

MAURARO IRRIGATION SYSTEM

The barrio of Mauraro, where the Mauraro irrigation system is located, lies some 6 kilometers southeast of the town proper of Guinobatan, the Albay municipality to which Mauraro belongs. There are only two jeepneys, owned and operated by the incumbent barrio captain of Mauraro, which exclusively ply the Guinobatan-Mauraro route. Since jeepneys and buses bound for the town of Jovellar and barrio Pariaan (of Camalig) also pass by Mauraro, however, the barrio has relatively good and reliable transportation facilities.

In the recent past, abaca was the major income-earner of Mauraro, with coconut and rice coming in second and third, respectively. When the market for abaca products declined some years ago, however, coconut became as important as abaca as the barrio's source of income. Rice only follows these two crops in importance. The other minor crops of Mauraro include vegetables and fruits, like tomatoes and watermelon, which are also brought to and sold in the markets of Daraga and Legaspi City.

The System's Fields

The Mauraro irrigation system serves a total of 15 hectares of riceland cultivated by 26 farmers in the wet season. In the dry season, however, the irrigated area is reduced to 10 hectares cultivated by 17 farmers. The size of riceland tilled by the farmers ranges from 0.75 to 1.5 hectares, but the majority of the farmers till only 0.50 hectare. The Mauraro fields are planted to rice from June to August for the wet season and the crop is harvested from September to November. The dry season crop, on the other hand, is planted from December to January and harvested from March to April.

Mauraro's ricefields are clustered in two areas of the barrio. The smaller area is immediately below the dam and is only about 1 hectare. Only two farmers, each cultivating about half a hectare, till this land. This upstream ricefield area, which is cultivated by the mayor of Guinobatan who resides in the barrio and by a tenant of the Bicol University College of Agriculture (BUCA), had been only recently converted from coconut land to rice land.

The bigger ricefield area is called by most farmers as the gurangan na oma, or the old riceland. Some of the fields in this area have been tilled since 1914, but the other portions have been converted into ricefields only recently. This area is bounded by coconut and abaca plantations.

Technical Aspects of the System

Water supply

The irrigation water of Mauraro comes from only one source, the Alasahas Creek.¹ The system's dam is located at the point where the creek's water empties into the Alakan River (named after alak, or wine formerly made by the people living along the river). Thus, the dam prevents the creek's water from flowing into the river, and instead diverts this water into a man-made canal and toward the ricefields.

Our informants claim that the water supply on the Alasahas Creek has remained the same in the last 5 years. The water supply of the system is abundant during the rainy season, or from July to December; it is low during the dry season, or from January to May.

In recent years, however, there appears to be less water reaching the downstream farms. The farmers themselves see the situation as largely owing to the increase in the area of ricelands being irrigated. Some 2 or 3 years ago, when the market for abaca declined, a number of farmers in Mauraro converted their abaca land into ricefields. Moreover, since the two farmers who opened new ricefields in the upstream area have placed their own checks on the main canal, the water that flows downstream has decreased.

Water rights. One of our informants explain that just as the government employee is granted civil service eligibility solely on the basis of his long stay in office, the farmers of Mauraro have rights to the use of irrigation from the Alasahas Creek by tradition. Besides, as the farmers themselves have explained, a lawyer, whom the barrio council has approached for assistance in connection with the farmers' conflict with the Guinobatan mayor (discussed below), has explained to the council and the farmers that since the farmers have been using the irrigation water since about 1914, the farmers, in effect, hold a traditional water-right permit.

¹NIA reports that the discharge flow at the creek in December 1977 was 35 lit./sec. while in 1978, it was 14 lit./sec. Flow measurements at the main canal are not available.

The physical structures

As already mentioned, there is a point on the Alasahas Creek through which the water can flow into the Alakan River. It is at this point that the farmers built a temporary dam. Nobody knows who spear-headed the construction of the first dam on the Alasahas Creek some 60 years ago. But the Mauraro barrio council played a key role in the construction of the existing cement-grouted stone riprap which was built in 1969.

Our informants report that as a prelude to his 1969 reelection bid, President Marcos released ₱2,000 to the different barrios all over the country. Mauraro was one of the recipients, and the money was entrusted to the barrio council. The barrio captain at that time was an elementary school teacher, but he had hoped to go into rice farming. His pet project for the barrio, among other things, was the construction of a concrete dam on the creek. Thus, upon receiving the ₱2,000, he presented the plan to the council and got the council's approval. Half of the amount was used to buy the cement necessary for the construction of the dam while the other half was used for the other projects of the barrio. The council members also dug into their own pockets for additional funds needed to hire laborers who constructed the dam. Moreover, the council asked some of the farmers to work with the construction team for free or to donate the other needed materials.

The present concrete dam is a 5-meter long and 2 1/2-feet wide cement-grouted stone riprap about 10 feet high. This dam is located on the site that is said to be owned by The Bicol University College of Agriculture (BUCA). In March 1978, we found that the side of the dam where the water was collected had become silted. At that time, we also found that lilies had grown in the area close to the dam, a carabao was wallowing in it, and a check had been built close to the point where water entered the main canal. This check impeded the flow of water into the main canal, but a farmer explained that the check had been made in order to make fishing in the creek water near the dam easier.

The main canal. From the dam site, the main canal of the Mauraro system is 2 kilometers long. The whole span of the canal is earthen. It is 2 meters at its widest portion (at the area close to the check of the mayor of Guinobatan), and 1 1/2 feet at its narrowest's. In March 1978, we found that some parts of the canal embankment were thickly covered with grass. This state of the canal was perhaps owing to the fact that at that time many farmers were harvesting their dry season crop while the other farmers who had already finished with their harvesting had not begun preparing their fields for the wet season crop.

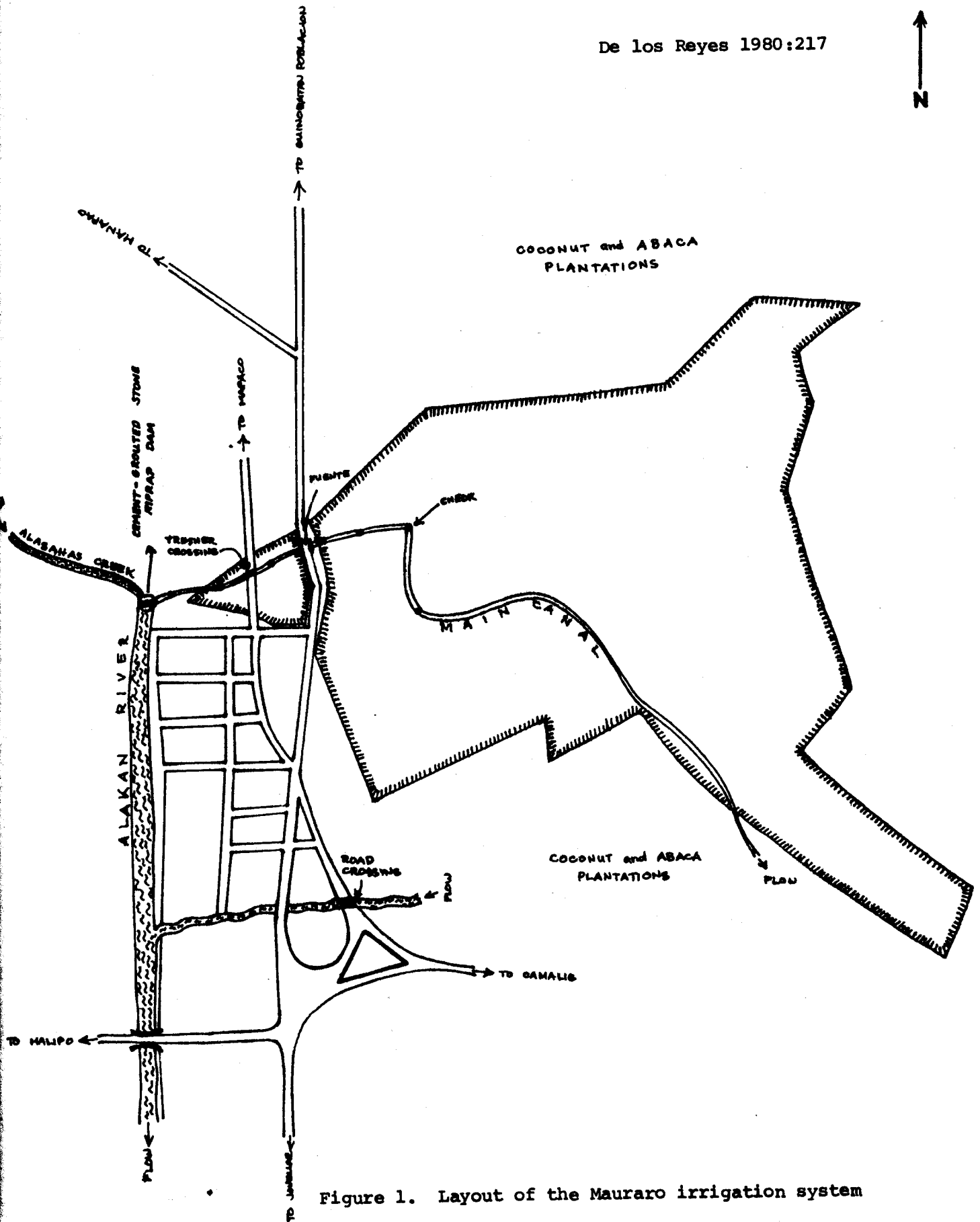


Figure 1. Layout of the Mauraro irrigation system

Along the canal, there are two points where concrete components are found. These are the culverts beneath the bulcart crossing and under the small bridge, called the fuenta, on the main road.

Take-off points. Along the canal are seven major checks: three upstream before the fuente, and four on the gurangan side. Each check has a corresponding take-off point. Aside from these seven take-off points, there are eight more on the main canal, corresponding to the same number of small checks. The checks are all temporary in nature, made of trunks of trees, rocks, grass, and mud, and held in place by bamboo sticks and twigs. The take-off points are cuts on the earthen canal, but sometimes wood or bamboo sticks are used to keep the canal embankments from eroding.

One to four farmers draw water from the take-off points on the main canal into their own farm ditches. On the average, however, there are only two farmers who share a take-off point.

Our informants report, however, that there are no fixed number of take-off points along the canal because farmers make as many as they need whenever they have the opportunity to get more water. Thus, when asked how many farmers share a take-off point, an informant replied, for instance, that the question should be instead, how many take-off points serve a farmer. Then he continued that the answer could not be determined since many farmers often bore holes through the canal embankment below the water level so no one would suspect the presense of a take-off point.

Management of the System

Some farmers upstream who have immediate access to the water through the bigger checks have the notion that they manage the system. Our investigation reveals, however, that on the whole no one in particular actually manages the irrigation activities in the Mauraro system.

Allocation and distribution of water

Since nobody in particular is responsible for the allocation and distribution of water in the Mauraro system, each farmer looks after his own water needs and acts accordingly. To obtain water from the main canal, some farmers make cuts on the canal embankments. Other farmers have built checks on the canal and accordingly have made a take-off point at the canal side close to their ricefields. A check raises the water level on the canal, hence it allows the farmers to divert a large amount of water into his ricefield. Thus, for instance,

for checks with take-off points which are more or less fixed, farmers have stuck sticks along the take-off point opening on two alternating rows. If a farmer wants to let less water into his farm, he arranges the sticks close together, and if he wants more water, he arranges the sticks wider apart.

Since a farmer looks after his own water needs himself, when the water flowing in the canal close to his field is quite low, the farmer is forced to make the rounds along the canals, particularly at night, and finds ways and means of how he can get the water. A source of amusement for some barrio farmers, but a reason for anger for others, is the nighttime water-stealing acts employed by farmers.

Informants tell us that farmers who want water usually make the rounds in the evenings when other farmers are not present. A farmer who needs water then closes the take-off points or destroys the checks upstream of his farm. Then he may proceed to make a check and an additional take-off point along his part of the canal. It is however, necessary for a farmer who does this to stay and watch over his own check and take-off point because others might also come along and destroy his check or close his take-off point when he leaves. Thus, if a farmer can spare only an hour to keep watch, it is only for the same length of time that he is able to get water. An informant puts it this way, "If at 9 o'clock you keep watch, when you leave at 10 o'clock, somebody will also get the water. Keeping watch is extremely necessary." In fact, even if a farmer might be able to get water by asking his neighbors upstream, watching over the water is an integral part in getting the irrigation.

This system of guarding is practiced even in the wet season when water is quite abundant. But it is intensified in the dry season when the water flowing in the main canal decreases considerably.

Maintenance of the system

As there are no institutionalized or formal managers of the system, the cleaning and repair of the system's structures are the responsibility of each and every farmer. But the farmer is responsible only for the parts of the system on or bordering his farms and not for the entire system.

The farmers who own the checks are also the ones responsible for them in case the checks get destroyed or need repair. Each farmer is also responsible for the repair of the damaged canal close to his farm.

In terms of the dam, the repair and cleaning is taken care of by anybody who cares enough to work on it. In 1975, for instance, some

farmers contributed ₱40 each to buy the materials necessary to repair the dam which was destroyed by the flood. This group of farmers, temporarily headed by the former barrio captain, hired laborers who repaired the dam. In 1977, the Samahang Nayon (SN) president who tilled his father's land in the Mauraro system sent word and gathered some farmers who repaired some minor damages on the dam brought about by a flood.

While the SN president reports that the Mauraro farmers readily help in the various maintenance and repair work in the system, the former barrio captain who led the construction of the concrete dam complains that at times it is very hard to get volunteers to work on the maintenance of the dam. Both the SN president and the former barrio captain agree, however, that very few farmers contribute money to buy the necessary materials when major repair on the dam has to be made. This unwillingness of the farmers to help may be partly owing to the fact that, as our informants report, there are no sanctions for nonparticipation in the maintenance and repair of the dam or other parts of the system.

Conflict and conflict management

The nocturnal water stealing and the tampering of checks and take-off points are considered by many as undesirable behaviour. Nonetheless, since the majority of the farmers believe that such actions become imperative when a farmer needs irrigation water, many farmers take these actions good-naturedly. On occasions, though, water stealing becomes a cause of conflict. When such disagreements occur, they are often settled through hororon, or consensual discussion.

But aside from the occasional conflicts generated by water stealing, a major conflict that has beset the Mauraro system is the ongoing conflict between the mayor of Guinobatan and at least some Mauraro farmers.

In 1971, the Guinobatan mayor constructed a big check (the first one closest to the dam) on the main canal. This check, made of bamboo sticks, twigs, and leaves caked together by mud and kept in place by huge coconut tree trunk laid across the canal, diverts a large amount of the Mauraro water into the mayor's farms. In fact, during our visit to the system in April 1978, we saw that the water flowing in the canal after the mayor's check was considerably decreased. Since a few yards below the mayor's check the BUCA tenant has made another check, the water that flows toward the farms downstream is indeed very little.

Because the water that reached the old farms became insufficient to irrigate the farms at the tail end, in 1974 the Mauraro barrio council complained to the Bureau of Plant Industry (BPI) regarding the two

upstream checks. At the advice of a BPI personnel, the council sought the help of the Governor's office. The Governor's office referred the council to the Department of Agrarian Reform (DAR) which, in turn, referred the council to the National Irrigation Administration (NIA). The NIA personnel who was sent to investigate the case advised the council to file charges against the mayor and BUCA. Upon this suggestion, the farmers lost their enthusiasm in pressing their grievance because many of them were reluctant to contribute money for a lawsuit and to persevere with a case that may last for a long time. Besides, the former barrio captain argues, the mayor and BUCA have sufficient means to follow through a lawsuit while many of the Mauraro farmers could not afford to contribute to the expenses which will be entailed.