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REPORT ON TECHNICAL ASSISTANCE IN LAND USE CAPABILITY FOR THE EASTERN ANDEAN SLOPES OF BOLIVIA

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BACKGROUND

The International Institute for Environment and Development (IIED), through the Joint Environmental Services (JES) of IIED and IUCN, contracted the Tropical Science Center to provide 12 weeks of technical assistance in the implementation of the Land Use Capability Study in the subandean and piedmont strips of Bolivia, supported by USAID/Bolivia - PL480. In order to accomplish this task, Ing. Vicente Watson, a member of the associated personnel of the Tropical Science Center, was appointed to undertake this assignment and travelled to Bolivia on June 22, 1984. Once there, he immediately began his work but found that a great deal of the basic information had not yet been completed. Furthermore, the funds from PL480 for the financing of local personnel, materials, and services were unavailable. Another problem was that the field equipment ordered from the United States by USAID/Bolivia had not arrived. All these inconveniences prevented a normal development of the project and to complicate matters, just then an indefinite strike of public employees began, which implied that the solution to the problems preventing the smooth development of the study would have to be left until a much later date. At this point, it was decided, with the consent of Robert V. Thurston, Chief of the Rural Development Office of USAID/Bolivia, that Ing. Watson return to Costa Rica until matters were normalized in Bolivia. He returned therefore on August 4.

After two weeks, he again returned to Bolivia (on August 18), but the problems there continued unresolved. As time passed, the work to be done was reprogrammed several times, but each time it was necessary to modify the plans. Finally, it became evident that the time period originally stipulated in the contract was insufficient to accomplish the principal objectives. Thus, initiatives were taken to obtain an extension on the contract of one more month, an extension which was finally granted by USAID/Bolivia.

DEVELOPMENT OF THE STUDY

The work completed during the duration of the contract can be summarized in three main points: a) revision of existing information, b) preparation of the material for the training course, and c) initiation of the theoretical/practical training course.

The contract included participating in the preparation and presentation of a seminar on Land Use Capability to be presented to relevant decision-makers in

the Bolivian government. This seminar has not yet taken place, partly because the necessary funds were not issued in time, and partly because a conclusion was reached that it would be better to postpone it until the results of the system applied during 1984 were available.

a) Revision of Existing Information

This was the first step undertaken; the work included a rapid revision of the basic information used in the preparation of the Land Use Capability Map of the Development Corridor and its amplification towards the piedmont. Also, some aerial photographs of the area under study were inspected but were rejected because other areas of major interest in mapping the region had been chosen.

From the analysis of the map of the Development Corridor, several homogeneous subregions were identified, each having three subdivisions. These are:

Subregion	Subdivisions
A - Lands suited to agriculture	A1 - Lands with the possibility of irrigation in subhumid climates with high agricultural potential
	A2 - Flat lands in moist climate with moderate agricultural potential
	A3 - Flat lands in wet climates with marginal agricultural potential
B - Lands suitable for forest production	B1 - Flat lands with wet climates
	B2 - Steep lands with moist climates
X - Lands suitable for protection	X1 - Cold, dry lands
	X2 - Steep lands with wet climates
	X3 - Poorly drained lands with moist climates

OBSERVATIONS: A preliminary map indicating these areas was made at a scale of 1:250,000 to be presented to USAID/Bolivia by Ing. Juan Carlos Quiroga. The areas of priority to be studied in detail should be the A2 lands since these are the most important as sites of new colonization. The A3 and B1 areas should be managed technically and it would perhaps be advisable to decree them as Forest Reserves. Unless this is done, they run the risk of being spontaneously colonized and their productivity would be diminished. Also, serious socioeconomic problems arise when people who are unaware of the fragility of an ecosystem try subsistence farming with traditional Bolivian agricultural activities.

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The B2 subregions correspond to environments such as the "yungas", where the problem for land productivity is the undulating relief of the land. However, the climate is mild and the people are using the land primarily for forest crop production such as citrus, avocado, mangoes, and some plantain. They cultivate coffee and coca (for chewing) as well. In this subregion the systems of production could be improved by trying to avoid soil erosion. The priority protection areas are the X2 lands, since X1 and X3 are protected by their very nature.

Bolivia is still in a position to establish a good system of protection areas with different existing categories such as National Parks, Biological Reserves, Forest Reserves, etc. The country still possesses virgin areas in most of its natural ecosystems, but time is running out.

b) Preparation of Material for the Training Course

In order to facilitate understanding of the topic, a summary was prepared of the most important aspects of the life zone system. This was included in the "Manual of Semidetailed Mapping of Major Land Use Capability Classification and Methodology" edited by the CUMAT Project of USAUD/Bolivia - PL480.

A guide was prepared as well, containing the most important biological indices for differentiating the existing life zones in Tumupasa. Also, the available meteorological information was gathered and analyzed, and was later used as stepping off points for the pinpointing of the life zone changes.

c) Initiation of the Training Course

At last, after long months of preparations, on the 29th of September, the study group travelled to the region to make a detailed study in a Hercules plane (C130 military transport) to transport the provisions and the vehicles. The entire group was made up of 21 people - technicians, consultants, assistants, drivers, and a cook. The training course began the day following arrival, the 30th of September. From then on the work was routine: lessons at night and field trips in the mornings. This work period took three weeks, covered in part by this contract and partly by another contract for personnel services made directly with USAID/Bolivia.

FULFILLMENT OF OBJECTIVES

All the proposed objectives were achieved, except for one: the seminar on Land Use Capability, which was postponed until next year. Also, during the duration of the contract, it proved impossible to fulfill all of the training course,

but this problem was satisfactorily solved, thanks to the consideration of the Head of the Rural Development Office of USAID/Bolivia, Mr. Robert Thurston, who consented to an extension of the contract, necessary to the adequate fulfillment of the work.

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ITINERARY OF ACTIVITIES -1984

	June 22	Departure from San José. 1700 hours.
*	June 23	Arrival in La Paz. 1000 hours.
	June 25-29	Revision of basic information sources of the study of the Development Corridor
	July 2-6	Revision of the map of the Development Corridor at a scale of 1:250,000
	July 9-13	Completion and revision of the amplification of the Corridor towards the piedmont
	July 16-21	Revision of available aerial photographs
	July 23-28	Photointerpretation of the block of Puerto Heath
	July 30-Aug. 3	Analysis and selection of sreas to initiate detailed field studies
	Aug. 4	Departure from La Paz. 1630 hours.
	Aug. 5	Arrival in San José, Costa Rica. 1000 hours.
	Aug. 6-16	Spent in San José, Costa Rica
	Aug. 17	Departure from San José. 1700 hours.
	Aug. 18	Arrival in La Paz. 1000 hours.
*	Aug. 20-24 and Aug. 27-31	Preparation of material for the training course " " " " " " "
	Sept. 3-5	Design of training course with Juan Carlos Quiroga
	Sept. 6	Departure from La Paz. 1300 hours. Arrival in Rurrenabaque. 1500 hours.
	Sept. 7	Rurrenabaque-Tumupasa-final road Ixiamas; selection of sites for visits with participants of training course.
	Sept. 8	Departure from Rurrenabaque. 0900 hours. Arrival in La Paz. 1000 hours.
*	Sept. 10-14	Summary of various points in the Manual of Mapping prepared by the project
	Sept. 17-21	Discussion and planning of the aerial photointerpretation of Tumupasa
	Sept. 24-28	Revision of the aerial photointerpretation of Tumupasa
	Sept. 29	Departure from La Paz. 1400 hours. Arrival in Tumupasa. 2100 hours.
*	Sept. 30	Instalation and accomodation
	Oct. 1	Initiation of training course
	Oct. 2-3	Theory courses and field trips
	Oct. 4	Beginning of new contract with USAID/Bolivia

* Time spent in the city of La Paz