Agricultural Extension Planning Pattern at Level of Nagari (Minangkabau Traditional Village) Based on Bonding Capital in Group of Farmers in Lima Puluw Kota District, Indonesia

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Abstract—The process of agricultural extension planning through participatory approach prioritizes the involvement of farmers to set the planning decision. Such condition was found in area where farmers join in bond basis association. Through a qualitative approach with case study method, this research aims to describe and explain the pattern of agricultural extension planning process in nagari (a term of local village) that involve farmers from fellow farmers group and see its discrepancy against the legal rules. The research was conducted in Nagari Balai Panjang, Tanjuang Gadang and Batu Balang for 6 months, starting from April to October 2016. There are 14 informants, consisting of three field facilitators and 11 of farmer group administrators supported this research. The focus of the data were preparation stages and formulation implementation of the condition, goal setting, obstacles / constraints to achieve the goal and extension action plans, finalization of agricultural extension planning documents in nagari. Data collection techniques applied were interviewing, documenting and observing. Through descriptive qualitative data analysis techniques with synthesis methods as analysis tools and interpreting along with assessment methods to the content of the document as the secondary data, it can be concluded that there are two patterns in the nagari agricultural extension planning process by bringing up the principles of participation. The differences found of the two patterns were only on methods to obtain the data and information of nagari as a circumstances determination, which is the initial year of field facilitator in nagari using PRA methods, while the next year using secondary data, observation and data cross-check.

Keywords—participatory; farmers association; field facilitator; plan activities; agricultural extension program.

I. INTRODUCTION

After the government established a policy about Agricultural Extension Revitalization, the current approach used for agricultural extension planning becomes bottom-up, or known as participatory planning [1]. Such approach requires active participation of farmers at every stage in the process to make the planning decisions [2],[3],[4] that can accommodate the needs of problem solving of farmers through agricultural extension activities [5]. In this case, farmers’s participation aims to organize collecting ideas, choices, strategies for achieving the goals and decision making approval decision [6],[7] and will be stated in Agricultural Extension Program formulated from nagari / villages as the lowest level up to the central government as the highest the level.

The direct involvement of farmers in the process of agricultural extension planning can be found at nagari / villages level producing agricultural extension program in nagari. However, empirical facts prove that most field facilitators do not implement participatory approaches to generate their programs. They come up with various reasons, ranging from time limit of implementation, implementation costs, resources, lack of farmers awareness toward the benefits of their involvement and lack of proactive effort of the field facilitator to encourage farmers participation in the planning process of agricultural extension in nagari / village [8],[9]. Another discovered fact, many farmers association having no experience in association face difficulty to mobilize their member to participate in every agricultural extension activities [10].

If agricultural extension is positioned as a major smoothening requirement in agricultural development [11],
is set to make organized changes to the main players (farmers) so that they can increase their capacity and capability in every program and agricultural development activities [12] conducted by the government, such conditions above can not be ignored. Agricultural extension is also positioned as a bridge between policy and farmers, theory and practice, communication media of agricultural innovation, and farmers empowerment [13]. The results of the agricultural extension planning will be used by facilitator as a reference or guidelines to carry out their duties and functions.

Farmers involved in the process of agricultural extension planning mostly come from farmers association, whether based on their domicile or overlay. Both types of the farmers association characterizing domicile or overlay are used to bind the members of the group. Collectivism in society is not new for the farmers, especially in Lima Puluh Kota district. Most of them use the group to build their network, so that farming activities can be run with maximally and generate better profits.

The conditions above prove that there is non-material capital called social capital in farmers association and used by farmers in the form of networking. Generally, these farmers association are groups of farmers held together by the bonds of ethnicity, kinship and friendship / companionship. A group of farmers like this is known as a bonding social capital group. Usually, members of these groups interact intensively and support among others, and enable their members to gain an awareness of group identity so that they get a sense of togetherness to achieve a common goal [14], [15], [16], [17], [18]. Such farmers association is expected to be an alternative to run a participatory approach in the process of agricultural extension planning. Therefore, the purpose of this research is to describe and explain the pattern of agricultural extension planning process in nagari involving farmers from groups of farmers association.

II. MATERIAL AND METHOD

This research uses a qualitative approach categorized as a case study; a multiple case study [19], [20], [21]. The research takes six months from April to October 2016 in Limapuluh Kota District in Nagari Balai Panjang, Tanjung Gadang, Batu Balang as case area. Research data is secondary data taken from the document of field facilitator’s activities, BP3K Kecamatan Lureh Sago Halaban, farmers association notebook. Meanwhile, primary data come from the interview of 14 informants which is selected by purposive technique; the choice of informants with consideration that these persons fully understand the substance of the information they tell [22], [23], consisting of 3 agricultural field facilitator and 11 administrators of farmers association. The focus of the data consists of stages of preparation and implementation of circumstances formulation, goal setting, problem / constraints to achieve the objectives and extension action plans, finalization of nagari agricultural extension planning documents. The data were analysed by qualitative descriptive technique with analysis tools such as methods of synthesis and interpretative, and use method of assessment to the content of the document for secondary data [24].

III. RESULTS AND DISCUSSION

A. Overview of the Process of Agricultural Extension Planning in Nagari According to Applicable Policy

The agricultural extension plan, better known as the Agricultural Extension Program, has been arranged by the Minister of Agriculture Regulation (Permentan) Number 25 of 2009 concerning Guidelines for Preparation of Agricultural Extension Programs. There are a number of steps undertaken by agricultural extension officers to develop a village level (nagari) agricultural extension program plan, including:

1. Determination of Circumstances
2. Setting Objectives
3. Determination of Problems
4. Determination of plans for agricultural extension activities
5. Finalization

Almost all stages in preparing a village-level agricultural extension program plan (nagari) were carried out involving farmers and other relevant parties. Seen from five stages, only at the stage of finalization that does not involve farmers. This condition illustrates that the government has opened a space for participation to farmers to be involved in developing plans for agricultural extension programs.

The Regulation of the Minister of Agriculture No. 25 Year 2009 about Preparation Guidelines of Agricultural Extension Program is used as a reference to understand the pattern of the agricultural extension planning with participatory approaches. Agricultural extension planning is compiled annually by field facilitator including farmers, group of farmers, entrepreneurs and other stakeholders who need for data and information as sources for the agricultural extension planning document in nagari level. The involvement of farmers and others show that the participatory approach is used in the agricultural extension planning, in order to accommodate the needs and interests of farmers and businessmen.

Figure 1 shows the stages of agricultural extension planning process in nagari level. Both farmers’s position and involvement at every stage also illustrate that a participatory approach becomes reference to produce planning document of agricultural extension which is known as the Agricultural Extension Program in Nagari Level. Every stage has a purpose and different outcome that will be used as sources of agricultural extension work plan. The outcomes at every stage can be circumstances determination, goal setting, determination of the problems / obstacles which will be faced achieve the goal, the establishment of extension work plan and finalization of field facilitator’s planning documents in nagari level. The details can be seen in the illustration figure 1.

Based on the figure 1, the government through Regulation of Ministry of Agriculture No. 25 year of 2009 explains that every phase conducted by facilitator in composing agricultural extension planning in nagari, should invite the main actors (farmers) and businessmen, farmers association, community leaders, as well as the government. Their involvement aims to apply the principle of participation in composing agricultural extension planning in nagari, so that the objectives, programs and activities decided by consensus...
[25] to solve the problems are based on the facts and the farmers’ needs.

Through participatory approach in composing agricultural extension planning in nagari, farmers are expected to have confidence and have sense of belonging to the program undertaken for them. The planning process of agricultural extension is also considered to have accommodated some characterization of participatory planning like focusing on the beneficiaries’ interests, the involvement of all stakeholders, the sustainability at every stage, the synergy between all parties involved, and realistic [26],[27], so that the results could be protected from manipulation and give added value to the formulation of the planning.

B. Agricultural Extension Planning Process Implemented by Agricultural Extension in the Case Study Location.

In the previous section, it was explained that the government made a policy in the form of Minister of Agriculture Regulation No. 25 of 2009 concerning guidelines for planning agricultural extension programs. The policy was adopted by the government of the Lima Puluh Kota District to produce a village-level extension program (nagari) to the district level.

According to the informants in this study, the agricultural instructors on duty at the case study location stated that they were assigned to implement Minister of Agriculture Regulation No. 25 of 2009 in preparing a village-level agricultural extension program plan (nagari). As illustrated from the following interview quote: "...All agricultural extension agents in the Nagari region, must make an extension program for Nagari agriculture, even though they are still in the status of Teanaga Lepas Harian (THL). The way it works is the same, because we use the same guide, namely Minister of Agriculture Regulation No. 25 of 2009. However, in practice it is entrusted to the instructor itself...".

The above statement is similar to the statement given by other agricultural extension agents interviewed at the case study location. Through the following TABLE I, it can be illustrated that the agriculture instructor at the case study site uses the same guidelines.

<table>
<thead>
<tr>
<th>No</th>
<th>Important statement</th>
<th>Description of Means of Important Statements</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Agricultural extension workers must compile the program every year.</td>
<td>The nagari-level agricultural extension planning that produces the nagari agricultural extension program, is one of the main jobs of agricultural extension workers that is routinely carried out every year</td>
</tr>
<tr>
<td>2.</td>
<td>Arranging the program is the task of routine agricultural extension.</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Programa is used as a reference for agricultural extension workers.</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Agricultural extension staff have received training in the preparation of the program.</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Permentan No.25 of 2009 is used as a reference by each agricultural extension agent in making his program.</td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>Program preparation instructions are delivered during weekly meetings at BP3K.</td>
<td></td>
</tr>
</tbody>
</table>

Source: Synthesis of the results of interviews with key informants, 2016.

To prove the statement given by the informant, it is necessary to show the condition of the agricultural extension planning process carried out by the agriculture instructor in the case study location through the following Table 2.

<table>
<thead>
<tr>
<th>Determination of circumstances</th>
<th>Activities</th>
<th>Implementation of the Agricultural Extension Planning Process</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stages</td>
<td>Activities</td>
<td>Balai Panjang</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Identify data and information using Participatory Rural Appraisal (PRA) methods</td>
<td>Performed at the beginning of the assignment period</td>
</tr>
<tr>
<td></td>
<td>Preparation of Group Defenitive Plans/RDK and Defenitive Plan for Group Needs/RDKK</td>
<td>Implement d every year by farmers</td>
</tr>
<tr>
<td>Synthesis of the Agriculture Service program</td>
<td>not implemente d for the nagari level</td>
<td>not implemente d for the nagari level</td>
</tr>
</tbody>
</table>

Setting goals Set goals for agricultural Implemente d annually Implemente d annually Implemente d annually
extension programs according to the needs of farmers by agricultural extension officers with farmers by agricultural extension officers with farmers by agricultural extension officers with farmers

Determination of problems Identify problems or obstacles to achieve goals Implemente d annually by agricultural extension officers with farmers Implemente d annually by agricultural extension officers with farmers Implemente d annually by agricultural extension officers with farmers

Establishing a work plan Fill in the matrix of the plan for nagari agricultural extension activities. Implemente d annually by agricultural extension officers with farmers Implemente d annually by agricultural extension officers with farmers Implemente d annually by agricultural extension officers with farmers

finalization Prepare draft planning documents Implemente d annually by agricultural extension officers Implemente d annually by agricultural extension officers Implemente d annually by agricultural extension officers

Capturing farmer input Implemente d annually by agricultural extension officers Implemente d annually by agricultural extension officers Implemente d annually by agricultural extension officers

Legality of document Implemente d annually by agricultural extension officers Implemente d annually by agricultural extension officers Implemente d annually by agricultural extension officers

Source: Synthesis of the results of interviews with informants, 2016.

Based on data in TABLE II, it can be seen that agricultural extension workers in three villages (nagari) where this research was conducted have carried out the mandate of the Minister of Agriculture Regulation No. 25 of 2009 concerning Guidelines for Preparation of Agricultural Extension Programs. However, there are still some activities that extension workers do not do every year, such as using the PRA method to explore village data and information (nagari). According to them, this activity is only one time to collect basic data. The following year agricultural extension workers only guided the basic data that had been obtained by synergizing the data in the Nagari office, as well as recruiting input from farmers to improve data on the condition of the village (nagari).

According to the agricultural extension workers in the location of the case study, the implementation of village-level agricultural extension planning processes was carried out because in their work area there were many farmer groups that had social ties between their fellow members. The social bond is a driving force for farmers to be involved in every activity of their farmer groups, including village-level agricultural extension planning activities (nagari) that can accommodate the needs of farmers and their groups.

Through these findings, it can be used as learning for agricultural extension workers in other agricultural extension work areas. They can utilize farmers from farmer groups who have social ties in their groups to be involved in village-level agricultural extension planning processes (nagari). So that the application of Minister of Agriculture Regulation No. 25 of 2009 to develop a plan for agricultural extension programs can be implemented by applying a participatory planning approach.

C. Process of Agricultural Extension Planning with Group of Farmers Association Basis

The process of agricultural extension planning in nagari level which is found in the location of research is conducted with the involvement of farmers from farmers association whose each member has a family relationship and friendship/companionship. Besides having such relationship, in their collective way of lives, they also help each other; implementing cultural, religious and customary norms to develop good relationships between multiple members. This group also has a proactive leader encouraging the group growth. Such circumstances contains elements strengthening the members in their association. This typical farmers association was a transformation of a social group that has been active in public life in Nagari Balai Panjang, Tanjungan Gadang and Batu Balang in Limapuluh Kota District.

Members in the group of farmers association not only work as farmers but also have other activities and business like tools and machinery agriculture businessmen and fertilizer seller for farming in nagari. There are also work as Garin (mosque officer) in mosque, clan leader (Datuak), better known as traditional leaders. These conditions ease the facilitator to maintain the diversity of people involved in the process of agricultural extension planning in nagari as sources of the data, information and decision-maker in several stages of the planning process. In addition, generally each group member of the association has their own records in every agricultural extension activities. Therefore, the adoption of a participatory approach in the process of agricultural extension planning can be implemented in accordance with the proposed principle that is producing agricultural extension planning document based on consensus in taking the decisions.

In order to prove that participatory approach can be applied through group of farmers association in agricultural extension planning in nagari, the processes is described through Figure 2. It illustrates the activities stages and the actors involved as well as the outcomes generated. Facts found that the process conducted by facilitator with farmers from group of farmer association is almost similar to Minister of Agriculture Regulation No. 25 Year of 2009 about Guidelines for the Preparation of Agricultural Extension Program. Participatory principle becomes reference in the planning process. Participatory approaches in planning can be a solution to overcome the problem of data power in accordance with the actual conditions [28]. More details of process pattern can be seen in Figure 2.

The figure 2 shows that there are two process patterns of agricultural extension planning conducted by field facilitator along with farmers from group of farmers association. The first pattern shows the field facilitator duties in working area during the initial year. The planning process that is carried out uses PRA methods to collect data and information from nagari. Meanwhile the second pattern is no longer using the PRA as a method to collect data and information about
farming in *nagari*. They get the data from documents of *nagari* administrators and with the guidance from previous year’s data. They correct the data by observation and input from the farmers. In principle, both process patterns are executed by the workers agricultural extension involving group of farmers association and local community leaders.

![Diagram](image)

**Fig. 2. Pattern of Village-level Agricultural Extension Planning Process Based on Social Ties in Farmer Groups at Studikasus Location, Lima Puluh Kota Regency.**

The pattern of the agricultural extension planning process in *nagari* that involves group of farmer associations can be categorized based on the output of each activity consisting of:

1. Formulation of the condition
2. Goal-setting, faced problem / constraints to achieve the goals and Extension Action Plans in *nagari*
3. Document preparation of agricultural extension planning in *nagari*

Those three groups consist of several activities involving farmers from group of farmers association as source of information, data and involve them in taking decisions of the planning.

At the stage of formulation of the situation, field facilitator together with the farmers prepare the implementation of data collection and *nagari* information, because the method used for this activity is PRA method. The preparation activities include forming team / sub-team of PRA, determining the timing of the PRA, job distributing among team members, preparing materials / adding more instruments used in the implementation of the PRA, and ended with dissemination activities by BP3K of Lareh Sago Halaban and Harau. Farmers participation can be seen through their willingness to accommodate the meeting facilities and infrastructure, providing food / drink, brainstorming, taking decisions of the planning for the implementation of the PRA. After all of the preparations have been completed, PRA is ready to be implemented to collect the data and information.

The next activity is preparing the drafting of the Definitive Plan of the Group (RDK) / Definitive Plan of Group’s Needs (RDKK) that includes socializing RDK / RDKK by field facilitator to farmers, counting problems / obstacles faced by farmers and farmer group, evaluating the performance of farmers association and motivating farmers to be better than in previous years, informing the farmers about the data that should be prepared in the preparation of the implementation of the RDK / RDKK. Then, drafting RDK / RDKK preparation is handed over by its management to farmers and farmer association. Contributions of the farmers in preparatory activities of RDK / RDKK formulation and implementation are similar to previous events. The most striking difference is seen in taking decisions of the planning dominated by farmers without any intervention of field facilitator. The last activity at this stage is to RDK / RDKK conducted by field facilitator. On the other hand, the synthesis activity programs and activities of the institution / department of agriculture are not implemented, because this activity is conducted at the district level. All of the event were aimed to generate the
data and information that is used to determine circumstances in working area of field facilitators.

The second stage is the Goal-setting, problem/ constraints that are faced to achieve the objectives and Extension Activity Plan in Nagari. Basically these activities are implemented separately regarding to Permentan No. 25 of 2009, but field facilitators do these on the same day due to the efficiency. Participatory principle at this stage can be seen in goal setting and problem / the obstacles encountered to achieve the goal. Meanwhile the activity of plan setting of extension activities in nagari is still dominated by field facilitator, whereas farmers / farmer associations only give feedback / suggestions for extension activities in the following year. This condition occurs because farmers prefer to delegate their trust to determine extension activities to the local facilitator. At this stage the participation principle is decreasing. Because practically more dominated by facilitator, while the farmers / farmer associations only becomes the confirmation tools for the collected data. In fact some of field facilitators only ask for input and suggestions to farmers / farmer association toward objectives, problems / obstacles encountered to achieve the target and activities of agricultural extension plans that have been developed previously.

All of the collected data taken by the facilitators from group of farmer association are used to formulate the agricultural extension planning documents in nagari. Documents of agricultural extension program planning are created by the field facilitators based on the system that has been arranged by BP4K of Kabupaten Limapuluh Kota. New document is still in the draft form, and then facilitator discussed the draft document of extension agricultural extension program planning in nagari with farmer representatives from the group of farmer association. Topic of the discussions consists of the establishment of a special purpose that was created by facilitators. In this case, facilitators ask for input and feedback from farmers regarding to specific goals that have been made previously.

Furthermore, facilitators discuss about how to fill matrix of problems found by farmers and farmers’ businesses. The matrix of “problem basket” will be presented in front of farmers and from them are required their input and feedback related to the appropriateness of the problem comparing the written and the real on. The whole noted agricultural issues are separated to determine the priority issues to be resolved through agricultural extension activities. This priority test is carried out by facilitators and farmers and entrepreneurs by giving a score to each of the existing problems. The problem with the highest score becomes a priority to be solved through agricultural extension activities. The last stages is the improvement the documents of agricultural extension planning and legalize them.

IV. CONCLUSION

There are 3 stages in the pattern of village-level agricultural extension planning processes based on social ties in farmer groups, including: 1) Determination of circumstances, 2) Determination of objectives, problems and work plans, and 3) Finalization of village-level agricultural extension planning documents (nagari). The number of activities from all these stages is 10 activities. However, differences were found in the methods used to explore village data and information (nagari). The first year on duty, the agricultural instructor uses the Participatory Rural Appraisal (PRA) method, while the following year uses the secondary data method and checks the data to obtain village data and information (nagari). For other activities, there are no differences such as activities: Preparation of compilers of the Group Definitive Plan (DRC) / Plan for Definitive Group Activities (RDKK); Implementation of RDK / RDKK compilers; Recapitulation of RDK / RDKK; Establish goals, problems / obstacles to achieve goals, plan agricultural extension activities; Prepare draft planning documents; Entering input from farmer group administrators; Finalization of agricultural extension planning documents; Ratification and submission of Village Agricultural Extension Programs (Nagari) to BP3K. Almost all activities in this process involve farmers to obtain data, information, input and make planning decisions.

This finding proves that the participatory planning process has been implemented by agricultural extension agents through the strength of social ties found in farmer groups. Although the process is slightly different from the Minister of Agriculture Regulation (Permentan) Number 25 of 2009, agricultural extension agents still accommodate each stage to be able to fulfill the policy product's address.

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