

The Performance Measurement Instrument of Forest Management Units in KPHP Unit XVI Jeneberang I Work Area, South Sulawesi: A Case Study in Indonesia

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Abstract: Performance indicators are quantitative and/or qualitative measures that describe the level of achievement of a predetermined target or goal. Measurement of the level of achievement or performance measurement of FMU management aims to see how far the implementation of forest management is at the stall level. In measuring the performance of the FMU, an instrument is needed as a tool to evaluate the level of achievement of forest management carried out by the FMU. This research was conducted to formulate an instrument that can be used in measuring the performance level of FMU, especially in KPHP Unit XVI Jeneberang I. The results showed that there were 3 categories of performance measurement, namely input performance, process performance, and output performance. Overall, there are 27 KPIs with 6 KPIs for input performance, 11 KPIs for process performance and 10 KPIs for output performance.

Keywords— Forest Management Unit, Performance, Input, Process, Output.

I. INTRODUCTION

The origin of the Forest Management Unit (FPU) was formed because forest management in Indonesia often causes various problems. People who always consider forests as open access areas, so FMUs are present as a solution. The establishment of FMUs is expected to run according to its main function and formation, namely, to be able to manage forests efficiently and sustainably [1]. Production Forest Management Unit (KPHP) Unit XIV Jeneberang I which was established based on the Decree of the Minister of Environment and Forestry of the Republic of Indonesia, Number: SK.665/MENLHK/SETJEN/PLA.0/11/2017 concerning the Determination of Areas for Protected Forest Management Units and Management Units Production Forest of South Sulawesi Province [2] with an area of 76,962.00 ha. KPHP Jeneberang consists of Protected Forest covering an area of 30,054.00 ha, Limited Production Forest covering an area of 20,497.00 ha, and Production Forest covering an area of 26,411.00 ha. KPHP Unit XVI Jeneberang I was designated as a Production FMU in accordance with the dominant forest function (Article 6, PP.6 of 2007). KPHP Unit XVI Jeneberang I is expected to be a model for other FMUs because KPHP Unit XVI Jeneberang I is the first FMU (model) built in South Sulawesi Province [3].

KPHP Unit XVI Jeneberang I in its development process is also inseparable from the problems that have been discussed previously. FMU development is a process of strengthening the FMU, starting from the determination of the FMU by the Minister of Forestry to the capacity and capability of the FMU. The level of development achievement can be seen from the performance that has been carried out by the FMU in accordance with its roles and functions. There are two principles that must be met in measuring the performance of the FMU, namely by looking at the effectiveness of the management and the efficiency of the FMU's organizational management. Effectiveness is closely related to the objectives of establishing the FMU (Production, Conservation, Protection) and the FMU management process (forest management, utilization, rehabilitation, protection, and conservation). Meanwhile, the efficiency of the FMU organization is closely related to the development model that is built and the support of available resources [5].

The achievement level measurement or management performance measurement of FMU aims to see how far the implementation of forest management is at the stall level. In addition, the purpose of measuring the



performance of the FMU is to see whether the formation of the FMU at this time has proceeded according to the initial purpose of its formation. In measuring the performance of FMUs, an instrument is needed as a tool to evaluate the level of achievement of forest management carried out by FMUs. Measuring FMU performance is also useful to find out whether the management of the FMU that has been carried out is appropriate and has achieved the targets that have been made previously.

II. LITERATURE REVIEW

A. Forest Management Unit

The Forest Management Unit (FMU) is a solution that is expected to solve and normalize forestry problems that have been faced by Indonesia from the past to the present. Minister of Forestry Regulation: P.6/Menhut-II/2009 [6] concerning the Establishment of Forest Management Unit Areas in article 1 number 4 which explains that FMU is the determination of forest management areas in accordance with their main functions and designations that can be managed efficiently and sustainably. FMU is a regional concept of forest management in accordance with its main function in order to maintain sustainable forest sustainability [7].

Based on PP No. 6 of 2007 no. PP No. 3 of 2008, FMUs have the following duties and functions:

1. Organizing forest management which includes:
 - a. Forest management and preparation of forest management plans;
 - b. Forest utilization;
 - c. Use of forest area;
 - d. Forest rehabilitation and reclamation;
 - e. Forest protection and nature conservation;
2. Elaborating on national, provincial and district/municipal forestry policies in the forestry sector to be implemented;
3. Carry out forest management activities in its territory, starting from planning, organizing, implementing and monitoring as well as controlling;
4. Carry out monitoring and assessment of the implementation of forest management activities in its territory;
5. Opening investment opportunities to support the achievement of forest management objectives.

B. Performance

Performance is a description of the achievement of a work program or activity in a policy in achieving or achieving the target of goals, as well as the vision and mission of an organization that is in the strategic planning of an organization [8]. This means that performance is an action or work that can be seen, observed, and is expected to be able to achieve the things that are expected and predetermined (aim). Performance can also be said to be a combination of skills, effort, and opportunities that can be assessed and seen from the work obtained during a certain period in doing the work [9].

According to Sari et al (2018), performance is the result of work achieved by an employee in carrying out his duties and responsibilities. Basically, the notion of performance can be interpreted in various ways. Some experts view it as the result of a process of completing work, while others understand it as a behavior necessary to achieve the desired result. Performance can also be described as the level of achievement of the implementation of an activity in realizing the company's goals, objectives, mission, and vision contained in the formulation of a company's strategy planning. The assessment is inseparable from the activities of processing inputs into outputs or assessments in the process of formulating policies, programs, activities that are considered important and affect the achievement of goals and objectives [10].

C. Performance Measurement

Performance measurement is a cycle of work management system [11]. Work management is a continuous communication process carried out based on a partnership between an employee and his direct provider. According to Nisa (2019), implementation of performance measurement systems in organizations often does not understand Performance Measure, Performance Measurement, and Performance Measurement System [12].

Akbar (2018) mentioned that Performance Measure is defined as a matrix that shows the efficiency and effectiveness of an action. Performance Measurement is defined as a process to quantify the efficiency and effectiveness of an activity [13]. Meanwhile, Performance Measurement System is defined as a structured set of matrices (not random) and procedures used to quantify the efficiency and effectiveness of an activity [7].

Moehariono (2010) revealed that the most basic and basic aspects of measuring the performance of a company, organization, or agency are [14]:

1. Determining the goals, targets, and strategies in accordance with the goals, vision, and mission of an organization.
2. Establishing the performance indicators and performance measures that lead indirectly to performance appraisal for performance indicators that directly lead to performance measurement in the form of key successes and key performance indicators.
3. Measuring the level achieved from the goals and targets of the organization, analyzing the results of the performance measurement that can be applied by comparing the level of achievement of the goals and targets of an organization.
4. Conducting performance evaluations by making and making decisions that have good quality, giving an overview or results to the organization concerned by knowing how big the level of success is and evaluating at what stage the organization takes.

III. RESEARCH METHODOLOGY

A. Research Method

This study uses qualitative and quantitative methods with a descriptive approach. Qualitative method is a method of collecting descriptive data in the form of speech, writing, and behavior of the respondents [15]. Qualitative data from this study were obtained through in-depth interviews with respondents and experts as well as observations at the research location. The initial step taken is to formulate and identify the objectives of the FMU which will then be used to formulate several KPIs, which later the formulated KPIs will be used in determining the achievement of the performance level of KPH Jeneberang I. Quantitative data are data obtained in the form of numbers that can be calculated and processed. Quantitative data in this study was obtained through the results of weighting KPIs through Validity Test and Reliability Test using AHP (Analytic Hierarchy Process) scoring.

B. Study Site and Participants

This research has been carried out at KPHP Unit XVI Jeneberang I, Gowa Regency, South Sulawesi Province, starting from field observations to data collection through in-depth interviews with respondents and several experts. The location selection was carried out purposively with the consideration that the formulation of the FMU performance instrument at the KPHP Unit XVI Jeneberang I had never been done before.

C. Instrument

- 1) Field observation, namely data collection through surveys/direct observations in the field.
- 2) Interviews, namely data collection by conducting in-depth interviews. In-depth interview is a method of extracting in-depth data and information which is carried out to several selected key figures. Key figures interviewed were the Head of KPH Jeneberang I, Section Head, community leaders, lecturers, and non-governmental organizations (NGOs).
- 3) Literature study, namely collecting secondary data with research in order to obtain related supporting data and information.

D. Data Analysis

Data analysis was carried out qualitatively and quantitatively. The data collected was analyzed using several stages, namely:

1) Formulation of Key Performance Indicator (KPI)

The determination of KPIs is based on the company's objectives. Company objectives, strategies, and KPIs, are grouped based on the perspective used. In this study, the perspective used is Input, Process, and Output.

Table 1. Formulation of KPI

Performance	Key Performance Indicator
Input	
Process	
Output	

2) Validity Test

Validity test is one of the instruments used to test or determine the level of accuracy or accuracy in a measurement [16]. The validity test can be used in various types of research, one of which is questionnaire-based research. The questionnaire is valid if the questions given are able to explain the purpose of the measurements made based on the questionnaire [17].

In this study, the questionnaire used will first measure the level of validity by comparing the value of r count with the value of r table. If r count > r table, then the question is declared valid. But if r count = r table, then the statement is declared invalid.

3) Reliability Test

Dewi (2018) states that the reliability test is used to determine the consistency of the measuring instrument in a measurement. If the measuring instrument used is reliable and remains consistent despite repeated measurements, then the measuring instrument is feasible to use. In this study, the measuring instrument used was a questionnaire [16]. Measurement of reliability is done by comparing the results of answers with other questions or measuring the correlation between answers to questions. This test is carried out using the Cronbach's Neglect statistical test (α) with the SPSS application where a variable is declared reliable if the Cranbach's alpha value (α) > 0.60.

4) Analytical Hierarchy Process (AHP)

The results of the subsequent KPI formulation will be weighted using AHP analysis. The weighting is done by doing a pairwise comparison between the general perspective and the comparison of each KPI that is used to measure the performance level of the FMU. Pairwise comparisons can be seen in table 2 as follows:

Table 2. Pairwise Comparison Matrix

	A1	A2	A3	A4
A1				
A2				
A3				
A4				

Source: Saaty (1993) [18]

This pairwise comparison matrix is built based on the perception or opinion of the rater by comparing between criteria or choices. The value used is to assess the priority of KPIs that have been formulated and have been tested for validation based on Saaty. What we are usually familiar with is the AHP rating scale, an assessment that reflects the expression of an expert's assessment of the level of importance, as shown in Table 3.

Table 3 Interest Intensity Assessment



Value	Definition
1	Both criteria are equally important
3	One criterion is slightly more important than the others
5	One criterion is very important compared to the other
7	One criterion is clearly more important than the other criteria
9	One criterion is absolutely more important than the other criteria
2,4,6,8	Value between the two when in doubt

Source: Saaty (1993) [18]

Test the consistency of the hierarchy with the following provisions:

CR < 0, then it is considered an error

CR = 0, then it is considered very consistent

CR > 0-1, then it is considered consistent

CR > 1, then it is considered inconsistent

If it does not meet these requirements, the assessment must be repeated.

In the AHP method, the consistency value in the calculation is divided into two, namely the Consistency Index (CI) and Consistency Ratio (CR) sections. The CI value is the maximum lamda minus the number of criteria divided by the number of criteria minus one. The following is the formula for calculating CI.

$$CI = \frac{\lambda maks - n}{n - 1}$$

Consistency Ratio (CR) is the inconsistency limit set by Saaty. CR is formulated as a comparison of the Consistency Index (CI) with the value of the Random Index (RI) which is tabled in Table 8. This value depends on the order of the matrix n. Thus, CR can be formulated as follows:

$$CR = CI/RI$$

Table 4. Random Index (RI) Value

N	1	2	3	4	5	6	7	8	9	10
R.I	0	0	0.58	0.9	1.12	1.24	1.32	1.41	1.45	1.49

IV. FINDING AND DISCUSSION

KPHP Unit XIV Jeneberang I is directed to optimize the production functions and services of forest resources and the environment, both wood production, non-timber production, and environmental services, through main activities in the form of utilization, community empowerment, and environmental conservation which is one unit of activity. Thus, it is hoped that it can provide direction for forest and area management, which involves all parties in the effort to develop KPHP Unit XIV Jeneberang I in South Sulawesi Province.

Through the Long-Term Forest Management Plan (RHPJP) of KPHP Unit XIV Jeneberang I, the vision initiated by the formation of this FMU is "To Realize the Potential Management of HHK-HT (timber forest products from plant products), NTFPs, and Nature Tourism Based on Local Wisdom in an Effort Improving Community Welfare and Independent FMU". Then in realizing this vision, there are 4 missions compiled by KPHP Unit XIV Jeneberang I, namely:

1. Consistently apply forestry technical principles and company concepts in forest management.

2. To mobilize and develop the synergy of stakeholders in the management, development, and conservation of forest resources.
3. Produce various benefits and services of forest resources to support the increase of community income, local revenue, and state deviation.
4. Internalize the aspirations and interests of the region and local communities in forest management without compromising the sustainability of forest resource ecosystems.

In realizing the vision and mission above, KPHP Unit XIV Jeneberang I prepares a work plan that will be carried out for a period (2018-2028), including:

1. Periodic inventory of management areas and forest management
2. Forest utilization in certain areas
3. Community empowerment
4. Guidance and monitoring in KPHP areas that already have a utilization permit
5. Implementation of rehabilitation in areas outside the permit
6. Fostering and monitoring the implementation of rehabilitation and reclamation in areas that already have permits
7. Implementation of forest protection and nature conservation
8. Organizing coordination and synchronization between permit holders
9. Coordination and synergy with relevant agencies and stakeholders
10. Provision and capacity building of human resources
11. Provision of funding
12. Database development
13. Rationalization of managed areas
14. Management plan review
15. Investment development

A. The formulation of KPI

KPIs are formulated by companies or organizations to measure or compare performance to meet the strategic and operational objectives of the company or organization. In KPHP Unit XIV Jeneberang I, KPIs were formulated together to measure the performance that had been achieved. The following are some of the KPI formulations that have been formulated based on the input performance variables, Process Performance, and Output performance.

1) Input Performance

Input performance is largely determined by other factors outside the FMU. Input performance is also referred to as a prerequisite for the operation of the FMU. There are 7 KPIs on input performance, namely:

- a. Government policies both from the center and from the regions that can support all forest management activities are well implemented.
- b. The organization formed based on the Governor's Decree that makes the FMU strong foundation to carry out its main duties and functions.
- c. The implementation of the boundaries of the area carried out in the KPHP Unit XIV Jeneberang I work area and its implementation involving several government agencies, permit holders (private sector) and the community.
- d. Potential forest resources owned such as KPHP Unit XIV Jeneberang I have certain areas to be cultivated, wood potential, non-timber forest product potential, and environmental service potential.
- e. Availability of sufficient manpower/HR to carry out the duties and functions of the FMU as well as a list of supporting competencies and certificates.
- f. Source and adequacy of KPHP Unit XIV Jeneberang I funds for FMU operations.
- g. Percentage of the availability of facilities and infrastructure owned by KPHP Unit XIV Jeneberang I to support the activities carried out in fulfilling their main duties and functions.

2) Process Performance

Process performance is the operational performance of the FMU starting from the preparation of the plan document to the utilization of the forest. Process performance can also be defined as the actions taken by

the FMU in meeting the targets to be achieved (its main tasks and functions). There are 13 KPIs on Process performance, namely:

- a. Forest management plan in the form of Long- and Short-Term Forest Management Plan (RPHJP and RPHJPD) documents that have been compiled and legalized containing clear and complete information and a Business Plan (BP) which is prepared to support forest management activities.
- b. Synchronization of RPHJP with district spatial plans (RTRWK) and provincial spatial plans (RTRWP) as well as overall permit holder management plans.
- c. Forest area management by dividing forest area into blocks, plots and sub-plots based on ecosystem, type, function, and forest use plan.
- d. Percentage of reports on forest rehabilitation activities carried out by KPHP Unit XIV Jeneberang I.
- e. Reports on the implementation of forest protection activities (Patrols) and support from the community/other stakeholders.
- f. Report on the implementation of forest area utilization activities in accordance with the prepared forest management plan.
- g. Utilization of forest area carried out by KPHP Unit XIV Jeneberang I so as to provide income for FMU.
- h. Recognition of forest area boundaries by conducting socialization to the community regarding area boundaries to gain recognition and agreement with the community.
- i. Community involvement in and around forest areas in forest management activities (Social Forestry Program)
- j. Identify, mediate, and resolve conflicts by accommodating the interests of the parties fairly.
- k. Community capacity building program in forest management and can be practiced by local communities.
- l. Monitoring and evaluating the implementation of forest management activities for permit holders in their territory.
- m. Investment development by conducting outreach and promotion to get cooperation with various partners (investors).

3) Output Performance

The performance of outputs, results, benefits, and impacts is also called the period of independence of the FMU where the output is the result obtained by the KPHP Unit XIV Jeneberang I in carrying out its main duties and functions. This performance consists of three criteria, namely ecological, economic, and social sustainability. There are 14 KPIs on output performance, namely:

- a. Map of the declining trend of critical land in the KPHP Unit XIV Jeneberang I work area.
- b. Map of land cover development trends in the KPHP Unit XIV Jeneberang I work area.
- c. Utilization of environmental services carried out by local government/private/community parties that are developed sustainably without being over-exploited.
- d. Data on forest gifts that occurred in the KPHP Unit XIV Jeneberang I work area.
- e. Data on the percentage of forest area management carried out in accordance with forest functions.
- f. Increasing FMU independence through regional public service agencies, non-tax state revenues, and user fees, as well as increasing income through forest utilization.
- g. Adequacy of FMU funds and income in operational activities of forest management using forest areas.
- h. Continuously increasing employment opportunities and sources of income for communities living around the forest.
- i. Number of post-harvest industries in the forestry sector from forest products carried out/involving communities around the forest.
- j. Data on increasing economic activity in the area around the FMU.
- k. Data on the number of encroachments that occurred in the KPHP Unit XIV Jeneberang I work area.
- l. Data on the number of illegal loggings in the KPHP Unit XIV Jeneberang I work area.
- m. Data on the number of forest resource conflicts in the KPHP Unit XIV Jeneberang I work area.
- n. Data on the establishment and operation of institutions in the form of group organizations /cooperatives /rules of the game/ agreements in forest management.

B. Validity tes

Validation test is carried out using SPSS version 20 program. Validation test is carried out to see the level of validity of a data or instrument to be used. The number of samples (n) in this study were 20 respondents using a significance level of 5%. If r count is greater than r table, then the item is declared valid. On the other hand, if the r count is smaller than the r table, then the item is declared invalid. The size of the r table is 0.3598. The results of the validation test on KPIs for input performance, process performance, and output performance can be seen in Table 5.

Table 5. Validity test results on Input Performance

No	Question	KPI Code	r count	r table (df=n-2,a5%)	Information
1	Government policies from both central and regional levels that can support all good forest management activities	KP1	0.458	0.359	Valid
2	The organization formed based on the Governor's Decree that makes the FMU strong foundation to carry out its main duties and functions	KPI2	0.373	0.359	Valid
3	Implementation of regional boundaries carried out in the KPHP Unit XIV Jeneberang I work area and its implementation involving several government agencies, permit holders (private sector), and the community	KPI3	0.111	0.359	Invalid
4	Potential forest resources owned such as KPHP Unit XIV Jeneberang I have certain areas to be cultivated, potential for timber, non-timber forest products, and environmental services	KPI4	0.429	0.359	Valid
5	Availability of sufficient manpower/HR to carry out the duties and functions of the FMU as well as a list of compensation and supporting certificates	KPI5	0.419	0.359	Valid
6	Source and adequacy of KPHP Unit XVI Jeneberang I funds for FMU operations	KPI6	0.478	0.359	Valid
7	Availability of Facilities and Infrastructure owned by KPHP Unit XVI Jeneberang I to support the activities carried out in fulfilling their main duties and functions	KPI7	0.705	0.359	Valid

Source: Data processing (SPSS ver.20)

Table 5 above shows the results of the validity test on input performance. It can be seen that there is 1 invalid KPI with the result of r-count 0.111 (KPI3) and there are 6 valid KPIs. The implementation of regional boundaries carried out in the KPHP Unit XIV Jeneberang I work area and its implementation involving several government agencies, permit holders (private), and the community were declared invalid because of the issuance of SK.362/MENLHK/SETJEN/PLA.0/5/2019 Regarding Changes in Forest Area Designation, KPHP Unit XVI Jeneberang I has not carried out demarcation of the new area boundaries and is still using the old area boundaries. Furthermore, the validity test on Process Performance can be seen in Table 6 below.

Table 6 Validity Test Results on Process Performance

No	Question	KPI Code	r count	r table (df=n-2,a5%)	Information
1	Forest management plan in the form of Long- and Short-Term Management Plan (RPHJP and RPHJpd) documents that have been prepared and ratified containing clear and complete information and a Business Plan (BP) which is prepared to support forest management activities	KPI8	0.605	0.359	Valid
2	Synchronizing the RPHJP with the Regency Spatial Plan (RTRWK) as well as the overall permit holder management plan	KPI9	0.517	0.359	Valid
3	Forest area management by dividing forest area into blocks, plots, and sub-plots based on ecosystem, type, function, and forest use plan	KPI10	0.504	0.359	Valid
4	Percentage of reports on forest rehabilitation activities carried out by KPHP Unit XIV Jeneberang I	KPI11	0.471	0.359	Valid
5	Reports on the implementation of forest protection activities (Patrols) and support from the community/other stakeholders	KPI12	0.545	0.359	Valid
6	Report on the implementation of forest area utilization activities in accordance with the prepared forest management plan	KPI13	0.374	0.359	Valid
7	Utilization of forest area carried out by KPHP Unit XIV Jeneberang I to provide income for FMU	KPI14	0.578	0.359	Valid
8	Recognition of forest area boundaries by conducting socialization to the community regarding area boundaries to gain recognition and agreement with the community	KPI15	0.319	0.359	Invalid
9	Community involvement in and around forest areas in forest management activities (Social Forestry Program)	KPI16	0.570	0.359	Valid
10	Identify, mediate, and resolve conflicts by accommodating the interests of the parties equitably	KPI17	0.220	0.359	Invalid
11	Community capacity building program in forest management and can be practiced by local communities	KPI18	0.624	0.359	Valid
12	Monitoring and evaluating the implementation of forest management activities for permit holders in their territory	KPI19	0.580	0.359	Valid
13	Investment development by conducting outreach and promotion to get cooperation with various partners (investors)	KPI20	0.702	0.359	Valid

Source: Data Processing (SPSS Ver.20)

In Table 6, the validity test on the KPI Process, it can be seen that 2 KPIs have an r-count value less than the r-table, namely KPI15 where the recognition of forest area boundaries by conducting outreach to the community regarding area boundaries to achieve recognition and agreement with the community is not valid because has an r-count value of 0.319 and KPI17 where identification, mediation and conflict resolution by accommodating the interests of the parties fairly is invalid because it has an r-count value of 0.220. Furthermore, the validity test on the Output Performance KPIs can be seen in Table 7 below.

Table 7 Validity Test on Output Performance

No	Question	KPI Code	r _{count}	r _{table} (df=n-2, a5%)	Information
1	Map of the declining trend of critical land in the KPHP Unit XIV Jeneberang I work area	KPI21	0.180	0.359	Invalid
2	Map of land cover development trends in the KPHP Unit XIV Jeneberang I work area	KPI22	0.667	0.359	Valid
3	Utilization of environmental services carried out by local government/private/community parties that are developed sustainably without being over-exploited	KPI23	0.567	0.359	Valid
4	Data on forest gifts that occurred in the KPHP Unit XIV Jeneberang I work area	KPI24	0.488	0.359	Valid
5	Data on the percentage of forest area management carried out in accordance with forest functions	KPI25	0.443	0.359	Valid
6	Increasing FMU independence through regional public service agencies, non-tax state revenues, and user fees, as well as increasing income through forest utilization	KPI26	0.506	0.359	Valid
7	Adequacy of FMU funds and income in operational activities of forest management using forest areas	KPI27	0.323	0.359	Invalid
8	Continuously increasing employment opportunities and sources of income for communities living around the forest	KPI28	0.574	0.359	Valid
9	Number of post-harvest industries in the forestry sector from forest products carried out/involving communities around the forest	KPI29	0.300	0.359	Invalid
10	Data on increasing economic activity in the area around the FMU	KPI30	0.601	0.359	Valid
11	Data on the number of encroachments that occurred in the KPHP Unit XIV Jeneberang I work area	KPI31	0.160	0.359	Invalid
12	Data on the number of illegal loggings in the KPHP Unit XIV Jeneberang I work area	KPI32	0.595	0.359	Valid
13	Data on the number of forest resource conflicts in the KPHP Unit XIV Jeneberang I work area	KPI33	0.603	0.359	Valid
14	Data on the establishment and operation of institutions in the form of group organizations /cooperatives /rules of the game/ agreements in forest management	KPI34	0.704	0.359	Valid

Source: Data Processing (SPSS Ver. 20)

Table 7 shows that there are 4 invalid KPIs, namely KPI21 where the trend map for critical land decline in the KPHP Unit XIV Jeneberang I working area with an r-count value of 0.180, KPI27 where the

adequacy of KPH funds and income in forest management operational activities through the use of forest areas by r-count value 0.323, KPI29 where the number of post-harvest industries in the forestry sector from forest products carried out/involving communities around the forest with an r-count of 0.300, and KPI31 where data on the number of encroachments that occurred in the working area of KPHP Unit XIV Jeneberang I with r-count count by 0.160.

C. Reliability Test

The results of the validity test that have been carried out previously show that of the 34 KPIs there are 27 KPIs with valid information. So, the next step is to do a reliability test. The reliability test was carried out on KPIs that were declared valid with the aim of seeing the extent to which the questionnaire used was reliable and remained consistent if repeated measurements were made. Table 8 is the result of the reliability test on 27 valid KPIs.

Table 8 Tabel 8 Hasil Uji Reliabilitas

Cronbach's Alpha	N of Items
0.864	27

Source: Data Processing (SPSS Ver. 20)

A question or item will be declared reliable if the answer to a question is always consistent. Table 8 shows the results of the reliability test where the result of Cronbach's alpha is 0.864. While the r-table value is 0.359 so it can be stated that the questionnaire used has a good level of reliability to measure research data.

D. Priority and Consistency Ratio

Priority determination and looking at the consistency ratio of each KPI on each performance variable is done by looking at the results of the expert assessment test calculations. The purpose of the consistency test is to test the consistency of the comparison between the overall criteria and the entire hierarchy of the performance variables, namely input performance, process performance, and output performance, as well as their KPIs. Table 9 shows the Priority and Consistency Ratio of the Comparison of Performance and KPIs.

Table 9. Priority and Consistency Ratio

Performance	Weight	CR	KPI	Local Priority	Global Priority
Input	0.250	0.180	KPI1	0.066	0.016
			KPI2	0.076	0.019
			KPI3	0.116	0.029
			KPI4	0.179	0.045
			KPI5	0.218	0.054
			KPI6	0.345	0.086
Process	0.300	0.190	KPI7	0.030	0.009
			KPI8	0.031	0.009
			KPI9	0.040	0.012
			KPI10	0.049	0.015
			KPI11	0.063	0.019
			KPI12	0.077	0.023
			KPI13	0.098	0.029
			KPI14	0.115	0.034
			KPI15	0.128	0.039
			KPI16	0.164	0.049
			KPI17	0.206	0.062

Output	0.450	0.190	KPI18	0.030	0.013
			KPI19	0.035	0.016
			KPI20	0.044	0.020
			KPI21	0.059	0.027
			KPI22	0.074	0.033
			KPI23	0.088	0.039
			KPI24	0.120	0.054
			KPI25	0.148	0.067
			KPI26	0.172	0.077
			KPI27	0.231	0.104

Source: Data Processing (AHP)

Normalization on the pairwise comparison composite matrix on each average performance is consistent. This is because the CR results obtained do not exceed 1.00, according to the provisions if $CR < 0$, then it is considered an error, if $= 0$, then it is considered very consistent if $> 0-1$, then it is considered consistent and if > 1 , then it is considered inconsistent. If it does not meet these requirements, then the assessment must be repeated in the AHP method.

V. CONCLUSIONS

The results showed that the formulation of the FMU performance instrument found 3 dimensions. Then, the result of the first validity test is the input performance dimension which is a prerequisite for the operation of the FMU. In this dimension, 7 KPIs are formulated with validation results 6 KPIs being declared valid and 1 KPI being declared invalid. Next is the process performance dimension which is defined as the actions taken by the FMU in meeting the targets to be achieved. In this dimension there are 13 KPIs that have been formulated, but 11 KPIs have been declared valid and 3 KPIs have been declared invalid. The last is the output performance dimension which is the result obtained by KPHP Unit XIV Jeneberang I in carrying out its main duties and functions. This dimension consists of three criteria, namely ecological, economic, and social sustainability. In the output performance dimension, there are 14 KPIs with the results of 10 KPIs being declared valid and 4 KPIs being declared invalid. The results of the reliability test on 27 KPIs, namely the Cronbach's alpha value of 0.864 and when compared with the r-table value, the results are reliable so that the instrument formulated has a good level of reliability for measuring FMU performance. In the normalization calculation performed using the AHP matrix, the CR value obtained for the input dimension is 0.180, the CR value for the process performance dimension is 0.190, and the CR value for the output performance dimension is 0.190. These values show consistency. This is because the CR results obtained do not exceed 1.00, according to the provisions if $CR < 0$ then it is considered an error, if $= 0$ then it is considered very consistent, if $> 0-1$ is considered consistent and if > 1 it is considered inconsistent.

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