

Performance Assessment of Existing Farmers' Association for Water Users

Meftahol Fauzi^{1*}, Pitojo Tri Juwono^{2*}, M. Bisri³, Ery Suhartanto⁴

Abstract:

This research intends to assess the existing performance of farmers' association for water users (P3A). Commonly, the activity of irrigation management is started from the stages of design, construction until operation and maintenance, it is needed the collaboration and participation of P3A that is spreading in the Malang Regency. The methodology consists of literature collecting and data analysis. Data that are used in this research is secondary data that influence the performance of farmers institution performance (P3A) in Malang Regency. The assessment of performance uses the questionnaires form that is answered based on the response from farmers group which are as the respondents for every question that will be given the scores regarding to the question. The result shows that 30% of P3A institutions is developing category, however, 70% is developed category.

Keywords: performance, assessment, water users, farmers

Introduction

At this time, with the publication of Indonesian Laws No 17, 2019 about water resources, Government Rule No 20, 2006 about irrigation, and the specific rule related with farmers association for water users (p3A), there has been published the Ministry Rule of General Work No. 33/PRT/M/2007 about the empowerment guidelines of P3A/GP3A/IP3A. The association of P3A is an institution of irrigation management that becomes a forum for water users' farmers in an irrigation service area that is formed by water users' farmers democratically. The P3A manages and maintains the tertiary irrigation network (Hakuzimanaa and Masasib, 2020) and to find more independent solution to the irrigation water problem that appears in farm enterprise level (Liones et. Al, 2022). According to Mulyaningsih et.al (2018), the role and participation of farmer are influenced by farmer personality, intensity of empowerment, the availability of agricultural information (Abuzar et.al, 2017), and the support to the physical environment and socio-economic. The P3A is becomes as the main thing in development and management of participative irrigation system (PPSI) (Castelli et.al, 2018). The irrigation management is started from the stages of design, construction until operation and maintenance (Ahyadi et.al, 2018) and there is needed the participation of P3A in every part of management.

The institution management has not been optimal to carry out the re-organization mainly for young generations that are very potential as the sustainable form. The quality of farmer humans' resources is very low, so the organization is difficult to be independent and the institution of P3A is not active in management of irrigation. The irrigation system that is managed by farmer is facing some challenges including the competing demands for water (Hidayat et.al, 2022), variability and climate change, and transformation of socio-economic (Kurniawan, 2023). In the irrigated agricultural area, the existence of good irrigation network becomes as one of the important factors in determining the success of agricultural plantation (Yuldashev et.al, 2020). At this time, the condition of irrigation network in Indonesia is about $\pm 50\%$ experiences damage due to the limitation of government human resources that carry out the activity of operation and maintenance (OP) and rehabilitation of irrigation network (Idris et.al, 2019). The active role of P3A is as the reference for the operation and maintenance activity of irrigation that is carried out together. On the contrary, if the participation of P3A

¹ Doctoral Program in Department of Water Resources Engineering, Faculty of Engineering, University of Brawijaya, Jl. MT Haryono No 167 Malang, Indonesia, email: lht.fauzi@gmail.com (Corresponding author)

² Department of Water Resources, Faculty of Engineering, University of Brawijaya, Jl. MT Haryono No 167 Malang, Indonesia, email: pitojo_tj@ub.ac.id (Corresponding author)

³ Department of Water Resources, Faculty of Engineering, University of Brawijaya, Jl. MT Haryono No 167 Malang, Indonesia, email: mbisri@ub.ac.id, erysuhartanto@ub.ac.id

⁴ Department of Water Resources, Faculty of Engineering, University of Brawijaya, Jl. MT Haryono No 167 Malang, Indonesia, email:erysuhartanto@ub.ac.id

in irrigation network is not formed, so the maintenance of irrigation network is only carried out by the staff of OP (Muharni et.al 2018).

Commonly, the activity of irrigation management is started from the stages of design, construction until operation and maintenance, and there is needed collaboration and participation of P3A in every process of governance stage. There is participation as a proof that P3A has the sense of belonging, so there is appear the responsibility in primary, secondary, and tertiary irrigation network (Ratnasari et.al, 2018). The participation come supports the government effort through the activity of physical facility rehabilitation for maintaining the value of IKSI so it does not go down far (Cindy et.al, 2022). This research intends to carry out the assessment of the existing performance of water users' farmers. The result of this research is very needed for building the scientific model (Sudiarti et.al, 2024 and Pentewati et.al, 2024) of farmers institution performance.

Materials and Method

Research Location

This research is conducted in the irrigation areas that have farmers' association for water users (P3A) that is spreading in Malang Regency (Figure 1).



Figure 1. Administration Map of Malang Regency

However, the names of farmers' association of water users (P3A) that are as the research objects are spreading di some Malang Regency areas as follows:

- a) Sido Makmur, Tawang Argo Village, Karangposo District, in the Irrigation Area of Sumber Tlebung with the area is 34 ha.

- b) Sumber Makmur, Banjarsari Village, Ngajum District, in the Irrigation Area of Sumber Wedus with the area is 106 ha.
- c) Makmur Glanggang, Glanggang Village, Pakisaji District, in the Irrigation Area of Sumber Wedus with the area is 128 ha.
- d) Gemah Ripah, Ngantru Village, Ngantang District, in the irrigation area of Banu with the area is 85 ha.
- e) Tirta Tani, Pandanrejo Village, Pagak District, in the irrigation area of Pandanrejo with the area is 117 ha.
- f) Dewi Ratih, Sukoanyar Village, Pakis District, in the irrigation area of Tumpang with the area is 191 ha.
- g) Pasir Jaya, Sumberpasir Village, Pakis District, in the irrigation area of Sumber Pasir with the area is 90 ha.
- h) Langgeng, Ngebruk Village, Poncokusumo District, in the irrigation area of Sumber Pring with the area is 128 ha.
- i) Rukun Tani, Ngroto Village, Pujon District, in the Irrigation Area of Ngroto with the area is 56 ha.
- j) Tani Rasa, Senggreng Village, Sumberpucung District, in the irrigation area of Rowo Klampok with the area is 52 ha.

Methodology

The methodology in this research consists of literature collecting and data analysis. Data that is used in this research is secondary data that is influenced the performance of farmers' society institution (P3A) in Malang Regency.

Category of Performance Assessment for P3A

Performance assessment is carried out by using questionnaire form and then to be answered based on the response of the farmers' group which is as the respondent that every question will be given the score regarding to the type of question.

The result of score from every question is numbering so there is obtained the result of lowest and highest assessment. The category of performance assessment for P3A consists of 4 assessment categories that are has not developed (BB), is developing (SB), developed (B), and independent (M). Table 1 presents the category of performance assessment for P3A.

Table 1. Category of Performance Assessment for P3A

Assessment Result	Category of assessment
< 22.50	has not developed
22.50 – 55.82	under development
55.82 – 89.16	developing
89.16 - 100	independent

Results and Discussion

The performance index assessment of P3A institution is an important thing that can become as participatory benchmarking of the activity of irrigation system development and management (PPSI) in an irrigation area based on the Ministry Rule of PUPR No. 30/PRT/M/2015.

The factors are influencing the implementation of the activity of irrigation system development and management (PPSI) such as the institutions of farmer, government, and public. In this research uses the research objects that are assumed as the most dominant factor which has not had the regulation in tertiary irrigation governance. It is different with the government role that so far is as the decision maker for the cycle move of irrigation governance. However, the private enterprise as the government balancer independently has become as pilot in irrigation governance that is by giving the stimulus as the partnership together with the farmer through the building pattern.

The assessment due to the consensus is carried out in 10 institutions of farmers' society (P3A) in Malang Regency. The assessment includes construction and empowerment implementation that consists of organization aspect, technical aspect, and financing aspect. However, it has not produced the increasing of status and institutional criteria towards independence. Table 2 until 12 present the existing performance index of P3A in Sido Makmur, Sumber Makmur, Makmur, Gema Ripah, Tirta Tani, Dewi Ratih, Pasir Jaya, Langgeng, Rukun Tani, dan Tani Rasa.

Table 2. Existing Performance Index of P3A Sido Makmur

Tawang Argo Village, Karangploso District		
Variable	Indicator	Weight (%)
Administration aspect (X_1)	Legality ($X_{1.1}$)	30
Financing aspect (X_2)	IPAIR ($X_{2.1}$)	10
Technical aspect (X_3)	Facility & equipment of Irrigation ($X_{3.1}$)	20
Total of performance index		60

Source: Assessment result due to the consensus by Dinas PU SDA Malang Regency

Based on Table 2 regarding the existing performance index at P3A Sido Makmur, the assessment of the administrative aspect ($X_1=30$) and technical aspect ($X_3=20$), while the financing aspect ($X_2=10$) with a total performance index of 60% is developing category.

Tabel 3. Existing Performance Index of P3A Sumber Makmur

Banjarsari Village, Ngajum District

Variable	Indicator	Weight (%)
Administration aspect (X ₁)	Legality (X _{1.1})	25
Financing aspect (X ₂)	IPAIR (X _{2.1})	5
Technical aspect (X ₃)	Facility & equipment of Irrigation (X _{3.1})	25
Total of Performance Index		55

Source: Assessment Result Due to the consensus by Dinas PU SDA Malang Regency
Based on Table 3 regarding the existing performance index at P3A Sumber Makmur, the assessment of the administrative aspect (X₁=25) and the technical aspect (X₃=25), while the financing aspect (X₂=5) with a total performance index of 55% is under development category.

Tabel 4. Existing Performance Index of P3A Makmur

Glanggang Village, Pakisaji District		
Variable	Indicator	Weight (%)
Administration aspect (X ₁)	Legality (X _{1.1})	30
Financing aspect (X ₂)	IPAIR (X _{2.1})	10
Technical aspect (X ₃)	Facility & equipment of Irrigation (X _{3.1})	25
Total of Performance Index		65

Source: Assessment result due to the consensus by Dinas PU SDA Malang Rege

Based on Table 4 regarding the existing performance index at P3A Makmur, the assessment of the administrative aspect (X₁=30) and the technical aspect (X₃=25), while the financing aspect (X₂=10) with a total performance index of 65% is developing category.

Table 5. Existing Performance Index of P3A Gema Ripah

Ngantru Village, Ngantang District		
Variable	Indicator	Weight (%)
Administration aspect (X ₁)	Legality (X _{1.1})	25
Financing aspect (X ₂)	IPAIR (X _{2.1})	5
Technical aspect (X ₃)	Facility & equipment of Irrigation (X _{3.1})	35
Total Index Kinerja		65

Source: Assessment result due to the consensus by Dinas PU SDA Malang Regency

Based on Table 5 regarding the existing performance index at P3A Gema Ripah, the assessment of the administrative aspect ($X_1=25$) and the technical aspect ($X_3=35$), while the financing aspect ($X_2=5$) with a total performance index of 65% is developing category.

Table 6. Existing Performance Index by P3A Tirta Tani

Pandanjerejo Village, Pagak District		
Variable	Indicator	Weight (%)
Administration aspect (X_1)	Legality ($X_{1.1}$)	25
Financing aspect (X_2)	IPAIR ($X_{2.1}$)	5
Technical aspect (X_3)	Facility & equipment of Irrigation ($X_{3.1}$)	20
Total of Performance Index		50

Source: Assessment result due to the consensus by Dinas PU SDA 1Malang Regency

Based on Table 6 regarding the existing performance index at P3A Tirta Tani, the assessment of the administrative aspect ($X_1=25$) and the technical aspect ($X_3=20$), while the financing aspect ($X_2=5$) with a total performance index of 50% is under development category.

Table 7. Existing Performance Index of P3A Dewi Ratih

Sukoanyar Village, Pakis District		
Variable	Indicator	Weight (%)
Administration aspect (X_1)	Legality ($X_{1.1}$)	30
Financing aspect (X_2)	IPAIR ($X_{2.1}$)	15
Technical aspect (X_3)	Facility & equipment of Irrigation ($X_{3.1}$)	25
Total of Performance Index		70

Source: Assessment result due to the consensus by Dinas PU SDA Malang Regency

Based on Table 7 regarding the existing performance index at P3A Sido Makmur, the assessment of the administrative aspect ($X_1=30$) and the technical aspect ($X_3=25$), while the financing aspect ($X_2=15$) with a total performance index of 70% is developing category.

Tabel 8. Existing Performance Index of P3A Pasir Jaya

Sumberpasir Village, Pakis District		
Variable	Indicator	Weight (%)
Administration aspect (X ₁)	Legality (X _{1.1})	30
Financing aspect (X ₂)	IPAIR (X _{2.1})	10
Technical aspect (X ₃)	Facility & equipment of Irrigation (X _{3.1})	35
Total of Performance Index		75

Source: Assessment result due to the consensus by Dinas PU SDA Malang Regen

Based on Table 8 regarding the existing performance index at P3A Pasir Jaya, the assessment of the administrative aspect (X₁=30) and the technical aspect (X₃=35), while the financing aspect (X₂=10) with a total performance index of 75% is developing category.

Tabel 9. Existing Performance Index of P3A Langgeng

Ngebruk Village, Poncokusumo District		
Variable	Indicator	Weight (%)
Administration aspect (X ₁)	Legality (X _{1.1})	20
Financing aspect (X ₂)	IPAIR (X _{2.1})	5
Technical aspect (X ₃)	Facility & equipment of Irrigation (X _{3.1})	35
Total Index of Performance Index		60

Source: Assessment result due to the consensus by Dinas PU SDA Malang Regency

Based on Table 9 regarding the existing performance index at P3A Langgeng, the assessment of the administrative aspect (X₁=20) and the technical aspect (X₃=35), while the financing aspect (X₂=5) with a total performance index of 60% is developing category.

Table 10. Existing Performance Index of P3A Rukun Tani

Ngoto Village, Pujon District		
Variable	Indicator	Weight (%)
Administration aspect (X ₁)	Legality (X _{1.1})	20
Financing aspect (X ₂)	IPAIR (X _{2.1})	10

Technical aspect (X_3)	Facility & equipment of Irrigation ($X_{3.1}$)	25
Total of Performance Index		55

Source: Assessment result due to the consensus by Dinas PU SDA Malang Regency

Based on Table 10 regarding the existing performance index in P3A Rukun Tani, the assessment of the administrative aspect ($X_1=20$) and technical aspect ($X_3=25$), while the financing aspect ($X_2=10$) with a total performance index of 55% is under development category.

Tabel 11. Existing Performance Index of P3A Tani Rasa

Senggreng Village, Sumber Pucung District		
Variable	Indicator	Weight (%)
Administration aspect (X_1)	Legality ($X_{1.1}$)	25
Financing aspect (X_2)	IPAIR ($X_{2.1}$)	10
Technical aspect (X_3)	Facility & equipment of Irrigation ($X_{3.1}$)	30
Total of Performance Index		65

Source: Assessment result due to the consensus by Dinas PU SDA Malang Regency

Based on Table 11 regarding the existing performance index at P3A Tani Rasa, the assessment of the administrative aspect ($X_1=25$) and the technical aspect ($X_3=30$), while the financing aspect ($X_2=10$) with a total performance index of 65% is developing category.

Table 12. Performance Assessment Result Average of P3A in 2023

No	Name of P3A	Administration aspect	Financing aspect	Technical aspect	Total
1.	Sido Makmur	30	5	20	60
2.	Sumber Makmur	25	5	25	55
3.	Makmur	30	10	25	65
4.	Gemah Ripah	25	5	35	65
5.	Tirta Tani	25	5	20	50
6.	Dewi Ratih	30	15	25	70
7.	Pasir Jaya	30	10	35	75
8.	Langgeng	20	5	35	60
9.	Rukun Tani	20	10	25	55
10.	Tani Rasa	25	10	30	65
Average		26,00	8,50	27.50	62,00

Source: assessment result due to the consensus

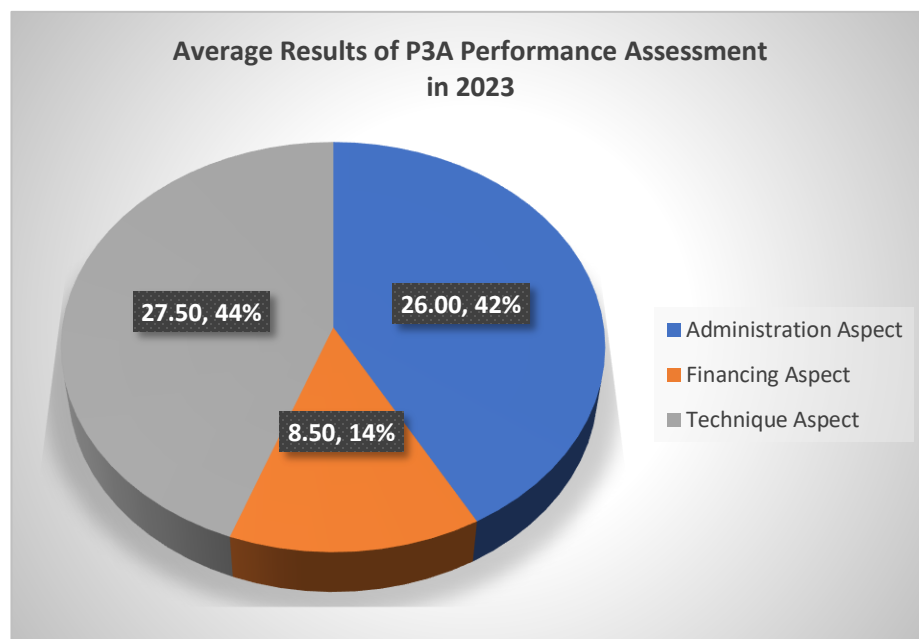


Figure 2. Performance Assessment Result Average of P3A in 2023

Table 12 and Figure 2 present the average of the performance index results of P3A that have been studied. The biggest assessment value of administration aspect is 30 that is in P3A of Sido Makmur, Makmur, Dewi Ratih, and Pasir Jaya; however, the smallest is 20 that is in P3A of Langgeng and Rukun Tani. The biggest assessment value of financing aspect is 15 that is in the P3A of Dewi Ratih; however, the smallest is 5 that is in the P3A of Sido Makmur, Sumber Makmur, Gemah Ripah, and Langgeng. The biggest assessment value of technical aspect is 35 that is in the P3A of Gemah Ripah, Pasir Jaya, and Langgeng; however, the smallest is 20 that is in the P3A of Sido Makmur and Tirta Tani.

The average of existing performance index (IK) is 62.00. It indicates that the assessment category is developed, however, it is in the rather low boundary (developed category is 55.82 – 89.16). The average of administration aspect assessment is 26. It indicates that the assessment category is to be developing, however, it is in the rather low boundary (to be developing category is 22.50 – 55.82). The average of financing aspect assessment is 8.50. It indicates that the assessment category is has not been developed, however, (has not been developed category is < 22.50). The average of technical aspect assessment is 27.50. It indicates that the assessment category is to be developing, however, it is in the rather low boundary (to be developing category is 22.50-55.82).

Table 13 presents the performance index (IK) recapitulation of P3A in Malang Regency in 2023.

Table 13. Performance Index (IK) Recapitulation of P3A in Malang Regency in 2023

Nama P3A	Desa/Kecamatan	IK (%)
1. Sido Makmur	Tawang Argo, Karangploso	60
2. Sumber Makmur	Banjasri, Ngajum	55
3. Makmur	Glanggang, Pakisaji	65
4. Gemah Ripah	Ngantru, Ngantang	65
5. Tirta Tani	Pandanrejo, Pagak	50
6. Dewi Ratih	Sukoanyar, Pakis	70
7. Pasir Jaya	Sumberpasir, Pakis	75
8. Langgeng	Ngebruk, Poncokusumo	60
9. Rukun Tani	Ngoto, Pujon	55
10. Tani Rasa	Senggreng, Sbr.Pucung	65

Source: Assessment result due to the consensus

Conclusion

Based on the result analysis above, it can be concluded that the P3A of Tirta Tani, Sumber Makmur, and Rukun Tani with the performance index of under 55.82% is under development category. However, for P3A with a value between 58.82% - 89.16% in Sido Makmur, Langgeng, Makmur, Gemah Ripah, Tani Rasa, Dewi Ratih, and Pasir Jaya, it is included in the developing category.

According to the assessment of each aspect, the administration aspect with the achievement over than expectation average that is 90%, it means that the P3A institution has an ability to implement the internal as well as external administration system. In the average of financial aspect is under the expectation average that is 25%, it means that cash line cycle of institution has not been good mainly in obtaining the income source, has not had the certain activity program, and the irrigation service tuition fee has not been maximal, it means that the activity of P3A members in paying the tuition fee is still not enough. However, in technical aspect, the average achievement is over the expectation that is 60%, it means that in managing facility and equipment as well as the management of farming business has been good enough.

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