

# Barn owl project - A new hope to the Coconut Farmers of Lakshadweep



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Lakshadweep is the tiniest UT of India, both in area wise and population wise. It is an island group located 220 - 440 km off the Malabar coast in South Western Arabian Sea. It is a uni - district Union territory, and comprises of 5 submerged sand banks and 11 inhabited islands. The island is having a total geographical area of 3220 Ha- land. The Capital island is Kavarathi and it is also the principal town of the UT. The temperature remains moderate all through the year ranging between 32 and 34<sup>o</sup>c and annual rainfall ranges between 1500 and 1850 mm.

Coconut is the only commercially grown crop in this territory which is organic by default. Agriculture was the only livelihood activity till early 1970s in all islands and now coconut husbandry is the second important contributor to the economy next to tuna fishery with Rs. 105 crores /year that gives livelihood support to about 14000 households of

this territory directly or indirectly. The average annual income from coconut per household is estimated at Rs. 75000/- per year. Annual production of coconut in Lakshadweep is 107 MT nuts / year & the productivity of coconut in Lakshadweep islands is high compared to the national average.

There are many challenges faced by the coconut farmers of Lakshadweep, which include incidence of pest and diseases to the crop, rodent attack etc. out of which the main problem is rodent attack as per the survey conducted, during, 2019. It is estimated that coconut production loss due to rodent damage in the island is about 40 - 50% and annual income loss due is Rs. 6.04 crores. From this data it is clear that almost half of the production was wasted due to rat menace. Inadequate spacing, unsystematic way of cultivation, inappropriate crown. Cleaning delayed harvest of coconut and absence of natural predators like snake, owl etc are

the main factors which favour rat population.

The entire UT of Lakshadweep is declared as organic and hence the chemical methods of rat control cannot be adopted here. The only possible way to reduce rat menace is the adoption of biological control measures. In this background, the Department of Agriculture, Lakshadweep started a pilot project for the biological control of rodent using Barn owl (*Tyto alba*).

The pilot project was launched during 2019 - 20 at Kavaratti Island in collaboration with Krishi Vigyan Kendra Kavarathi. For the purpose, three pairs of barn owl were transported from Thiruvananthapuram zoo. The birds were transported in specially designed transportation cage. Since these birds being listed in schedule IV of wild life (protection) Act 1972, before the introduction necessary preparations were made by the department for the protection of

Barn owl. Also aviary was built by the department of agriculture with the help of PWD Department under the guidance of Krishi Vigyan Kendra for the purpose of acclimatization and nesting. After 82 days of acclimatization the birds were released to the island.

As of now the barn owl population in Kavarathi has increased to 25 (+) from three pairs which was successfully translocated from Kerala. It is a good sign showing that this translocated birds has been very successfully acclimatized to this island condition. It is added that in wild condition average of egg laying/ hatching of barn owl is generally two per laying. But in island condition it is very high & is five hatching in most of the egg layings. It positively shows the adaptation to island climate, feeding habitat, abandoning of rat population etc. Under this ratio of multiolication in a geometric

progression rate, it can be estimated that the bird population of Kavarathi will be near 200 by April 2022.

As per the recent data collected by the Krishi Vigyan Kendra, Kavarathi from selected coconut gardens, the rat population has been declined considerably. Though 25 birds cannot bring a notable change in rat population as its hunting rat is 4-6 rat / night. The difference will be apparent by next one year, when the population reaches 200 and the daily hunting will be 1000 rats.

Considering the successful outcome of the project, Department of Agriculture has extended the project to Andrott & Minicoy islands. In this regard, construction of quarantine and nesting cage for the barn owl has completed in last financial year with the help of KVK .This project has created a new hope among the public of Lakshadweep

to manage the rodent menace effectively. From the successline of the project, the Department is now planning to replicate the barn owl project in the remaining islands.

However the chances of inbreeding depression is high among the existing barn owl population of Lakshadweep because the existing bird population is proliferated only from the two (or three) pair of parents, inbreeding depression will inversely affect the vigour and feeding habit of these birds. As such the purpose for which the birds have been translocated may not serve in an effective manner. So as to bring about the efficiency of biological control of rodent pests, the inbreeding vigour of the upcoming generations has to be reinstated. Therefore new pairs of birds has to be introduced to the existing generation from the available resources. ■

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