

Village Water Supply Management in Pattani Watershed, South Thailand

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Abstract. The purpose of this research was to study future condition of village water supply management in Pattani watershed by applying EDFR technique)Ethnographic Delphi Futures Research(. There were 24 experts. It was collected data by interview and rating scale questionnaire. The first collected data was interview for rating scale questionnaire then the second and the third were collect data by the experts. The final data analysed mean, median and quartile. The results revealed that the management of village water supply management comprised the following were 1(a development of village water supply management model good general concept 2(plan to the development of management in village water supply management 3(the good process of management village water supply management in the Future 4(the approach of management village water supply management 5(a value of the benefits village water supply management 6(the quality of life, 7(the important of the sustainable development of the natural and environment.

1. Introduction

Village water supply management in Pattani watershed, south Thailand, that It is important to create public awareness that not only emphasizes quantity but focuses on quality and participation in the management of village water supply management. It was very important in the future. As well as the efficiency of the village water supply management model the management model is the starting point for managing the village water supply to achieve future goals. With such importance, the village water supply management model in the form of management forms was important to ensure the quality of management. The status of the elements or structures that give the roles and duties that was indicated by taking into account the purpose and principles. And as a guideline in the form of the management of the village water supply in the future has been established was the process of maintaining the sustainability of the village water supply system and control of management activities for the benefit of human beings forever or the creation of the stability of the village water supply]1[. In the management section the business or organization shows from the group of people who come together to work with the structure and

coordination as clearly defined principles with the objective of achieving the goals set. The resources from the business environment consisting of people, money, raw materials, machinery, methods and administrative administration used in high-level management with an emphasis on the formulation of important policies and the plans of senior management. It was a popular term used in public administration or used in government agencies and administration is a group of activities consisting of planning, organization, order of the organization to be utilized and with an important goal of achieving the achievement of the organization's goals effectively and the effectiveness of management will focus on operating according to the policy which was commonly used in business management, while the term manager refers to the person in the organization. There was responsible for the activities of managing resources and other businesses in order to achieve the stated objectives of the organization]2[. And the success of the village water supply management in the attitudes of water users was the water user needs continuous water supply, strong water supply and raw water was good quality, not lacking, having control and maintaining the system to be clean, always being hygienic. There was a clean, fast way to publicize information such as temporary water stops. Notification of pipe breakage, etc., as well as the results of the study]3[that found that village water supply users demanded to increase the standard of water cleanliness due to inadequate water supply problems and turbid water quality problems and there was a need for water to flow 24 hours a day]4[. Stating that the water user needs the water supply to flow 24 hours a day as well. As for the study of]5[that was found water users had similar problems in almost every home, water supply was insufficient to meet the needs of water users. Upstream addresses will get more water than downstream. Because of increasing the number of members too non-systematic management of high water production costs. The system was damaged frequently, the water supply was slow, not paying water thoroughly. There was no meeting or clarification of progress, problems and obstacles to the operation of the members on a periodic basis. The water supply in some villages has been opened and closed for a period of time, but the problem of insufficient water production for other problems encountered in the management of the village water supply, the members of some tap water users lack consciousness in caring for the public by stealing water. The mission was given to perform in the village and went to supervise the follow-up of the intervention activities. It appears that the village water supply management committee had more knowledge and understanding about the roles and duties. They have more operational capabilities and the management of the village water supply has improved water user members are more satisfied with village water supply management. At present, there was a lot of village water supply, which is the village water supply that occurred before transferring the village water supply to the local government organization, which was managed in the form of village water supply committee which was not under the responsibility of the governing body. Local which almost all have no clear management system and audit system causing problems in the management of people in terms of money, materials, and management as a result that people do not receive good water supply services both service and water quality. The study of village water supply management was highly educational. To find solutions to problems and obstacles providing village water management services with efficient management. This study was necessary to accelerate education otherwise, many village plumbing will become a problem. In case of problems and obstacles the village water supply committee cannot solve the problem itself. Because the village water supply business does not have a reserve fund in maintenance and repairing the village water supply system expertise budget and management system. This research used techniques EDFR to manage the village water supply to create the future image of village water supply management in Pattani watershed from the consensus of the expert panel and was a technique that can be applied in policy formulation deciding to find a solution using facts in the past to solve problems in managing village water supply causing. The guidelines for managing the village water supply as a management aimed at solving problems to cover all aspects. Effective and efficient was management by integrating and harmonizing operations. In order to create concrete results in practice on the basis of community and public participation.

2. Methods

Expert groups included executives and staff related to the development of the village water supply management and community leaders. Local water users were stakeholders in the management of the village water supply, totalling 24 people, using a specific method. The researcher determines the qualifications of experts to allocate a group of people to participate in the research or may rely on inquiries from experts in that industry. To propose a list of individuals who should be selected as experts. Step 1 of the research process, based on the conceptual documents, theories and research related to the social conditions of the village water supply users in the Pattani watershed by using content analysis techniques and studying from the analysis papers. Step 2: study qualitative research for the development of Pattani watershed water supply management model in the future by interviewing experts using EDFR techniques)Ethnographic Delphi Futures Research(, 24 people, Round 2 and Round 3, research tools. by means of an EDFR interview to interview experts who have set the interview framework as follows: social conditions in the Pattani watershed area. Model for the development of village water supply management in Pattani watershed in the future the questionnaire was divided into 2 sets, which was the questionnaire used for data collection, 2nd round. After collecting the first round data with the 1st round interview, the researcher has synthesized the issues by trying to maintain the language style of importance and the original expression of the expert to create a query. The nature of the questionnaire was an estimate scale. The quality of the questionnaire was obtained by the researcher interviewed the experts in the round 1, use the method called cumulative summarization technique, which will be interviewed in each topic for experts to edit that summary until satisfactory during the interview. The researcher recorded the entire interview tape and wrote it as an interview report, analysed and synthesized the interview words by using all the interviewed data, classified and grouped. To create a questionnaire collected similar content in the same message, by trying to maintain the original meaning of the interviewer and find the frequency of each trend. The question that was used to collect the data around 3 time was the same. Each question was a very likely trend that was median from 3.50 and above. Therefore, the number of questions was reduced. In addition, the researcher showed the median position, inter-quartile ranges of expert groups and the position of the original answer of each expert in each trend to obtain information for experts to use the decision before answering the questionnaire again. In addition, there were additional reasons, in the event that the original answer was to continue also requesting to show reasons for confirming the original answer collection of data in the data collection cycle. Using the interview form in Pattani watershed, administrative officers related staff of the 24-person in village water supply management was the level 5)1-5(and in the 3rd round was to confirm whether or not it was consistent with others. Data analysis the researcher used the data obtained from the questionnaire in the second round to analyse the median, mode and interquartile range on an individual basis. It was selected the trend that has a median value of 3.50 or more to create as a questionnaire to collect data in round 3 to analyse the median, mode, the difference between the base and the median and the interquartile range for each interpretation. In accordance with]6[gave the median principle of median between 4.50-5.00, indicating that the expert saw that the message that the prospect would occur very much at the median between 3.50-4.49 indicates that the expert sees that the message is likely that that trend will occur. The median between 2.50-3.49 showed that experts see that the message is likely that the trend will occur moderately. The median between 1.50-2.49 indicates that the expert sees that the message is likely that trend will occur, the median between 1.00-1.49 showed that experts saw that the message that the trend was less likely to occur, while the interquartile range. The researchers calculated the difference between quartile 1 and quartile 3, range between the calculated quartile of any trend was less than or equal to 1.50, indicating that the opinions of the expert group on the corresponding trend)consensus(during the quartile range of any trend was greater than 1.50. The opinions of the expert group on the trend were inconsistent and the difference between the mode and the median interpretation. The researcher determined that if the value of the difference between the mode and the median was not greater than 1.0, the comment consistent with the text, any correspondence with the interquartile range of not more than 1.50 and the difference between base and median not more than

1.00 was consistent. In the event that any text had an interquartile range of not more than 1.50, but the difference between the base and the median was over 1.00 or vice versa, it was assumed that the text was not consistent.

3. Results and Discussion

1(The development of village water supply management in Pattani watershed, south Thailand had a good idea of the process of village water supply management in Pattani watershed, south Thailand was the formulation. How to manage the village water supply for utilization determining activities for maintaining and building the potential of sustainability of village water supply and control in the maintenance of the environment in the village water storage area in the Pattani watershed. There for a good process for managing the village water supply in the Pattani watershed in the future. Patterns / methods for managing village water supply in Pattani watershed for sustainable used consistent and highly probable trend was that upstream areas needed to grow more forests, protect the original forest areas to stay on. Divide the workload of the village water supply management committee clearly and appropriately in accordance with]7[.

2(Plan to the development of management in village water supply management planning by defining activities for sustainability of village water supply in Pattani watershed. The most consistent and feasible trend was to create awareness and realize the use of village water supply in a cost-effective manner. The most consistent and possible trend was to train and educate people in various groups in order to contribute to the management of village water supply, various resource development projects. That exist in the area of water resources / upstream for people to manage themselves. In order to had a sense of ownership managed by good governance building faith for service recipients / water users training and education project for various groups of people to participate in the conservation and development of upstream areas create awareness of the use of water resources in a cost-effective manner. Promote the distribution of power to the people in the management service to be known as the owner in accordance with]8[.

2(The good process of management; process for controlling and supervising each village committee the need for control, prevention and treatment of waste pollution arising from the use of water resources has been strictly determined and examined. With the law of sub-district administration organization SAO / municipal and community about the village water authority management committee must had a role in regulating the management of village water supply. In accordance with the study of]8[about the village water supply management model that has studied the appropriate format for managing the village water supply. In the form administered by the public, promoting decentralization to the people because people have the opportunity to manage the plumbing business by the agents that have been selected stable management, flexibility, no steps to perform like the government and the people have a sense of ownership.

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4(The approach of management village water supply management introduction to management guidelines for managing water supply in Pattani watershed for the next 10 years. Determining the

pattern / method of village water supply management in for Pattani watershed sustainable used. The most consistent and possible trend is to reduce the cost of Future village water production the consistent and highly probable trend is that the use of water resources and the environment should be integrated in all aspects, focusing on the sustainable use of water resources and the environment, creating serious responsibilities and using local wisdom in conjunction with using modern technology to control serious waste responsibility for duties assigned according to the workload strictly for sustainability in management. In accordance with the study of [9], the study of the management of the water supply system at Ban Maprang village, La-Aai district, district,]9] province found that the personnel, the management committee, the village water supply administrator or those related to the water supply system must have knowledge and ability in managing each side not too old, not too little. Because the work must be decided in the job must be fast and accurate.

5(A value of the benefits village water supply management; guidelines for managing the utilization value of village water supply in Pattani watershed was a form how to manage the village water supply for utilization determining activities for maintaining and building potential for sustainable village water supply systems. The control in the maintenance of the environment in the village water supply catchment area in Pattani watershed. The formulation / management methods of village water supply in Pattani watershed for sustainable used the most consistent and possible trend was to focus on the quality of the village water supply and the benefits of using water. Relevant agencies measure physical water quality upstream areas consistent with the consistent trend was very possible to educate the villagers nearby and the occupation of the water source / upstream area raise awareness of villagers in the upstream areas, not to eliminate waste or waste by dumping into water sources / upstream and creating awareness for youths and creating conservation networks. Restoring forest areas and degraded environments to better conditions for maximum benefit communities control the environment by themselves. Determine methods and guidelines for controlling the upstream environment]7[

6(The quality of life, defining the sustainability activities of the village water supply in Pattani watershed had the most consistent and feasible trend was that local leaders should play a role in improving the sustainability of water / upstream sources. The project developed the village water supply management model by engaging people create knowledge and understanding with the community. Samples were community leaders, and held a study posture on the actual area of the village water supply operation the most consistent and possible trend was the development and conservation of water resources and the physical environment by engaging people. Restoring the degraded environment to better conditions for maximum benefit campaign to use the village water supply economically. Local leaders should be role models for the general public, was an alternative for people to use the service]8[.

7(The important and sustainable development of the natural and environment was a sustainable development approach that will focus on the value of nature and the environment in the next 10 years, including the needs of people consistent and very feasible trends was for the community to participate common interests and interests. The use of village water supply must be coupled with the display of knowledge as the owner and the beneficiary. The community had village water supply for consumption - throughout the year, and responded to the needs of the community sincerely let the community play a role in caring for nature and the environment study the effects and advantages and disadvantages of village water supply management sampling. The population was the utilization of resources focus on maintaining water quality, not using chemicals in the upstream area. The community participation the most consistent and possible trend is for people in the community to participate in the management themselves. It was raised awareness of homeland love, conserve natural resources and the environment in the community and arrange a study about village water supply management]8[.

4. Conclusion

According to the study, guidelines for management in Pattani watershed were as follows: a development of village water supply management model good general concept, plan to the development of management in village water supply management, the good process of management village water supply, management in the future the approach of management village water supply management, a value of the benefits village water supply management, the quality of life, important of the sustainable development of the natural and environment. The suggestions 1(supporting people and leaders should participate in managing the village water supply, and most importantly, when making a project, everyone should be very involved In particular, the leader group must cooperate together with the village headmen, water users sub-district administration organization members 2(support the use of village water supply efficiently for sustainable and fair use by managing the existing water supply to be fully utilize for consumption3(in practice, in order to be in accordance with the develop pattern, there should be good and correct operations according to academic principles.

5. References

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