Journal of Rural and Community Development

The Implementation of Indonesia's Beef Self-Sufficiency Programme (BSSP) as Seen from a Farmer-Family Perspective

Authors: Siwi Gayatri & Mette Vaarst

Citation:
Gayatri, S., & Vaarst, M. (2015). The implementation of Indonesia's beef self-sufficiency programme (BSSP) as seen from a farmer-family perspective. *The Journal of Rural and Community Development*, *10*(2), 166-186.

Publisher: Rural Development Institute, Brandon University.

Editor: Dr. Doug Ramsey

ISSN: 1712-8277 © Journal of Rural and Community Development
www.jrcd.ca

The Implementation of Indonesia's Beef Self-Sufficiency Programme (BSSP) as Seen from a Farmer-Family Perspective

Siwi Gayatri
Aarhus University
Aarhus, Denmark
gayatri.siwi@gmail.com

Mette Vaarst
Aarhus University
Aarhus, Denmark
mette.vaarst@icrofs.org

Abstract

Since around 1990, Indonesia had been importing about 40% of its entire beef consumption. To reduce its reliance on imports, Indonesia launched the beef self-sufficiency programme (BSSP), which operated between 2005 and 2014, with the aim being to reduce imports of beef cattle to 10% of national demand by 2014. This was particularly challenging at the time because the demand for beef had continuously increased for a number of years. The aim of this case study was to investigate how Indonesian smallholder farmers perceived their own beef-cattle production in line with the BSSP, with a particular focus on the way in which the programme was implemented. The present study is based on the findings from 14 semi-structured qualitative interviews carried out with smallholder beef-cattle farmers from the Central Java Province in Indonesia. A modified grounded theory approach was used to analyze the data, using the software program Transana. The study showed that the farmers were mostly unaware of the existing government policies on beef-cattle farming, i.e., regarding the BSSP, including the overall aim of these policies. Furthermore, the activities they did know about they viewed as individual activities run in isolation, rather than parts of a grander plan or overall larger targeted programme—note, in this paper, we refer to these individual activities as 'fragments'. The farmers who took part in the interviews outlined the challenges they faced in increasing the quantity and quality of their beef cattle. The participating farmers also outlined their experiences of how elements of the BSSP were presented to them and how these initiatives were taken up (by themselves, colleagues, or in the local community). The results of the present study show that the farmers were mostly not aware of the overarching policies like BSSP, and hence there is a clear need for the government, i.e., via the Livestock and Fishery Office, to improve how it disseminates knowledge and information about its policy programmes, particularly to the players most affected by those policies. We identified a clear need for the relevant government institutions to take the initiative and work more closely with the main players, in this case the beef-cattle farmers. Involving the farmers is considered crucial in order to create and maintain sustainable beef production. Considering the farmers' perspectives of how extension agents approach the practical implementation of governmental agricultural policy programme, such as the BSSP, we furthermore suggest that more transparent communication is needed, together with the closer involvement of farmers in all

ISSN: 1712-8277

stages of the programme, i.e., not just in implementation, but also in the design and planning stages, as well as in the post-programme evaluation, in order to learn effective lessons to improve future programme delivery.

Keywords: Indonesia; smallholder farmers; beef cattle; farmer perceptions

1.0 Introduction

The Indonesian agricultural sector comprises 14% of the country's aggregate Gross Domestic Product (GDP) (Indonesia Statistical Bureau, 2013, p. 560). Livestock is a very important part of this sector, and to Indonesia's economy overall, and plays a vital role in many different aspects of national and daily life, including in providing national food security, as nutrition, in generating income and savings, and in many social and cultural functions. Beef cattle play a significant role in the livelihood of many people living in smallholder farms in rural areas, particularly regarding their family income, nutrition and welfare (Priyanti, Hanifah, Mahendri, Cahyadi, & Cramb, 2012). Indeed, most rural people rely on farming, in one form or another, as their main occupation.

However, despite this large agricultural sector, Indonesia has not been able to meet its national beef demand for many years. It was estimated that up to 1990, Indonesia was importing about 40% of its entire beef demand (Hadi, Ilham, Thahar, Winarso, Vincent & Quirke, 2002). Since then, imports, in particular from Australia, increased year to year (Tseuoa, Syaukat, & Hakim, 2012). This eventually led to the Indonesian government launching the first beef self-sufficiency programme (BSSP) in 2005. Beef cattle in Indonesia are used for draught power, for generating capital (hence income and savings), and as a part of the nutrient recirculation on the farm. Beef cattle essentially convert agricultural waste and its by-products into meat and also provide the farmer with manure. The demand for meat in Indonesia is growing as a result of urbanization, the growing population, and the rapid growth of the urban middle class economy and its tendency to spend money on food (Permani, 2011; Priyanti et al., 2012; Vanzetti, Setyoko, Trewin & Permani, 2011). Indonesia's rate of beef consumption is estimated to be 2.6 kg/person/year on average (Indonesia Statistical Bureau, 2013, p. 485). Given that the population of Indonesia is about 248 million people, this means that about 645 thousand tonnes of beef meat should be produced each year to meet the consumption demand.

The Indonesian Beef Self-Sufficiency Programme (BSSP) was one of the Indonesian Ministry of Agriculture's key programmes in 2004-2013. The aim of the BSSP was to reduce the imports of beef cattle to 10% of the total demand by 2014, and to achieve long-term self-sufficiency based on local cattle meeting the increasing population's demand for beef. The BSSP was implemented during 2005-2013 in Indonesia in order to build local and national capacity for self-reliance regarding beef production. The guidelines for implementing the BSSP in Indonesia were designed by the Ministry of Agriculture, and described an action plan to accomplish the programme in collaboration with and via networking between different government organizations under the ministries of Agriculture; Trade, and Finance, respectively. According to The Regulation of Indonesian Department of Agriculture No 19, 2010 concerning the implementation of the beef self-sufficiency programme, the BSSP sought to increase the number and productivity of the domestic cattle herd.

It was intended to influence and promote the continuation of the cattle production system in Indonesia, and thus had significant implications for small-scale producers.

Long (2009) stated that a development programme can be analyzed systematically from conception to implementation through applying a systematic methodological approach. This includes the responses and lived experiences of the affected social actors (Long, 2009, p. 34). He emphasized a focus on the novelty of the strategies and processes of change, as well as the link between several relevant actors and their different actions. An understanding of farmers' perceptions of the implementation of any agricultural development programme is crucial for understanding how best to implement a policy and what challenges the process of implementation may face. Qualitative studies can contribute to this understanding through exploring the worlds of the farmers, i.e., their working and life situations, and how they see the implementation process and the potentials and challenges of implementing the policy in the context of its impact on the farmer families. This may not have been considered in the past, but nowadays, studies on farmers' perception have started to attract significant research interest in the world (Long, 2009, p. 44).

For instance, in a study about farmers' perceptions of and adaptation to climate change in Africa, Maddison (2007) suggested that it was important to know about and understand the farmers' perceptions of climate change in order to be able to improve policies on climate change. Generally, the awareness and perceptions of a problem shape the action of the relevant players and can reflects how a policy is being implemented in practice. Gandini, Martı´n-Collado, Colinet, Duclos, Hiemstra, Soini, & Dı´az. (2012) studied farmers' perceptions of cattle conservation policies in eight European countries. He revealed that the farmers' lack of several things, such as improved breeds, access to clean water, capital and knowledge on modern adaptation strategies, acted as constraining factors for a number of conservation programmes. Furthermore, Long (2009) stated that studying peasants' perceptions of their current situation is very important for improving their active involvement in implementing programmes (Long, 2009, p. 26). Hence, taking the lead from these earlier studies, the outcomes of the present study may be useful for policy-makers to identify key elements in designing policies and programmes.

The aim of this study presented then was to explore the experiences and perceptions of the BSSP by beef producing farmer families in the Semarang Regency, Central Java Province, Indonesia, and to ascertain how they had perceived the implementation process, as well as to what they saw as the main challenges and development options in the future.

2.0 Material and Methods

The research approach in this study involved the use of semi-structured qualitative research interviews. The qualitative research interview method aimed to explore and describe how a phenomenon is experienced and perceived by a range of actors in the field, in order to gain a greater understanding of a certain phenomenon in its application context. The method does not quantify or build on a representative sample of opinions. The interviews were conducted using an interview guide consisting of thematic questions, which helped the interviewer have a structured conversation/interview to aid the understanding of the responses from and between different interviewees, by helping to interpret the meaning of what the interviewee says and expresses (Kvale, 1996, p. 11). The method of analysis used was a modified grounded theory approach, which is described in more detail below.

2.1 Data Collection

Data was collected in the period February–April 2013 in Semarang Regency, Central Java Province, Indonesia. This area was chosen as a case study area because it has the second largest beef-cattle population in Indonesia. The study was limited to this area only because of financial and time constraints.

The head of the Central Java Province Livestock and Fishery Office was approached as a key information source, because of its knowledge about the area and the villages. Two villages (named Village A and Village B) were selected to take part in the study, based on the distance of the selected villages from the Livestock and Fishery Office (LFO) premises. We hypothesized that the implementation of the policy would differ between close and distant locations from the LFO, which was the implementing partner with the most contact with the farmers. Village A was close to the LFO and Village B was far away from the LFO. Each village contained at least one farmer group related to cattle production, and the interviewees were selected from these farmer groups, which in these cases had 35 and 41 members, respectively. The two farmer groups in this research had been established since the early 1990s, specifically since 1991 and 1993, respectively. Usually, a monthly meeting took place. The farmer groups comprised farmers who were relatively homogenous regarding the size of their farms and numbers of cattle. This meant that some farmers in the village who might have had cattle but who were very different in terms of farm size were not included in the study. Seven farmers were selected from each farmer group, therefore, in total, there were fourteen farmers chosen to participate in the interviews.

The criteria for selecting the farmers were that the farmers had been members of their farmer group for more than two years, and they were chosen to cover a range of different backgrounds. Two of the interviewed farmers were members of the steering committee of their farmer group, and two of them had another job besides farming (a teacher and a driver). The farmers were selected in consultation with the head of the LFO. Out of the fourteen participants, twelve farmers were males, one farmer was female (a widow) and in one interview, both the husband and wife participated together. This was not possible in the other interviews, since most of the times the wives were doing housework or working in the field at the time of the interview. No other selection criteria were applied to ensure that a range of different types of people were covered. The sample size was mainly determined based on the concept of saturation in qualitative interview research (Mason, 2010), where saturation is considered as being reached when no additional information is deemed to add to the study after the fourteen interviews.

All participating farmers were individually interviewed (except for the case of the husband and wife joint interviewees), using an interview guide specifically developed for the field study. The interview guide was developed in English and translated into the Bahasa Indonesian language. All the interviews were recorded on tape, and the interviews lasted between 60 and 90 minutes. The interviewer asked the farmers about their working lives regarding the beef-cattle farming system they applied, including questions about their perceptions on the way in which the beef self-sufficiency programme was being implemented with the farmers. The farmer participants were encouraged to reveal all about their experiences throughout the interview. Table 1 shows characteristics of the participants.

Table 1. *Characteristics of the Participants*

Farmers	Age	Education	Occupation	No. of household members	Number of beef cattle (head)
Village A					
Farmer 1	37	Secondary school	Farmer	5	5
Farmer 2	39	High school	Farmer	4	3
Farmer 3	45	Elementary school	Farmer	6	3
Farmer 4	51	High school	Farmer	5	10
Farmer 5	31	High school	Farmer	4	4
Farmer 6	28	Bachelor	Teacher	3	3
Farmer 7	43	Elementary school	Farmer	4	3
Village B					
Farmer 8	55	Elementary school	Farmer	6	7
Farmer 9	32	Secondary school	Farmer	3	4
Farmer 10	35	Elementary school	Farmer	2	2
Farmer 11	41	High school	Driver	5	5
Farmer 12	31	Secondary school	Farmer	4	3
Farmer 13	39	Secondary school	Farmer	4	4
Farmer 14	43	Elementary school	Farmer	5	5

Note, all the farmer interviewees were male except for Farmer 11, who was female (a widow), and 'Farmer 2', which refers to a farmer couple, where both the husband and wife participated in the interview together

2.2 Data Analysis

All the interviews were transcribed and coded using the software program Transana. The interviews were analyzed using a modified approach to the grounded theory as described by Charmaz (2008, p.109). This modified grounded theory approach was used because the goal of this study was to explore a given phenomenon, based on an inductive and qualitative approach, and to develop a model of understanding, in this case why and/or how the selected Indonesian smallholder farmers experienced and perceived the current government policies on beef self-sufficiency in Indonesia, and its implementation among farmers. This approach does not attempt to make generalizations. The outcome of the modified grounded theory is presented as a narrative, including categories or themes in a so-called model of understanding, but not as an overarching theory.

The first step in the data analysis was coding or data reduction. The entire text was organized into small statements after the transcription of the interviews, and then coded with the aim being to organize the text into themes. The coding was followed by the identification of relevant keywords. Nine keywords were generated during the data analysis process and used for the categorization. The keywords were collected into themes, which produced a model of understanding connecting the comments from the different interviews. As a result of the initial analysis, the interviews were constructed around three theme areas (see the next section). The construction of the themes was supported by the quotes. The main quotes were selected and included in this paper to illustrate the range of different aspects of the farmers' experiences, perceptions and life situations, as they are the farmers' own words. However, the responses from all the farmers are included and represented in the analysis itself, not just those quoted herein.

3.0 Results

Based on the analysis of the interviews of the fourteen beef-cattle farmers, a model of understanding was developed, including the themes and keywords (see Figure 1).

The model illustrates and organizes aspects of how Indonesian smallholder farmers perceive their own beef-cattle production and the current government policy on beef self-sufficiency in Indonesia, including the way in which the policy is implemented, and how it relates to their daily life and work practices. Hence, the model of understanding can be described through three main themes: (1) the farmer's family life situation and daily practices, (2) implementation of the policy as seen from the farmer's point of view, and (3) the farmer's actions and reactions.

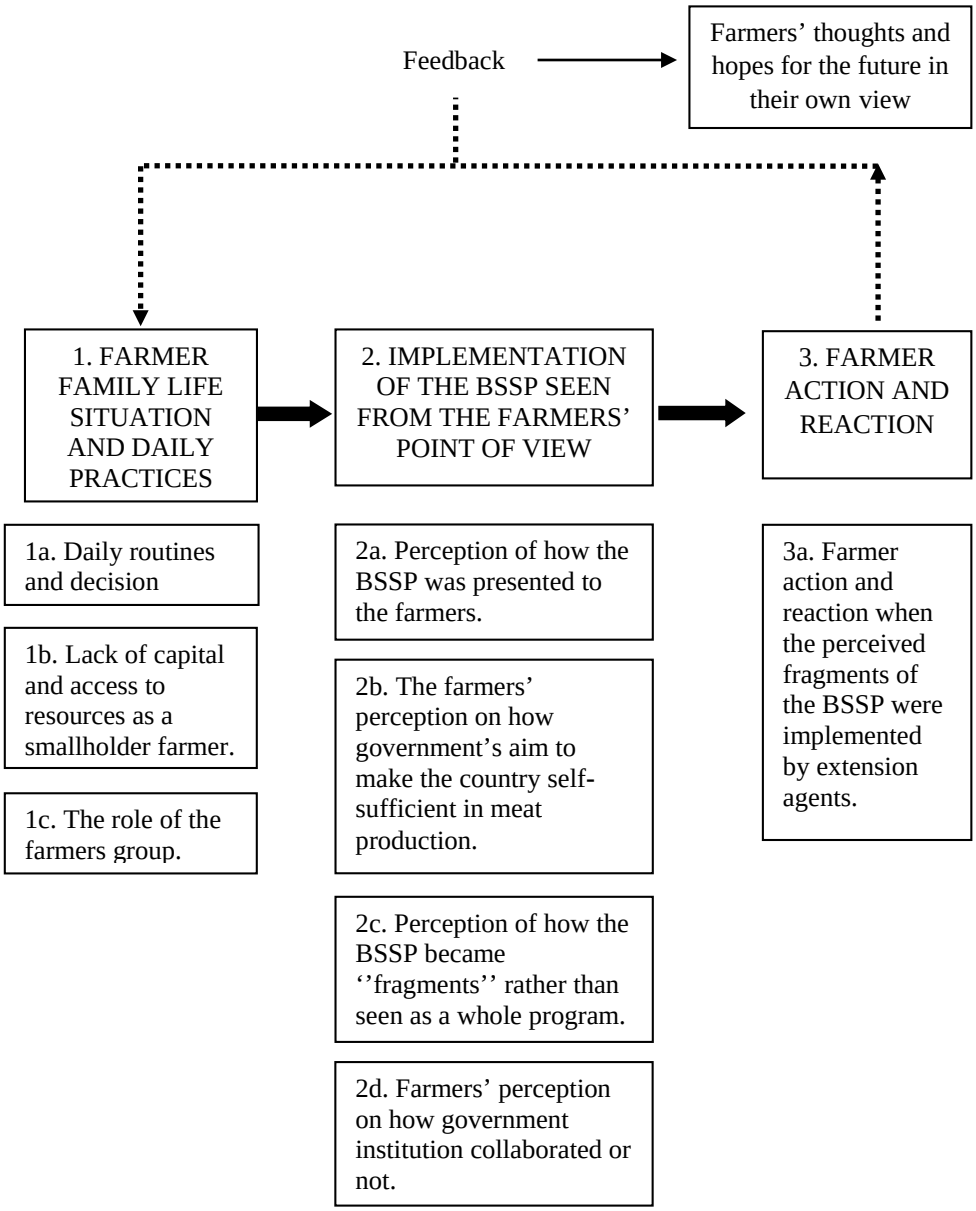
3.1 Farmer Family Life Situation and Daily Practices

3.1.1. Daily routines and decision-making. The first sub-theme is the farmers' families' life situation and decision-making. This sub-theme was created around aspects of what daily life was like for beef-cattle farmers in these villages, and how they made decisions. The interviewees with beef-cattle-farmers revealed that the daily work on the farms was usually led by the husband (as the head of the household), who was assisted by his wife and children, and in some cases by other family members living on the same farm, for example the parents of the husband, or grown-up children and their families. In one family, the household was led by a widow leading the work. Decisions related to the beef-cattle farming were usually made primarily by the household head, with other family members doing the work following instructions from the household head. This was illustrated by Farmer 4, who stated "Mostly I will make decisions regarding daily practices related to our cattle farming, while other family members are involved in feed processing and daily feeding of the cattle". In another household, there was a joint decision-making process, as e.g., illustrated in the quote from Farmer 2"… actually I am not working alone, my wife and the children often work together with me to help me in the farming practices. And my wife and I often make joint decisions about our farm; especially decisions involving money need to be discussed with my wife".

With regard to feed resources, these farmers generally used locally available cattle-feed resources from their own farm and from communal land, for example cut-and-carry feed stuffs, mainly because they were cheaper, and because the climate was favourable for growing these crops.

The farmers reported that they had general problems related to cattle diseases such as diarrhoea, gastritis, weight loss, loss of appetite, and indeed, in some cases, disease was considered one of the major problems in raising their cattle. Farmer 2 related this to lack of awareness regarding the possibilities for more careful cattle keeping "Most of the cattle are kept in individual stalls under shelter. However, some of the farmers have no permanent housing, they just leave the cattle under the tree, and then the cattle tend to get sick easily", and Farmer 3 added "According to the veterinarian, our cattle were infected by bacterial diseases. It might be that most of us are not aware of proper sanitation".

Figure 1. *Model of Understanding to Illustrate how the Interviewed Indonesian Smallholder Farmers Perceived the Viability of their own Beef-cattle Production, and the Implementation of the Beef Self Sufficiency Programme (BSSP) in Indonesia*



The farmers would sometimes ask for help from the local veterinarian, and some also discussed disease prevention with the local veterinarian, like for example by Farmer 6 who explained "Taking good care of animal health does not only mean treating an animal when it is sick, it also means helping the animal to avoid becoming ill. The best thing to do is to discuss disease prevention measures with a veterinary officer who will give advice that applies to a farmer's situation".

3.1.2. Lack of capital and access to resources as a smallholder farmer. According to the farmers, their farming system is traditional, as described by Farmer 9: 'Most of my co-farmers are still following traditional farming methods, old behaviours of cattle practices based on our experience'.

This traditional way of thinking also implied that they perceived their cattle as their savings, for instance as explained by Farmer 7 "The objective of my farming activities is to own productive assets as a form of savings and as a draught animal that can easily be converted into cash when needed".

Beef-cattle farmers are faced with many challenges in terms of resources. Farms usually remain small because of the limited access to capital and reliance of family labour on smallholder farms. This is a challenge because many small farms cannot support the farmer's families sufficiently with food and income. Most of the farmers share problems like low productivity of their beef cattle, scarce and low-quality forage, and a poor availability of feed concentrates – feed concentrates is a method of supplying supplements and additives feed to the cattle. Many farmers explained that they would favour artificial insemination for their cattle as they thought it would improve their stock productivity because of the better breeds involved in the insemination programme. However, the costs related to the inseminations were too high, and the farmers had to pay it themselves. The farmers all had experience of the staff from the Livestock and Fishery Office, coming twice per year and offering free artificial insemination on the spot; however, they stated that if the farmers' cows were not in heat, this impromptu visit was not appropriate. In addition, some farmers had experience of discovering a cow in heat, and the farmer being willing to pay for having the cow artificially inseminated and calling the inseminator, but then a lack of transport and the long distances involved, together with, at times, a lack of available semen, meant that the cow could not be successfully inseminated. The farmers also explained that they have difficulty in monitoring when their cows are in heat.

Generally, the lack of education in cattle farming was a great challenge. Farmer 7 explained:

> We don't have an educational background in farming systems, our farming practices are based on our experience, which leads to poor management of the farm, a lack of ability to monitor when our cows are on heat and problems with regard to feeding practices. We often need to find forage, especially during dry seasons, in the other villages. Even I can see that our cattle are under nutritional stress.

The interview analysis revealed that instead of improving their income from beef production, small-scale farmers are constantly in a comparatively weaker bargaining position. The standard price for live cattle is often determined by a blantik - a village trader or a middle men in the cattle marketing business, and the pricing mechanism applies to a 'guessing system', which means that the price is determined based on their physical condition, in combination with weight, as measured by a guess from the buyer rather than by using a measured weight. Most of the beef-cattle farmers have no experience in marketing, and find it difficult to enter cattle markets independently. There is no tradition in the two villages to collaborate in a group regarding joint marketing.

The quote from Farmer 13 revealed strong feelings towards the traditional marketing system "I hate blantik. We really want to enter the cattle marketplace, but the government has less concern towards farmer and limited human resources at the government level".

3.1.3. The role of farmer groups. This sub-theme covered issues related to the role of the farmer group in the farmer-family life and daily practices. Farmers had generally experienced that the farmer group in their village had assisted when them they needed it. The interviews revealed that group activities also stimulated them to become more socially active, for example, to attend group meetings, helping the building of communal stables, helping each other in cleaning and feeding the cows in communal stables. Farmer 1 stated:

> I will continue to benefit from being in the farmer groups in order to improve the performance of my beef-cattle farming, and for me, it is important to attend the group meetings regularly and to interact with other members of the group, I have better access to loans and it is easier to get new information and knowledge from the extension agent—a special agent whose job it is to educate farmers and producers about innovations in the field.

The interviewed farmers explained why it was so important to them to attend the group meeting, in terms of giving them the chance to get to know each other, exchange opinions, discuss a wide variety of issues and to learn from each other's experiences about farming activity. Farmer 1 emphasized that the benefits of joining the farmer group included better access to services than a farmer who is not a member of the farmer group.

Moreover, the farmers increased their trust in each other by joining a farmer group. Farmer 2 added "The steering committee of the farmer group can be trusted and they are willing to help whenever farmers need help". The farmer group steering committee always keep proper accounting records for transparency, such as records of the financial contributions from members and the distribution of donations from the Livestock and Fishery Office. He added that the steering committee members were welcome in members' farms for their views and for discussion whenever farmers had problems with their cows.

Farmer 2 said "If I need help, I am sure that my co-farmers would help me. We can totally trust the farmers in our village and most members of the farmer group are willing to help if I ask them". He mentioned that if he was in need of money for feed, he could borrow it from one of his fellow farmers. Finally, he emphasized that his participation in the farmer group also gave him access to donations from the government livestock offices, which actively participated in distributing these donations, which then helped him to collaborate with other farmers.

Farmer 2 also raised the point that the farmer group helped him to identify the problem areas in his farm and suggested solutions, just by joining up all the different existing experiences among the group members. Likewise, Farmer 7 said that being a member of a farmer group made him improve his management:

> The activities carried out in a farmer group provide me with knowledge and information to help improve my performance in beef-cattle farming, and for me, sharing and exchanging knowledge and information among farmers is important to improve our capacities in beef-cattle farming.

Generally, farmers reported that the general access to knowledge and information from livestock offices, extension agents and fellow farmers was easily disseminated through a farmer group, and that this was one great advantage of being a member of a farmer group.

3.2 Implementation of the BSSP Seen from Farmer' Point of View

3.2.1. Farmers' perceptions of how they were introduced to the beef self-sufficiency programme. The farmers were asked about their experiences on how the BSSP was presented to them. The farmers' stories were generally similar in that extension agents had visited the farmers at their farmer group and explained individual elements of the programme, such as for example issues about feed (see Table 2), without telling that this was part of a bigger programme.

The government provided services to the farmers during implementation of the BSSP, like e.g. artificial insemination as previously explained above, and as described in Table 2 below. According to Farmer 11, using established farmer groups as an entry point for dissemination of a policy was normally an effective way to communicate information to the farmers. In this case, farmers had, to a large extent, experienced that they were not informed about an overall policy aimed at the country developing self-sufficiency in beef cattle, but they were presented with different elements that potentially could increase production and minimize losses. The above-mentioned example of artificial insemination is one of these elements. Moreover, most of the participants observed that it had been impossible for the extension agents to reach all the farmer groups in an area, because the relatively small number of extension agents could not possibly manage to meet with all the farmers individually. Moreover, the farmers said that they had difficulties in understanding the messages that the extension agents introduced to them. Farmer 11 explained:

> In my opinion, the extension agents need to consider if their messages have been successfully delivered to the farmers. Perhaps, the agents sometimes forget that the farmers do not have a high educational level, and we need more time to absorb the information.

3.2.2. Farmers' perceptions of the government's aim to make the country self-sufficient in beef production. This sub-theme covers various aspects of how farmers had perceived the overall aim of the beef self-sufficiency programme and its context, especially in relation to their current life situation. The farmers knew about the large amount of imported beef cattle for example from Australia, and they were aware that it influenced the pricing of locally produced beef, but they believed that the government was not aware of how difficult it was to earn a living being a local beef-cattle farmer under this pricing system. The farmers did not really have information or knowledge about the actual content of the BSSP; for instance, how and why the programme was to be implemented. The interviews revealed that the farmers had not received sufficient information when the BSSP was presented to them, for instance about how the activities being implemented on the farms actually related to the BSSP, and how it was supposed to support them, and to support the country in becoming self-sufficient in beef production. Farmer 3 expressed:

> I think the government has concerns over the imports of live cattle and beef, but they don't really care about improving farmers' income. We don't know about the BSSP, the how and why about the programme. I only heard from the television, as well as the information provided by extension agents, but the detailed information about the BSSP has not yet been provided by government.

Farmer 6 described:

> There is fluctuation in the price of local meat at the moment because of the import of cattle, and it might be impossible for a smallholder farmer like me to improve my income. In fact, there is corruption scandal about the imported cattle from Australia, yet the government has continued to import cattle until now.

The farmers had obtained some information—partly from television news—that the government had launched a programme aimed at Indonesia becoming self-sufficient regarding beef production. However, the farmers experienced that the government did not address the fact that the price of their meat was too low because of the imports. This did not encourage them to produce more. The farmers who were aware of the existence of the BSSP generally did not see it as 'something for the farmers', but more as a policy addressing imports, but not giving solutions regarding improving farmers' lives, nor their incomes from beef production.

3.2.3. Farmers' perceptions on how the BSSP became fragmented rather than seen as a whole programme As explained above, the farmers were aware of the existence of the BSSP, but in practice it did not appear to the farmers as a 'whole programme'. Although it was true that certain activities were either initiated or enforced by government institutions in a stronger way than before the BSSP, with the aim of making it possible for the farmers to increase their production. These activities appeared to the farmers as separate elements that were not interconnected, and the farmers had not perceived them as being related to this overarching programme with an overall aim of making the country self-sufficient with beef. This is why we refer to them as 'fragments' in the analysis. Some of them, for example vaccination programmes and study tours, also existed before the BSSP, but according to the LFO officer, they now have more resources to enforce them in relation to the BSSP. Table 2 shows some examples of these 'fragments'.

During the interviews, farmers were asked about how they benefitted from the individual activities that had been provided by the government. Farmer 9 gave an example of this: 'We benefitted from the activities that had been implemented by the government in terms of "no cow mortality", and I think that all of the activities and resources provided by the government were part of the BSSP, but it was not presented as such'. It took a long time before he made any link between the individual activities and the BSSP.

Table 2. *Some of the services provided by the government during the implementation the BSSP, as perceived or experienced by the farmers*

- *Sapi gaduhan*: Assistance to farmers with breeder cattle through a revolving system designed to spread cattle to more farmers. Here, the government provides an individual farm household with one breeder cow. Within five years, the farmer must return the first two calves born to the government, while the farmer is permitted to keep the rest, including the breeder cow and the other calves. The two returned calves are distributed to other farmers.
- Farmers are invited on study visits to other farms, which had better conditions and therefore serve as a kind of demonstration farm.
- Feeding programmes to improve the quality and quantity of feeds. Concentrates and forages were developed to meet quality feed requirements, which were partly subsidized.
- Zero interest credit for holding a number of breeder cattle. The credit period is four years, with a grace payment period of one year. The credit instalments are 50% in year two and 50% in year four. Every farmer is a member of a farmer group. All the cattle are placed and maintained in a collective shelter.
- Vaccination and disease prevention programmes. The programmes largely concern the prevention, monitoring and control of animal diseases.
- Artificial Insemination Programme (AIP), including pregnancy tests. Farmers are provided the AI services to improve their cattle's birth rate.

Note: Some of these services also existed before the programme was initiated, but became more intensified during the BSSP. However, the farmers had not connected these activities with a larger policy programme.

3.2.4. Farmers' perceptions on how well government institutions collaborated. The farmers expressed their opinions on how well they thought government institutions worked and collaborated together during implementation of the BSSP. The farmers revealed that the extension agent in their village played an important role in providing assistance to the farmers when implementing the BSSP. Farmer 6 expressed: 'If I need help, the extension agents help me'. He explained that if he had problems with animal diseases or any activities related with the BSSP, he could call and get advice from the extension agents.

On the contrary, Farmer 11 said that the extension agent sometimes gave advice that was too costly. Farmer 5 expressed that "Extension agents, together with the Livestock and Fishery Office (LFO), provided activities and services; however, what they prepare for the farmer is not relevant under the farmers' situation, such as lack of funding, as well as coordination on a village and district level". In other words, farmers sometimes perceived that the extension agents gave them advice that was far removed from being practical in their daily lives, and for which they, for various reasons, could not use.

Far from the extension agents, traditionally farmers were more inclined to seek advice from the village leader and/or district leader. However, in practice the village leader and district leader only have administrative roles, and therefore, they played no role in implementing the BSSP. This was confirmed by Farmer 6, who revealed "There was no important role for the leaders at a village or district level in the implementation of the BSSP. However, the village leader has always supported farmer groups; they always come whenever there is a group meeting".

In addition, the farmers were also asked about how well the different government institutions had collaborated during the implementation of the BSSP. According to the farmers, Balai Pengkajian Teknologi Pertanian (BPTP)—the Assessment Institute for Agriculture Technology—gave assistance on feeding practices, but they had never informed the Livestock and Fishery Office as well as the village leader about their activity. Farmers 4 said "Our farming practices had been supported by BPTP giving assistance on feeding practices for three months already, although it was just a temporary programme and there seemed to be no collaboration with the Livestock and Fishery Office". Generally, the farmers thought that good collaboration was important among the different government institutions and the result of this could be highly beneficial for the farmers.

3.3 Farmer Action and Reaction

3.3.1. Farmers' actions and reactions to the individual activities related to the BSSP. The farmers were asked about their actions and reactions to the services that had been provided by the LFO. Farmer 12 said that he had taken advantage of the services that had been provided by the Livestock and Fishery Office, and mentioned some examples, such as advice about how to make a fermentation process of feed stuff, which had been introduced at a meeting organized by the LFO, as well as advice on how to access loans, he also had his cattle vaccinated twice each year. After the meeting about the fermenting of feed, Farmer 12 had tried to find additional information from the extension agent to make it work on his own farm. He added "I will use this method if it is easy to adopt and involves cheap raw materials. I also need to see that their suggestion is working, it has to demonstrate a clear relative advantage over the old practice".

However, Farmer 7 said that there were some farmers who did not want to change their practices to some of the new practices recommended by the government. Farmer 7 explained this in the following way:

> Some farmers did not follow the programmes, especially old farmers with lower education, because they did not believe it, as they only believe their own experiences. It was new to them, and they worried about the cost of it. That is the old behaviour of cattle practices that have been embedded in farmers for a long time, and they were not convinced about the use of new technology.

3.3.2. Farmers' thoughts and hopes for the future. Farmers talked about their hopes for the future for their farming systems. They were convinced that their own income could be higher if they could sell their cattle directly to the local cattle marketplace rather than to a blantik (village trader), and if an exact weighing system could replace the old guess-weighing system, as for example Farmer 9 said "As a smallholder farmer, it would be a good step to improving our income if we can go to cattle market instead of a blantik. I hope in the future we will not be using the guessing system anymore". However, the farmers knew that this could be very difficult, because the farmer groups had no resources e.g. for transport of the cattle, in contrast to the blantik. The position of the blantik was thus generally very strong in the villages.

The farmers also hoped that their own needs and ideas could be better involved and included when the extension agents implemented the government's policies and

goals. They wanted to be involved in the planning on how the programme could best be carried out in practice to work on their farms, as explained by Farmer 10:

> I wish that I could have the opportunity to inform the government staff about what I need before they come to us and introduce their programmes. It seems that we always forced to follow all of the activities from the Livestock and Fishery Office.

The farmers also suggested that the feed subsidies—as mentioned in Table 2—should continue, because they lowered the operational costs of the farm. Farmer 6 said:

> For most of our beef-cattle production operations, feed represents a significant portion of input costs. In my experience, feed costs constitute about 60 per cent of production costs, with the government subsidy on feed leading to a reduction in the operating costs last year. It would be a good idea if the government maintained the feed subsidy for our farming system.

Likewise, the farmers expressed the importance of continuing the vaccination programme to prevent disease. Farmer 3 said:

> I agree that prevention is the most economical approach to keeping disease losses low. I hope the government keep the vaccination programme. It will provide routine planned procedures that will prevent or minimize disease…it was very useful for me during the vaccination programme, twice per year staff from the Livestock and Fishery Office gave free vaccination to the cows.

4.0 Discussion

4.1 Government Activities and the Need for Farmer Empowerment

In the governmental regulation of the Indonesian Department of Agriculture No. 19 (2010, p.3), one of the objectives of the BSSP is to improve farmer's income and farming management. To enable this, the government needs to provide specific services. The interview results showed that the farmers perceived this very differently. The farmers explained that they the BSSP had not been presented to them as a whole programme, but rather it was presented to them mainly as a number of 'independent' smaller programmes, which herein in our analysis, we refer to as 'fragments' (see Table 2). Even though the government had already implemented some of these activities before the BSSP was introduced, the BSSP was supported by the central government with more funding and resources during the period where the BSSP was running. According to the governmental regulation of the Indonesian Department of Agriculture No. 19 (2010, p .9), the responsibility and decision power for distributing the funds related to the BSSP were given to the local LFOs. Some of these programmes, such as the use of artificial insemination, were imposed on the farms without involving or asking the farmer how they perceived the activity, or whether it fitted into the goal of the particular family farm. It seemed that the farmers were not presented with or involved in the overall goal of the policy, and thus they did not obtain an overview over the programme as a whole, and hence, it became difficult for them to share or take ownership over the goal of making their country, or even just their local area more self-sufficient in beef supply. Indeed, alternatively,

they may have been presented to the problem area of imported beef from Australia by television or other media, but the connection to their own farm practice and, for example, national beef productivity was not presented to them in a professional way by the relevant and responsible actors in the agricultural field. This meant that no room was given to the individual farmer to contribute to the planning and/or to the development of their own farm. When a farmer does not have the overview over a governmental policy, even though it involves their farm, it is impossible to be creative and innovative in the implementation process of the BSSP. A study by McCulloch (2008) about the fluctuation of rice prices and poverty in Indonesia suggested that providing better information on the policy and technical advice to the farmers helps them to improve productivity and contributes to achieving the overall policy goal.

Also, some of the activities, such as the vaccination programmes and farmer study-tour programmes, had existed before the initiation of the BSSP, which could have potentially added to the lack of acknowledgement and understanding of the BSSP as an overall programme and a government policy among farmers. Seen from the farmers' point of view, the LFO was doing the same activities that they had been doing during the previous decades. The fact that the extension agents had intensified the efforts was apparently not visible to the farmers, and neither had it been emphasized in the communication with the farmers.

The results showed that farmers did not feel involved in the implementation of the individual activities related to the BSSP, not even when it involved changes affecting their own farm, although some of the activities were highly appreciated by some of the farmers.

At the same time, it seemed that the way in which the BSSP was implemented did not take into account how traditional beef-cattle farming worked in practice. The results showed that farmer families faced many challenges in their daily lives, and they also faced a number of further challenges if they wanted to improve their beef-cattle farming. For instance, in this study some farmers said that they had difficulties in getting more feed, especially in the dry season, especially as they could not afford to buy it. One example of this is the way in which artificial insemination (AI) took place: the extension agents came to the farm but sometimes at times when it was not relevant to inseminate the cows, or, when it was relevant, it took days before the extension agents were available, and then the chance for successful AI had disappeared. According to Lewis and Mosse (2006), policy-makers are responsible for generating development projects that fit with the actual conditions and which are realistic to implement in practice. In other words, it is important to understand how a government programme is perceived by the community in which it is going to be implemented. The farmers need to be clearly involved in the development of the changes that are to take place on their own farms (White, 2014). This is, however, not the only level where farmers need to be involved and prioritized in matters concerning their own farm, as farmers should also be able to take the initiative as participants by actively engaging in giving feedback to help improve policy (Thornley, 1990). This is valuable for the further development and implementation of policies that can be more effectively implemented (Li, 1999). Hence, we can argue that the BSSP is currently implemented in a way that creates a risk of not meeting expectations, which put simply, is beef self-sufficiency, as is clearly expressed in the title of the programme.

This leads to arguments about the importance of farmers' empowerment within the governmental policy programme. An empowerment process would focus on peoples' ability to take control over own life situations (Perkins & Zimmermen, 1995). In this case, a suitable empowerment process would also develop the farmer families' capacities to take an active part in the practical implementation of this governmental programme. If the farmers were involved in a process of analyzing their own situation and developing strategies to improve it, and could gain a greater insight into this programme, they could then maybe improve their situation and consequently the beef-cattle production on their farm by selecting the services that most suited their particular situation.

4.2 The Government Introduced a Programme—the Farmers Experienced 'Some Activities'

According to our key information source at the LFO (the head of the Livestock and Fishery Offices), the extension agents received the most information and training about the BSSP, e.g., at monthly meetings held by LFO, as well as training and courses related to farming systems. The LFO officer also gave feedback and advice to the extension agents regarding their daily working practices. However, the farmers claimed that the extension agents did not provide them with sufficient information, and that therefore they had little chance to participate actively in the programme implementation, even on their own farm. Moreover, this suggests that government workers need to build an effective communication with the farmers, not only with better information exchange but also a better understanding of their situation. According to Leeuwis (2004), communication with the farmer is about more than just exchanging information, it also requires better understanding a person's situation, which then enables resolving differences, and building trust and respect (p. 86). This involves the process of listening, utilizing also non-verbal communication, managing stress, and having emotional awareness. Effective communication between an extension agent and farmer could improve the implementation of BSSP, because the farmers could take ownership of how the activities and visions of the BSSP are implemented on their own farms. Effective communication between an extension agent and farmer would help to elicit change, generate action, create understanding, and inform or communicate a certain idea, in this case to help improve the implementation of the BSSP. Jansen, Steuten, Renes, Aarts, & Lam (2010) studied the process of communication in a Dutch national mastitis control programme, and concluded that different types of farmers needed to be approached in different ways and through different communication strategies. Effective communication with farmers is essential in order to help them understand how they can improve their farm management. In the case of the beef-cattle farmers in Indonesia, group meetings were one effective mechanism for increasing communication with the farmers. Clearly, good communication needs the active involvement of the extension agents and would benefit from giving practical demonstrations of new technologies to farmers, and encouraging them to have greater interaction with colleagues who may be more experienced in the use of different technologies. Mee (2007) points to the need for long-term communication strategies and that there is a need for veterinarians and extension agents to play a proactive role in order to reach the farmers more effectively. Governments need to be proactive with respect to the farmers and they need to have sufficient communication skills to reach the farmers (Mee, 2007).

4.3 Lack of Coordination among Government Institutions

The study also revealed that farmers perceived that there was a lack of coordination among government institutions. According to the farmers, the implementation of BSSP was not well coordinated. This seemed to contradict the approach outlined for the BSSP and how it should ideally be implemented when it was set up, as the original regulations stated that government institutions have both an opportunity and an obligation to engage in collaboration (the Regulation of Indonesian Department of Agriculture No. 19, 2010, concerning the implementation of the beef self-sufficiency programme). Mattessich, Murray-Close, & Monsey (2001) define collaboration as a mutually beneficial and well-defined relationship entered into by two or more organizations with a commitment to a set of common goals, a jointly developed structure and shared responsibility, and mutual authority and accountability. The collaboration and relationships between government institutions should enhance the ability of the parties to achieve qualitatively better outcomes in the implementation of the BSSP.

In addition, Mosse (2004) stated that one of the key elements to the successful implementation of government policy are the interactions and collaboration among the relevant actors to work together in the implementation of the policy, while Li (1999) also mentioned that a programme's success depends upon the active enrolment of the actors, including the active participation of the community. The implementation of a policy will be most likely to be successfully achieved when the programme can create collaboration between the relevant actors. Importantly, for successful implementation of BSSP as a rural development programme in Indonesia, the ideal situation would be that different actors play different roles—for example, the Ministry of Agriculture taking a different role to the Ministry of Trade—but creating synergy and enabling the governmental workers from different ministries to cooperate continuously and to focus on the same goal and thus allowing them to supplement the actions of each other in a complementary way.

4.4 The Role of Farmer Groups

The findings in this study showed that the role of the farmer groups was important, and that the performance of beef-cattle farmers in Indonesia was influenced by farmer groups. The study also indicated that farmer groups played an important role in implementing activities related to the BSSP and other activities that could improve the farms and their participation in the development programme, according to the interviewed farmers. This argument is related to research about empowering smallholder farmers in markets in eleven countries. Ton, de Grip, Lançon, Onumah, & Proctor (2014) argued that the farmer group helps to increase coherence in advocacy priorities and influences decision-making on key policy issues. Hence, it is important to the implementation of the BSSP that the farmer group should be engaged with to stimulate and facilitate the participation of the farmers to contributing to the advocacy process, together with other actors at the government level in the design and monitoring of development policies.

An effective way to communicate information to the farmers was by giving information through farmer groups. In the case of the BSSP, farmer groups could stimulate members to improve the performance of beef-cattle farming by providing knowledge and information about farming systems. The information itself may not help the farmers learn how they could act to improve their own farm practices, but the group discussions and the visits to each other's farms adds to this element,

permitting group members to obtain concrete help on how and what to do in practice on their own farm.

Based on the results, members of the farmers groups tend to trust each other and a greater ability to interact as an individual or a group or with other stakeholders to improve farmers' ability and desire to participate in decision-making. The group members showed trust in farmer groups and were found to be strongly motivated by success and for finding solutions to problems. Lavado, Rodríguez, & Medina (2010) stated that one successful development of sustainable agriculture depended on the effective interaction and sharing of knowledge and experiences among farmer communities. Farmers were encouraged to share their knowledge in order to promote knowledge sharing and programme improvements. This also helps in building mutual understanding and trust, which then often leads to collaboration and joint actions. Farmer groups can enhance collaboration by creating activities for members to improve the manner of cooperation (Lavado et al., 2010). This study suggests that working in farmer groups leads to social capital, as explained by Putnam (2002), who refers to social capital as social organization, involving trust, norms and networks that can improve the efficiency of a society through facilitated coordinated actions. We can argue that trust, norms, and networking among the farmers can improve the efficiency of society, such as by participation and trust in others helping to facilitate cooperation for mutual benefits. In the case of BSSP, farmer groups facilitated improving the social capital aspects in the farmer community.

4.5 The Policy Target over Self-Sufficiency

The main goal of the BSSP for Indonesia was to become self-sufficient in beef supply and to be able to provide affordable food to its citizens, and in this way to contribute to the food security of the Indonesian population. 'Self-sufficiency' was defined by the Indonesian government as the country being able to produce 90% of the demand for beef consumption (The governmental regulation of the Indonesian Department of Agriculture No. 19, 2010). To make this more concrete, the Indonesian government also had a target to increase cattle population to 14.6 million by 2014 (The governmental regulation of the Indonesian Department of Agriculture No. 19, 2010), with this target being set at the initiation of the BSSP (p.2). However, with increasing population pressure and changing consumption patterns, it can be difficult to set, let alone to reach, goals of self-sufficiency ten years ahead, especially as the consumption patterns are unknown and are furthermore open to market forces. A policy on 'self-sufficiency' necessarily has to include a critical analysis of the consumption pattern. The 2011 livestock census reported that the target was achievable with a cattle population at 14.8 million. In the same period, the prices of local beef meat continued to increase (Permani, 2013). Moreover, based on the results from this study, it can be seen that smallholder farmers are still struggling to improve their productivity. This means that the beef self-sufficiency policy was not simply about putting a target on adequate cattle numbers in place, but also needed various policy elements to be considered, such as how will the policy target be reached, which programme resources, personnel, administration, and general organisation are needed in order to implement the programme, and how and when will the policy be terminated? Agriculture policies like BSSP need to take into consideration not only the policy content but also some organisational aspects. Strengthening the implementation of policies and obtaining feedback from the target communities and the other relevant actors is also needed.

5.0 Conclusion

The farmer families in this study normally did not have many resources. Also, the lack of education in cattle farming was a major challenge for the farmer families who wanted to improve their performance in beef-cattle farming. The farmers generally felt to be in a weak position in terms of their bargaining position in trading and marketing. Most beef-cattle farmers in the area wanted to join a farmer group, which provided them with better access and services and that stimulated the farmers to become socially active in their daily lives. The farmers had not perceived that the BSSP, as introduced to them, was a whole programme, but rather viewed it as individual elements, such as feed subsidies, a vaccination programme, and artificial insemination. The farmers obtained the information about BSSP partly from the television, and this had further confused them into seeing the BSSP not as a program to improve the cattle production system in Indonesia, but rather as a policy solely aimed at reducing imports. The interviewed farmers considered that the implementation of the BSSP was not well coordinated between the different government offices. The analysis in this study did not reveal the underlying causes for this, since it only looked at things from the farmers' perspective, e.g., whether the fact that the farmers did not know or understand the BSSP was due to lack of transparency or dissemination efficiency. Under all circumstances, this suggests that the implementing authorities should be encouraged to involve farmers at all stages of a policy implementation process, from planning, through implementation and finally with post-programme evaluation. The interviewed farmers felt that the BSSP did not offer them solutions that were useful to improve their life situations, including their incomes from beef production. In this case, where a number of activities were offered, it would seem fairer to the farmers to have given them an informed choice between activities. The findings of this study point to the importance of gaining the involvement of the farmers and encouraging them to take ownership over their life situations. The findings, therefore, could potentially serve as a guide for directing the present and future beef-cattle development, with a special emphasis on understanding farmers' perceptions.

References

Charmaz, K. (2008). Constructing grounded theory, a practical guide through qualitative analysis. London: Sage.

Gandini, D., Martı´n-Collado, D., Colinet, F., Duclos, D., Hiemstra, S. J., Soini, K., & Dı´az, D. (2012). Farmer's views and values to focus on cattle conservation policies: The case of eight European countries. *Journal Animal Breeding and Genetics, 129*(6), 427-435.

Hadi, P. U., Ilham, N., Thahar, A., Winarso, B., Vincent, D., & Quirke, D. 2002. *Improving Indonesia's beef industry*. Australian Centre for International Agricultural Research (ACIAR) Monograph No. 95.

Indonesia Statistical Bureau. (2013). *Indonesia Statistical Bureau Report 2013.* Jakarta, Indonesia: Indonesia Statistical Bureau.

Indonesian Department of Agriculture. (2010). *The regulation of Indonesian Department of Agriculture No. 19 year 2010 about the implementation of the Beef Self-Sufficiency Program.* Jakarta. Jakarta, Indonesia: Indonesian Department of Agriculture.

Jansen, J., Steuten, C. D. M., Renes, R. J., Aarts, N., & Lam, T. J. G. M. (2010). Debunking the myth of the hard-to-reach farmer: Effective communication on udder health. *Journal of Dairy Science, 93*(3), 1296-1306.

Kvale, S. (1996). Interviews, an introduction to qualitative research interviewing. London: Sage.

Lavado, C., Rodríguez, C., & Medina, C. (2010). Social and organizational capital: Building the context for innovation. *Industrial Marketing Management,39*(4), 681–690.

Lewis, D., & Mosse, D. (2006). Encountering order and disjuncture: Contemporary anthropological perspectives on the organization of development. *Oxford Development Studies, 34*(1), 1-13.

Leeuwis, C. (2004). *Communication for rural innovation, rethinking agriculture extension (3rd Edition).* New York, NY: Blackwell Publishing.

Li, T. M. (1999). Compromising power: Development, culture and rule in Indonesia. *Cultural Anthropology, 14*(3), 295-322.

Long, N. (2009). *Development sociology: Actor perspectives*. London: Routledge.

Maddison, D. J. (2007). *The perception of and adaptation to climate change in Africa*. World Bank Policy Research Working Paper No. 4308. World Bank.

Mason, M. (2010). Sample size and saturation in PhD Studies using qualitative interviews. *Forum Qualitative Sozialforschung/Forum: Qualitative Social Research, 11*(3). Retrieved from: http://www.qualitative-research.net/index.php/fqs/article/view/1428/3027.

Mattessich, P., Murray-Close, M., & Monsey, B. (2001). *Collaboration: What makes it work.* St. Paul, MN: Amherst H. Wilder Foundation.

McCulloch, N. (2008). Rice prices and poverty in Indonesia. *Bulletin of Indonesian Economic Studies, 44*(1), 45-64.

Mee, J. F. (2007). The role of the veterinarian in bovine fertility management on modern dairy farms. *Theriogenology, 68*(Suppl. 1), 257-265.

Mosse, D. (2004). Is good policy unimplemented? Reflections on the ethnography of aid policy and practice. *Development and Change, 35*(4), 639-671.

Perkins, D., & Zimmermen, M. (1995). Empowerment theory, research and application. *American Journal of Community Psychology, 23*(5), 569-579.

Priyanti, A., Hanifah, V. W., Mahendri, Cahyadi, F., & Cramb, R. A. (2012, February 7-10). *Small-scale beef cattle production in East Java, Indonesia*. Paper presented at the Australian Agricultural and Resource Economics Society 2012 Conference (56th), Freemantle, Australia.

Permani, R. 2011. Moving beyond the blame game: the ban on Australian live cattle exports to Indonesia, lessons to be learnt. *Indo-Pacific Government Research Center Policy Briefs*. Issue 5 June 2011.

Permani, R. 2013. Determinants of relative demand for imported beef and a review of livestock self-sufficiency in Indonesia. *Journal of Southeast Asian Economies* (formerly, ASEAN Economic Bulletin), *30*(3). 294-308.

Putnam, R. (2002). *Bowling alone: The collapse and revival of American community.* New York, NY: Simon & Schuster.

Thornley, K. (1990). Involving farmers in agricultural research: A farmers' perspective. *American Journal of Alternative Agriculture, 5*(4), 174-177.

Ton, G., de Grip, K., Lançon, F., Onumah, G. E., & Proctor, F. J. (2014). Empowering smallholder farmers in markets: Strengthening the advocacy capacities of national farmer organizations through collaborative research. *Food Security, 6*(2), 261-273.

Tseuoa, T., Syaukat, Y., & Hakim, D. B. (2012). The impact of the Australia and New Zealand free trade agreement on the beef industry in Indonesia. *Journal International Society for Southeast Asian Agriculture Sciences, 18*(2), 70-82.

Vanzetti, D., Setyoko, N. R., Trewin, R., & Permani, R. (2011). *Home grown: Cattle and beef self-sufficiency in Indonesia*. Crawford School of Economics and Government Working Papers No. IDEC10-04. Australian National University.

White, S. S. (2014). Farmers and rural Kansas communities: Planning for the future. *The Journal of Rural and Community Development, 9*(3), 227–242.