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632 JOURNAL OF APPLIED MANAGEMENT VOLUME 15 NUMBER 4 DECEMBER 2017 Jamilah POTENTIAL AND PERFORMANCE OF SMALLHOLDER LIVESTOCK BUSINESS IN ACEH PROVINCE Jamilah Lecturer at Faculty of Agriculture, Universitas Malikussaleh-Aceh Abstract: The study aims to analyze the potential and performance of smallholder livestock business in Aceh Province.

Analysis of the potential and performance of smallholder live- stock business was carried out by using quantitative descriptive approach and qualitative descriptive approach. This study was conducted using purposive based on livestock pro- duction centers in Aceh, namely Aceh Besar Regency (beef cattle), North Aceh (broilers and ducks), and East Aceh (laying hens).

The results showed that the Aceh province has the potential of natural resources and human resources to support the development of livestock, including the potential use of agricultural waste, food and agro-industry is very large and the high demand for meat and eggs annually. Aceh has the legal legislation in the form of law and regulations (qanun) for the development investment of livestock sector.

Problems encountered in the development of animal husbandry is the limited availability and low quality of livestock as well as the pattern of development that has not business oriented and result in lower production and productivity of livestock in Aceh, not optimal utilization of human resources, limited infrastructure, and lack of supervision of the relevant institutions.

Aceh government's efforts to increase the production and productivity of livestock yet provide optimal results; the indicator is not yet achieved self-sufficiency in meat and

eggs need remains largely supplied from outside Aceh. Key words: performance, development program, and farm business. 632 JAM 15, 4 Received, August 2017 Revised, September 2017 Accepted, December 2017 Journal of Applied Management (JAM) Volume 15 Number 4, December 2017 Indexed in Google Scholar Correspondention Author: Jamilah, Lecturer at Faculty of Agriculture, Universitas Malikussaleh-Aceh, E-mail: mila_dedizazul @yahoo.com DOI: http://dx.doi.org/ 10.21776/ub.jam.2017.015. 04.10 The opportunity of invest- ment in livestock sector in Aceh province is very inter- esting.

Aceh has the pros- pect of being a good exporter of livestock to other prov- inces in Indonesia and other countries. If the livestock sector is developed on a people-centered basis, pro- fessionally managed, and with transparent financing, it will make Aceh a strategic investment zone for live- stock.

The prospect of the market of livestock products in Aceh is very high given the high demand for meat and high meat prices in Aceh compared to other areas in Indonesia, especially on Meugang day and before Muslim holiday. On Meugang day, beef price ranges from 130.000 rupiahs/ kg up to 140.000 ru- piahs/ kg, while the beef price in Medan and in Jakarta on the same day only ranges from 80.000 rupiahs/ kg up to 100.000 rupiahs/ kg.

In Malaysia, the highest price of fresh meat is RM 15 (37,500 rupiahs/ kg) and imported meat is only RM 8 (20.000 rupiahs/ kg). Although the price of livestock feed in Aceh is relatively high, the increase in livestock sell- ing price is higher than the increase in livestock price. This means that farmers can still get significant ben- efits (Shakir and Shabri, 2009). DIKTI ACCREDITED SK NO.

36a/E/KPT/2016 ISSN: 1693-5241 633 Potential and Performance of Smallholder Livestock Business in Aceh Province To support the program of increasing meat pro- duction and livestock population as a whole, in 2011, based on the Decree of Minister of Agriculture of the Republic of Indonesia, it was determined that Aceh cattle is a national cattle.

In order to support this program, Department of Animal and Livestock Health (Dinkeswannak) of Aceh has prepared a program for the development and conservation of Aceh cattle germplasm. To support this program, Department of Animal and Livestock Health runs a genetic quality improvement program and improves the production and productivity of Aceh cattle. In 2012, Department of Animal and Livestock Health has built a laboratory unit processing the sperm of Aceh cattle.

It has been operating in Saree and funded by state budget (APBN) in order to gener- ate the best Aceh cattle sperm which will be in- jected to female cows as acceptors. This program aims to increase the number of cow population as well as to improve the welfare of cow farmer. A farmer is on the verge of poorness if he has at least 4 cows. The population of Aceh cattle in 2009 was 590,315 (88.11%) of the total of Aceh cattle popu- lation amounted to 669,996 cows spread across 23 regencies/ cities in Aceh.

The regencies which have the largest population of Aceh cattle include East Aceh Regency (100,992 cows), North Aceh Re- gency (97,394 cows), and Aceh Besar Regency (96,789 cows). The population of cows in 2011 amounted to 731,645 cows. The weight of young female Aceh cattle is about 128 + 30 kg, and the weight of male Aceh cattle is 145 + 37 kg.

The main commodity of livestock sector in North Aceh Regency is kampong chicken, while the sec- ond commodity is cow and buffalo. The number of cattle reached 135,677; buffalo reached 11,460; goat reached 113,228; sheep reached 20,323; kampong chicken reached 2,664,016; broiler chicken reached 463,909; and duck reached 556,114 (Department of Livestock Services of North Aceh Regency, 2013).

Laying hen agribusiness program in East Aceh Regency has been able to produce 55 thousand chicken eggs per day. Laying hen agribusiness pro- gram in East Aceh Regency is one of the leading programs of this area that has positive impact for poultry development, especially in laying hens, open- ing new job opportunities, reducing unemployment, increasing income, and being a new innovation that can increase the capacity of human resources in livestock sector. This program motivates people to open similar businesses both individually and in groups.

Therefore, East Aceh Regency is designated as a center of development of laying hen agribusiness in Aceh. Most entrepreneurs in Aceh are more interested in contractor services than production enterprises such as in livestock sector. In fact, if livestock sec- tor is managed seriously with business concept, of course it can give a big impact for the economy of the society.

Cooperation with various stakeholders is a key to success of a program. The government will foster and provide stimulants by facilitating or providing some public facilities that people cannot afford. Therefore, private sector is expected to play a maximum role in succeeding the development agenda, including in the field of animal husbandry.

Livestock sector that is not integrated between farmers and livestock businessmen leads to disad- vantages for Aceh. First, beef price which is too high makes it difficult for the

Acehnese to meet the minimum nutrition need. Second, high price of beef in Aceh makes it difficult for the Acehnese people to sacrifice.

Third, there is a significant gap between farmer's revenue and businessmen's revenue. Fourth, in Aceh the price of meat is more expensive compared to other region; it will encourage market participants to supply (import) beef from outside Aceh. If this happens, the economy of Aceh will be disturbed, and farmers will be very disadvantaged.

RESEARCH METHOD Method of Determination of Research Loca- tion and Respondent The research location was determined by us- ing purposive method. It was conducted in the cen- ter of livestock production and development in Aceh, especially producing beef cattle, broilers and laying hens, as well as ducks. 634 JOURNAL OF APPLIED MANAGEMENT VOLUME 15 NUMBER 4 DECEMBER 2017 Jamilah Analysis Method Research on the potential and performance of smallholder livestock business was done by using qualitative descriptive approach and quantitative descriptive approach; it focuses on implementation of smallholder livestock development program in each location.

Policy analysis was carried out as a process or activity synthesizing information, includ- ing research results, in order to generate recom- mendations for public policy design. RESEARCH RESULTS Potential and Constraints on Smallholder Live- stock Business in Aceh The development of livestock area proclaimed by the government is a reference for the commu- nity to increase their income and becomes the main factor of regional economic development as well.

Over the past decade, this sector has become a pil- lar of the region's economy and contributed posi- tively to the development of Aceh's economic struc- ture. Aceh has the potential of natural resources to support livestock development. Potential of area and land carrying capacity is estimated to be able to accommodate livestock as many as 2,450,984 Live- stock Units (ST); which is still used for 614,590 Live- stock Units; therefore, there is still opportunity for development of cattle for 1,836,394 ST (Saputra, 2009).

Most livestock businesses in this province are managed by the people on a small scale. Live- stock resources and high market opportunities have not been a priority of investment in Aceh. Aceh Province also has potential for investment develop- ment especially in the field of animal husbandry, which is supported by Law Number 11 Year 2006 concerning Aceh Government which gives author- ity to Aceh in the administration, Qanun Investment in favor of investors, Presidential Regulation (Perpres)

Number 11 Year 2010 which provides di- rect authority for Aceh to cooperate with interna- tional agencies.

The constraint faced is a matter of legal certainty and security, which become a con- sideration for investors to invest in Aceh. Never- theless, the government of Aceh is determined to make the province of Aceh the best investment area in Indonesia. To realize this, the government sup- ports Australian investors who will open Australian cattle farm in Aceh.

Similarly, investors from Iran will invest their capital in Aceh. Australian cattle industry is the sixth largest industry in the world, while its export is the largest in the world. The base population of beef cattle in the country is beef breeds, especially the hybrid of Zebu and English cattle; it has been developed for a long time so it has advan- tages in adaptation, and growth and quality of beef produced.

The efforts of Aceh Government to increase the production and productivity of livestock have not generated optimal results. It is indicated by people's need for meat and need for eggs which cannot be met by local products; they are still largely supplied from outside Aceh. Therefore, management of this sector is one of the focuses of activities in Aceh's Mid-Term Development Plan (RPJM) in 2012-2017.

With the plan about management of this sector in RPJMA, it is expected that Aceh's efforts to achieve self-sufficiency in meat and eggs will run measurably. Based on the problems faced, in RPJMA, there are some priority actions to overcome the problems. The fist action is enhancing the role of Regional Artificial Insemination Center (BIBD) for the pro- duction of Aceh cattle's frozen sperm and imple- menting IB in increasing population and production. The second action is optimizing the function of BPTU for cattle in Indrapuri Aceh.

The third action is preventing and controlling infectious animal dis- eases. The fourth action is developing livestock ar- eas, focused on several potential areas and in ac- cordance with the characteristics of the areas, such as Aceh Besar Regency, Central Aceh Regency, Aceh Jaya Regency, and Bireuen Regency. It should No. Types of Livestock Research Location 1. Aceh cattle Aceh Besar Regency 2.

Broiler chicken North Aceh Regency 3. Laying hen East Aceh Regency 4. Duck North Aceh Regency Table 1 Types of Livestock and Research Location DIKTI ACCREDITED SK NO. 36a/E/KPT/2016 ISSN: 1693-5241 635 Potential and Performance of Smallholder Livestock Business in Aceh Province be noted that the government of Aceh implements the pattern of development based on the area, which makes it easier to coach, evaluate,

and control the development program.

The fifth action is conserv- ing and developing germplasm of Aceh Cattle sup- ported by regulation. The sixth action is increasing the number and capacity of livestock officers and farmers. The seventh is developing the institution of farmers. Another problem faced that leads to slow progress of the livestock sector in Aceh is the lim- ited private investment engaged in the livestock sec- tor.

To meet the demand for eggs of consumers in Aceh, which is predicted to reach 1 million eggs per day, since 2009, the Government of Aceh set the location of poultry farm centers, especially for the development of laying chickens (layer). There are four areas that serve as centers for the develop- ment of laying chicken, namely Saree Regency, Aceh Besar Regency, Bireun Regency, East Aceh Regency and Subulussalam City.

The development of poultry in the form of layer was also followed by the development of animal feed factory, which is targeted to reduce the supply of animal feed from outside Aceh (Idham, 2010). For structuring the poultry industry as a whole, from upstream to downstream, zoning system is implemented in Aceh. The system will be able to increase the productivity of poultry farms because it will be easy to supervise the possibility of disease outbreak.

The zoning is based on the optimization of the application of good farming practice principle (GFP) within a particular zone. Thus, animal health status will be known clearly and good livestock farm- ing system is applied, covering management aspect, animal health, and waste control. Application of the zoning system is the development of local poultry farming in rural or village poultry farming to increase the production of poultry meat and to overcome malnutrition in rural communities.

However, based on observation, there has been no commercial waste utilization in Aceh; the environmental condition of livestock is even prone to diseases for both live- stock and humans. Performance of Smallholder Livestock Busi- ness in Aceh Province Performance of Aceh Cattle Farm in Aceh Besar Regency In Aceh Province, big livestock such as cattle has a very important role in the life of the people. Farmers are used to raising livestock as a source of food, processing agricultural land, as a job and sav- ings.

The opportunity for the development of Aceh cattle in the form of domestic meat production ca- pability is only able to contribute 65% to the need for beef in Aceh, while the remaining (35%) is ful- filled through import (Diskeswannak Aceh, 2013). Currently one of the ways the government chooses to meet cattle fattening program is by feeding

rice straw to cattle.

However, the availability of rice straw is greatly reducing, given the low land area of paddy fields in Aceh, only 357,269 ha. This is of course very far to the total population of livestock in Aceh, as many as 673,441 cows, with beef pro- duction of 7,339,717 kg, with 55,975 cows slaugh- tered (BPS Aceh, 2009 in Masykura and Yunizar, 2011).

Aceh Besar Regency as one of the centers of cattle production in Aceh Province has the potential to develop cattle-slaughtering business to meet high demand for food products in Aceh. The number of population of cattle in Aceh Besar Regency is 142,386. The number of cattle slaughter done both in slaughterhouse and outside of slaughterhouse is 16,702.83; while the number of cows that enter Aceh Besar Regency is 922 and the number of cows that come out is 12,655. The beef production is 1,422,411.62 kg.

The average price of beef cattle aged 2.5 years - 3 years is. 8.500.000 rupiahs/ cow; male beef cattle aged 2 years is 7.500.000 rupiahs/ cow; and female beef cattle aged 2 years is 6.700.000 rupiahs/ cow. The government conducts the development of Aceh cattle through relevant agencies by providing 2-year-old cow, vaccination, and artificial insemination.

Raya Island has been designated as the location for refining Aceh cattle since 2011. This island can accommodate around 4 thousand cows; each hectare of land can be occu-
 pied by about 4 cows, with pastureland and colony cage (Animal Husbandry and Animal Health Ser- vice of Aceh Besar Regency, 2011).

Related to the development of livestock production, Aceh Besar Regency as one of the "buffer" area of the capital of Aceh Province, Banda Aceh City, has several development areas in accordance with the potential of local resources. Aceh Besar Regency has grass-land with an area of about 619 hectares, spread over 18 sub-districts. The grassland is mostly lo- cated along the banks of Krueng Aceh River, a vast field of about 51,296 hectares in 14 sub-districts.

The area of land required per month is based on the ability of cattle to consume forage. For example: an adult cattle needs 40 kg of grass per day (10% of body weight), the amount of grass required per month is 40 kg x 30 = 1200 kg (1.2 tons). If the production of forage is 8 tons per ha, the required area of an adult cow per month is 1.2/ 8 = 0.15 ha (Muyassi, 2014).

Naturally, weight gain of cattle ranges between 500 grams - 1000 grams/ day. For local cattle such as Bali cattle, Madura cattle, PO cattle, Pesisir cattle, and Aceh cattle, the daily weight gain ranges between 300 - 700 grams/ day, while the daily weight gain of cows from abroad such as Simmental, Limosine, Angus and Charolise reaches 1.3 kg/ day.

To stimulate the weight gain of cattle, one action that can be done is giving the right concentrate. Cow fattening by giving growth hormone can be done but this method has not been standardized or offi- cially approved by the Department of Livestock Services. Beef cattle business in Aceh in Aceh Besar Regency consists of small-scale beef cattle busi- ness (2 to 3 cows) and intensively developed com- pany.

The land owned is relatively wide because most farmers take advantage of the river banks of Krueng Aceh and dry field. Male cattle is generally always caged, while the female cow is only caged at night and grazed during the day. According to Suryana (2009), cow breeding system in Indonesia is divided into three, namely: intensive, extensive, and mixed farming.

On intensive farming, the cow is always caged or only caged at night and the ani- mals are grazed during the day. On extensive farm- ing, livestock are grazed in pastureland with settled farming pattern or in forests. Limited capital own- ership of cattle farmers in Aceh affects the busi- ness pattern developed.

In small-scale cattle busi- ness, male Aceh cattle are caged; and they only eat forage taken by farmers around the livestock, some is even cultivated. The problem is, during the dry season, the amount of forage decreases. It affects the growth of cattle; the cattle become thinner. The cattle are rarely bathed. The cages are made of boards in smaller size; only for 2 -3 cattle. Small-scale Aceh cattle farming business gen- erally runs with profit sharing system.

Cattle that are raised by farmers are sold, and then the result is divided for 2 parties (livestock owners and farm- ers). Owners of livestock are generally people who have capital and are domiciled around the sub-dis- trict. Farmers are domiciled around the grazing ar- eas. Farmers who cultivate beef cattle in the scale of company or capital owner are regional officers who are domiciled outside the livestock business.

They make livestock business as a side business. The constraints faced by the farmers are lim- ited capital and difficulty in obtaining forage during the dry season. Beef cattle are generally marketed through collectors who come at the location of live- stock. Marketing is also done through animal mar- kets for farmers whose livestock location is

close to the animal market.

Aceh Besar Regency has 2 (two) animal markets, namely Sibreh animal mar- ket which operates on Wednesday and Lambaro animal market which operates on Saturday, and Slaughterhouse (RPH) located in Lambaro and Peunayong. At corporate scale, the cattle cage is larger, with a capacity of 120 cattle. Animal feed consists of artificial concentrate and forage, from elephant grass, rice grass, banana fronds, corn, and sugar cane cultivated around the location of livestock. Each company has a wet concentrate feed mill and only lasts for 3 days.

Due to the limited raw materials, artificial concentrates are only able to meet the company's need for cattle feed, although there are some demands for concentrate feed from small farmers. DIKTI ACCREDITED SK NO. 36a/E/KPT/2016 ISSN: 1693-5241 637 Potential and Performance of Smallholder Livestock Business in Aceh Province Marketing of live cattle and beef is mostly done in the province of Aceh. High demand of consumer leads the government to import live cattle and beef.

The problem faced in cattle farming in Aceh Besar Regency is the availability of high-quality animal feed. This is based on the analysis of ex- perts that grazing land and HMT (Forage for Live- stock Feed) is increasingly limited; on the other hand, agricultural waste and agro-industry agriculture and food is very large.

Another problem faced in the development of cattle farm is the limited availability and low quality of livestock seeds and development patterns that have not been business oriented, re- sulting in low production and productivity of Aceh cattle. Limited availability of livestock breeds is caused by not optimal reproduction system using artificial insemination (IB).

In addition, the number of officers conducting artificial insemination is also limited, both in quality and quantity. Although Aceh has human resources in the field of animal hus- bandry, it has not been optimally utilized. This can be done by building a synergic relationship between government and universities.

Performance of Broiler Chicken Farm in North Aceh Regency North Aceh Regency has 20 groups of chicken farmers; hundreds people become the member. Every day, the number of broiler chickens produced reaches 6,000 chickens. In the practice, broiler chicken business is divided into 2 types of manage- ment: independent and in the form of plasma core.

In the independent pattern, farmers run broiler chicken business by using their own

capital; with- out involving other parties. Broiler chickens are usu- ally marketed through collectors; the strategy used is “picking up the ball”, i.e. traders come to farmers to buy broiler chickens directly in the location of livestock farming.

Generally, collectors are domi- ciled around the location of livestock farming. In the plasma-core pattern, all capital is borne by the core enterprise. The plasma farmers are only required to prepare cage and workers, while mar- keting and other issues such as the need of chicks or day old chicken (DOC), feed, until the drugs, become the responsibility of the core enterprise.

Broiler chickens aged approximately 35 - 40 days are ready to be sold to traders who are appointed by core enterprise based on DO (delivery order). This cooperation agreement is based on agreement or contract of broiler chicken sale price during the harvest. If the market price of broiler chickens is below the price agreed in contract, the farmers still receive the sale price as when signing broiler chicken sale price contract.

However, if the market price is higher than the price agreed in the contract, the plasma farmer receives money as the price agreed in the contract and the incentive from the core enterprise. Plasma - core pattern is very beneficial for farm- ers if they have limited in capital. While for traders appointed by core enterprise, it guarantees the sup- ply of broiler chickens, especially when the demand for chicken meat is so high that the income of trad- ers is also relatively stable. The core enterprises as well as animal feed producer, namely PT. Pokphand and PT.

Confeed, get double profits on the sale of animal feed and medicines and from the sale of broiler chickens. The risk of loss of broiler chickens is very high due to high feed price and the high risk of chicken death, while the price of broiler chickens is rela- tively fluctuating (9,000 rupiahs/ kg to 23,000 rupi- ahs/ kg).

In Aceh, the price of broiler chickens reaches its highest level before Eid al-Fitr, Eid al-Adha, and during maulid due to the high demand of chicken meat in those days. In a number of broiler chicken farming centers in North Aceh Regency, especially in research location, there are many empty broiler chicken cages; in fact, the cage is able to accommodate about 500 to 1,000 broiler chickens.

This is because farmers do not have enough capital to anticipate high price of chicken feed and the large risk of chicken death due to ill- ness. Obstacles faced by broiler chicken farming business in Aceh Province, especially in North Aceh Regency is the scarcity of chickens (DOC/ Day Old Chick) in market, the high price of chicken feed, and increasing supply of chickens and chicken eggs from outside Aceh.

The main producer of DOC and chicken feed in North Sumatra Province and Aceh 638 JOURNAL OF APPLIED MANAGEMENT VOLUME 15 NUMBER 4 DECEMBER 2017 Jamilah Province is PT. Charoen Pokphand Indonesia (CPIN). Although various efforts have been made to prevent the disease, there is still a possibility of dis- ease outbreaks. The examples of diseases that of- ten infect broiler chickens are stress, lame, SNOT, cholera, and NCR.

The symptoms shown are res- piratory problems, sneezing, snoring, coughing, dif- ficulty in breathing, broken wings, and twisted heads. It can be prevented by vaccination in accordance with the instructions on its packaging; however, ef- fective drug for these diseases have not been found (Abidin, 2002). The greatest cost in broiler chicken farming spent in animal feed.

If it is marketed too late, even only one day, the farmers have to spend a consider- able cost of chicken feed. Therefore, partnership system in broiler chicken farming arises. In this part- nership system, the marketing system becomes more secure because it is well managed by the core en- terprise.

In a partnership system, there is a core enterprise; it is obliged to supply DOC, chicken feed, and medicines. In addition, they also provide tech- nical service to assist farmers in broiler chicken farming and ensure the marketing of broiler chicken. Farmers as plasma are obliged to provide land, cage, and raise the livestock in accordance with the guide- lines of broiler chicken farming system established by the core enterprise. The contribution rate of broiler chicken meat in meeting the needs of public consumption is increas- ing from time to time.

However, it cannot be con- cluded that people's preference to broiler chicken meat is much higher than the local chicken. This is also because broiler chicken meat is more available than the availability of local chicken meat. Appre- ciation given by consumers to local chicken meat is much higher than to broiler chicken (Iskandar, 2005; Iskandar, 2010).

This fact illustrates the inadequacy of local chicken farmers in supplying local chicken meat and eggs to the community. This is caused by local chicken farming system which only owns a very small population of chickens; therefore, it can- not provide adequate chicken meat to the society (Haryono et al, 2012). Moreover, Rohaeni et al.

(2004) reported that in a study in North Hulu Sungai Regency, South Kalimantan, local chicken farming using an intensive maintenance system in a battery cage with 200-2000

chickens/ family contributes up to 100% to family income. Therefore, efforts to in- crease local chicken population through various com- munity programs supported by government are re- quired.

Cooperation between farmers and govern- ment and large investors needs to be seriously initi- ated. Facing low local chicken productivity, Supriadi et al. (2005) explain that low productivity of local chickens is caused by three factors, namely low business input, uneducated genetic traits, and high mortality rate. Low business input can occur be- cause the local chicken farming business is only as a sideline with limited capital and technological mas- tery.

High mortality rate is caused by the use of traditional maintenance system, which generally does not pay attention and implement aspect of biosecurity and vaccination system. Livestock service of regency/ city is involved to become a coach, monitor, and evaluator of the development of local chickens at farmer group. The process of training farmer groups is very important, given that farmers highly need guidance in the proper technical implementation of livestock farming and improvement in the management of role division in each group.

Each local chicken farmer group can work with business partners that play a role in pro- viding livestock production facilities (sapronak) as well as marketing products (DOC, chicken meat and eggs). In a group, the role of members should be mapped functionally. One of group members should play a role as a farmer; another member should focus as DOC provider.

Meanwhile, other members of the group should act as ones imple- ment chicken fattening program in broiler chicken production and/ or egg. Gunawan (2005) recom- mends that a favorable number of local chickens should be owned is at least 40 hens for breeding sector (DOC sales) and 30 hens for consumption of local eggs. DIKTI ACCREDITED SK NO.

36a/E/KPT/2016 ISSN: 1693-5241 639 Potential and Performance of Smallholder Livestock Business in Aceh Province Performance of Laying Hen Farming in East Aceh Regency In East Aceh Regency, livestock sector is a part of agricultural development based on the people’s economy. East Aceh Regency is currently very po- tential for the development of livestock sector.

One of the indicators is the wide of land which is avail- able and has not been maximally worked out, high public interest in livestock farming, as well as sig- nificant support from the local government, espe- cially the Government of East Aceh Regency. The

development of the livestock sector needs to be improved to meet/ fulfill the needs of animal protein for the society, such as meat, milk and eggs, and also to provide opportunities in entrepreneurship, especially to rural communities. In Aceh, the need for eggs reaches 1.2

million eggs per day, while the production of laying hens on the east and north coast of Aceh is only about 250,000 eggs per day. This means that there is still a shortage of about 950,000 to one million eggs per day (Diskeswannak Aceh, 2013). The development of livestock sub-sector, es- pecially laying hens in East Aceh Regency started in 2009 by developing several farming areas in 6 sub-districts namely Aramiah Village in Birem Bayeun Sub-district with capacity of 10 thousand chickens, Alue Tho Village in East Peureulak Sub- district with capacity of 25,000 chickens, Matang Peulawi Village in Peureulak Sub-district with ca- pacity of 10 thousand chickens, Paya Gajah Village in West Paureulak Sub-district with two locations and capacity of 55 thousand chickens, Seuneubok Teungoh Village in Darul Ikhsan Sub-district with capacity of 10 thousand chickens, and Buket Bata Village in Pante Bidari Sub-district with capacity of 10 thousand chickens. From those locations, the to- tal egg production reaches 65 thousand eggs/ day or 75 percent of the total population.

The amount of egg production is still not sufficient to meet the need of eggs in East Aceh Regency, which is estimated to reach 200 thousand eggs/ day or only 20 percent, while the rest are still supplied from outside Aceh such as from the Province of North Sumatra. This livestock business requires a quite large capital; thus, sufficient capital is an absolute require- ment that must be met to establish a business of laying hens (Rasyaf, 2001). To that end, the local government expects that investors invest in East Aceh Regency to develop the livestock sector.

In addition to meet the need of community for animal protein, it can also improve the economy of the community and increase the Local Original Revenue (PAD). Currently, the government of East Aceh Re- gency is focusing on developing laying hens. Main- tenance centers are set at five points, namely Darul Ihsan Sub-district, Pante Bidari Sub-district, West Peureulak Sub-district, Peureulak Kota Sub-district, and Birem Bayeun Sub-district. The development of laying hens is intended to minimize the depen- dence of Aceh on other regions.

It is managed by involving the community groups under the supervi- sion of the relevant agencies. In laying hen farming in Aramiah Village, now there are 10 thousand lay- ing hens, but it has not entered the production mar- ket yet. In Alu Bu village, there are two locations with 30 thousand chickens. Eggs are produced in Pante Bidari, which has 10 thousand chickens.

Per day, the number of the resulting eggs reaches 8,400, marketed to Lhoksukon Sub-district, North Aceh Regency (Salim, 2012). The acceptance component of a laying chicken business is the sale of eggs, the sale of rejected laying chicken, and the sale of fe- ces during one production period. One period of production of laying chicken ranges between 18-20 months or approximately 14-16 months (Wati et al, 2010).

Furthermore, Resnawati and Bintang (2005) reported that the change of local chicken farming system from traditional to intensive can increase egg production from 30-80 eggs / chickens/ year to 105- 115 eggs / chickens / year. Laying chicken business in East Aceh Regency is carried out in 2 types of management, namely laying chicken business built by Department of Ani- mal Husbandry and Animal Health of East Aceh Regency and independent business managed by tha community itself.

Laying chicken business partner- ship system managed by community groups and the Department of Animal Husbandry and Animal Health is based on cooperation agreements/ work contracts. In this case, the agency provides cages, breeds, feed, medicines and vitamins to the com- 640 JOURNAL OF APPLIED MANAGEMENT VOLUME 15 NUMBER 4 DECEMBER 2017 Jamilah munity groups. The assistance is given until the com- munity group is able to provide breeds and feed themselves or at least after laying hens lay up to 50%.

The average laying hens has produced eggs since 5 months old to 2 years old. This partnership is very profitable for the farm- ers, especially the provision of capital, given the high price of chicken feed. The eggs produced are mar- keted by farmers themselves through collectors who buy at the location of livestock farming.

Profit shar- ing is done based on the regulation of percentage of revenue sharing in accordance with the coopera- tion agreement between the farmers and the De- partment of Animal Husbandry and Animal Health of East Aceh Regency. A farmer who runs the laying chicken business independently is a farmer who has sufficient capi- tal; the percentage is very small, considering laying hens business requires a large capital and has high risk of chicken death due to disease and weather.

The marketing of eggs does not experience any constraints given the current demand for egg is be- yond the capacity of egg production in almost all areas in Aceh. Furthermore, Kurniawan et al (2011) explained that in order to develop laying chicken business, the government is expected to provide easy access in obtaining additional venture capital (credit).

Besides, a firm policy from the government is very required to build partnership pattern in laying chicken farming business in order to make livestock busi- ness work well. Performance of Duck Farming in North Aceh Regency In North Aceh regency, duck farming is done traditionally and in a small scale; some farmers get breeds from the relevant agencies. Traditional pat- tern is characterized by a simple cage, with no pond and no health care.

Duck food is generally derived from nature (extensively) and the leftovers of the livestock owners. Farmers who have sufficient capital to invest in livestock business and master the technology tend to choose intensive laying duck farming and have a concentrate feed business. Farmers do not use bank- ing services to get venture capital well; therefore, their capital is limited.

Gusasi and Saade (2006) state that the large number of ducks raised can affect the income of farmers. Large number of ducks that are raised can increase the farmer's income; how- ever, the feed costs also will increase. Farmers who have sufficient capital to invest in livestock business and master the technology tend to choose intensive laying duck farming and have a business of concentrate feed. Farmers do not use banking services to get venture capital well; there- fore, their capital is limited.

The level of competition among duck farmers is relatively low. Most duck eggs produced are bought by collectors and marketed to restaurants and stalls; some are processed into salted eggs, and the rest is consumed by the farmers themselves. So far, there is no constraint faced by the farmers in marketing duck eggs.

To increase duck livestock population, in 2010, the Department of Livestock Service of North Aceh Regency distributed ducks. Given the distribution of ducks per year is very limited, while the demand/ needs of farmers is a lot, then the duck that has been disseminated need to be redistributed in ac- cordance with the letter of agreement. Redistrib- uted ducks are from farmer groups that have crite- ria for leading breeds.

In 2014, ducks were also dis- tributed in 5 (five) sub-districts in North coast of Aceh. Distribution is intended for fishing communi- ties and every village in coastal areas (for 20 fami- lies or households). Each household will be given assistance in the form of 50 3 month-old ducks. This also aims at increasing the income and welfare of fisherman family.

Location preparation is focused on preparing the management of cage, animal feed, and group coaching. Ducks cannot be distributed before the farmers have cages. The ducks shall be handed over to the head of the group before they are distributed to the

farmers; it has been established in the De- cree about location and farmer. Therefore, the dis- tributed duck may be suitable for the purpose of spreading and developing livestock.

Duck farming business undertaken by farmers in the research area is still traditional. The ducks are released around the cages and farmer's house; the ducks only eat the farmer's leftovers and bran. DIKTI ACCREDITED SK NO. 36a/E/KPT/2016 ISSN: 1693-5241 641 Potential and Performance of Smallholder Livestock Business in Aceh Province This makes ducks prone to diseases.

Duck farming business is only a sideline; it is not done intensively. The guidance provided by the relevant agencies is only in the form of technical guidance; it does not concern on the management aspect of livestock business. Generally ducks are cultivated with eggs as the main product. According to market, egg produced is still dominated by laying chicken eggs, amounted to 63.79%, while the percentage of duck eggs and local chicken eggs is balanced (19.35% and 16.86% respectively).

The demand for egg duck growth from year to year has increased, while the number of eggs produced is not as much as the number of the demand. Consumer's demand for duck eggs can be divided into three groups. The first is demand for fresh duck eggs that have not undergone any pro- cess. The second is demand for processed eggs, usually salted eggs.

The third is demand for hatch- ing eggs, which are duck eggs that will be hatched by duck farmers to produce ducklings (Day Old Duck). The economic growth and the increase in people's incomes affect the demand for duck eggs and support food diversification. People's demand not only evolves toward the variety of food types, but also the specification of the demand type, such as the image of the duck egg itself.

Duck eggs have advantages compared to other eggs (in salted egg production). The advantages of serati duck/ broiler duck, are its rapid growth and its ability to trans- form low-quality feed into meat (Hutabarat, 1982; Hardjosworo and Rukmiasih, 2000), resistance to disease, low mortality rate ranging from 2-5%, and have thick, light-brown, soft, and tasteful meat (Anwar, 2005) The profit of broiler duck farming is quite tempt- ing; the potential of duck farming business is very promising because duck menu is getting familiar to society due to a number of restaurants providing duck menu as its main menu, for duck meat has a unique and special taste.

The market share of duck is not only the eggs; the demand for duck meat also increases along with the restaurants and food stalls that sell duck menu as the special menu.

CONCLUSIONS AND SUGGESTIONS Conclusions a. Aceh needs the role of private party and government in an integrated and sustainable way to grow smallholder livestock farming business with partnership system so as to improve the regional economy. The efforts of the Government of Aceh to increase the production and productivity of live- stock have not provided optimal results.

It is indi- cated by people's need for meat and eggs that are largely supplied from outside Aceh. b. The breeds and feed given by the local gov- ernment through the relevant agencies are only tech- nical; it is not concerned on business management. This leads to slow management of diseases as well as the greater risk of livestock mortality rate and great loss for farmers. Suggestions a.

The development of smallholder livestock business in Aceh needs to be followed up continu- ously by government, private entrepreneurs, and universities in a synergic way, including coopera- tives, financial institutions and human resource in- stitutions (LSM); therefore, livestock business prob- lems can be resolved, such as: limited capital, feed price, and the lack of concentrate feed mills; un- structured business management; limited transpor- tation facilities and infrastructure, so that marketing is generally done at livestock farming location; lack of supervision and coaching from related agencies; social problems from livestock farming influenced by local communities; only utilizing home yards; poorly organized; lack of market access and infor- mation of price; and legal and security issues which become the concern of investors to invest in Aceh. b.

Smallholder livestock farming business in Aceh requires technology and the involvement of government and private parties in providing high- quality breeds and providing feed factories in the livestock environment in order to anticipate the in- crease in feed price, develop livestock organizations (farmer groups and farmer associations), and pro- vide access to market and add in accordance with livestock development areas, enhance the role of counselor, artificial insemination officers, and live- stock medical personnel.

This can be done through 642 JOURNAL OF APPLIED MANAGEMENT VOLUME 15 NUMBER 4 DECEMBER 2017 Jamilah integrated and sustainable smallholder livestock farming business with partnership system and the active role of farmer organizations. REFERENCES Abidin Z. 2002. Meningkatkan Produksi Ras Pedaging. Agromedia. Pustaka. Jakarta. Anwar. R. 2005. Produktivitas itik Manila (Cairina moschata) di Kota Jambi. Jurnal Ilmiah Ilmu-Ilmu Peternakan. VI (1): 24-33. Diskeswannak Aceh. 2013. Laporan Tahunan.

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