Climate change is presently a very hot subject. To increase the importance of forests as a carbon sink there is now much talk about restoring large areas with degraded forests. This can be done by natural regeneration or plantations established by large commercial companies, individual farmer or groups of farmers. In recent years a lot of work has been done, but large changes in land-use gives often serious conflicts. Many plantations also fail technically.

There are many different forestry and tree production systems, suited for different purposes and for specific local conditions. The Bangladesh, Malaysian, Indonesian etc. tree husbandry comprises a large number of small farmers, having ¼ - ½ ha of trees around their homestead. Being many, their contribution to the wood market is significant - small scale forestry on a large scale. At the other end, you have the Indonesian pulp- and paper factories which establish uniform plantations in large areas. In between there is a large number of different combinations of objectives, magnitudes, management systems, ownership, financing etc.

Around Bai Bang in Vietnam relatively large numbers of small plantations have been established during the latest 20-30 years. As per today, some 50 % of the wood comes from individual households with title to the land, whilst the other 50% are farmers leasing the land from the State Forest Enterprises at very varying conditions. When the program started there were great worries for conflicts and social and environmental problems. These problems have not occurred to the extent we feared. Why? One explanation can be that the production to a large extent is undertaken by small-scale farmers.

Most Nordic companies that start to grow biomass in a big scale in the South experience real problems and often devastating critisism (e.g. StoraEnso, ADDAX, Vattenfall, SEKAB, Global Solidarity Forest Found (Västerås Stift)). Is the solution to rely entirely on the production of small-scale farmers? But a gigantic modern pulp-mill can hardly rely only on the production of small-scale farmers. Large pulp mills may not have so much to learn from Bai Bang. But can we learn something about how farmers can be involved in wood production. Below we try to formulate some lessons.

Lessons from Bai Bang

- 1. It is important that there is a market for the products (e.g. wood):
 - If a market arise farmers can often start to produce wood spontaneously. But normally the poorest groups are not heavily involved. The poor have difficulties to react fast.
 - It is important that the changes do not take place too fast and that the farmers can trust the market. In Gujarat in India in the 1980s farmers planted Eucalyptus at a large scale because the prices of eucalyptus poles were very high. This led to overproduction and the market collapsed. Vietnam has in a few years become the world's leading exporter of chip. It is, however, now reported that the demand from China is going down and that the producers are experiencing problems.
 - When a market is developing fast it quite often happen that weak groups experience hard-ships. Of this reason intensive monitoring is needed.
 - The market is not necessary commercial as long as the farmers get something for their wood.



- The market concept also includes other items. Unless farmers know that they can buy rice there is a functioning market for rice during the pre-harvest period, they are not going to plant trees. And for food production, marginal land will be continued to be used for food production.
- 2. If large-scale commercial plantations established by domestic or foreign financiers shall succeed the local population must get something positive out of the investment. This has often proven to be difficult.
 - This fact means that it is difficult to make quick money. What is needed is often rural development and that is an area where commercial enterprises rarely have much experience.
- 3. It is certainly best (at least socially) if farmers/the local population can take part in the process and in some way "own the process". (In Vietnam, it was necessary, as the State Plantations and the Cooperative Plantations failed to produce. This can also be the case in many other situations. A good example is the periurban fuelwood plantations in Ethiopia, state run, which cause endless problems re land use and marginalization of farmers. AN option is to let the farmers produce the wood and make money thereof)
 - But even in small-scale forestry the weakest groups can experience difficulties. It is normally the part of the population a little better off that can best utilize the possibility to produce trees as a commercial crop.
 - Bai Bang was a factory on 50 000 ton and it was possible for the farmers in due time to produce a majority of the wood, either as having land tenure or leasing land from the State Forest Enterprises, the SFE's . A modern pulp mill can be on one million ton and then it is necessary that the investors can be sure that there is enough with wood (the investment is in billions of dollars). But this type of project will hardly be very common in the future. If the main product is biomass for energy the farmers can play a bigger role.
- 4. If the farmers shall be interested to produce biomass in a large scale, secure tenure is certainly needed, that means the farmers have the right to use the land and to crop and sell the products produced. The production of food must also be secured.
 - In Vietnam the rights to use the land has been changed drastically during the last years. This is evidently considered as something positive by many actors.
 - There must be institutions upholding the small farmers rights and prerogatives, e.g. to safeguard his/hers investments in e.g. plantations.
- 5. It can be easier to get acceptance for biomass plantations if the production at least partly is used locally. Production just for export can create conflicts and criticism.
 - It is often presented as something negative that we in industrial countries are producing bioenergy and food in poor countries. There is a shortage of energy in many poor countries and it would often be quite easy to produce bioenergy for the domestic market (even if the payment can be a problem)



- 6. It is probably best to work with individual farmers. Work with communities has often proved to be difficult.
 - A community village for instance is not a homogenous social and socio-economic unit. Rather, it is characterized by a distinct stratification in terms of land, money, power and e.g. market information.
 - In reality the land is often owned by the community (it is a common). It is rarely advisable and it is certainly very difficult to try to privatize the land in a hurry. Often it can be best to try to find forms to try to use the land as a common (at least for an initial period).
 - There might be several legal land use system in operation simultaneously traditional
 Paramount Chiefs in the uplands and remnants of British Colonial land rights in the
 coastal areas as in part of Westafrica.Land rights the central government can and do
 sign MoU for landrigths to foreign companies. However, these MoU are not necessarily
 recognized or accepted by the local communities
- 7. Plantations have often succeeded in countries with strong Governments (at least physically). Large industrial companies have also often succeeded to establish large areas (but it has often been conflicts).
 - If the plantations are established by strong actors, weak groups in the society can
 experience hardship. The power balance is very uneven to say the least and this easily
 leads to conflicts.
 - Some argue that one important reason why plantations have succeeded so well in Vietnam is the strong Government. According to this opinion, the authorities run over the opposition. The main objective was 43 % tree cover and there were winners and losers. The losers made best to keep silent.
- 8. The farmers must trust the market and the Authorities. There must exist a certain degree of law, order, justice, stability and predictability.
 - One can't change the rules too often.
 - Forest in general and plantations in particular are cultural and political creations, and fares very badly under disorder and political instability.
- 9. The Authorities (and Donors) must trust the farmers (and not try to control all details)
 - Especially in donor projects there are often very detailed rules about management plans etc. and this makes it often difficult for the farmers to get started. The detailed rules set by the Authorities are often a way to try to continue to keep control. Environmental NGOs have often many different objectives and this can make the task of farmers very difficult
 - There is a need for clear roles for different actors.
- 10. Some strong actor must try to defend the rights of farmers/the local population
 - The local population is normally the weak part (in relation to Authorities, donors a.s.o.). In the long run there is a need for strong farmer organizations. NGOs can sometimes make an important work, but often they have a different agenda from the farmers.



Conclusions

After studying experiences from a number of projects, we start to believe that it is very difficult for Swedish/Nordic enterprises to start growing biomass at a large scale in a poor country. The result is often (normally) criticism in the Swedish press and conflicts with the local population is a normal result. This can sometimes partly depend on journalists hunting for scoops, but the fact seems to be that real problems very often occur. 'Government Authorities and enterprises are dominating and in the end the profit interest dominate.

It is easy to say that it seems to be better if the local population can be engaged in the production. But if the objective is to start a pulp mill on one million ton it is hardly possible to rely only on small scale farmers as producers. But often it is possible to involve farmers in out grower schemes for at least part of the need. In South Africa, large pulpmills outsource wood production to farmers – the authors do not know to what extent today.

A possibility is also to establish a raw material base in an area before the industry is established. An enterprise can promise to buy raw material at a certain price during a number of years. And assist with technicalities like advice, credits, research etc. In the introductory phase at least part of the raw material produced can be exported (e.g. as bioenergy). In due time an industry can be established.

Changes in land use often means that someone is losing. The changes may be good for the country and the majority, but weak groups in society can experience problems. This happened e.g. when forestry started at a large scale in Sweden. In our case the poorest groups had few defenders. Perhaps the changes were in the long run good for all. How to handle this in our time when most poor groups have strong NGOs as defenders?

It seems unavoidable that we in the coming decades will see a great interest in establishing biomass plantations in the South. An experience we have of the UN-system is that when an area becomes hot, the main objectives are to collect as much money as possible. The interest in finding methods to use available funds in a good way is much less. The fact seems to be that we really don't know how to rehabilitate large areas of degraded land without causing hardship for the local population. We think it is urgent to give lesson learning high priority. To analyze the experiences from Bai Bang could be a good start.

It is important to consider the political will. Without this, even with good intensions it is very difficult to achieve anything. A good example is the FELDA experience, starting in the early 1970's and still going strong. The Malaysian Government, with the World Bank support, started in 1959 to allocated forest land to totally some 530,000 persons/113,000 families. The initial production was rubber, nowadays only oilpalm. Today, 75% of the farmers have paid back all the investment. The success here is based upon the market plus strong political commitments by the Government.

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