

INTEGRATING INDIGENOUS KNOWLEDGE INTO ENVIRONMENTAL EDUCATION

The Ones Approach to International Progress Based on Our Culture

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Abstract

Indonesia is one country where they have hundred of ethnics. Each ethnic has a long history of traditional knowledge but recently modern science has taken it over. Many developed countries realize that the indigenous knowledge to promoting environmental education. It is locally available, culturally acceptable. Globalization like tsunami is the process in which the world is increasingly by common activity. Globalization is the fact that everyone or groups should face. Tsunami and globalization there seem always to have been two ways of looking at the world and it impact on student especially in developing countries. There are many different ways looking of environment and the interrelationship between humans and their social and biophysical surroundings. Indigenous knowledge is the local knowledge that is unique to a culture or society. This knowledge is has been the basis for agriculture, food preparation, health care, conservation and the wide range of the activities that sustains the society and its environment. Education is critical for promoting and improving the capacity of the people to address global environment problem and development issues. In general, there is wide agreement that great universities have three major roles (1) excellence in education of their students; (2) research, development and dissemination of knowledge; and (3) activities contributing to the cultural, scientific, and civic life of society. Environmental education is the preparation of the people for their lives as member of the biosphere. The objective is preparation many aspects as wholeness. Integrating Indigenous Knowledge that it have opportunity support integrated aspects are awareness, knowledge, attitude, skills and participation that their part of realize world citizen.

INTEGRATING INDIGENOUS KNOWLEDGE INTO ENVIRONMENTAL EDUCATION (The Ones Approach to International Progress Based on Our Culture)

Introduction

Tsunami is a large ocean wave that is caused by sudden motion on the ocean floor. Tsunami wave everything in the shallow water of a shoreline and globalization like tsunami is the process in which the world is increasingly by common activity. Globalization is the fact that everyone or groups should face. Tsunami and globalization there seem always to have been two ways of looking at the world (Watson, 1991). One is the everyday ways in which object and events although they may be related causally and influences each other, there are seen to be separate. Second is a rather special way in which everything is considered to be part of a much greater pattern. Learning process in the school especially in developing countries is caused by globalization process.

Education is critical for promoting and improving the capacity of the people to address global environment problem and development issues. Environmental education is the preparation of the people for their lives as member of the biosphere. The objective is preparation many aspects as wholeness. These integrated aspects are awareness, knowledge, attitude, skills and participation.

There are many different ways looking of environment and the interrelationship between humans and their social and biophysical surroundings. Indigenous knowledge is the local knowledge that is unique to a culture or society. This knowledge is has been the basis for agriculture, food preparation, health care, conservation and the wide range of the activities that sustains the society and its environment. In general, there is wide agreement that great universities have three major roles (Levin) <http://74.125.153.132/search?q=cache:n->

(1) excellence in education of their students; (2) research, development and dissemination of knowledge; and (3) activities contributing to the cultural, scientific, and civic life of society. Why the integrating indigenous knowledge into environmental education can be promoting to the model sharing between local knowledge and scientific knowledge.

Globalization

Globalization can be seen different ways depend on screen of believe, knowledge, purposes and motivation of individuals or groups where their position and condition. Every events having two directions, that they have positive and negative categories. Globalization,

tsunami and developing world class they have same character. Anything that can be seen, or heard or handled by scientific instrument is abstraction unfolded from the invisible, inaudible, intangible ground of all matter. Everything, the whole of existence, can be seen to have its origin in the single source – universal live energy (Watson, 1991:42). Indigenous knowledge and scientific knowledge are have different paradigm and methods (Fien, 1997). First Indigenous knowledge characterized by sacred and secular together, and the other scientific only secular. Second. Indigenous knowledge holistic and integrated but scientific knowledge is analytic or reductionist. Third, indigenous knowledge assumed to be the truth, but scientific knowledge assumed to a best approximation of truth. Education is critical for promoting improving the capacity of the people to address environment and development issues. Teaching change consciosness, not only developing basic instinct, because human characterized by integrated of body, mind and spirit (Osho, 1997).

a. Definition of Globalization

The process in which the world is increasingly defined by common activity. It refers to the extent to which trade, culture, and many other aspects of life, are becoming globally inter-related. People in many activities have a change of consciousness. They are thinking and acting in a global world. Territorially is having less significance. The core of globalization is that there is increasing interdependence. What happens in one part of the world affects what happens elsewhere.

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<http://www.cra.org.au/topics.cgi?tid=13>

The mean point globalization is; increasing interdependence, having less of territorially, what happens in one part of the world affects elsewhere. Cavalcanti (2004) claimed; globalization is not a homogenous process, the ways in which things are globaliezed differ, as do the globlizers. How we can promote and sharing between local people who live based on the indigenous knowledge with modern people who supported by scientific knowledge. That situation can be assumption analog with promoting local university into world Class University.

Environmental Education

Education is critical for promoting sustainability development and improving the capacity of the people to address environment and development issues. First; ecological and environmental crisis that might be solved with international cooperation, cross-boundary water and air pollution, over-fishing of the ocean, preparation food stock that part of environmental education. Second; cultural growth or cross-cultural contacts; advent new categories of consciousness identities which embodies cultural diffusion.

Environmental education is consisting of much aspect (UNESCO, in Fien 1997).

1. Environmental education is an across the curriculum approach to learning which helps individuals and groups to understand the environment with the ultimate aim of developing caring and commit attitudes ..
2. Environmental education explores not only physical qualities of the human relationship with the environment, but also the spiritual aspect of this relationship.
3. Environmental education is a response to the challenge of moving towards an ecologically, and socially sustainable world.
4. Environmental education recognizes the value of local knowledge practices and perception in enhancing sustainability
5. Environmental education supports relevant education by focusing learning on local environments.
- 6 Environmental educations consider the global as well as the local environment. Since the world is a set of inter-related system there is a need for a world perspective on environmental issues

Indigenous Knowledge

The newly emerging paradigm can be described in various ways (Cafra,in Shambala, 1995). It may be called a holistic worldview, emphasizing the whole rather than the parts. It also is called an ecological worldview using the term the sense of deep ecology. There are many different ways looking of environment and the interrelationship between humans and their social and biophysical surroundings. Indigenous knowledge is the local knowledge that is unique to a culture or society. It also known traditional wisdom where is passed from generation to generation, usually by mouth and cultural rituals. This knowledge is has been the basis for agriculture, food preparation, health care, conservation and the wide range of the activities that sustains the society and its environment.

Indigenous peoples have wide knowledge of the ecosystem in which they live and of ways of using natural resources sustainability. The source of their food is various grain, fruits, roots, and for beverage–milk. Pure water openly exposed to air and sun is decidedly the best natural food for them. However, colonial education systems replaced the practical everyday live aspects of indigenous and with Western notion of abstract knowledge and academic ways of learning. Today, there is a grave risk that much indigenous knowledge is being lost. How to integrating indigenous knowledge that local people use for practices live into modern science as a scientific knowledge. Several methods can be uses to integrating into scientific knowledge (Fien, 1997) (Table 1).

Indigenous peoples have wide knowledge in which they live and of ways of using natural resources. The flow of their life is nothing other than the harmonious interaction of all the elements and forces that structure the field of existence. Their dwelling and company with nature where they got and selection of food for life sustainability.

Table 1. Analyzing the Use, Type and Value Indigenous Knowledge

Use of Indigenous Knowledge	Case Study Example	Examples of Indigenous Knowledge	Sustainable Environmental values
1 Natural Health			
2. Sustainable Agriculture			
3. Sustainable Resources Management			
4. Sustainable Social Relationship			

Table 2. Integrating into Formal Education

1 Cures for Various Illnesses a. Examples of traditional practices b. Resources (e. g. Herbs) used c. Contemporary status	Possible Place in Formal Education
2. Preventive Measures against Pest (e.g. Insects, mouse, grasshopper, etc) a. Examples of traditional practices b. Resources used c. Contemporary status	

World Class versus Machine - Students

International school or International World Class is not same with school where the students who must have computer, laptop, and using English. International school is not promoting students as a machine in globalization process. Osho (2003) claim we are to become a machine man in the globalization processes are caused by several ways. First; in the educational learning processes the student who does not see what is the case. Second, a student does not look into the present moment. Third; students is not responsive to the reality. Student goes on living on old ideas, and their lives through habits. Then we are whole life will be simply known, seen, recognized as mechanical. We are live amongst machines. We don't know exactly who we are. And we don't have individuality and any integrated centre.

Both society and school has a technique: it makes we are very ambitious for social respect-through it. If we are follow the rules, it respects you. A person who be called success depend on our social environment perception. Peoples and or student assumed who they have become success if through world class or international school. Because the promotion of an international school is become successful in life is caused different impact for local student.

This is the challenges and opportunity of world class university, because naturally everything event have different ways. International student in World Class University is only a tool and it is not a goal. The all completely facilities in the international school is one of a parts the processes become a success. Nobody can make student success except ourself involve in true teaching-learning processes. These false images are just living in dreams and the international school is one of processes who the students become success.

Teaching and Successful

Teaching is processes to change consciosness, not only developing the basic instinct, because student who they have many potentialities for live sustainability. Man is the culminating point of the creation and in the man alone are animal, human and divine qualities alive and active together. Which aspect of our nature are to manifest?. This is the question we can all decide for our selves especially in teaching- learning process. To manifest the animal impuluses of the sel-preservation, the human motives of reasoned action, the divine principle which is the expression of our true selves (Yesudian, 1989). The animal qualities reveal themselves in the two powerful instincts of self-preservation and procreation. They are indispensible to the continuance of our mortal life and race. The human qualities are the faculties of thought and speech. Its analogy with seed encloses in the shell where a seed encloses the possibility of a tree. So man bears within himself a divine core that one day she or her make fully manifest through completely facilities in World Class University.

Copra (1994, 2) reported the meaning of success in the life. Success could be defined as the continued expansion of happiness and the progressive realization of worthy goals. Success is the ability to fulfill your desires with effortless ease. There are many aspects to success; material wealth is only one component. Moreover, success is a journey, and success also includes good health, enthusiasm to life, fulfilling relationships, creative freedom, emotional and psychological stability, a sense of well- being, and peace of mind. The relationship and strategy for success Osho (2003) says the first things are the body. The body is your base, it is your ground, and it is where you are grounded. The body is your basic truth, so never be against the body. The body is marvelous and it is the greatest of mysteries. Nature is a real teacher and we are can learn from the events of the nature. The Indigenous people life nourish by low of giving and dwelling in nature. Their awareness and attitude of life are supported by the Low of Giving (Copra, 1993: 27). Our body and our mind and the universe are in constant and dynamic exchange. That is why you must give and receive in order to keep wealth and affluence- or anything you want in life- circulating in your life.

Every person they have a unique talent and unique way of expressing it. There is something that you can better than anyone else in the whole world- and for every unique talent and unique expression of that talent, there are also unique needs. Expressing your talents to fulfill needs created unlimited wealth and abundance (Chopra, 1993: 10). Permaculture as a sustainable lives evolved a philosophy close to Taoism from my experiences with natural system. A basic question that can be asked in two ways is: “What can I get from this land, or person?” or “What does this person, or land, have to give if I cooperate with them?” Recycling of nutrients and energy in nature is a function of many species. It is responsibility to return wastes to the soil and plants based on karma law. This activity emphasizes self-reliance, responsibility, and the function of living things.

Integrating Indigenous Knowledge into Environmental Education

Indigenous Knowledge is the symbol of local people and scientific knowledge is represented international event world class. The model its integration are used Integrated Pest Management in Balinese script that it called *Usada Carik*. It is Balinese traditional pest control knowledge, who people use it for maintain our paddy production.

1 Integrating Pest Management in *Usada Carik*

Usada Carik that Balinese integrating pest control are used natural material – leaf, tuber of wild plant, other physical material—and using them to against pest. Instead, it seek balance and propriety, in cultural Balinese sense, between rice and goodness and human and cosmos like the Balinese architecture (Eiseman, 1990). It is only natural, therefore the Balinese should regard their rice field as the extensions the concept of environmental and organizational balance. Balancing among biophysical aspect and spiritual aspect

The first verses (1a) *Usada Carik*, which introduction integrating pest control system as the extensions of the concept of environmental and organizational balance. To maintain the paddy production, the farmers to integrate using of natural pesticide from some plants, grinding it, do it every night, three time, move from the left side, ending the to last higher rice field, and chatting *mantra*

Verses 1.a. *This is the Usada Sawah (the traditional knowledge and method why the people maintain their production of rice and protected them from the pest. The protected formulation from the pest is followed. The outer bark of blalu (Albasia sp), grinding it, mixed it with the younger tip of paddy. Do it every night, three time, move from the left side the right side, ending the to last higher rice field, and chatting mantra.*

The farmers are use many symbol against the pest, because symbol is very important. Like symbol moving from the left side and ending to last higher rice field. Every tradition in

the world employs symbolism but symbolism is employed to its acme in Balinese culture. Science of symbolism integrating pest management. In the absence of such an understanding the world periphery of Balinese farmers will appear funny, unintelligent and absurd. In the process of knowing this science of symbolism one discovers the deeper meaning of the real tradition which apparently appears to be superficial.

All this world is pervaded by Me in My unmanifested form (aspect); all being exists in me, but I do not dwell in them. My womb is the great Brahma, in that I place the germ; from which, O Bharata, is the birth of all being (Bg. XIX 3). When he (a man) sees the whole variety of beings as resting in the one, and spreading forth from That (one) alone, then he becomes Brahma (Bg. VIII,30).

My womb is the great Brahma (God) indicated that sustain is character of nature. Nature is symbol and manifested of God, that was ordered by Law (*Rta*) of God. The curve described by the earth as it turns is spiral, and the pattern of its moving about the sun. The solar system itself being part of spiral galaxy also describes a spiral in its movement. The myriad things are constantly moving in the spiral movement and we live within that spiral movement (Nakamura in Mollison, 1988).

Most people in every traditional culture learn from the nature. Nature is the real teacher. The Nature is real teacher for whom people develop our intelligence. Intelligence is a natural quality of life. Just as fire is hot and air is invisible and water flow downwards, so is life intelligent. Trees are intelligent in their own way; they have enough intelligence for their own life. The universe is intelligent, there is intelligence hidden everywhere, and if you have eyes to see, you can see it everywhere (Osho, 2003).

2 Natural and Cultural Symbol Available

Using man-animate in the rice field and spray both red and white garlic for three times against the bird. Using *sunari*, that made by bamboo pole, completely with small hole in part of bamboos, white cotton at the bamboo tip that to against the bird and rats.

Orang-orangan is the symbol of human who have the rice field, red garlic and white garlic, some call as the symbol evil spirit. *Orang-orangan* was connected by bamboo thread to moving it, when bird coming. It farmers activities protected our paddy not to kill the birds, but only making bird suffer. White garlic, red garlic and calc not only as a symbol of the evil spirit, may be it chemical can against bird. This activities is equal with platform deep ecology

The bird which part of life in the earth they have value in themselves, and humans have no right to reduce this richness and diversity, because richness and diversity of life forms contribute to the realization of these values. It philosophy equal with philosophy of equilibrium (Mollison 1987).

Using *sunari*, that made by bamboos pole, completely with small hole in part of it, and white cootton at the bamboo tip. against the bird and rats. The sound of *sunari* from the bamboos hole when wind blow is symbol of sound *Sangsaka* that evil spirit—the pwer of plants. Vibration *sunari* of sound not only symbol Sangsakara but my be that vibaration equal with quantum vibration. The attitude and activities of famers is agreed with concept of gooodness and fertility. *Laksmii* closed wih goodness and food. The fertility of the rice crop is metaphorically equated with the fertility of the Rice Goddess and with the fertility

3 The Alternative Transformation of Knowledge

Recognizing traditional pest control toward modern management is selective way. It illustrated aplication of traditional pest information based on tradtional Balinese script. The effectiveness implementation is based on research results (Adapted Adimihardja *et al.*, 1995)

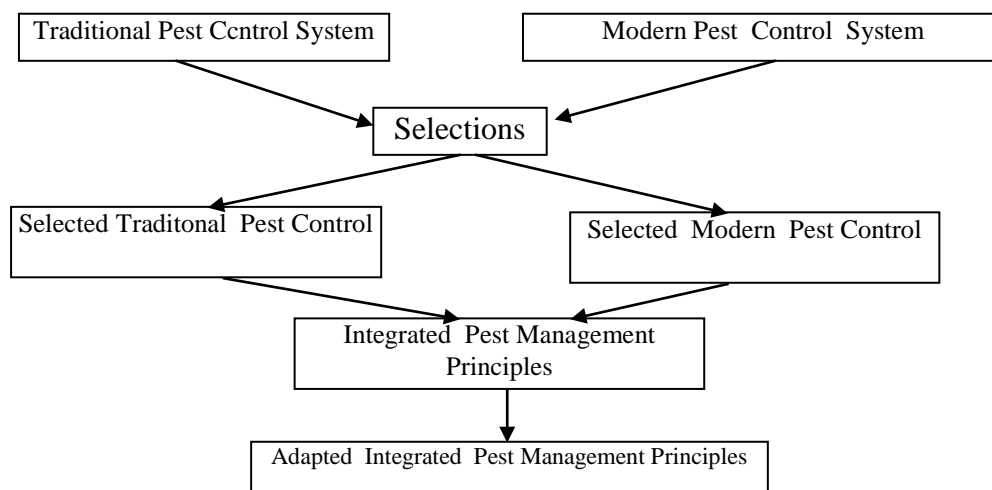


Figure 2. The Selection Processes of Traditional – Modern Knowledge

Figure 2 gives a picture of intersection between the key experts in the traditional pest management representing local community in others various experts to arrange alternative solution in pest management problems. For instance how to use broadcasting community that rising vibrating of cricket ring in the rice field to against the rats. How to develop research that using pheromone of wild cat to control rat population? Integrated Pest Management is an effective and environmentally sensitive approach to pest management that relies on a combination of common-sense practices. Understanding information, and combination with available pest methods, is used to manage pest damage

Conclusion

1. Literate indigenous knowledge through cultivate in Environmental Education is ones strategy to understanding the sustainability indigenous people. It is analog that the inferences local knowledge into scientific and world information. Worldwide and worldview that information through selected processes is the process of literate.
2. Environmental education can be used literate indigenous knowledge in worldview because the environmental education characterized by several categories. It categories are across-culture curriculum approach; it explores not only physical qualities but also the spiritual aspect of this relationship. Environmental education considers the world is a set of inter-related system there is a need for a world perspective.
3. Indonesia is one country where they have much Indigenous Knowledge and who a local people have is a potentiality to develop in the scientific approach that is a part of scientific process in Word Class University.

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