

Timing of Nursery Activities with Community Extension.

One of the most serious defects observed in many of the reforestation projects observed stems from the tendency of project organizers to define the establishment of a nursery as the principal and most problematic task of the project. The implicit assumption is: if we can supply the trees, the peasants will eagerly grab them up. This has resulted, in certain instances, in the planting of 100,000 bags before anybody knew exactly where the trees will be planted.

Both the Fermathe nursery and the Limbe nursery appear to have solved this problem. There is a CARE supplied Food for Work program which moves a substantial percentage of the Fermathe plants, and Ronald Smith in Limbe has managed to find buyers (mostly middle or large landowners) to take the plants from his nursery at subsidized prices. But certain other projects have found themselves with rapidly maturing nurseries before the project had decided who the beneficiaries of the nursery would be.

As indicated earlier in the report, this triggers off panic behavior in which project administrators may pressure project field technicians, who in turn may find themselves obliged to literally invade fields to plant the trees.

I have been told that the problem of peasant indifference (or resistance) to trees does not exist in the Fermathe area. This may be true, and one is in fact impressed by the large number of trees that are being planted by local community councils even in the absence of Food for Work. But this situation is not characteristic of the country as a whole. Organizers of projects should be aware that, throughout much of Haiti, the major task is not the technical one of establishing a nursery, but the organizational/motivational task of inducing peasant communities to plant and maintain the trees. Until the project has a handle on this problem, it should go easy at the nursery end.

## 7.7 Planting Decisions

### 7.71 Timing of the Planting

The nursery has to be timed in such a manner that the seedlings will be ready to transplant at a time when there will be rainfall in the recipient community. The need for coordinating nursery activities and shipments with the climate of the recipient communities seems obvious, but at least one project neglected it, to the detriment of the dispatched trees. The nursery in this case was located on a plain beneath the watershed. This is a region of sharp microclimatic differences between plain and mountain, and between one valley and the next. The seedlings were ready, it rained on the Plain, and the foresters assumed that it was also raining on the mountains.

A truckload of seedlings was sent up, and the technicians were forced to plant them in dry ground. The result was the destruction of all the trees.

If possible, the planting of the seedlings should occur as closely as possible to the planting of the crops in the fields where the trees will stand. As was mentioned earlier, trees that are intercropped with traditional cultivates stand a substantially higher probability of survival than trees that are not integrated into agricultural activities.

#### 7.72 Spacing of the Trees

The proper spacing of the trees is essential to their survival if the trees are being planted on uncultivated ground. In this latter case, they stand a high chance of being exposed to animals.

Experience in the FAO project in Aux Cayes indicates that peasants are more likely to take care of the trees if:

1. the trees in a row are planted closely together;
2. several rows are planted closely to each other to form a mini-lot within the field; and
3. each mini-lot is separated from the next by about 15 meters of open field in which the peasant will have space to tie his livestock.

Seedlings should be planted close together in the same row. For example, wood trees could be planted about a meter apart. Eventually they will be thinned to two meters. But the initial tight spacing of each row, and the juxtaposition of several rows to form a mini-lot, creates an impressive visual package which the peasant will be less likely to carelessly expose to an animal. The interspersing of open spaces of 15 meters furthermore gives the peasant ample room to tie cattle.

This deployment of trees is appropriate for non-cultivated plots. If the peasant, however, is intercropping fast growing wood trees with his traditional crops, there is no need to leave large open tracts. The land will presumably have crops for at least a year and a half. By the time the land goes into fallow, the trees will be large enough to withstand animals. In fact, with some species, the trees will be so large that animals can be tied to them. The branches of these trees will undoubtedly have been thinned to permit cropping, and there should be enough vegetation to permit grazing.

#### 7.73 Selecting Ecologically Appropriate Trees

In certain projects not enough attention was given to selecting the right spot on the plot for the right tree. In his traditional agriculture, the peasant knows precisely where he should plant the beans, the corn, the bananas, and the other items that form the crop inventory on his garden. But the organizers of tree planting

have not always shown the same sagacity. I have seen reforested hillsides on which fragile fruit trees have been planted on the denuded crests and hardy wood trees have been planted on the richer bottom land. Sound agronomy would call for just the opposite pattern.

The problem is frequently organizational, rather than technical, in nature. In the first place, the foreman, not the peasant proprietor, organizes the planting. He may have less stake in showing tender loving care for the proper deployment of the trees. But it may also be the case that, on the day the top of the ridge is being reforested, the nursery happened to send up lemon trees. But when the bottom was being planted, the trees were wood bearing bwa blan. The foremen conscientiously follows the directive to start at the top of the hill, with the result that the trees are planted in inappropriate locations. Once again we see the need for closer coordination between nursery activities and planting activities.

7.74 The Organization of Tree Planting

The question to be discussed here is: should the planting of the trees be the task of the landowner, or should it be the task of a community group of some sort? In most of the projects studied, tree planting was done strictly through groups of one sort or another. Nurseries did not, as a rule, give out trees to individual farmers.

Trees were dispatched en masse to a Community Council or to a groupman. And the planting itself was the responsibility of these groups. The landowner himself was simply one more member of the group, and in some cases the landowner was not even contacted.

If we reflect on this matter, we see that such a use of groups can have certain important consequences for the manner in which the trees will be perceived. Community development philosophers will laud the group spirit to which such an arrangement gives rise. But it gives rise simultaneously to a number of problems as well. The most serious disadvantage of this practice is that it creates the impression that the trees really do not belong to the landowner. And in certain regions peasants are in fact told that these are pye' bwa léta, the government's trees. Such a definition may be mildly effective as a deterrent to careless or willful destruction, but it certainly militates against the development of a proprietary concern on the part of the peasant. The arrangement that is being advocated in this report is one in which the owner views the trees as his own cash crop. In this sense the widespread practice of making tree planting a "community project" may be counterproductive.

The alternative to this is not to have a lone peasant all by himself logging the trees, digging the holes, and planting the seedlings. On the contrary, the planting of trees will have to be physically carried out by a group. The most effective division of labor is one in which some people carry the trees up, others dig the holes,

and yet others do the actual planting. The planting itself is a skilled task that perhaps should be left in the hands of specially trained community members.

The decision to be made is whether the peasant proprietor will have the responsibility of organizing the group, much as he organizes collective labor for other facets of his agriculture, or whether he will be the passive recipient of the group's activity on his land. If some arrangement could be devised by which the chef bwa.--the peasant owner of the trees-- had a certain organizational responsibility for the planting of the trees on his land, we could help combat the undesirable situation in which the peasants feel that somehow the government or the blan are filling his property with their trees.

#### 7.8 Surveillance and Protection of Newly Planted Trees

If trees were truly perceived by the peasant as a source of imminent wealth, as a cash harvest from which they could expect a substantial cash yield, projects would not have to make special provisions for the protection and maintenance of the newly planted trees. The peasants themselves would watch over them, in the same manner that they protect their beans and manioc. But in virtually none of the reforestation programs studied here had the peasants come to view trees as a true cash crop. In many cases they merely permitted the project to plant trees on their land--and in a few cases they found that the project had planted trees there without

their permission. Under such conditions, trees are in great danger during the first year or two of their lives in rural Haiti.

To the degree that reforestation programs find themselves obliged to "push" trees on to unconvinced or reluctant peasants, then these projects had better build some systematic surveillance measures into the program design. Yet for the most part, the projects researched here made virtually no serious provision for the protection of the trees.

7.81 Livestock: Main Source of Danger

In the words of one peasant: se pyé bet ki kraze, se' bouch bet ki manje. (The animal's foot knocks down, the animal's mouth gobbles up.) Livestock constitute by far the most serious threat to the survival of newly transplanted trees. To understand the precise nature of the danger, a few brief comments should be made on the contemporary livestock economy in rural Haiti.

One way of dividing up the livestock kingdom in rural Haiti is to distinguish between those animals for which peasants search out decent pastures (even to the point of renting or otherwise paying) and those animals are more or less left to fend for themselves. Into the former category we can place cows, horses and mules. The



latter category is made up of pigs, goats, sheep and other lesser animals. Though pigs may receive special care in the weeks before their sale, they and the other lesser animals are for the most part left to fend for themselves in the lakou, at the roadsides, on the barren edges of former gardens.

But cows, horses, and mules require more elegant feeding. In most of the regions visited, horses are fast vanishing, and mules are playing a decreasingly important role. The major enemy of the reforested hillside in rural Haiti, then, is the picketed cow.

The problem stems from the nature of the feeding system. The contemporary pasturage system in rural Haiti is a midway compromise between the traditional patterns of bygone years and more modern systems found in economically more advanced contexts. In the traditional system, the Haitian peasant branded his cows and set them out to wander freely within a large region. The cow would adopt a territory within which it would range (and bear offspring). With some effort, the peasant could always retrieve the animal when the need arose.

This type of free grazing has been effectively outlawed throughout most of Haiti at least as early as the 1940's. It is incompatible

with population pressure and the demand for garden land. When this type of free grazing prevails, cultivators are obliged to construct wooden fences around their gardens, a luxury that is simply not possible in a deforested country such as Haiti.

The most common alternative to free grazing is the modern practice of fencing in a pasture and allowing animals to wander and graze within the confines of that pasture. But even this system demands the construction of fences, and--except for the well known living fences of Haiti--fences demand either wood or the money to purchase wire. To get around these demands, the Haitian peasant has adopted the practice of picketing animals as his major pasturage strategy. A long rope is tied around the animal's neck and at the other end is fastened to a stake which is driven into the ground. In this way no fence is needed. Someone from the household--generally male children--are assigned the daily task of changing the animal's position, as fodder is terminated, and of bringing the animal once a day to drink water.

The mortal enmity that has arisen between the cow and the young tree stems from the fact that the vast majority of trees have been planted on agriculturally marginal land. The peasant has generally tried to comply with the desires of reforestation planners in a way that entails as little interference as possible with his agricultural cycle. Furthermore land that is removed from agriculture generally tends to be the steeper land, where the perceived danger of erosion

is greater, and where Community Councils will understandably tend to plant the trees. This use of marginal land for tree planting can be viewed as a convenient arrangement by which peasant communities can secure the advantages of project intervention (i.e. Food for Work) with as little risk as possible to their own agrarian economy.

But it is on precisely this type of land that the cows are also picketed. The peasant has removed the threatening trees from his garden, but he has introduced a competitor to his cow. The dilemma is complicated by the truly essential role that the cow plays in the Haitian peasant economy. Virtually no peasant eats the meat from his cow, and few drink the milk. The value of the cow is rather in terms of its function as a self-perpetuating bank to be used to purchase land or to help see the owner through some crisis. In the current state of affairs, the picketed cow is worth a lot more to the peasant than the newly planted row of trees, especially if they are exotic trees whose use he may not understand, and whose name he may not even be able to pronounce.

The result of this situation has been the destruction of perhaps hundreds of thousands of newly planted trees. Their principal function had been served--Food for Work--and there may be little stake in their preservation.

Precisely how does the destruction take place? There are several possible sequence of events that surfaced during the investigation.

1. The farmer himself may be simply hostile to the trees, especially if he was not allowed to participate in the wage labor to plant them or--as has happened--his land was simply invaded in the name of konsevasyon-di-sol.

2. The farmer may simply be careless and leave the animal too much rope, permitting it to munch on or trample a young sapling.

3. It may be the farmer's child who pickets the animal and accidentally places it within reach of the tree. (Farmers generally would blame their children when questioned as to why animals destroyed the trees on their own land.

4. The farmer may not be the sole owner of the land. It may be undivided inheritance land communally held. This is particularly frequent in the case of the type of agriculturally marginal land that has been the object of tree planting. In such a situation there may be competition among siblings for the scarce pasturage and there will be an understandable tendency to ignore the young trees.

5. In certain regions it may be a neighbor's cow who kills the trees. In many communities one can graze his animals on the land of a friend or neighbor without asking permission. Though this traditional permissiveness is fast disappearing in more prosperous regions subject to land pressures, it still prevails on the type of marginal land that has been relegated to reforestation projects.

6. The farmer may have rented out his pastureland. The practice of renting is associated with the long cord. The person renting the land for a given period of time has only one objective: To have his animal get as much of the fodder as possible. This means using a long cord, which in turn leads to the picketing of animals in a way that will allow them to reach newly planted trees.

In short, where the trees are not viewed as a valued crop and where they have been relegated to marginal land used only for pasture, they will almost certainly succumb to their mortal enemy the cow.

#### 7.82 Other Sources of Danger

Though cows are the principal source of danger, they are not the only source. Many trees have succumbed simply because they were planted in the absence of sufficient rainfall. This type of untimely planting frequently occurs because of pressure from the nursery directors, who want to clear out their stock come what may, and who may order the planting of such and such number of trees. I have also observed trees in their second or third year damaged by the peeling

off of bark done purposely by people who are making a cord of one sort or another. This was observed particularly in the case of the taveno tree.

#### 7.9 Project Measures Against Destruction

Most projects studied had simply made no provision for the protection of the trees. It was simply a matter of plante' pyé bwa, viré do-ou (plant the tree, turn your back). The record keeping systems are indicative of a general attitude. Those projects which kept records restricted the archives to simply listing the number of each species of tree planted and the date of the planting. I found no records being kept of the locations of the plantings or of the owners of the land where the planting occurred.

One exception to this was the FAO project in the Aux Cayes area. This project hired special watchman (gadyin) to patrol the treated hillside and report destruction to the trees. If an animal was found destroying the trees, the animal could be impounded and the owner made to pay a fine--even though the animal was on his own land. The peasant in addition might be ordered to replant the trees at his own expense.

This system was not very effective. The watchmen were generally local people who would come under strong local sanctions if they actually went ahead and took a peasant's animal from his own land.

Projects are ephemeral: residence in a community will be longstanding. The watchmen were understandably reluctant to make a nuisance of themselves among the neighbors upon whom they would one day have to count again. It is unlikely that the project ever successfully elicited the cooperation of the watchmen, despite the modest salary that was being paid.

An even more unsettling practice was observed in Kenscoff. There the peasants are being told that the trees that are being planted are pyé-bwa-léta, government trees, and that they will be punished if they destroy this governmental property. This may be an effective threat but it militates directly against the growth of proprietary feelings on the part of peasants.

If the objective is to create new bonds between peasants and trees. This construal of the trees as alien property sabotages the central part of the project.

Certain projects have less of a problem with maintenance. The OMS project in Cap-Haitien simply pays the peasants so much per tree per year. The survival rate of the trees is apparently very high. The Smith nursery in Limbe supplies trees principally to larger landholders who pay a modest price for the trees, and who have both the land and the motivation to take care of the trees once they are planted. There is little need for project intervention in such circumstances.