

RESOURCES ALLOCATION MODEL USING PARTICIPATORY POVERTY ASSESMENT (PPA) BASED ON PEOPLE'S POOR WIFE IN SRIMARTANI REGION INDONESIA

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ABSTRACT

This paper applied Analytical Hierarchy Process to design the resources allocation model which has specific pattern. This method extends a characteristic matching and clustering approach for region grouping that occur together in different population. This research expands the idea of resources allocation models in Srimartani Region based on both development and prosperity focus.

Keywords : *resources allocation models, prosperity, Srimartani Region, Analytical Hierarchy Process*

1. INTRODUCTION

The world's leading poverty recovery system, a best practice of its day with its great history, growth, and sales figures to prove it. Mr Toyoda could have returned to Japan and implemented such a system in his own factory. But he did not. Why? Probably because he could not afford to replicate the infrastructure due to a lack of human, financial, material and physical resources. And he may not have been aligned with the values and methods of batch-and-queue mass production, or thought that significantly higher quality must be achieved, and the only way to do this was through relentless process improvement. So, through a constructive combination of factors ± constraints, dissatisfaction with leading production methods, vision, and critical thought processes ± he and his colleagues created a new way to produce automobiles

The task of resources allocation planning is a matter of the use of subjective techniques to create perspective factors which may influence the result, the application of appropriate judgement, determining portion of resources to each Srimartani region. Once strategic data have been accumulated, they must be transformed into information which will enable strategists to determine objectives and formulate resources allocation model.

An important point for local government to remember as they make decisions is the effect of those decisions on the next time. That is, when action is taken, the estimation may need to be adjusted to reflect the impact of that action. If the estimation is not adjusted, it may become misleading if it is used as a basis for making other decisions.

These decisions, while made in the present, relate to future condition. The role of strategic planning in Srimartani region, therefore, is to reduce un-eligible and to aid in decision making. In strategic decision situations, un-eligible can never be eliminated all together. Ultimately, decision makers attempt to quantify the un-eligible which remains. Compounding the problem of reducing un-eligible is the fact that the amount of un-eligible is increasing as the poverty becomes more complex.

Hence, every month, the Srimartani local government makes decision without knowing what will eligible in the next month or year. Resources from central government to be allocated without certainty as to what happen will be; new resources is ordered despite un-eligible about people need, and invest-

ments are made without knowing what outcome will be. Local government is always trying to make estimates of resources allocation in the future in each Srimartani region with intuition.

On the other hand, several studies argue that above view is outdated and not applicable to the realities poverty of current condition. This phenomena is full of the risk in the future, so this research use PPA and AHP to create resources allocation model. From such observations, it would appear that people participated to create in poverty criteria, such as PPA, are more susceptible to make decision on resources allocation, so will attack from poverty. The first make prosperity planning design on each region, such as allocation design.

2. RESOURCES ALLOCATION PROCEDURE

2.1. Data collection

As in data collection, a key element in data primer is to understand as seen by focus group discussion (FGD). From this viewpoint, behavioral perceptions and brainstorm that same meanings can be identified and eliminated. The main goal of FGD is to identify the criteria for poverty from the viewpoint of stakeholder's perception. The selection of the potential criteria and evaluation of the poverty criteria is conducted by a committee of experts that are comprised of seven professionals from "dusun" practice and three from the local government. The five fundamental concepts are:

1. Specify condition of poverty the wants and expectations of the people that we interact with.
2. Identify criteria of poverty understanding what people do and why they do it.
3. Interact behave in a manner that minimizes or eliminates criteria in the poverty performed by others.
4. Pull recognize that people appreciate under many different perceptions which require us to adjust or approach often.
5. Perfection systematically and conclude the criteria of poverty.

2.2. Data Execution

Group discussion behaviors employ the process of construction to several criteria with one goal of improving performance over time. The fundamental strategic in group discussion is systematically analyzed in order to identify and eliminate criteria which not essential. The application of FGD in the behavioral context is supported by the same process analysis and improvement tools as used in lean perception. To understand how the results may be achieved, requires two phases. The first is a model of the validity and consistency FGD itself and the second is one describing analytical hierarchy processes (AHP). Figure 1 is a composition of phases and subcomponents described in our earlier articles. The first is to be designed to determine what factors affect the coverage of poverty in each region. We expect that some cause will have a positive and significant effect on the poverty. Second phase use AHP procedure, not with the intention of resources allocation for planning purposes in each Srimartani region, but as a means of monitoring criteria's data and comparing it with an expected outcome.

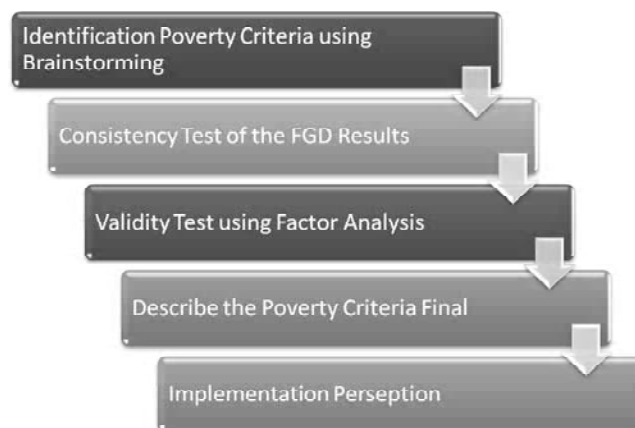


Figure 1 Focus Group Discussion Process

Thus the notion of AHP comprising poverty value criteria, less their acquisition costs, will be key success factors and the value proposition. Allocation model introduces the notion that if all value criteria to be successful it is essential that the individual objectives of all stakeholders are met (or optimised after negotiation) as well as those of the local government need.

As the model suggests, allocation model is an integral part of the value strategy and poverty recovery process. This phase in which we suggested that value is created by identifying and estimating result (such as benefits and costs) and the combinations of organizational knowledge and learning, together with local government structures that facilitate response and delivery. Essentially, this requires management of resources and relationships. An important influence is the impact of the value and cost drivers, which in turn are the important strategic and operational relationship criteria influencing value delivery and cost structures. Figure 2 offers a detailed view of the model using AHP. Analytic Hierarchy Process (AHP) is applied to determine the weights of evaluation criteria (**Kabir and Hasin, 2012**). Allocation model is a value chain perspective of profitability, and productivity objectives. Relative comparison refers to criteria-based developed for operational use within AHP. Criteria weighted component include priority execution. Evaluation matrix comprises the obvious criteria together with one local government's goal.



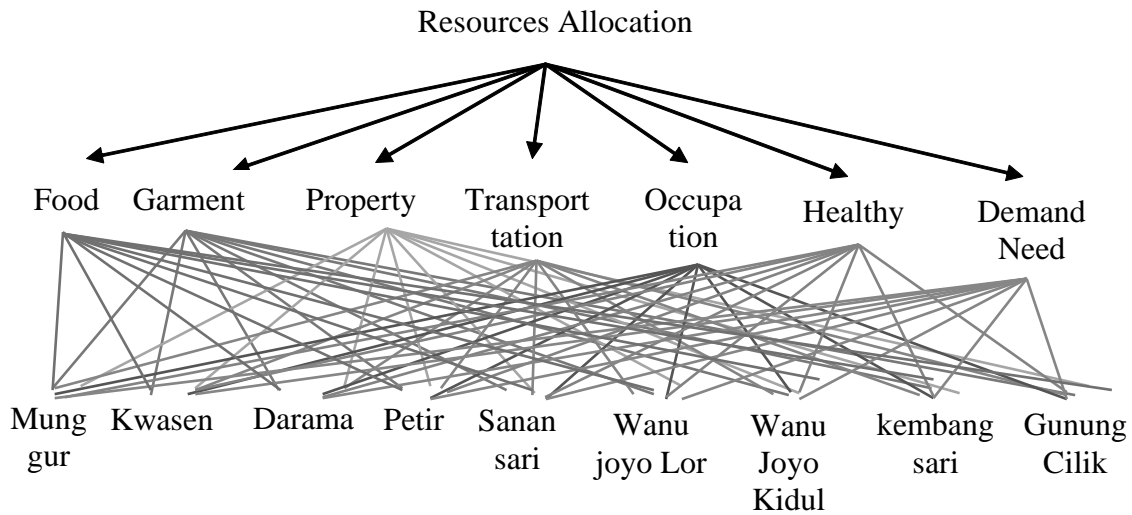
Figure 2 Analytical Hierarchy Process

3. DISCUSSION

3.1 Relative Comparison

Eight criteria were studied through a survey by FGD and other data from Bureau of Statistical Center (BPS) Indonesia Government. The statistical package SPSS 11.0 for windows was used for data analysis. Data validation and reliability test were conducted. The tests revealed that, all measure of the eight criteria studied could be added up into AHP. The eight criteria are (1) food, (2) garment, (3) property, (4) transportation, (5) job status, (6) education, (7) healthy, dan (8) demand strength.

The present study adapted the AHP methodology to the measurement of resources allocation. The region chosen for the study was the region in Srimartani Yogyakarta Province Indonesia. The resources allocation problem was structured into a two-level hierarchical form (as shown in Figure 3). The first level – the “criteria-poverty level” – addressed the relative importance of various criteria poverty in defining resources allocation. Stakeholders were asked to compare pairs of criteria poverty (for example, “food” versus “garment”) and to indicate whether they felt that one dimension was “equal to”, “more important than” or “less important than” another dimension (See Table 1). The second level of the hierarchy – the “choice level” – compared the performance of in each region (in this case, “dusun” in the Srimartani region) with respect to the criteria poverty. The stakeholder were asked to state their preference for the region in a pair-wise manner on a nine-point relational satisfaction scale.



For the “choice level” of the hierarchy, the “dusun” were compared with each other to determine relative satisfaction with each “dusun” with respect to each of the poverty criteria. Eight pair-wise comparison matrices were constructed at this level – one for each of the poverty criteria. The cell values in the matrix denoted as a_{ij} represent the stakeholder’s judgments. The remaining cells of the pair-wise comparison matrix were placed with the inverse of the respondents’ corresponding value (denoted as $1/a_{ij}$).

Table 1 Comparing matrix of each poverty criteria

	Kriteria	Pangan	Sandang	Papan	Kepemilikan alat transportasi	Status Pekerjaan	Taraf Pendidikan	Pemenuhan Kesehatan	Daya Beli	Jumlah	Mean
1	Pangan	1,00	5,00	3,00	0,14	0,20	1,00	1,00	0,14	11,49	1,42
2	Sandang	0,20	1,00	0,33	0,14	0,33	1,00	0,20	0,14	3,35	0,40
3	Papan	0,33	3,00	1,00	5,00	3,00	1,00	3,00	0,14	16,48	2,04
4	Kepemilikan alat transportasi	7,00	7,00	0,20	1,00	7,00	5,00	7,00	0,14	34,34	4,28
5	Status Pekerjaan	5,00	3,00	0,33	0,14	1,00	1,00	0,20	0,14	10,82	1,33
6	Taraf Pendidikan	1,00	1,00	1,00	0,20	1,00	1,00	5,00	0,14	10,34	1,28
7	Pemenuhan Kesehatan	1,00	5,00	0,33	0,14	5,00	0,20	1,00	0,14	12,82	1,58
8	Daya Beli	7,00	7,00	7,00	7,00	7,00	7,00	7,00	1,00	50,00	6,13
		22,53	32,00	13,20	13,77	24,53	17,20	24,40	2,00	149,64	18,70

3.2 Criteria Weighted

The product of the respondent’s importance judgments for each service dimension obtained in step relative comparison was noted, and the fifth root of the product was then calculated to obtain the criteria weights. The rows in the pair-wise comparison matrix were then added together. The weights were then normalized by computing the sum of each row and then dividing each row by the corresponding sum. The same computation procedure was performed for the stakeholder’s satisfaction ratings of the “dusun”. These were then converted into satisfaction scores or priorities (See Table 2).

Table 2 Criteria weighted matrix

Kriteria	Pangan	Sandang	Papan	Kepemilikan alat transportasi	Status Pekerjaan	Taraf Pendidikan	Pemenuhan Kesehatan	Daya Beli	Jumlah	Mean
Pangan	0,044	0,156	0,227	0,010	0,008	0,058	0,041	0,071	0,617	0,077
Sandang	0,009	0,031	0,025	0,010	0,014	0,058	0,008	0,071	0,227	0,028
Papan	0,015	0,094	0,076	0,363	0,122	0,058	0,123	0,071	0,922	0,115
Kepemilikan alat transportasi	0,311	0,219	0,015	0,073	0,285	0,291	0,287	0,071	1,552	0,194
Status Pekerjaan	0,222	0,094	0,025	0,010	0,041	0,058	0,008	0,071	0,530	0,066
Taraf Pendidikan	0,044	0,031	0,076	0,015	0,041	0,058	0,205	0,071	0,541	0,068
Pemenuhan Kesehatan	0,044	0,156	0,025	0,010	0,204	0,012	0,041	0,071	0,564	0,071
Daya Beli	0,311	0,219	0,530	0,508	0,285	0,407	0,287	0,500	3,047	0,391
	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	8,000	1,000

Sources: Table 1 were calculated

3.3 Evaluation Matrix

The results obtained in step criteria weighted were then synthesized. The overall satisfaction score was obtained by multiplying the weights with the satisfaction scores. All the respondents' overall satisfaction scores were then averaged to obtain a mean overall satisfaction score for each "dusun". The mean overall satisfaction score was used to rank the "dusun" (See Table 3). The "dusun" with the highest score was regarded as the first "dusun" which was allocated resources by local government.

Table 3 Evaluation matrix

Keterangan	Pangan	Sandang	Papan	Kepemilikan alat transportasi	Status Pekerjaan	Taraf Pendidikan	Pemenuhan Kesehatan	Daya Beli	Jumlah	Mean
Munggur	0.2252	0.0574	0.2214	0.4936	0.1777	0.1624	0.0148	1.1918	2,5443	31,80%
Kwasen	0.0231	0.0489	0.1271	0.2631	0.0797	0.0808	0.0402	0.6169	1,2799	16,00%
Daraman	0.0731	0.0199	0.2974	0.1849	0.0573	0.0303	0.0342	0.3196	1,0166	12,71%
Petir	0.0554	0.0292	0.0439	0.1987	0.1055	0.1089	0.0297	0.2320	0,8033	10,04%
Sanansari	0.0519	0.0096	0.0608	0.0438	0.0146	0.0121	0.0847	0.2007	0,4782	5,98%
Wanujoyo Lor	0.1170	0.0304	0.0200	0.1156	0.0319	0.0466	0.0443	0.1598	0,5656	7,07%
Wanujoyo Kidul	0.0176	0.0072	0.0904	0.0563	0.0107	0.0165	0.1466	0.0743	0,4195	5,24%
Mojosari - Kembangari	0.0383	0.0082	0.0251	0.1031	0.0316	0.0623	0.0522	0.1479	0,4688	5,86%
Gunung Cilik - Wanujoyo	0.0153	0.0164	0.0360	0.0926	0.0208	0.0212	0.1175	0.1041	0,4239	5,30%
Jumlah	0.6170	0.2271	0.9222	1.5515	0.5298	0.5412	0.5641	3.0472	8.0000	1.0000

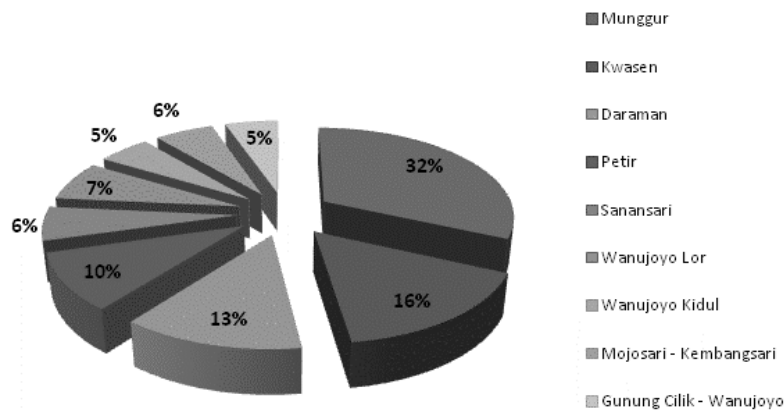


Figure 3. Resources Allocation Model Result

Proposed model has the desirable characteristic of incorporating other objectives that may be very crucial in the allocation of resources. Degree of Dusun Gunung Cilik and Dusun Wanujoyo kidul was found the least important among all. Dusun Petir, Daraman, and Wanujoyo Lor were in the middle. Dusun Munggur and Kwasen were found significant among stakeholders. Dusun Munggur were found the first dusun to get resources allocated by government, which consider the food, same as based on garment, property, transportation, job status, and demand strength. Whereas consider education only, so Dusun Daraman was found significant among stakeholders. Based on healthy, Dusun Wonojoyo Kidul was found the most important among all.

3.4 Consistency Ratio Analysis

It was necessary to check the consistency of each respondent's tradeoff judgments. This was measured by a consistency index (denoted as CI), equivalent to $\frac{[\lambda_{max} - n]}{[n - 1]}$ where n stands for] number of poverty criteria and λ_{max} denotes the largest Eigen value (Cow and Luk, 2005). Eigen values are a set of scalars associated with a linear system of equations. They are the square roots of judgment values, and a consistency index was derived by Saaty (1980) to check for any inconsistent judgments. The CI was computed for each pair-wise comparison matrix. A CI value of 0.10 was adopted as the allowable upper limit. Only those samples with a CI value equal to or smaller than 0.10 were accepted for analysis (See Table 4).

Table 4 Consistency ratio computation

	Kriteria	Pangan	Sandang	Papan	Kepemilikan alat transportasi	Status Pekerjaan	Taraf Pendidikan	Pemenuhan Kesehatan	Daya Beli	Jumlah	λ
1	Pangan	0,077	0,142	0,346	0,028	0,013	0,068	0,071	0,054	0,798	10,352
2	Sandang	0,015	0,028	0,038	0,028	0,022	0,068	0,014	0,054	0,268	9,447
3	Papan	0,026	0,085	0,115	0,970	0,199	0,068	0,212	0,054	1,728	14,992
4	Kepemilikan alat transportasi	0,540	0,199	0,023	0,194	0,464	0,338	0,494	0,054	2,305	11,887
5	Status Pekerjaan	0,386	0,085	0,038	0,028	0,066	0,068	0,014	0,054	0,739	11,163
6	Taraf Pendidikan	0,077	0,028	0,115	0,039	0,066	0,068	0,353	0,054	0,800	11,833
7	Pemenuhan Kesehatan	0,077	0,142	0,038	0,028	0,331	0,014	0,071	0,054	0,755	10,704
8	Daya Beli	0,540	0,199	0,807	1,358	0,464	0,474	0,494	0,381	0,755	31,791
	Jumlah	1,738	0,908	1,522	2,671	1,625	1,163	1,721	0,762	12,109	11,483

CI	0,0747096
RI	1,42
CR	0,0526124
Kesimpulan	valid

Table 4 concluded that the consistency ratio less than 10%. Criteria weighted matrix and allocation model are evaluated when consistency ratio is known and feasible on logical consistency. So that, the research's result should be valid and related to proposed model.

4. CONCLUSION

The results showed that eight major issues in resources allocation. They are (1) food, (2) garment, (3) property, (4) transportation, (5) job status, (6) education, (7) healthy, dan (8) demand strength. Dusun Munggur is the first class using 32% resources allocation. The second class are Kwasen dan Daraman using 16% and 13%. The third class is placed only Dusun Wanujoyo Lor with 10% resources allocation, and others such as Sanansari (6%), Wanujoyo Kidul (5%), Mojosari dan Kembangsari (6%) dan Gunung Cilik and Wonojoyo (5%).

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