

**SWIFTLET FARMING IN INDONESIA: OPPORTUNITY,
CHALLENGE, AND SUSTAINABILITY**

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ABSTRACT

Edible-nest Swiftlets *Collocalia fuciphaga* in Indonesia basically can be found in the western and central part of this country (Sumatra, Java, Kalimantan, Nusa Tenggara). Recently there are some records that the distribution has been extended to the east, i.e. Sulawesi and Halmahera Island (Maluku). This species (*C. fuciphaga*) produced edible white nests. Indonesia also is a home for another swiftlet which produce edible nest, namely Black-nest Swiftlet *C. maxima*. However, the Black-nest Swiftlet produced less valuable nests. This paper describes only the white edible-nest produced by *C. fuciphaga*. Five subspecies of *C. fuciphaga* has been identified in Indonesia: *C.f. vestita* (Sumatra, Kalimantan), *C.f. fuciphaga* (Java, Bali, Lombok, Sumbawa), *C.f. perplexa* (Maratua Island in East Kalimantan), *C.f. dammermani* (Flores), and *C.f. micans* (Sumba, Timor). To maximize the nest production, *C. fuciphaga* has been farmed in houses, modified such in a way to resemble the natural caves as roosting/nesting sites.

Indonesia has been known to be the biggest producer of the swiftlet nests (50-60% of the world's market share). The production of white nests from natural caves has been greatly decreased and many caves have not produced nest anymore due to overharvesting. Thus - in general - the harvest management of cave swiftlets is considered unsustainable. Currently almost all productions of white nests from Indonesia are originated from swiftlet houses.

The history of the practice of swiftlet farming was started in East Java in 1880. The period of swiftlet farming in Indonesia can be categorized into three periods: traditional farming period (1900s-1950s; relied on chance and luck), semi-traditional (1950s-1990s; some management had been developed by individual farmers/house owners, but each farmers/house owners kept their management secret from each other), and modern-intensive (1990s-present; intensive management, open communication among house owners).

Intensive management of the swiftlet farming involved selection of appropriate sites to built swiftlet houses, inventing appropriate design of the compartments inside the houses, selecting material for roosting/nesting sites inside the houses, utilization of various electronic and mechanical devices to attract swiftlets to roost in certain houses, developing founder population in a new site, provision of insect food in and around houses, manipulating humidity and temperature inside the houses, controlling pests and other potential nuisance, and developing more appropriate scheme for harvesting and population growth. Books, manuals, practical courses, as well as consultation on how to start and/or expand swiftlet business are now easily available in Indonesia. However, the probability of a house to be used by swiftlets for roosting/nesting and starting a new colony remains uncertain.

The number of swiftlet houses in Indonesia has been growing fast since 1990s. Unfortunately, there is no record on the actual number of swiftlet houses in Indonesia. Java Island used to be the center of production of the edible nests. When the production in Java slowly decreased about two or three decade ago, possibly due to the fast development for settlements and other infrastructures, swiftlet houses were developed in Sumatra. Now the development has been spread to Kalimantan, especially Central and West Kalimantan. The increase national production of the swiftlet nests originated from houses suggested a sustainable harvest.

As the price of the swiftlet nests in the international market remains high, the business of swiftlet nests in houses is still promising. However, the expenditure of having business in swiftlet houses is high due to the cost of building, security system, and periodic maintenance. There is no guarantee that the high-cost swiftlet house will produce nests, and thus the business in swiftlet houses is considered risky.

Globally, there is a trend of the increase production of the swiftlet nests, following the booming of swiftlet houses in several other countries in Southeast Asia. There has been some concern that the price of the swiftlet nests could be decreasing in the international market. Other concern is related to the possibility of emerging zoonotic disease, although so far there has been no proof on the incidence of such disease.

In the future, Indonesia still need to (a) strengthen policies related to harvest sustainability of the cave swiftlets and the development of the swiftlet houses, (b) collect data on the distribution and number of swiftlet houses, distribution and number of caves inhabited or abandoned by swiftlets, and actual export of edible nests, (c) conduct research on various biological and ecological aspects of the swiftlets, both for cave swiftlets and house swiftlets.