

## SOCIAL FORESTRY IN TAMIL NADU

By

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### Farm Forestry

Afforestation of Government lands outside the Reserved Forests was first taken up by the Tamil Nadu Forest Department on a pilot scale in 1960. As this proved to be successful, a regular programme of afforestation under the scheme of 'Farm Forestry' was executed in the Third and subsequent Five Year plans. The work was taken up in almost all the districts of the State by the territorial Forest Divisions and by the end of the Fourth Plan, an area of 41,561 ha had been planted up. (Anon, 1975).

The areas chosen for afforestation are primarily the foreshores of the large number of minor irrigation tanks in the State. The species planted was babul (*Acacia nilotica*). Some planting was also done on the hills, the species chosen being Blue Gum (*Eucalyptus globulus*) and Black Wattle (*Acacia mearnsii*) in the temperate areas of the Nilgiris, and miscellaneous fuel species on the barren hillocks on the plains. These lands are under the control of the Revenue Department but stand vested in the *panchayats* under the provisions of the Madras *Panchayats* Act, 1958. Hence, it is necessary to obtain the consent of the local *panchayats* before undertaking afforestation of the areas in question. As the original proposal of reverting the planted areas back to the *panchayats* for maintenance after the first 3 years did not work, the Government of Tamil Nadu have ordered that the maintenance and upkeep of the areas will also be with the Forest Department. 50% of the revenue derived by the sale of growth raised in these areas goes to the *Panchayats* concerned and the other 50% is credited to the State Forest Department as a moiety for the expenditure incurred towards the raising and upkeep of the plantations. The first of the plantations was harvested in 1969-70, and since then, the department has been reaping handsome revenues, not to speak of the income derived by the *panchayats* without incurring any expenditure. The revenue is likely to go up in the years to come as more plantations will be felled on attaining silvicultural maturity.

### Social Forestry

The National Commission on Agriculture have, in their report on Social Forestry, suggested a number of measures to gear up the Farm Forestry Programme. Pursuant to these recommendations, two Extension Forestry Divisions have been constituted at Tiruchirapalli and Vellore and more recently another division at Salem. Unlike the Farm Forestry Programme which mainly dealt with the afforestation of tank foreshores, the Scheme of Extension Forestry aims to diversify the programme of afforestation outside the Reserved Forests. This has particular significance in the context of Tamil Nadu where

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the percentage of forest is as low as 16% as against an optimum requirement of 33.1/3% for the balanced development of the region.

The scheme of Extension or Social Forestry is being implemented under 3 major heads :—

(a) *Afforestation* :—All Village wastelands, tank beds and foreshores and barren hillocks vested with the *panchayats* are proposed to be afforested. Each special Division is expected to afforest an area of 1,000 hectares annually thereby enabling a much quicker coverage of the available wastelands than the territorial units. Unlike in the regular Farm Forestry Programme where only the larger tanks have been taken up, even areas of small extent are taken up for planting. Out of a total of 62,000 major and minor irrigation tanks in the State constituting in all an estimated area of 12 lakh hectares (Anon, 1975, nearly one fourth of the area would be covered by the smaller tanks which were earlier not considered suitable for afforestation for reasons of administrative convenience. With the constitution of specialised units exclusively for Farm Forestry, it will be possible to afforest these areas of smaller extent as well thereby bringing in an additional area of nearly 3 lakhs of hectares under vegetal cover in addition to the areas that would normally be covered under the Farm Forestry Programme.

(b) *Avenue planting* :—The second item of work proposed to be undertaken is the planting of avenue trees on all highways and *panchayat* Roads. This is a much neglected item of work and therefore the scope for it is great. Apart from ornamental species which will be planted in and around towns, the major species proposed to be planted along avenues is Tamarind which yields a valuable fruit which is so much in demand in the culinary industry. The scheme of avenue planting will therefore be remunerative apart from conferring immense social benefits to the people.

(c) *Sale of seedlings to the public* :—Under this programme, seedlings of Forest species which could be planted along farmsteads, field bunds and vacant spaces are raised for sale to the public. It is proposed to increase the number of seedlings steadily year after year as the idea of Extension Forestry catches up with the public. In the state of Tamil Nadu where the density of population is very high (317 per square kilometre) and consequently the pressure on land is great, there is little scope of increasing the area under Reserved Forest. However it should be possible to increase the production of forest produce such as fuel and small timber, pulpwood manure leaves, fencing material and minor forest produce by the pursuit of Extension Forestry. A clump of bamboo planted in each farmstead will produce enough fencing material for the farmer every year apart from bamboo for his own rural needs. Likewise a row of trees of manure leaf yielding species such as *Cassia siamea*, *Delonix alata*, *Thespesia populnea* or *Glyricidia maculata*, etc., planted along field bunds could provide the farmer with much needed organic fertiliser without having to pilfer from the Reserved Forests. A few trees of *Eucalyptus*, Silk cotton (*Ceiba pentandra*), Drumstick (*Moringa pterygosperma*), etc., planted around the farm house or along field bunds or as a fence, apart from serving as a line of demarcation, could provide his requirement of fuel and small timber and also perhaps provide industrial wood to

supplement the needs of pulping industries in the State. This could bring the farmer additional revenues apart from meeting his own needs. As the cost of seedlings will be realised by way of sale, this socio-economic programme will involve no expenditure to the Government.

It will therefore be seen that the scope for pursuit of Social Forestry is great. Although a beginning has been made by the constitution of 3 Extension Forestry Divisions, there is an urgent need to have an Extension Forestry Division in each of the 13 districts of the State if this important socio-economic programme is to be pushed through and the people are to derive its benefits.

### Planting technique

(a) *Afforestation of tank foreshores* :—The planting technique adopted for afforestation of tank foreshores is relatively simple. Depending on the size of the tank an area of 1 to 3 chains from the bund in the deepest portions of the tank is excluded from afforestation. In the rest of the area, pits 30 cm cube are dug and polythene container seedlings of babul are planted at the out-break of rains. A weeding and soil working each is done in the first two years. The chief problem encountered with tank afforestation is the submergence of the plants during the north-east monsoon rains when the tanks get filled up with water. In the smaller tanks which are largely rainfed, the inundation is only for short periods. In such areas planting is done even as early as in April—May with big sized plants so that the plants reach a good height by October—November when the tanks get normally filled up. Casualties, if any, following submergence are beaten up as the water recedes. The larger tanks which are canal or river fed, may get filled up with water early in the year which may continue for several months. In such areas, planting is invariably done as the water recedes. As the moisture regime is high and the soil very fertile, babul grows up quickly and goes above the submergence level before the end of the year. The plants are not harmed by the submergence even if a small portion of the shoot remains above the water level. Efforts are therefore concentrated in trying to make the plants reach a good height before the end of the first year.

Though the programme of tank afforestation has achieved considerable success, in many tanks large blanks are noticed particularly in the upper reaches due to the soil being saline and alkaline. In such areas babul either fails or stagnates. Other species such as *Acacia planifrons* and *Acacia leucophloea* are found to give better results and therefore, a careful demarcation of areas depending on species suitability seems necessary before embarking upon afforestation of any tank.

As the areas immediately below the bund of every tank are cultivated with wet crops such as paddy or sugarcane, there is objection from the *ryots* to the planting of trees with large crowns along the bunds. Hence, along the toe of the bund one or two rows of manure leaf yielding species such as *Cassia siamea* or *Delonix alata* or Palmyrah which have a light crown are planted. The manure leaf species could be lopped every year. While *Cassia siamea* is raised by planting container seedlings, in the case of Palmyrah, the nuts are sown directly into the soil. In the case of *Delonix alata* stakes 2 metres in height are planted

in crowbar holes and the earth tamped around. The cut ends are smeared with cow dung or wet soil to prevent desiccation. The planting of these species along tank bunds is welcomed by the ryots as there is a great demand for manure leaf for paddy cultivation. However, as these species are liable to be browsed, it is necessary to fence them. Since only a few hundred plants are planted in every tank bund, this can be done without much difficulty.

(b) *Afforestation of hilly areas* :—Afforestation of the barren hillocks along the plains, is however, not that easy. Pits 45 cm cube are dug and container plants 6 to 8 months old are planted in May—June during the first showers. 2 weedings and soil working are done during the first 2 years. The plants are relatively slow grown and hence careful protection from browsing animals is necessary during the first few years. The species chosen are *Acacia ferruginea*, *Acacia sundra* and *Acacia planifrons*.

Both in the afforestation of tank foreshores and hillocks on the plains, generally thorny species are chosen because of the problem of protection from grazing animals. The thorny species are generally untouched by cattle once the adult thorns develop and hence protection from goats alone needs to be ensured. A system of employment of plot watchers is in vogue, one at the rate of 40 ha, to protect the areas, and this has worked generally well.

(c) *Avenue planting* :—Avenue planting is a relatively new work undertaken by the State Forest Department. As mentioned earlier, the species mainly adopted is Tamarind (*Tamarindus indica*). One pair of Banyan cuttings is also planted for every kilometre in order to break the monotony and also to serve as a resting place for pedestrians and animals. Ornamental species such as Gold Mohur (*Delonix regia*) Copper pod (*Peltophorum pterocarpum*) or Pungam (*Pongamia pinnata*) are planted along the approaches to towns and villages.

The norms followed for avenue planting are laid down in volume III of the Madras Highways Manual. Generally, one row of trees is planted on each side of the road, keeping an espacement of 10 metres from tree to tree. The distance from the centre of the road to the tree varies according to the width of the road. Generally, the trees are planted atleast  $1\frac{1}{2}$  metres away from the drain.

The main problem encountered in this work is the protection of the plants raised. In the earlier stages the plants are to be protected from grazing animals. This is being done by erection of tree guards. Various types of tree guards are now being tried out and it is hoped that a suitable tree guard which is effective without being quite expensive will be arrived at. It is also planned to raise tree banks suitable places and transplant saplings 3 to 4 metres in height along the road margin. Some work on these lines has already been done, but the economics and efficacy of either method has to be worked out in greater detail, before undertaking on a larger scale.

The protection of the older trees against vandalism is however a continuing problem. There is now no effective legislation to protect avenue trees and it is a sad sight to see stately trees raised in the past mutilated for fodder and fuel by unscrupulous people. It is proposed to notify all road margins under sec. 26 of the Madras Forest Act so as to effectively deal with this problem.

## SUMMARY

Afforestation of Government lands outside the Reserved Forests under the Farm Forestry Programme was taken up in the State of Tamil Nadu from 1960 onwards. The areas chosen are mainly foreshores of the large number of tanks in the state. Some planting has been done on barren hillocks as well. The scheme has been successful and extensive areas have been planted. The revenue obtained by sale of the plantations raised is shared by the Government and the Panchayats concerned on a fifty-fifty basis. Apart from increasing revenues, the scheme has brought in a number of direct and indirect benefits to the people. The Farm Forestry scheme is now part of the larger Social Forestry Programme, which has been introduced pursuant to the recommendations of the National Commission on Agriculture. Three new forest divisions have been constituted exclusively for Social Forestry, thereby facilitating a larger coverage of areas. Other aspects of Social Forestry such as planting of road side avenues and sale of seedlings to the public for planting on private lands have also been taken up. There is immense scope for these items of work and the benefits that are likely to accrue to the community are great. It is hoped that a separate forest division for Social Forestry could be established in each of the 13 districts of the state, so that the people may derive the full benefits of this laudable programme.

तमिलनाडु में सामाजिक वानिकी

लेखक जे० विल्सन

## सारांश

तमिलनाडु राज्य में कृषि वानिकी कार्यक्रम के अन्तर्गत आरक्षित वनों से बाहर की जमीनों पर वन लगाने का कार्य १९६० से किया जाता आ रहा है। इसके लिये चुने गये क्षेत्र प्रधानतः इस राज्य के बहुत सारे तालाबों के तटपर हैं। कुछ रोपणकार्य नमन पहाड़ियों पर भी किया गया है। इन रोपवनों की बिक्री से मिलने वाले राजस्व में सरकार और संबंधित पंचायतों दोनों को आधा आधा हिस्सा मिलता है। राजस्व वृद्धि के अतिरिक्त, इस योजना से जनता को कई प्रत्यक्ष और परोक्ष लाभ भी पहुंचे हैं। कृषि-वानिकी भी यह योजना अब बृहत्तर सामाजिक वानिकी कार्यक्रम का अंग बनाली गई है जिसे राष्ट्रीय कृषि आयोग के अभिस्तावों के कार्यान्वयन स्वरूप शुरू किया गया है। सामाजिक वानिकी के लिए पृथक तीन नए वन मण्डल बनाए गए हैं जिनसे अधिक बड़ा क्षेत्र इसके अधीन आ गया है। सामाजिक वानिकी के अन्य पक्ष जैसे सड़कों के किनारे वृक्ष पाति रोपना तथा निजी भूमियों पर वृक्ष लगाने के लिए जनता को पौधों की बिक्री करना भी आरम्भ किए गए हैं। ऐसे कार्यों के लिए अभी बहुत क्षेत्र है और इन्हें करने से जन समुदाय को बहुत लाभ मिलने की संभावनाएं हैं। आशा है कि राज्य के सभी तेरह जिलों में सामाजिक वानिकी के लिए पृथक वन मण्डल बनाए जा सकेंगे ताकि इस प्रशंसनीय कार्यक्रम से जनता को पूरा पूरा लाभ प्राप्त हो सके।

Geselliges Forstwesens im Tamilnadu

J. WILSON

## ZUSAMMENFASSUNG

Aufforstung die regierungen Flächen außer den reservierten Försten, unter dem Pachthofforstwesens, war im Tamilnadu Staat von 1960 aufgenommen. Die ausgewählten

Flächen waren hauptsächlich die Vorderufer der vielen Wasserbehältern im Staat. Etwas Pflanzungen waren auch an unfruchtbaren Anhöhen getan. Das Schema war glücklich und ausgedehnten Flächen waren gepflanzt. Die Einkünfte beim Verkauf der Pflanzung ist an 50:50 Basis bei den Regierung und die verwandte Panchayats verteilt. Außerdem vergrößern Einkünfte hat das Schema einigen direkte und indirekte Wohltäten zu den Leuten gebracht. Jetzt ist das Pachtforstwesens einen Teil des große gesellige Forstwesensprogramms, daß zufolge den Empfehlungen der National-Landwirtschaft-Kommission eingeführt hat. Drei neue Forstabteilungen haben, ausschließlich für geselliges Forstwesens, festgesetzt, dabei mehr Flächen gedeckt würden. Anderen Ansehen des gesellige Forstwesens nämlich die Pflanzung die Straßenseiten Alleen und Verkauf der Sämlingen zu den Menschen um Pflanzung in privaten Flächen werden auch aufgenommen. Es gibt vielen Spielraum für diesen Arbeiten und Vorteilen zu den Leuten groß sein wird. Das ist gehofft daß eine getrennte Forstabteilung des gesellige Forstwesens in jederen 13 Distrikten des Staats etablieren könnten, sodaß die Leute vollen Vorteilen dieses lobenswerte Programms ableiten können.

#### Foresterie sociale au Tamil Nadu

par J. WILSON

#### Résumé

Le reboisement des terrains gouvernementaux, se trouvant à l'extérieur des forêts de protection, sous le cadre du programme du traitement en forêt rurale, fut abordé au Tamil Nadu à partir de 1960. C'est surtout les bords de nombreuses citernes, se trouvant dans l'Etat, qu'on a choisi pour cette opération. Quelques peuplements ont également été créés sur les collines infertiles le projet a réussi et on a reboisé une grande surface. Les rentes forestières en provenant sont partagées par portions égales par le gouvernement et les "panchayats". Le projet a augmenté non seulement les rentes mais a aussi apporté, au peuple, de plusieurs bénéfices directs et indirects. Le traitement en forêt rurale fait alors parties d'un plus grand programme de la foresterie sociale abordé suivant les avis rendus par la Commission Nationale d'Agriculture. Trois sections forestières concernant exclusivement de la foresterie sociale ont été créées facilitant ainsi le boisement plus vaste des terrains vides. Le programme renferme également d'autres aspects de la foresterie sociale tels que la plantation des arbres le long des voies et la vente des semis au peuple pour le boisement des terrains privés. Le programme est très promettant et les bénéfices en provenant sont immenses. On espère qu'il serait possible de créer une section forestière, se chargeant de la foresterie sociale, dans chacun de 13 districts de l'Etat pour que les gens puissent bénéficier amplement de ce programme louable.

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