



## Jalak Suren (*Sturnus Contra*) Bird Breeding Using Colony System Innovation and Special Incubator

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**Abstract.** The aim of this activity is: (a) implementing every stage of business management and marketing, breeding techniques for Jalak Suren, and other things that support success; (b) provide good and quality Jalak Suren; (c) create and implement captive breeding for starlings of suren colony system in accordance with their character in nature; and (d) making and implementing a incubator capable of incubating Jalak Suren eggs. The output targeted in this activity (a) implementing every stage in developing business management and breeding techniques for Jalak Suren; (b) constructing and implementing a colony system of Jalak Suren; (c) making and implementing a special incubator capable of incubating Jalak Suren eggs; (d) Giving managerial competence in business management and marketing. The results that have been achieved in this PKM activity include providing guidance by means of tutorials and intensive discussions about the production of captive breeding, such as the introduction of Jalak Suren, matchmaking techniques, the amount and variety of natural and artificial feed given, timing of feeding, and other treatments required for the broodstock to produce; (b) provide counseling and intensive training on how to make and implement the colony system Jalak Suren.

*Keywords: Jalak Suren, Captive Breeding, Colony System, Special Incubator*

### 1. Introduction

Jalak Suren (*Sturnus contra*) is a species of jalak found in several regions of Indonesia, most of found on the island of Java, one of which is TNMB Jember-Banyuwangi, Sumatra, and Bali. in its development, the current Jalak Suren population has decreased by 85%. The main cause is the result of human hunting (bird charmers) that is getting out of control, especially when the bird's mating season arrives. As a result, the regeneration process of this unique and intelligent bird is disturbed in nature. In its development, the existence of Suren Starlings is favored by bird hobbyists who breed by breeding starlings, breeders and conservationists of Suren Starlings in Jember Regency who are considered economically productive (micro enterprises) are Mr. Chandra, (Chandra Bird Farm; CBF) and Mr. Sholehan ( Sholehan Bird Farm; SBF).

The CBF is one of the Jalak Suren breeding business in Jember. The input and output process is handled by a simple technique. From a marketing perspective, the piyik of Jalak Suren that produced by



CBF is still limited for local market or regional market. The process of developing of the CBF breeding business is not completely successful, mainly from the production of Jalak Suren eggs and the resulting egg-breaking piyik. The production of Jalak Suren eggs and the resulting egg cracked piyik is still not fully stable in terms of quantity and quality in terms of quality. The factor that became the cause was not all of the Suren Starling sires that were categorized as good and quality broodstock. Apart from the broodstock factor, the partner's breeding cages are not yet fully ideal for mating and producing Suren Starling eggs.

Referring to the analysis of the partner's current situation, the problems faced by CBF as partners in PKM activities is 1) egg production and starling Suren (piyik) produced by partners are not yet fully stable in terms of quantity and quality in terms of quality, 2) the breeding cages that are owned are not yet fully ideal for mating places and producing Suren Starling eggs - there is no known innovation in the breeding cage of Suren Starling Colony SYSTEM which has natural carrying capacity and micro-habitat according to its character in nature, 3) the incubator used to hatch Suren Starling eggs is still not suitable - there is no known innovation of SPECIAL incubators that can hatch Suren Starling eggs at zero day eggs (the eggs come out of the parent and then put in the incubator).

The aim of this activity is: (a) implementing every stage of business management and marketing, breeding techniques for Jalak Suren, and other things that support success; (b) provide good and quality Jalak Suren; (c) create and implement captive breeding for starlings of suren colony system in accordance with their character in nature; and (d) making and implementing a incubator capable of incubating Jalak Suren eggs. The output targeted in this activity (a) implementing every stage in developing business management and breeding techniques for Jalak Suren; (b) constructing and implementing a colony system of Jalak Suren; (c) making and implementing a special incubator capable of incubating Jalak Suren eggs; (d) Giving managerial competence in business management and marketing.

## 2. Implementation Method

The implementation method to solve the problems are conducting intensive counseling and training with : Lectures, using tools in the form of written material and / or projected images to attract attention and clarify the material to be delivered; discussion, the target audience has a wider opportunity to convey information; demonstration with an effort to show the target audience about the quality of eggs and Jalak Suren (piyik) hatched captive eggs using the colony system captivity and a special incubator that has been made.

## 3. Results and Outputs Achieved

The results achieved of the Community Partnership Program (PKM) for Jalak Suren (*Sturnus Contra*) Bird Breeder with Colony System Innovation and Special Incubator were carried out through several stages of activities as follows:

- Preliminary Survey
- *Providing Guidance To Partners Through Intensive Tutorials And Discussions*
- Sharing of facilities and infrastructure to support community service activities

### 3.1. Preliminary Survey

The preliminary survey by conducting observations before the implementation of PKM activities by conducting coordination activities and discussions with partners is carried out by digging up information on the service partners of the extent of breeding of Suren Starlings. So far, in breeding Suren starlings using hanging cages for the breeding process. In addition, during the breeding of the Suren Starling there were several obstacles, related to selecting the parent, the process of matchmaking and feeding in captivity. Based on the results of the discussion of captivity that was carried out at the end, it was still constrained because of the Covid 19 pandemic outbreak, so that the activities were very significantly constrained.



Figur 1. Preliminary Survey



Figur 2. Follow-up Survey

### 3.2. *Providing Guidance To Partners Through Intensive Tutorials And Discussions*

This activity is carried out by providing guidance to community service partners by means of tutorials and intensive discussions. This activity aims to provide guidance on business management and breeding techniques for Suren Starlings and provide insight into the character recognition of starlings, matchmaking techniques, types of feed and timing of feeding performed as well as other treatments required so that the broodstock can produce. This is done because community service partners in terms of running starlings still use self-taught methods by relying on the experience they have.

Furthermore, in this PKM program, business management guidance is carried out through activities providing understanding which includes the breeding techniques of the Suren Starling fowl in the colony system and how to make and implement a SPECIAL incubator that can hatch Suren Starling eggs at zero day eggs, in this case discussion is carried out. directly involved in communicating with PKM partners and also invited several people who were interested and had done captivity in order to gain knowledge about bird breeding with the colony system.

#### 3.2.1. • *Introduction to Starling Characters*

Suren starlings begin to mature at the age of 8-10 months. The physical characteristics and behavior of male and female birds can be distinguished. To distinguish them, must be done with careful observation. Male suren starlings have a straight body with a relatively larger size than the female. The body is oval and long, the head is bigger and rounder, the beak is relatively long and sturdy. The hair on the head, back and chest is jet black and shiny. The red color of the skin above the eyes is brighter and clearer. The part that has white fur, on the lower body, looks cleaner. Its tail is slightly longer and fused. The toes were longer and firmer. Its crest elongated and extends when expanding. The female has a round and short body shape. The black and white color is a bit gloomy. It's beak, toes, and it's tail is shorter and softer. The head is a little slender. The red color on the face is paler than the male bird

#### 3.2.2. • *Matching Technique, Type of Feed*

Captive breeding (matchmaking) is an important solution in keeping the jalak suren population from becoming extinct. In breeding jalak suren, the following things need to be considered. The cage should have an elevated shape. Inside the cage is provided with tall, branched and dense leafy plants, such as yellow, klampis, cherry, or other plants that are similar to these plants. The cage floor also needs to be



planted with shrubs or shrubs and grasses. Strived for perches that are large or wide to facilitate marriage. The place for feeding must be adequate and clean is maintained. Places for drinking and bathing also need to be provided. Sunlight must be able to enter the cage adequately. The amount of sunlight that enters greatly determines the productivity of mating and eggs. In addition, of course, you also need a place to take shelter when it rains. According to experience, suren starlings that are placed in cages measuring 100x 175 x 200 cm or larger (3 x 3 x 4 m) can actually breed well. The equipment in the cage is arranged so that it resembles natural conditions. The feed given is in the form of papaya, banana, and insects (for example, kroto, bamboo caterpillars, Hong Kong caterpillars, or crickets), also given a good quality voo. With this kind of feed, a pair of jalak suren that are already matched will breed well. The Jalak Suren are ready to breed at the age of 10-12 months. One year for females and 1.5 until 2 years for males is the ideal age for matchmaking. Usually females mature sex faster than males. Matchmaking techniques can be done in several ways. First, if there are many, matchmaking can be done freely. This means that each bird is free to choose its partner. If there is a pair of birds close to each other, chirping and making out, it is a sign of a mate. Matched birds must be moved in separate cages. Usually, birds that are already matched will dominate among others and attack each other or are otherwise disturbed by others who are both matchmaking or fighting over a mate. This will interfere with the subsequent mating and breeding process.

If there are only two tails, a male and a female, matchmaking can be done by bringing the female closer to the male. To do this, female birds are put in a small cage or hanging cage. Male birds are left in captivity. Furthermore, a small cage containing female birds is put into a captive cage. Due to their high heat and breeding season throughout the year, these two birds will soon mate. Matched birds will mate 2-4 weeks after the matchmaking. Furthermore, the birds will make nests to lay eggs on plants with lots of branches.

In the breeding cage suren starlings can be stimulated to make nests. This is done in several places that are suitable for nesting, for example in plants that have many strong, protected, and safe branches, given the basic nest structure. In the designated places, nesting material such as straw, long vine roots, twigs, or leaves are placed.

This nest material is arranged in a circle or in a regular pile. This method can stimulate and help suren starlings to nest. The Jalak Suren will choose their own suitable nesting sites. Nesting is done for 5-10 days, depending on the aggressiveness of the bird. Including large nest size. The length of the nest stack is 35-45 cm, 20-30 cm wide, and about 20 cm high. The hole where the birds enter and exit is on the top surface of the nest, slightly tilted with a degree of tilt between 40-45 °. Suren starling eggs are blue, measuring 19.8 x 27.7 mm, and amounting to 3-4 eggs. The male and female birds incubate the eggs alternately. The eggs will hatch after 14 days of incubation. Apart from being a substitute during incubation of eggs, the male also acts as a safety outside the nest. Suren starlings will be cared for by their parents until they are 1.5 months old.

Jalak Suren can breed throughout the year. Breeding peak occurs in the middle of the year, which is between January-June. July-December is a period of decline in marriage. Child care The suren starling parent will feed its newly hatched children from eggs with feed in the form of insects, for example kroto, grasshoppers, butterflies, crickets, Hong Kong caterpillars, bamboo caterpillars, or other types of insects found. Suren starlings are rarely fed fruit. Likewise with children who have left the nest, the feed given is in the form of insects, until the chicks are 1-1.5 months old. After that suren starlings start eating fruits.

Feeding is done 1-2 hours every day. Approximately 1.5 months of age Suren starlings have been weaned by their mothers. Furthermore, suren starlings can be separated from their mothers and treated like adult starlings. This young bird can then be trained to voice or be bred like broodstock.



Figur 3. Suren starlings are ready to be mated



Figur 4. Showing jalak suren ready to be mated

### 3.3. *Sharing of facilities and infrastructure to support community service activities*

The technical provisioning activity designs and manufactures cages for breeding jalak suren with colony systems that have natural carrying capacity and micro-habitats in accordance with their characteristics in nature. Guidance and mentoring as well as debriefing are carried out for partners and some people who also do breeding Jalak Suren. This activity is carried out by the implementing team by paying attention to also providing provision regarding the management of the suren starlings, so that the activities carried out obtain maximum results and are able to provide economic welfare for the suren starlings.



Figur 5 Activity Sharing and discussion



Figur 6 Cages For Breeding Suren Starlings

## 4. Conclusion

The implementation of this program can have a direct impact on partners. PKM partner involvement with the executive team is a synergy that can provide mutual benefits. Economically, partners benefit from being able to develop a larger Jalak Suren breeding business with a large quantity and quality. Socially, partners are a reference for bird enthusiasts, especially suren starlings in the Jember Regency area. Some of the benefits that can have an impact in this activity are as follows:

The PKM activity partner is a pilot business carried out by his parents, but because his parents have died then he continues this suren starling breeder activity. The contribution provided by the partners is a business facility in the form of breeding activities for suren starlings. Mr. Andi as a partner in the implementation of this activity plays an active role with several people to make efforts to develop the breeding of suren starlings with a special colony and incubator system, so that economically these business actors are able to grow. sharing experiences and mutual communication will add insight and mutual benefits.

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