

# Enhancing Animal Husbandry Skills of Inmates at the Class IIB Sleman Penitentiary through the "Ayam Bahagia" Program

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**Abstract** Former inmates who experience discrimination while seeking employment may be more likely to recidivism if they do not have or lack the necessary skills. This issue is also faced by former inmates from the Sleman Class IIB Penitentiary, Yogyakarta Special Region, so several coaching in self-reliance and skills, e.g., animal husbandry, were provided in "Kampung Asimilasi" for inmates. However, there are problems with the animal husbandry of laying hens due to the lack of knowledge about proper management practices among correctional officers as facilitators. To address this, the "Ayam Bahagia" program was developed to provide correctional officers and inmates with the knowledge and practical skills they need to effectively and properly manage the raising of laying hens. The program covered the preparation, implementation, monitoring, and evaluation through a blended delivery: offline and online methods. Six correctional officers and eight inmates followed this program. A pre-test and post-test measured the increase in knowledge and practical skills. Data were analyzed using t-test. This program has resulted in a significant increase ( $P < 0.05$ ) in knowledge and skills related to animal husbandry. Correctional officers have been able to become facilitators for inmates with adequate ability, and inmates have been able to raise laying hens independently.

## 1. INTRODUCTION

Skills are essential for everyone as they help people stand out in the job market and increase their chances of getting a decent job. In addition, employment is vital for everyone as it allows them to live and improve their welfare. However, competition in the job market can be fierce, preventing some individuals, such as ex-offenders who have returned to society, from obtaining their right to work. This is because they were inmates who served a criminal sentence as punishment for violating the law (Latuputty et al., 2020).

Community prejudice and negative perceptions make it difficult for formerly incarcerated people to obtain employment (Najibuddin, 2014). Without employment opportunities and a dearth of specific skills, former inmates may be at a greater risk of becoming recidivists and

committing new crimes. Additionally, the community may view involvement in legal cases as a deviation from societal values and norms, leading to concerns that former inmates may have a negative impact on the surrounding community. This difficulty in reintegrating into society and obtaining employment can make it even more challenging for formerly incarcerated individuals to adapt, and it may cause some formal employment sectors to reject them (Machdi, 2013).

Former inmates in various locations, including the Sleman Class IIB Penitentiary in Yogyakarta, often face difficulties in finding employment due to negative stereotypes and discrimination from the community. To address this issue, correctional institutions should

implement non-institutional treatment policies that provide coaching and skills training to inmates outside of penitentiary to help them develop their skills and improve their chances of success after release (Akbar et al., 2018). This policy has already done in several penitentiaries with adequate supporting factors, including the Sleman Class IIB Penitentiary, located around rice fields, with a capacity of 225 adult males with medium crime rates.

The Sleman Class IIB Penitentiary is a correctional facility under the jurisdiction of the Ministry of Law and Human Rights of the Special Region of Yogyakarta. It enforces the law, provides a sense of security to the community, and offers care and guidance to inmates. To further support the development and rehabilitation of inmates, the penitentiary has an independent program called "Kampung Asimilasi", located next to the main penitentiary building. This program, run by the work activities sub-section, aims to provide inmates with skills and knowledge in various fields, including services, manufacturing, agriculture, fisheries, and animal husbandry. In addition, through training in these areas, the program aims to help inmates gain the technical skills and abilities needed to succeed upon release.

However, not all independence development programs at "Kampung Asimilasi" have been successful. For example, the penitentiary has faced challenges in the livestock program, specifically failure to develop laying hens. Despite multiple attempts, the chickens have had low productivity and frequently succumbed to infectious diseases, leading to low benefits and a lack of success in this program. As a result, the cages have become neglected, and the inmates have not gained adequate breeding skills or knowledge of proper management of laying hens.

To address the challenges faced by "Kampung Asimilasi" in the field of animal husbandry, the "Ayam Bahagia" Team, "Program Kreativitas Mahasiswa bidang Pengabdian kepada Masyarakat" (PKM-PM) 2021 has proposed a solution through training in raising laying hens. This innovative approach is synergistic, comprehensive, applicable, and sustainable. "Ayam Bahagia" is laying hens that are raised using a free-range system, which is both cost-effective and promotes the natural expression of chickens through the principles of animal welfare. Furthermore, the free-range system can lead to optimal productivity by ensuring that the chickens are happy and fill fulfilled (Anas, 2021).

The "Ayam Bahagia" breeding program aims to empower correctional officers and inmates through counselling and training using a blended learning method while strictly following health protocols. The program targets six correctional officers who serve as facilitators at "Kampung Asimilasi" and eight inmates who have been selected based on their case histories to ensure the program's security. The purpose of this program is to provide inmates with resources in the form of breeding knowledge and skills that they can use to start their independent businesses or find employment upon release. In addition, correctional officers will also learn how to raise "Ayam Bahagia" properly and sustainably.

## 2. METHOD

The "Ayam Bahagia" program consists of four stages, implemented online and offline.

### 2.1 Preparation

The community service program for raising laying hens is being implemented from June to September 2021 at "Kampung Asimilasi" within the Sleman Class IIB Penitentiary in partnership with the "Ayam Bahagia" 2021 Team. The program is divided into preparation, implementation, and monitoring stages. During the preparation phase, good coordination is established between the internal team, the lecturer as the advisor, and correctional officers both online and offline. The "Ayam Bahagia" breeding program was prepared by conducting surveys and observations to assess the availability of land and the physical and environmental conditions and calculating the necessary equipment and materials. In addition, coordination with the internal team, lecturer, and partner took place online to discuss content obtained through literature reviews, and talk shows with lectures and to ensure that the necessary criteria are met to carry out activities in penitentiaries and agreed on implementing activities related to the time and readiness of the supporters. Both online and offline activities are included in the program, and the team also develops a guidebook for raising laying hens and a video tutorial for making feed rations to help guide partners in carrying out the program.

### 2.2 Implementation

The "Ayam Bahagia" program is implemented through four online outreach activities and one offline activity while strictly following health protocols related to the ongoing pandemic. The online counselling activities offered to partners include an introduction to the program; advice on sustainability and the benefits of keeping laying hens and selling eggs; discarded chickens and manure; and guidance on farm management, including the cage design and purpose of the free-range concept. Training and practice in making feed ration formulations are also provided to partners, with materials related to healthy feed composition and online support. Meanwhile, correctional officers and inmates are independent explanations, instructions, and lists of formulations to ensure that the feed provided to the chickens has proper nutrition. Partners are also provided with marketing and financial management, where 70-80% of chicken production costs are used for feed needs (Simanjuntak, 2018).

The offline activities for companions include instruction on constructing and utilising laying hen cages. According to (Babikian et al., 2019), the cage is 14 m<sup>2</sup> in size, can house forty hens, and allows chickens to travel freely. The poultry chosen for this program is the Lohman Brown strain, which is known for its adaptability to penitentiary conditions. The chickens are placed in the cage during the pullet stage (approximately 18 weeks) and will begin producing eggs during the later stage (around 20 weeks). Additionally, it is essential to provide regular feeding and

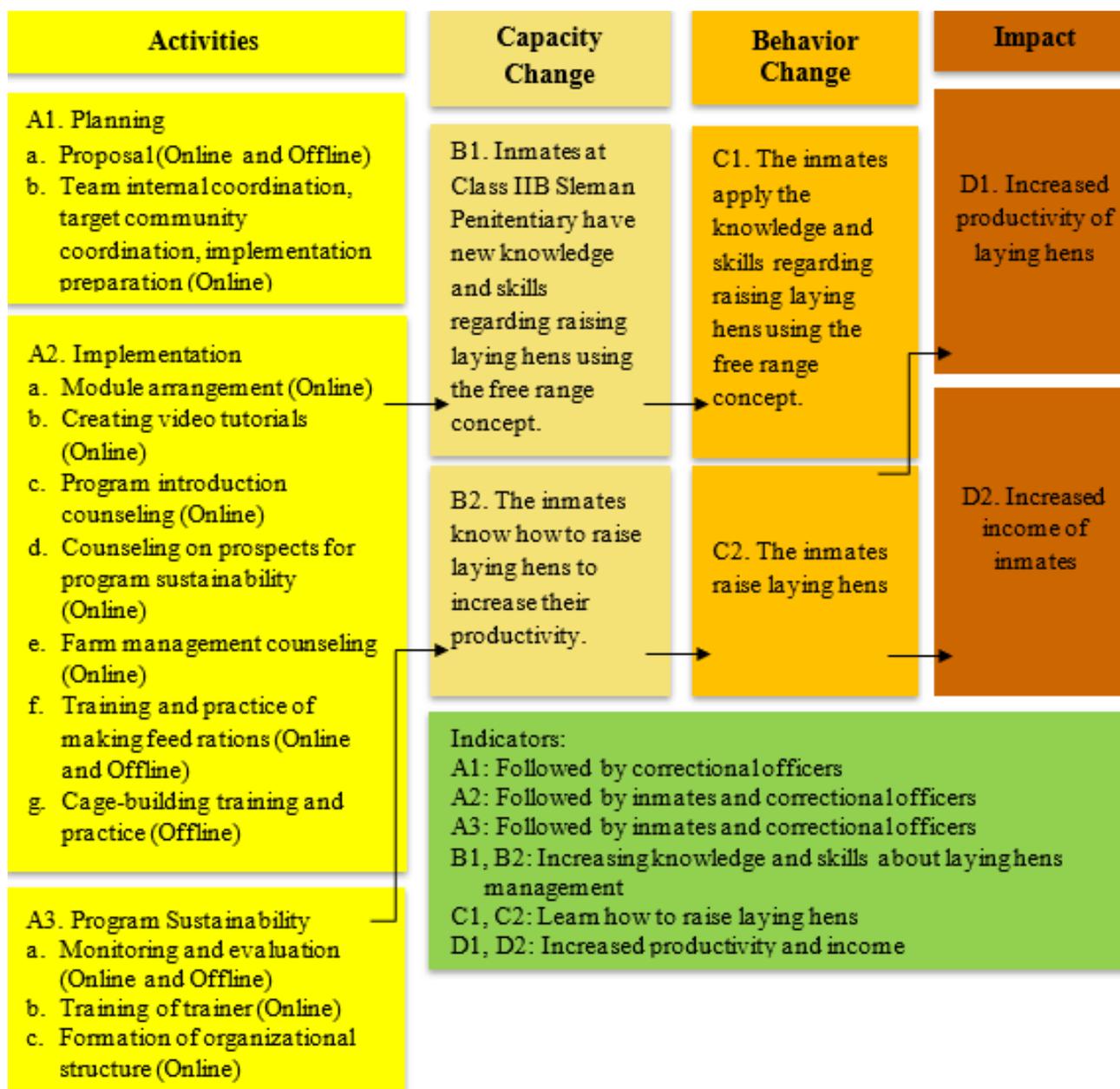


Figure 1 . Stages of “Ayam Bahagia” program at Sleman Class IIB Penitentiary

watering, as well as collect eggs and sanitize the cage on a regular basis (Anas, 2021). Once the poultry has entered the egg-laying phase, they should be provided with food and water twice a day, and their eggs should be collected each morning and afternoon. Additionally, the enclosure should be cleaned at least once per week to maintain the health of the chickens. If a chicken becomes ill, it must be promptly separated from the others to prevent the spread of disease.

### 2.3 Monitoring

At the beginning of the program, correctional officers and inmates were given a pre-test to determine their knowledge and skills in raising laying hens. After correctional officers and inmates receive complete counselling and training on how to raise laying hens, they independently carry out farming practices with supervision from the "Ayam Bahagia" Team. This supervision

is provided through routine online coordination with "Kampung Asimilasi" correctional officers at least once a week, as well as offline observation and assistance every two weeks to monitor the condition of the chickens, cages, feed, and egg productivity. At the end of the program, correctional officers and inmates were given a post-test which contained questions regarding farm management to determine the increase of knowledge and skills. The collected data of pre-test and post-test scores was analyzed using t-test, and the productivity data of chicken was analyzed using spreadsheet software program. The productivity of the eggs produced by the chickens is measured by Hen-Day Production (HDP), which is calculated every week (Sulaiman et al., 2019) using the following formula:

$$HDP = \frac{\text{The average number of eggs per week}}{\text{Chicken population}} \times 100\%$$

### 3. RESULT AND DISCUSSION

The results of the "Ayam Bahagia" poultry program have led to an improvement in the ability of partners, an increase in the productivity of laying hens, and the sustainability of the program Table 1 shows the increase in correctional officers' and inmates' capability of raising "Ayam Bahagia".

#### 3.1 Increasing the capacity of correctional officers as facilitators

After receiving counselling and training, correctional officers play a crucial role in the sustainability of the "Ayam Bahagia" program as managers and facilitators. In this case, correctional officers are responsible for managing, organizing, and supervising the raising of laying hens in "Kampung Asimilasi". The management includes the division of care and maintenance tasks, marketing and sales of egg products, and ensuring the feed needs of the hens. Correctional officers are also responsible for transferring knowledge and skills in raising laying hens to assisted inmates. This role is essential for the program's sustainability, as inmates in penitentiary are only temporary, so correctional officers must train new inmates to take on this role.

Table 1. The increase in correctional officers' and inmates' capability

Group	Scores (±SD)		95% CI*	
	Pre-test	Post-test		
G1	7.18 ± 0.26 <sup>a</sup>	9.30 ± 0.26 <sup>b</sup>	-2.43	-1.79
G2	5.27 ± 0.19 <sup>a</sup>	8.02 ± 0.16 <sup>b</sup>	-2.94	-2.55

G1: Correctional Officers (n=6); G2: Inmates (n=8)

\*Confidence Interval

In Table 1, the results showed that the pre-test and post-test scores differed significantly. Despite the challenges posed by the pandemic, correctional officers have shown a strong ability to absorb the knowledge provided by the program. This is evident in the evaluation surveys, which show that they can accurately explain the types of chickens, cage management, feed rations, and handling of chicken diseases. As a result, correctional officers are now able to raise laying hens independently, with the skills to prepare the feed rations, care for the chickens, maintain the cages, collect eggs, sell eggs, and manage the finances (Figure 2 (a)). This increase in knowledge and skills has also led to an improvement in the condition of the coop and an increase in the daily productivity of the chickens. Additionally, correctional officers have received training from trainers (ToT) training to prepare them to convey the material to inmates in "Kampung Asimilasi".

#### 3.2 Increasing the capacity of inmates

Currently, inmates participating in the "Ayam Bahagia" program are able to carry out breeding activities independently under the coordination and supervision of correctional officers. They have learned how to formulate feed, care for chickens and cages, handle eggs, and prepare orders for buyers (Figure 2 (b)). Based on the

results (Table 1), it is also known that inmates' pre-test and post-test scores are significantly increased. It is a remarkable improvement, as the inmates have a limited time to participate in the program. Yet, they have been able to absorb the information and improve their practical skills very well.

Due to the negative stigma surrounding inmates within the community, the "Ayam Bahagia" Team is working to build public trust in the individuals by providing them with certificates. These certificates are given to inmates who have participated in the "Ayam Bahagia" program, and they can use them to demonstrate their skills and development when seeking employment. In addition, the team is also working to establish a partnership with the Faculty of Animal Science, UGM, to expand their collaboration and provide assistance and recommendations to inmates who have completed their criminal sentences and are interested in working in the livestock sector or raising chickens. The activities of the "Ayam Bahagia" program are shown in Figure 2.



Figure 2. (a) Correctional officers raised laying hens and became facilitators for inmates, and (b) inmates learned to raise laying hens independently

#### 3.3 Productivity results of "Ayam Bahagia" eggs

The increasing capacity of correctional officers and inmates to raise "Ayam Bahagia" positively impacts chicken productivity. In addition, proper care and handling can help these chickens stay healthy and achieve optimal productivity. Table 2 shows the productivity of "Ayam Bahagia", managed by correctional officers together with inmates.

According to Table 1, the productivity of chickens produced in "Kampung Asimilasi" by correctional officers and inmates has increased. The increase in weekly egg

Table 2 . "Ayam Bahagia" productivity data

Chicken Ages (weeks) n=40	Number Eggs/Week	Broken Eggs/Week	HDP(%)	Eggs Weight (grams)	Chicken Mortality (head)
19	0	0	0	0	0
20	5	0	1.7	42	0
21	8	2	2.75	43	0
22	15	1	5,25	43.5	0
23	41	0	14.5	45	0
24	104	3	37	46	0
25	120	0	42.75	47.1	0
26	168	2	60	49	0
27	208	0	74.25	49.2	0
28	218	0	77.75	52	0
29	220	0	78.5	54.3	0
30	228	0	81.25	54	0
31	242	0	86.25	55.5	0
32	253	0	90.25	57	0

production is indicative of the chicken's enhanced ability to produce eggs. These laying hens can reach their optimum productivity between 28 and 30 weeks of age, after which their egg production tends to remain stable until 82 weeks of age, when they may experience a period of diminished or impaired egg production (Luthfi et al., 2020). The quality of "Ayam Bahagia" eggs has also improved, as evidenced by a rise in the proportion of large-sized eggs (56 to 60 grams) (Harahap et al., 2021). These eggs have increased albumin, iron, and selenium levels, are antibiotic-free, low in cholesterol, and are Salmonella and *E. coli*-free.

The continued increase in egg production and the low level of egg damage and mortality among chickens suggest that partners have been able to raise laying hens successfully. Furthermore, it indicates that the knowledge and skills gained through participation in this program are sufficient for partners to continue and carry out activities of raising "Ayam Bahagia" independently. The eggs produced have reached optimal productivity at a rate of 90%. According to Setyawati et al. (2016), good laying hens can reach an HDP (Hen-Day Production) of 87% with proper maintenance and an adequate environment at average temperatures. As a result, the partners have begun selling their eggs to other correctional officers and visitors. The sales proceeds will be used to cover the costs of feed and chicken care, with a portion set aside as capital for future production.

### 3.4 Program sustainability

The "Ayam Bahagia" program was introduced to officials at the Sleman Class IIB Penitentiary officials to promote sustainability and independence within the penitentiary. The program is run by correctional officers, with inmates serving as members, and an organizational structure has been established to ensure its sustainability. The program will also be implemented in the "Kampung Asimilasi", with each organization member having synergistic roles and responsibilities in maintaining its independence and sustainability.

## 4. CONCLUSION

The "Ayam Bahagia" program, intended to provide prisoners with new knowledge and skills in animal husbandry, has been carried out successfully, and the results are outstanding. The results of the program indicate that the capacity of correctional officers and inmates to rear-laying chickens has increased. Currently, correctional officers are able to assist inmates with the necessary abilities in rearing laying hens. Inmates who previously lacked the ability to effectively rear laying hens can now do so. Additionally, the egg production of the "Ayam Bahagia" poultry has increased, and sales have been sufficient to cover feed and maintenance costs, allowing correctional officers and inmates to breed the chickens independently.

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## CONFLICT OF INTERESTS

This declaration confirms that all authors have seen and agreed to the submitted manuscript. The authors certify that this manuscript is the author's original work. We also confirm that this manuscript has not received prior publication and is not considering publication elsewhere. On behalf of all authors, the corresponding author will be responsible for the manuscript's content from submission, revision, and final approval.

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