

# HIPPA-Himpunan Petani Pemakai Air (Water User Association-WUAs) and Employment Opportunities in Rural Area

## Case Study of a Village in Plumpang District, Tuban Regency

Rustinsyah<sup>1</sup>, Ratna Azis Prasetyo<sup>2</sup> and Djoko Adi Prasetyo<sup>3</sup>

<sup>1</sup>Department of Anthropology, Faculty of Social and Political Sciences, Universitas Airlangga Surabaya

<sup>2</sup>Department of Sociology, Faculty of Social and Political Sciences, Universitas Airlangga, Surabaya

<sup>3</sup>Department of Anthropology, Faculty of Social and Political Sciences, Universitas Airlangga, Surabaya

**Keywords:** HIPPA, Employment Opportunities, Village, Bengawan Solo River Basin, East Java.

**Abstract:** Indonesia has many large rivers but sometimes agricultural areas on the riverside are less fortunate because in the rainy season they are affected by floods due to river overflow and in dry season drought occurs. This caused the agricultural sector in the area to be less attractive to the villagers. However, the success of managing agriculture irrigation in riparian areas by HIPPA has an impact on the absorption of labor in rural areas. Agricultural irrigation management involving the participation of rural communities has been set forth in the Minister of Agriculture Regulation No.79 / Permentan / OT.140 / 12/2012 on Water Resources Management. This paper explains, "to what extent is the impact of the success of HIPPA on the absorption of labor in rural areas?". The study was conducted from April 2016 to December 2017, with a qualitative approach at HIPPA which has successfully managed agricultural irrigation. Success was measured from their independence, sustainability in managing irrigation and even gaining economic benefits. The results of successful HIPPA gave impact to the absorption of labor in rural areas. The types of work including: a) work related to farming; b) work related to HIPPA management; c) non-farm activities related to trade and services of HIPPA and farming.

## 1 INTRODUCTION

One of the serious problems faced by developing countries, especially Indonesia, is unemployment and underemployment. According to BPS's records in May 2018, 127.07 million people were employed, 7.64 percent were categorized as underemployed and 23.83 percent were part-time workers. In the past year, half of the unemployed and part-time workers rose by 0.02% and 1.31% respectively, although there were sectors which had vacancy. There were an increased employment opportunities on accommodation and drinking by 0.68 percent, other services work by 0.40 percent, and manufacturing industries by 0.39 percent. While the decrease on employment was on agriculture by 1.41 percent, construction by 0.20 percent, and education services by 0.16 percent. Possibility of job vacancy decreased due to the invention of technology, the narrowing of agricultural land, and so on.

The government had planned some programs to address unemployment in rural areas. They even have allocated village priority funds in Regulation of the Minister for the Development of Disadvantaged Villages and Transmigration No. 19 of 2017 which regulates in detail the priorities of village funds in 2018. Chapter 3 Article 4 states five priorities in utilizing village funds including: 1) Priority of the use of village funds to finance the implementation of programs and activities in the field of village development and empowerment of village communities; 2) Priority of the use of village funds is prioritized to finance the implementation of programs and activities that are cross-cutting. 3) The programs and activities referred to in paragraph (2) shall be among others the activities of superior products of villages or rural areas, BUM Desa or BUM Desa Bersama, embung, and village sports facilities in accordance with the authority of the village. 4) The construction of village sports facilities as referred to in paragraph (3) is a business unit managed by BUM Desa or BUM Desa

Bersama. 5) The priority of the use of village funds as referred to in paragraph (1) shall be published by the Village Government to the village community in the public space accessible to the village community. The existence of village funds allocated to the development programs in rural areas can certainly absorb labor in the countryside to reduce unemployment and improving infrastructure. Such programs can accelerate development and empower human resources in rural areas.

One of the rural development priority programs is infrastructure development such as irrigation facilities to support agricultural activities. The area on the riverbank is sometimes a dry land area that does not get enough water for agriculture. However, Bandungrejo village located in Bengawan Solo River valley, Plumpang District, can utilize water flow for irrigation of agriculture by using pump. Agricultural irrigation management is done by HIPPA - *Himpunan Petani Pemakai Air* or Water Users Association (WUAs). One of the impacts of the success of HIPPA is to open employment opportunities in agriculture and non-farm sectors. Therefore, this paper will seek to answer the question, "to what extent is the impact of HIPPA in managing agricultural irrigation that create job opportunities in rural areas?"

## 2 LITERATURE REVIEW

HIPPA is a social, economic, cultural, and environmentally friendly organization based on mutual cooperation whose management involves communities at the village level. The legal basis for irrigation management has been set forth in: a) Law No.7 of 2004 on Water Resources; b) Government Regulation no. 20 of 2006 on Policies for the Development and Management of Irrigation Systems; c) Regulation of the Minister of Public Works no. 30 / PRT / M/2007 concerning Guidelines for the Development and Management of Participatory Irrigation Systems, d) Regulation of the Minister of Public Works No. 31, PRT / M 2007 on Guidelines of the Irrigation Commission; e) Regulation of the Minister of Public Works No. 32 / PR / M / 2007 concerning Guidelines for Operation and Maintenance of Irrigation Networks; f) Regulation of the Minister of Public Works No. 33, PRT/ M/ 2007 on Empowerment Guidance of P3A / GP3A / IP3A; g) Regulation of the Minister of Agriculture No.79 / Permentan / OT.140 / 12/2012. In implementation, the provincial and district governments make regulations based on the above-

mentioned regulation. Similarly, the village government makes an AD /ART as a guideline for its implementation, for instance the East Java Provincial Government made Rule No. 3 of 2009 on Agricultural Irrigation in the Regions. Similarly, the village government makes an AD/ART-- statutes and by laws as a guideline for its implementation. These resulted in employment opportunities in farm and non-farm sectors in rural areas when HIPPA successfully managed the agricultural irrigation.

The job opportunities in the farm sector start from the preparation to the harvest of crops. Rural non-farm activities are directly related to agricultural and non-direct activities. Non-farm activities consist of activities related to raising non-agricultural revenues and services, such as trading of agricultural products, private small businesses and other efforts to obtain income in order to face the risk of "diversification of activities or environmental diversification" in agriculture (Colter, 1997). Stark and Levhari (1982) define non-farm activities in the form of working with temporary migration out of the village to earn income. Ellis (1997) argues the diversification of livelihoods as "the process for rural families to build a portfolio in economic activity to survive and improve their living standards". He further said that livelihood diversification is not always synonymous with income diversification. Non-farm consists of trade, manufacturing and services, directly or indirectly related to local agriculture as well as economic activities of small towns (Reardon, 1997).

According to Mukopadhyay and Lim (1985), non-farm economic activities cover all economic activities such as home industries, agricultural processing industries, rural transport, trade, and all activities for commercial purposes outside of agricultural activities done in rural areas. Various non-farm activities are influenced by the socio-economic characteristics of the region. For example, non-farm activities in remote mountain communities are also carried out by the farmers' households which include stalls, household furniture industry, cracker industry, pestle making and sugar palm making (Abdullah, 1988). 'Non-farm' does not refer to primary agricultural or forestry or fishery activities. Barrett and Reardon (2001) stressed non-farm activities on sectoral definitions that occur in primary, secondary (manufacturing), and tertiary activities such as services.

Some factors attract the development of non-farm activities in rural areas. **First**, the implementation of integrated policies' realization, such as the use of technology in agriculture that

provides to lure large profits, credit programs for productive economic activities in rural areas, and the implementation of government-driven agribusiness programs and livestock farmers. For example, the *GAPOKTAN – Gabungan Kelompok Tani* (Combined Farmers' Group) program is attracting rise to commercial farmers not only as producers but they are also involved in the distribution of agricultural produce (Rustinsyah, 2012). This is in line with the opinion of Reardon (1997) which said that the factors which attract the development of diversification of economic activities in rural areas are the implementation of intensive and commercial farming systems and the use of machinery, also the intensity of the closeness of village and city relations which open employment opportunities and greater revenue gains in the non-farm sector. **Second**, the closeness and easiness of rural-urban relationships are also an attraction for opening up non-farm employment opportunities in rural areas, such as the emergence of transportation services (e.g. rural transportation, motorcycle taxis), shops and rural shops selling manufactured goods to meet the villager's needs. **Third**, the modernization of agriculture which according to Mellor (1976) can create non-agricultural employment opportunities in two ways: a) increasing production by applying new agricultural technology, especially food production; b) through stimulation to increase farmers' income by agricultural diversification. Mellor argues that agricultural modernization can increase food production which in turn can increase the income of wealthy farmers. The condition is certainly followed by changes in the pattern of household consumption of rich peasants that ultimately stimulate the growth of industry and service household needs. For example, the development of a business that serves the activities of the farm, the service business that serves the villagers, the emergence of food stalls and shops that provide daily necessities, beauty salons, bridal makeup and so on.

**Fourth**, the use of cell phones for the villagers. Molony (2006) studied that mobile phones bring up business networks in Tanzania and create new forms of networking. It is further said that through mobile phones many farmers get services to find information about market prices. Similarly, the use of mobile phones among rural Javanese farmers can expand the social-economic network, increasing the income of farmers who will eventually open up new economic activities outside rural agriculture. Villages can independently become the subject of economic activity to benefit from people outside the village.

The fastest growing non-farm activities are trade and food stalls. Usually household income in the non-farm sector is greater than the wages as farm labor (Haggblade et al, 1987). Therefore, non-farm activities become an important option in order to increase income and reduce poverty. According to Reardon (1997), each households in rural Africa have more than one family member which work in non-farm activities. According to Rustinsyah (2012), there is a growing of non-farm activities, especially traders among farmers of Kebonrejo village, due to the intensity of horticulture farming activities, particularly chili.

### 3 RESEARCH OF METHODS

This research was conducted with HIPPA located in Bandungrejo village, Plumpang District, Tuban Regency in 2017. It is a qualitative research by exploring data through observation, interview and literature review related to the research theme. The village of Bandungrejo has a successful HIPPA in the management of agricultural irrigation. Successful management of HIPPA is possible in farming with rice productivity between 10-14 tons per hectare. HIPPA has 206 hectares of agricultural land consisting of 193 hectares in Bandungrejo village, 5 hectares in Plumpang village and 8 hectares in Magersari village.

Farming activities in the village are conducted almost throughout the year, but HIPPA only manages rice farm irrigation with two harvest times. The planting season begun in May /June and the harvest in August. The second planting season start in September and harvested in November. In the rainy season, the area on the outskirts of Bengawan Solo river is flooded so that farming activities are ineffective and even failed. For areas that are not inundated, farming activities relied on rainwater. The need for labor for agriculture starts from preparation to harvest. In the planting season to harvest, farmers and farm workers cannot leave their villages because they have many job opportunities and have to work on their farms. The existence of HIPPA further increases the business and opens employment opportunities in agriculture and non-agricultural sector. Non-farm economic activities are including serving farming activities and the needs of villagers.

**Data analysis.** All collected data were then classified according to the theme of the research and interpreted by using existing concepts.

## 4 RESULT AND DISCUSSION

Bandungrejo village is one of the agricultural villages in Plumpang Subdistrict, Tuban Regency. Agricultural land managed by HIPPA Sekarpadi Desa Bandungrejo covers an area of 206 hectares consisted of 193 agricultural lands in Bandungrejo village, 5 hectares in Plumpang village and 8 hectares in Magersari village. Farm lands are divided into two namely moor (*tegalan*) and rice fields (*persawahan*). The moor area is located near the Bengawan Solo River which usually flooding in the rainy season. The rice fields are located far from Bengawan Solo River. During the rainy season, the agricultural land in this area is planted with horticulture which rely on rain water.

For moor area, in a year the farmers can plant rice twice. The first planting season starts in June and will be harvested in August / September. In September they begin planting for the second season and harvested in November. November is the beginning of the rainy season thus the agricultural land in this area will be under water. For rice field areas that are not exposed to river flows, usually during the rainy season the farmers plant horticulture that utilizes rainwater, and in dry season they grow rice by utilizing the water of Bengawan Solo River managed by HIPPA. The intensive farming activities in the village require labors. Work opportunities in the area are not just for non-farm activities, i.e. to serve the needs of farming activities and serve the needs of everyday life.

### 4.1 Job Opportunities in the Farm-Sector

The success of HIPPA in managing agricultural irrigation and farming can absorb labor in rural areas for both men and women. Labors are required in paddy field area almost all year round. In the rainy season, usually horticulture (*Cucumis melo* L., watermelon, tomatoes and others) is planted in the field. Horticultural crops required male and female labor. Employment in the agricultural sector by women is including paddy-planting workers, cleaning grass, paddy harvest workers. The wage of female laborers who work from 07.00 to 12.00 ranges from Rp 65.000,00. In the rice-growing season, almost all female farm laborers get jobs. Some farm laborers even ask for a wholesale wage. As one of the rice planters said, "In the planting season, farmers usually ask for wholesale wage or *upah borongan*, around Rp 200.000,00 for work from 07.00 - 16.00 hours a day. Female peasants are

commonly employed by women who have family and live in the village, whose husband has a small tenant or tenant of land. Similarly harvesting are usually done by men and women, usually in groups. These groups work to harvest a plot of agricultural land. According to the Central Bureau of Statistics (BPS), the nominal wage of national agricultural laborers in January 2018 is increased by 1.07 percent compared to the previous month. Thus, the wages of agricultural laborers rose from Rp 50,568 per day to Rp 51,110 per day

(<https://ekonomi.kompas.com/read/2018/02/15/154832326/januari-2018-upah-buruh-tani-dan-buruhbuilding-rise>).

The type of works for male laborers are hoeing, fertilizing, shouldering, harvesting, and others. Workers like this starts from land preparation until harvest. Usually these farm laborers also has a small farm work or renting the land. Land leases begin before the dry season, with rental rates ranging from 30-40 million per hectare per year. A farm laborer lease agricultural land area of 1000 square meters with a rental price of Rp 4,000,000.00. With the existence of this arable land, the family of agricultural laborers can still live in the village to work on agricultural land and work as laborers in the village. Similarly the wives also work as farm laborers.

In addition, the male farm workers in the village get jobs related to HIPPA activities in managing agricultural irrigation. Some employment opportunities related to HIPPA management are: a) managing HIPPA so they have rights and obligations as set forth the ART and receive incentives from the institution; b) work related to maintenance and construction of agricultural irrigation networks; c) activities for other rural development. These activities can be seen from the budget issued by HIPPA. The following table concerns the incentives given to the HIPPA Sekarpadi Board from Bandungrejo village:

Table 1: Management of HIPPA Sekarpadi, Bandungrejo village period of 2017-2020.

No	Type of Board	Total	Incentives (in %)	Amount of incentive (in Rupiahs)
1	Core Administrator (Chairman, secretary, treasurer, technical, and three field coordinators)	9	11	22,848,235.00
2	Supervisor	2	1,5	3.115.669.00
3	Drivers and Operators	5	4	8.308.448.00
4	Team work	23	17	35,310,908.00
5	Honor Services	5		10,385.561.00
6	Total	44		79.968.821,00

Source: Report Management of HIPPA 2017-2020

Note: Rewards are distributed to members according to their mutual agreement.

Honorable services are distributed to administrators, implementers assisting rural development programs such as village heads, village secretaries, village apparatus, *BPD*- Badan *Permusyawaratan Desa* (Village Deliberation Agency), *LPMD* -*Lembaga Pembangunan Masyarakat Desa* (Village Community Development Institute), *PKK* - *Pembinaan Kesejahteraan Keluarga* (Family Welfare Development) ; *Karang Taruna* (Youth Organization), *Hansip* (Civil Defense Organization), *Tokoh Agama* (Religious Leaders), *Penjaga Kuburan* (Cemetery Guard), etc.

HIPPA administrators are working hard to make the water distribution to the farm run smoothly, resulting in good crops. The duties and obligations of the HIPPA caretaker are written in the Statutes and by laws. Success in farming affects the incentives received by the HIPPA board. Thus the existence of HIPPA can increase the income of the villagers as administrators.

The distribution of water to agricultural land requires infrastructures such as pumps and irrigation networks. It should be noted that the villages in this area are affected by floods due to the flooding of Bengawan Solo River every year. Conditions such as these caused the irrigation networks to be covered in mud or even damaged, so it requires maintenance

and development. Enough budget is necessary for the maintenance and construction of irrigation networks. HIPPA provides budget for such activities. The infrastructure maintenance and construction required labor. The amount of wage for labors are adjusted to the wages of farm laborers. Table 2 below shows the budget for maintenance and construction of irrigation networks.

Table 2: Budget for maintenance and construction of agricultural irrigation network.

No	Type of Maintenance, Development of Agricultural Irrigation Network	Amount of Cost (in Rupiah)
	Labor for excavation of irrigation canals in several locations	29.350.500,00
2	The Construction of dams, houses of central harvest, painting office	12.115.000,00
3	Physical construction: making wall of irrigation canals in four locations	54.128.000,00
4	Penanganan banjir ( <i>Flood mitigation</i> )	52.415.800,00
5	Rituals of opening harvest season	4.970.000,00
6	Pest and disease control	14.720.000,00
7	Total	167.699.300,00

Source: HIPPA Coverage Report of Harvest I, Period 2015-2017

Note: The amount that represents the operational cost of HIPPA reached to Rp 562,613,500 in the first harvest period (2015-2017)

Table 2 shows that HIPPA expenditures for repair workers, agricultural infrastructure development and others reached Rp 167,699,300.00. Such activities would require wage labor from local villagers. Costs incurred for a large enough workforce are usually more than 50%. In addition, HIPPA issued budget for material development of irrigation networks. It is not easy to separate between labor and material needs because the reports are usually written in one package.

In 2016, HIPPA Sekarpadi, Bandungrejo village, received grant aid from the government in the amount of Rp 200.000.000,00 for the development of tertiary channels. According to HIPPA accountability report, the construction of the channel

has involved 247 workers consisted of foremen artisan, and workers. They get amount of salary of Rp 100.000,00 per working day for the foreman, Rp 90.000,00 for artisan and Rp 80.000,00 for the workers. The employment budget is Rp 84,700,000.00.

## 4.2 Rural Non-Farm Employment Opportunities

The success of farming sought to raise non-farm economic activities in rural areas. In harvest season I (2015-2017), the yield of rice harvest in Bandungrejo village reached 167,397 kilograms or worth as much as Rp 528,137,525.00. After deducting the cost of harvest, the net income of HIPPA reached Rp 462,616,825.00. This income is 14% of all the farmers' income from rice productivity. Therefore it is estimated that rice production in Bandungrejo village reaches 1,195,693 kilograms or worth Rp 2,989,232,500.00 in harvest season I period (2015-2017).

From these data, the income of farmers from one rice harvest could reach Rp 2,989,232,500.00. The existence of farmers' income encourages the growth of non-farm activities in rural areas to serve the farming and the livelihoods of the villagers. Non-farm activities are conducted by single women and men or together as a family. Some of the non-farm work done by farmers in this village are: a) work related to agricultural activities such as trading of agricultural products, trading of chemical fertilizers and agricultural medicines; b) work that is not directly related to agricultural activities such as opening a shop to sell the necessities of daily living, as a traveling trader selling food, fruits, vegetables, making home industries and others; c) as workers who have nothing to do with the agricultural sector such as construction workers and other unskilled laborers; d) work in the field of transportation such as motorcycle taxis, renting a car and others.

Trade of agricultural products, especially rice is done by the rich farmers as a cooperation consisting of husband and wife. Usually they buy rice from farmers during the harvest season. The purchase of rice is done on the farm after they finished to be harvested, the rice threshed and then inserted in sacks and weighed. At harvest time, traders wait on cropland ready for harvest. Traders usually buy raw rice on farms and then processed to rice. For that the trades hire labors from the village. The number of rice traders in this village is approximately 50 people. Therefore farmers do not have difficulty to sell crops. Rice buyers usually employ villagers

between 3-5 people to process raw rice into rice. The work includes hauling, drying, and grinding raw rice into rice. The existence of rice traders can absorb labor in the countryside. Trading daily necessities by opening stalls to sell nine basic commodities, selling stationary, etc. are trading activities for the villagers. But traders usually give credit or loans to their neighbors. Credit in the stalls generally occurs in the rainy season from November, December, January and February due to agricultural land, especially when the moors located on the outskirts of rivers are submerged in water thus decreasing farmer activities. Many female farm laborers are unemployed, but male farm workers can still work to do hoeing or as laborers in the village. To meet the needs of regular daily shopping they open stalls as vendor of food, fruits, vegetables, and cake sellers in the village. Trading the finished food becomes a lucrative activity for women in particular. They usually serve the farm workers who work in the field or moor. Similarly, fruit and vegetables traders peddle their goods around the village.

Some villagers raise cattle for investment. Those who raise livestock are nurturing it with traditional systems but some are cooperating with investors. Those who cooperate with investors from Tuban breed their cattle with advanced maintenance system. The intensity of farming activities in one year provides income for the villagers to encourage the growth of rural non-farm economic activities in services such as village builders, motorcycle taxis, and others.

## 5 CONCLUSIONS

The success of HIPPA in managing agricultural irrigation that has impacts on the success of farming with high crop productivity can open up rural employment opportunities both in agriculture and non-agriculture sectors for rural families. Some employment opportunities in the countryside are : a) employment opportunities related to agricultural activities; b) employment opportunities related to the existence of HIPPA in managing agricultural irrigation; c) employment opportunities related to maintenance, construction of agricultural irrigation facilities; d) non-farm job opportunities such as the emergence of traders selling agricultural medicines, pesticides and others, the emergence of rice traders who processed raw rice into rice; the emergence of shop that provides goods - everyday necessities, the emergence of street vendors who peddle food, vegetables, fruits and others; e) employment

opportunities in services such as carpentry, building, transportation or motorcycle taxi; f) the emergence of traditional breeder farmers and cooperation with investors; g) and others.

Such conditions will drive the dynamics of rural development hence the village is not only an object but the subject of development. Therefore, the government is expected to encourage agricultural development by providing support for agricultural infrastructure.

## REFERENCES

- Abdullah, Irwan. 1988. "Pekerjaan Off-Farm pada Masyarakat Terpencil: Sebuah Pengamatan Awal di Curug Muncar." *Bulletin Anthropology*, 14 (4)
- Barret, C.B and Reardon, T. 2001. Asset, Activity and Income Diversification among Africa Agriculturalists: Some Practical Issues.
- Colter, J.M. 1984. "Masalah Perkreditan dalam Pembangunan Pertanian", dalam Kasryno, Prospek Pembangunan Ekonomi Pedesaan Indonesia. Jakarta: Yayasan Obor.
- Ellis, F. 1998. House Strategies and Rural Livelihood Diversification. *Journal of Development Studies*, 35(1):1-38.
- Haggblade, S., Hazell, P.B and Brown, J. 1987. Farm-Non Farm Linkages in Rural Sub-Saharan Africa: Empirical Evidence and Policy Implication. AGRAP Economic Discussion Papers (6). Washington DC.
- Mellor, John.W. 1976. *The New Economics of Growth: A Strategy for India and Developing World*. Ithaca: Cornell University Press.
- Mukhopadhyaya, Swapna dan Chee Peng Lim. 1985. *The Rural Non-Farm Sector in Asia*. Kualalumpur: Asian and Pacific Development Center.
- Newman, C. and Canagarajah, S., 1999, Non-Farm Employment, Poverty, and Gender Linkages: Evidence from Ghana and Uganda. Working Draft, World Bank, Washington D.C.
- Peraturan Menteri Kemendesa Nomor 19 Tahun 2017 (Permendes 19 Tahun 2017)
- Reardon, T. 1997. "Using Evidence of Household Income Diversification to Inform Study of Rural Non-farm Labor Market in Africa," *World Development*, 25(5):735-748
- Rustinsyah. 2012. *Kegiatan Non-Farm di Pedesaan (Pedagang, Perdagangan di Desa Pertanian Komersial)*. Departemen Anthropologi, FISIP UNAIR.
- Sakina, Rakhma Diah Setiawan. Januari 2018, Upah Buruh Tani dan Buruh Bangunan Naik (<https://ekonomi.kompas.com/read/2018/02/15/154832326/januari-2018-upah-buruh-tani-dan-buruh-bangunan-naik>.)
- Stark, Oded, and Levhari, David. "On Migration and Risk in LDCs." *Economic Development and Cultural Change* 31 (October 1982): 191-96.