Decision Support System in the Selection of Community Facilitators in WISMP-2 Activities Using the Multi Factor Evaluation Process (MFEP) Method

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Abstract

Community Assistance Personnel (TPM) act as facilitators, motivators and can help with problems that exist in water-using farmer associations, TPM is also expected to improve the ability of irrigation managers, water-use farmers and other irrigation beneficiaries in implementing irrigation management effectively, efficiently . Then a trained assistant is needed, has good skills and knowledge about irrigation and is responsible for carrying out the tasks. This will certainly complicate the BAPPEDA in determining the right choices according to the criteria they want. Decision Support System with MFEP method is the right method to solve the problem of selecting community assistants with many criteria such as candidate identity, understanding written tests, motivation / dedication and expectations. The Multi Factor Evaluation Process (MFEP) method of decision making is done by giving subjective and intuitive consideration to factors that are considered important. The resulting system provides an alternative choice in finding community assistants that match the desired criteria.

Keywords: Industrial Disruption Permit, MFEP, Investment Services and Integrated Licensing Services

1. Pendahuluan

The various problems and development challenges faced by the government today such as the quality of Human Resources, which are generally still low, affect the ability to manage Water Resources. The lack of public knowledge in managing irrigation makes the conditions of service and infrastructure provision decrease in quantity and quality which will affect the improvement of people's welfare. The WISMP-2 (Water Resources and Irrigation Sector Managament Program) is one of the programs developed to improve the capacity to manage Water Resources and increase agricultural productivity in irrigated land. One of the efforts to empower irrigation managers in WISMP-2 activities is realized through the selection of Community Assistance Personnel (TPM).

The TPM acts as a facilitator, motivator and can help with problems in water-using farmer associations, TPM is also expected to improve the ability of irrigation managers, water-use farmers and other irrigation beneficiaries in implementing irrigation management effectively, efficiently and sustainably by involving participation the community in the implementation of irrigation systems, considering the WISMP-2 program is very strategic in order to empower the organization and increase in irrigation management, it needs a trained assistant, has good skills and knowledge regarding irrigation and is responsible for carrying out the tasks. This will certainly complicate the Regional Development Planning Agency (BAPPEDA) in making the right decisions in accordance with the criteria they want. Therefore, in this study a decision support system was used that could be used to assist the BAPPEDA in determining quality Community Assistance (TPM).Decision Support System (SPK) is used as an alternative system application that helps in making decisions to determine Community Assistance Personnel. This Community Assistance Selection program uses the Multi Factor Evaluation Process (MFEP) method.

In the MFEP method, decision making is done by giving subjective and objective consideration of factors that are considered important. These considerations are in the form of Weighting System for the Multi factors involved and are considered important. Decision support systems built are expected to help solve problems in determining Community Assistance Personnel in accordance with the desired criteria.

2. Metode Penelitian

Community Assistance Personnel (TPM) in principle are people who have an ability or expertise to help facilitate and assist Water Use Farmers Association (P3A). Assistance is basically an effort to include the community in developing various potentials so that they can achieve a better quality of life. Besides that, it is directed to facilitate decision-making processes related to community needs, build capacity to increase income, carry out business-scale businesses and develop participatory planning and implementation activities.

According to M Reza Okaviana and Rani Susanto (in the KOMPUTA journal: 2014). The Multi Factor Evaluation Process (MFEP) is a quantitative method that uses weighting systems in multi-factor decision making. These considerations are in the form of weighting the multifactor involved and are considered important. The first step in the MFEP method is to determine the factors that are considered important, which then compares these factors so that the order of factors is based on their importance from the most important, the second most important and so on. In MFEP, first all criteria that are important factors in making consideration are given the appropriate weighting. The same steps are taken towards the alternatives that will be selected, which can then be evaluated in relation to these consideration factors. In the application of the MFEP method there are several steps that must be done, as for the steps that exist in the MFEP method, namely:

1. Determine factors that are considered important.
2. Providing comparisons for these factors, so that we get the most important factors, the second most important and so on.
3. Provide the weighting value for each factor, where the total weighting value must be equal to 1.
4. The process of calculating the evaluation weight value which is the multiplication of the factor weight value with the factor evaluation value, then calculates the total weight of the evaluation which is the sum of all the results of the evaluation weight value.

Calculation of evaluation weight values:
$$Nbe = Nbf \ X \ Nef$$
Information:
Nbe : Evaluation Weight Value
Nef : Factor Evaluation Value
Nbf : Value of Factor Weight
Calculation of total weight evaluation:
$$Tbe = Nbe1 + Nbe2 + ... Nben$$
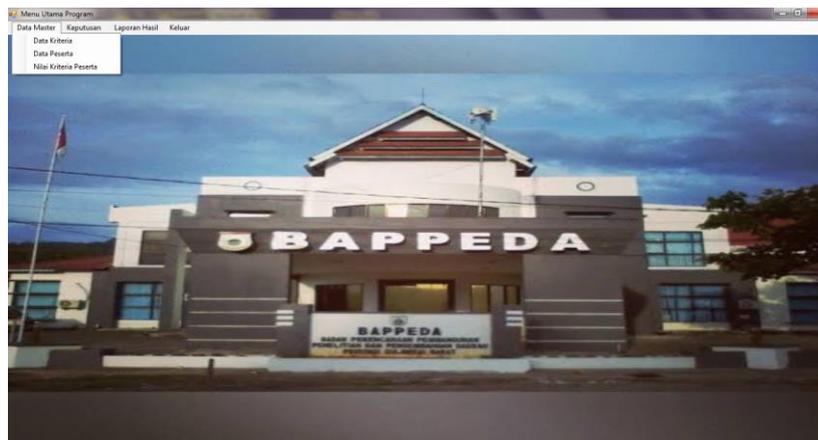Information:
Tbe : Total Evaluation Weight
Nbe : Evaluation Weight Value

3. HASIL

A system that you want to run, is in desperate need of complete equipment to run well in its implementation. To make an application for the Decision Support System in the Selection of Community Facilitators in WISMP-2 Activities Using the Multi Factor Evaluation Process (MFEP) Method The BAPPEDA case study in Deli Serdang District requires hardware and software specifications.

This page will appear for the first time when the admin enters the first page of the system, while the function of this page is the place where the user to log in to the application page.

Gambar.1 Tampilan *Form Login*

Gambar.2 Tampilan *Form* Menu Utama

Gambar.3 Tampilan *Form* Data Kriteria

Gambar.4 Tampilan *Form* Data Peserta

Gambar.5 Tampilan *Form* Data Nilai Peserta

Gambar.6 Tampilan *Form* Proses Perhitungan

Gambar.7 Tampilan *Form* Hasil Nilai Peserta

BADAN PERENCANAAN PEMBANGUNAN DAERAH
Jl Mawar No.2 Lubuk Pakam 20514Kabupaten Deli Serdang
Telp (061)-7951422, Fax (061)-7951422

Laporan Pemilihan Tenaga Kerja Pendamping Masyarakat

No	No Peserta	Nama Peserta	NilaiK1	NilaiK2	NilaiK3	NilaiK4	Total	Rangking	Keterangan
1	a02	Suparno	81.6	90.3	88.3	89	88.6	Rangking - 1	Lulus
2	a03	Nurmansyah	81	90	88.3	86.6	87.8	Rangking - 2	Lulus
3	a12	Edward Agusman Srgh	78.3	83	85.6	85	83.7	Rangking - 3	Lulus
4	a04	Ahmad Fauzi Damanik	84	81.3	82.3	81	81.7	Rangking - 4	Lulus
5	a10	Mahmud Haitami	76.6	81.6	82.6	81	81.2	Rangking - 5	Lulus
6	a05	Alden Butar-Butar	84.3	82.3	79.3	79.3	81.0	Rangking - 6	Lulus
7	a07	Herianto	83.6	79	83	79.3	80.5	Rangking - 7	Lulus
8	a14	Subroto	81	77.6	81.6	81.6	79.9	Rangking - 8	Lulus
9	a08	Rusli Purba	82.3	78	81.6	79.6	79.7	Rangking - 9	Lulus
10	a06	Benyamin Sembiring	82.6	78.3	78.3	78.6	78.8	Rangking - 10	Lulus
11	a09	Fatimah	71.6	77.6	80	81.6	78.6	Rangking - 11	Lulus
12	a15	Ariadi	73.3	77.3	80	81	78.5	Rangking - 12	Tidak Lulus
13	a01	Hendrik Ginting	73.3	78.6	81.3	77.3	78.4	Rangking - 13	Tidak Lulus
14	a13	Ernawati	55	43.3	58.3	58.3	52.0	Rangking - 14	Tidak Lulus
15	a11	Adhari Syahputra	65	38.3	61.6	51.6	50.1	Rangking - 15	Tidak Lulus

Total Page No.: 1+   Zoom Factor: 100%

Gambar.8 Tampilan Laporan Keputusan

4. KESIMPULAN

Based on the previous description and discussion, some conclusions can be drawn, including the following:

1. Decision support systems using the Multi factor Evaluation Process (MFEP) method can help and facilitate decision making in selecting Community Facilitators.
2. By implementing a computerized system, the decision making process in selecting Community Facilitators will be faster and more accurate.
3. Decision support systems using the MFEP method will produce the information needed.

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BIOGRAFI PENULIS

Beni Andik, ST, M.Kom pria kelahiran Medan 01 Oktober 1974 ini merupakan dosen pengampu mata kuliah Kalkulus, Sistem Jaringan Komputer, Organisasi Komputer, Sistem Basis Data, Matematika Diskrit, Aljabar Linier dan Algortma Pemrograman. Tamat S1 Universitas Sumatera Utara Bidang Teknik Mesin dan S1 STMIK Triguna Dharma Bidang Sistem Komputer, Tamat S2 di Universitas Putra Indonesia YPTK Padang Bidang Teknologi Informasi.

Rini Kustini, SS, MS, merupakan dosen Tetap STMIK Triguna Dharma dengan mengampu mata kuliah Bahasa Inggris, ESP dan EFB, Tamat S1 Universitas Islam Sumatera Utara Bidang Bahasa dan Sastra Inggirs dan Tamat S2 di Universitas yang sama bidang Bahasa dan Sastra Inggirs.

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