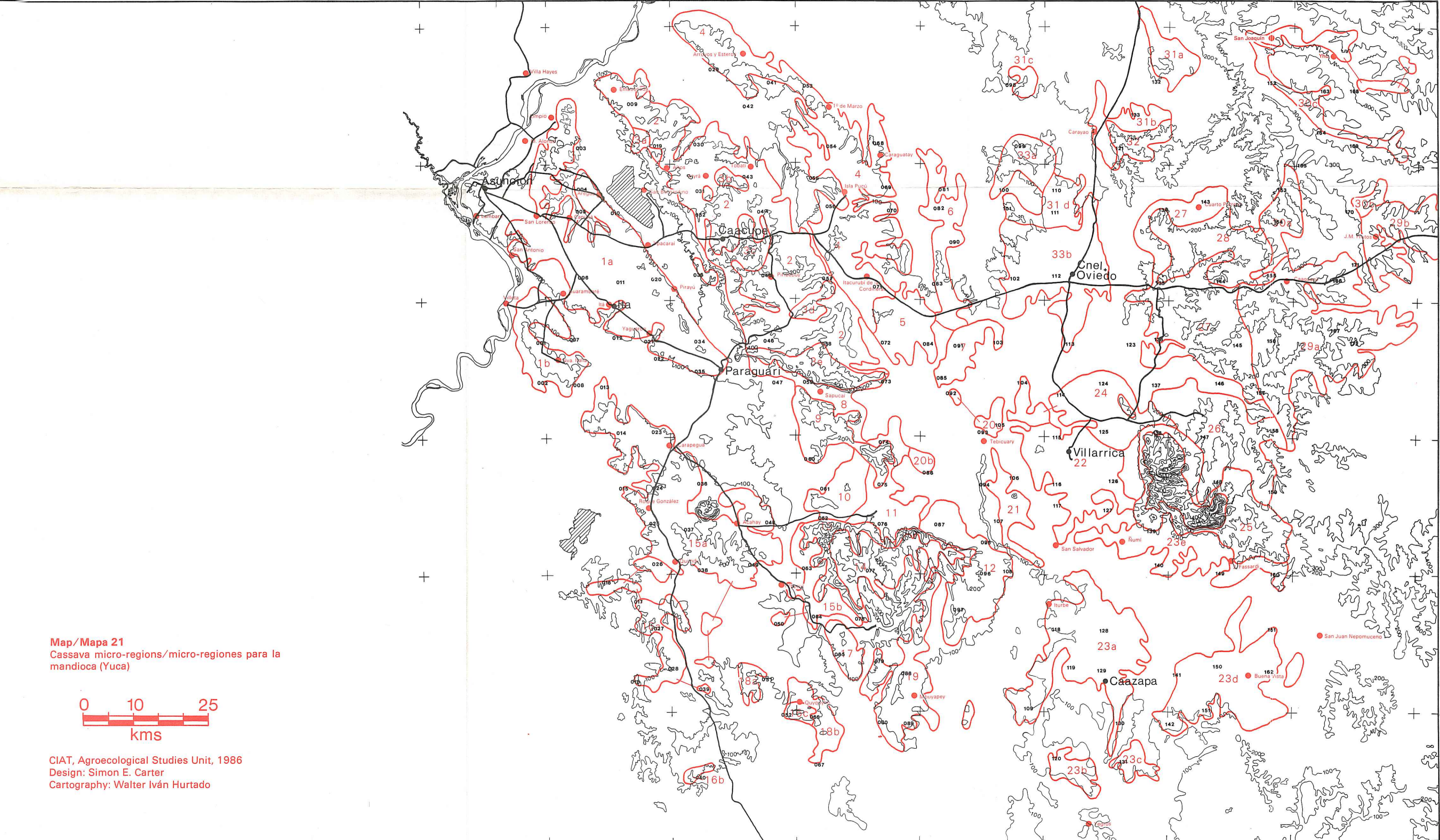


MICRO-REGION DESCRIPTIONS (SHEET 2)

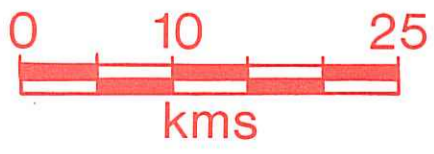
MICRO-REGION	LOCATION, DEPARTMENT (DISTRICTS)	TOPOGRAPHY	SOILS AND MANAGEMENT	MOST COMMON FARM SIZE	LAND TENURE (Most Common Form)	CASH CROPS	MARKETING AND ACCESS	CREDIT	USE OF FERTILIZERS	CASSAVA CULTIVATION	CASSAVA MARKETING	SHORTAGE OF CASSAVA ON FARM	PRODUCTION PROBLEMS (Pests, etc.)	CASSAVA PROCESSING	REMARKS
PAR 18	Paraguari (Guayquyhé)	Undulating	Sandy loams. Some rozados, but not a zone of recent colonization.	Less than 3 hectares.	Very variable. Some sharecropping and renting.	Few in number. Cotton and cocoteros are the only important sources of cash.	Products sold through intermediaries. No asphalt roads.	Only available for cotton. Sources: Intermediaries and CAH in general. BNF near Guayquyhé.	Chemical fertilizers occasionally used for cotton but not common.	Short and medium cycle crops. Monoculture in both 1st. and 2nd years.	Some sale to local towns. Not common.	Shortages experienced for upto 4 months on some farms in every compañía surveyed.	Root rots after prolonged rain. Steamborers.	Starch produced for subsistence on a small scale.	-
PAR 19	Paraguari (Mbuayapey)	Flat to undulating	Sandy loams. Rozados in some parts. Following practised in places.	Less than 7 hectares.	Titled ownership. Squatters in parts. Some sharecropping and renting.	Few cash crops. Cotton mainly. Subsistence crops sold in Mbuayapey (maize, cowpea, peanuts, etc.)	Cotton sold through intermediaries. No asphalt roads. Access difficult in the more remote parts.	Only available for cotton. Sources: BNF and intermediaries.	Not used.	Short and medium cycle crops. Various cropping systems in yr. 1. Intercropped with maize if cassava remains in the 2nd year.	Some sold in Mbuayapey. Some farmers hire trucks and take cassava to Asunción's Mercado de Abastos.	Some scarcity on smallest farms for upto 4 months, and as much as 6 in some.	Root rots Steamborers.	Starch produced for consumption and sale in Mbuayapey.	-
PAR 20	Guairá (Tebicuary)	Flat	Sandy and sandy loam texture. Rozados common (recently colonised). Following practised.	3-7 hectares.	Provisional ownership. No sharecropping or renting.	Few cash crops. Cotton and sugar cane, and in some parts tomato and cassava are most important.	Products sold in Villarrica, Asunción. Sugar-cane sold direct to refineries. No asphalt roads.	Available for cotton and sugar cane. Sources: BNF, intermediaries, and sugar refineries.	Chemical fertilizers used for sugar cane.	Short, medium and long cycle crops. Various cropping systems in 1st year. Intercropped with maize if any left in 2nd year.	Sold in local towns, and in some compañías it is sold to Asunción's Mercado de Abastos. Farmers and intermediaries market the crop.	Shortages for 3-6 months on some farms.	Root rots. Hornworm. Drought problems in areas of sandy soils.	No farm-level starch production.	-
PAR 21	Guairá (Itapé)	Flat	Sandy. No rozados. Following practised.	3-7 hectares.	Titled ownership. No sharecropping or renting.	Few in number. Cotton, sugar cane most important.	Cotton sold through intermediaries. Sugar cane direct to refineries. No asphalt roads.	Available for cotton and sugar cane. Sources: BNF and intermediaries.	Chemical fertilizers used for sugar cane.	Short, medium and long cycle crops. Generally intercropped with maize.	Not sold outside of the compañía.	No shortage acknowledged. Theft of cassava in 2 compañías surveyed.	Drought problems on sandy soils.	No farm-level starch production.	-
PAR 22	Guairá (Villarrica)	Flat	Sandy loams. No rozados. Following practised.	Generally less than 7 ha.	Provisional ownership.	High number of cash crops. Cotton, sugar cane, maize, cassava, horticultural crops, dairy products.	Produce sold in Villarrica. Villarrica linked by asphalt road to Asunción. Dirt roads elsewhere.	Available for sugar cane in some parts. Sources: Mainly BNF.	None used.	Short, medium and long cycle crops. Various cropping systems in 1st year; maize intercropped if left for 2nd year.	Sold in Villarrica market.	Shortages on some farms in every compañía surveyed, for upto 4 months.	-	Farm-level starch production in some compañías, not in all.	-
PAR 23	Caazapa, Guairá, (Caazapa, Maciel, Buenavista, J.M. Fassardi, Humil).	Flat to gently undulating.	Generally sandy loams. Sandy sectors common nearer the Tebicuary river. Rozados only on the southern extremity. Following practised.	Less than 7 ha in the north of the zone, but larger in the southern extremity.	Titled ownership and squatters. Some sharecropping and renting.	Few cash crops. Cotton and sugar-cane, and some subsistence products (cowpea, maize and dairy products).	Produce sold in local towns. Where access is good, to Villarrica; where bad, farmers depend entirely on cotton. Access difficult over dirt roads (30-100 km). Railway crosses 23a, b, c.	Available for cotton and sugar cane in places, and for tobacco on the southern extremity. Sources: BNF is the only source in most places, CAH around Buenavista, south of Caazapa and near J.M. Fassardi. Intermediaries in some parts.	None used.	Short, medium and long cycle. Various cropping systems common in 1st year. Predominantly intercropped with maize in 2nd year.	Sold to starch producers around Caazapa, J.M. Fassardi and Buenavista. Elsewhere cassava is not sold.	Scarcity on smallest farms in about half the compañías surveyed, for 4-6 months. Theft of cassava in some others. Some compañías see neither shortage nor theft.	Root rots common at most survey sites. Hornworm and steamborer at some sites.	Starch production (intensive) common around Caazapa, Buenavista, J.M. Fassardi, for Asunción and E. Ayala markets. (larger scale than farm-level and almost constant).	-
PAR 24	Guairá (Mbcayaty)	Flat to gently undulating.	Generally sandy; some sandy loams. Rozados cultivated. Following practised.	Generally greater than 3 ha, variable.	Provisional ownership	Few in number. Cotton, sugar cane, bananas most important.	Produce sold to intermediaries, or in the case of sugar cane, to refineries. Good asphalt roads.	Available for sugar cane. Sources: BNF. Not common.	None used.	Short, medium and long cycle crops. Various cropping systems.	None sold.	Shortage of cassava in most compañías for some farmers, for upto 4 months.	Steamborers. Hornworm.	Farm level starch production not very common.	-
PAR 25	Guairá Margins of the Cordillera Ibytyruzu.	Steep and strongly dissected	Stony.	-	-	-	Direct access difficult due to topography.	-	-	-	-	-	-	-	No questionnaires done in this micro-region.
PAR 26	Guairá (Independencia, San Gervasio)	Undulating	Clay loams and sandy loams. Rozados common. Following practised.	Greater than 7 hectares.	Provisional ownership. No sharecropping or renting.	Large number of cash crops. Yerba mate, cotton, sugar cane, maize and soya are the most important.	Produce sold in Villarrica and Asunción. Independencia linked to Asunción by asphalt road. Dirt roads elsewhere.	Credit available for cotton and sugar cane. Sources: Mainly BNF. Alcohol producer in M.J. Troche gives credit for sugar cane.	None used.	Short, medium and long cycle crops. Various cropping systems.	Sold in Asunción (Mercado de Abasto), Villarrica, and to starch producers. Intermediaries market the crop.	No scarcity of cassava. No theft of cassava.	-	Some farm-level starch production for subsistence.	-
PAR 27	Guairá, Caaguazú. (M.J. Troche, Natalicio Talavera, R13 Corrales, Cuarto Potrero, Coronel Oviedo).	Undulating	Clay loams and sandy loams. Some sandier sectors near the Tebicuary river. Rozados common, following not practised.	Generally greater than 7 ha; exceptions are old settlements; 3-7 hectares is the more common farm size in these.	Variable. No sharecropping or renting of land.	Large number of cash crops. Sugar cane, cotton, cassava, potato, tomato, other horticultural crops, maize and castor-oil seeds.	Produce sold to Asunción's Mercado de Abasto and in other large towns such as Villarrica and Caaguazú. Asphalt road bisects the micro-region; access by dirt roads elsewhere.	Credit available for cotton and sugar cane. Sources: BNF, CAH and intermediaries.	Chemical fertilizers used for potatoes, horticultural crops and sugar cane.	Short, medium and long cycle crops. Various cropping systems in 1st year. 2nd year, generally intercropped with maize.	Sold to starch producers (M.J. Troche), Mercado de Abasto Asunción, and to local towns. Generally marketed by the farmer.	Shortage of cassava in some compañías in the north, for upto 4 months. No shortage or theft in the majority of the compañías surveyed.	Root rots after prolonged rains. Steamborers.	Semi-industrialized starch production important around Mauricio José Troche, sold for Asunción and Eusebio Ayala markets. All year round production.	-
PAR 28	Caaguazú (Cuarto Potrero, R13 Corrales)	Strongly undulating to steep.	Stony; sectors with sandy loams and clay loams. Some rozados. Following practised.	Greater than 7 ha.	Squatters and provisional ownership. No sharecropping or renting.	Few cash crops. Cotton most important.	Cotton sold to intermediaries. Some products such as potato and tomato sold on a small scale in Coronel Oviedo. No asphalt roads. Some dirt roads cross the microregion.	Credit available for cotton and sugar cane. Sources: BNF, CAH and intermediaries.	Chemical fertilizers used for potato and tomato.	Short, medium and long crops. Monoculture predominant when sown. 2nd year generally intercropped with maize.	Sold to Mercado de Abasto, Asunción. Marketed by farmers and by intermediaries.	Shortages of cassava in some compañías for upto 4 months.	-	Production of starch on the farm for household needs.	Zone of recent colonization.
PAR 29	Caaguazú (Repatriación)	Undulating.	Sandy. Rozados common. Following only practised in parts, depending on recency of colonisation.	Greater than 7 ha.	Titled ownership. Some sharecropping and renting.	Large number of cash crops. Cotton, sugar cane, cassava, castor-oil seeds and some subsistence products. Horticultural crops in some parts.	Produce sold in Asunción (Mercado de Abasto) and in local markets of Caaguazú and Villarrica. Asphalt road crosses the north. Access on dirt roads elsewhere.	Credit available for cotton, and for sugar cane in compañías nearer to Guairá. Sources: BNF and intermediaries.	Chemical fertilizers used for tomato.	Short and medium cycle crops. Monoculture when planted; intercropped with maize in second year until harvest.	Sold to Mercado de Abasto, Asunción, and to starch producers in M.J. Troche. Almost entirely marketed by intermediaries (camioneros).	No farm level shortages of cassava with the exception of one compañía surveyed.	Drought problems associated with sandy soils in parts. Steamborers and hornworm in some parts.	Production of starch on the farm for subsistence etc.	Recently colonised.
PAR 30	Caaguazú (J.M. Frutos, Yhu, San Joaquín, Caaguazú)	Gentle to moderately undulating.	Generally sandy. Sectors of sandy loams towards the north (Yhu). Rozados common. Following not practised.	Generally greater than 7 ha, with a few exceptions in the north, where there are some older compañías.	Titled and provisional ownership. Some sharecropping and renting.	Few cash crops. Cotton, cassava and castor-oil seeds are the most important.	Produce sold to intermediaries. Nearer Caaguazú some subsistence crops sold in the town. Access via dirt roads only (up to 80 km).	Available for cotton. Sources: BNF and intermediaries.	Generally not used (chemicals). Exceptions nearer to the urban areas where horticultural crops are grown.	Short and medium cycle crops. At planting either intercropped with maize or in monoculture. Intercropped with various crops in the 2nd year.	Sold to Mercado de Abasto, Asunción, and starch producers in M.J. Troche. Marketed by intermediaries (camioneros).	No shortages of cassava experienced on the farm. No theft.	Root rots in the northern part (30 c). Hornworm in some parts.	Production of starch on the farm in most places, for subsistence.	Settlements are generally isolated. Recent colonisation is not very common.
PAR 31	Caaguazú (Carayaó, Coronel Oviedo, Hugo Stroessner, Cecilio Baez)	Gentle to moderately undulating.	Sandy loams. Some sectors of sandy soils, especially to the north. Rozados common. Following practised.	Greater than 7 hectares.	Titled ownership. Some sharecropping and renting.	Few in number. Cotton, tobacco and castor-oil seeds most important.	Some products sold in Coronel Oviedo. Otherwise through intermediaries. No asphalt roads.	Available for cotton and tobacco. Sources: BNF and intermediaries. CAH in 31D.	None used.	Short, medium and long cycle crops. Monoculture when planted; intercropped with maize in 2nd year.	Sold only on a small scale in local towns.	Shortage of cassava on some farms, for upto 4 months. In southern part of the micro-region (31 d) this period is longer, 5-6 months.	Root rots after prolonged rain fall common throughout the micro-region. Steamborers at some locations.	Starch produced on the farm for household use.	Recent colonization zone.
PAR 32	Caaguazú (Carayaó)	Steeply scarped and dissected.	Stony soils and sandy soils depending on topography. Rozados cultivated. Following practised.	Greater than 7 hectares.	Provisional ownership. Some sharecropping and renting.	Few cash crops. Cotton and tobacco most important.	Some products sold in Carayaó, otherwise through intermediaries. Access difficult on dirt roads.	Available for cotton and tobacco. Sources: BNF and intermediaries.	None used.	Short, medium and long cycle crops. Sown with maize and intercropped with various crops in second year.	Sold only on a small scale to Carayaó.	Shortage for some farms, for upto 4 months.	Root rots noted.	Starch produced on the farm for household use.	Recent colonization zone. Socio-economic data from one questionnaire only.
PAR 33	Caaguazú (Coronel Oviedo, Hugo Stroessner).	Flat to gently undulating.	Sandy loams. Rozados cultivated. Following practised.	Greater than 7 hectares.	Titled ownership. Some sharecropping and renting.	High number of cash crops. Cotton, tobacco, banana, tomato and other horticultural crops, cassava, sugar cane and dairy products.	Products sold in Coronel Oviedo and in Asunción (Mercado de Abasto). Microregion quartered by North-South and East-West asphalt roads. Linked directly to Asunción, Villarrica and Pto. Pte. Stroessner.	Credit available for cotton, tobacco, tomato, banana, sugar cane and, occasionally, cassava! Sources: BNF, CAH and intermediaries.	Chemical fertilizers applied to horticultural crops in general, watermelon, tobacco and cotton.	Short, medium and long cycle crops. Monoculture predominates when sown; intercropped with maize in 2nd year.	Sold in Coronel Oviedo and in Asunción's Mercado de Abasto. Marketed by the farmer and by intermediaries.	Shortages in some compañías, for from 3-6 months; whilst in others there is none.	Root rots. Steamborers.	Starch produced on the farm for household use.	Recent colonization area.

MICRO-REGION DESCRIPTIONS

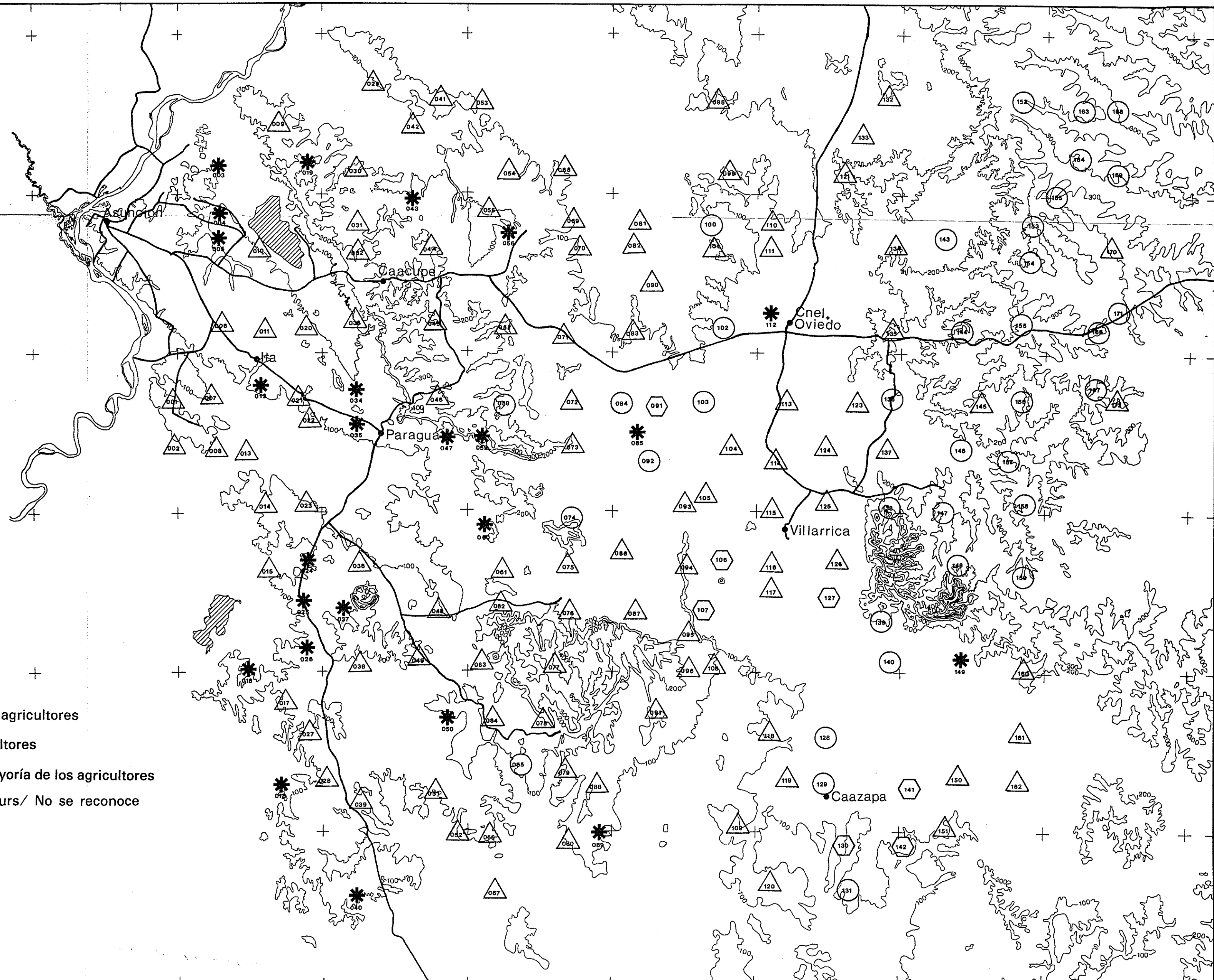
MICRO-REGION	LOCATION, DEPARTMENT (DISTRICTS)	TOPOGRAPHY	SOILS AND MANAGEMENT	MOST COMMON FARM SIZE	LAND TENURE (Most Common Form)	CASH CROPS	MARKETING AND ACCESS	CREDIT	USE OF FERTILIZERS	CASSAVA CULTIVATION	CASSAVA MARKETING	SHORTAGE OF CASSAVA ON FARM	PRODUCTION PROBLEMS (Pests, etc.)	CASSAVA PROCESSING	REMARKS	
PAR 1	Central, Paraguari, Villieta, Nueva Italia, Guarabará, Yaguaron, Paraguari	Flat to gently undulating. Some isolated hills exist in the south, but are not cultivated.	Predominantly sandy. Some sectors of sandy loams. No rozados. Following rarely practised. Soils are generally degraded and infertile.	Generally less than 7 ha.	Titled ownership. Some sharecropping but renting uncommon.	Large number of diverse crops. Horticultural, fruits, sugar cane, cotton, rice, and "subsistence" crops (maize, cowpea, peanuts, sweet potato) also sold. Cocotero fruits sold. Non-agricultural work is important in many <i>compañias</i> .	Asunción is the principal market for produce. Other smaller but important markets are Ita, Guarabará and Paraguari. Relatively dense network of asphalt roads.	Available for horticultural produce, and for cotton, except in the North of Ita. Sources: BNF, CAH, but most commonly from intermediaries.	High usage of chemical and organic fertilizers for a number of crops, specially horticultural.	Short and medium cycle crops. Long cycle in some places. Variable cropping systems both first and second years. Monoculture predominates in second year.	Of little importance. Some small scale sale to local towns and neighbours in the <i>compañia</i> .	Cassava shortages experienced by some inhabitants of every <i>compañia</i> surveyed; for up to 7 months in the north, decreasing to less than 4 months in south. Cassava brought from Asunción or Caaguazú during these months for re-sale.	Root rots experienced near areas which are subject to inundation in the south of the micro-region.	Starch production in some <i>compañias</i> for use on the farm. Not found nearer to Asunción.	In the North, near to Asunción, many <i>compañias</i> are peri-urban, rather than rural-agricultural.	
PAR 2	Cordillera, (Eboscada, Altos, Atyrá, Tobati, Piribeby, Caacupe)	Gentle to strongly undulating.	Sandy. In some sectors sandy loams occupy flatter land. No rozados. Following common.	Greater than 3 hectares. Greater than 7 hectares in some places.	Titled ownership. Some sharecropping and renting.	Large number. Cotton, cocoteros, watermelon, fruit, pineapples, sugar cane and horticultural crops in some locations. Consumption crops important near to towns.	Asunción is important, but local towns are the main markets for places with more limited access. Access poor in the north. Asphalt roads link Caacupe, E. Ayala and Piribeby to the south.	Cotton, cocoteros, and in some places sugar cane and horticultural crops receive credit. Credit is not available in about one third of the places surveyed. Sources: BNF, CAH, and intermediaries.	Used for tomatoes and watermelon/melon in areas of horticultural production.	Short, medium and long cycle crops. First year cropping systems are very variable. Second year; monoculture or intercropped with maize.	Small scale only, to local towns or within the <i>compañia</i> . One or two localities sell cassava to Farifá factory.	Shortages experienced for 3-6 months in all <i>compañias</i> surveyed (not on all farms).	Rotting problems after prolonged rain. Stemborers in some parts.	Starch production in some <i>compañias</i> (not in the North of the micro-region). Farifá (cassava flour) factory at Piribeby.	-	
PAR 3	Cordillera, Paraguari.	Steeply scarped and dissected.	Stony and shallow.	-	-	Very few. Coffee, fruit-trees, pineapple, cocoteros.	Access difficult, no asphalt roads.	-	-	-	-	-	-	-	-	No questionnaires were carried out in this micro-region. Information on crops from informal survey.
PAR 4	Cordillera, (Mrojos y Esteros, Isla Pucú, Eusebio Ayala, Itacurubi de la Cordillera)	Flat to gently undulating.	Sandy loams. No rozados. Following practised in many parts.	Greater than 3 hectares.	Titled ownership. There are some sectors where squatters are common. Some sharecropping and renting.	Large number. Cotton, tomato, watermelon, pineapple, rice, cocoteros, fruit-trees and some sale of "subsistence" crops.	Sale of products in Asunción and local towns. Access good in south. Isla Pucú and Itacurubi linked to E. Ayala by asphalt roads. Access bad in the north.	Available for cotton, watermelon/melon, tomato, pineapple and rice. Sources: BNF and CAH are most common.	Chemical fertilizers used on all main cash crops. Organic fertilizers (manure) used in places.	Short, medium and long cycle crops. Cropping systems for both 1st. and 2nd. year crops are very variable.	Cassava rarely sold in most <i>compañias</i> . In some it is sold to local towns, and in two places surveyed it is sold in Asunción's Mercado de Abastos.	Shortages experienced in all <i>compañias</i> for 3-6 months (not on all farms).	Root rot problems in some parts. Hornworm.	Farm level starch production found in most <i>compañias</i> for subsistence.	-	
PAR 5	Caaguazú, (San Antonio, San José)	Undulating.	Sandy loams or sandy. Rozados are common as many parts are recently colonized. Following not common.	3-7 hectares.	Provisional ownership and squatters on state land. Some sharecropping but no renting of land.	Few in number. Cotton, sugar cane and cassava.	Some products sold in Asunción (Mercado de Abastos). Asunción highway passes through the north of the micro-region.	Available for cotton and sugar cane. Sources: BNF and intermediaries.	Chemical fertilizers used on cotton, sugar cane and watermelon.	Short, medium and long cycle crops. Very variable cropping systems in both 1st. and 2nd. years of the crop.	Sold in Asunción's Mercado de Abastos. Marketed by the farmer.	Some shortages on small farms, for up to 4 months.	Stemborers.	Some starch production on farms for subsistence.	Recently colonised but farm size not typical of Caaguazú.	
PAR 6	Cordillera, Caaguazú, (Mocayaty, San José).	Flat.	Sandy loams. Some rozados where forest is still present, following common in other parts.	3-7 hectares.	Titled ownership. Some sharecropping and renting.	Large number. Cotton, tobacco, horticultural crops and dairy products are most important.	Produce sold to Mercado de Abasto, Asunción. Asunción highway passes through the south, but most of the micro-region served only by dirt roads.	Available for cotton, tobacco and rice. Sources: Intermediaries only in most places.	Chemical fertilizers used in some places for horticultural crops.	Short, medium and long cycle crops. Monoculture is predominant in the first year of the crop; various cropping systems in the 2nd.	Cassava sold in Asunción's Mercado de Abastos, and in Mocayaty. Generally marketed in Asunción by intermediaries.	Shortages on some farms in all <i>compañias</i> for up to 4 months.	Root rots after prolonged rain. Hornworm.	Starch production at farm level for subsistence and sale in local towns.	-	
PART 7	Caaguazú, (San José)	Flat	Sandy. No rozados. Following practised.	3-7 hectares.	Provisional ownership. No sharecropping or renting.	Few. Cotton, sugar cane and cocoteros.	Generally produce sold to intermediaries. Sugar cane sold direct to refineries. No asphalt roads, 5 or 6 km to Asunción highway.	Available for cotton and sugar cane. Sources: BNF and intermediaries.	Chemical fertilizers used for sugar cane.	Short, medium and long cycle crops. Cropping systems in 1st. year; monoculture or intercropped with maize; 2nd. year; intercropped with maize.	Cassava not sold outside of the <i>compañia</i> .	No shortages reported in <i>compañias</i> surveyed. Theft of cassava noted at one.	-	Farm level starch production in some places; not common.	-	
PAR 8	Paraguari, (Sapucaí, Escobar)	Flat	Sandy. No rozados. No following practised.	Less than 3 hectares.	Provisional ownership. Some sharecropping and renting.	Few. Cotton and cocoteros.	Cash crops sold to intermediaries. No asphalt roads. Railway passes through the micro-region.	None available.	None used.	Only short cycle crop. Cropping systems in 1st. year are variable. 2nd. year, intercropped with maize.	Cassava sold on a small scale in local towns.	Shortage of cassava on some farms for 5-7 months.	Root rots	Farm level starch production for subsistence.	-	
PAR 9	Paraguari (Serranía Ybytái).	Undulating to steeply scarped.	Stony. Rozados cultivated in some places. Following practised.	Greater than 7 hectares.	Titled ownership. No sharecropping or renting.	Few. Alfalfa and cotton.	Some subsistence crops sold in local towns. No asphalt roads, access locally difficult due to difficult topography.	Credit available for cotton. Source: BNF.	None used.	Short and medium cycle crops. Monoculture crop. All harvested in the 1st. year.	Some sold in local towns.	Shortages on some farms for 5-6 months.	-	Farm level starch production for subsistence.	Recently colonised. Data from only one questionnaire.	
PAR 10	Paraguari, (Acahay, La Colmena)	Undulating.	Sandy loams and sands. Rozados cultivated. No following practised.	3 to 7 hectares.	Provisional ownership. Some sharecropping and renting.	Few cash crops. Cotton and cocoteros most important.	Cash crops sold to intermediaries. Asphalt road passes through the south of the microregion.	Credit available for cotton and cocotero fruits. Sources: BNF and intermediaries.	None used.	Short cycle crop only. Various cropping systems in 1st. year. All cassava harvested during 1st. year.	No sale of cassava.	Shortages for some farmers for up to 7 months.	Root rots. Hornworm.	Farm level starch production for subsistence.	Relatively recently colonised (less than 50 years ago)	
PAR 11	Paraguari (Ybytái, La Colmena)	Flat to undulating.	Sandy loams. Rozados common. Following also practised.	Generally greater than 7 ha.	Titled ownership and provisional ownership both common. Some sharecropping and renting.	Onions, potato, cotton, sugar cane and cocoteros. Around La Colmena, horticultural crops also important.	Sale of produce to Asunción (Mercado de Abasto). Asphalt road connects La Colmena to Asunción. Dirt roads serve the rest of the microregion.	Cotton and sugar cane can get credit. Sources: BNF and intermediaries.	Chemical fertilizers used for onions, potato and tomato.	Short cycle crop. Various cropping systems used in crop's 1st. year. Intercropped with maize in 2nd. year if any left.	Sold in local towns, and in some cases to Asunción, via intermediaries.	Shortage experience on some farms for 3-6 months (not in all <i>compañias</i> surveyed).	Problems of root rot with prolonged rain in places. Stemborers.	No starch processing at farm level.	Recently colonised.	
PAR 12	Guairá (Agustín Molas)	Flat to undulating	Sandy. Rozados in some places where forest still present. Following practised.	3-7 hectares.	Titled ownership. No sharecropping or renting.	Cotton, sugar cane, onion, tobacco and maize.	Produce sold to local towns and intermediaries. Sugar cane sold direct to refineries. No asphalt roads. Most of the microregion has poor access.	Available for sugar cane, cotton and onions. Sources: BNF and intermediaries.	Chemical fertilizers used for sugar cane.	Short and medium cycle crop. Various cropping systems, except monoculture, used in 1st. year of crop. Cassava harvested during 1st. year, and little remains for 2nd. year.	No sale of cassava outside of the <i>compañia</i> .	Shortage of cassava on some farms for upto 4 months.	Root rots. Drought problems common because of the predominantly sandy soils.	No starch processing at farm level.	-	
PAR 13	Guairá, Paraguari, (Cordillera Itebicuary-Mi)	Strongly scarped. Steep slopes.	Stony soils. Forest still exists in much of the Cordillera. Rozados common and no following.	Greater than 7 hectares.	Titled ownership. Some sharecropping and renting.	Large number. Cotton, onions, maize and other subsistence products are important.	Access on si only in cart or on foot because of the steepness of topography. Located close to La Colmena-Asunción highway.	Available for cotton. Sources: BNF and intermediaries.	Not used.	Short cycle crop. Monoculture. No cassava remains for a 2nd. year.	No sale of cassava outside of the <i>compañia</i> .	Shortage on some farms for upto 4 months.	-	No starch processing at farm level.	Socio-economic data based on one questionnaire.	
PAR 14	Guairá, Paraguari, (Cordillera Itebicuary-Mi)	Strongly undulating.	Sandy loams with some sectors of stony soils. Rozados common. Following practised.	3-7 hectares.	Provisional ownership. Some sharecropping and renting.	Large number; cotton, onions and cocoteros most important.	Sale of produce to Mercado de Abasto, Asunción. Access difficult on si. Located close to La Colmena-Asunción highway.	Available for cotton. Sources: BNF and intermediaries.	Not used.	Short cycle crop. Various cropping systems in 1st. year; maize planted in 2nd. year.	Not sold.	Shortage on some farms for upto 4 months.	-	No starch processing at farm level.	Socio-economic data from one questionnaire.	
PAR 15	Paraguari, (Carapegá, Roque González, Acahay, Guindy, Ybycui)	Gentle to moderately undulating.	Sandy loams with some sectors more sandy. Soils very infertile. No following practised in general.	Less than 7 hectares.	Titled ownership and squatting both common. Some sharecropping and renting.	Few in number. Cotton and cocoteros are the only cash crops in most of the micro-region; sugar cane more important around Quindy.	Produce sold either to intermediaries or sugar-syrup factories. Access generally poor. Asphalt roads link the main urban areas.	Available for cotton, and around Quindy for sugar cane. Also for handicrafts (textiles) around Carapegá. Sources: BNF, CAH and intermediaries.	Generally not used. Occasionally chemical fertilizers applied to sugar cane or (rare) tomato.	Short and medium cycle crops. Cassava sown predominantly in monoculture, if any remains for a 2nd yr, maize sown with it.	Small scale sales in local towns or within the <i>compañia</i> to neighbours.	Scarcity of cassava in every <i>compañia</i> surveyed generally for 3-6 months. Affects the majority of farms in some <i>compañias</i> .	Root rots. Stemborers noted in almost every <i>compañia</i> surveyed.	Starch produced in most <i>compañias</i> for subsistence use. Not common around Carapegá or Ybycui	Around Carapegá handicrafts (textiles) are as important a source of income as agriculture for many families.	
PAR 16	Paraguari, (Caacupe, Guayquho)	Strongly undulating or steeper.	Stony. Rozados in some parts. Following practised.	Less than 3 hectares.	Titled ownership. Some sharecropping. No renting.	Few. Cotton and cocoteros are the only ones in most of the micro-region.	Cotton and cocoteros sold to intermediaries. In some <i>compañias</i> subsistence products sold to local towns. Access generally poor.	Available in some parts for cotton and handicrafts, from intermediaries only. In most <i>compañias</i> surveyed none is available.	Not used.	Generally short cycle crop, longer in some parts. Various cropping systems in 1st. year and 2nd. (if there remains any cassava).	Sold on a small scale in local towns.	Scarcity of cassava in every <i>compañia</i> , generally upto 4 months but in some up to 6. Affects the majority of farms in some <i>compañias</i> .	Root rots. Stemborers. Hornworm.	Starch produced at farm level for subsistence.	None-agricultural and off-farm employment important for many farmers.	
PAR 17	Paraguari (Ybycui)	Undulating.	Sandy loams. Rozados cultivated. Following not practised.	Greater than 7 hectares.	Titled ownership. Some sharecropping and renting.	Large number. Maize, cowpea, onions and cotton most important.	Produce sold in Asunción's Mercado de Abastos. Access to Asunción by asphalt road.	Only for cotton. Sources: BNF, CAH and intermediaries.	Chemical fertilizers used for onions, tomato, watermelon, and cotton.	Short cycle crop only. Monoculture.	Not sold.	No cassava scarcity experienced.	Stemborers	Starch produced on a small scale for subsistence.	Recent colonization zone.	



Map/Mapa 21
Cassava micro-regions/micro-regiones para la
mandioca (Yuca)



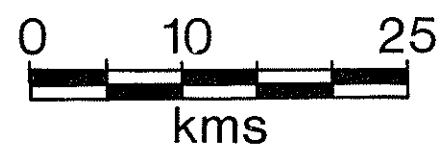
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Map/Mapa 20

Shortage of cassava/ Escasez de mandioca (yuca)

- Never occurs for any farmers/ Nunca existe para los agricultores
- △ Occurs for some farmers/ Existe para algunos agricultores
- * Occurs for the majority of farmers/ Existe para la mayoría de los agricultores
- ⬡ Shortages not recognized but theft of cassava occurs/ No se reconoce escasez pero si hay robo de mandioca

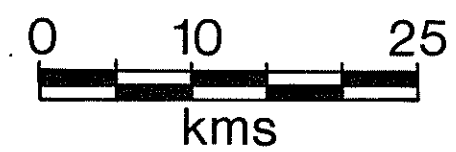


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Map/Mapa 19

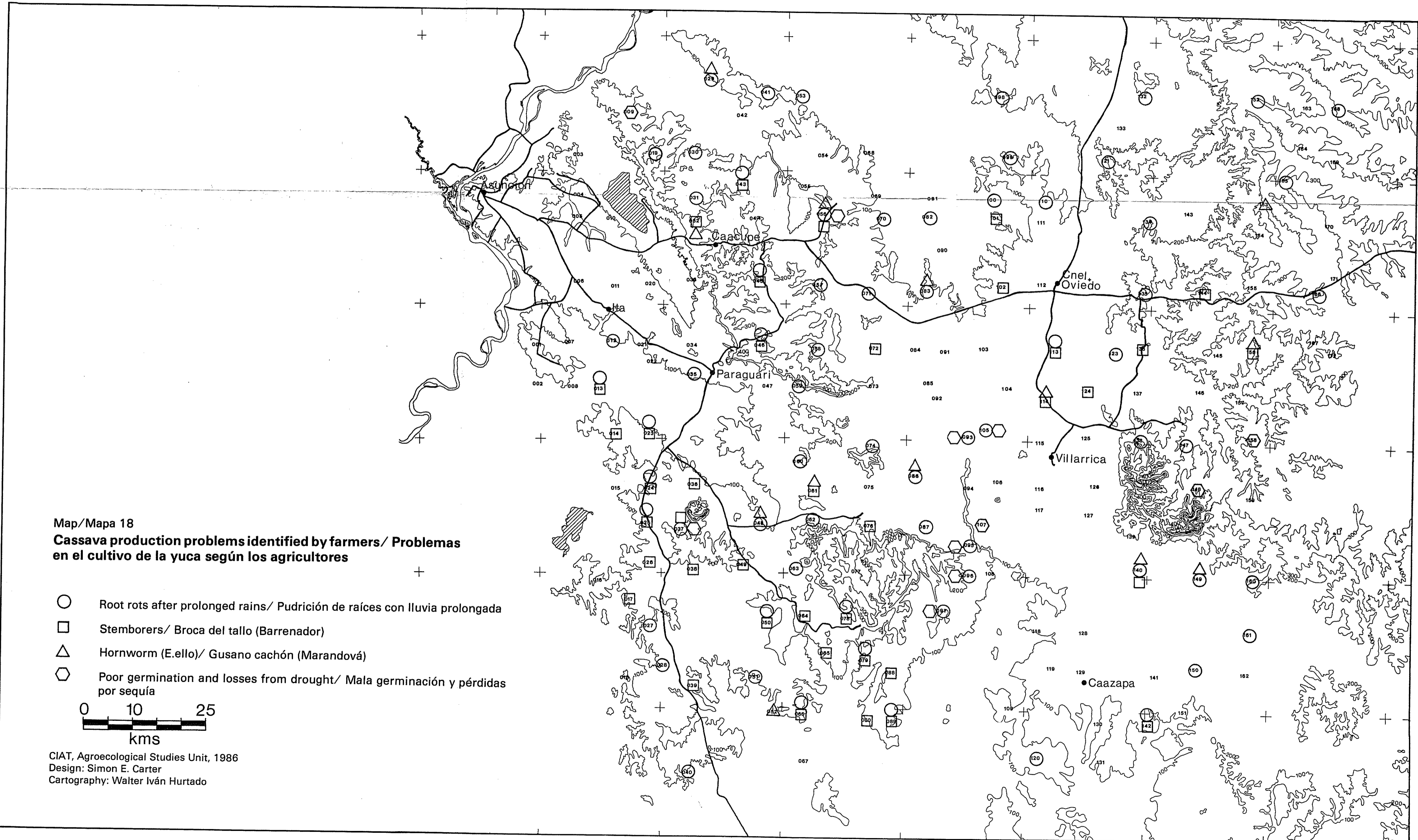
**Sale of cassava by the farmer or through an intermediary/
Venta de mandioca (yuca) por el agricultor o por medio de un
acopiador**

- * To/a Asunción (Mercado de Abasto)
- △ To starch manufacturers/ A fabricantes de almidón
- ◻ To cassava flour (fariña) factory/ A la fábrica de fariña
- To a local town / A un pueblo cercano
- To neighbours/A vecinos en la compañía
- None sold/No se vende



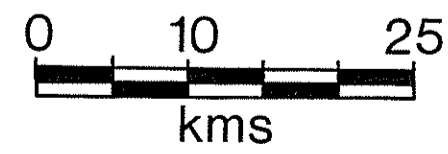
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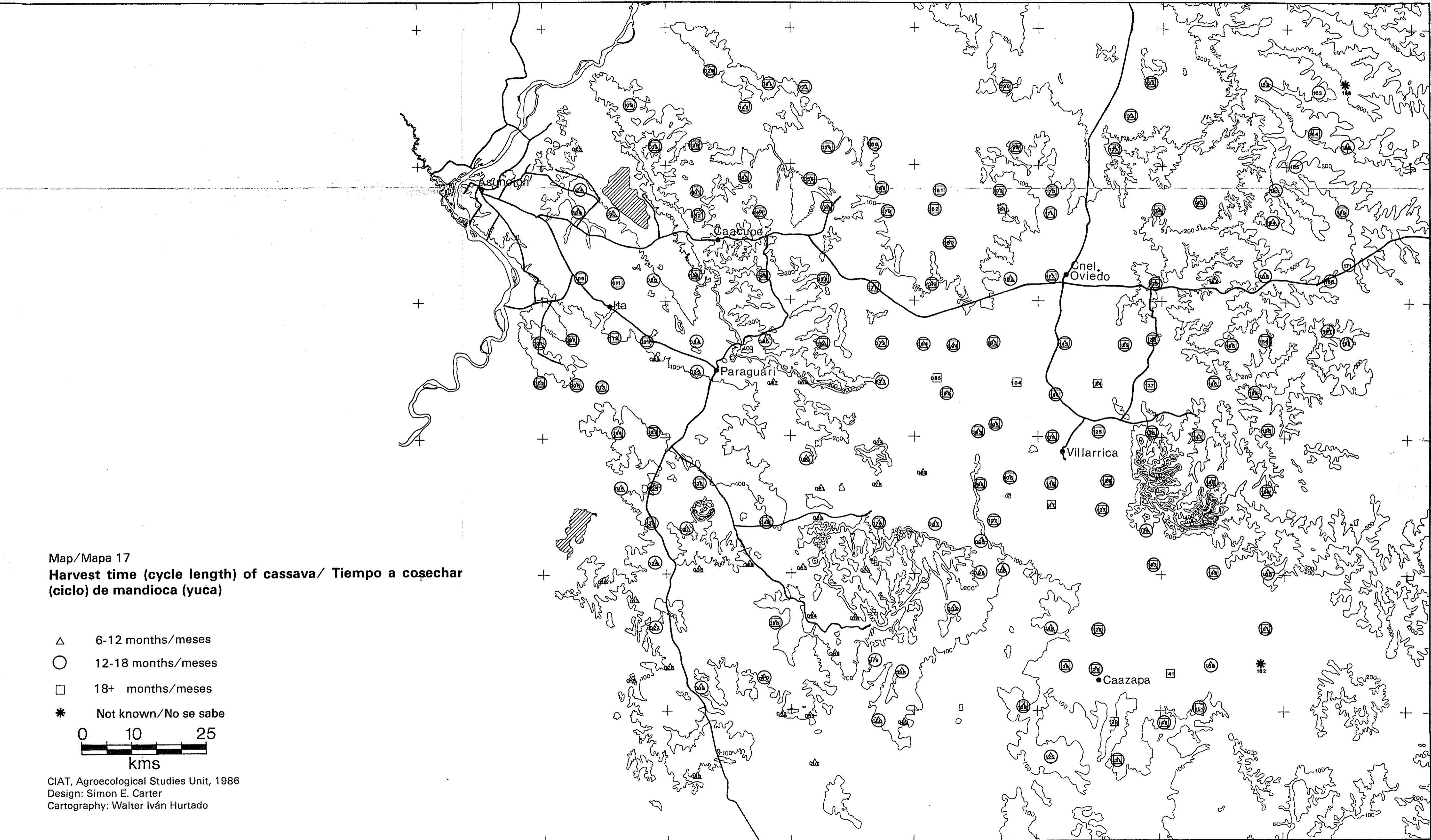


Map/Mapa 18
Cassava production problems identified by farmers/ Problemas en el cultivo de la yuca según los agricultores

- Root rots after prolonged rains/ Pudrición de raíces con lluvia prolongada
- Stemborers/ Broca del tallo (Barrenador)
- △ Hornworm (E.ello)/ Gusano cachón (Marandová)
- ⬡ Poor germination and losses from drought/ Mala germinación y pérdidas por sequía

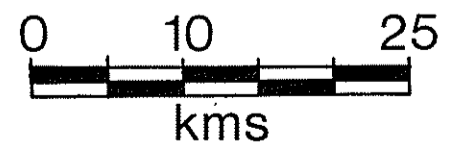


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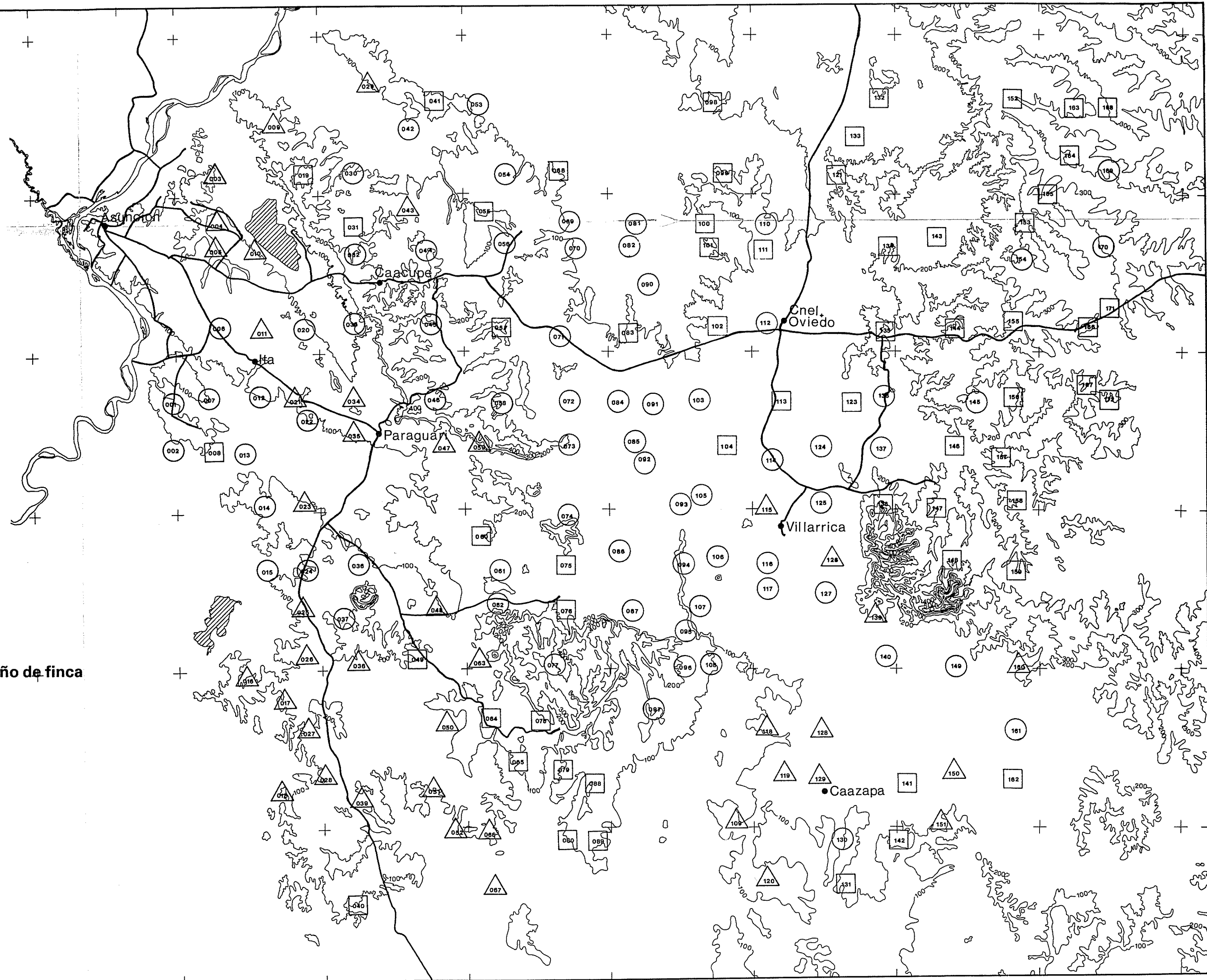


Map/Mapa 17
Harvest time (cycle length) of cassava/ Tiempo a cosechar (ciclo) de mandioca (yuca)

- △ 6-12 months/meses
- 12-18 months/meses
- 18+ months/meses
- * Not known/No se sabe

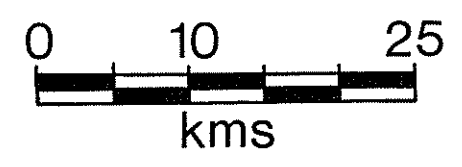


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Map/Mapa 16
 Size of farm most common in the 'compañía' / Tamaño de finca más común en la compañía

- △ < 3 hectares/hectáreas
- 3-7 hectares/hectáreas
- > 7 hectares/hectáreas



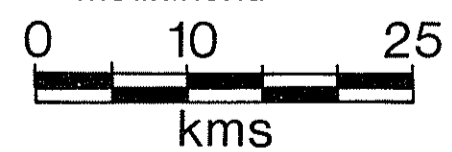
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Map/Mapa 15

Other forms of tenure/Otras formas de tenencia

- △ Land is rented/ Se arrienda tierra
- Sharecropping practised/ Se practica aparcería/medianería
- * No renting or sharecropping/ Ni se arrienda ni se entra en aparcería/medianería

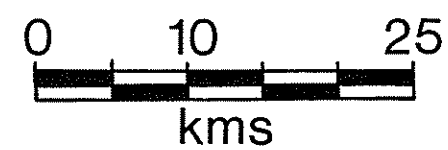


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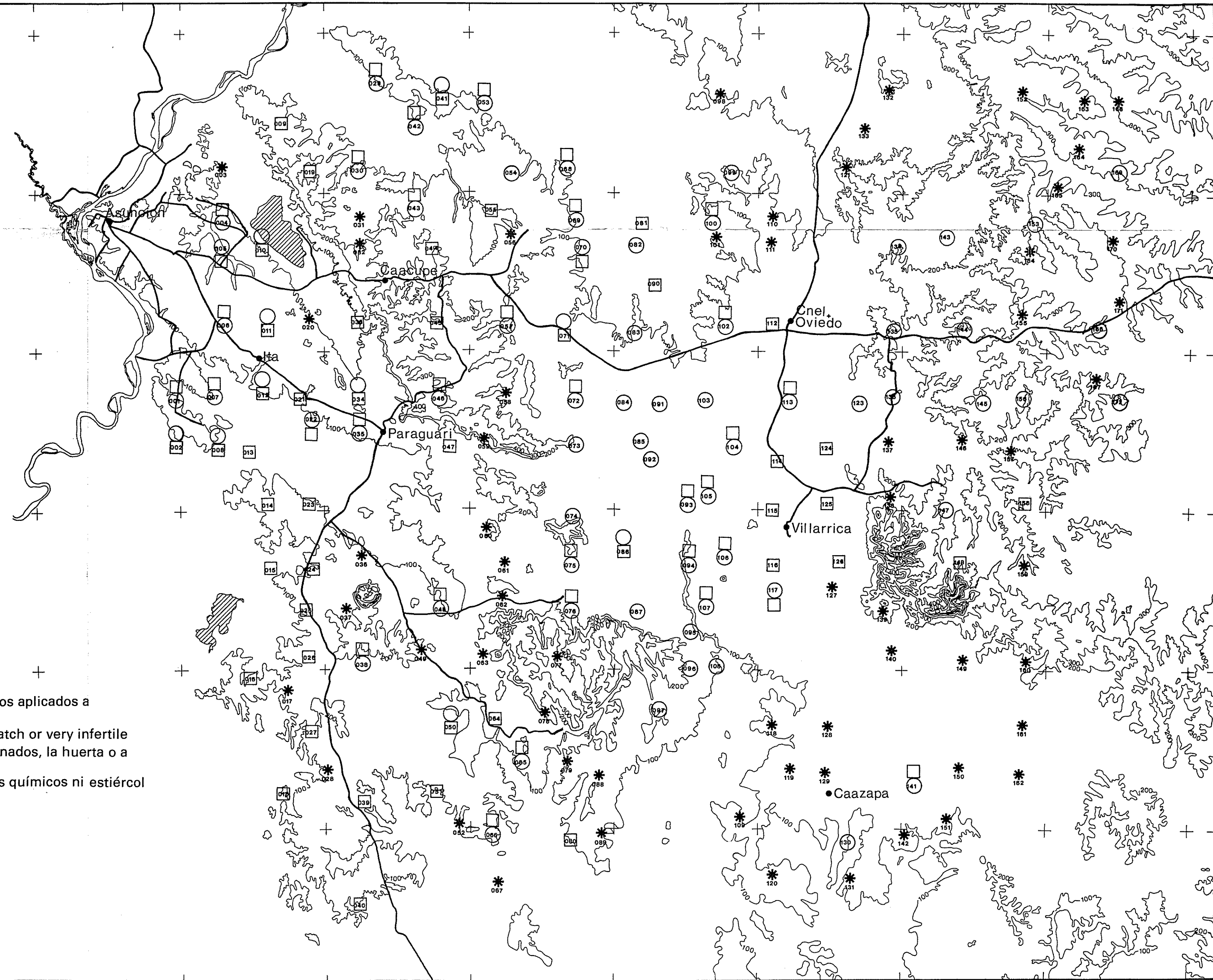


Map/Mapa 14
Form of land tenure most common in the 'compañía' / Forma más común de tenencia de tierra en la compañía

- Titled ownership/Propiedad titulada
- Provisional title/ Propiedad provisional
- △ Squatting/Ocupación de tierras fiscales

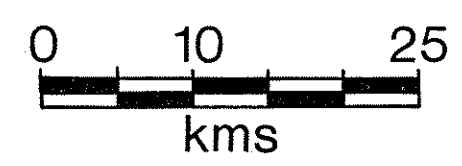


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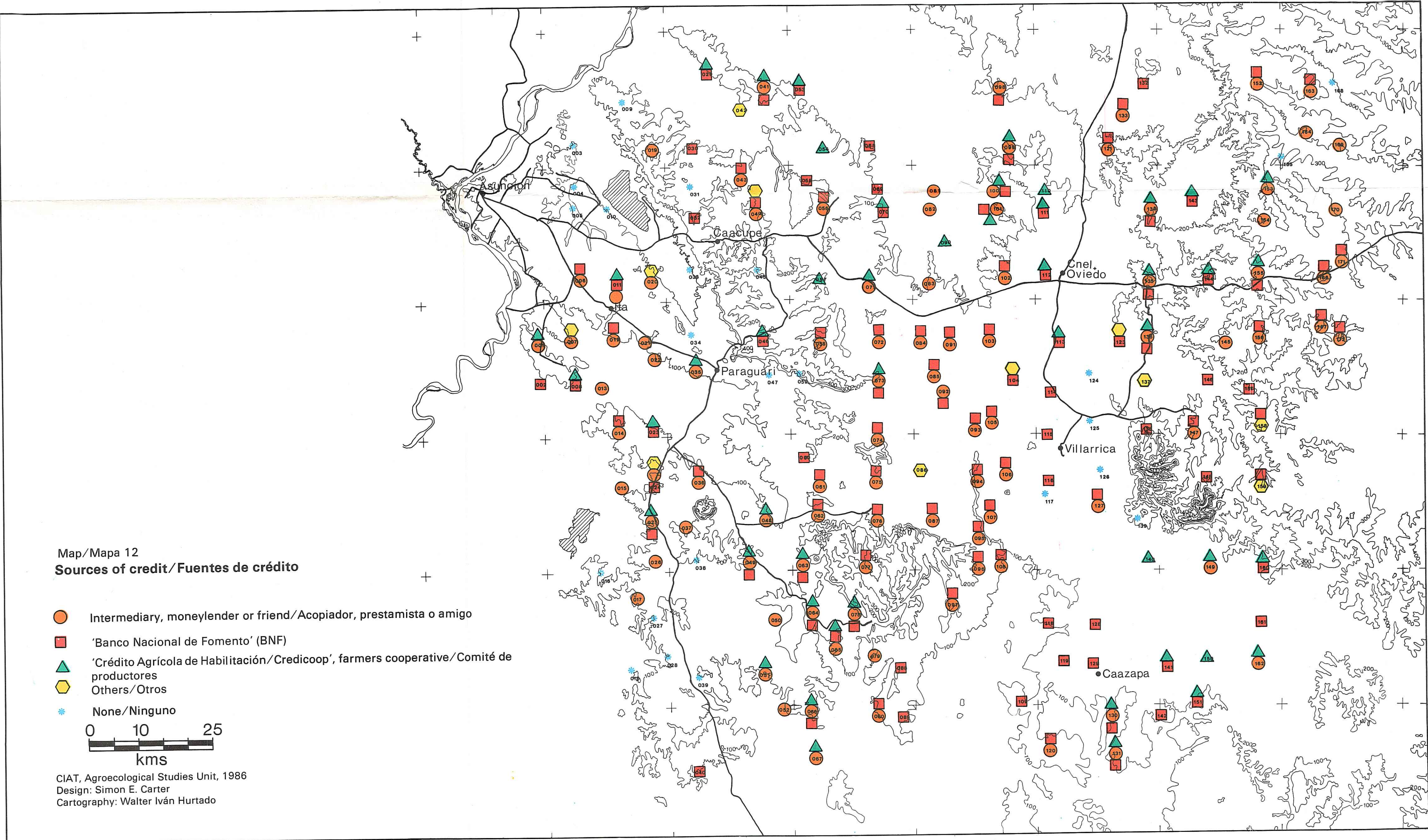


Map/Mapa 13
 Use of fertilizers/Usos de fertilizantes

- Fertilizers used on selected crops/Fertilizantes químicos aplicados a cultivos seleccionados
- Farmyard manure used on selected crops, vegetable patch or very infertile parts of the farm/Estiércol aplicado a cultivos seleccionados, la huerta o a partes infértiles de la chacra
- * No fertilizers or manure used/No se usa ni fertilizantes químicos ni estiércol

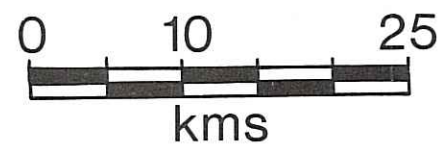


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Map/Mapa 12
Sources of credit/Fuentes de crédito

- Intermediary, moneylender or friend/Acopiador, prestamista o amigo
- 'Banco Nacional de Fomento' (BNF)
- ▲ 'Crédito Agrícola de Habitación/ Credicoop', farmers cooperative/Comité de productores
- ⬡ Others/Otros
- ✱ None/Ninguno

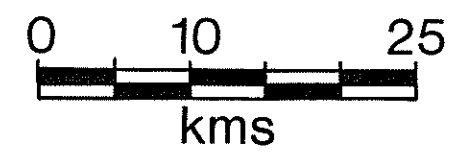


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Map/Mapa 11
Crops for which credit can be acquired / Cultivos para los cuales se consigue crédito










- Cotton/Algodón
- △ Sugar cane/Caña de azúcar
- Tomato/Tomate
- ◻ Tobacco/Tabaco
- * Others/Otros

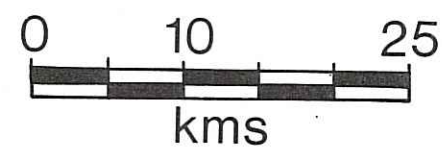


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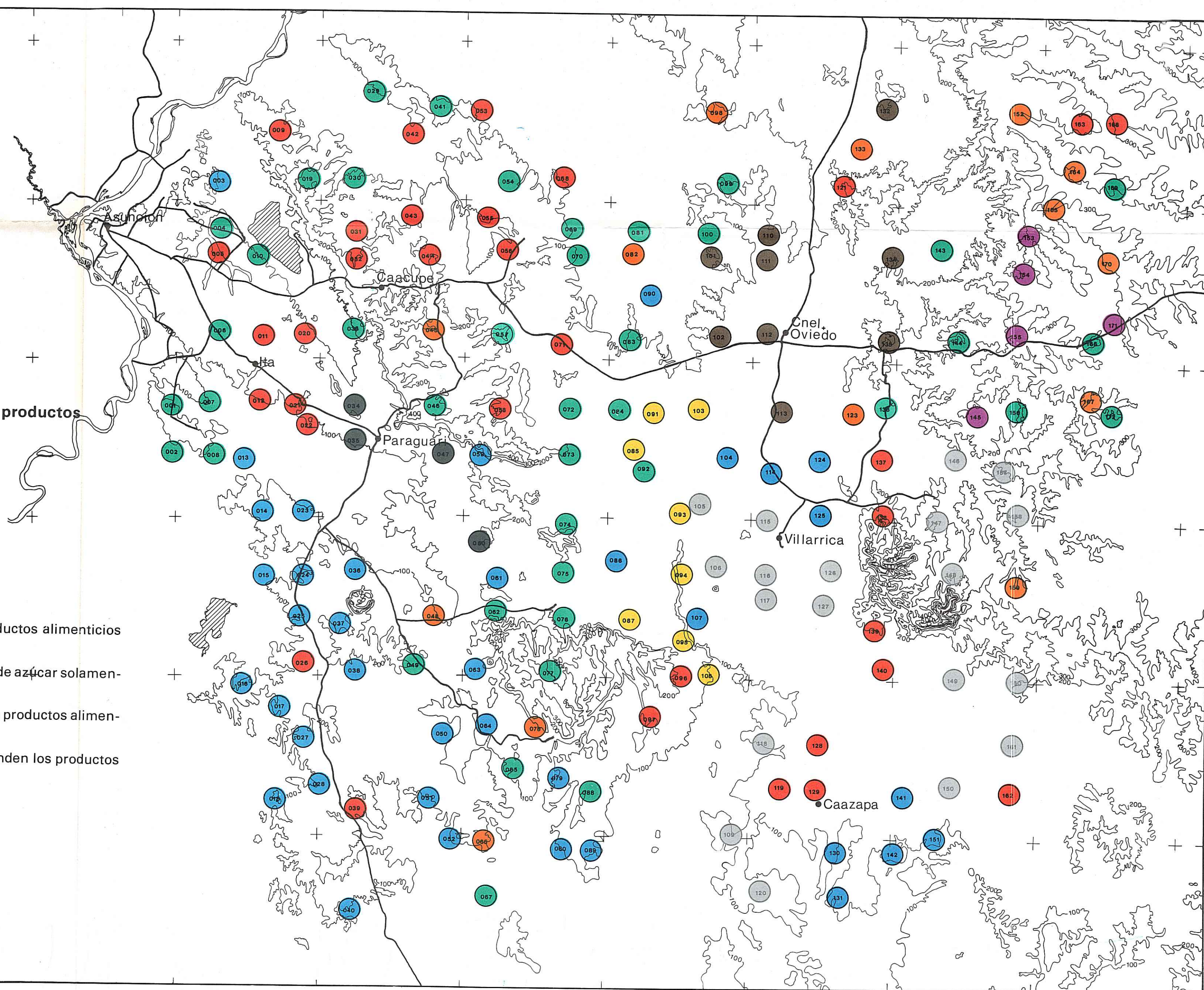
Map/Map 10

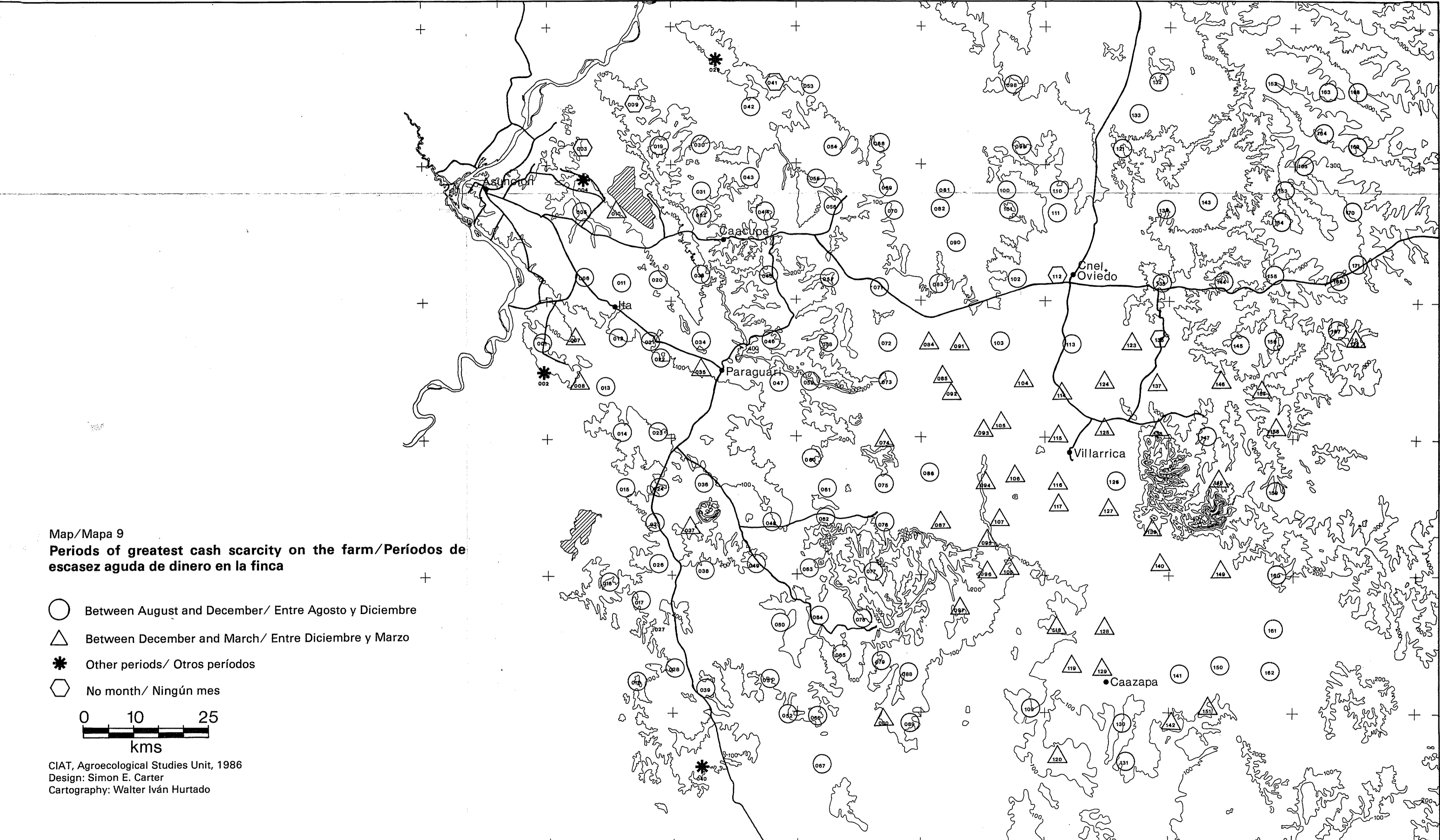
Sale of food crops by the farmer to: / Venta de productos alimenticios por el agricultor en el mercado de:

-  Asunción
-  Villarrica
-  Coronel Oviedo
-  Caaguazú
-  Paraguari
-  Food crops sold only in nearest town / Se venden productos alimenticios sólo en el pueblo más cercano
-  Sugar cane only; sold directly to sugar refineries / Caña de azúcar solamente; se vende directo a un ingenio azucarero
-  Food crops sold only through intermediaries / Se venden productos alimenticios solamente por medio de intermediarios
-  Food crops not sold in general / Generalmente no se venden los productos alimenticios



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Map/Mapa 9
Periods of greatest cash scarcity on the farm/Períodos de escasez aguda de dinero en la finca










- Between August and December/ Entre Agosto y Diciembre
- △ Between December and March/ Entre Diciembre y Marzo
- ✱ Other periods/ Otros períodos
- ⬡ No month/ Ningún mes

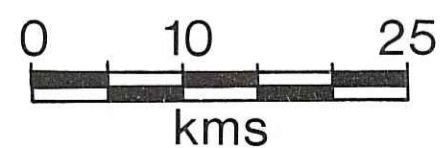


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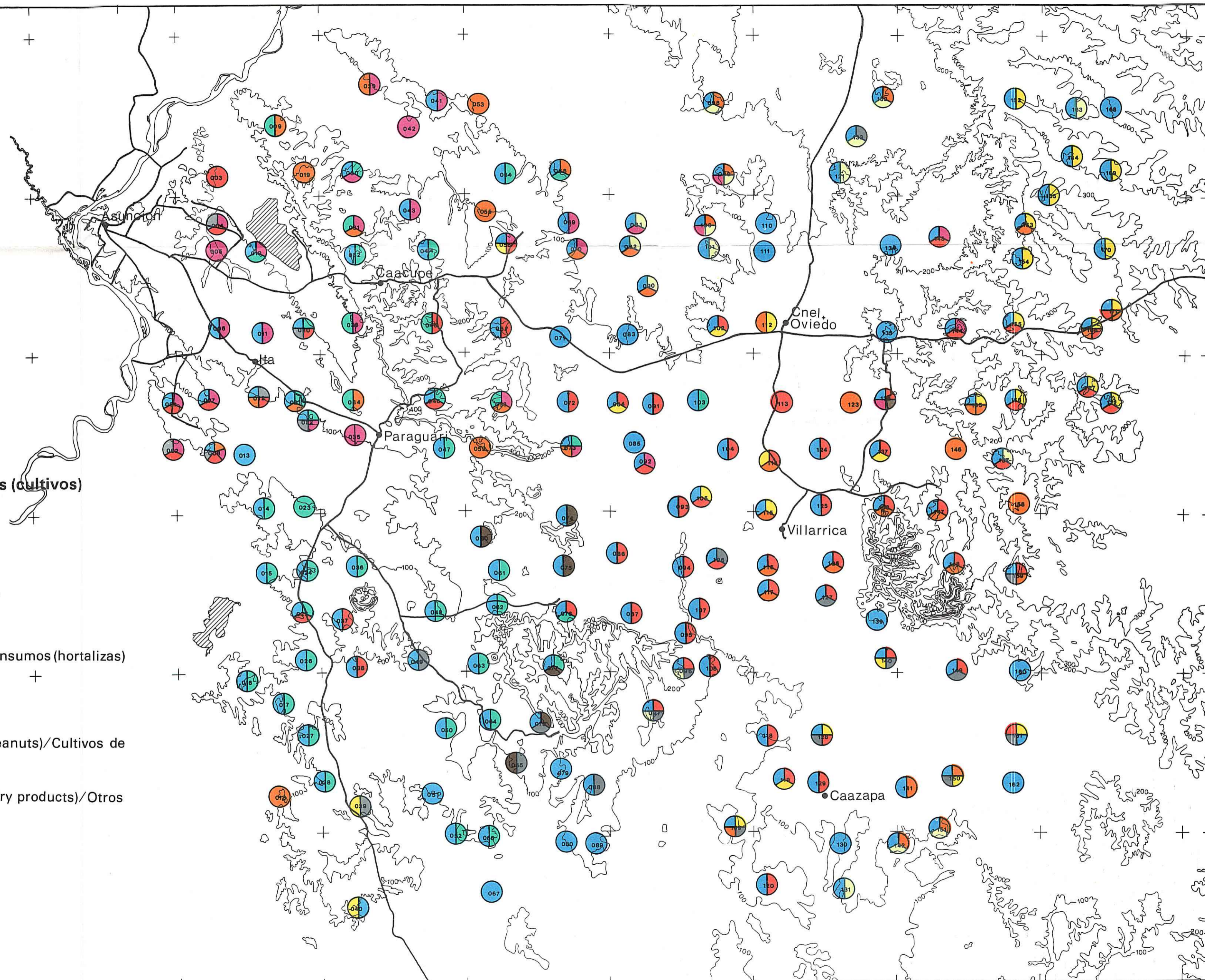
Map/Mapa 8

Principal cash crops/Fuentes principales de ingresos (cultivos)

-  Cotton/Algodón
-  Sugar cane/Caña de azúcar
-  'Cocotero' fruits (Acrocomia totai)/Frutas del 'cocotero'
-  Cassava/Mandioca (yuca)
-  High value crops (horticultural)/Cultivos de alto valor e insumos (hortalizas)
-  Potato and/or onion / Papa y/o cebolla
-  Tobacco/Tabaco
-  'Subsistence' crops (maize, cowpea, sweet potato, peanuts)/Cultivos de subsistencia (maíz, poroto, batata, maní)
-  Others (fruit trees, coffee, soya, yerba mate, rice, dairy products)/Otros (frutales, café, soja, yerba mate, arroz, lácteos)

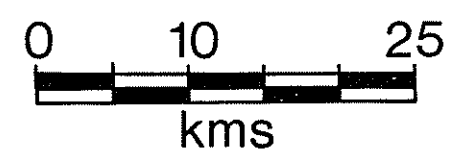


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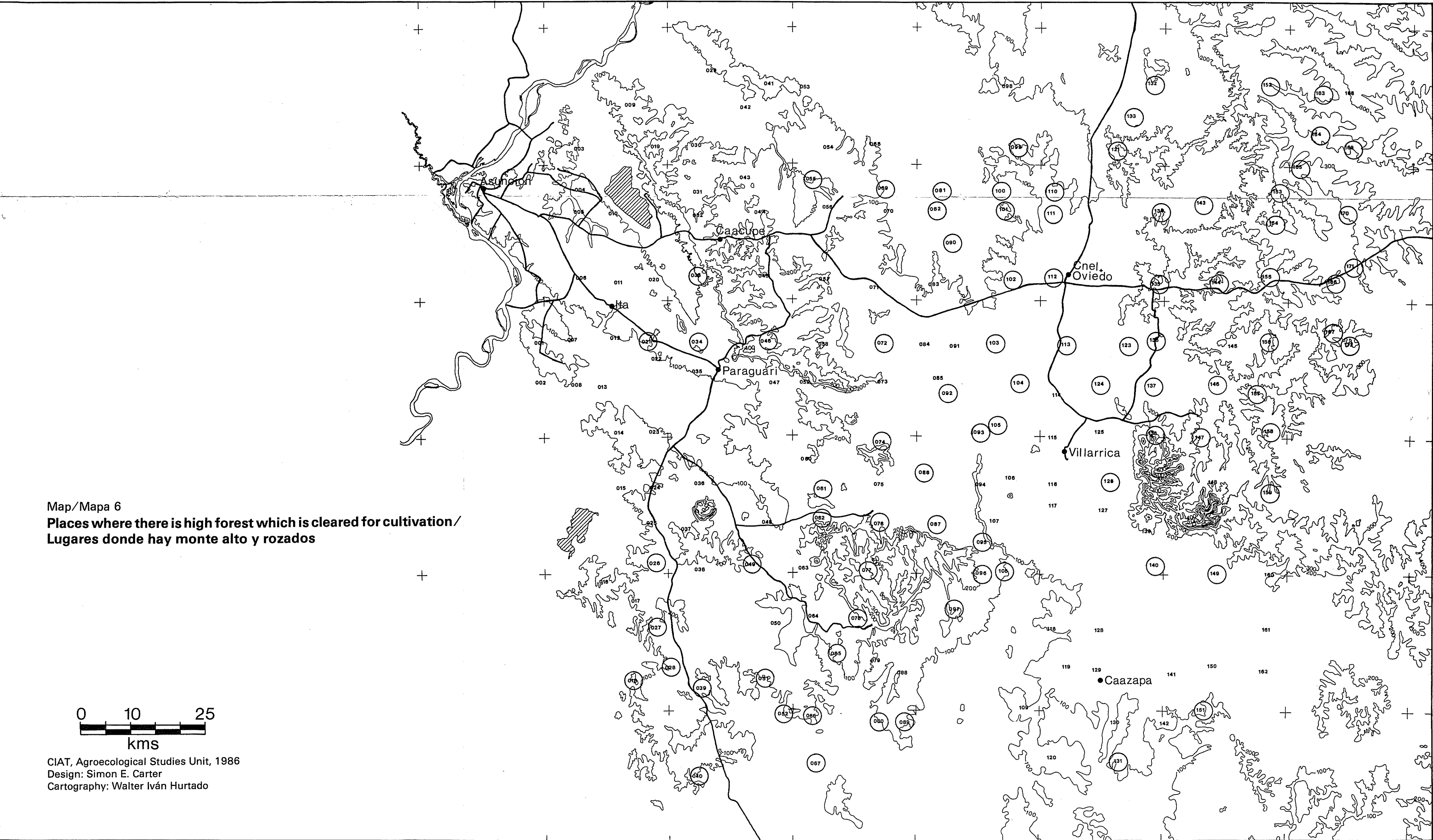
Map/Map 7
Most common soil type (peasant classification)/Suelo más común según sistema de clasificación de los campesinos

- 'Yby pytá' Dark or red soils/Suelos rojos u oscuros
- △ 'Yby pytá ité' Dark red clays/Suelos rojo-oscuros y arcillosos
- ◻ 'Ybycuí, yby morotí' Sands, white soils/Arenas, suelos blancos
- ◐ Soils texturally in between red soils and white soils/Suelos texturalmente entre suelos rojos y suelos blancos
- ✱ 'Yby jhu' Black soils/Suelos negros
- ◇ 'Yby say yú' Yellow soils/Suelos amarillos
- ⊗ 'Itarayí' Stony soils/Suelos pedregosos

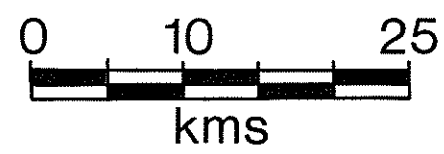


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Map/Mapa 6
Places where there is high forest which is cleared for cultivation/
Lugares donde hay monte alto y rozados

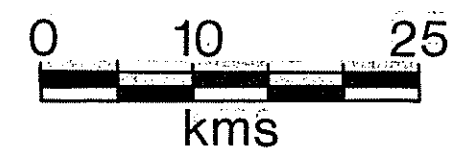


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Map/Mapa 5 *presenta cada asentamiento en el tiempo/Periodos de Age of settlement/Edad del asentamiento*

- * 10- 20 years/años: Diciembre - Enero, Agosto, y Diciembre
- 20- 50 years/años: febrero, Marzo, Agosto, Diciembre y Marzo
- 50-100 years/años: permanentes
- △ > 100 years/años: permanentes



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