The power and interest indicators of the stakeholders of a Water User Association around Bengawan Solo River, Indonesia

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Abstract
This data article presents the information on stakeholders' power and interest indicators in agricultural irrigation management. The data were collected from a WUA (Water User Association) called Sekar padi which operates around Bengawan Solo river, East Java, Indonesia. This data article contains two major data. The first data consists of the power indicator from both primary and secondary stakeholders of WUAs. The second data is the stakeholders' interest indicator of WUAs in agricultural irrigation management. The data were collected from observations, Focus Group Discussion (FGD) and interview. These data will be beneficial for policy makers to determine the suitable programs for agricultural irrigation management and for researchers who want to conduct similar studies in developing countries.

Specifications Table

| Subject area       | Social Sciences |
|--------------------|-----------------|
| More specific subject area | Rural studies |
| Type of data      | Tables          |
| How data was acquired | observations, focus group discussions, and interview using interview guidelines. |

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2352-3409/© 2018 The Authors. Published by Elsevier Inc. This is an open access article under the CC BY license (http://creativecommons.org/licenses/by/4.0/).
Data format: Raw and analysed

Experimental factors: A participatory observation was conducted prior to the FGD and the interview.

Experimental features:
1. Participatory observations
2. Focus Group Discussion
3. Interviewing the stakeholders individually to understand the levels of power and interest.

Data source location: Bandungrejo Village, Tuban regency, East Java, Indonesia.

Data accessibility: The data is included in this article.

### Values of the data

- The knowledge in the power indicators of each type of stakeholder and the level of category of the stakeholders will be beneficial in determining the right stakeholder for implementing a particular agricultural irrigation program.
- The knowledge in the interest indicators of WUA’s stakeholders will enable the formulation of the right programs for agricultural irrigation management.
- The data on power and interest indicators presented in this study can be used as comparison for the data obtained from similar studies conducted in other developing countries.
- Researcher from the social sciences will be able to draw from the power and interest indicators to conduct other studies related to agricultural irrigation management.

### 1. Data

There are two main data presented in this article. The first data is a stakeholder power indicator in agricultural irrigation management. Stakeholders are influencing or being influenced individuals or groups to achieve certain goals. Freeman [3] believes that stakeholders have position, power, and interest related to certain intention. Moreover, Grimble and Wellard [4] also claim that there are authoritative linkages between the power and the type of stakeholders. According to Morgenthau [5], power is also a major goal of policy or even a determining motive of any political action. The power indicator is related to authority and networking [2]. In this paper, the power indicators of WUAs stakeholder can be categorised into four indicators, they are (1) authority, (2) capability and capacity, (3) credibility, (4) networking. These indicators are determined in relation to the type of stakeholder, i.e. primary or secondary, in carrying out the tasks and obligations in managing agricultural irrigation in the village. In addition, there are also levels of categories of stakeholders. In this case, the levels are categorized into very high, high, fairly high, and low. The tabulation of the power indicator of the stakeholders of Sekarpadi WUA is presented in Table 1.

**Description:**
- **Authority** is the right to take action or right to make rules to govern others.
- **Capability and capacity** are measures of the ability of an entity (i.e. department, organization, people) to achieve its objectives, especially in relation to the overall mission.
- **Credibility** is a power to generate trust.
- **Networking** is a useful and mutually beneficial relationship.

#### 1) Primary Stakeholders

**Very High-Power Stakeholder:**

a) Informants Number 1- as a chairman, democratically elected by the villagers.
Table 1
Stakeholders’ power indicators in agricultural irrigation management.

| No. | Stakeholders                      | Type of Stakeholders | Power Indicators | Level of Category |
|-----|-----------------------------------|----------------------|------------------|-------------------|
|     |                                   |                      | Authority | Capability | Credibility | Capacity | Mass Mobilization |
| 1   | Head of Village                    | Primary              | ✓         | ✓          | ✓          | ✓        | Very High         |
| 2   | WUA Leader                         | Primary              | ✓         | ✓          | ✓          | ✓        | Very High         |
| 3   | Secretary                          | Primary              | ✓         | ✓          | ✓          | ✓        | Very High         |
| 4   | Treasurer                          | Primary              | ✓         | ✓          | ✓          | ✓        | Very High         |
| 5   | Technical Officer                  | Primary              | ✓         | ✓          | ✓          | ✓        | High              |
| 6   | Area Coordinator 1                 | Primary              | ✓         | ✓          | ✓          | ✓        | High              |
| 7   | Area Coordinator 2                 | Primary              | ✓         | ✓          | ✓          | ✓        | High              |
| 8   | Area Coordinator 3                 | Primary              | ✓         | ✓          | ✓          | ✓        | High              |
| 9   | Area Coordinator 4                 | Primary              | ✓         | ✓          | ✓          | ✓        | High              |
| 10  | Work Group 1                       | Primary              | ✓         | ✓          | ✓          | ✓        | High              |
| 11  | Work Group 2                       | Primary              | ✓         | ✓          | ✓          | ✓        | High              |
| 12  | Work Group 3                       | Primary              | ✓         | ✓          | ✓          | ✓        | High              |
| 13  | Work Group 4                       | Primary              | ✓         | ✓          | ✓          | ✓        | High              |
| 14  | Work Group 5                       | Primary              | ✓         | ✓          | ✓          | ✓        | High              |
| 15  | Work Group 6                       | Primary              | ✓         | ✓          | ✓          | ✓        | High              |
| 16  | Work Group 7                       | Primary              | ✓         | ✓          | ✓          | ✓        | High              |
| 17  | Work Group 8                       | Primary              | ✓         | ✓          | ✓          | ✓        | High              |
| 18  | Work Group 9                       | Primary              | ✓         | ✓          | ✓          | ✓        | High              |
| 19  | Work Group 10                      | Primary              | ✓         | ✓          | ✓          | ✓        | High              |
| 20  | Work Group 11                      | Primary              | ✓         | ✓          | ✓          | ✓        | High              |
| 21  | Work Group 12                      | Primary              | ✓         | ✓          | ✓          | ✓        | High              |
| 22  | Work Group 13                      | Primary              | ✓         | ✓          | ✓          | ✓        | High              |
| 23  | Work Group 14                      | Primary              | ✓         | ✓          | ✓          | ✓        | High              |
| 24  | Work Group 15                      | Primary              | ✓         | ✓          | ✓          | ✓        | High              |
| 25  | Work Group 16                      | Primary              | ✓         | ✓          | ✓          | ✓        | High              |
| 26  | Work Group 17                      | Primary              | ✓         | ✓          | ✓          | ✓        | High              |
| 27  | Work Group 18                      | Primary              | ✓         | ✓          | ✓          | ✓        | High              |
| 28  | Work Group 19                      | Primary              | ✓         | ✓          | ✓          | ✓        | High              |
| 29  | Work Group 20                      | Primary              | ✓         | ✓          | ✓          | ✓        | High              |
| 30  | Work Group 21                      | Primary              | ✓         | ✓          | ✓          | ✓        | High              |
| 31  | Work Group 22                      | Primary              | ✓         | ✓          | ✓          | ✓        | High              |
| 32  | Work Group 23                      | Primary              | ✓         | ✓          | ✓          | ✓        | High              |
| 33  | Operator and Driver 1              | Primary              | ✓         | ✓          | ✓          | ✓        | High              |
| 34  | Operator and Driver 2              | Primary              | ✓         | ✓          | ✓          | ✓        | High              |
| 35  | Operator and Driver 3              | Primary              | ✓         | ✓          | ✓          | ✓        | High              |
| 36  | Supervisory Body 1                 | Primary              | ✓         | ✓          | ✓          | ✓        | Very High         |
| 37  | Supervisory Body 2                 | Primary              | ✓         | ✓          | ✓          | ✓        | Very High         |
| 38  | Supervisory Body 3                 | Primary              | ✓         | ✓          | ✓          | ✓        | Very High         |
| 39  | WUA Member                         | Primary              | ✓         | ✓          | ✓          | ✓        | High              |
| 40  | District-Level Advisory Body       | Secondary            | ✓         | –          | –          | –        | Fairly High       |
| 41  | Public Figure                      | Secondary            | –         | ✓          | –          | ✓        | Fairly High       |
| 42  | Village Apparatus                  | Secondary            | ✓         | –          | –          | –        | Fairly High       |
| 43  | Farmer Group                       | Secondary            | ✓         | –          | –          | –        | Fairly High       |
| 44  | Agricultural Product Buyer         | Secondary            | ✓         | –          | –          | –        | Fairly High       |
| 45  | Office of Public Works (Water Resources Division) | Secondary | ✓         | –          | ✓          | –        | Fairly High       |
| 46  | Office of Agriculture              | Secondary            | ✓         | –          | ✓          | –        | Fairly High       |
| 47  | Office of Bengawan Solo River Water Management | Secondary | –         | –          | –          | –        | Low              |
| 48  | Worker                             | Secondary            | –         | –          | –          | –        | Low              |
| 49  | Food Stall Owner                   | Secondary            | –         | –          | –          | –        | Low              |
| 50  | Fertilizer and Farm Medicine Shop Owner | Secondary | –         | –          | –          | –        | Low              |
b) Informants Number 2–9 as the core management with qualified authority, capability, credibility and capacity, democratically elected by HIPPA members, for managing the village’s agricultural irrigation and rice farming activities matters.

c) Informants Number 36–38 as supervisory members who are democratically elected to provide consultations.

**High Power Stakeholder**

a) Informants Number 10–35 have the capability, credibility, capacity to assist the core management in managing agricultural irrigation. They convey aspirations and problems (i.e. floods, water supplies delay and others) from HIPPA members to the core management to get immediate response or problem solving.

b) Informant Number 39 is a member with capability and capacity to assess HIPPA’s member performance at accountability report meeting. For the example: Accountability report cannot be accepted when unresolved issue arises (i.e. financial problems).

2) **Secondary Stakeholders**

**Fairly High Power**

Informants Number 40–47 do not intervene in water distribution management, but they have capacity in solving water management problems. For the examples: (1) public works service department and water resources sub-field department support in irrigation infrastructure development, (2) department of Agriculture through association of farmers group in villages assist farming activities (i.e. Distributing subsidized fertilizer, eradicating pest and so on).

**Low Power**

Informants Numbers 48–50 do not have power over HIPPA in agricultural irrigation management. However, they can give suggestions related to water distributions finding issues and rice farming.

The second data present the interest indicators of WUA’s stakeholder. According to Bryson [1], interest is the will and desire of a person or a group for an activity. The interest indicators of WUA’s stakeholders can be categorized into three: (1) hope, (2) reputation, and (3) potential benefit. Similar to the stakeholders’ power indicator, there are also levels of categories, which in this case is called “degree of interest”. The levels are very high, high, fairly high, and low. The stakeholders’ interest indicator tabulation in agricultural irrigation management is shown in Table 2.

2. **Experimental design, materials and methods**

There are six WUAs in the district that use the Bengawan Solo River water for agricultural irrigation. These six WUAs are: a) WUA in Bandungrejo Village; b) WUA in Plandirejo Village; c) WUA in Klotok Village; d) WUA in Kedungrejo Village; e) WUA in Magersari Village; and f) WUA in Plumpang Village. The data presented in this article is from the most experienced and successful WUA, i.e. Sekarpadi WUA in Bandungrejo Village. There were three steps taken to collect the data.

First, participatory observations were conducted on the work system of the WUA in agricultural irrigation management, which includes the water distribution system, irrigation network, and stakeholder performance to overcome the problems faced by HIPPA in agricultural irrigation management to success in farm cultivating. Second, conducting Focus Group Discussion (FGD) among HIPPA’s members. Third, conducting individual interviews using the interview guidelines (Appendix). Interview guidelines for FGDs are directed to know, and understand the issues faced by HIPPA in managing agricultural irrigations. It was also aimed at knowing who has the power (authority, capability, credibility, capacity, and networking) to solve the problems, and what the strategies are to solve the problems.

The data collected were then classified based on the power and interest levels of each stakeholder. To ease the readability of the collected data, the tabulation of the data was presented in the form of tables (see Table 1 and Table 2). These data will be beneficial for policy makers and researchers to
Table 2
Stakeholders' interest indicators in agricultural irrigation management.

| No | Codes       | Types of Stakeholder | Interest Indicators | Degree of Interest |
|----|-------------|-----------------------|---------------------|--------------------|
|    |             |                       | Hope               | Aspiration         | Potential Benefit |
| 1  | Head of Village | Primary              | Very High          | Very High          | Very High         |
| 2  | WUAs Leader | Primary              | Very High          | Very High          | Very High         |
| 3  | Secretary   | Primary              | High               | High               | High              |
| 4  | Treasurer   | Primary              | High               | High               | High              |
| 5  | Technical   | Primary              | High               | High               | High              |
| 6  | Area Coordinator 1 | Primary         | High               | High               | High              |
| 7  | Area Coordinator 2 | Primary         | High               | High               | High              |
| 8  | Area Coordinator 3 | Primary         | High               | High               | High              |
| 9  | Area Coordinator 4 | Primary         | High               | High               | High              |
| 10 | Head of Work Group 1 | Primary       | High               | High               | High              |
| 11 | Head of Work Group 2 | Primary       | High               | High               | High              |
| 12 | Head of Work Group 3 | Primary       | High               | High               | High              |
| 13 | Head of Work Group 4 | Primary       | High               | High               | High              |
| 14 | Head of Work Group 5 | Primary       | High               | High               | High              |
| 15 | Head of Work Group 6 | Primary       | High               | High               | High              |
| 16 | Head of Work Group 7 | Primary       | High               | High               | High              |
| 17 | Head of Work Group 8 | Primary       | High               | High               | High              |
| 18 | Head of Work Group 9 | Primary       | High               | High               | High              |
| 19 | Head of Work Group 10 | Primary      | High               | High               | High              |
| 20 | Head of Work Group 11 | Primary      | High               | High               | High              |
| 21 | Head of Work Group 12 | Primary      | High               | High               | High              |
| 22 | Head of Work Group 13 | Primary      | High               | High               | High              |
| 23 | Head of Work Group 14 | Primary      | High               | High               | High              |
| 24 | Head of Work Group 15 | Primary      | High               | High               | High              |
| 25 | Head of Work Group 16 | Primary      | High               | High               | High              |
| 26 | Head of Work Group 17 | Primary      | High               | High               | High              |
| 27 | Head of Work Group 18 | Primary      | High               | High               | High              |
| 28 | Head of Work Group 19 | Primary      | High               | High               | High              |
| 29 | Head of Work Group 20 | Primary      | High               | High               | High              |
| 30 | Head of Work Group 21 | Primary      | High               | High               | High              |
| 31 | Head of Work Group 22 | Primary      | High               | High               | High              |
| 32 | Head of Work Group 23 | Primary      | High               | High               | High              |
| 33 | Operator and Driver | Primary   | High               | High               | High              |
| 34 | Operator and Driver | Primary   | High               | High               | High              |
| 35 | Operator and Driver | Primary   | High               | High               | High              |
| 36 | Supervisory Body | Primary   | High               | High               | High              |
| 37 | Supervisory Body | Primary   | High               | High               | High              |
| 38 | Supervisory Body | Primary   | High               | High               | High              |
| 39 | WUAs Member   | Primary       | High               | High               | High              |
| 40 | District-Level Advisory Body | Secondary | High             | Fairly High        | Fairly High       |
| 41 | Public Figure | Secondary   | High               | Fairly High        | Fairly High       |
| 42 | Village Apparatus | Secondary | High               | Fairly High        | Fairly High       |
| 43 | Farmer Group  | Secondary   | High               | High               | High              |
| 44 | Agricultural Product Buyer | Secondary | High               | High               | High              |
| 45 | Office of Public Works | Secondary | High               | High               | High              |
| 46 | Office of Agriculture | Secondary | High               | High               | High              |
| 47 | Office of Bengawan Solo River Water Management | Primary | Fairly High      | Fairly High        | Fairly High       |
| 48 | Worker       | Secondary   | High               | High               | High              |
| 49 | Food Stall Owner | Secondary | High               | Fairly High        | Fairly High       |
| 50 | Agricultural Drug Shop Owner | Secondary | High               | High               | High              |
know the conditions of the power and interest of the people in this rural area. The data can also be used as the basis for conducting similar research in other villages in developing countries.

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Appendix: Interview Guidelines

- **Questions related to the Power Indicators**
  1. What have been done by HIPPA to make the farming in this village become more successful?
  2. What were the problems faced by HIPPA in managing the agricultural irrigation in this village?
  3. What were the strategies used by HIPPA to solve the problems?
  4. Who has the highest power in overcoming each of the problems?

- **Questions related to the Interest Indicators**
  1. What motivated the stakeholders to work with HIPPA?
  2. What benefits have the stakeholders gained after working with HIPPA?

Transparency document. Supporting information

Transparency data associated with this article can be found in the online version at https://doi.org/10.1016/j.dib.2018.07.030.

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