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A. *Small Farmers*

**Law, Land, and the Natural Environment in the  
Kedungombo Greenbelt Area at the  
Central Javanese Village of Giliredjo**

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After a dam was built in Central Java, Indonesia, farmers who elected to move to higher ground rather than resettle in another region remain poor and practice agricultural techniques that promote soil erosion. Due to population pressure and the lack of arable land, displaced villagers are cultivating greenbelt areas and tidal lands around the reservoir, encouraged by the government, which granted them oral permission to do so in order to calm unrest generated by farmers' complaints over the meager monetary compensation they received for lands flooded by the dam. Although the government requires farmers to plant tree crops, villagers are also planting annual crops to meet daily food needs, thus promoting erosion and rapid silting of the reservoir.

Mbesuk ing rejaning zaman yen  
ono iwak bader mangan mang-  
gar iku pratanda tlatah kene  
bakal antuk kemakmuran

(Tomorrow, in modern times,  
when the *bader* fish eats coco-  
nut flowers, that is a sign that  
prosperity will come to this  
area)

**T**he people in the village of Giliredjo, in the Kedungombo area in central Java, recall the prophecy that prosperity will come when the *bader* fish can eat coconut flowers (*Kompas* [Jakarta], 30 Mar. 1989). But when can a fish that lives in the river eat a flower that blooms seven to nine meters off the ground? The answer is now: water rose over villages and trees when the Kedungombo reservoir—with the largest dam in Java, the island with the densest population in the world—was created.<sup>1</sup>

The population of the Kedungombo area is 117,634, consisting of 21,938 families spread over 33 villages. The average population density is 566 per square kilometer, but some villages have as many as 1,000 per square kilometer. Most of the people (87.9%) are farmers or agricultural laborers, and the rest are

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<sup>1</sup> There are 752 people per square kilometer (Indonesia 1985:10).

petty traders, tailors, and truck and bus drivers. Their standard of education is very low: 45% have not finished elementary school, and the rest never went to school. Their standard of living is also low: most live below the poverty line, with an average income per capita less than the equivalent of 240 kilograms of rice per year, or U.S. \$240.00 (Yuliani et al. 1990:10).

The plan to build a reservoir was published in 1972, and a comprehensive feasibility study was compiled in 1976. The final preparations were completed in 1984, and the construction of the reservoir began. By damming the Serang River, the reservoir provides irrigation facilities for 59,992 hectares of land in South Semarang, generates 22.5 megawatts of electricity, provides clean-water facilities, prevents floods in several regions in central Java, and provides employment. The construction of the reservoir was supported by a World Bank loan of \$155 million and the Japanese Exim Bank loan of \$3.25 million (Universitas Diponegoro 1985:5).

The completed reservoir, with a catchment area of 614 square kilometers, is located in Boyolali and Sragen regencies. It is surrounded by the hill of Kendeng, a rock and clay prominence that rises 200 meters above sea level. Water in the reservoir reaches 90 meters above sea level and covers 4,603 hectares. The area encircling the reservoir between 90 and 95 meters above sea level is the greenbelt—an area planted in trees to prevent erosion (Karsidi 1989:8). I would like to explain the legal aspects of life in the greenbelt area and the social life of the people who still live near the reservoir. Population pressure will increase because the arable land is limited, and as people encroach into the greenbelt area, the chances of rapid erosion of the reservoir increase.

### Land Transfer and Compensation

For the reservoir to be constructed, 5,300 families had to move. The government paid them monetary compensation, supported a resettlement program, and provided public facilities, such as roads, wells, and houses in the resettlement area near the reservoir.

The people who had to move considered the compensation paid by the government too low: 730 rupiahs (\$0.37) per square meter for a *pekarangan* (home garden), 360 rupiahs (\$0.18) for *sawah* (wetland), and 250 rupiahs (\$0.125) for *tegalan* (dry land). The compensation for houses was also considered quite low: 3,080 rupiahs (\$1.54) per square meter for a semipermanent house, and 2,150 rupiahs (\$1.08) per square meter for a temporary house. That the compensation was perceived as low is not surprising, because it was decided without prior negotiation or even discussion with the owners of the land. Land acquisition

and the payment of compensation caused tension in some parts of Kedungombo and became a national issue when the people of Kedungombo took the case into Parliament. Some nongovernmental organizations (NGOs) and student groups have supported the people in obtaining a reasonable compensation (*Kedaulatan Rakyat* [Yogyakarta], 20 Apr. 1990).

Some of the villagers joined the transmigration program. More than 1,000 families moved to Bengkulu, Sumatra, in 1988–89, and another 900 families joined the same program after that (*Kedaulatan Rakyat*, 3 Apr. 1989). Those who have not joined the program are using the government compensation to buy land next to the reservoir for their houses and garden plots. Some people neither agreed to accept compensation nor moved to an outer island or other region. The local government finally permitted them to live in the forestry area of Kedungombo (*Kompas* [Jakarta], 30 Mar. 1989). Finally, for people who remain near the reservoir, the local government is providing brief training in husbandry and fisheries activities (Hery Christianto 1991:10). The people who received compensation but did not want to move to another region bought new land just beyond the greenbelt around the reservoir to build their houses. However, the new plots are not as large or as fertile as their former holdings, and they are located high above sea level. Highlands have never been cultivated by the local people (Yuliani et al. 1990:25). After they move to less arable plots, their success depends much more on rainfall. This dependence pushes them to cultivate land around the reservoir, including the greenbelt area and the lower tidal-land area.

Although rice is the overwhelmingly predominant crop in areas where it can be cultivated, it is also common to plant crops like bananas, cassava, and beans and to scatter fuel-wood trees around the borders of rice fields. Rice is grown all year in many areas where conditions permit, but other crops, such as vegetables, may be grown on the wetland areas instead of rice during part of year. Production is primarily for subsistence, but a substantial quantity of the produce may also be sold (*ibid.*, p. 29).

Another source of income in some areas comes from the garden plot, which provides both subsistence and commercial products. Tree crops and animals may be simultaneously tended along with other agricultural crops. Mixed farming has in fact succeeded in improving the standard of living for farming families. Furthermore, the farmers do not live solely on the products of their land; they supplement their income with such nonagricultural activities as manual labor, vending, and cottage industries (Hery Christianto 1991:13).

The tensions between the local government and the people of Kedungombo that arose during resettlement had several causes, then. The people realized that the compensation was not

reasonable. They would not be able to buy new plots of the same size and fertility. In some cases, because of the corruption of certain officials, they have not received full payment. And morally it was difficult for them to leave the land where they were born and grew up.

The government decided not to increase the compensation but to compromise by, among other things, building roads and other public facilities, as well as giving people permission to cultivate the greenbelt and tidal-land areas (*Kompas* [Jakarta], 30 Mar. 1989). Recently, the tension has ebbed.

### **Giliredjo: Change and Continuity**

The Kedungombo project officers designated the greenbelt for tree crops, such as tamarind, gnetum, mahogany, kapok, soursop, and annona. The people are permitted to harvest the fruits but not to cut down the trees (Karsidi 1989:8). The people respect this as an unwritten law. A closer look at the village of Giliredjo will indicate the problem of land control that arises under these circumstances.

Giliredjo is in Miri Subdistrict in the Regency of Sragen in central Java. According to local tradition, Giliredjo means “full of stones,” which accurately describes the rocky and infertile soil. The Kedungombo reservoir covered 8 of 12 villages in Miri Subdistrict. Three villages near Giliredjo are only 75% covered by reservoir waters. The remaining portions of Parangan, Pилan-grembes, and Nglorog merged with Giliredjo in 1986 (Yuliani et al. 1990:13).

Giliredjo—which is 8 kilometers from the subdistrict capital and 33 kilometers from Surakarta, one of the big cities in central Java—encompasses 790 hectares, of which 580 (73%) is being used for houses and yards, 177 (23%) for tegalan, and 16 (2%) for roads and graves. Another 13 hectares (2%) is state forestry land. Only 4 hectares—less than 0.5%—is being used as sawah (Karsidi 1989:17).

Before the Kedungombo reservoir project started, the majority of the people who lived in the village worked as farmers. They cultivated their land with rice and *palawija*, such as peanuts and beans. The tegalan was usually planted with tree crops, including fruit trees. After the lands were taken over by the state, the villagers moved away (*ibid.*, pp. 18–19). Some moved to higher ground (95 meters above sea level), acquiring plots that used to be tegalan. They either bought plots or inherited them from their parents. Some villagers moved to other hamlets within the village of Giliredjo or to other villages, acquiring land by purchase or inheritance. Finally, some villagers joined the transmigration program and moved to Sumatra.

Other villagers have refused to move. Psychologically, it is difficult for some of them to leave the village. They are afraid of breaking family ties and long tradition. Some say they are too old to move and think that it is better to live out their lives in Giliredjo. Others do not believe that resettlement will improve their lives, because some transmigrants have come back from Sumatra. Indeed, some villagers still have plots of land, where they can make a living. Some also hope that the government will create a project that will generate jobs. It is not surprising that some believe in the prophecy of the bader fish. They stay, and wait for good fortune.

According to a local subdistrict report, there are 7,694 people (3,043 families) still living in Giliredjo, half male and half female; 1,059 of them are 7 to 12 years old (*ibid.*, p. 20). Structural pressure caused by the increasing population and the lack of arable land makes it impossible to prevent people from cultivating the greenbelt and tidal lands. At the same time, the government has given permission to cultivate those areas. According to Indonesian law, land for which compensation has been fully paid by the state is state-owned land; nobody has the right to use such land without prior consent of the state.<sup>2</sup> The local government has already given consent to some people of Giliredjo, though orally. It was given for political purposes: to decrease the negative reaction of the people asking for more reasonable compensation.

Because the purpose of the greenbelt area is to protect the reservoir from erosion, project officers in Giliredjo, as elsewhere, instruct the villagers to plant their former lands with tree crops. The reservoir authority has told the people that if they successfully plant 80% of the seeds given to them within three years, they will be given the right to use the greenbelt land. If they fail to preserve the tree crops, the right to use the land will be shifted to another party.<sup>3</sup>

A tree crop can be harvested only after four to five years, so the cultivators have to wait quite a long time before they earn anything to cover their daily needs. Even though the government has supplied them with tree seeds, the farmers still prefer to plant other crops, such as corn, peanuts, and sweet potatoes, or even paddy rice. Given the hilly, rocky soil in which limestone is dominant—the soil is sticky and easily eroded in the rainy season and hard, dry, and dusty in the dry season—cultivation is not easy. To meet the requirements of the reservoir authority and their own basic needs, farmers combine the tree crops with palawija and try to cultivate the greenbelt area as well as their own lands. They have also experimented with terracing—a

<sup>2</sup> Undang-Undang Pokok Agraria 1960 (Basic Agrarian Law of 1960), art. 18. See also Law No. 20 of 1961 concerning land acquisition for the public interest.

<sup>3</sup> Interview in Giliredjo, Dec. 1991

method with which they are not familiar—both to prevent erosion and help produce staple crops.

The way farmers think about themselves as *wong cilik* (ordinary people) makes them slow to anticipate change. An NGO activist who is working with some projects in the Kedungombo area, once told me that to change the farmers' way of thinking is harder than to teach them how to farm better. It is not easy to transfer innovations to the farmers, who prefer to depend on others to guide them rather than absorbing the idea of innovation and making progress for themselves. Without strong initiative, the Giliredjo people will find it very difficult to solve their problems.<sup>4</sup>

Besides the infertile soil and lack of initiative, another problem is that there is no serious and systematic program to preserve the greenbelt as a conservation area or written regulations about the right to use the area. Imposing strict regulations would create the possibility of unrest. But without regulations and their enforcement, the people may cultivate the land without regard to environmental protection. It seems to me that the people need to be involved in finding a solution to the problems of the greenbelt area. That means, among other things, making a clear decision about the right to use the area and asking the farmers to use proper agricultural methods or sooner or later erosion will threaten the reservoir. As has been found in other parts of Java, it is hard to prevent people from cultivating a conservation area improperly. On the other hand, to allow the former landowners to grow crops in the greenbelt area seems premature to the local government, which has not completely solved the problem of land acquisitions for the whole reservoir area.

As a consequence of the oral permission to use the greenbelt area and the uncertainty of that right, some disputes have arisen between the land users, who are usually the former landowners, and outsiders, who claim a right to cultivate the land now that it is owned by the state. However, the former landowners feel that they still have a right to control the land. In one case, where local villagers stood behind the former landowner, the outsider withdrew from the land voluntarily. In another case, a relative of a villager who had resettled in Sumatra realized that someone else was planting the former landowner's land in corn without his permission. The dispute was finally resolved when both parties agreed to share the crops 50:50. Finally, I have been told that the right to cultivate what used to be *tanah bengkok* (land given to village officials temporarily in lieu of salaries) is still held by former village officials, even though some of them had to resign after the merger of their villages with Giliredjo.<sup>5</sup>

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<sup>4</sup> Interview in Giliredjo, Dec. 1991.

<sup>5</sup> Interviews in Giliredjo, Dec. 1991.

## Conclusions

When development projects involve the removal of villagers, social and economic problems are usually created; then the old social structure collapses (Cernea 1988:9). People facing such changes are required to adapt in a relatively short time. In the case of the Kedungombo reservoir, the villagers are trying to figure out how to meet their basic needs in the new environment, which is in some ways totally different from the old one. In fact, it is not an easy task to change from farming to fishing—or even to farm hilly, less fertile land instead of flat and arable land.

Those who did not want to resettle outside Kedungombo moved to higher land, above the level of the reservoir water, and did not establish their new settlements properly. The new villages have grown rapidly, and the pressure on the land is growing, too, as the villagers try to meet their subsistence needs. These conditions could create erosion and sedimentation, shortening the life span of the reservoir. Gajah Mungkur reservoir, also in central Java, in Wonogiri, was built in 1973 to last for 100 years. According to surveys conducted by several institutions before 1980, the average rate of sedimentation and the growth of erosion in the catchment area had already shortened the existence of the reservoir (*Suara Merdeka* [Semarang], 24 Feb. 1989).

Two years after completion, the Kedungombo reservoir has two problems: how to avoid erosion and how to bring prosperity, not only to the people of central Java but also to those who have sacrificed their lands and properties and still live near the reservoir.

Even if the bader fish can reach the coconut flowers at Giliredjo, it is hard to predict when prosperity will arrive.