

**PROCEEDING OF ONE DAY SPONSORED WORKSHOP**

**ON**

**“ Plantation Programmes in Industries & Allied Complexes ”**

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TALK DELIVERED BY DR. S. G. TORNE, HEAD, DEPARTMENT OF  
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We cannot start the plantation programmes along the Western Ghats at all the places. It is not proper unless and until we study the vegetation existing previously at those critical spots. When the aerial photographs (of 1935) of Western Ghats were viewed, ground was hardly seen. The entire area was covered with trees, houses(huts) and roads. Aerial photographs of 1960 show quite a good number of trees, while the aerial photographs of 1989-90 are very much discouraging.

For comparison we could procure the aerial photographs of M/S Zuari Agro Chemical's Ltd (ZACL), Goa University, and of Chowgule's Pale mines. The main intention was to compare the land cover between the ZACL and Goa University premises. Both these premises have rocky plateau. The former has a compound wall while the latter has a barbed wire fencing. Both these premises have plantations but the former premises has retained quite a good percentage while the latter could not.

Dr. R. G. Desai, consultant, ZACL and Shri P. Subba Rao, Manager, Liaison & Sales, ZACL, approached us some-time back with a request to do the vegetation mapping of ZACL. Mr. Henry Nyabuto, Ph.D. student, was assigned this work. He completed the work to the satisfaction of all and the same report is going to be released today. Mr. Nyabuto was also asked by the Goa University to do the vegetation mapping of its premises. He has completed the work in addition to the plantation monitoring work of Chowgule's Pale mines. At Pale mines, we had surveyed the unmined land for three years, collected the seeds and raised the seedlings and the same plants have been reinstated. At least the attempts have been made. This is the diciplined plantation.

Through this workshop we thought it appropriate to all the Industrialists that let there be a planned plantation programmes at every place or site. Prior to the plantation programmes, the area has be surveyed and every effort to be made reinstate the disturbed patch with proper seedlings/land cover.

Plants distributed by the Dept. of Forests, Govt. of Goa, are mainly Acacia auriculiformis, Casuarina etc. This becomes a monoculture when these plants are used in plantation programmes by Mining Industries to cover their dumps and tailing ponds. The understanding of monoculture by many tree improvers is as follows :

~~Excessive~~ plantings of similar genotypes of forest trees that are homogeneous enough so that the dangers from pests or environmental extremes become too great a risk." When the aerial photographs of plantation programmes of mining concerns are viewed, we have difficulties in locating the plants. This is because the leaves of A. auriculiformis are very light coloured. These plants also do not become gigantic trees but remain as slender twigs. We certainly do not appreciate this kind of plantation programme. We have introduced some plant species at Pale mines (Chowgules') whereby we get canopy of 16 mts. in diameter. We have taken troubles in raising tree species in polybags and directly planted on the mining rejects. Instead of planting 1 lakh Australian acacias, let us have only 100 tree species (of the previous flora representing the area concerned), so that we get good land cover on the mining reject. I request the authorities of the Industries to approach us - the Depts. of Botany & Zoology- for maintenance and monitoring of your plantations. Even the Dept. of Microbiology can do a lot to improve the microflora at the concerned (disturbed) sites. As it is always said in Gujarati language.... "Jeno kam teno thai, bije kare so..". Hand over your difficulties to us and feel free to approach us and when you require.

I do admit that the industries have their own difficulties. At the same time I feel that the minister of Department of Science and Technology, should impose restrictions on the industries to maintain the plant cover on their premises and establish polyculture in real sense. Before sanctioning permission to start the industry, Government officials should make it compulsory to have a survey of the vegetation of the site concerned. (Stock-taking of preexisting plantation) and afterwards once the construction work proceeds, the remaining areas to be utilized for plantation.

We approached some industries requesting for permission to enter as we are interested in finding out endangered threatened plant species. Industries have a good compound wall and presuming that they have not utilized the entire premises for their construction work. Some of the industries permitted us almost immediately while others thought that we are interested in their pollution plant. Permit me to say that we are not at all interested in their effluent tanks. It is the work of the pollution Board. From the aerial photographs we can judge the plants existing in their premises.

When we had taken out our first circular, most of the industrial concerns presumed that this workshop is meant for mining industries as they only have to do the plantation while other industrial concerns have to raise only horticultural plants and maintain lawns. On the other hand, for the last 5 to 6 years, mining concerns have planted lakhs of Australian acacia and Casuarina plants and the same plantations were shown to the participants (Dr. A. D. Bradshaw, University of Liverpool, UK, Dr. M. J. Chadwick, University of York, UK, and others) of the FIMI's (Federation of Mineral Industries, New Delhi). National Seminar on Protection of Environment and Ecology by Mining Industry, held on 3rd & 4th Feb. '89

Kala Academy Hall, Panaji. These plantations were shown on the previous day of the Seminar and also on 5th Feb. '89, to the above mentioned participants. Dr. Bradshaw was really annoyed to see only the Australian acacia plants. When he was asked about his work, he told me that his team starts with the ground cover and slowly introduces plants of the higher level. It does not become possible at the mining sites because there is no fence. On the contrary, we told him that we start with the tree species and ground cover takes its own shape and time. We have told him that we introduce those plants which have been dislodged due to the mining activity. We try to make a real polyculture while the team of Dr. Bradshaw is not concerned with mono or polyculture during plantation programme.

With these remarks and some of my observations I welcome all the participants for today's workshop & we will try to sort out any of the difficulties being faced by the management of the Industries & allied Industrial complexes as far as their plantation programmes are concerned. Today's deliberations will commence at 11 am. Vegetation mapping of the ZACL has been completed and the report is going to be released very soon. I request Shri R. Kapoor, Sr. Vice President of Zuari Agro Chemicals Ltd, to say a few words. I sincerely wish that there should be a cell formed at this University which should be in a position to solve the difficulties of the Industries in their plantation programmes. We can also start some activities.

With these remarks I once again welcome all the participants to this One-day sponsored workshop. Thank you.