

How Does Corruption Drive Deforestation in the Tropics?

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Introduction

One definition for corruption reads as "unlawful use of public office by politicians or civil servants for private gain" (Contreras-Hermosilla, 2001, p. 78). The same author gives a good overall introduction in this phenomenon in his section of "Illegal activities and corruption in the forest sector" in the "State of the world's forests 2001" by FAO. It is reflecting a new era in FAO's forest policies because corruption "was considered a taboo subject until recently" according to Dr M. Hosney El-Lakany, the present Head of FAO Forestry Department (in the Foreword of this report).

I learned personally the key role of corruption in the complex process of tropical deforestation in the times of Marcos' dictatorship in the Philippines by interviewing junior foresters in civil service. I have my personal observations also from some other countries, such other Asian countries as Indonesia and Malaysia as well as from Nigeria and Ghana in Africa. Accordingly, I first analysed theoretically the role of corruption among other factors in tropical deforestation (Palo 1987). No country data on corruption was then available for quantitative analysis, which were based on the other available empirical data.

A broad definition on sustainable forest management was agreed at the Rio UNCED in 1992 to satisfy social, economic, ecological, cultural and spiritual human wants of the present and future generations. Since then a high number of complex global, regional and national processes have been launched to support sustainable forestry. Both intergovernmental and non-governmental numerous actions have been going on. But it seems to be a long way from the words to the effective implementation because deforestation in large scale is going on untouched (Palo and Mery 1996, Palo 1999, Palo and Vanhanen 2000).

In the rest of this paper first a description of the role of corruption in tropical deforestation is given theoretically. The second aim is to introduce pilot empirical modeling findings. Finally, two innovative instruments will be launched in combating corruption: certification of competitiveness of stumpage markets and privatization of state forests. The former one could be implemented in a short term while the latter one would require a long term reform.

Corruption in deforestation

Deforestation as a concept is defined to mean a permanent reduction of forest area. Often forest degradation takes place prior to deforestation. Degradation refers here to a decrease in a quantity of growing stock of trees and the quality of forest ecosystem.

The control of deforestation is the first step to facilitate sustainable forestry. Therefore understanding of the underlying factors of deforestation has been considered utmost important. Corruption plays a limited independent role but is strongly inter-linked with a number of other causes of deforestation (Figure 1).

State ownership of forests is predominant in the world with a share of about three fourths of the global forest area. Under this form of tenure, according to the basic definition of socialism, socialistic forestry is practised. Typically then the prices of standing trees or stumpage prices are determined administratively lower than the competitive international price level. This procedure is important because it allows the private logging contractors to get hold of public timber with adequately low prices in order to allow corruption and still have a profitable business.

We studied for this anti-corruption conference the direct impact of corruption on deforestation in 36 tropical countries where corruption perception index by transparency international was available (Figure 1). The countries represent Asia, Africa and Latin America. We computed a simple Pearson correlation coefficient of -0.32 between forest area per non-forest area and corruption perception index. Accordingly, a weak correlation with an expected sign was found.

We also applied multiple regression modeling with this group of countries. The specification of the model was based on Figure 2 and the dependent variable and its function form were based on our previous studies (Palo and Mery 1996, Palo and Vanhanen 2000, Palo and Lehto 2000). The corruption perception index was introduced as a new independent variable among income per capita, income per land area, openness of trade and three ecological zone variables. All the independent variables were statistically significant under a risk of 8 %. The model explained 88 % of the variation of the relative forest area.

The degree of determination is the highest we have seen in this kind of deforestation modeling at the macro level and using the most reliable and valid data. We used so called random panel data of national observations. Forest area observations come from different years reflecting the years of forest inventories in the respective countries. (Although our forest area data are based on FAO, we do not use the updated base year data.)

Corruption variable has the weakest explanation power among all the seven independent variables according to the standardized coefficients. However, if corruption will be decreased by 10 %, according to this model, the relative forest area will be increased by 5 % or by the above definition deforestation will be decreased respectively. Corruption variable has the strongest multicollinearity with income per capita variable (+ 0.65) and with openness of trade variable (- 0.58).

Conclusion: Combat corruption

In some recent books, which have integrated a high number of economic deforestation modeling studies, corruption has not been included (e. g. Brown and Pearce 1994, Kaimowitz and Angelsen 1998). Most recently, Geist and Lambin (2001) consider corruption as one of the policy and institutional factors underlying deforestation among with demographic, economic, technological and cultural factors. But they have

no empirical findings about the impacts of corruption and they propose no instruments against corruption.

Contreras-Hermosilla (2001) concluded his review on corruption in the forest sector by saying that a bundle of instruments will be needed to fight against corruption. He stressed that the success may take a very long time. His proposals were composed of strengthening the property rights, eliminating undemocratic decision-making, increasing of rewards to integrity, increasing of rewards of the probability of detection, increasing of penalties, reducing discretionary power of government, streamlining of the policy, legislative and regulatory framework, increasing of the use of market mechanism, involvement of the media, NGO`s and the public in combating forest crime. He ended his review by stating that "In the fight against illegalities and corruption, words, rather than real action, frequently dominate" (p. 89). His bundle of proposals may be quite OK but will be difficult to implement and something more is needed.

There may still be situations in a number of countries similar to Indonesia during the presidency of Suharto when it was practically impossible to eliminate corruption. The business elite and the military had joined hands with Suharto`s family for logging contracts. This was a kind of iron triangle which was impossible to break even for the minister of forestry or for the minister of environment. Some illegal actions were taken to the courts and penalties determined but president Suharto and the military were able to protect the business elite from the implementation of the penalties. Dr Sjur Kasa of Norway, a political scientist in our World Forests, Society and Environment WFSE-research team, spent a year in Indonesia to reveal this situation. (Kasa 1999). Kasa was pessimistic also that the new situation after Suharto`s removal would bring any cure soon.

Understanding the role of corruption among the other underlying causes in tropical deforestation provides a chance to discover effective policy instruments in combating corruption. In this respect this paper deviates from the previous two ones that my proposals are based on the understanding of the all major underlying causes of deforestation. And I am proposing only two innovative instruments: changing the pricing system from an administrative basis to a competitive basis on the short term and privatization of the state forests on the long term.

Both of them aim to eliminate the financial source of corruption in forestry. In private forestry public office holders have no or very limited chances for private gain. In order to eliminate administrative stumpage pricing I propose certification of competitiveness of stumpage markets along with other ongoing forest certification processes (Box). In that way the instrument would be primarily implemented via markets. This would be advantageous in eliminating options for corruption in the process of transition.

Foresters in both industrialized countries and in developing countries have traditionally been loyal servants of the emperors, kings, empires and states. They have served their rulers in uniforms similarly with the military and the police with a key task to protect the state forests from trespasses of the masses. Traditionally it has been given without any doubts that the state has to be the major if not the only forest owner in any country. There has not been any socialistic ideology behind this behavior.

However, according to Karl Marx when the state owns the means of production the system is a socialistic one. And socialistic forestry is still prevailing in our contemporary world although no socialistic forestry country, as far as I know, is clearly moving towards sustainable forestry. The time has come to challenge this long lived forestry paradigm of the success of socialistic forestry. (Palo 1997, Palo 2000)

We have correlated relative forest area with income per capita in 166 countries (Figure 3). Along with population and initial income growth there is a tendency that forest area will first decrease but at a certain threshold of income (perhaps from 2000 to 10,000 USD) it starts to increase again. This hypothesis is also supported with our deforestation modeling studies (Palo and Mery 1996, Palo and Vanhanen 2000).

If we identify Ireland as located at the bottom of the U-shape of the diagram (Figure 3), there exist twenty countries to the right and above from Ireland: 18 of them have private forest tenure prevailing and only Brunei and Canada still practice socialistic forestry. Japan, Finland, Sweden and South Korea (although left from Ireland) provide prime cases of the power of private tenure prevailing countries but in each of them private forestry is regulated by the state. Accordingly we need to strive towards a balance of the control of both of the state and the market.

Since the early 1980s China privatized the user rights of both plantation forests in a large scale but the socialistic forestry has remained in the natural forests. New Zealand also privatized its plantation forests later on. In these two recent cases of privatization the outcome has been assessed often favourable but Latin America abounds with unsuccessful privatization of natural forests (Laarman 1996). Tanzania is considering privatization of its plantation forests but has a problem of weak demand and low stumpage prices. Brazil and Chile are cases where land reforms have favoured especially big land lords who have established large scale forest plantations. Also a transfer of property rights from the central state to local communities is going on in some countries, e. g. in Laos. It is also a favourable transition.

Privatization of socialistic forestry provides a global challenge for a long time to come. It is not only a problem in tropical countries but also in countries with their economies in transition and Canada. A successful privatization of socialistic forestry requires a fair and solid equal opportunity strategy and cannot be a single action but combined with various other policy instruments to overcome the whole bundle of underlying causes of deforestation (Figure 1). The process of privatization is itself sensitive for corruption. A country where privatization will take place should also have reached a certain level of income (Figure 3) to overcome the various costs of transaction. Therefore, certification of competitive stumpage markets and privatization are also mutually linked.

Socialistic forestry prevails in our contemporary world forests. It typically represents dead capital for most of the forest people as described by Dr Hernando de Soto (2000), a Peruvian economist in his famous book "The mystery of capital". He gives vivid illustrations of the complex problems of land reforms and overcoming of the bureaucracy and the transaction costs. Although he never mentions forests but is describing the problems of legalizing agricultural lands and housing lots, his book is a necessary reading also for those engaged in privatization of forests.

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