

Improving agricultural sustainability and livelihoods  
in the Central American hillsides



~~Database of soil conservation projects and  
practices in Honduras~~

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**Internal Report**

**July 1996**

**Tegucigalpa, Honduras**  
**Central America**

U.S. GOVERNMENT  
DOCUMENTATION

025817

31 JUL 1996

"Improving agricultural sustainability and livelihoods in the Central America hillsides" is a project executed by CIAT, with support from the Swiss Development Cooperation (SDC) and the Centro Internacional de Mejoramiento de Maíz y Trigo (CIMMYT). The Instituto Interamericano de Cooperación para la Agricultura (IICA) provides administrative and technical support for the project offices in Honduras and Nicaragua.

Karen Ann Dvorak. 1996. Database of soil conservation projects and practices in Honduras. Internal Report. Tegucigalpa, Honduras: CIAT.

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## Objectives

In 1994, the Centro Internacional de Agricultura Tropical (CIAT) initiated the project "Improving Agricultural Sustainability and Livelihoods in Central America hillsides." One of the primary results expected from the initial phase of the project was an "analysis of successes and failures of different projects on soil conservation practices in Central America" (CIAT 1993, p. 15). A project activity was designed with two objectives:

- to provide information to national and local organizations on soil conservation technologies with a high potential for adoption in hillsides farming systems in Central America; and

- provide information to national and international research communities on research needs on agricultural production and soil conservation in Central America.

There has been, in Central America, substantial local experience with agricultural extension of improved technologies, with soil conservation projects, and with rural development projects with agricultural or soil conservation components. The results have been mixed. There are cases where a rural development project, the introduction of new technology, or indigenous innovation has resulted in dynamic systems, growing incomes and improved husbandry of natural resources. In many other cases, adoption of soil conservation practices has been minimal. Or, improved soil and crop management practices have been adopted but, despite the apparent benefits, failed to spread beyond "core" communities in which interventions were concentrated.

Project design is only one part of the adoption puzzle--the other two parts being the technology offered, and the characteristics of the farming system into which new technology is introduced. These three components; i.e., (1) characteristics of the change agent, (2) the technology itself, and (3) characteristics of the production system, provide a framework for synthesizing the disparate experience with soil conservation and agricultural technology in Central America.

## Literature

Experience with soil management and conservation in Central America is well documented.<sup>1</sup> The proceedings of a workshop in 1991 on opportunities for collaboration between institutions working in hillsides agricultural systems in Central America brought together regional background material and selected country case studies (IICA 1991). Meyrat, Velasquez and Ardon (1992) provided an inventory of soil and water conservation practices in Nicaragua, Guatemala and Honduras. Kaimowitz (1993) summarized the results of 18 soil conservation and forestry projects funded at more than \$100,000 between 1970 and 1992. Lutz, Pagiola and Reiche (1994) assembled studies that calculated cost-benefit flows over time for a soil conservation technology in one region in each of the Central America countries, the Dominican Republic and Haiti. Mejia (1993) and Zutter and

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<sup>1</sup> The wealth of experience extends beyond documentation. The author benefitted greatly from discussions with many people who have worked with agriculture and soil conservation in Central America, and were willing to spend time to share their knowledge.

Bustamante (1995) summarized soil conservation activities of private development organizations in Honduras. In addition, there are many in-depth case studies of local areas, although many of these are unpublished ("gray" literature).

The emphases in the Kaimowitz (1993) and Lutz, Pagiola and Reiche (1994) studies were economic. Kaimowitz includes information on institutional features of the projects and incentives offered, but information on the agricultural systems is lacking. The cases in Lutz, Pagiola and Reiche specify the bio-physical parameters necessary to estimate changes in soil productivity under alternative technologies. (Because of data requirements, almost all the analyses were of physical soil conservation structures.) A summary chapter provides salient, but not altogether consistent, system characteristics. The case studies also provide information on institutions responsible for soil conservation policy, and on institutional "homes" of the projects analyzed. Mejia (1993) and Zutter and Bustamante (1995) contain detailed information on change agents and incentives, and describe the technologies promoted, but do not include descriptions of the production or cropping systems where projects were based.

Local case studies, with the exception of some project evaluation documents, often contain detailed information on farming systems, although the particulars reported vary widely (one is tempted to say "wildly") from study to study. Again with the exception of project evaluations, information on the structure of the project (i.e., the change agent) and incentives used is frequently omitted.

Traditional soil conservation practices (Wilken 1987, Thurston *et al.* 1994), local adaptation of soil management technologies (Calderón *et al.* 1991) and indigenous innovation (Buckles *et al.* 1994) are a valuable source of information on good "fits" between farming systems and soil conservation technologies. Rather than exclude these sources of information by focusing exclusively on technologies introduced by external projects, documented cases of indigenous adaptation and innovation were included in the catalogue and database. In these cases, the change agents were the producers themselves.

## Methods

After a review of conventional and "gray" literature, a catalogue and, subsequently, a database of cases was prepared. The database was designed to facilitate geo-referencing so that the project data could be combined with digital databases on agriculture being developed for use in a geographic information system.

A standard form was developed to record information on each case reviewed. For each case reviewed, information was recorded on: (1) general information, including project title and dates; (2) geographic location or coverage; (3) technologies; (4) characteristics of agents; and (5) farming system characteristics. These forms were collated in a catalogue (Dvorak 1996a). Ninety-one cases had been catalogued by July 1996. These cases represent only a fraction of the literature available on soil conservation and soil management practices in Central America. The number of cases was considered sufficient to use as a test set for database development, mapping and analysis. Aside from an emphasis on cases from Honduras and, to some extent, Nicaragua, the selection of cases for entry was essentially arbitrary. The catalogue entries can be considered neither exhaustive nor necessarily representative of experience with soil conservation in Central America.

The type and depth of information reported for the cases was uneven. The most detailed information was found in individual case studies. Project overviews, because of their thematic nature, tend to focus on one type of information to the exclusion of others. Technical overviews tended to omit information on change agents and incentives.

Regardless of the source, information on geographic location was very general, i.e., usually giving departments<sup>2</sup> or *municipios*, and only rarely communities (*aldeas*) or geographic coordinates. Because the spread of technology from a "contact" community to its neighbors within a *municipio* was by no means assured, it would have been desirable to know, for soil conservation or rural development projects, which communities had had extension activities and, for indigenous technological innovations, in which communities the practice had been observed. Because it was a rarity for a project to be active in all communities in a *municipio*, the geographic information in this report must be regarded as a first approximation. Project areas designated as a *municipio* or department should be taken to mean that some, rather than all, communities in that *municipio* or department were involved in a project.

The information on environmental and farming systems characteristics was very uneven in the cases reviewed. For this reason, the information available appears in the catalogue, but the data were not included in the database. Alternative methods of incorporating system features using secondary data are being explored.

It was sometimes difficult to discern if all technologies offered were reported, or only those that had proved successful. Any technology mentioned in a case study was included in the database. "Minimum tillage" includes "zero tillage," "no-till" and "minimum tillage." "Organic matter" includes composting, application of compost, use of animal manures, and "organic matter management," but not management of crop residues. Generally, the latter was included as "no burn" or "minimum tillage." In some cases, local terminology varied. No clear pattern of uses of the terms for ditches (*acequias* and *zanjas*) could be discerned. The two were entered in the database separately according to the name used in the case study.

Information on geographic location, technology, and agent was coded in the catalogue (Appendix A). Information on technology, agent and initial year of the project was transferred to a digital database (Dvorak 199b). For Honduras, codes for department and *municipio* were added. Where a project covered more than one department or *municipio* in Honduras, multiple records appear in the database—one for each location reported. Data entered in the catalogue and database are presented, by case, in Appendix B. The identification codes for the entries consist of two parts. On the left-hand-side of the decimal appears the primary code for a project. Distinct components of one project, or sub-projects, are identified by sequential numbering to the right-hand-side of the decimal point.

## Distribution of cases by country

Of the 91 cases in the database, the distribution of cases by country was: 34 from Honduras, 20 from Nicaragua, 10 from Costa Rica, 8 from El Salvador, 7 from Guatemala, 6 from Panama, and 4 from Mexico. Two were Central America-wide. A wide variety of

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<sup>2</sup> Honduras is divided into 18 departments (*departamentos*) for administrative purposes. The departments are divided into *municipios*. There were 291 *municipios* in Honduras in 1993.

technologies were represented in the catalogue (Table 1). Technologies included most frequently in the reports were live barriers (23 cases), ditches (23 cases), green manures (21 cases) and minimum tillage (19 cases). Twenty-seven of the cases reported were soil conservation projects, followed by rural development (15 cases) and forestry (14 cases) projects (Table 2).

Except for soil conservation work in the cotton-growing region of Nicaragua in the 1950s, the projects reported were begun between 1972 and 1995 (Table 3).

**Table 3. Year project initiated, 58 cases**

1972-1	1976-2	1981-1	1986-2	1991-2
1974-2	1977-1	1982-2	1987-8	1992-2
1975-1	1978-1	1983-2	1988-1	1994-6
	1979-3	1984-3	1989-4	1995-1
	1980-3	1985-3	1990-6	

### Soil conservation projects and practices, Honduras

The cases for Honduras were coded by departments and, where known, *municipios*. No cases were reported for the departments of Cortes, Gracis a Dios or Islas de la Bahia (Table 4). Of the remaining 15 departments, all had had some project experience with biological conservation or soil management practices. All except Atlántida had projects promoting physical soil conservation structures. Forestry or agroforestry projects had been implemented in all departments except Choluteca and Valle in southern Honduras.

Geographic distributions of project areas at the department or *municipio* level, by technology, appear in Figures 1 through 9.

### Discussion

For purposes of analyses, it is desirable to have variability in combinations of technologies, change agents, and production systems.

Many cases did not provide information about the type of extension method used. Among those projects that did project this information, there are at least two cases for each of the major extension categories; i.e., conventional extension service, parallel extension service, community development workers, farmer-promoters, and contact farmers (Table 5). Obtaining data from the missing cases would probably add cases in each of these categories.

There are good distributions of cases with varying combinations of project type and technology, type of extension agent and technology, and technology offered and incentives used in a project.

The catalogue data on production systems were not consistent enough to use in a comparative manner, but the geographic distribution in Honduras, and across Central America as a whole, suggest that variability in production systems will also be fairly high.

Different combinations of technologies, change agents and production systems are of interest in terms of selecting cases for analyzing good "fits" between the three components. Nevertheless, because it is not possible to construct a sampling frame of projects, the cases in the database cannot be considered representative of soil conservation activities that have been carried out in Central America or Honduras. Apparent correlations can not be interpreted as representative of national or regional, spatial or temporal, trends in soil conservation activities.

*[Faint, illegible handwritten text]*



**Table 1. Technologies reported, 91 case studies, by country, Central America**

	Terrace	Bench terrace	Dike	Drain	Ditch zanja	Contour ditch	Ditch acequia	Contour tillage	Dead barrier	Live barrier	No burn	Minimum tillage	Organic matter
<b>Honduras</b>	4	1	0	0	9	0	6	7	6	13	3	10	11
<b>Nicaragua</b>	1	1	1	0	1	0	0	1	1	2	1	1	2
<b>Costa Rica</b>	1	1	1	1	3	0	0	1	0	1	0	2	0
<b>El Salvador</b>	2	2	2	1	0	1	0	0	3	3	1	2	1
<b>Guatemala</b>	3	0	0	0	0	1	1	0	2	2	0	0	1
<b>Mexico</b>	1	0	0	1	0	0	0	0	0	0	1	1	0
<b>Panama</b>	0	0	0	0	2	0	0	0	1	1	1	2	1
<b>Central America</b>	1	0	0	0	1	0	0	1	1	1	0	1	1
<b>All</b>	13	5	4	3	16	2	7	10	14	23	7	19	17

	Ridges	Green manure	Planted fallow	Improved pasture	Forestry	Agro-forestry	Nursery	Communal nursery	Wind-break	Living fence	Improved variety	Fertilizer
<b>Honduras</b>	0	13	0	0	5	5	1	0	0	1	1	0
<b>Nicaragua</b>	0	2	0	1	2	1	1	0	1	2	2	2
<b>Costa Rica</b>	0	0	0	0	1	1	0	1	0	0	0	0
<b>El Salvador</b>	0	0	1	0	1	1	0	1	0	0	1	1
<b>Guatemala</b>	0	2	0	1	4	2	1	2	0	1	0	1
<b>Mexico</b>	0	2	0	0	0	0	0	0	0	0	0	1
<b>Panama</b>	0	1	0	1	0	0	0	1	0	0	0	0
<b>Central America</b>	1	1	1	0	1	1	0	1	1	1	0	0
<b>All</b>	1	21	2	3	14	11	3	6	2	5	4	5

**Table 2. Number of cases based on case studies of indigenous innovation, research sites, or project type, by country, 91 cases, Central America**

Country	Indigenous case study	Type of project					Research site	Not known
		Soil conservation	Forestry	Agriculture	Rural development	Natural resource management		
Honduras	2	3	4	4	14	0	4	3
Nicaragua	0	11	4	1	0	1	2	1
Costa Rica	1	4	1	0	0	0	3	1
El Salvador	2	6	1	0	0	0	0	0
Guatemala	1	0	2	1	1	1	1	0
Mexico	2	1	0	0	0	0	0	1
Panama	1	2	1	1	0	0	0	0
Central America	0	0	1	1	0	0	0	0
All	9	27	14	8	15	2	10	6

Table 4. Technologies reported, number of case studies, by department, Honduras<sup>3</sup>

	Terrace	Bench terrace	Ditch zanja	Ditch acequia	Contour tillage	Dead barrier	Live barrier	No burn	Minimum tillage	Organic matter	Green manure
Atlantida							1	1			1
Comayagua	1		2	1	3	1	4	2	4	4	4
Copan	1		1	1	1	1	2	1	4	3	4
Cortes	1		1	1	2		1		2	1	1
Choluteca	2		2	1		3	3		2	2	3
El Paraiso	1		2		1	1	3	1	2	3	2
Francisco Morazan			4	1	3	2	5	1	1	1	3
Intibaca			3		2	2	3	1	2	2	3
La Paz		1					1	1		1	
Lempira	1			1	1		1	1	3	1	3
Ocotepeque	1		1	1	1	1	1		3	2	3
Olancho	1		1		1	1	3	1	1	2	1
Sta Barbara			2		3	1	3	1	3	3	2
Valle	1	1	3	1	2	3	3		2	2	3
Yoro	1				1	1	1		2	1	2
All	11	2	22	8	21	17	35	11	31	28	35

<sup>3</sup> No cases reported for Departments of Cortes, Gracias a Dios or Islas de la Bahia

Table 4. (con't)

	Forestry	Agro-forestry	Nursery	Living fence	Improved variety
Atlantida	2	1			
Comayagua	1	3	1	1	1
Copan	2	3	1	1	1
Cortes	2	1	1	1	1
Choluteca					
El Paraiso		1			
Francisco Morazan		1			
Intibaca		1			
La Paz		1			
Lempira	2	3	1	1	1
Ocoatepeque	1	1			
Olancho		1			
San Barbara	1	2	1	1	1
Valle					
Yoro	1	1	1	1	1
All	12	20	6	6	6

Figure 1. Locations of projects promoting terraces and bench terraces, CIAT project database, Honduras

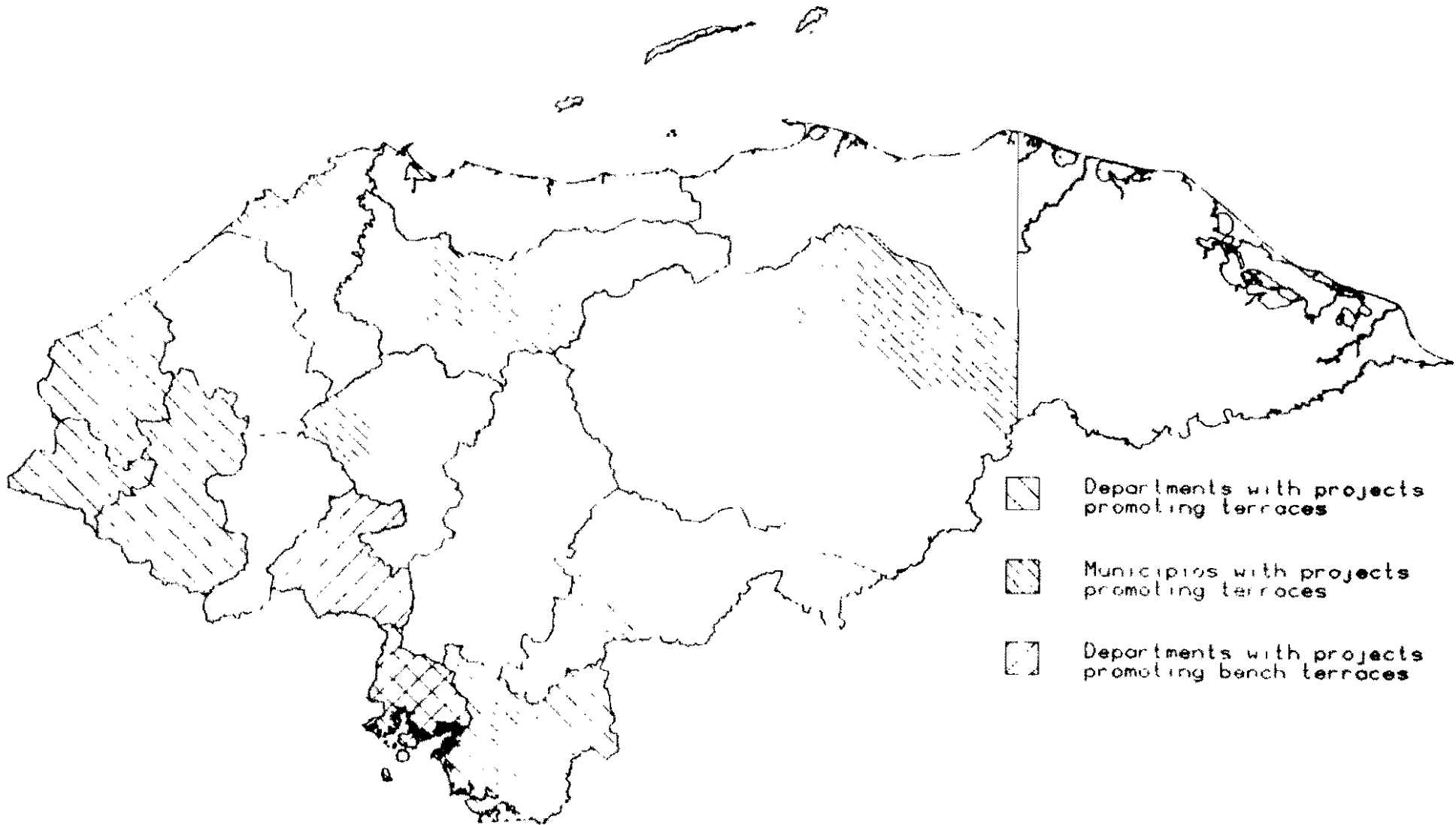


Figure 2. Locations of projects promoting *zanjas* or *acequias*, CIAT project database, Honduras

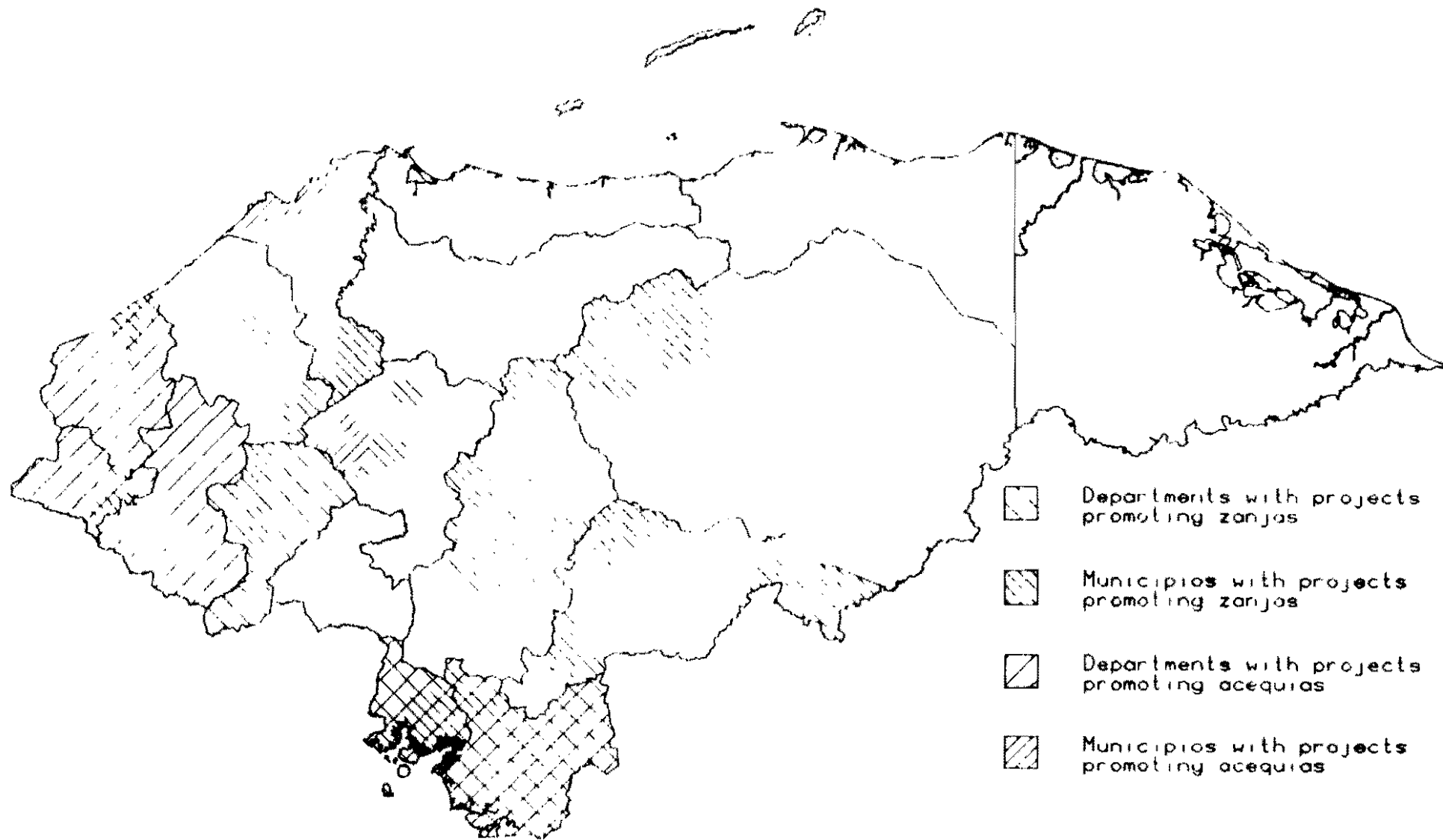


Figure 3. Locations of projects promoting contour tillage, CIAT project database, Honduras

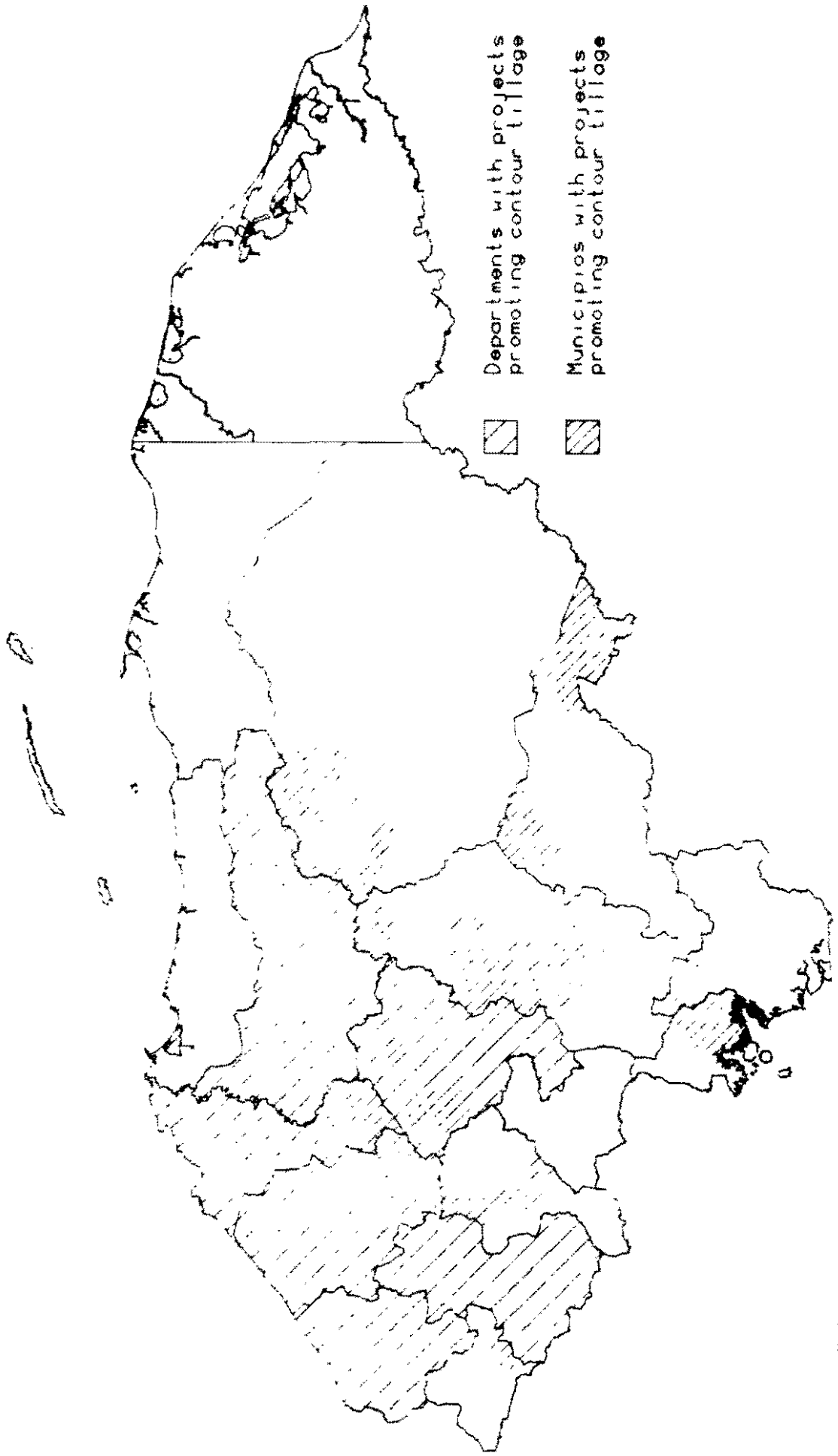


Figure 4. Locations of projects promoting live barriers or "dead" barriers, CIAT project database, Honduras

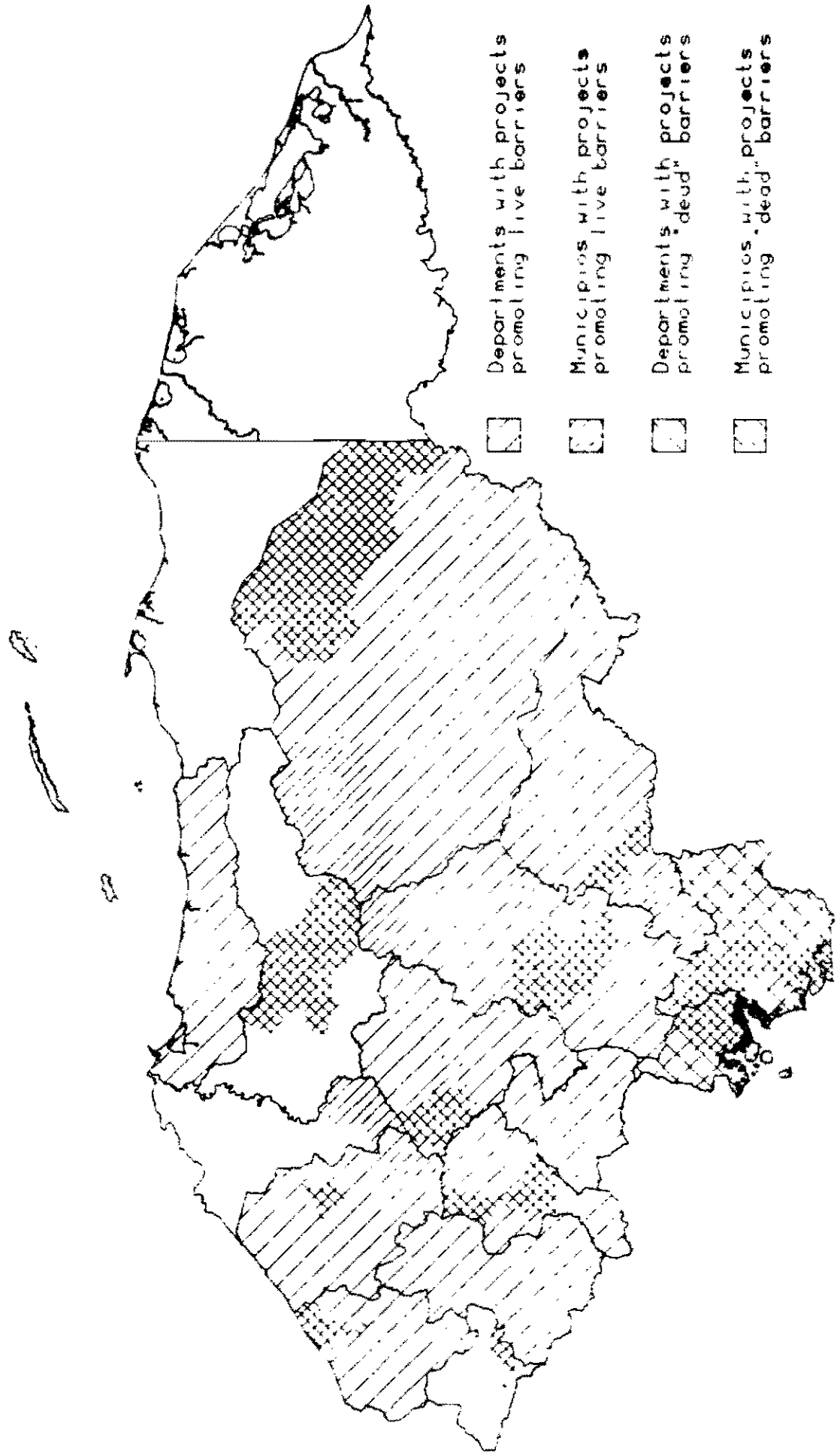




Figure 5. Locations of projects promoting "no burn" or minimum tillage, CIAT project database, Honduras

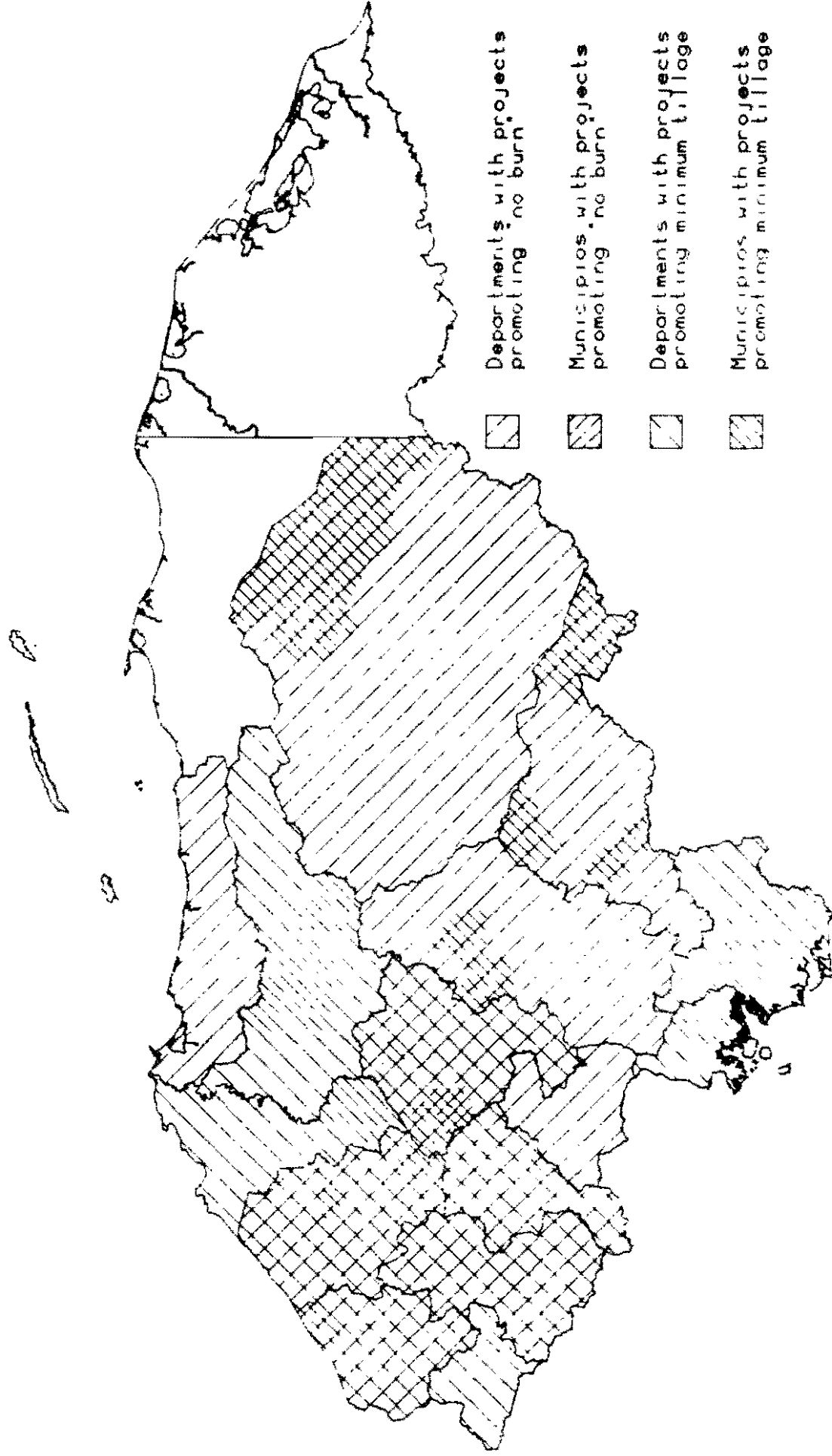


Figure 6. Locations of projects promoting organic matter management practices, CIAT project database, Honduras

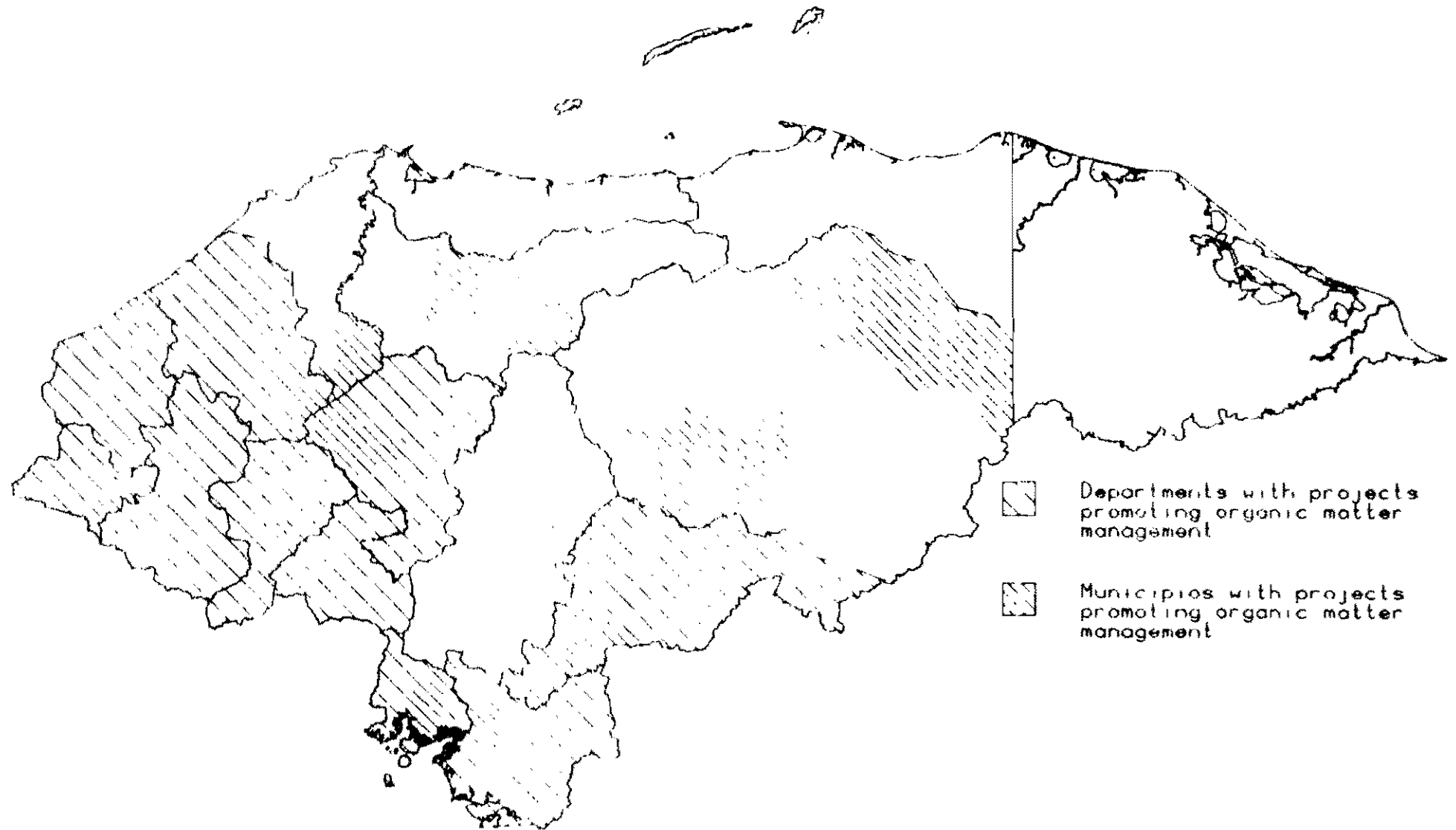


Figure 7. Locations of projects promoting green manures or cover crops or indigenous adaptation of green manures, project database, Honduras

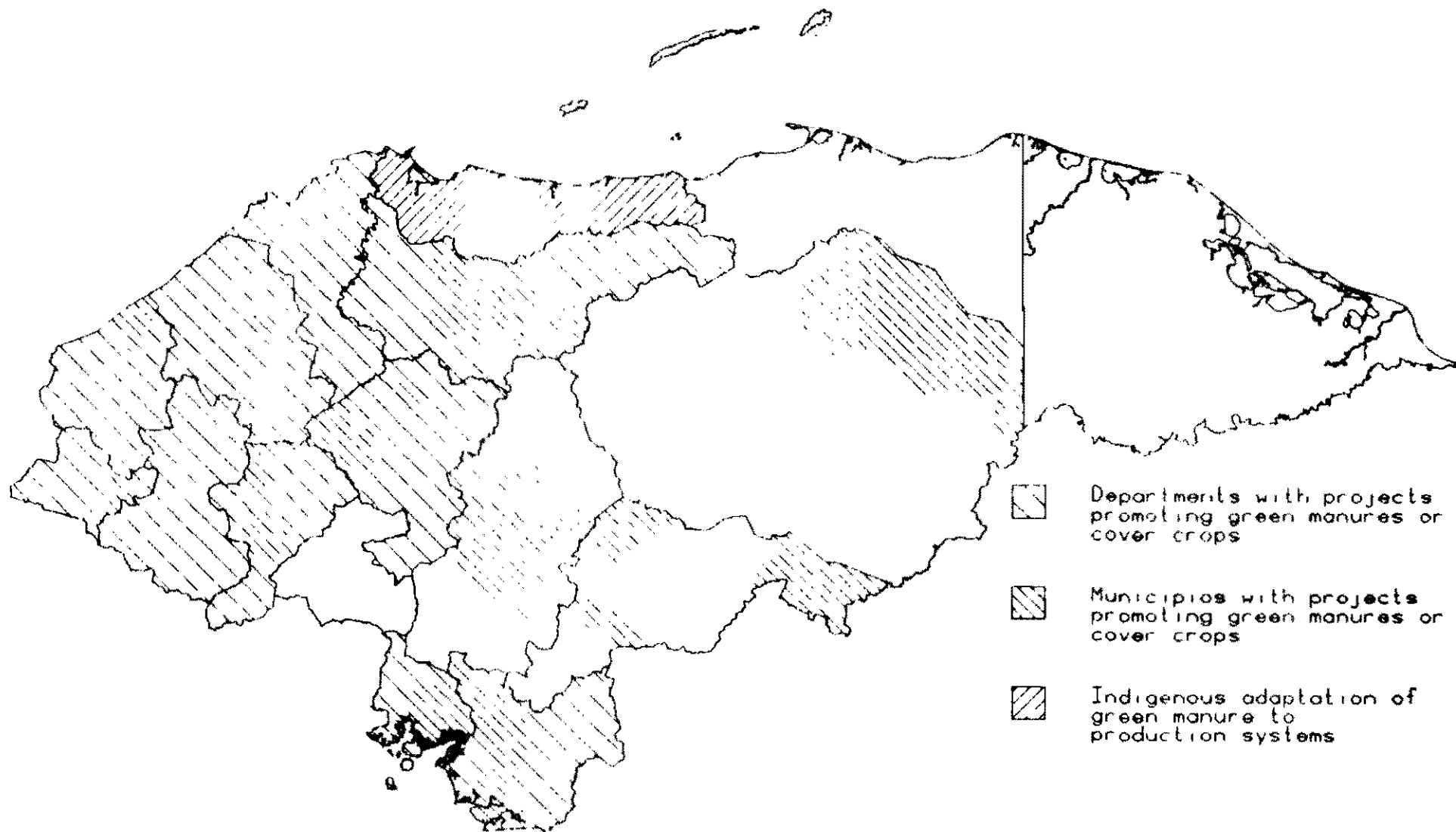


Figure 8. Locations of agroforestry, forestry or nursery projects, CLAT project database, Honduras

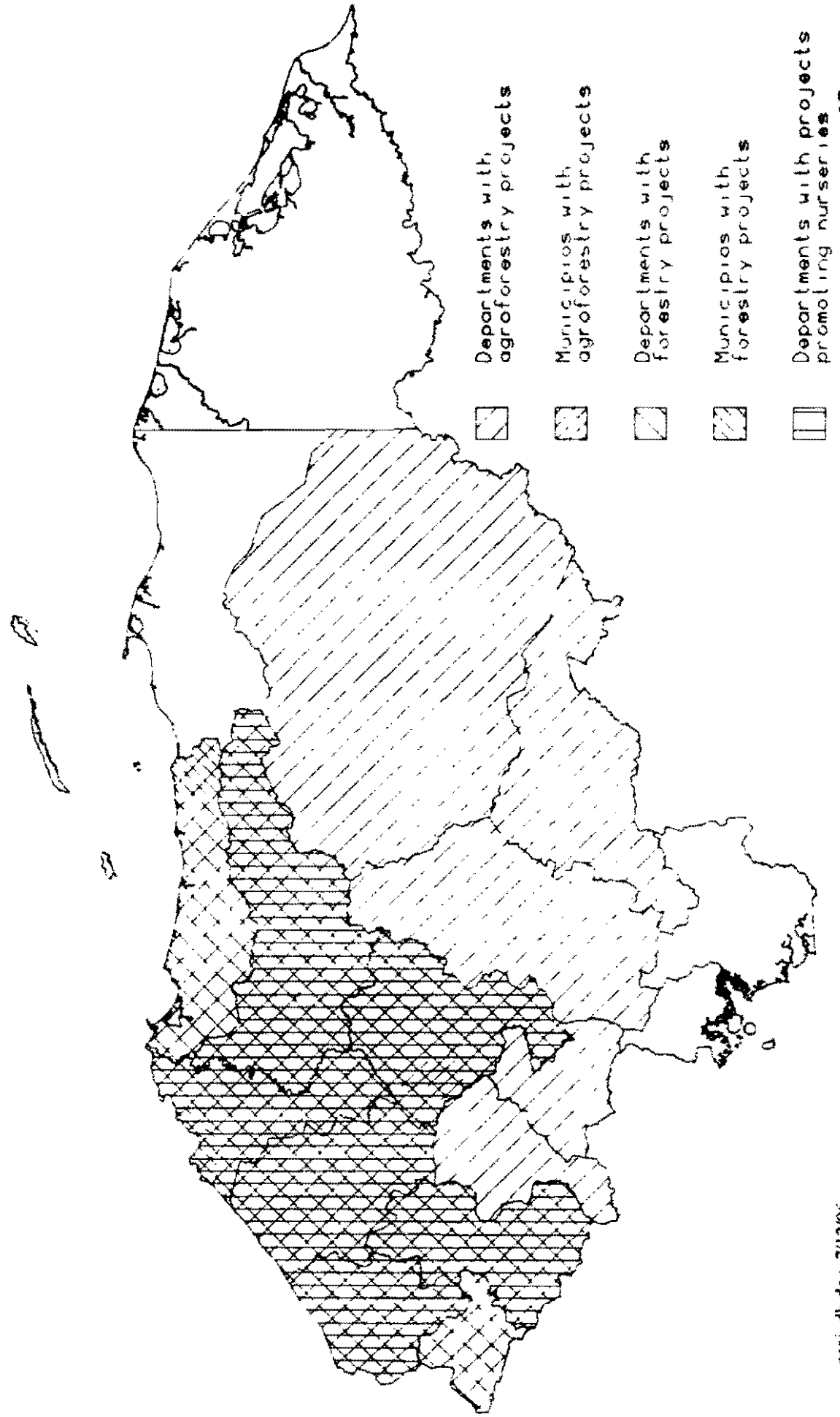
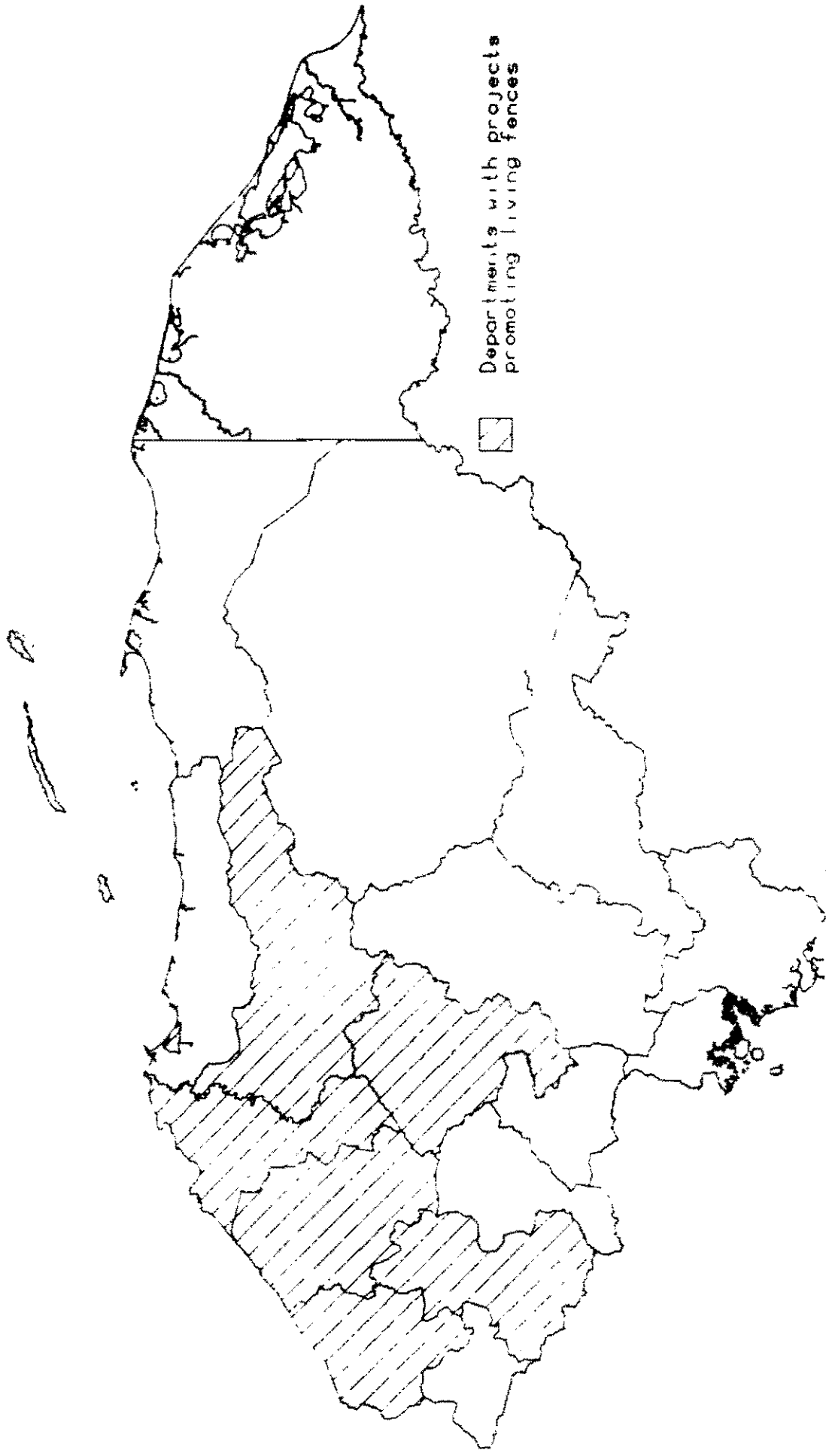


Figure 9. Locations of projects promoting living fences, CIAT project database, Honduras



**Table 5. Category of agent and project\***

Category of agent	Category of project						Total
	Soil conservation	Forestry	Agriculture	Rural development	Natural Resources	Not known	
Extension service	7	1	1	0	0	0	9
Parallel extension service	0	3	2	1	0	2	8
Community development workers	1	0	1	1	0	0	3
Farmer-promoters	4	0	0	1	0	0	5
Contact farmers	0	1	1	0	0	0	2
Agent not reported	17	10	4	12	2	4	49
<b>Total</b>	<b>29</b>	<b>15</b>	<b>9</b>	<b>15</b>	<b>2</b>	<b>6</b>	<b>76</b>

\*Does not include cases of indigenous innovation (9 cases) or research sites (10 cases).

## References

- Buckles, Daniel, Ponce, Ignacio, Sain, Gustavo, and Medina, Gilmer. 1994. "Cowardly land becomes brave" the use and diffusion of fertilizer bean (*Mucuna deeringianum*) on the hillsides of Atlantic Honduras. Pp. 249-262 in Thurston, H. David, Smith, Margaret, Abawi, George, and Kears, Steve. 1994. TAPADO Slash/mulch: How Farmers Use It and What Researchers Know About It. Ithaca, New York: Cornell International Institute for Food, Agriculture and Development (CIIFAD).
- Calderón, Fausto, Sosa, Heriberto, Mendoza, Sain, Gustavo, and Barreto, Héctor. 1991.
- CIAT. 1993. Improving agricultural sustainability and livelihoods in the Central American hillsides. A proposal for Swiss Development Cooperation (SDC). Cali, Colombia: CIAT.
- Dvorak, Karen Ann. 1996a. Catalogue of soil conservation practices and projects in Central America. Internal Report. Tegucigalpa, Honduras: CIAT.
- Dvorak, Karen Ann. 1996b. Soil conservation practices and projects in Central America. Digital database. Tegucigalpa, Honduras: CIAT.
- IICA. 1993. Memorias del Taller sobre Agricultura Sostenible en las Laderas Centroamericanas Oportunidades de Colaboración Interinstitucional, 13-16 de agosto de 1991, Coronado, Costa Rica. [Proceedings of the Workshop on Sustainable Agricultural in the Central America Hillsides: Opportunities for Interinstitutional Colaboration, 13-16 August 1991, Coronado, Costa Rica]. San José, Costa Rica: IICA.
- Kaimowitz, David. 1993. La experiencia de Centroamérica y República Dominicana con proyectos de inversión que buscan sostenibilidad en las laderas. [Experience in Central America and the Dominican Republic with projects investing in sustainable agriculture in hillsides.] Documento de Programa 40. San José, Costa Rica: IICA.
- Lutz, Ernst, Pagiola, Stefano, and Reiche, Carlos. 1994. Economic and institutional analyses of soil conservation projects in Central America and the Caribbean. World Bank Environment Paper No. 8. Washington, D.C.: The World Bank.
- Mejía, Francisco S. 1993. Las actividades de conservación de suelos en las organizaciones privadas de desarrollo de Honduras. [Soil conservation activities in private development organizations in Honduras.] Tegucigalpa, Honduras: Federación de Organizaciones Privadas de Desarrollo de Honduras (FOPRIDEH) y Cooperación Suiza al Desarrollo (COSUDE-P/ONG).
- Meyrat, Alain, Velasquez, Dionias, and Ardon Mejía, Mario. 1992. Inventario de técnicas de conservación de suelos y agua de laderas en Nicaragua, Guatemala y Honduras. [Inventory of soil and water conservation technique in the hillsides of Nicaragua, Guatemala and Honduras.] Managua, Nicaragua: Programa para la Agricultura Sostenible en Laderas de América Central (PASOLAC).
- Thurston, H. David, Smith, Margaret, Abawi, George, and Kears, Steve. 1994. TAPADO Slash/mulch: How Farmers Use It and What Researchers Know About It. Ithaca, New York: Cornell International Institute for Food, Agriculture and Development (CIIFAD).

- Wilken, Gene C. 1987. Good Farmers: Traditional Agricultural Resource Management in Mexico and Central America. Berkeley: University of California Press.
- Zutter, Jean Pierre and Bustamante, Benjamin. 1995. Estudio sobre incentivos en la conservación de suelos. [Study of incentives in soil conservation.] Tegucigalpa, M.D.C., Honduras: PASOLAC/PROGRAMA ONG/Intercooperation.



## Appendix A. Variables and codes

### Project type/Clase de proyecto

- (1) indigenous/local
- (2) limited-purpose/objetivo limitado
  - (2A) soil conservation/conservación de suelos
  - (2B) agroforestry-forestry/agroforestería-silvacultura
- (3) multi-purpose/objetivo múltiple
  - (3A) agricultural/agrícola
  - (3B) rural development/desarrollo rural
  - (3C) natural resource conservation/conservación de los recursos naturales

### Technology/Technología<sup>4</sup>

- 1 Terrace/terrazza
- 2 Bench terrace/terrazza de banco
- 3 Dike/dique
- 4 Drain/drenaje
- 5 Drainage ditch/zanja
- 6 Contour ditch/zanja a nivel
- 7 Ditch/acequia
- 8 Contour tillage/surcos a nivel
- 9 Dead barrier/barrera muerta
- 10 Living barrier/barrera viva
- 11 No burn/no quema
- 12 Minimum tillage/labranza mínima
- 13 Organic matter/material orgánica
- 14 Ridges/camellones
- 15 Green manure, cover crop/abono verde, coberatura vegetal
- 16 Planted fallow/guamíl sembrada
- 17 Improved pasture/pasto mejorado
- 18 Forestry, reforestation/silvacultura, reforestación
- 19 Agroforestry/agroforestería
- 20 Nursery/vivera
- 21 Communal nursery/vivera comunal
- 22 Windbreak/cortina rompeviento
- 23 Living fence/cerca viva
- 24 Improved variety/variedad mejorada
- 25 Fertilizer/fertilizante

### Type of agent/Tipo de agente

- (1) Existing extension service/extensionistas

<sup>4</sup> Technologies reported by at least one project but not included in the database were in-row tillage, "obras físicas," arado de laderas y arado de discos, cultivo en callejones, planting density, home gardens, weed control, herbicide use, pesticide use, miniriego, and gully reclamation.

- (2) Parallel extension service/sistema paralelo de extension
- (3) Community development workers/desarrollo de la comunidad
- (4) Farmer extension agents/productores agentes
- (5) Contact farmers/productores de contacto

Payments for labor/Pagar por trabajo (L)

- (L1) Cash payments (by hour/day/week/month)  
Efectivo por hora/día/semana/mes
- (L2) Cash payments (by unit/meter/etc.)  
Efectivo por unidad/metro/etc.
- (L3) Food for work/alimentos por trabajo  
Trabajo por alimentación
- (L4) Inputs for work/insumos por trabajo

Provide inputs or services without subsidy/Proveer insumos o servicios sin subsidio (P)

- (P1) Soil conservation inputs/insumos de conservación de suelos
  - (P1A) Vegetative material/material vegetativa
  - (P1C) Animal traction/tracción de los animales
  - (P1D) Tractors/tractores
  - (P1E) Tools/herramientas
  - (P1F) Bags (nurseries)/bolsas (viveras)
- (P2) Other inputs/otros insumos
  - (P2A) Seed/semilla
  - (P2B) Fertilizer/fertilizante
  - (P2C) Other chemicals/otros químicos
  - (P2E) Tools/herramientas
- (P3) Services/servicios
- (P4) Credit/crédito

Subsidies for inputs or services/Dar subsidios por insumos o servicios (S)

- (S1) Soil conservation inputs/insumos de conservación de suelos
  - (S1A) Vegetative material/material vegetativa
  - (S1C) Animal traction/tracción de los animales
  - (S1D) Tractors/tractores
  - (S1E) Tools/herramientas
  - (S1F) Bags (nurseries)/bolsas (viveras)
- (S2) Other inputs/otros insumos
  - (S2A) Seed/semilla
  - (S2B) Fertilizer/fertilizante
  - (S2C) Other chemicals/otros químicos
  - (S2E) Tools/herramientas
  - (S2F) Animals/animales
- (S3) Services/servicios
- (S4) Credit/crédito

Country/Department

(A) Central America

(C) Costa Rica

- (01) Alajuela
- (02) Cartago
- (03) Guanacaste
- (04) Heredia
- (05) Limon
- (06) Puntarenas
- (07) San José

(E) El Salvador

- (01) Ahuachapán
- (02) Cabañas
- (03) Cuscatlán
- (04) Chalatenango
- (05) La Libertad
- (06) La Paz
- (07) La Unión
- (08) Morazán
- (09) San Miguel
- (10) San Salvador
- (11) San Vicente
- (12) Santa Ana
- (13) Sonsonate
- (14) Utulután

(G) Guatemala

- (1) Alta Verapaz
- (2) Baja Verapaz
- (3) Belice
- (4) Chimaltenango
- (5) Chiquimula
- (6) El Progreso
- (7) El Petén
- (8) El Quiché
- (9) Escuintla
- (10) Guatemala
- (11) Huehuetenango
- (12) Izabel
- (13) Jalapa
- (14) Jutiapa
- (15) Quezaltenango
- (16) Retalhuleu
- (17) Sacatepéquez
- (18) San Marcos
- (19) Santa Rosa
- (20) Sololá

(21) Suchitepequez

(22) Totonicapan

(23) Zacapa

(H) Honduras

- (01) Atlántida
- (02) Colon
- (03) Comayagua
- (04) Copan
- (05) Cortes
- (06) Choluteca
- (07) El Paraiso
- (08) Francisco Morazán
- (09) Gracias a Dios
- (10) Intibuca
- (11) Islas de la Bahía
- (12) La Paz
- (13) Lempira
- (14) Ocotepeque
- (15) Olancho
- (16) Santa Barbara
- (17) Valle
- (18) Yoro

(M) México

(N) Nicaragua

- (01) Boaco
- (02) Carazo
- (03) Chinandega
- (04) Chontales
- (05) Estelí
- (06) Granada
- (07) Jinotega
- (08) Leon
- (09) Madriz
- (10) Managua
- (11) Masaya
- (12) Matagalpa
- (13) Nueva Segovia
- (14) Río San Juan
- (15) Rivas
- (16) R. A. A. N.
- (17) R. A. A. S.
- (18) Zelala<sup>5</sup>

(P) Panamá

<sup>5</sup> Currently, R.A.A.N. and R.A. A.S.

## **Appendix B. Catalogue data, by case**

Table B1. Database by entry. Identification, country and title

ID	PAIS	TITLE
1	C	no-till in frijol espeque in Costa Rica
2	G	maize+choreque (Lathyrus nitrivalvis)
3	H	maize+sorghum+Dolichos lablab
4.1	C	Reforestación en Hojancha, Guanacaste
4.2	C	Natural Resource Conservation Project (CORENA)
5	C	Programa de Desarrollo Agrícola y Forstal (PRODAF)
6	E	Viveros comunales
7	M	popal or marceño
8	G	Proyecto de Desarrollo Agrícola del Altiplano
9	G	Proyecto Agroforestal
10	H	Programa de Desarrollo Rural de Occidente (PRODERO)
11	H	Proyecto de Agroforestería, Unidad de Manejo de la Sierra de Omoa (antenormente Proyecto Ordenación Integrada de Cuencas Hidrográficas)
12.1	N	soil conservation in cotton region in western Nicaragua
12.2	N	Proyecto de Conservación de Suelos y Medio Ambiente (PCEO)/Soil Conservation and Environmental Project
13	N	[CARE La Escalera]
14	N	[CARE MAG San Ramón agrofor]
15	N	[Noruega Cumplida, Aranjuez]
16	N	Proyecto Pikin Guerrero
17	H	Proyecto de Manejo de Recursos Naturales
18	H	Proyecto de Desarrollo del Bosque Latifoliado
19	N	Proyecto Reforestación del Valle de Jalapa (Pie de Monte)
20.1	C	estudio de conservación de suelos en Costa Rica
20.2	C	soil conservation economics case study, Tierra Blanca-San Juan Chicao, Costa Rica
21	A	Proyecto de Diseminación del Cultivo de Arboles de Uso Múltiple (Madeleña)
22	G	Proyecto de Diseminación del Cultivo de Arboles de Uso Múltiple (Madeleña)
23	N	CIAT/CAHP research site, Estelí, Nicaragua
24	N	CIAT/CAHP research site, Matagalpa, Nicaragua
25	C	SENACSA
26.1	N	Proyecto de Conservación de Suelo en Santa Lucía, Teustepe y Pochocuape, Campesino-a-Campesino pilot project in Santa Lucía
26.2	N	Campesino-a-Campesino/Farmer-to-Farmer
26.3	N	ASOPROL
26.4	N	National Union of Farmers and Ranchers (San Juan River case)
26.5	N	Campesino-a-Campesino (Cinco Pinos)
27	P	investigación del PRM/CIMMYT en Azuero, Panamá sobre uso de rastrojo de maíz+Canavalia ensiformis
28	C	soil conservation economics case study, Heredia, Costa Rica
29	C	soil conservation economics case study, Turubares, San José, Costa Rica
30	N	Plantaciones Forestales para Energía y Rehabilitación de la Llanura Volcánica e León-Chinandega (Proyecto Cordillera de los Maribios)
31	H	abonera in northern Honduras
32	G	soil conservation economics case study, Patzité, Quiché
33	H	soil conservation economics case study, Tatumbla, Francisco Morazán (Soil and Water Conservation and Management Program 1977, PARM 1982, LUPE 1990)
34.1	N	FAO demostraciones en bloques
34.2	N	Adoption study of FAO block demonstration trials, Condega, Region IIIB
35	N	INTA
36	G	ADERSO
37	H	CIAT/CAHP research site, Atlántida, Honduras

Table B1. Database by entry. Identification, country and title

ID	PAIS	TITLE
38	H	CIAT/CAHP research site, Danlí, Honduras
39.1	H	Programa de Desarrollo Rural Integrado de Yoro (DRI-Yoro)
39.2	H	soil conservation economics case study, Yoro, Yoro
39.3	H	CIAT/CAHP research site, Yoro, Honduras
40	H	Programa de Desarrollo Rural Integrado: Marcala Goascorán (MARGOAS)
41	H	Los Laureles research site
42.1	H	World Neighbors
42.2	H	Vecinos Mundiales, El Socorro, Siguatepeque
42.3	H	Programa de Desarrollo Agrícola Integrado de Cantarranas/Cantarranas Integrated Agricultural Development Program
42.4	H	Guinope Integrated Development Programme
42.5	G	Programa de Desarrollo Agrícola Integrado de San Martín
43	E	Proyecto Guacotecti o Proyecto Agroforestal a Comunidades de Escasos Recursos
44	P	Agroforestry Project for Community Development (CARE/INRENARE)
45	P	National Directorate of Renewable Natural Resources/French Mission for Technical Cooperation
46	P	Canal Watershed Management Project
47	A	Proyecto Agrosilvopastoril
48	M	deterioration of traditional landscape management practices
49	N	Proyecto Agroforestal El Pital
50	H	Comisión Cristiana de Desarrollo (CCD)
51	N	control de la erosión en la cuenca sur del Lago Xolotlán
52	C	tapado in Costa Rica
53	P	tapado in Panama
54	E	planted fallow ( <i>Gliricidia sepium</i> ) for fuel wood
55	E	frijol tapado in El Salvador
56	E	Conservation Tillage Project, Programa de Producción Tecnificada de Granos Básicos (PPTGB) y Programa de Rehabilitación y Desarrollo de la Infraestructura Básica y Diversificación de la Producción Agrícola (PREDIBDPA)
57	E	Proyecto Metapán, Cuenca del Río San José
58.1	E	proteger proyecto hidroeléctrico Cerrón Grande
58.2	E	POSRA (Acelhuate River Catchment Management Project)
59	E	Proyecto de Rehabilitación de la Subcuenca del Río Las Cañas
60	M	maize-nescafe ( <i>Stizolobium</i> spp)
61	H	Hermanidad de Honduras (HH)
62	H	PRODAI (Programa de Desarrollo Agrícola Integrado El Espíritu)
63	H	Programa de Reconstrucción Rural La Buena Fe (PRR)
64	H	FAMA (Alimentos para Millones)
65	H	PROCONDEMA (Programa de Promoción y Capacitación para la Conservación del Medio Ambiente)
66	H	Fundación Banhcafe (FUNDANHCAFE)
67	H	Vision Mundial (VM)
68	H	Fomento Evangelico para el Progreso de Honduras (FEPROH)
69	H	Programa Aldea Global
70	H	Asociación para el Desarrollo Integral de Honduras (ADIH)
71	H	Asociación Save the Children (ASCH)
72	H	Proyecto Agroforestal Comunal (PACO-CARE)
73	H	LUPE (Proyecto Mejoramiento del Uso y Productividad de la Tierra)
74	H	PDBL Proyecto de Desarrollo del Bosque Latifoliado
75	H	PLAN en Honduras
76	M	conservación en La Fraylesca, Chiapas

Table B2 Category of project and agent, year of initiation, incentives and technologies, by case

ID	NS	L1	L2	L3	L4	P1	P1A	P1E	P1F	P2	P2A	P2E	P3
1.0													
2.0	NS												
3.0	NS												
4.1													
4.2													
5.0													
6.0				L3									
7.0	NS												
8.0			L2										
9.0				L3			P1A		P1F				
10.0													
11.0				L3									
12.1													
12.2													
13.0													
14.0													
15.0													
16.0													
17.0			L2	L3									
18.0													
19.0													
20.1													
20.2													
21.0													
22.0													
23.0													
24.0													
25.0													
26.1								P1E					
26.2													
26.3													P3
26.4													
26.5													
27.0													
28.0													
29.0													
30.0													
31.0	NS												
32.0													
33.0													
34.1													
34.2						P1				P2			
35.0													
36.0													
37.0													
38.0													
39.1													
39.2													
39.3													

Table B2. Category of project and agent, year of initiation, incentives and technologies, by case

ID	NS	L1	L2	L3	L4	P1	P1A	P1E	P1F	P2	P2A	P2E	P3
40.0			L2										
41.0													
42.1													
42.2											P2A		
42.3													
42.4													
42.5													
43.0				L3				P1E		P2			P3
44.0	NS												
45.0													
46.0													
47.0													
48.0													
49.0													
50.0													
51.0													
52.0	NS												
53.0	NS												
54.0													
55.0													
56.0				L3						P2			
57.0						P1				P2			
58.1						P1				P2			
58.2													
59.0		L1			L4								
60.0													
61.0													
62.0													
63.0													
64.0												P2E	
65.0													
66.0													
67.0													
68.0											P2A		
69.0													
70.0													
71.0													
72.0													
73.0													
74.0													
75.0													
76.0													



Table B2. Category of project and agent, year of initiation, incentives and technologies, by case

ID	P4	S1	S1A	S1E	S1F	S2	S2A	S2E	S2F	S4	AG-1	AG-2	AG-3
1 0											1		
2 0													
3 0													
4.1										S4			
4 2													
5.0													
6.0			S1A		S1F	S2							
7.0													
8.0											1		
9.0			S1A										
10 0				S1E						S4			
11.0			S1A			S2							
12.1													
12.2													
13.0													
14.0													
15.0													
16.0													
17.0			S1A	S1E	S1F								
18.0												2	
19.0			S1A		S1F								
20.1													
20.2													
21.0													
22.0													
23.0													
24.0													
25.0		S1									1		
26.1													
26.2													
26.3	P4												
26.4													
26.5													
27.0													
28.0													
29.0													
30.0										S4			
31.0													
32.0													
33.0													
34.1													
34.2	P4	S1				S2					1		
35.0											1		
36.0													
37.0													
38.0													
39.1													
39.2													
39.3													

Table B2. Category of project and agent, year of initiation, incentives and technologies, by case

ID	P4	S1	S1A	S1E	S1F	S2	S2A	S2E	S2F	S4	AG-1	AG-2	AG-3
40.0													
41.0													
42.1													
42.2			S1A										
42.3													
42.4													
42.5													
43.0	P4									S4	1		3
44.0											1		
45.0													
46.0													
47.0													
48.0													
49.0													
50.0			S1A					S2E	S2F	S4			3
51.0													
52.0													
53.0													
54.0													
55.0													
56.0						S2					1		
57.0										S4			
58.1										S4			
58.2													
59.0			S1A										
60.0													
61.0										S4			
62.0			S1A										
63.0													
64.0	P4						S2A						
65.0													3
66.0													2
67.0			S1A					S2E		S4			2
68.0										S4			2
69.0		S1	S1A							S4			2
70.0						S2		S2E					
71.0										S4			2
72.0							S2A	S2E		S4			2
73.0													
74.0			S1A			S2				S4			2
75.0										S4			
76.0						S2				S4	1		

Table B2. Category of project and agent, year of initiation, incentives and technologies, by case

ID	AG-4	AG-5	AG-9	PROJ	TECH1	TECH2	TECH3	TECH4	TECH5	TECH6	TECH7	TECH8
1.0				2A								
2.0			9	1								
3.0			9	1								
4.1				2A								
4.2												
5.0				2B								
6.0				2B								
7.0			9	1								
8.0		5		3A	T1							
9.0				2B	T1						T7	
10.0				3B	T1						T7	
11.0				2B	T1						T7	
12.1				2A		T2						
12.2				2A								
13.0				2A								
14.0				2B								
15.0				2A								
16.0				3C								
17.0				2A	T1						T7	
18.0				2B								
19.0				2B								
20.1				2A	T1		T3	T4				T8
20.2				3N					T5			
21.0				2B								
22.0				2B								
23.0				N2								
24.0				N2								
25.0				2A								
26.1	4			2A	T1		T3		T5			T8
26.2	4			2A								
26.3				3A								
26.4	4			2A								
26.5												
27.0				3A								
28.0				3N					T5			
29.0				3N		T2			T5			
30.0				2B								
31.0			9	1								
32.0				3N	T1							
33.0				2A							T7	
34.1				2A								
34.2				2A								
35.0				2A								
36.0				3C								
37.0				N2								
38.0				N2								
39.1				3B								
39.2				N3							T7	
39.3				N2								

Table B2. Category of project and agent, year of initiation, incentives and technologies, by case

ID	AG-4	AG-5	AG-9	PROJ	TECH1	TECH2	TECH3	TECH4	TECH5	TECH6	TECH7	TECH8
40.0				3B		T2						
41.0												
42.1				3B	T1							
42.2				3B							T7	T8
42.3				3B					T5			
42.4				3B					T5			
42.5				3B						T6		
43.0	4			2A	T1		T3					
44.0		5		2B					T5			
45.0				2A								
46.0				2A					T5			
47.0				3A	T1				T5			T8
48.0				1	T1			T4				
49.0				2B								
50.0				3B					T5			T8
51.0				2A								
52.0			9	1								
53.0			9	1								
54.0				1								
55.0				1								
56.0				2A								
57.0				2A		T2						
58.1				2A	T1	T2	T3	T4				
58.2				2A						T6		
59.0				2A								
60.0												
61.0				3B								
62.0				3A					T5			
63.0	4			3B					T5			T8
64.0				3B								
65.0				3A								
66.0												
67.0				3B					T5			
68.0				3A					T5			T8
69.0				3A								
70.0				3B					T5			T8
71.0									T5			T8
72.0				2B								T8
73.0				2A								
74.0				2B								
75.0				3B								
76.0				2A								

Table B2. Category of project and agent, year of initiation, incentives and technologies, by case

ID	TECH9	TECH10	TECH11	TECH12	TECH13	TECH14	TECH15	TECH16	TECH17	TECH18
1 0				T12						
2 0							T15			
3 0							T15			
4 1										T18
4 2										
5 0										
6 0										
7 0							T15			
8 0	T9									T18
9 0	T9	T10			T13			T17		T18
10 0				T12			T15			T18
11 0										T18
12 1										
12 2										
13 0										
14 0										
15 0										
16 0										
17 0	T9	T10								
18 0										T18
19 0										T18
20 1		T10								
20 2										
21 0										T18
22 0										T18
23 0										
24 0										
25 0										
26 1	T9	T10	T11	T12	T13		T15			
26 2										
26 3										
26 4							T15			
26 5										
27 0			T11	T12			T15			
28 0										
29 0										
30 0		T10			T13			T17		T18
31 0							T15			
32 0										
33 0	T9	T10								
34 1										
34 2										
35 0										
36 0		T10					T15			T18
37 0										
38 0										
39 1										
39 2										
39 3										

Table B2. Category of project and agent, year of initiation, incentives and technologies, by case

ID	TECH9	TECH10	TECH11	TECH12	TECH13	TECH14	TECH15	TECH16	TECH17	TECH18
40.0										
41.0										
42.1	T9	T10		T12	T13		T15			
42.2		T10	T11	T12	T13		T15			
42.3		T10			T13		T15			
42.4		T10			T13					
42.5										
43.0	T9									
44.0	T9	T10			T13					
45.0										
46.0									T17	
47.0	T9	T10		T12	T13	T14	T15	T16		
48.0										
49.0										
50.0	T9	T10		T12	T13		T15			
51.0										
52.0				T12						
53.0				T12						
54.0								T16		
55.0				T12						
56.0			T11	T12	T13					
57.0	T9	T10								T18
58.1	T9	T10								
58.2		T10								
59.0										
60.0							T15			
61.0				T12	T13		T15			
62.0	T9	T10		T12	T13		T15			
63.0		T10		T12	T13					
64.0					T13					
65.0										
66.0					T13					
67.0				T12	T13		T15			
68.0				T12			T15			
69.0										
70.0		T10								
71.0	T9	T10					T15			
72.0				T12			T15			T18
73.0										
74.0		T10	T11							T18
75.0		T10	T11							
76.0			T11	T12						

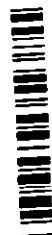
Table B2. Category of project and agent, year of initiation, incentives and technologies, by case

ID	TECH19	TECH20	TECH21	TECH22	TECH23	TECH24	TECH25	YEAR
1 0								
2 0								
3 0								
4.1			T21					78
4.2								85
5.0	T19							87
6.0			T21					84
7.0								
8.0								83
9.0	T19	T20	T21		T23			75
10.0								80
11.0								78
12.1								50
12.2	T19			T22				80
13.0								86
14.0								
15.0								
16.0								90
17.0								82
18.0								88
19.0		T20			T23			84
20.1								
20.2								
21.0			T21					79
22.0			T21					
23.0								94
24.0								94
25.0								84
26.1								87
26.2								90
26.3								94
26.4								87
26.5								92
27.0								92
28.0								
29.0								
30.0					T23			89
31.0								
32.0								
33.0								77
34.1						T24	T25	
34.2						T24	T25	85
35.0								
36.0	T19							
37.0								94
38.0								94
39.1								
39.2								
39.3								94

Table B2. Category of project and agent, year of initiation, incentives and technologies, by case

ID	TECH19	TECH20	TECH21	TECH22	TECH23	TECH24	TECH25	YEAR
40.0								
41.0								
42.1								
42.2	T19							87
42.3								87
42.4								81
42.5							T25	72
43.0	T19							80
44.0			T21					86
45.0								79
46.0								
47.0	T19			T22	T23			
48.0								
49.0								90
50.0								82
51.0								83
52.0								
53.0								
54.0								
55.0								
56.0						T24	T25	74
57.0								
58.1								
58.2								
59.0								91
60.0								
61.0	T19							76
62.0								87
63.0								85
64.0								79
65.0								89
66.0								85
67.0								74
68.0								87
69.0								89
70.0								91
71.0								90
72.0	T19	T20			T23	T24		89
73.0								90
74.0	T19							90
75.0	T19							87
76.0							T25	





- Marco Tulio Trejo y Hector Barreto. Noviembre 1995. Base de datos de los levantamientos de suelos y sus resultados analíticos en Honduras. Reporte Interno, Tegucigalpa, Honduras. Centro Internacional de Agricultura Tropical. (mimeo.)
- Karen Ann Dvorak, Pedro Jiménez, Daysi Medrano García, José Santos Martínez F., Manuel Velásquez, Duilio Nivas, Donald Suerez y Nestor H. Velásquez. 1996. Resumen de los datos del sondeo sobre recursos agrícolas: Santa Lucía, Boaco, Nicaragua. Reporte Interno. Tegucigalpa, Honduras: CIAT. (mimeo.)
- Raúl Moreno y Hugo Pocasangre. Febrero 1996. Estudio preliminar de adopción de prácticas de conservación de suelos en Danlí, El Paraíso, Honduras. Reporte Interno. Tegucigalpa, Honduras: CIAT. (mimeo.)
- Karen Ann Dvorak, Pedro Jiménez, Manuel Cantillano y Donald Velásquez. 1996. Resumen de los datos del sondeo sobre recursos agrícolas: Municipio de Yorito, Sulaco, Victoria y Morazán, Departamento de Yoro, Honduras. Reporte Interno. Tegucigalpa, Honduras: CIAT. (mimeo.)
- Programa de Laderas, CIAT. Marzo 1996. Ayuda memoria de la segunda reunión del Grupo Consultivo, Tegucigalpa, Honduras, 21-22 de Septiembre de 1995. Reporte Interno. Tegucigalpa, Honduras: CIAT. (mimeo)
- Karen Ann Dvorak y Pedro Jiménez. Marzo de 1996. Resumen de los datos del sondeo sobre recursos agrícolas: Municipios de Danlí y San Matías, Departamento de El Paraíso, Honduras. Reporte Interno. Tegucigalpa, Honduras: CIAT. (mimeo).
- Karen Ann Dvorak y Pedro Jiménez. 1996. Resumen de los datos del sondeo sobre recursos agrícolas: Municipios de Arizona, La Ceiba, La Masica y Tela, Departamento de Atlántida, Honduras. Reporte Interno. Tegucigalpa, Honduras: CIAT. (mimeo).
- Karen Ann Dvorak y Pedro Jiménez. 1996. Guía del sondeo sobre recursos agrícolas en América Central. Segunda edición. Reporte Interno. Tegucigalpa, Honduras: Centro Internacional de Agricultura Tropical. (mimeo.)
- Karen Ann Dvorak. 1996. Sondeo of resource management systems and practices: National Sampling Frame for Honduras. Project Report. Tegucigalpa, Honduras: CIAT. (mimeo)
- Dvorak, Karen Ann. 1996. Catalogue of soil conservation practices and projects in Central America. Internal Report. Tegucigalpa, Honduras: CIAT. (mimeo)
- Humphries, Sally. 1996. Migrants, dairy farmers and agricultural land-use in the humid, tropical hillsides of Northern Honduras. Internal Report. Tegucigalpa, Honduras: CIAT. (mimeo)

## **Project Documents**

CIAT, 1993. Improving agricultural sustainability and livelihoods in the Central American hillsides: A proposal for Swiss Development Cooperation (SDC). Cali, Colombia: CIAT (mimeo.)

CIAT/UNAH. Marzo 1995. Localización y sistematización de la literatura gris sobre agricultura en laderas de Honduras. Tegucigalpa, Honduras. CIAT. (mimeo.)

Hector Barreto y Karen Dvorak. Mayo 1995. Plan operativo. Reporte Interno. Tegucigalpa, Honduras: CIAT. (mimeo.)

Hector Barreto y Karen Dvorak. Junio 1995. Los comités locales del Programa de Laderas-CIAT en Honduras y Nicaragua: Fase de organización. Reporte Interno. Tegucigalpa, Honduras: CIAT. (mimeo.)

Raúl Moreno Agosto 1995. Resumen de la primera reunión del Grupo Consultivo del Proyecto de Laderas de América Central, La Lima, Cortés, Honduras, 18-20 de Mayo de 1994 y Objetivos y conclusiones del taller de consulta en Managua, Nicaragua, 27-28 Agosto 1993. Reporte Interno. Tegucigalpa, Honduras: CIAT. (mimeo.)

Hector Barreto. August 1995. Digital database of the IV National Agricultural Census for Honduras at municipio level. Internal Report, not for distribution. Tegucigalpa, Honduras: CIAT. (mimeo.)

Karen Ann Dvorak y Pedro Jiménez. Septiembre 1995. Guía para el sondeo sobre recursos agrícolas en América Central. Reporte Interno. Tegucigalpa, Honduras: Centro Internacional de Agricultura Tropical. (mimeo.)

Hector Barreto. Octubre 1995. Atlas digital de Nicaragua. Reporte Interno. Tegucigalpa, Honduras: CIAT. (mimeo.)

Hillsides Research Working Group. October 1995. Proceedings of the working group on hillsides research in Central America, 1-3 March, 1995, Trujillo, Colón, Honduras. Tegucigalpa, Honduras: Hillsides Research Working Group. (mimeo.)

Grupo de Trabajo de Laderas. Octubre 1995. Memoria del grupo de trabajo para la investigación en laderas de Centro América, 1-3 marzo 1995, Trujillo, Colón, Honduras. Tegucigalpa, Honduras: Grupo de Trabajo de Laderas. (mimeo.)