

# **PATTERN OF FARMERS' PARTICIPATION: LESSONS FROM PUMP IRRIGATION PROJECT**

## *Pola Partisipasi Petani: Pelajaran dari Proyek Irigasi Pompa*

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### **ABSTRAK**

Tujuan dari makalah ini adalah untuk menggambarkan dan menganalisis pola partisipasi petani, selama tahap persiapan, proses pembangunan fisik, dan pemeliharaan (pembayaran iuran). Penekanan dari diskusi dalam makalah ini lebih diarahkan pada perubahan tingkat partisipasi petani selama pelaksanaan proyek. Makalah ini didasarkan pada penelitian proyek irigasi pompa yang dilaksanakan di desa Haurgeulis, Kertanegara dan Wanakaya, Kecamatan Haurgeulis, Kabupaten Indramayu, Provinsi Jawa Barat. Proyek irigasi pompa merupakan salah satu proyek partisipatif di mana penerimanya dilibatkan selama pelaksanaan proyek, sejak tahap perencanaan sampai dengan pemeliharaan. Pengalaman pelaksanaan proyek menunjukkan bahwa meningkatkan partisipasi merupakan pekerjaan yang rumit, yang memerlukan usaha intensif, waktu lama, dan kesabaran. Selama tahap persiapan, petani berpartisipasi secara aktif. Hal ini antara lain disebabkan karena inisiatif untuk membangun irigasi pompa datang dari dalam masyarakat sendiri, dan semangat tersebut sedikit menurun sampai awal masa tahap pembangunan fisik. Fluktuasi partisipasi petani terjadi pada tahap pembangunan fisik, sehingga upaya penggalakan dilakukan pada saat tingkat partisipasi petani sedang menurun. Pola serupa dari partisipasi petani terjadi selama tahap pemeliharaan, di mana petani merasa enggan pada awal pembayaran iuran. Setelah serangkaian upaya penggalakan, petani akhirnya mampu menjaga agar pompa tetap beroperasi.

**Kata kunci** : *proyek irigasi pompa, partisipasi petani*

### **ABSTRACT**

Objective of the paper is to describe and analyze the pattern of farmers' participation during the preparation, physical construction, and maintenance (payment of irrigation service fee) phases. Emphasis of the discussion will be on the changes in farmers' participation level during the project implementation. This paper was based on a research in a pump irrigation project carried out in the Villages of Haurgeulis, Kertanegara, and Wanakaya, Haurgeulis District, Indramayu Regency, West Java Province. Such pump irrigation was one of participatory project in which beneficiaries are involved during the project execution since planning through maintenance. Experience of the project implementation suggested that boosting farmers' participation was a complicated work which needs intensive, long-time, and patient efforts. During the preparation phase, farmers were actively involved in the project. This was encouraged by the initiative coming from within of the community, but farmers' spirit to participate in the

project slightly declined up to the start of physical construction. Fluctuation of farmers' participation happened in the period of physical construction. Therefore, encouraging measures were applied when the farmers' participation was going down. Similar pattern of farmers' participation also occurred during the maintenance phase, at which farmers found themselves reluctant at initial fee payment. After a sequence of encouragement, the farmers were finally able to operate the pump continuously.

**Key words :** *pump irrigation project, farmers' participation*

## INTRODUCTION

The aim of participation is to achieve human potentials whereby people become subjects in their own world rather than objects in some other people's world (Oakley and Marsden quoted in Wright, 1986). People are not objects, but valuable subjects, and they are the real experts in the local aspects of a program. Participation by the people may stimulate integration of (new) activities in the community (van Riezen, 1996). Participation is the sine quanon of community development as without it, policies and programs that aim at people development, poverty alleviation, local development, community health, and social integration of the marginalized and excluded are likely to meet with little success (Campfens, 1999).

Srivanasan and Oakley *in* Cohen, 1996 had identified three main concepts of participation, as follows: 1) participation as a contribution made by the community; 2) participation as an organizational process of the community (Oakley and Marsden, 1984); and 3) participation as an empowerment of the community. According to Cohen (1996), in some projects there are simple forms of contributions which serve as donations of unskilled labor and local raw materials by the community. Both sharing labor and costs should emerge voluntarily from the community, although the thinking aspect is done entirely by engineers and other technically trained personnel. Under the direction of a strong leader, the community mainly provides physical labor to carry out a plan which has been pre-designed for them by an external team of specialists.

In accordance with participation as an organizational process, Cohen (1996) argued that community involvement could be defined as the process of establishing a minimal institutional infrastructure to manage and maintain the system. In this case, the organizational structure which serves as a vehicle for community participation can either be externally introduced or be an existing traditional structure or perhaps emerge as a result of the process of participation. Community organizations may include women's groups, credit associations, cooperatives, worship houses, and local religious groups, branches of political parties and unions, age and kinship groups, neighborhood associations, and literacy groups.

According to Cohen (1996), participation as an empowerment of the community is similar to power ownership by the community. In a people-centered development approach, for example, the relationship between participation and power is widely recognized. This strategy implies that not only men but also women of a community, not only local leaders but also the poorest and marginal social layers of a community share the power to be active participants in all stages of planning, resource mobilization and allocation, acting and maintenance of the system.

Colin (1986) regarded that the meaning of participation is not specific because it includes passive and active participation. In Colin's opinion, participation may mean 'being involved' in the sense of passively undergoing a process with which one is concerned. Thus, someone may participate in forced labor under constraint, without having any responsibility in the matter. On the other hand, participation may mean 'taking part' in the active and positive sense of exercising a share of responsibility in carrying out some process. Colin (1986) is consistent with Sharma (1979) who said that in the broadest sense the concept of participation refers to all forms of action by which citizens take part in the process of social change.

In broad sense, involving farmers in developing pump irrigation project was deemed to be important for them to learn how to carry out project and maintain it, through which they could get sense of ownership and be encouraged to sustain the project. This principle is implemented in participatory pump irrigation project development in Indonesia, both by government organization (GO) and Non-Government Organization (NGO). Such development type got extensive attention from the government because it was not only necessary to give farmers wide opportunity to involve in the project, but also to reduce government expenditure in development. Through the approach, every pump irrigation system built by GO or NGO was eventually handed over to, and managed by farmers.

In practice, however, encouraging farmers to participate in project is not a simple work. Even in a well-planned participatory project, a facilitator cannot guarantee that the farmers will fully participate in the project as expected. This may come from various reasons, including the duration and difficulty of the work to which farmers should participate, poor project management, community member conflict, and other possible obstacles impeding farmers' participation. This suggests that encouraging farmers to participate in a project should be a continual work, besides making solution to the existing problems in the community. In order to complete the project, farmers' participation needs to be maintained when their participation tends to escalate, and boost it up when it goes down.

Objective of the paper is to describe and analyze the pattern of farmers' participation, during the preparation, physical construction, and maintenance (payment of irrigation service fees) stage. Emphasis of the discussion will be on

the changes of farmers' participation level during the project implementation. This paper was based on a research in the Villages of Karangtumaritis, Kertanegara, and Wanakaya, Haurgeulis District, Subang Regency, West Java Province.

The research employed anthropological method, which used data information tracing for complete information during the implementation of the pump irrigation project. Both spoken information and written document have been the most important sources. The information, therefore, was collected through snowballing technique, which attempted to collect information from one to other respondents in order to complete intact description. This includes gathering information from the people who know much about specific events. Likewise, any document supporting the clarification the implementation of the project was also collected. Some sources of information for this research came from the facilitator of the project, namely Yayasan Bina Swadaya (YBSD), village government, administration officials, related office officers, and the farmers involved in the project.

## **THE IRRIGATION CONSTRUCTION AND ORGANIZATION OF THE PROJECT**

### **The Irrigation Construction**

The pump irrigation project in this study was facilitated by YBSD, a national level NGO, to be implemented by farmers in Haurgeulis District, Indramayu Regency, West Java Province. The farmers could take the project only if they were prepared to participate during the development of the project. The pump irrigation project was developed to pump and flow water from Cipunagara River to 204 hectare of originally rain-fed lands that lay in the Villages of Karangtumaritis, Kertanegara, and Wanakaya. There were about 409 farmers who owned the lands.

Cipunagara River, located about 100 meters from the fields, flows throughout the year constantly, which was considered capable of watering sufficiently the rain-fed land covered by the project. The water surface of the river is only two meters deep under the brim of the land, which is easy to pump. Historically, the river has never overflowed up to the land or dry even in the extreme season. This showed that the river was eligible to be the water source for irrigation purpose.

The construction of the pump irrigation started on June 28, 1989. Without cement covering on the canal base, the project had been finished by the end of 1990, and since January 1991, P3A pump irrigation had begun functioning. By the end of 1993, about 4.1 kilometers stretch of three forth of targeted length, of cement-covered canal had been constructed. The facilitation by YBSD in the

project ended in December 1995, since they had to complete the construction and handle the loan repayment.

Through the facilitation of YBSD, the German Agro Action was chosen as the main body that funded the project. Another body that financed the project was the government of Indramayu Regency, especially in providing food and a half-day wage for a-month labor working. While the German Agro Action gave the needed fund as a revolving fund loan, the government of Indramayu Regency gave it as a grant. The revolving fund loan had to revolve from a group of debtors to another. Because of eligibility, the farmers could get the funds to construct pump irrigation with the condition that after the irrigation system was accomplished the farmers had to pay back the loans to the lending agency. This was in order to lend the money to another group of farmers for similar project in other area. Loan payment was made through instalment every rice harvest within an agreeable time period.

The loan amount given to the farmers was as large as the whole cost of the pump irrigation development. The loan given for the pump irrigation construction without cement covering was IDR 71 million, equal to 322 tons of rice. The zero-interest rate loan had to be paid within five years or 10 rice seasons. Hence, the farmers had to pay IDR 7.1 million, equal to 32.2 tons of rice, for every rice harvest season. With the assumption that the farmers would pay only 80 percent (equal to the harvest of 160 hectares of land), it was decided that the farmers had to submit 200 kilograms of rice grain per hectare every rice harvest as installment payment. Aside from that, the farmers also had to pay operational cost, equal to 150 kilograms of rice grain per hectare, for every rice harvest. Therefore, a farmer having one hectare of land had to submit 350 kilograms of rice grain for every harvest.

On the other hand, if a loan for cement covering were taken, the amount of loan would increase by IDR 111.3 million, equal to 371 tons of rice grain. To pay the loan, the farmers could do it within 10 years. For the loan of cement covering alone, the farmers had to pay 116 kilograms of rice grain per hectare for every rice harvest. The advantage of the cement covering on to save water from being absorbed into the ground; therefore, it would irrigate the farmers' land more sufficiently. However, the farmers decided not to take the loan for cement covering because they seemingly were incapable of managing its payment. Fortunately, the irrigation canal was at last lined under German Agro Action's decision, which made the farmers' burden was somewhat lighter.

Excluding the loan for cement covering, the payment agreed was 386 kilograms of rice grain per hectare for every rice harvest, higher than the previous amount as mutually agreed upon. This was because there was an additional cost for field irrigation worker fee, which burdened the farmers. Hence, the new payment should consist of 200 kilograms of rice grain for installment: 158 kilograms for operational cost, and 28 kilograms for irrigation worker fee. The

extra payment for operational cost and additional 28 kilograms for irrigation worker was, namely due to the insufficient previous budget. Currently, the payment amounting to 386 kilograms has not changed, although installment payments are no longer incurred. The farmers usually called the payment as irrigation service fee, before or after installment had been through.

### **Organization of the Project**

The pump irrigation project was implemented through collaboration of several bodies. There were four bodies involved in the project implementation, namely YBSD, German Agro Action, the government of Indramayu regency (including the district and villages on the project location), and P3A Tirtabumi. These bodies were then united in forming an executive committee of the project; each body played its role at certain activities through the executing committee. The executing committee consisted of steering committee (SC), organizing committee (OC), supervisory committee, P3A Tirtabumi, and P3A counsellor at regency, district and village level. German Agro Action as the main funding agency were not involved directly in the executing activities except field visiting to assure the project execution was working. The structure of execution committee is shown in figure 1.

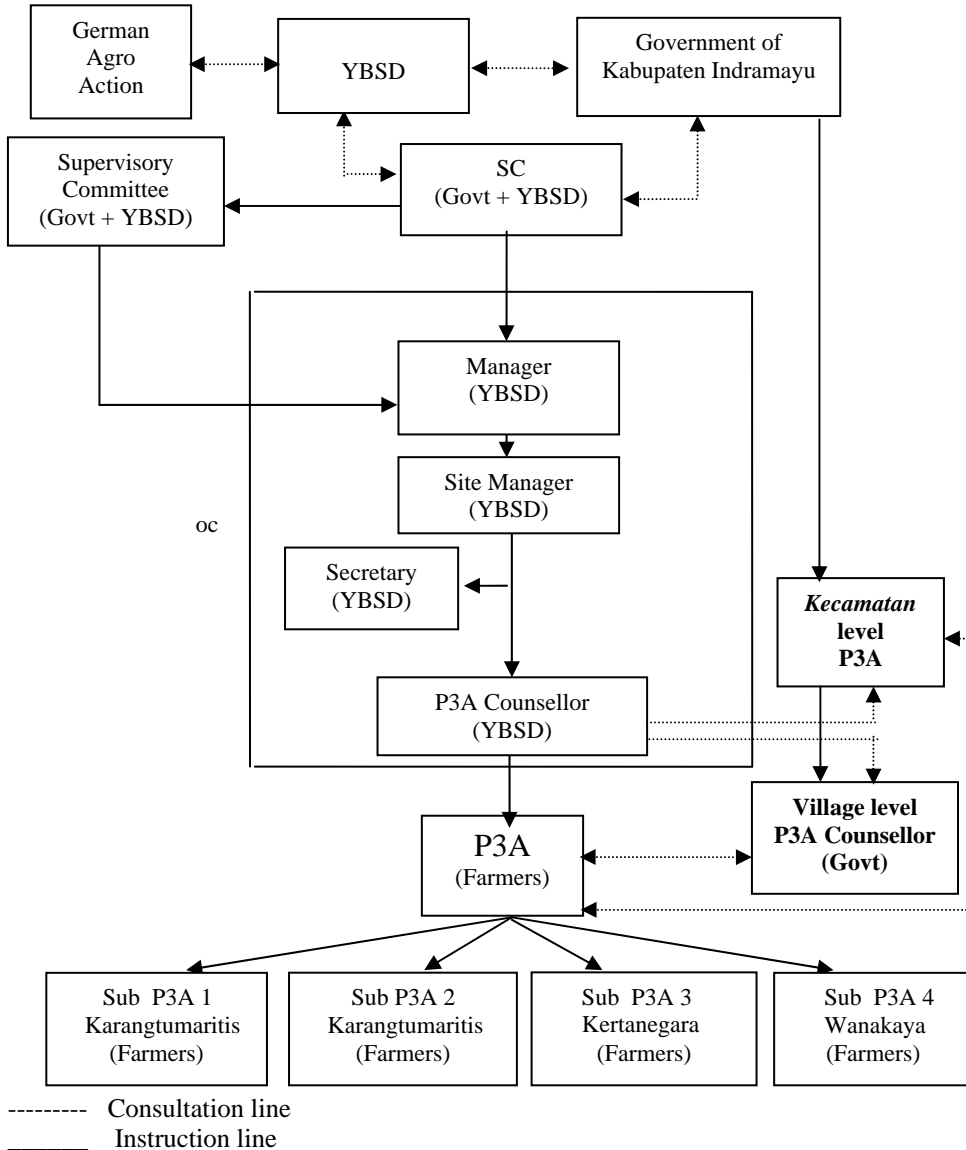
The SC consisted of nine government officials and two YBSD staff members who played their roles as follows: 1) giving directions on and controlling project implementation; 2) making decisions and policies through their members' meetings which were held at least twice a year, or through special consultation with some members; 3) supervising and being responsible for OC work; 4) receiving information and suggestion from project supervisory committee as a guidance for making policies.

The OC, which consisted of four YBSD staff members, played their roles as follows: 1) implementing projects comprising technical and social preparation and accomplishing administration affairs; 2) handing daily office management; 3) accomplishing on-field development; 4) arranging responsibility report; and 5) providing education and training for beneficiaries.

The supervisory committee which consisted of three government officials and one YBSD staff member played their roles as follows: 1) giving technical and non-technical consultation in accordance with each section; 2) visiting offices or fields in relation to supervising at least once every three months in accordance with each section; 3) creating good relationship between YBSD and local government.

The P3A counsellors who formed three teams, came from the government officials at regency, district and village level. The P3A counsellor is an institution which exists at every irrigated paddy-field area. During the implementation of the project, YBSD's P3A counsellor from OC replaced this function, especially at

village level, because the government had yet to form such an institution. In fact, YBSD's P3A counsellor was also the field community organizer who assisted and motivated farmers. The government's P3A counsellor played their roles after the project completed. The role of government's P3A counsellor is to foster P3A's better performance.



Source: Yayasan Bina Swadaya, 1995.

Figure 1. A diagram showing the organizational structure of P3A pump Irrigation project

P3A, as the owner of the project, played its role in constructing the pump irrigation besides other tasks. The other tasks of P3A are managing and maintaining water and irrigation network, deciding and arranging irrigation service fees payment from the members, and guiding and controlling the members to obey all regulations.

The P3A was an organization established by the government based on Presidential Instruction (INPRES) No.2 1984. The organization was entrusted with the task to increase the usage of irrigation water that was available on tertiary canals or traditional irrigation networks to foster farmers' prosperity. The tasks of the P3A were, as follows (Zakaria, 1992): a) managing the water and irrigation network on tertiary canals or the traditional irrigation network so that water can be utilised by the members to fulfil cultivation need, based on equity principle among the farmers; b) maintaining tertiary canal and traditional irrigation networks to sustain its function; c) deciding and arranging irrigation service fees payment from the members on cash basis, in-nature agricultural product, or employment to maintain canals, to operate pumps, and to develop the organization; and, d) guiding and controlling the members to obey all regulations issued by the central and local government, and the organization itself.

The organizational components of the P3A comprised the membership meeting (*rapat anggota* or RA), the P3A management that consisted of chief, secretary and treasurer; supervisory board; one pump operator; five irrigation workers; four sub-groups (one in Kertanegara, two in Karangtumaritis, and one in Wanakaya) and members. The RA was on the top of the structure, showing that each member was the main decision maker. The RA elected the management members who served the organization for two years. The members who were elected, supervised the management also served for two years. Both the management and they could coordinate matters with members directly.

The organizational structure was established through sub-group formation. Forming sub-groups preceded the P3A's initial incipience. This was to facilitate the founding of the P3A because launching the organization initially was difficult. Four sub-groups were established, two sub-groups in Karangtumaritis, one in Kertanegara and one in Wanakaya which covered all farmers. The number of sub-groups was formed in accordance with the magnitude of division blocks in the field. Recently, the sub-group formations were not only based on division blocks in the field or the proximity of farmers' fields, but also on the physical proximity of farmers' houses. Soon after these were established, they started establishing the P3A organization. After the P3A organization was established, the management recruited a pump operator and irrigation workers as employees.

According to the structure of the executive committee, the project implementation was simply undertaken by P3A, OC and the government of Indramayu regency. In this project, farmers were the owners who were expected to work in all activities. The farmers worked under the OC's management, but



they could give inputs to the OC to improve the project implementation. The OC which was actually YBSD, because all OC members came from YBSD, was the body that responsible for the organization and implementation of the project, including technical and social preparation, accomplishing on-field development, providing education and training for beneficiaries, and encouraging farmers to participate in the project.

During the construction stage, the SC and the supervisory committee were the teams that would monitor the project implementation. In accordance with the role of the project structure executive committee, the supervisory committee were tasked to monitor the project directly in the project site and to make reports to the SC as an input to make recommendation for the OC. Monitoring was focused on technical construction, application of irrigated-field farming, and provision of money to supply food for farmers who worked in the construction activities. Therefore, besides giving technical consultation, the supervisory committee also lent machinery tools to the OC to facilitate finishing of the canal construction.

## **PATTERN OF FARMERS' PARTICIPATION AT IRRIGATION CONSTRUCTION**

The term of pattern is to show that farmers' participation does not happen smoothly along the project implementation. It can be high, low, or moderate depending on the factors influencing the situation. In the following discussion, the pattern of farmers' participation will fall into three phases, namely farmers' participation at initial phase, construction phase, and maintenance phase. The discussion of all phases will be on the level of participation, which is different from phase to another and the fluctuation of participation can occur in one phase.

### **Farmers' Participation During Initial Phase**

The initiative to construct pump irrigation actually came from a farmer who was willing to irrigate rain-fed paddy field in Karangtumaritis Village, belonged to farmers of three villages, namely Karangtumaritis, Kertanegara, and Wanakaya. In dry season, some farmers used to pump water from Cipunagara River that flowed across Karangtumaritis Village, particularly the farmers whose field was close to the river. The mobilizer farmer who has large field and mostly far from the river realizes that if big pump is install, benefit would go to all the farmers in the area including himself. It was true that a big water pump was very expensive, but if all the farmers were ready to pay, it would not be a problem at all. The problem was that no one can emerge such an initiative until the emergence of the mobilizer farmer.

In order to get support, the mobilizer began to make efforts by discussing the initiative with his friends and relatives. His endeavor obtained good response from the people close to him. It needs to be noted that it was not easy to construct pump irrigation in the area, as some rich farmers had small-scale business of water pump in which they sell water to irrigate other farmers' field. Theoretically, they would not be happy with the initiative and potentially obstruct the plan. Therefore, the response of support energizes him for further efforts. The mobilizer found that most farmers would support his efforts, since they were eager to build pump irrigation. In order to materialize the initiative, the mobilizer started to look for loan from some institution for irrigation construction. After a sequence of efforts, he found it difficult to get loan he wanted because of some reasons from the funding sources. The mobilizer with his friends almost found themselves surrendered until fortuitously he received information that YBSD can help to look for a soft loan.

The emerging initiative from the mobilizer farmer supported by most farmers is a farmers' indigenous initiative, as it came up from within of the community. The initiative of the farmers, however, needs to confirm whether or not they have strong willingness to construct pump irrigation. In order to know their willingness and commitment, YBSD made meetings with some 60 farmers and formal and informal leaders of the villages. The meetings were also in the frame of inculcating commitment among the farmers and trying to get support from the leaders. During the preparation phase, there were 14 meetings conducted taking place at a farmers' house and in the village government office. This is to make sure that the farmers know what to do with constructing pump irrigation.

At the preparation phase, the farmers' commitment was shown simply by attending the meetings and voicing out their opinions. At first meeting, most of the farmers invited came to the meeting. The farmers were encouraged to attend the meeting because they found it important to know whether their rain-fed field will get irrigated. They knew that their paddy production as well as income would increase significantly, if the land gets water from pump irrigation. High farmers' participation at the initial meetings came from their strong enthusiasm of achieving higher income. As constructing irrigation project needs much time, the farmers needs to participate along the project execution and maintaining it after the project is completed.

The spirit of attending preparation meetings, in fact, decreased gradually from one meeting to the next. It was only 30 farmers attending in the last meetings, or only a half of the first meeting. The farmers who stopped coming to the meetings gave various reasons, such as the meeting place was far away from their home and the time was not suitable for them since they were engaged in other activities on fulfilling other responsibilities. From the interview with farmers, it was also discovered that one big reason for not attending subsequent meetings was because they failed to understand the explanations given by YBSD. However, even though the farmers attended the last meeting declined

significantly, there was no strong evidence that the farmers tried to violate their commitment. There were some reasons beyond the farmers' capability.

In the project conception meetings as part of project preparation, different farmers' opinions came up when they had to decide whether they accepted the loan to finance the project. As the consequence, if the farmers accept the loan, then they have to pay instalment every rice harvest. Some farmers agreed to accept the loan, as they were sure of their capability to pay it. Yet, some farmers did not agree with the loan scheme because it would burden them much in times of payment; otherwise, they hoped that the loan would be a grant, so they would not need to pay for the same. Other farmers agreed with the loan if they could only retain a part of it; they did not agreed with the loan for cement covering on canals which burdened them too much in instalment payments.

After making some meetings, YBSD carried out a feasibility study to know whether the physical condition was suitable and the pump irrigation construction would give benefit to farmers. When YBSD found that pump irrigation construction was feasible, YBSD still needed confirmation whether the farmers would really accept the pump irrigation project. For that reason, YBSD saw it necessary to conduct a one-day workshop involving more farmers. It was noted that more than one hundred farmers from all the three villages: Karangtumaritis, Wanakaya and Kertanegara came to the meeting. In the meeting, the YBSD explained that the pump irrigation project was ready to run but they still gave the farmers a chance to make a final decision: whether they would welcome the project. Attendance of more than one hundred residents in the meetings showed that the farmers were still enthusiastic. This also indicated that when the farmers know that the project is profitable and was supported by many, farmers' participation can be mounted.

Besides attending meetings, another farmers' participation is deciding design of canal network. They suggested that the canal line should be at the border of each farmer so use of land for canal would be distributed. In fact, deciding the project design by farmers was actual participation in planning, which is very crucial in a participatory project. Although the farmers did not design the pump irrigation construction, they had the right to give inputs to the design.

### **Farmers' Participation During the Construction Phase**

Physical construction includes all activities in constructing every part of the irrigation system such as pump house, canals, bridges, divider dams, and other parts related to flowing water to farmers' fields. The most important activity in the physical construction was to build 11,711 meters long of canals to water farmers' lands. The canals constructed consisted of 100 meter long of raised primary canal, 1,800 meter long of secondary canal, 3,871 meter long of tertiary canal, and 6,000 meter long of the smallest canal (*saluran cacing*) (Table 1). Primary canal was

both the widest and the highest canal, from which water flowed for distribution. Secondary canal was the canal having one meter wide and one meter deep; tertiary was the smaller canal with 0.7 meter wide and 0.7 meter deep; and the smallest canals were those that flows water straight to farmers' fields, having 0.3 meter wide and 0.3 meter deep.

Table 1. Types and Length of Canals Built in the Pump Irrigation Project

Types of Canal Built	Length (meter)
Primary canal	100
Secondary canal	1,800
Tertiary canal	3,871
The smallest canal	6,000
Total	11,771

Source: Yayasan Bina Swadaya, 1995.

The main work to be done by the farmers in constructing pump irrigation was building a 100-meter primary canal. This excluded the work of building pump house, covering canals with cement and other different kinds of work, as they would be carried out by laborers. Since there were a lot of work to do, a tractor of the Public Work Office and paid laborers were infused to speed up and accomplish the primary canal construction. Building such canal was deemed huge job for the farmers, as they had to raise the canal of about two meter-high at the upstream end and lower at the other end. This is to allow water flowing fast along all branches of the canal to the end of the network. The water for irrigation would be pumped up from the river nearby onto the upstream end. Meanwhile, the other work such as building pump house, cementing and other different kinds of work, as they would be carried out by laborers.

In the construction activity, a village headman of Karangtumaritis was elected by farmers to organize the work. Constructing the 100-meter long primary canal was deemed the hardest work, as the canal had to be raised to facilitate water flowing. The farmers had to accumulate a lot of soil in order to raise the canal as tall as 2.1 meter with 6-meter wide and 1.5-meter deep. In that activity, the village headman decided to divide work among farmers based on the land size owned. Through this division, a farmer having 0.7 hectare of land had to build a half-meter long raised canal, and a farmers who has 1.4 hectare had to work two-fold, and so on. This work division was considered fair and expected to encourage farmers extending their cooperation. Through the system, the farmers could adjust their own work time, so as not to interfere their daily work. They might do the work themselves or hire laborers to do it. In fact, the division could make farmers work properly.

The first actual construction activity started in July 1989. The work involved 152 days of employment (Table 2), which proceeded everyday

throughout the week. However, the number of the farmers involved was very few. This condition had not showed the real commitment of the whole farmers because they could choose freely when they would accomplish their respective work. Yet, the work progress showed that there were no many farmers who had spirit to work.

In August, the following month, the farmers resumed working which involved 171 working days (Table 2). In the second month, the number of working days of farmers increased, because besides more working days being involved, the same job could proceed for 13 days. Yet, this progress did not occur in the following four month because from September to December 1989, the farmers involved were only seven days of employment.

Table 2. Participation in Working during the Construction Activity

Time of Working Identified	Working day of People
July 1989	152
August 1989	171
September 1989	13
January 1990	700
February 1990	250
April to June 1990	784
Total	2,070

Source: Yayasan Bina Swadaya (1995)

This condition was caused by various reasons; for example, farmers lost their enthusiasm to work as there were other activities that had to be accomplished, such as harvesting and planting. For farmers, working at their farm was considered very important, as income from farming was very crucial for their life. Besides that, the farmers were busy with other activities, such as house building, feast, and other activities related to the village government orders. However, some farmers involved in the activity said that the loss of enthusiasm was also attributed to the work division, which was regarded inconvenient for the large land farmers, as they have to work hard or pay much money for the work.

Although initially the work division applied was adjusted to farmers' activities, it apparently did not create a good sense of togetherness, where they can work hand in hand in the same time. Therefore, when some farmers almost finished their work, others had not even started. This condition showed that the farmers had different orientation about their farming. The situation was not realized by the village headman for months until complaints from farmers came up.

After the working system was changed, the farmers regained new spirit of working. This can be shown by the rise of farmers involved in the construction

activities. In January 1990, farmers working in the primary canal construction jumped to be 700 days of employment, which was the largest number so far. However, most farmers who worked during the month were of the poor who actually have finished their own task under the former system. They were encouraged to work more as they were willing to get more yields from their fields, immediately. The mounting number of days of employment during the month was coming from agriculture labors support, who was motivated to help finish the work, although no lands they had.

The farmers continued working in February the following month, which involved 250 days of employment. Unfortunately, the work then stopped in March because of some reasons. Nevertheless, the farmers resumed working in April until June 1990 with 784 days of employment to finish the raised canal. It showed that their spirit was still strong enough to meet their commitment. Total days of employment carried out by farmers, for the canal alone, was 2,064 days that proceeded for a year. This is regarded an extra ordinary number that can be contributed by the farmers.

After finishing the raised canal job, the farmers started working in other canals such as secondary, tertiary, and the smallest canals (*saluran cacing*). In fact, constructing the canals was deemed easier than making raised one because the farmers worked only on land digging. Nevertheless, after months of canal construction, the farmers' enthusiasm to work slackened in which the poor who were actively involved in the job were much fewer in number. They were expected to be exhausted with the previous job. It was understood that voluntary working could not proceed for long since they had to get income to fulfill their daily needs. For example, they worked for a few days only and abandoned it for a month. This work was ignored as if no more spirit coming up.

However, through spirit fluctuation the farmers finished the construction in November 1992. It was needed to know that the completion of the irrigation construction was mostly carried out by the poor farmers who had small land. This was because they had greater interest to have their field irrigated, in order to get more yield and harvest of rice in near future. The rich farmers, on the other hand, were found to be reluctant to involve themselves in the construction activities since it could undermine their business on renting water pump to other farmers or selling water to irrigate the farmers' fields. This business would automatically terminate when the pump irrigation being constructed was accomplished. To finish the canal construction, additional funds were infused into the project by the local government. These funds were used as an incentive for them in order to finish the rest of the canal construction.

### **Farmers' Participation During Maintenance Phase**

Payment of irrigation service fee experienced long poor performance since the pump irrigation started operation. For example, during the initial operation of

the pump irrigation, the collection of the irrigation service fee was far below the intended target. At the first rice harvest in the rainy season of 1990/1991, irrigation service fee payment could be collected only 39 ton of rice grain (Table 3). In fact, it was only 23 percent of the target and this was obviously insufficient to cover operational costs and loan installment payment. This condition was attributed to the low yield of rice, which made the farmers were not able to pay the right amount. According to the farmers' information, the irrigation water was still insufficient to support rice to grow well. Soil was also not stable to keep water from running off. Besides that, the water had yet to irrigate all parts of the target area. This condition could be overcome in the second or third season, but the farmers did not show their commitment to pay the right amount.

In the sixth season, the service fee collected was only IDR 8.6 million. This amount was still too little from the target, as the management needed IDR 12 million to cover operational cost excluding the costs of engine repairs. However, the payment of irrigation service fee, in fact, has been far better than that in the first season, as it was 72 percent to target. It was believed that the problem of paying the fee was solely about their commitment. Therefore, some efforts were made by YBSD to solve the financial dilemma. This was because the pump might be stopped because of no enough budgets to operate it.

Table 3. Payment of Irrigation Service Fee in First and Sixth Season

	Irrigation Service Fee	Percent to Target
First season	39 ton	23
Sixth season	IDR 8,6 million	72

Source: Yayasan Bina Swadaya (1995)

In order to conquer the problem, the water user association and YBSD made an evaluation over the situation. From the assessment, they decided that to maintain the pump irrigation to keep working, YBSD had to take over the management of the pump operation temporarily. Upon the decision, YBSD would handle all operation of the pump including fee collection from farmers to give more attention to the pump irrigation they had built. However, this did not serve to improve the existing condition as the fee collected remained low that was not enough to finance the pump operation. For that reason, YBSD had to infuse some financial support in order to continue the pump operation. The move of management take over was actually the best decision, since otherwise it could undermine the establishment of farmers' participation efforts. The following year, therefore, after things did not get any better, the YBSD returned the pump irrigation management to the farmers.

Nevertheless, after the pump management was taken over by the farmers again, the amount of irrigation service fee that was collected increased dramatically, even surpassing the established target. This skyrocketed

participation of the farmers' participation was a kind of new awareness of the farmers to be self-reliant. It was identified that encouragement from, and trust given by, YBSD had apparently motivated them to start giving more attention to the pump irrigation sustainability by paying the right amount of irrigation fee. From such progress, the management saw that they could save some money from the fee collected. However, around 1998 and 1999, collection of irrigation service fee from the farmers dropped drastically because of rat infestation which made most farmers failed to obtain a decent harvest. Although no irrigation service fee could be gained, the management of water user association was still able to use some savings to operate the pump. After the rat attack was over, rice production increased again in the following harvest season. The amount of irrigation service fee that was collected also increased before going down again in the following season, for another reasons.

Until 2001, the irrigation service fee collected still covered operational costs although a good number of farmers that paid irrigation fee were very various. Records of payments of irrigation service fee collected from the farmers showed that they paid their irrigation service fee ranging from zero to 100 percent of the mutually agreed-upon amount (386 kilogram per hectare).

There were varied reasons why the farmers found to pay lesser amounts from their fee obligation. Some said that they repaid their fee at lower amount because they sacrificed a piece of land to be contributed for irrigation canal network. This accordingly made their rice production lower than that was usually projected. The reason showed that the farmers that gave land contribution would at last claim their compensation, since it did not happen to all farmers involved in the project. Other farmers said that they paid lesser amounts of their fee because they got no sufficient water. Because of the problem, their rice production was lower than that of other farmers whose rice fields were in the same area. The other farmers gave the excuse that they found it difficult to pay their obligations in full because of very low income.

Key informants said that the trend of underpayment of irrigation fee because the farmers saw that such fee was too much. They said that 286 kilogram per hectare (74 percent of the committed amount) that they paid was enough, as this was the same as the amount collected from farmers in other pump irrigation projects, whether group-owned or private-owned irrigation. Meanwhile, farmers who paid their fee in full also had various reasons for their decision. Some of them said that they paid in full because they found it necessary to continue the pump irrigation without interruptions.

## **CONCLUSION AND POLICY IMPLICATION**

The project implementation suggested that raising farmers' participation was a complicated work, which needed intensive, long-time, and patient efforts.



Throughout the preparation phase, farmers' participation was high, since the initiative and the spirit was maintained up to the start of physical construction. Such participation showed great fluctuation in the period of physical construction; therefore encouraging measures were applied when the farmers' participation went down. The same pattern of farmers' participation also occurred during the maintenance phase, at which farmers found themselves reluctant at initial fee payment. Yet, their participation went up afterwards, at which the farmers could finally keep the pump operating up to now.

There are some important points to be drawn as the conclusion of the farmers' participation in the pump irrigation project in this paper, namely: 1) farmers were available to participate in the project only if it could give them certain benefit. In this case, the benefit would be felt more significant by the poor farmers, so that they were found themselves readier to participate in the project; 2) Farmers' participation in the construction activities could not proceed for long steadily, but it tended to fluctuate. There were some reasons to the said condition, such as: the farmers had other various activities to accomplish, their spirit slackened because of tiresome condition; 3) Farmers' participation could rise significantly, as they did not realize that the consequence would even jeopardize their interest, such as failing to continue their rice farming; 4) Encouragement from community developers was very effective to motivate them to increase their participation.

The conclusion shows that farmers' participation was a complicated affair. Therefore, it is necessary to find ways of rising participation among farmers. Some policy implications that can be suggested for better farmers' participation are as the following: 1) there is a need to know better earlier the condition of the farmers community and their perception precisely before the project was initiated. This was to ensure that the supporting and obscuring residents in the project location would eventually work hand in hand to succeed the project; 2) it is required that community developers anticipate the fluctuation of farmers' participation and prepare good measure to overcome the situation. Therefore, good number and qualified field workers are needed to stay with farmers in order to accommodate the farmers' desire about the construction activities.

## BIBLIOGRAPHY

- Camfens, Hubert. 1999. *Community Development Around the World: Practices, Theory, Research, Training*. Toronto, Buffalo, London: University of Toronto Press.
- Colin, Roland. 1986. *The Institutionalisation of Participation in Development*. In *Participate in Development* (pp.59-120). Cao Tri, Huynh (Ed). Unesco. Bungay, Suffolk: Richard Clay Ltd.

- Cohen, Sylvie. I. 1996. Mobilising Communities for Participation and Empowerment. In Participatory Communication for Social Change (pp.223-248). Jan Servaes; Thomas L Jacobson; Shirley. A White (eds). New Delhi: Sage Publications.
- Oakley, Peter and Marsden, David. 1984. Approach to Participation in Rural Development. Geneve: Published on Behalf of the Ace Task Force on Rural Development (by the) International Labour Office.
- Sharma, Sudesh. K. 1979. People's Participation in Intregated Rural Development. In People's Participation in Development Process. Metha. Ramesh K. Arora (ed). Jaipur: The HCM State Institute of Public Administration.
- Van Riezen, Karsten. 1996. Non Formal Education and Community Development: Improving the Quality. *Convergence*, 29(1), 82-95.
- White, Alastair. 1981. Community Participation in Water and Sanitation: Concepts, Strategies and Methods. International Reference Centre for Community Water Supply and Sanitation. Technical Paper No. 17, June, 1981. The Netherlands: HM Rijswijk.
- Wright, Susan. 1990. Development Theory and Community Development Practice. In Rural Development: Problems and Practices (pp. 41-64). Henry Buller and Susan Wright (eds). Aldershot, Brookfield: Avebury.
- Yayasan Bina Swadaya. 1995. Laporan Evaluasi Akhir Proyek Pembinaan dan Pengembangan Masyarakat Melalui Program Pengembangan Irigasi Terpadu di Kecamatan Haurgeulis, Kabupaten Indramayu, West Java.
- Zakaria, Wan Abbas. 1992. Analisis Kelembagaan Perkumpulan Petani Pemakai Air (P3A) Irigasi Pompa Dalam. Master Thesis, Institut Pertanian Bogor. Indonesia.