CAJ 007/2000

Application to become a member of the HELP basin network

August, 2000

La Cuenca del Rio Jequetepeque

Location: Northern Peru emptying into the Pacific Ocean. Between latitudes 6.48 and 7.30 South and longitudes 78.22 and 79.41 West. The Rio Jequetepeque includes three primary tributaries: Rio Pallac (250 km2); San Miguel or Puclush (1,065 Km2); and the Magdalena (1,500 km.2). In 1987 the Gallito Ciego dam was completed with the potential to irrigate 42, 000 ha of the pacific coast desert and produce hydroelectric power for the Pacasmayo Cement factory. (useful capacity 400 MMC; dead zone 86 MMC; Potential hydroelectric capacity 34,000 Kw/yr)

Characteristics:

	Above the Dam	Below the Dam
Size (km2):	3600	1000
Population (1994)	125,000	140,000
Altitudes (masl)	400-4188	0-399
X Rainfall (mm)	100-1100	0-100
X hydrologic mass (MMC/yr)	825	--
X demand (MMC/yr)	---	500
Crop Area (ha)	69, 675	42,835 (pot. irrigated)

Major Zones	Jalca	Quechua	Yungas	Chala
Elevation	>3500	3500-2300	2300-500	<500
Major Production	livestock	potatoes	rice	rice
	potatoes	wheat	sugar cane	corn
		corn	fruit trees	

Major issues

- **Devastation of the coastal zones during an el Nino Year.** Millions of dollars of damage to property and infrastructure below the dam and over 1000 hectares of cropland lost above the dam

- **Lack of potable water and water for irrigation in the Quechua and Yungas zones**.

- **Rapid sedimentation of the Gallito Ciego Reservoir**. It is estimated that between 10/87 and 6/98 a total of 100 MMC of solids have come into the reservoir and 60% of that load came in the recent El Nino year (1997/98).

- **There is an actual decrease in the forested areas of the watershed**. Initial push in the 1970's for reforestation in the watershed has not only come to a close, but the Eucalyptus and Pine are now being harvest more rapidly than they are being replanted.

- **Expansion of agriculture in the high Jalca zone has changed the hydrological properties of the upper watershed.**

- **Salinisation of coastal soils due to poor irrigation and drainage practices has risen to 15,000 hectares**

- **Increasing environmental problems due to mining wastes and poor management of municipal sewage water**

Legal and institutional framework:

The watershed is in two Departments (Cajamarca-above the dam; La Libertadad -below the dam) and includes 6 provinces and 29 municipalities. The major national institutions that are important in watershed and irrigation management include:

- Autoridad Autonoma de la Cuenca del Jequetepeque
- Administracion Tecnica de Riego (Min. de Agricultura)
- Proyecto Nacional de Manejo de Cuencas Hidrograficas y Conservacion del Suelo (PRONAMACHES);
- Oficina Nacional de Estudios sobre Recursos Naturales (ONERN)
- Instituto Nacional de Desarrollo (INADE)
- Instituto Nacional de Recursos Naturales (INRENA)

Within the watershed, the key local organizations are either members of the the Junta de Usuarios de Alto Jequetepeque or the Junta de Usuarios (de bajo Jequetepeque). A socio-political issue that plagues the watershed is the overlapping jurisdictions of government agencies and local irrigation associations

The Watershed Association:

CIPADECJ is the unifying body in the watershed (Comite Interinstitucional para de Desarrollo de la Cuenca del Jequetepeque). This commission was founded in 1993

and today includes 7 of the leading NGOs in the region, 6 municipalities as well as the coordinating irrigation committees from both above and below the dam.

Professional capabilities:

Highly qualified hydrologists exist in Lima, about 1000 km from the watershed. However, regional universities in Trujillo, Piura Chiclayo, and Cajamarca have the capability and interest in participating in the project. In addition, Texas A& M would be interesting in collaborating with our efforts in the basin.

Justification for becoming a HELP basin.

The set of problems facing the Jequetepeque watershed is not unique. In fact, this watershed is similar to 9 others along the Peruvian coast where there are impoverished sierra communities, crumbling irrigation systems, and small hydroelectric power plants all threatened due to unprecedented rates of erosion during El Niño years.