

The Complexity of Government Communication System In Ettawa Crossbred Goat Farming In Purworejo

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Abstract. The study is aimed to determine the complexity of the environment that is faced by the government communication system and regulation that was used to resolve the issue. The theory used is communication system in the perspective of Niklas Luhmann. The research method used is ethnography. The population of the study are in Purworejo which becomes center of crossbreed Ettawa goat farming. Data collection technique is conducted through interviews and observations. The results of data analysis show that the government communication system has made regulations to resolve the real problems of crossbreed Ettawa goat farming that is done by breeders. When the government communication system produces the regulation, environmental issue has grown more complex. So the regulation that was made becomes irrelevant to the demands and challenge in the crossbreed Ettawa goat farming. The government communication system is slow in reducing the complexity of the environment and producing regulation.

Keywords: complexity, government communication systems, crossbreed ettawa goat farming

Introduction

Farmers have bred EC goat in Purworejo since the Dutch colonial era up to the present. Their population is growing from year to year. The marketing of this goat not only covers various areas around Purworejo and outside Java, but has entered international market such as Malaysia. EC goat is already recognized by the Government of Indonesia as a race which belongs to Purworejo regency. Local Government also chooses EC goat as the icon of Purworejo regency.

EC goat farmers have done some business diversification in addition to the production of meat and milk. One form of the diversifications is by creating a tourism village which is related to EC goats. EC goat milk which is believed to have many health benefits is the main attraction for visitors of tourism village in Kaligono Village, Kaligesing Subdistrict, Purworejo regency. The tourism village offers EC goat milk to visitors, and visitors are also given a chance to milk the

goats (Sambodo, 2013).

Local Government has also formed a Technical Administrative Unit (UPT) Regional Counseling Center at each sub-district. The functions of UPT include: preparation of counselling program and food security work programs, the implementation of counseling based on counseling program, and the implementation of food security in each work area, coordination of activities and technical cooperation in the field of agricultural, fishery, forestry and food security counseling with Subdistrict Heads and related work units at subdistrict level (Regent decree No. 5/2009).

Minister of Agriculture has issued the Ministry of Agriculture Decree No. 259/KPTS/PD.400/7/2010 on Stipulation of Kaligesing Goat Lineage. This means that all goats in Indonesia which have a physical resemblance with Kaligesing goats are descendants of Kaligesing goats. The population of EC goats or Kaligesing goats in Purworejo regency reaches 75,666, where 72 percent of them are

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in Kaligesing Subdistrict (Welcoming speech by the Mayor of Purworejo, 2015).

EC goat farming is closely related to the counseling carried by Agency for Counseling and Food Security (*BPPKP*) Purworejo regency. However, *BPPKP* was dismissed by the Regent in October 2013. The functions of *BPPKP* are replaced by the Functional Group (*KJF*) which is under the Department of Agriculture, Animal Husbandry, Marine and Fisheries (*DPPKP*). Subdistrict Counseling Center (*BPK*) is also no longer a Technical Implementation Unit (*UPT*), but a non-structural/functional organization, and the chairman of *UPT* is also changed into the coordinator. This structure manages government communication system in the EC goat farming in Purworejo regency.

Government communication system will always face the complexity of EC goat farming. The complexity is in the form of problems, demands, and challenges in EC goat farming coming from the outside. This complexity will continue to change and evolve over time. It could be that a problem in a given period consists of A, B, and C factors. However, in a different period, the problem has grown and sometimes it is different from the previous. The purpose of this study is to determine the complexity faced by government communication system in EC goat farming in Purworejo.

Communication System

System in Luhmann's perspective is the reduction of complexity from the environment. System and environment are in the region/world horizon. Luhmann said it is because system is in a community, and the community is communication (Lee, 2000: 320). System is a form of selection of various complexities of information in the environment. System simplifies the complexity of environment so that it is not more complex than the environment (Luhmann, 1995: 182-183).

The key to understanding what is meant by Luhmann with system can be found in the difference between system and its environment. Basically, the difference between the two is in the complexity. System is always less complex than the environment. Although system is less complex than the environment, system develops new subsystems and builds connections among subsystems to manage the environment effectively. Otherwise, system will be dominated by the complexity of environment (Luhmann, 1995 in Ritzer, 2004: 242-244).

Save Studies on system have been done before, namely regional social defense system and electoral system. Asrinaldi and Yoserizal (2013: 1-10) found that actually socio-cultural system can be very potential in preventing threats to Indonesia sovereignty. Socio-cultural system can be transformed into social capital which develops into a social defense system. Nia Kurniati Syam (2003: 23-32) concluded that virtually all electoral systems are in accordance with the principles of state of law. Any system implemented by a state of law is good as long as the process of choosing the system has been carried out according to the procedure and by the correct institution. It is also applied in the research on communication system in relation to social capital (Handaka, Wahyuni, Sulastri, and Wiryono, 2015: 307-315).

Luhmann explicitly defines communication as a unit of information, messages and understanding (Leydesdorff, 2000: 276). Just like life and consciousness, communication is also a known reality, self-generated from the condition of the object/relationship. Communication is created through the synthesis of three types of different selection, namely selection of information, selection of speech from given information, and selection of understanding or misunderstanding of speech and information (Luhmann, 2002: 157).

Communication system is a closed system that is complete, creating the components that make up themselves through communication itself. In relation to this, communication system is *autopoietic* system that produces and reproduces something that serves as a unit for the system through the system itself. Of course this can only happen in an environment and it depends on the limits of the rule/law of the environment (Luhmann, 2002: 160-161).

Government communication system is a system that produces and reproduces information about EC goat farming. The information produced involves many interrelationships among the subsystems in government communication system. The process of production and reproduction of information is carried by Functional Group (*KJF*) structure in *BPPKP* and *BPK*. Information about EC goat farming will be distributed to farmers through the communication structure, from the level of *KJF*, *BPK* to Village Counseling Center (*Pohluhdes*). Counseling officer is an actor who plays a role in

conveying information to farmers.

This information is expected to provide answers to the real problems faced by farmers. Farmers desperately need this information because they face many complex problems and challenges in EC goat farming. Problems, challenges and demands of the environment are daily life of farmers. The system information will be processed and assessed by farmers. Assessment or evaluation from farmers becomes feedback to government communications system and will serve as the basis for reproducing the next information.

The process of production and reproduction of information illustrates that Government communication system constantly evolves to adapt to the problems and challenges that come from outside the system. Government communication system always adapts to environmental complexity. Government communication system tries to simplify various problems that develop in the environment.

The method used is ethnography. Ethnography is a research method that uses data based on profound closeness with the background or social situation obtained from personal participation or closeness (Lofland, 1996 in Berg, 2001: 133-134). Goetz and LeCompte (1984, in O'Donoghue, 2007: 5) illustrated that the purpose of ethnography is to provide descriptive data rich in contexts, activities, and participant trust.

Ethnography requires observation and recording of conversation, described as a unique "perspective" (Walcott, 1999 in Vanderstoep, 2009: 201). Ethnography is a systematic method to collect data using qualitative methods, including *participant observation*, interviews, analysis of various documents and artifacts, individual narratives with a focus on the social environment, including the physical environment, traditional clothing and culture (Savin-Baden, 2010: 175; Denzin, 2009: 55; Jensen, 2002: 54).

Ethnographic research is characterized by extensive field work, blending with a particular setting, a long research, relationship building, *thick description* to describe people, processes, relationships, and spaces in a particular setting (Hammersley & Atkinson, 1983 in Jones, 2006: 57; Pole, 2003: 3; Hammersley, 1990 in Neergard, 2007: 98).

One main characteristic of ethnography is *thick description* that has analytic and

theoretical quality. Theory is a combination of emic perspective (*insider*) and etic perspective (*outsider*) (Daymon 2005: 139). *Thick description* is the explanation of the context of interpretation. It not only reports in detail, but requires interpretation behind the meaning and motivation (Savin-Baden, 2010: 178).

Thick description is the concept of Clifford Geertz (1973), and it has the meaning of a detailed description of process, context and community in the research, meaning and attention of the informant. When reading the description of the research, readers feel as if they can feel, hear, and see the true reality (Daymon 2005: 100). *Thick description* makes it possible to "show a world to the readers through a rich, detailed, and concrete description of people and places, and by such way we can understand the phenomenon being studied and describe our own interpretation of the meaning and important values "(Patton, 2002 in Jones, 2006: 60).

The population of the study was in Purworejo regency, this area was chosen for being the center of EC goat farming in Indonesia. Methods of data collection are interviews and participant observation. Sampling technique used is purposive sampling. This sampling technique is done by considering the Subdistrict that becomes the center of EC goat farming in Purworejo regency. The purposive stage is to determine the 11 Subdistricts among 16 Subdistricts in Purworejo regency. Those eleven subdistricts are Kaligesing, Bener, Bagelen, Loano, Gebang, Bruno, Pituruh, Kemiri, Purworejo, Grabag, and Bayan.

Kaligesing subdistrict is chosen because it is the main center of EC goat farming in Purworejo regency. After that, other subdistricts namely Purworejo, Bener, Bagelen, Loano, Gebang, Bruno, Pituruh, and Kemiri were chosen as buffer zone of EC goat farming. Bayan and Grabag subdistricts were chosen because both of them are lowlands but they managed to raise EC goats.

Each subdistrict has a BPK consisting of a coordinator and several members of field counselor (PPL). The informants of this study are KJF chairman, KJF member, BPK coordinators, counseling officers (PPL), a former chairman of UPT BPK, chairman of the Association of Farmers of Purworejo regency and farmer groups (*poktan*). These informants have been selected because they have rich information about government communication system in EC goat farming.

The total number of informants of this research is 24 people.

The Complexity of Environment is a Real Problem to Farmers

The complexity of environment faced by government communication system is a real problem faced by farmers. The problem is in the form of challenges and demands of the environment in goat farming, i.e. environmental demand to always improve the quality of EC goat, processing of EC goat milk, processing of EC goat feces into fertilizer, EC goat qualified for contest, quality of counseling, and EC goat price fluctuation. Government communication system is required to solve all the problems related to EC goat farming because it is the government's duty and responsibility.

Government communication system must reduce the complexity of environment and reduce various real problems which develop into a number of important information. This environment information will be used by government communication system to make regulation. In turn is expected that the regulation can solve the problems in EC goat farming. Regulations applied to solve the problem faced by farmers will generate feedback. This feedback will be used by government communication system to reproduce the next regulation, and so on.

The complexity of the environment faced by Government communication system consists of the following: firstly, the price fluctuation of EC goats and the high number of sales of EC goats which have good quality (class A) out of Purworejo region. Consequently, over time 'parents' and baby goats with good quality will reduce. Secondly, counseling on EC goat farming technology is still low while the demands on the development of farming techniques are growing. The analysis is divided into two sections, the first section discusses the complexity of pricing and sales, and the second part is about counseling on EC goat farming technology.

Complexity in Pricing and Sales

The complexity of the environment faced by Government is of EC goat price fluctuation and the sales of class A goats outside the region. Goat price will normally fall during the period of new school year. Many farmers are in need of money for their children school fees; therefore, many of them sell their goats. Many super quality EC goats are

sold by farmers because the price offered by traders are very high. The Government feels that EC goats with good quality in Purworejo are diminishing.

The fluctuation of EC goat price makes some farmers in Purworejo, especially those living outside the Kaligesing subdistrict, leave EC goat farming and prefer to raise Jawarandu goats. Farmers feel that the price of EC goats in the last few years is not as high as in the 2000s. They do not know for sure why the price of goats increasingly falls. However, this is not experienced by EC goat farmers in Kaligesing subdistrict. The price of EC goats is relatively stable in this area. Farmers from different regions, and even from outside Java, sell and buy EC goats every Saturday at Pendhem market (Pandanrejo, Kaligesing).

To address the complexity of environment, government communication system creates some regulations to address the real problems experienced by farmers. *First*, the government provides assistance by donating EC goats to farmers. *Second*, the government issued a Regional Regulation (*Perda*) which prohibits farmers to sell super quality goats/class A goat outside Purworejo region. *Third*, the Government made *Breeding Center (BC)* and *Village Breeding Center (VBC)*.

The first regulation is by giving EC goats to farmers through farmer groups (*poktan*). Usually *poktan* submits proposals to get EC goat, and the government will select the proposals and determine which *poktan* is eligible to get an aid. This regulation raises some issues. For example farmers and *poktan* apply for aid in the form of EC goats to the government, but sometimes the government gives Jawarandu goats instead of EC goats. Additionally, EC goats provided by the government sometimes do not match the specifications mentioned in the proposal.

When farmers receive goats with bad quality, they will still get goats with bad quality (class C or D) after raising them. It is difficult for farmers to obtain good quality goat (class B) from government aid. When farmers sell this EC goat, they will not get adequate profit. Government communication system has not been able to respond the request to improve the quality of EC goats given to farmers.

Besides, government also gives the opportunity for legislative candidates to give aid to goat breeders. This aid is commonly referred to as aspiration aid, a type of aid from

legislative candidates to attract sympathy/ community support from farmers to vote them during the legislative elections (*pileg*). Aspiration aid has caused some problems.

This type of aid is often made directly to the individual and does not involve Counseling Officers (PPL) or BPK. Aid is also often directed to *poktan* not listed in BPK while the responsibility to provide counseling is in PPL or BPK. PPL and BPK often find it difficult to assess the population of EC goats in their working area. PPL and BPK sometimes do not know which *poktan* receiving aid from this aspiration path. This *poktan* usually does not exist, but suddenly appears and receives EC goat aid from the government.

Sometimes people who receive EC goats from aspiration path do not breed the goats. Instead, they choose to sell the goats directly. Aspiration aid sometimes causes friction in the society. There is a *poktan* that have a long experience in EC goat breeding, each member has a standard stall, and it has adequate land to grow Forage Crops (*HPT*), but ultimately this *poktan* does not get any aid. Meanwhile, there is a newly established *poktan* which directly gets EC goats although both of these *poktan* are in one village. Government communication system can not reduce this complexity and there is no regulation to solve it.

The second regulation is government issuing Regional Regulation (*Perda*) which prohibits the sales of super quality goats outside the area. Farmers think that this regulation violates their rights. They feel that EC goats that they raise are their own. They buy baby goats and raise them at their own expense without any help from the government, but when they want to sell their goats the government prohibits it by using *Perda*.

Farmers think that if the Government wants to implement this policy, the government should be able to buy their quality goats. Government must be willing to buy grade A goats with suitable price offered by traders/ buyers. If the government is able to do that, farmers will not sell their goats outside the region. They think that the government just makes legislation but does not provide a solution for the sales of super quality EC goats.

Farmers who are offered high price from buyers/traders will sell their goats, and they will certainly look for the highest price. They

do not question where the buyers are from. They only know that their goats are sold at high price. There is a chairman of *poktan* and a farmer as well who actually does not want to sell his goat to a buyer because he knows that this buyer is from a different region. He then asks for a high price so that the buyer will not buy his goat. But unexpectedly, the buyer still agrees on the price offered. Finally, super quality goat is sold to the buyer.

Government concern about the diminishing population of EC goats with good quality is completely reasonable. For several times when the National Association of Ettawa Crossbed Goat Farming (ASPENAS) holds EC goat contest, the first champion is often achieved by farmer/farm from outside Purworejo region. This can be one indication that a lot of class A goats are outside Purworejo region. If this is tolerated, Purworejo region may eventually run out of super quality goats.

The government can not do much to handle the current problem of super quality goat selling out of the region. Government communication system has not been able to reduce this environmental complexity into more strategic regulation. Finally, this *Perda* remains a rule that does not resolve government's problem.

The third regulation made by the Government is by establishing BC and VBC in some subdistricts. The basic idea of BC is to create centers of EC goat farming with good quality. Good quality EC goats in BC are then distributed to various VBC. VBC will provide the inventory of good quality EC goats for farmers around Purworejo. BC was established in Kaligesing subdistrict while VBC was established in three places, namely Gebang subdistrict, Bruno subdistrict, and Bener subdistrict.

BC consists of five buildings of semi-permanent shelters for EC goat, two permanent buildings for the head office and paramedics, as well as land for forage crops (*HPT*). BC is still in operation today, administered by the head, paramedics, and the employees in charge of feeding and keeping the cleanliness of the animals and the shelters. VBC is government aid for farmer groups or *poktan* which are considered having the capability to manage EC goat breeding center. Government provides funding for the purchase of EC goats and the construction of shelter. *Poktan* have the duty to take care of technical issue in EC goat farming, for

example providing *HPT*, cleaning EC goats, cleaning shelters, processing EC goat milk into other products (e.g. powdered milk), and processing goat feces to fertilizer.

BC still can not fulfill its main task as the provider of EC baby goats with good quality for VBC and public. The quality of EC goats in BC is not as good as that of EC goats owned by farmers. Some farmers can even raise EC goats whose quality is much better than EC goats in BC. EC goats owned by farmers are contest goats. Farmers also have good capability in goat farming technology. Many EC goat farmers, mainly those in Kaligesing Subdistrict, have EC goats with a quality equal to that owned by BC.

VBC condition is even more worrying because none of the VBC could survive until now. No EC goats are kept in the three VBCs built by the Government. Goat shelters in VBC have damaged. Goat shelter in VBC in Gebang subdistrict has vanished, and there is only one remaining building whose roof has been damaged. VBC in Bruno subdistrict has been changed into a fish pond and duck coop. There is only one remaining goat shelter with three Jawarandu goats. VBC in Bener subdistrict was established in two locations, and both of them are damaged. There are two damaged shelters that are still used to raise Jawarandu goats.

VBC in Gebang subdistrict successfully raised EC goats at the beginning of its establishment. VBC reared does for farmers who are member of *poktan*. But in subsequent developments, the price of EC goats declines and this causes financial loss for the farmers. Some farmers still persist to raise EC goats, but the price does not improve. Eventually farmers take and sell EC goats in VBC although there are some farmers who still raise EC goats in their own shelters.

VBC in Bruno subdistrict is located in the middle of a densely populated village. Many goat shelters in that VBC are taken home by breeders. There is only one shelter in the VBC which is used to raise Jawarandu goats. The land formerly used for VBC is replaced by fishponds and duck coops. Farmers no longer raise EC goats because of the declining price.

Government communication system does not have the exact / accurate measurement in determining which *poktan* is eligible to manage VBC. Government communication system fails to reduce the complexity of environment. BC and VBC are

solutions offered by the Government to solve the real problems faced by farmers, but the process of selecting government fails to select which *poktan* is eligible to receive VBC is inaccurate.

Poktan could get VBC because the the Local Government (*Pemda*) considers that village chief (*Kades*) has good achievement. However, the achievement is not in the field of EC goat farming, but in the construction of village infrastructure, such as road widening, street paving, and electricity installation. Village capacity to manage the road infrastructure is certainly different from VBC. Rural communities could have the proficiency in managing the infrastructure, but not necessarily in managing VBC.

There is a VBC established due to the closeness of a village figure with local government. That prominent figure and villagers do not have enough experience in goat farming, but suddenly they are asked to manage VBC. This decision does not correspond to the complexity faced by government communication system. There is also a VBC located far away from the houses of *poktan* members. The village where VBC is located is in the hill, so the farmers look for HPT by walking uphill and downhill, then they have to do the same thing to reach the village to give HPT to VBC. They find it difficult when they must give HPT and maintain their livestock daily, especially in the rainy season.

Government communication system is not successful in reducing the complexity of environment. VBC policy does not use definitive and accurate procedures or mechanisms. Government communications system does not have the parameter to determine which *poktan* is eligible to manage VBC. Besides, determining VBC can also come from outside government communication system, for example, from the Regent or Vice Regent.

On the other hand, government communication system knows most about *poktan* capacity in managing the VBC. This system has a record of *poktan* capacity ranging from beginner level, intermediate, advanced, and prime. The system also has data about which *poktan* having long experience in goat farming. VBC is an EC goat farming model managed communally in a joint shelter. VBC management is different from individual goat farming. VBC management requires cooperation, understanding, togetherness and trust from all its managing staffs.

Complexity of Counseling

The structure of EC goat farming counseling is Functional Group (KJF) in DPPKP and BPK in each subdistrict. KJF consists of a chairman and members, BPK is composed of coordinators and members. Coordinator and members of BPK are Counseling Officers (PPL). Some Counseling officers of BPK have the status of Civil Servant, freelance (THL), and volunteer. Government communication system thinks that they have already provided counseling and assistance to farmers through BPK and Counseling officer, but the farmers claim not to receive adequate information about EC goat farming. They claim that mostly they have to look for information by themselves and learn from other farmers.

To face of the complexity of environment, government communication system makes regulation to address this real issue. The first regulation is the addition of Counseling Officers and the second is training for Counseling Officers which is held regularly every month. This regulation aims to make scientific capacity and the skills of Counseling Officers can further be improved.

The first regulation is the addition of Counseling Officers. During this time the formation of Civil Servant Counseling Officers is minimum, whereas many civil servant Counseling Officers have been retired. This situation makes the number of Counseling Officers gradually decreased. Government communications system has increased the number of freelance Counseling Officers and volunteer Counseling Officers so that on average each BPK Counseling Officers has Counseling Territory as many as two to three villages.

However, these regulations have not been able to resolve the problems faced by Government communication system. The issue is the Decree for all Counseling Officers is Agriculture Counseling Officers, where the fields of marine, fisheries, forestry, agriculture, and livestock are included in it. Counseling Officers are considered to master all of those fields (polyvalent), and not judged by their discipline (monovalent) even though the issue of counseling is very complex, one of which is the issue of EC goat farming. There is a BPK that does not have Counseling Officers with the educational background from animal husbandry although the area has the potential for EC goat farming.

In addition, civil servant Counseling

Officers also feel restricted to hand over piles of counseling tasks to freelance Counseling Officers because civil servant Counseling Officers know that the salary of freelance Counseling Officers is small, far below the salary of civil servant Counseling Officers. Another emerging complexity is civil servant Counseling Officers feel that getting promotions is hard. They feel that they have done a lot of counseling program; they innovate, give training, visits and supervision to farmers. However, Credit Score Assessor team (PAK) only gives very small value for all their work. Civil servant Counseling Officers feel that Credit Score Assessor team complicates them to get a promotion.

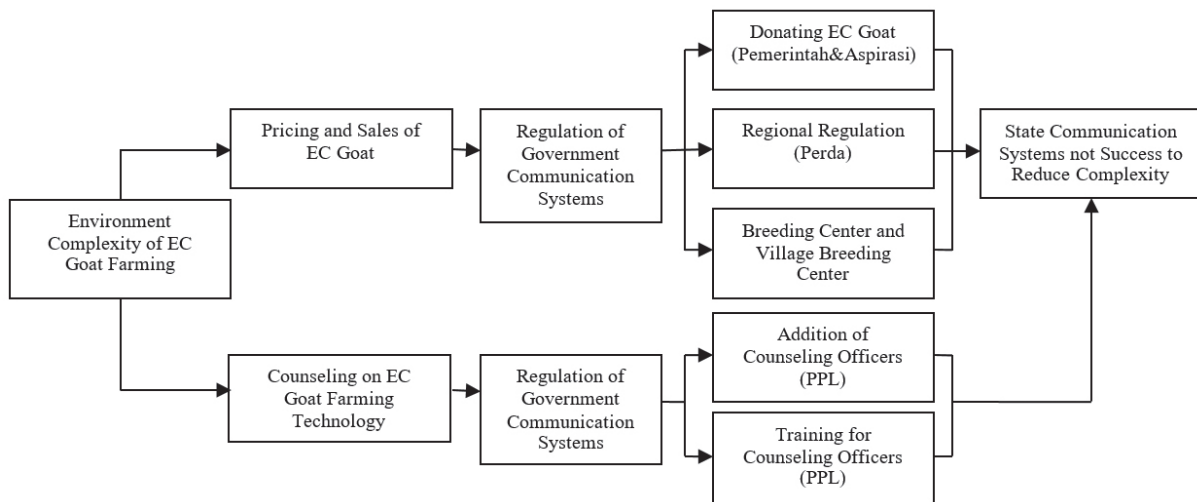
The second regulation is to provide training for Counseling Officers. KJF conducts regular training for Counseling Officers every month in DPPKP. The training materials are varied, namely agriculture, animal husbandry, marine and fisheries. However, there is no specific counseling material about EC goat farming, but only a general material about animal husbandry. During the year of 2015, the training is not conducted regularly every month.

Regulation which aims to enhance the scientific capacity and skills of the Counseling Officers has not been widely felt by farmers, especially EC goat farmers. Farmers feel that they have to look for knowledge and develop skill in goat farming on their own, not from Counseling Officers. Many farmers learn directly from other farmers who have already bred EC goats.

Farmers and *Poktan* also do a comparative study independently to farmers or other more advanced *poktan*. They go to Pendhem market in Kaligesing to learn the selling price of EC goats. Farmers also go to goat contest see to class A goat. Farmers seek for good quality breed from other farmers or they mate the does to another good quality buck.

Farmers think that counseling officers have a lack of knowledge and skills in EC goat farming because they do not raise EC goats directly. Counseling officers only have theoretical knowledge about the breeding of EC goats while the goat farmers have practiced it directly. Every day they deal with various problems related to EC goat farming.

The common problem faced by farmers is the scarcity of forage crops or HPT during the dry season and diseases that attack



Picture 1
Complexity of Counseling

EC goat. When farmers have difficulties in getting HPT because of drought, government communication system through counseling officers initiates fermented fodder to farmers. However, after farmers try fermented fodder, the goats have diarrhea and many of them do not want to eat. Farmers deem that fermented fodder causes goat milk production to decline, and that fermented fodder is not suitable for EC goats with contest quality.

When the goats are attacked by a disease, farmers usually ask for help to a 'mantri' or veterinarian. However, because the number of 'mantri' and veterinarians are limited, sometimes it is difficult to ask for help to 'mantri' and veterinarians to treat sick goats. This condition forces farmers to treat the goats by themselves. Many years of experience have made some farmers to have the knowledge of traditional medicine and chemical medicine to treat a sick goat.

Famers also have special knowledge of fodder for class A goats (contest). The food of EC goats sent for contest is very different from the food of non-contest goats. The treatment for contest goats is also more special than for other goats. Farmers who want to mate their female EC goat with male EC goat with contest quality usually will have to pay to the owner of the male goat.

Some farmers also produce EC goat milk into processed products. One of these processed products is powdered milk, caramel, yogurt, and crackers. Farmers get the knowledge not from counseling officers, but by doing self-study or comparative study to other farmers. There is also a growing

poktan which succeeds in forming cooperative to further improve the welfare of its members.

A discussion of environmental complexity in EC goat farming faced by government communication system and the production of information in the form of regulation can be illustrated in Picture 1.

Conclusions

Government communication system has tried to reduce environmental complexities of EC goat farming. The complexities are: price fluctuation of EC goats, many farmers sell good quality goats outside the region, and the capacity of counseling officers (PPL). The complexity of EC goat price of and goat selling outside the region are addressed by government communication system by giving EC goats to farmers, issuing a regional regulation (PERDA) which prohibits farmers to sell their goats outside the region, and establishing BC and VBC. The complexity of the counseling resource is addressed by government communication system by increasing the number of counseling officers and conducting trainings to improve knowledge and skills of counseling officers.

The reduction of complexity done by government communication system is done by making regulations to address real problems faced by farmers. However, the regulation has not completely resolved farmers' real problems. When government communication system has set a regulation to solve a problem, it turns out that the problem has become more complex so that the regulation

is no longer relevant to the demands and challenges faced by farmers. The complexity of the environment runs quickly, while the reduction of the complexity of government communication system runs slowly.

When government communication system is slow in providing answers to various problems faced by farmers, farmers produce creative solutions in EC goat farming, for example in HPT issue, the quality of the shelter, animal health, milk processing, and the maintenance of the contest goat. Some *poktan* also build cooperation to address the complexity of environment.

The suggestion of this research is that government communication system should be more selective in providing aid to goat farmers/ *poktan* so that the aid reaches the correct target. The government should further improve the quantity and quality of EC goats in BC. Moreover, the government should improve its training materials to comply with the demands and challenges faced by goat farmers in order that government communication system becomes more adaptive.

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