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SOCIO-ECONOMIC DYNAMICS OF INDONESIAN RAIN FOREST MARGINS

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INTRODUCTION

It is not difficult to imagine that decades ago the people at the forest margins were living peacefully within the ecosystem which was dominated by natural forest. The people lived in balance with a kind of natural and stable ecosystem. Compare to what we have now, the ecosystem was at a lower level of production-consumption (economic) balance.

Having influenced by external factors, mainly by external log market, the ecosystem turned into unbalanc condition and led to a broken and degraded condition. Such phenomenon can be learned through the fact of very high rate of forest degradation and deforestation of about 1.3 million hectars per year in period of 1980 - 1990. At the mean time the presence of logging companies or HPH has been failed to improve local people's welfare.

Aiming at having better welfare of local people and sustainable forest resource and biodiversity, such messy situation must be understood and handled properly. We shall learn the forest margins own dynamics and lead it into more productive balance.

SYSTEM OF SOCIO-ECONOMIC DYNAMICS

To learn socio-economic dynamics, many experts divide the system at least into three subsystem; which are subsystem of knowledge, subsystem of economy, subsystem of land tenure.

A. *Subsystem of Knowledge*

Subsystem of knowledge of local people direct many aspects of their life, including the way they utilize and manage their natural resources. What they know and do, such as swidden cultivation, agroforestry, forest products gathering and others are expressions of local people's system of knowledge. Those knowledge will create patterns social relationship and choices of technology and management. Knowledge are developed gradually in daily life.

System knowledge, even if it has been firmly addopted, may be changed gradually by changing universal needs of the people.

New and unfamiliar economic activities, such as done by big companies (forestry, mining, plantations estates, etc.) has influenced the local people's system of knowledge, both positively and negatively. Modern and intensive logging, for example, at the beginning is considered by local people, as disturbing to the harmony of people environment. As contrast to local people, the big companies tend to ignore the wisdom of harmonizing people and environment (cf. Colfer,-; Dove, 1995; and Potter, 1996). But, then the system of knowledge start to change due to the fact, they learn partially, that such new external knowledge (in the short term) gives higher individual benefit/income. For example, Bugis people plant new introduced cash crops, such as peper. continuously in their marginal land without doing any soil conservation practices. Local people learn that using chainsaw logging becomes more productive and earns higher income, regardless its destructive impact to forest sustainability.

Tradition of consultation among members of family and groups in deciding social matters and solving common problems are diminishing. For example, there is no longer social solidarity in solving food problems among families, and no longer common planting schedule to avoid disaster caused by pests and diseases.

Certainly, there are some positive impacts of external economic activities to local people. such as the opening of marketing channels of commercial forest and agriculture products, better regional facilities for communication, health and education, and also higher motivation of local people to educate their family members.

B. Subsystem of Economy

Swidden cultivation is not the only livelihood for the people surrounding the forest area. The people also have various traditional sources of income, such as : rattan, gaharu, bird nests, wild bee honey, damar/resin, wild game, wild fish, food crops, coconut and rubber plantation, etc. Trade of traditional non-wood products among local producers and outside buyers has been developed since decades ago (cf. Reid, 1988; Padoch and Peluso, 1996).

Modern economic activities have added employment and income opportunities to local system of economy, but reduced land area available for the complete cycle of swidden cultivation, shortened its fallow period, and finally reduced crop productivity. At the same time, wood and non-wood forests products also decreasing (cf. Colfer,-; and Inoue, 1989). Growing scarcity of income sources has developed conflicts between local people and outsiders (companies, transmigrant).

Adoption of agroforestry into system of economy has been in many cases/places succesfully supporting and sustaining local people welfare and regional ecosystem/environment. Such agroforestry system has been adopted as "repong damar" in Krui. Lampung, "lambo", tembawang" and "tana usaha" in many parts of Kalimantan, "mamar" in Nusa Tenggara Timur, and tree crop garden (cloves, coconut) in Seram (cf. Aumeeruddy, 1994; Michon and Mary, 1990; Grzimek, 1992).

C. System of Land Tenure

Conflicts of land ownership between local people and outsiders (companies, transmigrant) are mostly caused by ignoring land property regulations which have already exists in the local people. So far, there is no formal law and regulation in Indonesia that formally recognize such local rules. Unclear and conflicting rules concerning land tenurial system give no motives and incentives for local people to do such sustainable management of their land.

System of inheritance in the family has also changed. The role of local leaders in such system has been ignored. While competitions among members of the family have been causing torn family relationships, and the life becoming uncomfortable (cf. Peluso and Padoch, 1996).

Based on above three points of discussion, I think every effort of development including R & D in the forest margin, shall be directed to :

1. Develop various patterns of agroforestry (including conventional forestry), and educate and train the local people to increase their system of knowledge related to forest resource utilization;
2. Develop economic policies and institutions that support local people's system of economy;
3. Develop law/rule and regulations that secure local and tenurial system.

SOURCE OF SOCIO-ECONOMIC DYNAMICS

In order to understand socio-economic dynamics of the community in the forest margins, we shall explore what sources and how much sources influence the dynamic, two socio-economic sources of dynamics are as follows.

1. Population growth

It is different with other elements of ecosystem, the growth of population of human being can not be regulated or controlled by the balance mechanism in the ecosystem. Population growth tends to change the balance of ecosystem, through pressure of needs and greeds including : food, clothes, shelter, and others. In a very simple meaning, development is fulfilling the needs and greeds of the growing human population. The pressure of population growth to the ecosystem is determined by : (1) rate of population growth, (2) kind of consumption, whether it is (needs or greed) : primary or secondary/fancies, etc., and (3) level of per capita consumption.

How far the human being does influence the ecosystem basically depends on what we call : paradigm towards "development and nature". For the moment, lets call it paradigm, a certain paradigm leads the development to defeat the nature, while the other does not. We can differentiate such paradigm into three categories, as follows.

a. "Conquer the nature"

Human being tends to convert the nature into a culture that produce certain product (s), homogenously and highly productive. The forest as it unconsidered as a land reserve are converted into other land uses to produce a narrower range but mass production of certain product(s). It is considered that new land use(s) is better.

Since it is a matter of land use conflict, unless the forest gives higher value of benefit, such forest conversion to other landuses can not be stopped/avoided. In this paradigm, the rate of conversion may be reduced or stopped by facilitating higher technology and management input to produce more with less land "landsaving technology", while making the forest benefit relatively higher than other land uses. This category of paradigm is found widely in the most forest margins in Indonesia.

b. "New balance of the nature"

The forest ecosystem, in this category, is not completely converted into new land use, it is planted by local but commercial tree crops. The ecosystem is very much closed to natural forest, while producing some kinds of non-wood forest product. This category of paradigm is still rarely found in Indonesia. To illustrate this category we can take cases of agroforestry producing damar of *Shore javanica* in Krui, Lampung, and agroforestry producing kemenyan *Styrax benzoic* in Sumatera Utara, and others, as mentioned previously in the subsystem economy. How far this category will be developed or sustained depends on how succesful we improve the combination of the tree crops.

c. "Fruit of the nature"

It is clearly understood that the natural forest ecosystem at a certain period can produce very wide kinds of products (goods and services), including : wood, food, water, medicines, recreation, climate regulation, wildlife and so on. The paradigm of "fruit of the nature" considers that development or modernization shall not mean conquer or modify the nature, but being cleverer getting benefit from nature. It shall not disturb the natural ecosystem, but reap more fruits from the ecosystem. With this paradigm, people will not tend to convert forest land to other homogenous cultivation in order to get more and more homogenous output, but instead to get more but differentiated output from existing but well managed forest land. This paradigm is not widely accepted yet as an alternative paradigm of development, since it is considered as traditional and rather primitive. Many experts expect/predict this paradigm will be increasingly accepted and needed in the future. Therefore, I think we shall facilitate a change of attitude of the people and decision maker, while make more open market and develop marketing channels for many kinds of forest products.

2. Forest Utilization Policy(ies) and Practices

It shall be clearly understood, that some important forest utilization policies and practices have been creating some conflicts and distortion, especially among people in forest margins, which have led to decreasing local people welfare and unsustained forest resource (deforestation and forest degradation). Such policies and practices are as follows.

a. Allocation of forest concessions, which is characterized by : big concession unit so that unaffordable for small investors from local people and companies;
b. Allocation of authorities in forest utilization, which is very much given to central government or bureaucracy, and almost none to the local provincial and districal government or bureaucracy.
c. No other alternatives of forest utilization system, except HPH system. Decades ago, it was an alternative system that allow local people and small companies, using simpler technology and management, to participate in exploiting and trading logs from the forest, which was called HPHH.
d. No recognition of "hak adat" and "hak ulayat" of local people in commercial or economic use of forest.
e. HPHH tends to eradicate and reduce economic source of local people from forest.
f. Failure of HPHH to accommodate local people participation in the economic activities of the HPHH and other related and supporting economic activities. In term of regional economic development, economic leakage caused by HPHH is much bigger than its economic retain.

All of those policies and practices practically inhibit local people to participate directly and indirectly in forest resource utilization. While there is no other potentially abundant, available and suitable resources that can be utilized by local people, except forest land. The development of socio-economic sector will not succesful and sustainable unless using the most abundant, available and suitable resources.

RECOMMENDATION

We shall recognize that actually, up till now, local people surrounding forest area have learned from their experiences that : (1) there are already opened : national and international markets for wood and non-wood products, (2) logs can be produced by using simpler technology, management and investing smaller amount of capital, and (3) income from (illegal) logging is much higher than income from other livelihood. Therefore, if the local people by institutional setting are given a chance to utilize forest resource, it can be expected some benefits : (1) increase of local people welfare, (2) better performance (efficiency) of forestry economic sector, and (3) better motives of local people to save the forest, since it is their source of life, and therefore better assurance of forest resource sustainability.

I shall add some more reasons, why the local people must have chance(s) to utilize forest resource. In the last 25 years, the local people have felt that their right to utilize forest resources has been abandoned, and at the mean time their have seen outside people taking benefits and leaving degraded forest resources. There has been a kind of hardfeeling and misperception of fairness and justice inside the local people towards government policies and practices in forest and other local resource utilization. Rationally, there is no other way to make it normal, except giving the local people right and chance to utilize the remaining forest resources.

It is widely known that most of forest land outside Java are marginal land, so it is very risky to convert those land into more intensive agriculture. While, it is also more difficult to educate and train local people to do intensive agriculture than to do agroforestry. The present level of local people education is more suitable for doing forestry rather than intensive agriculture.

It shall be added also that from forestry economic point of view, to strengthen its forestry sector, Indonesia needs to strengthen large number of small and medium scale forestry companies, in order to balance an existing structure which is dominated by small number of large scale forestry companies.

As a conclusion, it shall be stated that from socio-economic dynamics point of view, it will not succesful and sustainable to stabilize forest margins in Indonesia if the local people are not put as a subject of development, especially in forest resource utilization and related socio-economic activities.

Since the objective of this seminar is to give more inputs for coming cooperative research program conducted by IPB and GAUG on the stabilization of forest margin, many parts of above propositions in my paper may be considered and developed further as hypotheses or pre-hypotheses to be analyzed and tested in the coming research programs.

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