Desert rose

Rajasthan has an abundance of flora and fauna which have medicinal usage. **Vijay Thakur** reports

THE Thar desert -one of the most arid zones of the world is generally regarded as a curse by many. However, its advantages far overweigh the disadvantages provided steps are taken to exploit the better part of the 'great Indian desert'.

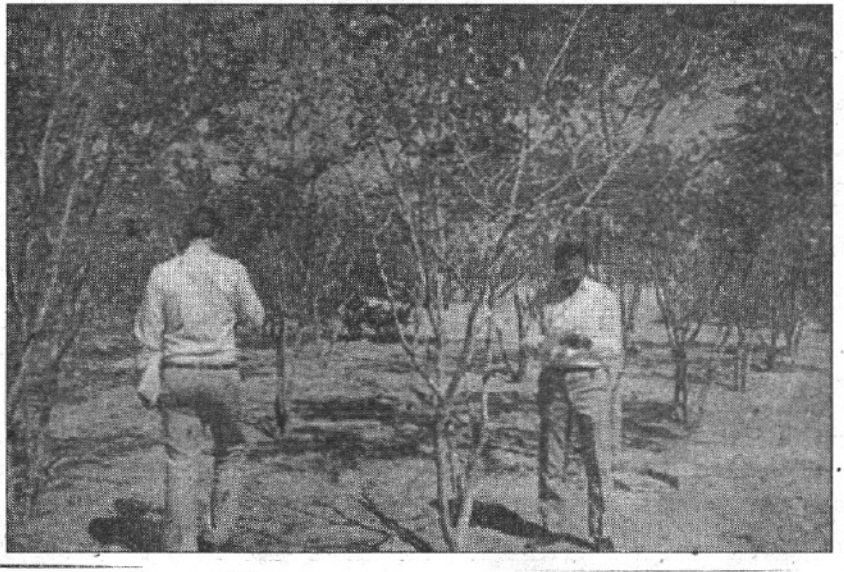
For a layman, Marwar would be considered a death trap with an absolute dearth of water and food. Yet, few people know that thanks to the high temperature and evaporation rate, people in Marwar have a higher longevity and disease free life than anywhere else in the country. Despite the extreme water and fodder scarcity, there is greater density of wildlife here than in other parts of the country.

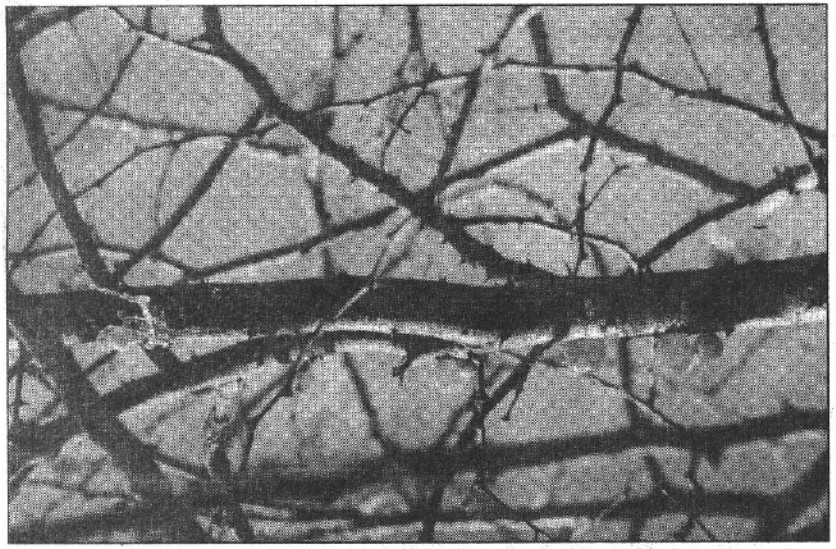
History proves that three out of every five years was a drought year. Since independence, the state has suffered over 40 drought years -ten of which were severe in nature and caused great economic and cattle loss to the people of Rajasthan.

It is also a fact that some times the state government (in association with the central government) had to spend more than its annual plan size on drought relief works. For the year 2002-2003, though the annual plan size of the state government is about Rs 4,000 crores, the state government proposed to spend more than Rs 7,000 crores to mitigate the miseries of the drought hit people of the state.

However, there is also a positive side to the Thar desert. The beauty of the desert is astounding. Add to that the bacteria free life, medicinal usages of the flora and fauna and its high quality cattle and Thar could give any other place a run for its money. What is required at present are simple changes -an improvement in the traditional style, some financial investment and assistance to exploit and market the unique flora and fauna of the state. Though the plants and shrubs seem unimportant, studies have validated their economic importance. Over 380 of these have potential usage in drugs and pharmaceutical, perfumery and petroleum, oil and soap, tie and dye and other cottage industries.

"The only thing we need is to do is to understand the importance of the assets of the desert. If farming of these medicinal plants is encouraged especially in western Rajasthan, it would put much more money in the farmers pocket than any other traditional crop. Secondly, these plants are Xerophytes (that require little or no water) in nature and thus do not depend on rain," added A Khan from the Indira Gandhi Centre for Human Ecology.





There are also many plants that are used as raw materials. Candelilla Wax has great industrial potential and is derived from Euphorbia antisyphilitica. 'Diosgenin', another raw material, is used in the production of steroid hormones and oral contraceptives and is extracted from the roots of a desert plant called Balanites Aegyptiaea. Its seed kernel also gives a bland yellow oil in 45% yield. Artemisia Scoparia another desert plant, gives Scoparone -a hypo-tensive and tranquillising agent.

The essential oil of several medicinal oil bearing Eucalyptus species have 93% cineole content. The leaves of Withania somnifera have been found to have significant anti-tumour agents. The gum resin of Commiphora weight has hypolipidemic properties, ie it reduces cholestrol and tryglycerides in blood, and their regular use can reduce obesity and body weight.

"More than half the plants in western Rajasthan have medicinal properties - anti-cancer, anti-diabetic, anti-obesity, anti-biotic. In fact you name a disease and I can guarantee you that one of our plants will have a cure for it", said Khan.

However, this is not the only advantage. Since the area has very high temperatures and evaporation rate, the chances of bacteria germination are almost negligible -so it is considered best for animal husbandry. It is a fact that despite severe droughts during the past four years, milk production has doubled. "We do not want to convert the desert into Punjab. But Rajasthan has different properties thereby the tools of development should also be different. Our major problem is not pertaining to food but to drinking water and fodder for the animals", said MS Rathore from the Institute of Development studies. He has conducted various studies in rainwater harvesting in desert areas and has also introduced a most cost effective system for villagers to meet their drinking water requirement.

Another factor to be kept in mind is that the economy of Western Rajasthan is mainly cattle based and over 30% of the state GDP is earned through them. Despite all odds, the density of wild animals like black buck, gazelle, wild boar is quite high in the region. It would be quite interesting to study how these animals are able to withstand the climatic vagaries, extremes of temperature and paucity of water by generating metabolic water to regulate water balance in the body and by structural and behavioural adjustment.

"We just need to promote the practice of animal husbandry among the villagers and provide them with enough water and pasture land -if this can be achieved then the problem will be over", said Pratap Narain, Director of the Central Arid Zone Research Institute (CAZRI).

Another scientist from CAZRI treated some desert plants with a gum inducer chemical and found that torundifolia, a plant can produce as much as 1.5 kg gum using the chemical. "In one year's time, the demand of the gun inducer chemical shot up. Last year, I sold more than one lakh units of the chemical - which led to increased profits for the farmers as well as generating revenue for CAZRI. Importantly, 85% of gum, in our country is imported, if the gum inducer chemical is used on these plants -we can surely meet our national requirement from Western Rajasthan only", said JC Tiwari of CAZRI.

"But then this is just one example, the Thar desert is rich in many such plants, which to a layman have no value, but if taught scientifically, can generate revenue.