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DROUGHT AND THE RUBBER PLANTING

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Drought has become a recurring feature in Kerala in recent times. The State was hit by a severe drought in 1983. It was followed by three successive droughts; in 1985, 1986 and 1987.

ost severe was the last. The mmer was very intense in 1987 and the rainfall was most scanty, reported to be the lowest in the last 50 years. When thundering downpours usually rock the State during July/August every year even going to the extent of causing recurring floods, the sun sent down burning rays on almost all the days during the months this year. The monsoon rains arrived very late and disappeared after a brief spell.

In recent years droughts and floods have been taking a heavy toll of the rubber plants in Kerala. The 1985 drought was followed by a flood. The flood was more aggressive; it destroyed agricultural crops all through the State. lood relief measures were unched by the Government of Kerala to compensate at least partially the loss incurred by the agriculturists. Flood and landslides affected newly planted rubber in many areas. Fresh plantings were either buried under landslides or washed away or submerged under water. The Kerala Government extended for rubber cultivation as part of the relief measures financial assistance to raise polybag plants through rural cooperatives for supply to the affected small growers at subsidised rate.

The 1986 drought caused havoc in almost all the newly planted areas. Though rubber can fairly tolerate many vagaries of the weather, lakhs of plants established in the field during 1985 dried up in the pitch of the heat. Branches of yielding trees dried up in many places especially in areas where soil depth was low. Through there was no total loss of trees in any plantation, several small holders complained of trees loss at the rate of 10 to 15 per acre. There were also instances of larger casualties.

The impact of the drought was more severe on rubber seedlings. On a rough estimate about 60 lakhs of budded plants were put in the field covering about 12,930 hectares in Kerala during 1986. Of this about 7.22 lakhs perished in the scorching sun. A quick estimate made by the Rubber Board collecting data through its field network indicated that 19,130 units planted in the small sector were hit by the drought, with an average of 14% loss in plants. In about 200 cases the loss was as high as 100%. A vast majority of the units-about 14,000-lost only less than 10% of the plants. The data, as compiled from the field reports, are given elsewhere.

Planters have now to think of water management techniques in their estates to protect the plants from the summer heat, since recurring droughts pose a major threat to agricultural crops. Localised water conservation like taking extra pits in between rows of plants for collecting water and keeping moist the soil layers, drip irrigation and contour terracing in association with establishment of leguminous ground cover could help the soil to retain moisture throughout the year.

The drought of 1987 virtually swept the state. It arrived in two spells; during March/April/May and July/August. By the first affront yield of the rubber trees was affected. It has been estimated that about 6,000 tonns of rubber worth over Rs. 10 crores was lost since latex flow from the trees was reduced as the moisture content in the soil drastically came down.

The second spell seriously affected the planting operations of the year. June/July is the period for rubber seedlings to be put in the field. Several growers had made arrangements for planting material procurement and preliminary field preparations. Information available from various areas indicate that not even 40% of them have carried out planting because of scanty rainfall. In the case of those who had planted this year a sizable percentage of the budded plants have dried up. But fields that were planted with polybag plants were practically free from casualties. In many rural villages several owners of land were waiting till the middle of August for a favourable climate to attempt planting, after the preliminary operations like clearfelling, pitting, filling etc were done. In North Kerala where the rainfall has been extremely low a large number of planters have not been able even to attempt pre-planting operations.

Planting material sellers were also in a quandary. Nursery owners who raised large quantity of plants irrigating them in the summer months by bringing water from distant places in tanker-laden lorries, faced demand recession for a sizable portion of their produce. This recession will most probably affect the planting material availability during the next year. If the unsold budded plants remain in the nurseries, they will get overgrown by the time the next planting

ESTIMATE OF DROUGHT CASUALITIES IN 1986 RUBBER PLANTING IN SMALL HOLDINGS

Sl. No.	Region	No. of small holdings planted	Area (ha)	Total failure		Pratial failure								Total no. of plants lost
						Upto 10%		Above 10% & upto 25%		Above 25% & upto 50%		Above 50 %		
				Unit	Area (ha)	Units	Area (ha)	Units	Area (ha)	Units	Area (ha)	Units	Area (ha)	
1.	Trivandrum	1.400	800			785	579	275	100	200	80	140	50	50,000
2.	Punalur	1,400	850			1,400	850							40,000
3.	Pathanamthitta	1,350	950			870	610	330	235	100	70	50	35	63,000
4.	Changanacherry	600	300			372	186	180	90	36	18	12	6	16,000
5.	Kottayam	850	300			770	252	50	30	20	10	10	8	18,000
6.	Kanjirappally	1,500	900	100	40	400	260	300	200	400	250	300	150	1,50,000
7.	Palai	1,400	840	14	8	1,100	660	250	150	30	18	6	4	35,000
8.	Thodupuzha	600	300			535	274	50	20	10	4	5	2	15,000
9.	Muvattupuzha	1,700	1,100			1,400	900	150	100	100	65	50	35	40,000
10.	Ernakulam	1,100	450	10	4	465	187	385	153	240	106	....	....	28,000
11.	Trichur	1,000	900	50	45	500	450	250	225	150	135	50	45	25,000
12.	Palghat	1,100	880	15	12	760	608	206	165	87	70	32	25	60,000
13.	Nilambur	1,540	1,960	30	30	940	1,330	270	300	134	150	166	150	82,000
14.	Calicut	750	600			400	320	200	160	150	120	....	....	20,000
15.	Tellicherry	900	600			900	600							25,000
16.	Thaliparamba	1,000	500			1,000	500							25,000
17	Kanhangad	940	700	1	2	818	648	46	12	40	15	35	23	30,000
	Total	19,130	12,930	210	141	13,415	9,205	2,942	1,940	1,697	1.111	856	533	7,22,000

season starts. Overgrown seedlings are hard to be pulled out and difficult to get established in the field. Most nurseries do not have reserve space for sowing seeds to raise stock seedlings for next year's budding programme. Unless the budded plants are pulled out, vacant space will not be available for raising stock seedlings for next year's budding. Therefore nursery people may think of polybagging the unsold plants. This has two-fold advantages. They can ensure space for sowing seeds to raise s[illegible] seedlings and prepare [illegible]hy polybag plants which may fetch a better price next year. Polybag plants would be a better alternative to planting budded stumps from the point of view of easy establishment and uniform growth in the wake of the wavering weather conditions.

Ecologic imbalance is attributed to be one of the reasons for the recurring drought. It is well known that there should be forest cover in at least one-third of a country's land area to keep the balance of the nature. But reports appearing in the Press give a disturbing reading. The [illegible]ist wealth in India has been [illegible]uced to 22 per cent and in Kerala to less than 10% of the land area over the last 30 years owing to poaching and indiscriminate destruction of trees and consequent on proliferation of hydro-electric projects and mining activities. This massive destruction is causing, as experts assert, alternating floods and droughts. Though the State is alive to the dangers of tapering forest cover, afforestation programmes taken up have not been large enough to meet the deficiency. Lack of care has caused lakhs of plants raised in the social forestry programmes to die unatural deaths. Maintenance of the plants should get as much importance as fresh planting if the afforestation artempts are to become successful.

Forests are known for their capacity to make a large part of the the rain water seep down into the soil layers. Leaves and other organic matter falling to the ground decay and mix with the soil to form humus. This humus attract and retain large amount of rain water, just as a sponge absorbs and retains water, and makes the water sink down into the soil. Trees cycle up this water to the atmosphere through the process of transpiration. Tree-roots go into the soil, in the sub soil moisture and bring it up to the leaves. This moisture evaporates into the air through stomata, the tiny holes in the leaves. The water particles thus escaping the leaves load the air with moisture. This moisture-laden air joins the wandering clouds driven in by the monsoon winds, and cause them to cool down and bring about precipitation under favourable circumstances. Once tree growth is destroyed, generation of the natural medium to impregnate the air with water particles and induce rainfall is forestalled. In the absence of the medium to abet and solidify the wandering clouds into water drops, the winds take away the clouds to distant places. At times condensation may take place and rain drops may trickle down on the way. This points to the possibility of rains becoming scarce. Scanty rainfall causes the water level in the sub soil to drastically come down. The scorching summer dessicates the soil The process culminates in the land turning into a desert.

There are other reasons also for the low rate of rainfall. One section of the meteoroloists feel that the rain deficiency is caused by the weakening of the monsoon winds in the South Asian region by the depression in the Bay of Bengal. Another section postulates a theory that the existence of a thick snow-cover over the Himalayas which melts during the summer months prevents depression in the Bay of Bengal. Yet another section relates the drastic climatic change to the 'El Nino' phenomenon linked with the Indian monsoon. Their reasoning is that when the surface temperature goes up in the Southern Pacific Ocean, India gets a deficient rainfall. It is stated that this year the temperature in the Pacific Ocean region increased in the months just prior to the monsoon months. Many others feel that there are several factors beyond these reasonings. Scientists all over the world are now labouring hard to find the root cause of this cataclysmic change.

Of late the weather has been exhibiting unpredictable vagaries in the country. When West Bengal and Assam submerged under floods caused by excessive rainfall, most other regions in the country wilted under the swealtering heat. This contrasting pehnomenon is baffling administrators and scientists alike. Whatever be the reasons, the safest bet appears to be a quick greening of the waste and fallow lands in the country extending to 145 million of hectares, for bringing about a climatic moderation. Two years ago the Prime Minister had stressed, while proposing to set up a National Wasteland Development Board, the need for regenerating five million hectares of wasteland every year by raising suitable plant species. True, investment of a colossal magnitude would be needed for this. Finance is hardly a problem for such a venture, since the World Bank woulp gladly come forward to extend liberal credit to such an environmental upgradation programme.□