



TAPPING

CRADLE-TO-GRAVE GRASS

Persistent infrastructural development, owing to the demands of the growing economy, in so many years has not come without its darker shade effects. With the construction expansion, what has immensely suffered is the 'ecological equilibrium'. Nonetheless, the development has not ceased even at the risk of unsettling the environment balance — nor could it be expected to be ossified, considering the requisite infrastructure for the expanding market.

Consistent demolishing of the ecological balance can't go on either. In such a scenario, National Bamboo Mission, under the Ministry of Agriculture, Government of India; and the National Mission on Bamboo Applications (NMBA), under the Ministry of Science and Technology, Government of India have been working as saviours in the country since three years.

The National Bamboo Mission is a Centrally Sponsored Scheme, in which the contribution of the Central Government will be 100 per cent.

The scheme is implemented by the Division of Horticulture under the Department of Agriculture and Cooperation in the Ministry of Agriculture. The scheme sanctioned in 2006-07 operations scheme has been sanctioned till 2010-11.

The mission's vision does not alone lie in increasing productivity of bamboo in the country — keeping to its innumerable advantageous properties — but is also assiduously concerned with the technology demonstration to put it into disparate uses, agro processing, industrial products, machinery, structural and constructional applications and even employment creation.

Therefore, the mission has come as a preserver for ecologists as well as the entrepreneurs. While, the bamboo can be optimised for innumerable con-

struction purposes, it is also an eco-friendly and renewable raw material. The National Bamboo Mission is, hence, zeroing in on the productivity of the plant; awareness on its uses and employment generation techniques.

Who, before, would have thought of bamboo napkins or bandages; or even bamboo made classrooms, luscious recipes; or an earthquake resistant structures and even clothes. Today, these all have become feasible and existent.

According to the association of the ASSOCHAM, in India, Defence, Railways, Central and State's Public Works Department can cumulatively save nearly Rs 7,000 crore annually on purchases of wood and wooden products if these are replaced by articles made of bamboo.

"Bamboo has been defined as something which remains to use from 'cradle to grave'. When a child is born in rural, under-developed area, the umbilical cord of the mother attached to the child is cut through a bamboo stick because it is anti-bacterial. And when a man dies, the last rite is performed using a bamboo stick," says Ajay Kumar, Mission coordinator of the NMBA.

"There is a growing realisation that the potential of bamboo in the country has not been tapped to its fullest. However, the bamboo is being 'rediscovered' in India as its attributes and potential are increasingly recognized," he added.

Bamboo, a woody grass, has always been known as an enduring, versatile and a renewable resource. Depending upon its age, this grass can be put into infinite number of uses. Bamboo shoots, up to thirty days old, can be used as fruits; a six-nine month old bamboo grass is utilised for handicrafts; a two-three old bamboo grass could be exploited as wood substitutes and flooring purposes; while a three-

The National Bamboo Mission has come as a boon for ecologists as well entrepreneurs as they can now optimise the innumerable uses of bamboo items in various disciplines. YOGITA SABBERWAL shows the benefits of this eco-friendly raw material



six year old bamboo can be properly optimised for full-fledged construction uses. Moreover, the ecological viability of the grass stems from the fact that bamboo produces more oxygen and

leads to increased carbon sequestration.

The bamboo plantations enhance food quality by improving physical and chemical composition of soil, while

also increasing the water retention capacity of soil by creating a natural water reservoir.

The NMBA, is hence an initiative of the Department of Science and Technology, Government of India, for development, promotion and commercialisation of technologies for bamboo based products and applications in different application segments such as wood substitutes, structural applications, energy, charcoal, activated carbon, processed bamboo shoots and utility products such as incense sticks, venetian blinds, mats and mat based molded products. The NMBA is however concerned with providing Technology Development Assistance (TDA) in the form of repayable low interest loans towards the cost of plant and machinery.

On the other hand, the National Bamboo Mission is concerned with the productivity of the woody grass and its enhancement.

The recent example, of its growing demand and familiarity with the bamboo uses is the adaptation of the bamboo structure by the prestigious DU. The NMBA has erected a canteen structure at South Campus of the varsity by using engineered bamboo products in their premises for the showcase.

On the basis of their requirement the NMBA has designed a canteen structure of size 32x84 having steel framework, bamboo jute composite roofing sheets and engineered bamboo based false ceiling and double wall panels. Goaded by the striking and feasible structure, reportedly, over 14-15 of the university colleges have approached the NMBA to construct similar structures in their campuses to accommodate OBC rush this academic session.

Bamboos are also considered best for setting up temporary accommodations in disaster affected areas. Its

lightness and high modulus of elasticity (9000 to 10,000 N/mm²) and ruptures (84 to 120 N/mm²) make bamboo an ideal material for housing in areas prone to natural calamities such as earthquakes and hurricanes.

"Not only this, these structures are light and thus can be easily transferred from one place to another," Kumar informs.

Likewise, the Mission has also developed technology packages for bamboo shoot processing at the industrial scale, and for community/village level enterprise. The NBMA has also supported establishment of industrial scale processing units at Jorhat, Assam and Dimapur, Nagaland. The electrification plants have also been already running in Nagaland, Kudal in Maharashtra costing Rs 10-15 lakh, with a major plant being sanctioned in Tripura for Rs 150 lakhs.

"We are also developing hygiene products like napkins, bandages, etc for rural areas because it is cost effective," said Kumar.

The list, however, doesn't ends here. The Government's initiative to this effect is not only commendable in the perspective of employment generation and optimisation of a natural, renewable resource; but also in the perspective of the Mission espousing the very cause of maintaining ecological balance-need of the hour.

Catastrophic effects of the nature imbalance have been known to everyone. As pointed out earlier, the structural development can't also halt. The endeavours of the National Bamboo Mission and the NMBA have however carved out modes and techniques to answer the quandary to a great extent. It is high time when we realise the need of optimising our natural resources.

The Mission aims at both appreciating development and environmental concerns. The endeavor should go on.