EXPLORATORY RAPID APPRAISAL OF BARANGAY CENTRO SAN ANTONIO, ILAGAN, ISABELA, PHILIPPINES

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History of the Barangay

Barangay Centro San Antonio, Ilagan, Isabela, is the main barangay in the old Tabacalera San Antonio Hacienda. The hacienda was first owned a century ago by the Spaniards, then by the ANCA Corporation and later by the Land Bank of the Philippines. It was brought under the Agrarian Reform Program in 1981 and 1982; currently the people of the barangay are owners of the land although many still owe payments. The old hacienda was broken up into several barangays of which Centro San Antonio is the largest. Locally people sometimes refer to the entire former hacienda as San Antonio and the barangay as Centro San Antonio. The hacienda was divided up into numbered administrative units called “cabeceras”. Some of these have become single barangays; other new barangays are composed of several cabeceras. Most local people still refer to locations by cabecera.

San Antonio includes about 994 ha and is 18.5 km away from the Ilagan town proper. The barangay, which has been led by an active woman Barangay Chairman since 1996, has been the awardee of the Model Barangay of Ilagan in 1996 and the Most Outstanding Barangay of the Philippines in 1997. The barangay has reasonable basic facilities of drinking water, deep wells, spring boxes, street lighting, schooling (elementary and high school), health care, day care, recreational and sport facilities (basketball and volleyball courts, reading center, park), gathering places (community center, barangay hall), postal service, grain drying floor, garbage cans and Sunday public market. San Antonio owns a Windows 95 computer. The main road through San Antonio continues down through Barangay Santa Maria to the Pinacanauan River, where there is a ferry to transport jeepneys and trucks to several other barangays on the other side of the river. There are about 10 jeepney trips a day starting at 5:30 AM to 5:00 PM driving through San Antonio bound for Ilagan.

Time line and agricultural trends, from farmer interviews

The watershed year in the barangay history was 1982, when the tobacco hacienda ceased operations and farmers gained control of their own lands. Previously, all lands had been planted in tobacco. The hacienda had provided fertilizers. After land reform, farmers immediately switched to growing hybrid maize and upland rice. Farmers do not grow tobacco because of high labor requirements, uncertain markets, and the fact that only one crop can be grown per year. Recently, mostly in the past three years, farmers have begun constructing rice paddies and converting land from upland crops due to acquisition of pumps and shallow tube wells. Upland rice has decreased in acreage, while maize has remained constant. Crop yields have remained about constant, but increasing amounts of fertilizer have been needed to maintain yields.

Average size of family landholdings has decreased since land reform, as families increase in size and subdivide their parcels. There is a land market and there has been little immigration. Many families, especially those in Puroks 5 and 6 (Barikir), farm uplands outside of the barangay so the average farm size is greater than the total area of the barrio divided by the number of families. Previous to land reform, labor was cooperatively exchanged ("bayanihan" system). Today, labor is for cash hire on a daily wage.

A former agriculturist for the Tabacalera hacienda, Mr. Miguel Rodriguez, still lives in San Antonio and does consulting work around Isabela and Cagayan provinces for Tabacalera. He said they had only just started a liming program when the hacienda went out of business. He said they applied 2 tons/ha of lime to about 2 ha near the Barangay hospital (this is probably where Teodula's high P soil sample came from).

Biophysical Characteristics

Topography/Terrain/Transects

San Antonio is located on a hill at the bend of a river (Figure 1) The hill runs roughly east to west; the top is flat with steeply sloping sides. Several small valleys with intermittent streams dissect the hill; these have mostly been made into rice paddies. A large area of river flood plain south of the hill is also part of the barangay; this also has been made into rice paddies. Recently produced topographic maps at 1:50,000 scale are available from the National Mapping Resources and Information Authority (NAMRIA). The entire area of the barangay is 994 ha of which 350 ha is classed as agricultural land. About 60% is used for corn and upland rice and 30% for paddy rice.

Figure 1. Approximate location of San Antonio in Luzon, Philippines.

Soil

San Antonio has at least two major types of soils. Soils at the top of the hill are red to light red in color and have small iron concretions (called "bagiing" in Ilokano) on the surface. These soils may be on steep slopes or on flat lands. Soils on steep slopes may be highly eroded, with ironstones evident on the surface. On flatlands the iron concretions are found at depths of 15-30 cm. Farmers affirm that the stones increase as the soil is washed away. Samples taken by Teodula show pH values of 4 to 4.5 and generally low P. These soils are used to grow upland rice and pasture. Other areas are in fallow. Mr. Miguel Rodrigues, who is an agronomist trained by the University of the Philippines at Los Baños (UPLB), said that the reddish soils of the uplands of San Antonio, which he called the "upper vegas", are typically pH 4 to 4.5. Other nearby barangays in the area with acid soils include Gayong-gayong, San Rafael, and Sinton Maride according to Mr. Warlito Cayaba, Ilagan Municipal Agricultural Officer. Some farmers were familiar with the terms "acidic" or "naalsim" (sour in Ilokano) for soils.

Lower down on the hill towards the river, in bottomlands, or the floodplain south of the barangay, the soils change to light reddish brown to reddish gray in color. These soils seem to be less acid. Leucaena trees grow well, and these are not tolerant of acid soils. Records of soil pH for San Antonio from the Soil and Water Management Laboratory show a range of 5.4 to 6, with a mean close to 6. These soils are used to grow both upland rice and maize. The Soil and Water Management team probably only sampled maize fields. A soil fertility map for the municipality of Ilagan was obtained from Restituto Samatra of the Regional Agricultural Engineering Group (formerly Bureau of Soil and Water Management) in Tuguegarao. The map showed no strongly acid soils, however. Only the key grain production areas were sampled, thus the map does not reflect the highly acid upland soils. Much of the productive area (relatively a smaller portion of the total area) of the barangay is in rice paddies, and we did not examine paddy soils.

Climate/Rainfall

The Ilagan experiment station has rainfall records from 1961 and pan evaporation records from 1990. Engineer Willy Contillo manages the weather station and compiles the weather data (Figure 2). Rainfall is highly seasonal. February, March and April are the driest months, sometimes with no measurable precipitation. The historical records, however, show occasional events of up to 200 mm precipitation in these months. Reliable rainfall may begin in April, June, or July. October and November, typhoon season, are the wettest months, with a median rainfall of 300 mm and up to 1000 mm precipitation recorded one year in October. Rainfall begins to taper off in December and is low in January and February. Pan evaporation is highest in May and averages higher than median rainfall for January through June (data from 1961 to 1994 for rainfall and from 1990 to 1994 for pan evaporation). Any month of the year, however, may have less rainfall than pan evaporation, so drought is a problem year round.

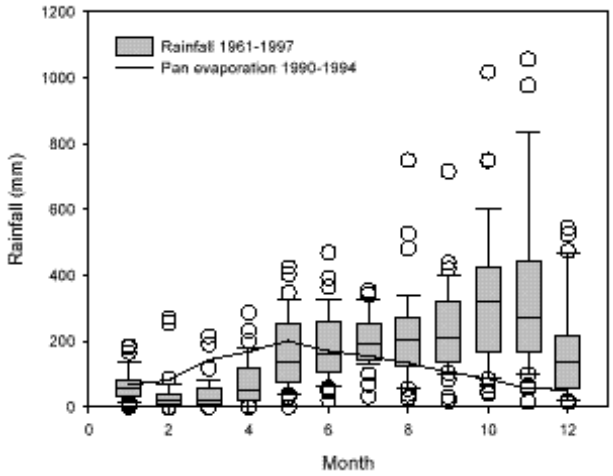

Figure 2. Rainfall and pan evaporation at the Ilagan Research Station, Luzon, Philippines. Lines represent median values, boxes indicate ±25% intervals of rainfall, and circles correspond to outliers in monthly rainfall data over the 27-year period.

Vegetation

Most of the uplands of San Antonio are in agriculture or pasture. Pastures are not improved or managed other than by periodic burning. Vegetation consists of various composites, *Mimosa* and *Imperata*. Gullies have some woody vegetation, including *Trema*, *Leucaena* and kapok. Planted trees include bananas, coconuts, avocados, mangos, guavas, papayas, *Gliricidia*, *Jatropha*, caimito (star apple), *Gmelina*, tamarind, jackfruit, malunggay (*Moringa*), atis and guyabano (*Annona spp.*), cashew, teak, and neem. Kawayan bamboo (*Bambusa blumeana*) is common but we did not see any buho (*Schizostachyum*). The recent market for *Gmelina arborea* wood has resulted in several small plantations being established. Local residents buy buho bamboo for construction and Imperata grass for thatch, as there is little in the barangay.

Socioeconomic and Demographic Characterization

The barangay officials have not been active in bringing development to the barangay until after 1996 when a dynamic woman, Ms. Epifania T. Molina, was elected as the Barangay Chairman. The new Chairman reorganized the Barangay and instilled a new dynamism among its many officials. The barangay has 7 districts (puroks) each managed administratively by a Kagawad. Ninety eight percent of the households own a house. Ninety eight percent of the people of San Antonio use Ilokano as their first language; the rest use Ibanag. Most of the families used to work for the hacienda or are descended from former hacienda workers. There has been little recent immigration into the barangay.

Population

The population is estimated to be 3,242 with a total of 610 households, according to the 1996 Barangay Socio-economic and Physical Profile (SEPP). The population is roughly 51%

male and 49% female. Fifty seven percent of the population is considered to be in the productive age (15-65 years). The barangay has lists of every family by name and age.

Human Resources

According to the 1996 SEPP, while only about 3% of the population has attained college education, 24% has attained secondary and 30% intermediate education. There are 14 persons who never went to school. The barangay has 31 teachers, one for day care, 20 for elementary and 10 for high school.

Livelihood Activities

Sixty-nine percent of the households are classified as farmers, 8% as businesspeople, 5% as drivers, 1% as welders, 14% as private employees, and 3% as government employees, according to the barangay SEPP. The Bureau of Agricultural Statistics listed 400 fishing families, but this probably means that most families fish occasionally in the nearby Pinacanauan River. There are 45 commercial establishments such as furniture manufacturers, variety ('sari-sari') stores and agricultural suppliers. Agriculture, predominately maize and rice production, is the main livelihood of the people of San Antonio. There is limited production of vegetables, livestock and poultry. According to the 1996 SEPP, 85% of the population earn an income less than 6000 pesos per month, which is considered below the poverty line.

Resources in the Municipality

Ilagan, Isabela is the provincial capital, and as such supports both community and provincial government offices. Offices visited during the participatory rural appraisal (PRA) include the Municipal Agriculture Office (Warlito Cayaba, Municipal Agricultural Officer), the Provincial Natural Resources and Environment Office (Leonardo Sibbaluca, PENRO), the Department of Agriculture Cagayan Valley Integrated Agricultural Experiment Station (DA-CVIARS, where we stayed, contacts Quirino Asuncion and Gemma Gazzingan), the Municipal Agrarian Reform Office (we spoke with Violeta Querubin), the Municipal Agricultural Statistics Office (we spoke with Melecio Serrano), and the Department of Agriculture Regional Soils Laboratory (we spoke with Encarnation Lazada). There is also a Crop Protection Office of the Department of Agriculture which was holding training on IPM for corn in the nearby barangay (Santa Maria) during the PRA. Ilagan itself is a large municipality of over 150,000 with 91 barangays. Although the town qualified as a chartered city, a plebiscite held on March 14th (during the PRA) turned down cityhood. Ilagan has about half a dozen agricultural supply stores well stocked with seed, pesticides, and fertilizer and several grain buyers.

Land Use and Farming Practices

Farmers overwhelmingly plant hybrid maize, upland rice, and paddy rice. Some farmers plant mungbean. Vegetables are grown mainly for home consumption. At least one farmer interviewed is growing seed (ampalaya, sitao, cucumber and squash) for the East-West Seed Company. Farmers are converting the lower dryland rice areas into paddies.

Cropping Pattern/Cropping Calendar

The first crop is planted when the rainfall is steady, which can be anytime from April to July. The second crop is planted after the first crop is harvested and the fields can be prepared again, which can be from September to January. If there is heavy rainfall during the September to November typhoon season, planting the second crop may be delayed. Of course, if there is an early summer drought the second crop will be affected. In 1997 the dry season has been

unusually strong and severe, so many crops which were planted in December were a complete loss.

The first group interviewed said that the first crop was usually maize, with rice being planted as the second crop. This contradicts what was seen in the August 1997 field trip, which was that the rice had been planted in late July. Another group interview (at Purok 3) asserted that rice or maize could be the first crop, followed by maize if there was still enough rain for a second crop. The first group said that mung beans, if planted, were a first crop, while cowpea and ampalaya are a second crop.

Crop varieties

Pioneer, Cargill, and SMC hybrid maize varieties are all used. There are small areas planted to native varieties of white maize. The most common upland rice variety planted is C-22, which is locally known as "burek". One farmer mentioned that C-22 is supposed to be more drought resistant. Varieties UPLRi5 and C-4 are also planted. Traditional varieties of upland rice such as "palawan" are not grown because of their long growth cycle. Farmers always purchase new hybrid maize seed but replant rice from their harvest.

Labor use

Labor may be hired to help plow, plant, harvest, transport, and process upland crops. A man with a water buffalo plow can be hired for 120 pesos/day and can prepare a 1 ha field in 4 days or 8 days if two passes are needed. A tractor can be hired for 750 pesos/ha for one pass or 1500 pesos/ha for two passes. The rate increases to 1000 pesos per pass per ha if the land is steep. Farmers prefer tractor tillage because the tractor can till under crop wastes. If a water buffalo plow is used, the crop wastes must be cut and burned beforehand. The rate for hired labor at harvest time is 50 pesos per day. Twenty laborers are needed to harvest a hectare of upland rice in a day and 14 to harvest a hectare of maize. There is also a charge to haul crops to the barrio center. Owners of threshing machines charge one sack of rice payment for every 15 sacks threshed. Some farmers choose to thresh by hand. People hire out to dry crops on the pavement for 50 pesos per day or 2 pesos per sack of grain. Maize requires more labor to process than rice because of the need to husk and shell. Some families still husk and shell maize by hand.

Women may help plant, spread fertilizer, and harvest. At least one farmer expressed the idea that a woman's primary responsibility was in the home.

Input use

Farmers recognize the need to apply fertilizers. The standard recommendation per ha for upland rice or maize is for four 50 kg sacks of 14-14-14-11s for a basal application and two 50 kg sacks of urea for side dressing (or top dressing in the case of rice). This works out to 74 kg of N, 12.6 kg of P, and 23 kg K. Basal fertilizer is banded. Most people seemed to be applying this. One farmer mentioned that maize grows poorly if not fertilized as compared with upland rice. Another mentioned that in years with poor rainfall more fertilizer is needed. Others mentioned that rice was less apt to be fertilized than maize, although one farmer believed that rice consumed more nutrients than maize. Some farmers allocate their best lands to rice, others to maize. One farmer used 6 bags of 14-14-14 per ha as a basal and then added 2 bags of urea.

Both upland rice and maize are occasionally sprayed with pesticides. Maize stem borer and ear worm are problems. Farmers apply Furadan granules at flowering stage. During vegetative stage the farmers spray with Folidol, Malathion, Novacron. Leaf hoppers ("babalkot"), farmers

say, are their problem with rice. Farmers spray with Cymbush to control them. IPM for corn using Trichogramma and detasseling is being promoted by the DA Regional Crop Protection Center. Racumen rat poison is used to control rats.

Mechanization

There are several riding tractors in the barangay, five in puroks 5 and 6 alone. Many farmers own hand tractors. According to a 1990 survey conducted by the National Statistics Office in Isabela, there were 4 tractors, 15 hand tractors, 2 irrigation pumps, 3 threshers, 3 shellers and 3 rice mills in the barangay. These figures are probably far outdated now as we were told that there are 5 tractors in Barikir (Purok 5 and 6) alone. Farmers growing paddy rice in the lowlands are using irrigation pumps.

Credit use

Many farmers need credit to buy inputs, mainly hybrid maize seed and fertilizers.

Crop yields

Typical yields of maize according to farmer interviews are from 40 to100 cavans per ha, which at 50 kg/cavan comes to 2 to 5 t/ha. Farmers were conversant with rates of fertilizer to be applied and yield per hectare, not just per field. Upland rice yields range from 30 to 40 cavans/ha (1.5 to 2 t/ha), although the MAO (Municipal Agriculture Office) believed that some upland rice yielded up to 2.5 t/ha. Of course, some years crops fail altogether. This year (1997) there was no harvest at all from many fields.

Crop prices

Farmers asserted that rice prices can vary from 5 to 8.3 pesos/kg. Prices for upland and lowland rice are the same.

Farmer ranking of constraints and problems

During the transect of puroks 5 and 6, farmers mentioned yellowing of leaves, purpling of leaves, and poor drought tolerance as problems related to soils. They also mentioned that soil erosion was a problem.

We conducted two focus groups where farmers listed and then ranked their problems in growing maize and upland rice. Table 1, 2 and 3 list the problems in order of average priority, although different farmers differed in their assessment of the severity of these problems. The two different groups came up with significantly different problem lists.

Table 1. Farmer ranking of problems in growing rice in Purok 3.

PROBLEM	FARMER RESPONSES[a]					TOTAL
1. Rats	3	1	1	1	1	7
2. Insects	1	2	2	5	7	17
3. Drought	5	5	4	3	3	20
4. Birds	3	3	9	4	2	21
5. Leaf yellowing	2	7	7	2	6	24
6. Poor tillering	6	4	5	6	8	29
7. Poor soil with ironstones	4	9	3	9	4	29
8. Weeds	7	8	6	7	5	33
9. Quality seeds	8	6	8	8	9	39

[a] Increasing numerical value of rankings reflects decreasing importance by farmers responding to the survey.
Note the variability in identification of leaf yellowing and poor soils as a problem.

Table 2. Farmer ranking of problems in rice production in Purok 7.

PROBLEM	FARMER RESPONSE							TOTAL
1. Drought	4	1	1	3	3	1	2	15
2. Fertilizer: kind and amount	2	4	4	6	5	3	3	27
3. Weeds	1	3	3	2	2	11	8	30
4. Typhoon	10	2	11	7	4	2	1	37
5. Finance	8	7	2	4	10	4	4	39
6. Insects	6	5	5	8	1	11	6	42
7. Rats	7	6	8	1	5	11	9	48
8. Leaf browning/purpling	3	10	7	11	8	5	5	49
9. Disease	5	9	6	9	9	7	7	52
10. Low prices of product	9	8	9	5	7	6	10	54
11. Soil with ironstones	11	11	11	11	11	11	11	77

Note: soil with ironstones was not considered a problem because farmers did not even try to grow crops there.

Table 3. Farmer ranking of problems for maize production in Purok 3.

PROBLEM	FARMER RESPONSE		TOTAL
1. Rats	4	1	5
2. Ear rot	1	5	6
3. Poor grain fill	3	4	7
4. Insects	5	3	8
5. Weeds	6	2	8
6. Drought	2	7	9
7. Mildew	7	6	13
8. Birds	8	8	16
9. Poor soil with ironstones	9	9	18

Some of the farmers interviewed about rice in Purok 3 did not grow maize.

Table 4. Cost/Benefit Analyses: break-even yield calculations for upland rice in Centro San Antonio.

				COST		BREAK-EVEN
OPERATION	**INPUTS**	**UNIT**	**QUANTITY**	**UNIT**	**TOTAL**	**YIELD[¶]**
				----- pesos -----		kg ha^{-1}
Land	Tractor or	pass ha^{-1}	2	700	1400	
preparation	Carabao	pass ha^{-1}	2	480	960	
	Slashing/burning	days ha^{-1}	10	50	500	
Fertilization	14-14-14	50 kg bag	4	380	1520	
	Urea	50 kg bag	2	375	750	
Seeding	Seed	kg ha^{-1}	75	6	450	
	Labor	days ha^{-1}	10	50	500	
Weeding-first	Labor	days ha^{-1}	20	50	1000	
second	Labor	days ha^{-1}	20	50	1000	
Spraying	Labor	days ha^{-1}			0	
	Insecticide				0	
Harvest	Labor	days ha^{-1}	20	50	1000	
Total Costs					7620	1089

[¶] Break-even yield based on the price of 7 pesos/kg of rice grain.

Table 5. Cost-benefit analysis: break-even yield calculations for maize in Centro San Antonio

				COST		BREAK-EVEN
OPERATION	**INPUTS**	**UNIT**	**QUANTITY**	**UNIT**	**TOTAL**	**YIELD[¶]**
				----- pesos -----		kg ha^{-1}
Land	Tractor or	pass ha^{-1}	2	700	1400	
preparation	Carabao	pass ha^{-1}	2	480	960	
	Slashing/burning	days ha^{-1}	10	50	500	
Fertilization	14-14-14	50 kg bag	4	380	1520	
	Urea	50 kg bag	2	375	750	
Seeding	Seeds	kg ha^{-1}	20		1250	
	Labor	days ha^{-1}	10	50	500	
Weeding - first	Labor	days ha^{-1}	10	50	500	
second	Labor	days ha^{-1}	10	50	500	
Spraying	Labor	days ha^{-1}	1	50	50	
	Insecticide			1000	1000	
Harvest	Labor	days ha^{-1}	20	50	1000	
	Husking/shelling				500	
	Drying				500	
Total Cost					9470	1633

[¶] Break-even yield based on the price of 5.8 pesos/kg of corn grain.

Access to Market, Credit and Information

Access to Inputs

There are about a half a dozen agricultural supply stores in the Ilagan town who deal with fertilizers, hybrid maize seeds and pesticides (Tables 6 and 7). Four fertilizers are commonly stocked by suppliers complete (14:14:14:11S), ammonium sulfate (21:0:0:24S), DAP (16:20:0:12S) and urea (46:0:0). Suppliers are likely to supply other fertilizers if there is demand.

Table 6. Fertilizer material availability and price in Ilagan town.

		SUPPLIER		
FERTILIZER	**QUANTITY**	**1**	**2**	**3**
	kg	---------- price in pesos ----------		
14:14:14	50	380	380	385
DAP	50	375	375	380
Urea	50	375	375	375
AS	50	235	240	235

Table 7. Hybrid maize seeds from three companies, Pioneer, SMC and Cargill, are stocked by the suppliers.

MAIZE		SUPPLIER		
HYBRID	**QUANTITY**	**1**	**2**	**3**
	kg	---------- price in pesos ----------		
Pioneer 3014	18-20	1250	1250	--
Pioneer 3246	18-20	1100	--	--
Pioneer 3015	20	1500	--	--
SMC	16-18	1200	1250	--
Cargill 818	18	1250	1250	--
Cargill 900M	18	--	--	1300

No one in Ilagan currently supplies agricultural lime. Ms. Encarnation Lazada of the Soils Laboratory in Ilagan told us that lime supplies could be arranged from J C Gaspar in Aparri. Regional supplies of lime were obtained during the time of the hacienda.

Credit Facilities

Grain buyers extend credit to farmers who need cash to buy seed and fertilizers. Farmers then agree to pay interest on the loan and to sell their crops to that buyer, who purchases the crop at a lower price. When asked if a farmer could sell to a third party and pay off his debt in cash, local people replied that one could but then he would never get credit again from that lender. Interest on the loans ranges from 10% to 30% over the length of the crop.

Marketing System

There is at least one big maize buyer in the barangay who appears to be among the richest few. Middlemen from other barangays of Ilagan normally buy farm products from the barangay

people at a slightly reduced price than prevailing in the town market. Local farmers seemed to think that the slightly lower prices offered in the barangay roughly reflected the cost of transport.

There is an NFA coop (SAMACDECO) in the neighboring barangay of Santa Maria. A coop in San Antonio (CLARAVAL) has not been very effective and may be defunct. The Bureau of Agricultural Statistics reported 81 rice and maize buyers in Ilagan in 1990.

Extension System

Arceli Asis, an agronomist by training, is the extension technician from the Municipal Agricultural Office assigned to San Antonio. She is also responsible for four other adjacent barangays and lives near the area. She has worked for several years in the area and knows many of the local farmers. She visits San Antonio monthly and feels somewhat constrained by her limited travel budget. The MAO in Ilagan has a total of 19 technicians. The Bureau of Crop Protection was running an IPM seminar in the adjacent barangay of Santa Maria during the PRA.

The Department of Agriculture Cagayan Valley Integrated Agricultural Experiment Station (DA-CVIARS) also has extension responsibilities. Gemma Gazzingan is a research assistant with a communications background and research and extension responsibilities. Quirino Asuncion of the DA-CVIARS is planning a 10 ha upland rice seed production area in San Antonio to start next rainy season.

Information Flows

Pioneer Seeds sent representatives out to San Antonio to teach farmers about fertilizer use when local farmers first started growing maize. Ten or so farmers learned the recommended practices and the others subsequently learned from them. Since then the farmers have been following the general recommendations from the seed companies as to fertilization, and they have also applied the same fertilizer to upland rice. Farmers said they also get agricultural information from the radio and some from government seminars.

Potential Experimental Site

There is a large, flat area owned by the barangay between the market area and the hospital. The area is in reserve for future development but barangay officials would like to see something grown there in the meantime. They tried planting mungbeans and eggplants but nothing grew well even though they applied 6 bags/ha of 14-14-14 fertilizer. Today the area is used for pasture. We discussed locating the experiment there. The area has the advantages of being flat, probably acidic, and easily accessible. Its central location would make it a good demonstration area and it is large enough to hold the entire experiment.

Farmers are interested in cooperating with the experiment to test DSS recommendations in their fields. We said that in the experimental area the project would supply inputs and guarantee a minimum harvest.

Summary

Barangay Centro San Antonio appears to be ideal for testing and validation of the nutrient decision aids, considering its people, soil and climate. The barangay's economy is predominantly agriculture based and the major livelihood of people is farming. Most people already own their land and dwellings or are on their way to owning them in the very near future. A dynamic and pro-development Barangay Chairman administers the barangay. The barangay is well positioned to benefit from its proximity to the Ilagan town proper in terms of access to markets, credit, inputs and information. Farmers do use inputs and the DA staff in the area seems to have an

influence on farmer practices. Farmers do seem to be receptive to new ideas and hence, there is a high likelihood of a decision aids project succeeding. Establishment of core experiments on barangay lands may provide added demonstrative value to the project mainly because of its central location and public ownership. Although, the core experiment will focus on nutrient management, rainfall/water management, and pest management must be integrated. Without water and with pest infestation a nutrient management experiment can not succeed.