurship or to integrate this concept into the current entrepreneurship curriculum. If the second method is chosen, “the curriculum must cause students to challenge the assumptions that resources are free and inexhaustible, earth’s ecosystem can assimilate all human impacts and technology will solve most of society’s problems. (Cortese, 2003,p.17).

According to Richardson, Irwin and Sherwin (2005), the knowledge and skill base to become an active ecopreneur are very broad. This includes awareness of both local and global issues, awareness of future trends, acquisition environmental values and engagement in ecological or systems thinking.

In addition, ecopreneurship education should help the upcoming ecopreneurs to understand the challenges of ecopreneurs, to produce goods that can be distributed, consumed and disposed of in a manner without affecting the environmental quality of the lives of future generations. Following table provides an outline of proposed curriculum that may be used to integrate entrepreneurship education towards ecopreneurship.
Table 1: Proposed Entrepreneurship Education Curriculum

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<tr>
<th>TOPIC AND EXPLANATION</th>
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<tbody>
<tr>
<td>Meaning of Entrepreneurship with emphasis on Ecopreneurship</td>
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<tr>
<td>Major environmental problems, trends in resource utilization and environmental issues associated with them, identify methods of environmental sustainability</td>
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<tr>
<td>Ecopreneurship process, opportunities and their evaluation</td>
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<td>Types of funding for entrepreneurship activities, risks and rewards associated</td>
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<td>Planning the ecopreneurial business</td>
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<tr>
<th>Ecopreneurship Avenues for Kerala Youth</th>
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<tr>
<td>The basic avenues for ecopreneurship in Kerala include</td>
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<tr>
<td>• Handmade paper making from 100% cotton waste and residual agro waste</td>
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<tr>
<td>• Jute bag making</td>
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<td>• Green building materials from solar powered shingles and efficient insulation</td>
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<td>• Eco-friendly fashion by using recycled materials in clothing items</td>
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<td>• Eco-friendly beauty salons using natural products</td>
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<td>• Eco-friendly toy selling with eco-friendly recycled materials</td>
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<td>• Eco-friendly soap making</td>
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<td>• Air Duct cleaner</td>
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<tr>
<td>• Green publisher of a green publication</td>
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<td>• Green software developer with environmental activities</td>
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<td>• Green fare organizer</td>
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<td>• Green florist for organic and sustainable flowers</td>
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<td>• Environmental lawyer for dealing with environmental issues, etc</td>
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Kerala University towards Entrepreneurship Education

Entrepreneurship education started gaining prominence in Kerala only after 2013. Till then, entrepreneurship curriculum was not a compulsory part of education in Arts and science colleges in Kerala. But things started taking a different turn thereafter. Today the University of Kerala has established the Entrepreneurship Development Cell (EDC) to create awareness among people at large about the importance of entrepreneurship education. Entrepreneurship Development sub enter also established in some colleges under Kerala University. Majority of the engineering colleges now have the Entrepreneurship development Clubs run by students holding positions of CEO, CTO, etc. The Kerala government has earmarked Rs 3.95 crore for this project. University of Kerala will also be working through the Centre for Management Education and Entrepreneurship Development (CMEE) for identifying soft skills requirements of the management students by arranging for them programmes on spoken English, business communication, personality development, university-industry interaction, entrepreneurship training in collaboration with agencies and institutions, develop skills required for group discussions and interviews, etc.

Problems in Entrepreneurship Education At Present

Many of our true attempts towards entrepreneurship education fail today because we shortcut the system. Majority of the Entrepreneurship development Cells in colleges focuses on two things- inauguration and Valediction. Some institutions organise two or three seminars in between. That is the end of one year’s entrepreneurship activity. Another problem faced by many colleges is the absence of an entrepreneurship-oriented syllabus. The technical instructors needed for imparting skills and knowledge are inadequate compared to the staffing needs. Poor financial status of some students is another doormat in the way towards
entrepreneurship education. Non-availability of funds from the Govt and local bodies is yet another problem faced.

III. CONCLUSION

Entrepreneurship education towards curbing environmental problems in Kerala should be pursued with every spirit for achieving overall economic transformation. If entrepreneurship education is to be successful, proper training using competent, planned and result oriented curriculum with experienced faculty is the need of the hour. Our education system should be channelled towards skill acquisition that should enable youth to operate ecofriendly successful businesses. If an active curriculum is implemented and supplemented, it will surely alleviate Kerala’s ecological issues and environmental degradation.

IV. REFERENCES


