

# Reformatting agricultural extension institution: Finding from the study of functional interactions among related components to agricultural extension in West Sumatra

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**Abstract.** Such literatures on the development of agricultural extension in Indonesia at present provides information that there are at least four issues of extension problems. Those four issues are mainly related to the quality and the sustainability of that extension services. Until the year of 2009, the institutional form of extension services at the provincial and at the district level in Indonesia was still diverse and was in the transition period from the old regulation to the new Law of Extension Services in 2006. Focus of this paper is to: (1) disclose the problem of agricultural extension in West Sumatra as the case site, particularly about the inter-functional aspects of inter-related components of extension services, and (2) to propose a reformatory idea about the institutional form of agricultural extension at the sub-district level which expected to be ensuring the sustainability of agricultural extension.

## 1. Introduction

Previous studies on agriculture extension in Indonesia have identified four issues of extension services related to their quality and their sustainability. Those four main issues are: (i) the policy changes of the institutional arrangement of extension services, (ii) the quality of human resources (iii) the implementation constrains of extension programs and, (iv) the availability of financial resources and extension facilities (See [1], [2], [3] and [4]).

The New Law in 2006 about the Extension Services of Agriculture, Fisheries and Forestry (or *UU SP3K*) was the starting time of the institutional transition of all forms of extension services at the provincial and the district level in Indonesia. Since then, the institutional form of extension services was diverse all over Indonesia. Each province and district has been trying to set the institutional forms of extension services based on their own capacities and purposes.

Based on the preliminary findings, the transitional issues on the implementation of that New Law 2006, has also occurred in West Sumatra province. A new body of agriculture extension called *Badan Koordinasi Penyuluhan* or *Bakorluh* at provincial level (Extension Coordination Body) has been established in October 2008, based on the Governor Decree No.28. This *Bakorluh* was supposed to coordinate and design the extension policies and program at the provincial level. Moreover, based on the Government Regulation No.41/2007, this new *Bakorluh* was also supposed to be one specific government agency called SKPD (*Satuan Kerja Perangkat Daerah*) under the provincial government structure. But, in reality, the provincial government did not implement those two guidance to support *Bakorluh*. This new form of extension institution had limitation on financial and budgeting authority,



so that this institution did not able to work optimally to run the extension programs coming from three departments; agriculture, fishery and forestry.

The institutional transition issue also occurs at the Tanah Datar district of West Sumatra, where in 2010 the government and parliament through *Perda* (District Regulation) have dissolved the Extension Implementing Body or *Bapeluh* at District level. This is incontrary with New Law 2016 (UUSP3K) and previous *Perda* in 2008, where *Bapeluh* was set up as SKPD at District level. This new *Perda* 2010, has sentenced that all extension workers should be working as Funtional Group (called *Kelompok Jabatan Functional* or KJF) at related District offices, without structural authority and budget management.. The dissolution of *Bapeluh* thought to have a negative impact on the quality of implementation of extension function at district and sub-district level.

This paper will then to: (1) disclose issues and problems of agricultural extension in West Sumatra after the dissolution of *Bapeluh* at District level and the weakening of *Bakorluh* at the provincial level, particularly in terms of functional interaction among related components, and (2) to propose a reformatory idea about the institutional aspect of agricultural extension which is expected to ensure the sustainability of agricultural extension in this province especially and in Indonesia generally.

## 2. Research method

Based on those two objectives, this study applied qualitative descriptive method by using in-depth interview and focused group discussion (FGD) with relevant stakeholders to collect relevant data from the case site. The District of Tanah Datar, West Sumatra province have been chosen as the case site mainly because preliminary findings of this study has identified spesific dynamic problems of extension services since the implementation of New Law of Extension services in 2006.

Key informants for in-depth interview were chose purposively at District, sub-districts and Nagari (village level). They considered as stakeholders in extension services who understand the issues also well informed about the problems of extension services within their territory. During the field data collection, this study has interviewed more than 30 key informants, either through individual interview or focused group discussion. At District level, this study has interviewed various key informants including Bupati, Vice Bupati, Head of agriculture office, Bank officers, Input traders, researchers from research institutes, etc. At the sub-district level, this study has interviewed the Head of sub-district, former head of BPP (*Balai Penyuluhan Pertanian*), cooperative officers, local traders, etc. While, at the Nagari level, this study has interviewed local farmers, leaders of farmer groups, field extension officers, and local traders. In general, those relevant key informants classified into six components of agriculture development services, are:

- Production component: farmers and leaders of farmers groups.
- Research and Innovation component: researchers at research institutes, universities, NGOs.
- Governance component: officers and leaders at provincial and district level and their agencies.
- Extension component: extension workers and their working units.
- Input supplier component: input stores, cooperatives, banks, etc.
- Market component: traders, agro-industries, etc.

Primary data/information from those indepth interview and FGD collected from June 2011 to December 2012, while the secondary data from relevant government offices collected from 2009 to 2012. Further development issues of extension services in this province and district have been also gathered until mid of 2016. The triangulation techniques were elaborate any information given from one key informant with information from other key informants. Topic data collected from those key informants are mainly related to the implementation of extension services, the roles of key informants and their interactions between each other. Those all data/information then analyzed qualitatively by following the model analysis of Miles-Huberman.

### 3. Results and discussion

#### 3.1. Overview of the case site

West Sumatra Province lies between 0°54' North Latitude and 3°30' South Latitude, and between 98°36' and 101°53' East Longitude, which borders Riau Province and North Sumatra in the North, and with Jambi and Bengkulu in the South. Approximately 25% of the total area of the province is agricultural land covering food agriculture, plantation and terrestrial fisheries [5].

Based on the 2013 National Census, the number of farming households in West Sumatra Province in 2013 was 644,610 households, decreasing 64.74 percent from the year 2003, which recorded 709,351 households. While the number of agricultural companies incorporated in 2013 was recorded as many as 71 companies and other business actors as much as 293 units. Moreover, Plantation sub-sector seen to dominate agricultural business in West Sumatra Province. The 2013 National Census notes that the largest number of farming households in West Sumatra Province is in Plantation Subsector and Food Crop Subsector. The number of farming households of the plantation sub-sector is 446,287 households and the number of agricultural business households in the Food Crops Sub-sector is 426,135 households. The highest growth in the number of agricultural households between 2003 and 2013 occurred in the Plantation Subsector, which grew by 7.83 percent. In the same period, the Horticulture Subsector experienced the highest decrease in the number of agricultural households, which was 105,451 households [6].

#### 3.2. Issues and problems of agricultural extension

This study has found that issues or problems of agricultural extension in the study location were concerned with a number of elements: institutional changes of the extension services, inadequate quality of extension officers, implementation constraints of extension function, and low availability of extension infrastructure facilities to support agricultural extension sustainability efforts. In the District of Tanah Datar, the problem begins with the dissolution of District Extension Implementation Body (*Badan Pelaksana Penyuluhan* or *Bapeluh*) and the creation of agricultural extension only as Functional Job not structural position (known as KJF or *Kelompok Jabatan Fungsional*) within the District Agency of Agriculture, Plantation and Forestry (DAAPF), based on the District Regulation of Tanah Datar No. 9/2010. Since the implementation of that regulation, the function of extension services becoming very weak in implementing the empowerment process of any agriculture development program. At least, there are four main problems have been identified: (1) as a group of extension officers who works functionally, they do not have structural authority within the agency, to run their function optimally due to the limitation of budget and resources, (2) as a working unit within the DAAPF, the extension officers have to do more office works rather than field works to conduct farmers empowerment activities, (3) the extension officers did not get enough capacity building especially in communication and social learning skills, and (4) they are targeted facilitate the DAAPF program to ensure the achievement of food security program in this District.

As the extension officers (either at the district and subdistrict level) ideally, they are not only expected to run the government program, but mainly to conduct better process of extension through the social learning process. Since they were set up as functional job at the district agency, they were trapped to work for the district agency program, that mainly concerns on the production and productivity target in any agriculture program, especially food security program of rice. The extension officers could not do much to create their own extension programs, which formerly done in the institution of *Bapeluh* at district level (*kabupaten*) and the *Balai Penyuluhan Pertanian* (BPP or agriculture extension office) at sub-district level (*kecamatan*) As the results, this institutional changes has weakened their professional character as extension workers, they were becoming an implementer of district agency programs to achieve the target of agricultural food production.

In fact, institutional problems of agricultural extension in Tanah Datar was able to describe the contemporary problems of agriculture extension in Indonesia in general. Since January 2017, in line with the enactment of Law No. 23 of 2014 on Regional Government, all extension institutions at provincial and district level in Indonesia are abolished and all extension workers were returned to the

concerned offices (regulated through provincial and district regulations). Agricultural extension does not regulated by the rules as mentioned in the Attachment of Act 23/2014. However, the Agriculture Ministry Regulation (*Permentan*) No 43/2016 has been declare to reorganize this extension organization, where the agricultural extension became the responsibility of central government, provincial and regency/municipality congruently. On that basis of the law, the Ministry of Agriculture affirmed that the policy direction on agricultural extension management system in 2017 will still refer to Law No. 16/2016 (see [7]).

However, according to [8], with the enactment of Law 23/2014, the organization of agricultural extension is on the crossroad, dilemmatic, weakened and demotivated; whereas previously (based on Law 16/2006) the implementation of extension services has shown the performance and structure clearer and effectively functioning. The weakening of one or more elements on one system of extension services can undoubtedly weaken the functioning of the system as a whole. Specifically, [8] has identified some of the most recent issues: (a) the loss of extension institutions at the provincial and district level tends to weaken institutional capacity of sub-district agricultural extension body (known as *BPP*) as the spearhead of agricultural extension services; (b) the attention of regional governments to the extension and their funding commitment for extension services tend to weaken, (c) ego-sectoral constraints of all stakeholders to the functioning of synergies in the provision of extension services, (d) the number and quality of extension workers who are increasingly limited, because most senior counselors have changed their status to be on more structural position and many of them have been also retired, (e) extension task function is still oriented to increase food production especially paddy, and (f) the thinking pattern and behavior of farmer are also still on the production-oriented, not too connected with downstream agribusiness system.

### 3.3. Functional interaction among all components of agricultural extension system

In regard to the analysis of functional interaction between each components of extension services, this study has identified at least six components of agriculture systems should work interactively in order to achieve agriculture development goal, that is, the welfare of farmers. Those six components are; (1) innovative researches, (2) input suppliers, (3) market institutions, (4) governance, (5) agriculture extension, and (6) production institutions (farming). At this moment, each component of this system has played their own role according to their own tasks and functions. However, their activities are not optimal enough, because they only focus on their own job description, they did not do much in developing interaction and integration among component of the system in order to ensure the quality and the sustainability of agriculture extension activities.

Table 1 shows the result of qualitative analysis on the functional interaction among those six components of agriculture extension system in the case site. It shows that the stronger functional interaction (VVVV) were only occurred between the agriculture extension and farmers institutions, between innovative researches and agriculture extension, and between agriculture extension and governance, while the other functional interaction were still weak.

**Table 1.** Functional interaction among six components of agriculture extension system.

	Research (R)	Extension (E)	Farming (F)	Input supply (I)	Market (M)	Governance (G)
Research		VVVV	VVV	V	V	VVV
Extension			VVVV	VV	V	VVVV
Farming				VVV	VVV	VVV
Input supply					V	V
Market						V
Governance						

VVVV=very strong, VVV=strong, VV=weak, V=very weak

The strong functional interaction between the extension component and the farming component are mainly identified from the existing cooperation between field extension officers and farmers who have been working closely to achieve national goals and programs of food self-sufficiency, especially rice. However, the functional interaction between governance and farming component are relatively a bit weaker compared to the interaction between extension component and farming. It is mainly due to the weak role of governance (at district level) on human resource development and institutional aspects farmers. Governance has given more priority on the production achievement rather than the institutional capacity building of farmers.

The functional interaction between the research institutions (either at provincial and district level) and the extension component are also relatively very strong. It is mainly due to the existing role of extension services in transferring a new innovation of agricultural technology from the research to the farmers. The extension workers used to get the training and field experiences from the research institutions through the governance programs.

Meanwhile, weak and even very weak functional interactions are mainly existed between the component of input suppliers also market with the component of research, extension and governance. Currently, farmers develops working connection with the input suppliers and also market component without any assistance from the extension services, research and governance components. This study identified that those last three components (R, E, G) works mainly in the production orientations, and not on post harvest activities. The componet of I and M (also agro-industries) in this region, has not also optimize the role of extension workers as their partner. Those two components (I and M) used to approach farmers directly without any partipation roles of extension workers.

In short, the above table shows that the functional interaction between the component of agricultural extension and the component of production organization (represented by farmer society) is very strong, because they both are used to work together, and farmers are used to contact the agriculture extension in their daily activities of farming to discuss either about farming itself or about other matters. On the other side, the agricultural extension component itself has also very strong functional interaction with the component of research and innovation, as well as with the governance component.

Thus, the strong functional interaction among those four components (R, E, G and F) in the agricultural development system, has placed the agriculture extension becomes a real centre of extension services that can be used as a coordination hub between governance, researchers and farming components. Meanwhile, the functional interaction between agriculture extension and the components of input supplier and market is generally weak. The weakness of this interaction shows that agricultural extension has not able yet to build a functional interaction to those two components.

Since the functional interaction among those six components are still focused on the interaction between farmers and the extension institutions, this agricultural extension system was still far from the ideal form of new extension paradigm, that depends on the strong functional interaction among all components (see [4] and [9]). In this understanding, the sustainability of extension services will be depends on the interaction of all components to be dynamically develop the agriculture activities for the benefit of farmer livelihoods and the independence of farmers. The agriculture extension services will be more sustain when the interaction among all component are strengthened within the network of rural agribusiness, especially by by conducting participatory and communicative learning in a sustainable manner, focusing on the needs and problems of farmers and based on farmer groups and local resources.

Moreover, in the era of global market system, the functional interaction between farmers, extension officers, research and government institutions only, will not so helpful to improve the condition of farmers, without an effort to improve the functional interaction with input supplier and also market sectors. The component of input supplier and market sector have bigger capacity working in the global market system. This is a challenge for the extension component to mediate farmers and other formal component with those two private sectors.

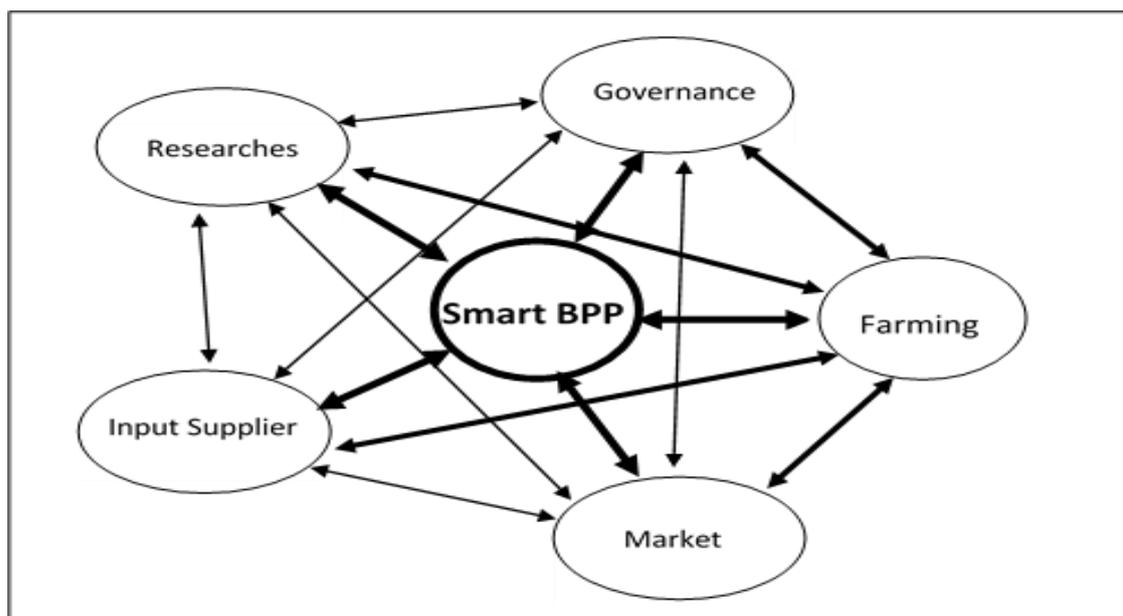
### 3.4. Reformulation of agriculture extension institution

Based on those two findings, the problem identification and the analysis of functional interaction, this study proposes an institutional adjustment to reformat the *Bapeluh* (*Badan Pelaksana Penyuluhan*) at District level and the BPP at the sub-district level. In order to achieve this proposed idea, the institutional adjustment of these two institutions should consider four important aspects mentioned by [8] and [10] are (a) increasing understanding and commitment of stakeholders (b) reducing ego-sectoral, performing effective coordination, reducing rivalry in the budget, minimizing the practical political influence of the regional organizational sector, (c) raising awareness to synergize and joint-output orientation, and (d) reducing the tendency of sector administrative positions.

In order to sustain agricultural extension services, according to [8], there is also a need to consider the following five steps, are: (1) maintaining consistency and commitment of the central government and improve stakeholder work orientation, (2) maintaining consistency of regulations, not to be biased with political practices, (3) reducing the interests of outsiders to dominate agricultural extension regulations, (4) capacity building for extension human resources in the implementation of extension systems, and (5) increasing the competency of all relevance stakeholders.

Furthermore, by referring to [11], there is a need to include one important element of social entrepreneurship and developmental entrepreneurship to these two institutions of extension services. This element may empower all extension workers at the BPP at the subdistrict level to make an effort and facilitate the income generating activities by increasing the added value of all agricultural products by utilizing social resources and public fund at to some extent.

Based on those three important references, the new Bapeluh (level kabupaten) and especially BPP (level kecamatan) [called *Smart BPP*] should be developed as the centre of knowledge management that able to mediate the functional interaction among all components of agriculture extension services (see figure 1.). Human resources within this new Smart BPP, should not only working as the extension worker who implement the agriculture development programs from the provincial or district government, but they should also play their independent roles as facilitator, mediator, community organizer, that able to develop collaborative work between farmers and other components, especially with researchers, input supplier (including banks, stores and cooperatives), and market components (including traders and agro-industrial sectors).



**Figure 1.** *Smart BPP* as the centre for functional interaction of all components of agriculture extension services.

Thicker line from and to that *Smart BPP* indicating the very important position of Smart BPP as the center of knowledge management in this extension system. However, the constructive idea will need such adjustments in the government policy to support this new format of BPP, especially related to the authority of this BPP at the sub-district level.

Smart BPP as a future BPP format should become the center of relationship in extension services at the sub-district level which have a strong relationship with other five components, namely: Farming, Market, Input supplier, Research, and Governance. This strong relationship will lead to BPP's smart function as a knowledge management center within the extension system at the sub-district level which have these four main characteristics, are; (a) focusing on the needs and problems of farmers and their farming, (b) market-oriented and marketing outputs and inputs, (c) based on and observing local research data and results (d) to support and be supported by the national government goals. Beside that, this figure also gives a hint that the farming systems should also able to establish a good direct connection with the other four components with the participation of Smart BPP as the mediator. If currently, the farming component has strong enough interaction with the components I and M, then in the future, the farming component (F) should also be developed the direct connection with the components of R and G, with the assistance of the role of Smart BPP. The G component should have a substantial role in assisting farmers (F) in establishing functional interactions with I and M. In the future, BPP should receive a supply of data from local research results to develop appropriate extension programs to solve farming problems.

#### **4. Conclusion and policy implication**

This study have identified that the implementation of new Law of Extension system called *UUSP3K* 2006 that has resulted such issues and problems especially the degradation of role of extension worker to creatively work with farmers. The study of interaction among all elements in the extension system showing only strong interaction between farmers and extension workers, while the interaction between farmers and other elements is still not very strong. This study concludes that the extension element should be the central position for the sustainable agricultural development, where it should be able to facilitate the close relationship of other elements with farmers.

This study suggests to reformating the role of BPP (called smart BPP), to at least be able to play a role in four main areas: to facilitate the learning process of farmers in the technical aspects of cultivation, territoriality, entrepreneurship and marketing, to strengthen social capital and farmer institutions into an entrepreneurship cooperation, to work as a partner of partnership of all components, and to strengthen the professionalism of the extension workers. The constructive idea of this Smart BPP is possible, if there are policy changes concerning the following five factors: giving the BPP autonomy to run their own program with their own financial management, strengthening government regulation and government commitment to counseling, building a direct and sustainable financing pattern, building sharing and nurturing from relevant offices at the district level, and increasing the capacity of the extension agent.

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