

# Strategy formulation for performance improvement of the artificial insemination program in Sinjai regency

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## Strategy formulation for performance improvement of the artificial insemination program in Sinjai regency

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**Abstract.** The government launched the Beef Self-Sufficiency Program in 2014 to support the National Food Security and Diversification Program. One of the steps taken is the optimization of Artificial Insemination (IB) and Natural Marriage Intensification (INKA). In 2017, a new plan was issued, a special effort (Upsus) for “Sapi Indukan Wajib Bunting” (WAB) with the aim of increasing beef cattle population and leading to beef self-sufficiency. This study aims to assess the extent of the implementation of strategies by inseminators and breeders in achieving IB targets and to determine new strategies in optimizing the achievement of IB results. This research was conducted within the Sinjai Animal Husbandry and Animal Health Service office. Data were collected through interviews and questionnaires then analyzed using a qualitative descriptive method, IFAS (Internal Factors Analysis Summary) and EFAS (External Factors Analysis Summary), SWOT (Strengths, Weaknesses, Opportunities, Threats) and TOWS analyzes to design development strategies. As a result, SIWAB with the Artificial Insemination Program is still below the target. Evaluation of the strategy using SWOT and TOWS analysis in the artificial insemination program shows that internal forces still need to be supported by the use of external forces, in this case, government policy. Strategy formulation after the application of the TOWS matrix shows alternative strategies that can be taken to optimize the achievement of artificial insemination results.

### 1. Introduction

Beef cattle have an important role as a producer of meat to meet the nutritional needs of livestock. In addition, it also helps the nation in terms of absorbing labor, especially in rural areas. National demand for meat is increasing along with the rate of economic growth that is getting better, the rate of population growth, the development of more advanced education, and increasing awareness of the importance of consuming nutrients from livestock.

Overall, beef consumption in Indonesia is still below that of neighboring countries. Indonesia, with a population of 269 million, consumes 4.6 kilograms of beef per capita per year. This figure is lower than the Philippines, which reached 3.1 kilograms per capita per year, Malaysia 4.8 kilograms per year, and Vietnam 9.9 kg per capita per year [1].

The good news is that the beef cattle population in Indonesia is increasing every year. In 2019, the number was more than 17.1 million better than the number in 2015, which was only 15.4 million [2]. However, the increasing number of beef cattle population can not meet national beef demand. One of

the causes of Indonesia's dependence on imported beef is the imbalance between the rate of beef products and the rate of consumption. In 2017 the export value of livestock products was US \$ 625.1 million, while in the same year, the import value of livestock products was US \$ 3,371.5 million [3].

Beef consumption in Indonesia, which is increasing from year to year, is not offset by a significant increase in domestic meat production. Various efforts have been taken by the government to overcome these problems; one of which is by establishing the Beef Self-Sufficiency Program (*Program Swasembada Daging Sapi/PSDS*) [4]

The Ministry of Agriculture of the Republic of Indonesia has launched the 2014 Beef Self-Sufficiency Program to support the National Food Security and Diversification Program. One of the strategic steps taken is the optimization of Artificial Insemination (*Inseminasi Buatan/IB*) and the Intensification of Natural Marriage (*Intensifikasi Kawin Alam-INKA*). In 2017, a five-year plan was issued, namely the Special Efforts for Extension Mandatory Cattle Breeding or (*Operasi Khusus Sapi Indukan Wajib Bunting-SIWAB*). The SIWAB program aims to increase beef cattle populations and lead to beef self-sufficiency. [5]

The SIWAB program is included in the Ministry of Agriculture Regulation No. 48 concerning Special Efforts to Accelerate the Increased Population of Cattle and Buffalo Pregnancy. The regulation was officially signed by the Minister of Agriculture on October 3, 2016. Based on the report issued by the Ministry of Agriculture, SIWAB has successfully increased the population of cattle. [6]

SIWAB was conducted through the Artificial Insemination Program. Artificial Insemination (IB) is one of the technologies in beef cattle cultivation to increase population and genetic quality of livestock. [7] The success of IB is determined by several things, namely the quality of the semen, the inseminator, and the physiology of the female [8]. The Livestock and Animal Health Service (DPKH) of Sinjai Regency, as the technical implementer of the IB program in Sinjai District, has carried out efforts to achieve the target of district-level IBs, 5,600 in 2016, 24,354 in 2017, and 8,439 in 2018. However, in reality, the IB's achievements have not reached the target. In 2016 only 3,267 with 13 Inseminators and in 2017 only 7,129 with 34 Inseminators. In 2018, with the formulation of a new strategy adopted by the Regional Government of Sinjai Regency as outlined in the Work Program of the Sinjai District DPKH, an increase in IB achievement was equal to 7,741 with a total of 33 inseminators.

**Table 1.** Beef cattle population per year in Sinjai.

Sub-district	Farmers	Farmer Groups	Total Livestock/Gender per Year					
			2016		2017		2018	
			Male	Female	Male	Female	Male	Female
Sinjai Barat	2,637	101	3,291	6,398	3,420	6,649	3,763	7,296
Sinjai Borong	1,629	69	2,033	3,950	2,113	4,106	2,565	4,985
Sinjai Selatan	4,798	22	5,990	11,642	6,229	12,090	6,520	12,373
Tellulimpoe	4,734	55	5,907	11,484	6,139	11,934	6,447	12,531
Sinjai Timur	4,004	36	4,996	9,713	5,357	9,929	5,643	10,972
Sinjai Tengah	3,874	25	4,835	9,398	5,024	9,766	5,264	10,231
Sinjai Utara	1,516	23	1,892	3,679	1,967	3,822	1,621	2,568
Bulupoddo	4,498	17	5,614	10,912	5,834	11,339	6,112	11,880
Pulau IX	-	-	-	-	-	-	-	-
Total	27693	352	34,558	67,176	36,083	69,635	37,935	72,836

This study aims to assess the extent of the implementation of strategies by Inseminators and breeders in achieving IB targets and to determine new strategies in optimizing the achievement of IB results. The results will provide an overview for governments and breeders or inseminators in order to identify important factors that are useful to encourage increased achievement of results.

## 2. Conceptual Background

### 2.1. Strategic Management

Strategic management is the management of an organization's resources to achieve its goals and objectives. Strategic management involves setting goals, analyzing a competitive environment, analyzing internal organizations, evaluating strategies, and ensuring that management roll-out strategies throughout the organization [9]. This includes recognizing and analyzing the environment, formulating strategies, implementing strategies, and evaluating and controlling [10]. The purpose of strategic management is to determine and create new and different opportunities for tomorrow, long-term planning. And try to optimize tomorrow's trends based on current trends [11].

There are two types of benefits of strategic management, financial benefit such as sales, profitability, and productivity, and then there is non-financial benefit namely enhanced awareness of external threats, improve understanding of competitors strategies, increase employee productivity, reduced resistance to change, a clearer understanding of performance and relationship [12]. There are three stages in the strategic management process, namely, strategy formulation, strategy implementation, and evaluation [9]. The strategic management process is based on the belief that the organization should continuously monitor internal and external events, so that timely changes can be made when needed.

### 2.2. Change Management

Change management is the effort made to manage the consequences caused by changes in the organization. Change can occur due to causes originating from within and from outside the organization [13]. Changes aim to make the organization not static but remain dynamic in the face of the times, technological advances, and in the field of community service is to increase public awareness of quality services [13].

### 2.3. Artificial Insemination

Artificial Insemination (Bahasa: *Inseminasi Buatan/IB*) is a reproductive technology that could be used and has succeeded in improving the genetic quality of livestock so that in a short time period can produce good quality cattle in large numbers by utilizing as many superior males as possible. IB is very contrasted with the success of Embryo Transfer in improving genetic quality [14]. IB has been proven to prevent or reduce the spread of diseases caused by natural marriage. IB can protect against the spread of diseases caused by physical contact (marriage), and the spread of other pathogens through contacts that include various microbial protozoa, viruses, and bacteria that are parasitic and pathogenic [8]. In general, IB is useful for improving genetic quality, preventing infectious diseases, making records more accurate, lower costs, preventing accidents caused by males [8].

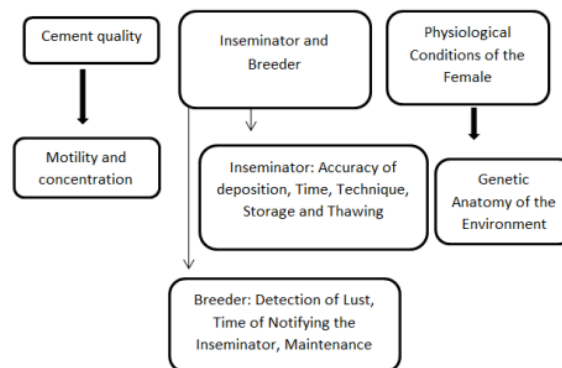


Figure 1. Factors affecting the success of artificial insemination.

#### 11. SWOT and TOWS Analysis

SWOT analysis is the systematic identification of various factors to formulate an organization's strategy. This analysis is based on logic, which can maximize strengths and opportunities while simultaneously minimizing weaknesses and threats [15]. Whereas TOWS analysis is the development of a SWOT strategy analysis or commonly referred to as a variant of the classic business tools of SWOT analysis. The difference between TOWS and SWOT is in the internal and external environment. TOWS analysis emphasizes more on the external environment, while SWOT analysis emphasizes more on the internal environment. TOWS analysis involves the same basic process of strengths, weaknesses, opportunities, and threats like SWOT analysis, but with TOWS analysis, threats, and opportunities are examined first, then weaknesses and strengths are tested last. After making a list of threats, opportunities, weaknesses, and strengths, then examine how companies can take advantage of opportunities and minimize threats by utilizing strengths and overcoming weaknesses [16].

The tool used to compile the organization's strategic factors is the SWOT matrix. This matrix can clearly illustrate how external opportunities and threats faced by the company can be adjusted to the strengths and weaknesses they have. This matrix can produce four sets of possible strategic alternatives [15]. The matrix is used in various sectors, not just merely in the business context. [17]

Administratively, Sinjai is one of 24 districts/cities within the South Sulawesi Province, with the capital Sinjai located approximately 220 km from Makassar (the capital of South Sulawesi Province). With an area of 819.96 km<sup>2</sup> which consists of 9 districts with a total of 80 villages. Geographically, Sinjai is located between 5°19' 30" to 5°36' 47" South Latitude and between 119° 48' 30" to 120°20' 00" which is bordered by Bone district in the north, with Bone Bay in the east, Bulukumba district in the south and Gowa district in the west. Morphologically Sinjai has more than 55.5% of the plateau area (100-500 meters above sea level), and 1 sub-district is a group of islands called Pulau Sembilan. Climatologically, it is in the position of the eastern monsoon climate where wet months fall between April and October and dry months fall between October and April. Economically, Sinjai Regency has a strategic location because it has two transportation routes, land, and sea. The land route connects the regency and provincial cities as centers of economic activity while the sea lane is used to connect between regions outside South Sulawesi Province as an effort to expand the acceleration of community economic development in Sinjai.

The livestock sector as one of the leading commodities that are increasingly in demand by the people of Sinjai, which is not only by the rural community but also has reached the people who live in urban areas. The livestock sector is a sector that is quite important in fulfilling food for the community. Animal products are a source of animal protein, one of the animals that have the potential to be developed to meet animal food needs is cattle.

Internal Factors (IFAS)	<b>Strengths ( S )</b> Determine 5-10 internal strength	<b>Weaknesses ( W )</b> Determine 5-10 internal weakness
	<b>Opportunities ( O )</b> Determine 5-10 external opportunities	<b>WO Strategy</b> Create strategies that minimize weaknesses to take advantage of opportunities
<b>External Factors (EFAS)</b>	<b>SO Strategy</b> Create strategies that use strength to take advantage of opportunities.	<b>WT Strategy</b> Create strategies that minimize weaknesses and avoid threats.
<b>Threats ( T )</b> Determine 5-10 external threats	<b>ST Strategy</b> Create strategies that use strength to overcome threats.	

Figure 2. SWOT matrix.

		<u>Internal</u>	
		Strengths	Weaknesses
E x t e r n a l	Opport	SO Strategy	WO Strategy
	Threats	ST Strategy	WT Strategy

Figure 3. TOWS matrix.

With a wide background and varied conditions in Sinjai, the Livestock and Animal Health Service formulates and implements several strategic policies that are expected to be able to answer the given achievement targets:

- Inseminator capacity and competency improvement  
The activity of increasing the resources of the inseminator is done through beginner training for 21, then an advanced training to improve their competency to ensure the successful implementation of insemination. Next is pregnancy examination (pkb) for 14 days and finally a training to ascertain the cause of failure of the implementation of insemination called reproductive technical assistant for 14 days.
- Provision of Artificial Insemination Activity Incentives  
The incentives are directed at the activity manager to the field staff based on the operational guidelines for the current year.
- Socialization of Artificial Insemination Activities  
Activities carried out for all parties that play a role in the success of this program, in this case, the regional government, community leaders, traditional/religious leaders, with the main target is the farmer groups and livestock farmers in the hope that the target of artificial insemination activities can be achieved.
- Fulfillment of Artificial Insemination Infrastructure Facilities  
For 2016, 2017, and 2018, the facilities and infrastructure of artificial insemination activities are purely sourced from central government funds through the special operation or SIWAB program.

- Governance of Artificial Insemination Activities in a structured manner  
DPKH in carrying out IB activities based on technical guidelines that have been prepared in which the activity manager formulates preparation, implementation, evaluation/assistance to reporting. Artificial Insemination activities in the field are the roles of inseminator officers, pregnancy inspectors, and reproductive technical assistants, as well as the active role of all farmers and farmer groups.

The following is an overview of the achievements of artificial insemination results for three years in a row:

**Table 2.** Development of Number of Farmers, Number of Livestock, Number of IB Acceptors, Realisation of IB Implementation, and Birth of Cattle in Sinjai in 2016.

Sub-district	IB officers (Person)	Cattle Farmers (Group)	IB Acceptors	IB Operations	IB Operations Percentage (%) (6 : 5) X 100%	IB Births	IB Births Percentage (%) (8 : 6) X 100%
Sinjai Barat	6	101	1,863	1,825	97.96	745	40.82
Sinjai Borong	-	69	-	-	-	-	-
Sinjai Selatan	1	22	455	477	105	246	51.57
Tellulimpoe	1	55	316	288	91.14	150	52.08
Sinjai Timur	2	36	227	204	89.87	82	40.20
Sinjai Tengah	1	25	375	344	91.73	84	24.42
Sinjai Utara	1	23	57	51	89.47	18	35.29
Bulupoddo	1	17	89	78	87.64	52	66.67
Pulau IX	-	-	-	-	-	-	-
Total	13	348	3382	3267	652.65	1377	311.05
Mean	1.6	43.5	422.8	408.4	81.6	172.1	38.88

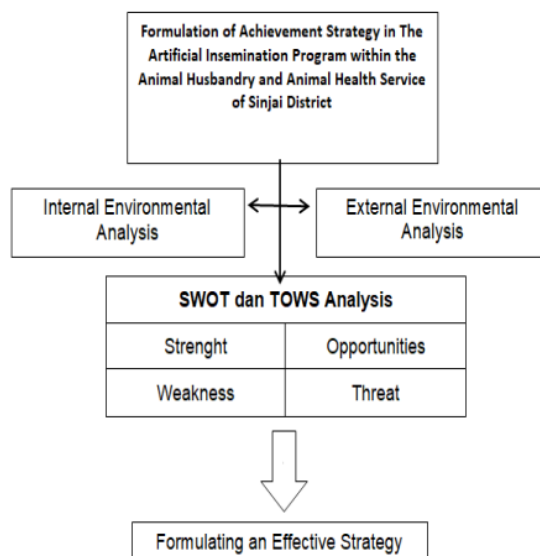
**Table 3.** Development of Number of Farmers, Number of Livestock, Number of IB Acceptors, Realisation of IB Implementation, and Birth of Cattle in Sinjai in 2017.

Sub-district	IB officers (Person)	Cattle Farmers (Group)	IB Acceptors	IB Operations	IB Operations Percentage (%) (6 : 5) X 100%	IB Births	IB Births Percentage (%) (8 : 6) X 100%
Sinjai Barat	10	101	1,584	2,899	183.02	1,025	35.36
Sinjai Borong	2	69	62	112	180.65	8	7.14
Sinjai Selatan	4	22	441	815	185	345	42.33
Tellulimpoe	4	55	363	881	242.70	147	16.69
Sinjai Timur	5	36	364	944	259.34	120	12.71
Sinjai Tengah	4	25	473	849	179.49	175	20.61
Sinjai Utara	2	23	93	197	211.83	15	7.61
Bulupoddo	3	17	155	432	278.71	66	15.28
Pulau IX	-	-	-	-	-	-	-
Total	34	348	3535	7129	1720.54	1901	157.73
Mean	4.3	43.5	441.9	891.1	215.1	237.6	19.72

**Table 4.** Development of Number of Farmers, Number of Livestock, Number of IB Acceptors, Realisation of IB Implementation, and Birth of Cattle in Sinjai in 2018.

Sub-district	IB officers (Person)	Cattle Farmers (Group)	IB Acceptors	IB Operations	IB Operations Percentage (%) (6 : 5) X 100%	IB Births	IB Births Percentage (%) (8 : 6) X 100%
Sinjai Barat	9	101	1,748	2,604	148.97	1,052	40.40
Sinjai Borong	2	69	212	307	144.81	34	11.07
Sinjai Selatan	4	22	528	766	145	288	37.60
Tellulimpoe	4	55	753	1,070	142.10	161	15.05
Sinjai Timur	5	36	707	1,058	149.65	238	22.50
Sinjai Tengah	4	25	875	1,214	138.74	347	28.58
Sinjai Utara	2	23	144	175	121.53	6	3.43
Bulupoddo	3	17	440	547	124.32	104	19.01
Pulau IX	-	-	-	-	-	-	-
Total	33	348	5407	7741	1115.19	2230	177.64
Rata-Rata	4.1	43.5	675.9	967.6	139.4	278.8	22.20

The following conceptual framework is developed based on all of the considerations above. This framework shows how is the new strategy being drawn from analyzing the internal and external factors using SWOT and TOWS.



**Figure 4.** Conceptual framework.

### 38 Methodology

This study is a qualitative descriptive study to assess the application of strategies by inseminators and Breeders in achieving IB targets. The method is used to help the researcher to identify and analyze the concept. [18] in the context of Artificial Inseminator (IB) Program. Furthermore, it can be used as a basis for developing a new strategy based on strategic management, which includes Strategic Formulation, Strategic Implementation, and Strategic Evaluation to optimize the achievement of IB

results. The study was conducted within the Animal Husbandry and Animal Health Service office in Sinjai Regent.

Data was collected through in-depth interviews and distributing questionnaires to all inseminators within the scope of work of the Animal Husbandry and Animal Health Service office in Sinjai and selected breeders. Furthermore, the data were analyzed using qualitative descriptive methods, IFAS (Internal Factors Analysis Summary) and EFAS (External Factors Analysis Summary) SWOT (Strengths, Weaknesses, Opportunities, Threats) and TOWS analyzes to design development strategies.

#### 4. Results

##### 4.1. EFAS

External Factor Analysis Summary (EFAS) is a means to summarize various external factors that affect the performance of the achievement of Artificial Insemination results in the form of opportunities and threats to the sustainability of activities. The external factors include:

- The IB Program is a National Program
- Cattle insurance
- The price of cattle is getting higher
- Sufficient cattle population is available
- IB operations are still limited
- Death of the mother during childbirth
- Productive Cow Sales are quite high
- Regional development and expenditure budgeting is not yet maximized

**Table 5.** Analysis of External Factors in the Implementation of Artificial Insemination in Sinjai

External strategic factors (efas)	Quantity	Rating	Score	Description
Opportunities				
1		0.125	6	The IB Program is a national program
2		0.120	6	Cattle insurance
3		0.127	6	The price of cattle is getting higher
4		0.155	6	Sufficient cattle population is available
Threats				
1		0.117	1	IB operation are still limited
2		0.139	2	Death of the mother during childbirth
3		0.109	1	Productive cow sales are quite high
4		0.108	1	Regional development and expenditure budgeting is not yet maximized
Total		1.000		3.774

##### 4.2. IFAS

Internal Factor Analysis Summary (IFAS) is a means to summarize various internal factors that affect the performance achievement of Artificial Insemination results in the form of strengths and weaknesses that can be utilized for the sustainability of activities. These internal factors include:

- The number of IB acceptors is quite high
- An Animal Reproduction Calendar
- Supporting Staff IB Officers
- IB Program Socialization and Development
- Incentives for all IB Officers
- Number of IB Officers Not Evenly Distributed
- Facilities still depend on needs

- Limited IB Officer Grading training

**Table 6.** Internal factor analysis of the implementation of artificial insemination in Sinjai.

	Internal strategic factors (IFAS)	Quantity	Rating	Score	Description
<b>Strengths</b>					
1	The number of IB acceptors is quite high	0.120	6	0.720	
2	Ana nimal reproduction calendar	0.120	6	0.720	
3	Supporting staff IB officers	0.100	6	0.600	
4	IB program socialization and development	0.100	6	0.600	
5	Incentives for all IB officers	0.098	6	0.588	
<b>Weaknesses</b>					
1	Number of IB officers is not evenly distributed	0.147	1	0.147	
2	Facilities depend on needs	0.169	2	0.338	
3	Limited training for IB officers	0.146	1	0.146	
	<b>Total</b>	1.000		3.859	

#### 4.3. SWOT and TOWS Analysis

SWOT and TOWS (Strengths-Weaknesses-Opportunities-Threats) analysis are important matching tools that help develop four types of strategies: SO (Strengths-Opportunities) strategy, WO (Weaknesses-Opportunities) strategy, ST (Strengths-Threats) strategy and WT strategy (Weaknesses-Threats). Matching external key factors and internal key factors is the most difficult part of developing a TOWS analysis and requires good and precise assessment. Based on the results of the research conducted, researchers summarize the analysis using SWOT and TOWS analysis. The following is a SWOT and TOWS Analysis conducted on the nature of Artificial Insemination activities within the scope of the Livestock and Animal Health Service in Sinjai.

The analysis must be very realistic in describing internal strengths and weaknesses that must be based on the conditions that are happening and not the situation that should occur because the purpose of the TOWS analysis is to come up with all possible alternatives based on internal and external key factors, not to determine the best strategy. Not all strategies produced must be selected and implemented. The choice of strategy is determined based on other considerations.

**Table 7.** SWOT Analysis on the Implementation of Artificial Insemination in Sinjai

No	Internal Factors	No	External Factors
<i>I</i>	<i>Strengths</i>	<i>III</i>	<i>Opportunities</i>
1	The number of IB acceptors is quiet high	1	IB program is a national program
2	An animal reproduction calendar	2	Cattle insurances
3	Supporting staff IB officers	3	The price of cattle is getting higher
4	IB program socialization and development	4	Sufficient cattle population is available
5	Incentives for all IB officers		
<i>II</i>	<i>Weaknesses</i>	<i>IV</i>	<i>Threats</i>
1	Number of IB officers are not evenly distributed	1	BIB operations are still limited
2	Facilities still depend on needs	2	Death of the mother during childbirth
3	Limited training for IB officers	3	Productive cow sales are quiet high
		4	Regional development and expenditure budgeting is not yet maximized

**Table 8.** TOWS Matrix on the Implementation of Artificial Insemination in Sinjai District

IFAS EFAS	STRENGTHS (S) <i>Internal Strengths</i>	WEAKNESSES (W) <i>Internal Weaknesses</i>
OPPORTUNITIES (O) <i>External Opportunities</i>	<b>SO Strategy</b> 1. Availability of Cow Population will make it easier for Inseminators in the selection of Acceptors equipped with a Reproductive Calendar in launching the Artificial Insemination program. 2. In Upsus Siwab makes IB activities as a National Program that allows all IB officers to receive incentives. 3. Socialization and Development of the IB Program is carried out to guarantee the continuity of the program, one of which is for the safety of cattle and the sense of security of breeders supported by Cattle Business Insurance, because Cows produced by IB are increasingly higher prices.	<b>WO Strategy</b> 1. Bearing in mind that the IB Program is still being used as a National activity, it provides an opportunity in proposing to the central government efforts to fulfill program infrastructure, meeting the number of officers as well as the need to increase the ability of officers in implementing programs.
THREATS (T) <i>External Threats</i>	<b>ST Strategy</b> 1. Availability of Acceptors supported by the Reproductive Calendar is able to minimize the operational needs of officers. 2. Program socialization and guidance is one of the efforts to prevent the prevention of maternal mortality during childbirth.	<b>WT Strategy</b> 1. To realize the self-sufficiency of food from animal origin, it is necessary to support APBD II funds in facilitating the IB program, including bailouts for the sale of productive cattle by farmers.

## 5. Discussion

As the previous explanation about the factors that influence the success of the artificial insemination program, including the role of the inseminator and breeder in the field. This research and the results of interviews and questionnaires show that their role is maximized by the criteria of ability and knowledge of each. Although the number and distribution of inseminators are still being pursued, the level of understanding and skills of farmers is always accompanied by program socialization.

An evaluation of the strategy adopted by the Sinjai Livestock and Animal Health Service has been tested using SWOT Analysis and TOWS Matrix through EFAS and IFAS mapping and methods in dealing with the target program. Strategic steps were taken by the Animal Husbandry and Animal Health Service in the face of the low achievement of Artificial Insemination results by proposing to the central government efforts to fulfill program infrastructure, meeting the number of insemination officers and increasing the ability of officers in implementing programs.

Based on the research, the strategies adopted by the Livestock and Animal Health Office are already maximum. With the explanation in the SWOT Analysis and matching in the TOWS matrix, it proves the strength of the internal factors that are owned by because they are still under the control of the Animal Husbandry and Animal Health Office, where the results of the weighting of Internal factors score 3.859 compared to external factors score 3.774.

Weaknesses and threats of the artificial insemination program at the Livestock and Animal Health Service can be minimized after taking into account the results of the formulation of the strategy based on the TOWS matrix that the artificial insemination program is still a national program, hence the opportunity to propose to the central government regarding efforts to fulfill program facilities and infrastructure. Likewise, to anticipate the threat, an attempt to propose the use of APBD II funds in expediting the program includes the provision of bailout funds to anticipate the sale of productive cattle by farmers.

## 6. Conclusion

The Special Efforts for Extension Mandatory Cattle Breeding or (*Operasi Khusus Sapi Indukan Wajib Bunting-SIWAB*) is the program with the artificial insemination activity at the Animal Husbandry and Animal Health Service Office of Sinjai. Based on our analysis, we found that the achievement of

results was below the established target, and it was due to several internal weaknesses in addition to some external threats.

The SWOT analysis shows a framework to assist the Livestock and Animal Health Service in identifying the achievement targets for artificial insemination. Evaluation and testing of the strategy using the SWOT Analysis and TOWS Matrix in the artificial insemination program illustrated that internal strength still needs to be supported by the external forces in this case government policy. The strategy formulation after the application of the TOWS Matrix shows alternative strategies that can choose to optimize the achievement of artificial insemination results at the Animal Husbandry and Animal Health Service through the WO strategy and WT strategy.<sup>18</sup>

The suggestions that can be offered include the involvement of the Regional Government of Sinjai Regency in the form of attention to inseminators who are still many of them are on a voluntary bases. The government can support them in the form of providing incentives or to recruit them permanently. Providing them with relevant and latest training will also help them improve their performance.

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