Ecologisation of Communities through Environmental Adult Education

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Abstract. The goal to achieve sustainable global environment may remain a wild goose chase if environmental education, awareness creation and action are not promoted and sustained at community level. Ecologisation of communities will play a significant role in behaviour modification to action competence of community members. The emergence and development of an ecologically driven agenda for communities will enable adults (who are the major stakeholders in community development) play an active role in shaping an ecologically sustainable social and economic order. Ecologisation, in this sense, involves awareness and action, social structures and observable effects on the quality of the environment. The action competence approach through transformative and outdoor experiential learning theories is to develop a critical, reflective and participatory approach by which the adult members of the community can cope with future environmental problems.

Keywords: Ecologisation, Sustainable communities, Environmental adult education.

1. Introduction

The assumption hitherto that children play a critical role in educating parents to behave in more environmentally sustainable ways, can no longer hold because the reverse is the case. This is so because adults who are parents are consumers, industrialists, community leaders, educators and policy and decision makers in all walks of life. In other words, they are the main users of the environment through their occupational activities. This is not, however, to undermine environmental education for children. Parents have the traditional role to educate and train their children, and this is inclusive of environmental education.

Kudryavtsev (2016) affirms that community environmental education prioritizes community wellness, and uses learning in and about the environment as a means towards community wellness and healing. Alex Kudryavtsev defines community environmental education citing Price, Simons and Krasny (2014) as: "community environmental education aims to enhance a community's wellness through thoughtful environmental action. It fosters collaborative learning and action, taking into account the social, cultural, economic, and environmental conditions of a community".

As an analogues term to community environmental education, the term community characterizes common location, social connections or belonging, cultural identity and interests (Delanty 2003). Its use in this paper is as applied to community wellness defined as "social, environmental, and economic conditions that support health and quality of life, including the presence of healthy green spaces, food, and water, and opportunities to engage in healthy activities with others" (Kudryavtsev, 2016). It is Kudryavtsev's view that because building connections among people, neighbourhood, common interest are all important aspects of community wellness, a learning theory that emphasizes how learning occurs through interaction with others is useful in elucidating the learning process and outcomes of community environmental education. Wals (2007) highlights social learning as encompassing a group of theories that have a common focus on learning through interactions with others and with the environment. Two social learning theories used in understanding environmental education by Kudryavtsev (2016) include communities of practice and cultural historical activity theory. These two learning theories are tangential with transformative and outdoor

experiential learning theories highlighted in this paper, and to which brief detail is made later.

Ecologisation of communities, therefore, and community environmental education are synonymous in their content and theories of learning with a focus on communities.

2. Ecologisation: Meaning and Application

In spite of the importance of the community to the survival of society, it is out of place that there is a dearth of literature on ecologisation of communities whereas a plethora of literature exist on ecologisation of schools.

As Posch (1999:241-242) puts it: "ecologisation means shaping our interaction with the environment in an intellectual, material, spatial, social and emotional sense to achieve a lasting/sustainable quality of life for all." What this definition clearly shows in that ecologisation is not a one-time affair, but an on-going task. More importantly, it is applied not only to schools, but communities and all institutions within the social fabric.

To promote ecologisation of communities, community environmental education will lead to action competence which is characterized by:

Education *about* the environment – which aims to develop knowledge and understanding of community members about values and attitudes;

Education *for* the environment – with emphasis on community members developing an informed concern for the environment. The ultimate main is for community members to develop a personal environmental ethic which will lead them into actions to benefit the physical environment;

Education *in* or *through* the environment – which allows community members to develop knowledge and understanding plus the skills of investigation and communication.

The focus of ecologisation is for members of community to develop attitudes of care, curiosity and concern for the environment. The overall aims of ecologisation of communities are:

- To save resources (energy and water);
- To preserve the ecosystems (forests, flora and fauna);
- To preserve the aquatic environment;

- To promote healthy living conditions, eg. healthy nutrition;
- To reduce and manage waste;
- To design indoor and outdoor space in an aesthetic and ecologically viable way; and
- To promote a culture of learning (in non-formal and informal settings).

Their knowledge of ecology will be applied in day-to-day life in their work processes and occupational development both in urban and rural settings.

3. Approaches and strategies for Ecologisation of Communities

Ecologisation of communities is an educational mechanism for providing outdoor environmental education activities for adults. The community is a critical sector for ecological stability for environmental sustainability. Ecologisation is a process of developing awareness, knowledge, skills, attitudes, and participation in order to understand the environment and take informed action towards protecting the environment. Social learning theories that can be adapted to ecologisation of communities according to Fitzwilliam-Heck (2018); Kudryavtsev (2016) are:
- Transformative learning theory;
- Outdoor experiential learning theory;
- Communities of practice theory; and
- Cultural historical activity theory.

Ecologisation of communities is a mechanism for social learning theories as approaches for teaching/facilitating knowledge about the environment and natural resources. The transformative learning theory according to Fitzwilliams-Heck, is based on the work of Mezirow (2000, 2009, 2012) and Clover et al (2013).

3.1 Transformative Learning Theory

Clover et al (2013), report that environmental adult education has a goal of leading adults towards transformation involving understanding and improving social-ecological relationships, while Mezirow (2000) maintains that transformative learning theory provides a lens in environmental education for developing knowledge and skills to help adult citizens understand their changed environment and help empower them to make positive changes. It is Mezirow's view that after a transformation has taken place in the learner's frame of reference, they will come to perceive themselves and the world in a seemingly superior meaner than previously, because their initial assumptions and

expectations have been challenged and changed to fit reality or a particular context.

It is Mezirow's postulation that a person's frame of reference also includes meaning schemas as well as meaning perspectives (Mezirow, 1991). Meaning schemas here refers to a set of constructed beliefs of how things work, how things should be done, and how things should be understood (Mezirow, 2009). A meaning is a more fundamental belief compared to the meaning schema. The meaning perspective is composed of assumptions within which a person's experience assimilates and transforms new experiences. Meaning perspectives encompass learners' notions of their roles in the world, the value of family, as well as their identities. The theory also puts forward that transformative learning can either be epochal or incremental. Epochal is when transformation of a learner's meaning happens quickly, while incremental means that transformation takes place in small shifts.

Similarly, the experiences of disorienting dilemmas, critical reflection and rational discourse can cause transformation. The disorienting dilemma refers to the dilemma that heavily disrupts and disturbs a person, making them realize their initial frame of reference or their frame of reference prior to a learning experience is adequate and should be changed. Critical reflection takes place when the individual creates new meanings after deeply examining his beliefs following a learning experience. Finally, rational discourse refers to the discussions and interactions with other people that lead to the highlighting of incongruences and biases held that should be addressed (Mezirow, 2009).

Transformative learning theory is also described as a form of adult learning, which helps reveal how adults learn in order to make meaning of their experience (Mezirow, 1991). As an important tool in adult teaching-learning transaction, an understanding of adult learning and transformation can influence what types of educational approaches would influence adult learning and how to best teach adults.

3.2 Outdoor Experiential Learning Theory

Clover et al (2013) identifies outdoor experiential learning in environmental adult education as critical for the understanding of the fundamental transformation of human-nature relations. Environmental adult education encompasses humans' relationship with earth's physical and biological dimensions in a relevant, hands-on approach. With this approach, the goal is to increase environmental awareness, knowledge, skills, and change in attitudes and behaviour.

Using Kolb's (1984) model of experiential education as a lens of outdoor education begins with outdoor experience, followed by the learner's reflection, conclusions derived based on experiences, and planning new outdoor learning experiences to help with the transfer of learning. The transfer of learning or application or continued use of outdoor experiential education in a person's life after exposure to it can be considered a transformation. Outdoor experiential education teaches about the value of commitment to environmental stewardship. Learners are taught specific facts and concepts such as the interlinking of natural resources to each other and the relationship of humans to these natural resources (Fitzwilliams-Heck, 2013).

Kudryavtsev (2016) gives insight into social learning theories that promote nature conservation and sustainability. These social learning theories can help in promoting outdoor activities in environmental adult education in as much the same way as the transformative and experiential learning theories examined above.

3.3 Communities of Practice

Alex Kudryavtsev explains that communities of practice which was originally developed to understand how people learn a craft or skill through interactions with more skilled craftsmen, examines individual and group identity formation and transformation as a learning process. Wenger (1998); Lave and Wenger (1991) describe a community of practice as a place where people with a common interest or concern engage as members and initiate a project or enterprise that is of common interest to members of the community. By this process, members of the same community groups or associations cultivate common bonds or cultural values with which they promote ecological equilibrium. The framework considers learning as a social process that occurs when individuals participate in groups associated with specific physical, historical and cultural context often in an apprenticeship manner around a common interest or concern.

3.4 Cultural Historical Activity Theory

The cultural historical activity theory is based on the idea that humans change or learn when they engage in productive activity within a cultural and historical

context and environment, and in so doing, they transform their environment.

Ecologisations of communities flourish under conditions of knowledge sharing, which is useful in addressing sustainability issues. In this process, members of community engage in dialogue and develop altruistic values upon which individual contributions are made towards the sustenance of communal resources and environment.

Ecologisation of communities falls within the framework of social learning developed by Glasser (2007) regarding individual learning, social learning, and eco-cultural sustainability as:

- a higher form of learning occurring in a social context for the purpose of personal and social adaptation;
- the process by which organisms 'see' their environmental circumstances by intelligence gathering and act with foresight or prepared adjustment. This precautionary but evolutionary adjustment may be a vital one for responding to environmental stress;
- the process by which society democratically adapts its core institutions to cope with social and ecological change in ways that will optimize the collective well-being of current and future generations;
- reflects the idea that the share learning of interdependent stakeholders is a key mechanism for arriving at more desirable futures...

Ecologisation of communities as a creation of social learning will help achieve a sustainable world when we all see, perceive, act, hear, understand, and feel the environment pulsing through human activities.

3.5 Strategies

To achieve a sustainable world, it seems inevitable that people will have to act individually and collectively, and as well as participate in ecologically sustainable ways. This will require the integration of the approaches highlighted above into a combination of strategies to engage man in eco-reflection and as a constant reminder of our relationship with the natural world. Any community engagement and action plan will be a bottom-up strategy to be effective.

Adults who participate in outdoor environmental activities can develop knowledge about the natural world and discover a deeper appreciation for it. The elements of outdoor education may include:

- Exposing members of the community to nature with the intent of fostering an

understanding and appreciation of its integrity;
- Teaching citizen responsibility toward environmental stewardship; and
- Leaching about the social-ecological interconnections to our natural resources.

Some practical activities the community members may engage in include:

- Tree planting
- Plant identification
- Training of eco-vanguards
- Eco-festivals
- Environmental campaigns
- Production and wearing of eco-insignia (eg caps, badges etc to raise awareness)
- Nature hiking
- Field trips
- Environmental clubs

4. Ecology and Sustainable Communities

An environmentally sustainable community is one that meets the current and future basic resource needs of its people in a just and equitable manner without compromising the ability of future generations to meet their basic needs. The Stafford Borough Council (2020:1) described sustainable communities as places where:

- The needs of everyone in the community are met and people feel safe, healthy and ultimate happy
- Our environment is appreciated, protected and enhanced and damage to the environment is minimized.
- Our economy is vibrant, employment opportunities are improved and our working lives are more rewarding;
- While creating a sustainable society involves protecting and enhancing the environment which include:
- Use energy, water and other natural resources efficiently and with care
- Minimize waste, then re-use or recover it through recycling, composting or energy recovering, and finally sustainably dispose of what is left
- Limit pollution to levels which do not damage natural systems
- Value and protect the diversity of nature.

The key to achieving sustainable communities is community environmental adult education. Communities live on the frontier and on the fringe of the forests. Community-based conservation should be the focus of education as an approach to achieve

sustainability. Social sustainability according to Chan (2018) citing Andrea Colantonio, concerns how individuals, communities and societies live with each other and set out to achieve the objectives of the development models that they desire for their communities and planet Earth as a whole. The natural resource ecology laboratory of the Colorado State University (2020:1) is committed to research education and engagement of communities in their ecological research efforts. The thrust of its research in sustainable communities is that:

Our most challenging ecological issues involve the difficult balance of ecosystem sustainability and human well-being. Sustainability is a pressing concern for towns, cities and communities, which depend upon natural resources and ecosystem services for economic stability and support of growing populations.

The question that arises from their research effort is how to improve livelihood opportunities and reduce poverty today, while conserving natural resources for tomorrow, protecting the livelihoods and well-being of the future generations.

The role of ecosystem services in sustainable development has been highlighted by the United Nations Economic and Social Council (ECOSOC) (2008). According to this report, the Millennium Ecosystem Assessment in 2005 reveals that humans over the last fifty years changed ecosystems more rapidly and extensively than in any comparable period of time in human history in order to meet the rapidly growing demand for food, fresh water, timber, fibre and fuel. The changes that have been made to ecosystems have contributed to substantial net gains in human well-being and economic development. However, these gains have been achieved at growing cost in the form of the degradation of many ecosystem services, increased risks of nonlinear changes, and the exacerbation of poverty for some groups of people.

The Millennium Ecosystem Assessment maintains that approximately 60 percent of the ecosystem services evaluated are being degraded or used unsustainably: 20 percent of the world's coral reefs were lost, 35 per cent of mangrove area has been lost and the withdrawal from rivers and lakes doubled since 1960, 25 per cent of the commercially exploited marine fish stocks are over harvested and 10 to 30 per cent of mammal, bird and amphibian species are currently threatened with extinction. This has resulted in a growing concern worldwide about the destruction and degradation of natural ecosystems and the related loss of biodiversity.

The foregoing analysis presents a grim picture of the world's ecosystemic balance. Maintaining ecological sustainability is important because ecosystems provide direct services, such as food and water, regulate climate, support nutrient cycles and crop pollination, provide spiritual and recreational benefits and preserve diversity. In the short term, it is the world's poor that depend most heavily on these ecosystems services, but in the long term, all of humanity depend on these ecosystem services for their survival and well-being. Maintaining healthy ecosystems is therefore not only essential in order to ensure environmental sustainability, but also to ensure continued human development.

It is because of the global risk which humanity faces from our endangered ecosystems that the United Nations secretary General has identified natural disasters, climate change, the food crisis and the surge in fuel prices, as top priority issues. Given the importance of ecosystem to world's prosperity, forests should be an important theme in the provision of environmental adult education for the realization of sustainable communities. Perhaps the United Nations Department of Economic and social Affairs in its World Economic and Social Survey 2013 has provided a grim note of finality on sustainable development challenges. In this executive summary, the environment occupies a priority place in the achievement of global sustainable development that the global community has set for itself. The United Nations (2020:5) survey reads partly:

The world is faced with challenges in all three dimensions of sustainable development – economic, social and environmental… unsustainable consumption and production patterns have resulted in huge economic and social costs and may endanger life on the planet. Achieving sustainable development will require global actions to deliver on the legitimate aspiration towards further economic and social progress, requiring growth and employment, and at the same time strengthening environmental protection.

Putting action to policy on ecosystem and communities' sustainability, will deliver majority of the world's poor from poverty and unemployment, among other socio-economic benefits.

5. The Environment, Adult and Education

The local communities face many challenges in an increasingly globalized world. A new framework for sustainability that includes environmental adult education can help them survive, and even thrive in

the age of globalization. Lange (2010) encapsulates in her work, Environmental Adult Education: A many-Voiced Landscape, a statement by UNESCO which asserts that adult education is both long-term solution and primary lever that can link our existing way of living to a very different future that is ecologically sustainable and socially just. What this means is that adult education is an instrument of social and environmental justice and equity. It is a tool in the hands of man that can change the social and environmental landscape. Adult education has an empowering potential able to redefine boundaries and set new agenda for growth and development.

Clover (1997) discusses the key task of environmental adult education moving from words to action, in the face of escalating environmental problems. Adults are involved in many walks of life as government and community leaders, decision-makers, voters, entrepreneurs and consumers. Yet, majority of the adults do not know the basic environmental impact of their own activities. Environmental adult educators through their practice, therefore, can help adults connect with the rest of nature through sensory perception and emotion, which arises from the perception that understanding can flow from feelings and intuitions as much as from scientific knowledge.

Darlene clover acknowledges that environmental adult education considers the environment in its entirety, natural and built, technological and social, and assisting people make global and local links. It attempts to make people to become more politically literate about ideologies, systems at work and in the local community that are contrary to the promotion of a healthy social and natural environment.

Similarly, environmental learning encourages participation and builds a vision in which the contributions of men, women, persons of colour, indigenous persons, the young, the old and differently abled are equally respected. Environmental adult education draws from the knowledge of indigenous peoples, those who are most often closest to the land.

This reflective thought by N'Gaba-Waye (1997:124) captures the whole essence of environmental adult education in the ecologisation of communities. It is one which views environmental adult education as "a way of thinking that is characterized by deep reflection on the elements on which our existence depends". Since the causes of ecological crisis are linked directly with the over exploitation of the resources of the Earth and toxic industrial waste, Adoum N'Gaba-Waye maintains that environmental

adult education has become an absolute imperative that will enable the various communities in our world which are rapidly changing, to manage their own educational, cultural, scientific and technological resources and to direct them towards a form of development of which they will themselves decide the content and priorities in accordance with their experience and particular ways of life.

As an urgent necessity, environmental adult education plays an increasingly crucial role of developing knowledge, skills, understanding and awareness of working men and women on which depend both the ecological equilibrium of the Earth and the survival of humanity. This is to enable the adults bear both the heavy responsibility for decisions affecting the environment of the planet, and the duty to educate the younger generation. Also, improvement in nutrition, sanitation and economic and social conditions, to which all peoples of the world aspire, depends on adults' awareness of environmental care. It is this awareness that may stimulate people to participate actively in saving the environment in the 21st century that is in great peril.

UNESCO (2002) provides a broad view of the environment. It considers the weft of the environment as life itself, at the interface between nature and culture. The environment is seen as the crucible in which our identities, our relations with others and our "being-in-the-world" are formed. Here, the environment is considered in sevenfold representations:

- First, the environment is considered as nature (to be appreciated, respected and preserved);
- Second, the environment as resource (to be managed, to be shared);
- Third, the environment as a problem (to be avoided, to be solved;
- Fourth, the environment as a system (to understand so as to improve decision-making);
- Fifth, the environment as a place to live (to get to know, to improve);
- Sixth, the environment as a biosphere (in which to live together over the long term); and
- Seventh, the environment as a community project (in which to become actively involved).

The above representations of the environment, imposes on man the compelling need to engage in ecological education (on a continuous basis) in order to develop requisite knowledge, skills, attitude and awareness for critical investigation, and in dealing

with problems arising from the environment. Eco-education is the tool for making people responsible users of the ecosystem. It is to help develop consciousness in people about the interdependence and interrelatedness of all living organisms. It is to help build a world of commonwealth in managing and sharing environmental resources through responsible resource production and consumption for present and future societies. This will foster partnership and cooperation to achieve desired changes in communities. Building communities of learning and practice, therefore, is the cardinal objective of ecologisation of communities – and one which environmental adult education is capable of achieving to make planet Earth safe, secure and sustainable for all that inhabit it.

6. Conclusion

The application of environmental adult education approaches, strategies and methodologies in the ecologisation of communities demonstrate how the knowledge of others can become a basis to create new knowledge and a new vision of the world. They are processes of learning that begin with the experiences of the learner, involve a high degree of participation and are action-oriented. The recognition that the division between the North and South or between the developed and developing countries mask how people of colour, indigenous peoples, the differently abled, and persons of other non-dominant social identities are disproportionately affected by climatic change, toxic waste, polluted waters and other biopheric contaminants. It is this recognition that provides the motivation for participation.

The overarching issues in environmental adult education are environmental problems created by human activities. Ecologisation of communities fosters ecosystem integrity and maintains livelihoods. For example, community based conservation as an approach to achieve sustainability will foster the ecologisation of communities. Learning in groups or organisations under conditions of outdoor education or social learning activities promotes nature conservation, and which invariably promotes sustainable environment as an all compassing web of life upon which survival depends.

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