National Innovation Foundation

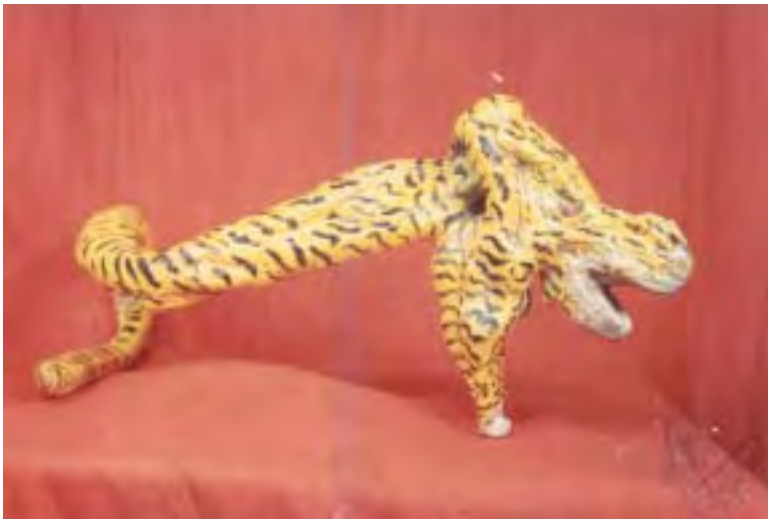
Consolation Award
Artisanal and Agricultural Practice: Sculptures made from the secretion of termites and pest management for Sal trees

Shri Ravindra Mishra

Sculptures made from the secretion of termites and pest management for Sal trees

Termites for Sculptures:
While roaming around the forest, he noticed that some trees were affected by the termite attack more than others. 'Harsingar' *(Nyctanthus arbor-tristris)* and 'gotra' were two trees whose roots and stems were affected by termites more than others. He also noticed the selective nature of termite attack. The unusual shapes of the affected wood gave him an idea of using termites to shape sculptures.

He would identify the tree with some of the dried parts already affected by the termites. He would apply chemicals to the parts that he did not want termite to attack. Over a year through periodic treatments and monitoring the shapes, a sculpture would emerge. He would then cut it away from the tree and give it final shape using knives and other tools. This process did not damage the trees because he applied the chemicals to the healthy part. This in fact helped the trees. He polished the sculptures to make it look better. Thus has been born a new art, using termites as biological tool.



Ravindra Mishra has been interested in nature right from his childhood. He works in a local company as an electrician. He has two children, a son (10 years) and a daughter (7 years). Even in childhood, when he noticed a fallen tree or some other damage in forest, he would come home and talk to his elder sister or others in the family. His sister recalled how natural diversity fascinated Ravindra during his childhood, and influenced his ability to become a very devoted student of ecological conservation. His wife encouraged him to pursue his passion towards art of making sculptures using termites. He has also worked relentlessly for last several years to advocate eco-friendly ways for control of pest of 'Sal' trees.

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Pest Management:
Having been a keen observer of the forest, he noticed some years ago in Rajaji National Park, a thick layer of reddish powder at the base of sal (*Shorea robusta*) trees. It was caused by the insect locally called 'hopelo' or gujeri (*Hoplosorvix icnorvix*) which made a deep bore inside the tree, lived off the sap and laid its eggs in the burrows. Eventually, the tree dried. He informed the forest department about it and media also took notice of this very serious menace.

Research showed that the pest was attracted by the fragrance of 'dammar', the oleoresin produced by the tree. The resin known as 'dhup', 'guggal' collected from this tree is widely used as incense, especially as an ingredient of 'samagri' (a herbal mixture used for 'havan'). He then started an intensive search for such herbs that repel the insect. Several species of vascular plants were found to be disliked by the pest. Some of them were 'kachnar', 'har singar', lantana, 'amaltas', amla, wild tulsi, 'harad', 'bahad', sirus, 'rohini', 'kinkar', 'dumsal', etc. A local bird named Ladies kittil was identified as a predator of this pest. He then wrote to the Chief Minister giving full details. As a result, large numbers of saplings of aromatic herbs were planted in the forests to protect sal trees.

Mishra says that termites convert organic matter into compounds that are essential for growing plants. This ability of termites is well documented. He wants to relate his work in future to the technology of using the soft soil that termite hills are made of, to prepare medicinal materials.