

Volume 10 Number 2 *Himalayan Research Bulletin no.* 2 & 3

## Himalaya, the Journal of the Association for Nepal and Himalayan Studies

Article 14

1990

# **Dissertation Abstracts**

Follow this and additional works at: http://digitalcommons.macalester.edu/himalaya

### **Recommended** Citation

(1990) "Dissertation Abstracts," *Himalaya, the Journal of the Association for Nepal and Himalayan Studies*: Vol. 10: No. 2, Article 14. Available at: http://digitalcommons.macalester.edu/himalaya/vol10/iss2/14

This Dissertation Abstract is brought to you for free and open access by the DigitalCommons@Macalester College at DigitalCommons@Macalester College. It has been accepted for inclusion in Himalaya, the Journal of the Association for Nepal and Himalayan Studies by an authorized administrator of DigitalCommons@Macalester College. For more information, please contact scholarpub@macalester.edu.



#### DISSERTATION ABSTRACTS

Cotton on the silk road: Subjection of labor to the global economy in the shadow of empire (or the dialectic of a merchant community in Nepal). Mikesell, Stephen Lawrence, Ph.D. The University of Wisconsin - Madison, 1988. 506 pp. Supervisor: Robert J. Miller. Order Number DA 8903032.

This dissertation focuses on the Newar Bazaar Bandipur to describe relations and ritual in Nepal in terms of global processes and theoretical understandings. The historical materialistic approach, taken from Marx's introduction to his Economic Manuscripts of 1857-1858, is presented as the framework for analysis in contrast to dominant methodological paradigms. The focus is shifted from the structural and empirical emphases which have dominated materialist approaches in anthropology to the dialectical and historical one emphasized by Marx in his own work. Relations between structural categories such as infrastructure and superstructure are seen as occurring in time rather than in immediate determinate relationships. Later more abstract categories are seen as incorporating and transforming more concrete earlier ones as relations and forms of production spread over the globe and subsumed other forms.

Following this approach, the analysis begins not with the immediate empirical subject such as a Nepalese village; rather it begins with the most abstract and transcendent categories and widest relations represented in the state. The state is shown presently to take the substance of industrial capitalism. Earlier forms of state in Nepal represented in landed property and mercantile capital, and the manner of their subjugation and incorporation into industrial capitalism, are then described. This discussion provides the basis to show what has been subsumed by industrial capitalist expansion.

The next two chapters show how the rise of capitalist interests took form in the historical development of Bandipur. They show how the Newar merchants of Bandipur simultaneously challenged landed property for control over the countryside and served as agents for industrial capital to bring the categories and relations in the countryside under the control of capital. The last chapter shows the content of this domination in the contemporary relations, institutions, categories, and ritual in the countryside, and how it is reproduced.

Dissertation Abstracts International vol. 50 no. 1 July 1989.

The social and religious identity of the Tibetan Bonpos with special reference to a north-west Himalayan settlement. Cech, Krystyna, Ph.D. University of Oxford (United Kingdom), 1987. 332pp. Order Number BRD-84910

Available from UMI in association with the British Library. Requires signed TDF. See inside back cover for order information.

This study is largely based on fieldwork carried out in the Tibetan refugee settlement of Dolanji in the state of Himachal Pradesh, northwest India. The Tibetans now resident outside Tibet, mostly in India, number approximately 100,000. They were forced to seek religious and political asylum after the Chinese takeover of Tibet in 1959. The settlement of Dolanji was established in 1967. Its inhabitants, unlike the majority of Tibetans who practice Buddhism, are followers of the Bon religion and are known as Bonpos. The total number of avowed Bonpos outside Tibet is in the region of 1000 and about half of them are settled in Dolanji.

The thesis examines how Bonpos make sense of their position in Tibetan society. Because they are refugees, the perspective is necessarily diachronic in order to take account of their position in Tibet before 1959 and their present position in India. Accordingly, the thesis is in two parts: Part One, based

on interviews with the first generation refugees and Tibetan textual sources, examines aspects of the Bon tradition in Tibet, and Part Two, an ethnographic study of Dolanji, deals with the period of their exile in India.

Part One thus provides the wider historical and cultural background to the discussion in Part Two of Bonpo identification with religious, regional and national aims. An appraisal in Part One of how the Bonpos view the chronological development and the geographical extent of their tradition, helps to explain why the Buddhist majority was reluctant to recognize the Bonpo contribution to the Tibetan cultural and religious heritage. This hindered the reconstruction of the Bon tradition in India, a matter dealt with in Part Two. A survey of the lay Bonpo communities in Tibet and a description of the head Bonpo monastery there, underlines the main similarities between Bon and Buddhism, and this helps to explain the sense of injustice felt by the Bonpos as a result of their exclusion from the main Tibetan tradition. The remainder of Part Two documents the Bonpo struggle for legitimacy and the situation in Dolanji today. It is seen how, as a community, the Bonpos have succeeded in achieving a high degree of cohesion while, at the same time, allowing for the free expression of their differences in social and religious background.

Dissertation Abstracts International vol. 50 No. 1 July 1989.

Factors affecting the use of modern medicine in a pluralistic health care system: The case of Nepal. Subedi, Janardan, Ph.D. the University of Akron, 1988. 207 pp. Order Number DA 8907633

There are special problems in addressing health care utilization in third world countries. The most important of these is the fact that established indigenous forms of health care are readily available and compete with modern health care. Thus, in addition to understanding the components of the decision to seek medical help, we must understand the conditions affecting the choice of a specific medical care system of medical pluralism on the utilization of modern forms of health care in Nepal, Asia.

Information was collected using a questionnaire with direct face-to-face interviews from a systematic sample of 389 out-patients and 371 available in-patients of two major hospitals in Nepal providing a wide variety of health care services. The dissertation tests the effects of variables derived from Andersen's (1968) Health Systems Model (HSM) on health service utilization. Further, it adds variables representing the pluralistic context to examine what effect the availability and use of indigenous health care has on modern health service utilization.

The dissertation concludes by emphasizing that the presence of medical pluralism is a significant factor which delays modern health service use. Various policy implications and suggestions for enhancing the effectiveness and use of the overall health care system of Nepal are made. Finally, the need for more research in this area is stressed.

Dissertation Abstracts International vol. 50 no. 1 July 1989

From sickles to scissors: Birth, traditional birth attendants and perinatal health development in rural Nepal. Levitt, Marta Joan, Ph.D. University of Hawaii, 1988. 501 pp. Chairperson: Alice G. Dewey. Order Number DA 8902856

In Nepal, approximately 3500 Traditional Birth Attendants (TBAs) have been trained between 1974 and 1987 in efforts to bring basic maternal and child health and family planning services to rural areas of Nepal. Training TBAs has been conducted by both government and non-governmental agencies as a strategy to reduce the high rates of maternal, neonatal and infant mortality plaguing the nation. This dissertation provides the findings of an anthropological investigation of TBAs and perinatal practices in the rural areas of Nepal conducted from December 1986 through November 1987. Combining quantitative and ethnographic methods of data collection and analysis used in public health, demographic and social sciences, this study investigates the traditional role of the TBA, the impact of training on TBA and community birthing practices, and the potential of trained TBAs to offer other family planning and maternal child health activities. Furthermore, this work provides an example of how anthropology can be applied to health development beyond social assessment.

In all, 14 districts and 5 development regions of Nepal including the Terai, the Hills and Mountain areas, trained and untrained areas and all major ethnic groups were represented; 65 untrained, 69 trained TBAs, and 402 pregnant and/or postpartum women were interviewed, with 32 deliveries observed. Findings indicate that training makes a difference in the quality and types of services provided by TBAs. Trained TBAs have become innovators in local perinatal health practices, often revolutionizing traditional practices. Training has linked these community women to the health care delivery service system which in turn affects the general population's use of health facilities. In trained areas, higher rates of antenatal care, hospital deliveries, and family planning awareness and intention to use birth control following delivery for both childspacing and limiting family size were found. On the other hand, trained TBAs are being under-utilized in many areas due to potential clients being unaware of training and trainees, poor trainee selection, and in some select areas because there is no tradition of using a birth attendant.

Dissertation Abstracts International vol. 49 no. 11 May 1989

The systematics and ecology of boletes with special reference to the genus <u>Suillus</u> and its ectomycorrhizal relationships in Nepal. Cotter, Henry Van Tuyl, Ph.D. Virginia Polytechnic Institute and State University, 1987. 189pp. Chairman: Orson K. Miller, Jr. Order Number DA8723915

The Suillus mycota of Nepal was studied. Nine species are recognized and described; five of the nine appear to be new species. Additional species were collected, but material was inadequate to describe them completely. Cultures of eight and synthesized ectomycorrhizae of six of the Suillus species are described. Synoptic keys to the basidiocarps and the cultures are presented. Numerical taxonomic analyses of the cultures generated clusters which paralleled the species concepts developed using basidiocarps and ecology. Each species of Suillus from Nepal is host specific based on basidiocarp formation; all hosts are in the Pinaceae. Field associations are Suillus cf. granulatus, S. cf. placidus, S. sibiricus, and greening-foot Suillus with Pinus wallichiana; queen's Suillus with P. roxburghii; waxy Suillus with P. patula; and S. laricinus, himalayan Suillus, and orange-pored Suillus with Lariz himalaica. Mycorrhizal syntheses confirmed that the six Suillus-Pinus relationships are ectomycorrhizal.

The Suillus mycota of western Virginia has 12 known species. Three, of the five which are ectomycorrhizal with *Pinus strobus*, have closely related counterparts in Nepal. These counterparts are ectomycorrhizal with *P. wallichiana*, a five-needled pine close related to *P. strobus*. The existence of these three pairs of similar fungi, associated with similar pines, suggests the possibility of cladogenic speciation in parallel by the pine lineage and by its ectomycorrhizal fungal associates.

Boletinellus merulioides forms abundant sclerotia in nature throughout its range in eastern North America. Sclerotia collected in the forest germinated to form mycelial colonies that had the same appearance and microscopic characteristics as colonies derived from basidiocarps. Sclerotia which had overwintered in the forest were viable in the spring.

The spatial pattern of *B. merulioides* sclerotia in a forest was compared with basidiocarp frequency recorded over four years. Both estimates of the spatial pattern coincided, but year-to-year basidiocarp frequency varied greatly. Individual *B. merulioides* dikaryons formed large perennial patches. Basidiocarp and sclerotial densities were centered around and declined outward from *Fraxinus americana* trees. *Boletinellus merulioides* and *Fraxinus pennsylvanica* did not form ectomycorrhizae when grown together in growth pouches.

Dissertation Abstracts International vol. 48 no. 8 February 1988

Land use planning with multiobjective programming: A model for forest development in the Hills of Nepal. Shakya, Keshab M. Ph.D. Virginia Polytechnic Institute and State University, 1987. 108pp. Chairman: W.A. Leuschner. Order Number DA 8719055.

A land use planning model was developed for long term planning of renewable natural resources development in the Hills of Nepal. Considerable emphasis was placed upon identifying land use planning problems for the prevalent limited market economy and subsistence farming system.

A multiobjective programming model was chosen for modeling the land use planning problem. The mode accommodated five objectives: namely, increasing food, fodder and fuelwood production and decreasing soil loss and cost. A weighting technique within the multiobjective framework was developed to facilitate land use planning as a socio-political decision making process. The application of the model was demonstrated with data from Phewa-tal watershed.

The model generated technically efficient alternative land use plans. It also generated information on time flow of achievement levels of the objectives and their trade-offs in each alternative plan. Very few alternative plans were generated when the periodic growth rates on achievement levels of the objectives were tightly constrained. The model also provided information on periodic deficit and surplus achievements of the objectives. This information provided the guidelines for evaluating the plans.

The model provided a useful mathematical structure for analyzing land use planning as an integrated planning process coordinating multi-sectoral objectives in time and space. A foundation has been laid for constructing comprehensive land use planning models was run on a commercially available software package and a portable personal computer. Therefore, the model can be applied in the field situation in many developing countries.

Dissertation Abstracts International vol. 48 no. 5 November 1987

Leprosy in West Nepal: Social and spacial perspectives. Pearson, Margaret Anne, Ph.D. University of Liverpool (United Kingdom), 1985. 435pp. Order Number BRD-80224.

Available from UMI in association with The British Library. Requires signed TDF.

Leprosy is a chronic infectious disease which can be grossly deforming and disabling, and generates stigma and hostility in many societies. The clinical disease is the outcome of infection with the bacillis *Mycobacterium leprae*, in less than 5% of infected cases. No effective vaccine has been developed, so control depends on early detection and sustained treatment of cases. In Nepal, where leprosy is hypoendemic, its prevalence estimated at less than five cases per thousand population, a National Leprosy Control Programme was established in 1975.

The crux of the disease control strategy was the detection of new cases in population surveys and the improvement of case-holding by integrating treatment with local basic health posts. This study identifies the spatial and demographic distribution of known leprosy in Lamjung Jilly, West Nepal, before, during and after control activities, and assesses their impact on known prevalence, attitudes to the disease, and attendance for treatment. Leprosy prevalence was high in two river valleys which were major trade routes before road and air communications were established, and are still areas of population movement. Ethnic and gender differences in leprosy prevalence identified before the survey were less pronounced among cases detected by population surveys, but re-emerged after the survey when registration for treatment entailed voluntary presentation to a health post or hospital clinic. Prevalence was at least twice as high among men than among women, and over four times higher among lowcaste Hindus than the Gurung people who live high on the hill slopes.

Distance from treatment centers did not deter cases from seeking and maintaining treatment. Fears of social repercussions expressed by patients, although a low proportion of cases were expelled from their home or village, suggest that travel to more distant places enabled patients to preserve their anonymity. It is suggested that the survey did little to reduce the fear and perceived stigma of leprosy.

In the concluding chapter, future research issues are suggested, and the policy implications of the social and spatial perspectives of leprosy control are considered. *Dissertation Abstracts International vol. 49 no. 1 July 1988* 

Factors affecting girls' participation and attendance in formal schooling in the hill area of Nepal. Shrestha, Narayan Kaji, Ph.D. Michigan State University, 1987 266pp. Order Number DA 8810871

#### DISSERTATION ABSTRACTS

45

This study attempts to identify the factors that affect the participation and attendance of girls in the formal school system in the hill area of Nepal. The issue of equal educational opportunities for women was examined in relation to several identified blocks of factors namely, girl related, school related, socio-cultural, economic, and parental education and attitudes related.

Two explicit null hypotheses were tested: (1) these factors are not significant determinants of school attendance for girls enrolled in school; and (2) these factors are not significant predictors of the participation of girls in the formal schooling system.

Data were collected from three sources: rural households; rural school-age girls; and rural schools. Face-to-face interviews were used to collect these data. all data and information from these sources were assigned to the relevant individual girls.

The research findings showed that all five blocks of factors were significant determinants of both dependent variables, i.e., attendance and participation. Therefore, both null hypotheses were rejected. Two of the sets of factors, girl related factors and socio-cultural factors, were highly significant predictors of attendance. The most significant determinants of participation were girl related factors followed by socio-cultural and economic factors.

Based on these and other research findings, it was recommended that efforts to encourage participation of more girls in formal education would include the following: (1) adoption of alternative structures of schooling including flexible school hours; (2) increased local participation in the management of schools through decentralization of authority; (3) employment of more local teachers; (4) employment of more women teachers and women administrators; (5) implementation of programs to reduce the household work load of school-age girls; and (6) increased focus on functional literacy programs for adults.

Dissertation Abstracts International vol. 48 no. 12 June 1988

History of the Assamese Movement since 1947. Chattopadhyay, Dilip Kumar, Ph.D. State University of New York, Buffalo, 1988. 444pp. Adviser: Maxine Seller Order Number DA8812329

This dissertation examines the history of the Assamese Movement from 1947 to 1985 concentrating on the Movement's campaign to rid Assam of ethnic minorities it defines as 'foreigners.' The study uses public documents, the press, and interviews with participants to examine the causes and consequences of recent ethnic conflict and the leadership and development of the Assamese Movement.

This dissertation opens with a discussion of "conflict theory" and with a review of relevant literature. It includes several narrative chapters giving the chronology of events in the Assamese Movement from 1947 to 1985. A separate chapter analyzes the causes and consequences of the Assamese Movement between 1960 and 1985. Several thematic chapters analyzing the Movement's position on immigration, education, cultural and ethno-linguistic issues, and socio-economic and political issues, evaluate on the strength of available evidence the caste Hindu led Assamese community's fear of being numerically outnumbered and culturally submerged by "foreign nationals" from Bangladesh and Nepal. The dissertation concludes with an analysis of the recent Assam Accord and prospects for solution.

The dissertation found that the Anti-foreigner's Movement expanded its base from intellectuals and students to government officials and to a mass movement. The underlying causes of the Movement are a combination of unfounded fears about cultural inundation plus real fears about economic competition.

Initiated by the Assam Sahitya Sabha -- an Assamese literary society -- in mid-1978, the Movement was reinforced through the joining of the organized students in the All-Assam Students' Union (A.A.S.U.) as organizers and participants in the Anti-foreigner upsurge. The All-Assam Gana Sangram Parishad (A.A.G.S.P.) formed at the All-Assam Students' Union's (A.A.S.U.'s) behest widened the Movement's base by November 1979 involving the masses. As the cause espoused by the Movement leadership was also important to the bureaucracy, the latter identified themselves with the Movement and strengthened the hands of the student organizers.

The economic problems that were at the root of the Assamese Movement at all stages revolve around two issues -- lands for the landless peasantry and jobs for the vast unemployed educated. These

issues provided the impetus for the Assamese struggle against "foreign" ethnic groups (Abstract shortened with permission of author.)

Dissertation Abstracts International vol. 49 no. 7 January 1989

The feasibility of the use of instructional television in Nepalese education. Kapali, Ratna B., Ph.D. Southern Illinois University at Carbondale, 1987. 196pp. Major Professor: Charles B. Klasek Order Number DA 8817237

<u>The problem</u>. The purpose of this study was to determine the feasibility of the use of instruction television (ITV) in Nepalese education.

<u>The procedure</u>. The data were obtained from the questionnaire on attitude of headmasters, teachers, parents, and selected administrators; reports on the use of ITV in fourteen developing countries; four experts on ITV and education in Nepal; and costs and materials summaries from other countries.

Questionnaires were received from 145 (95.39%) of 152 respondents. Frequencies and means were determined to gain a pattern of response in relation to each of the research questions. Perceptual information from the experiences of the other countries, the recommendations of the panel, and information about costs of using ITV were also related to the research questions.

<u>Conclusions</u>. (1) Nepalese people have a very favorable attitude toward the use of ITV in the schools of Nepal. (2) The educational leaders of Nepal feel that ITV can assist with educational programs designed to promote the educational, economic, social and cultural development of the country among all segments of the population -- young and old. (3) ITV is important enough to warrant the government fully supporting the design, production, and broadcast of programs free of charge. There is preference for the government also to pay for the receivers in the schools; many schools would be willing to pay a part of this cost.

<u>Recommendations</u>. It is recommended that: (1) Funds be sought from international agencies to support the national budget for ITV; to develop a well-written plan for ITV; to modify the curriculum for ITV; and to prepare for adoption of the ITV throughout Nepal. (2) A larger sample of individuals be included in future studies measuring the attitudes of the population in new geographic areas where the use of ITV is being contemplated. (3) More studies be made on the anticipated costs of using ITV in Nepal.

Dissertation Abstracts International vol. 49 no. 7 January 1990

Geology and Oxygen, Strontium and <sup>40</sup>Ar/<sup>39</sup>Ar Isotopic Study of India-Asia Collision in the Ladakh and Karakoram Himalaya, Northwest India. Srimal, Neptune, Ph.D. The University of Rochester, 1986. 288 pp. Supervisor, Asish R. Basu. Order No. DA8708249

The Shyok tectonic belt of Ladakh, NW India, is situated between the Indus-Tsangpo suture (ITS) in the south and the North Saltoro suture (NSS) in the north. The Ladakh granite complex is exposed along the southern margin of the Shyok tectonic belt and represents a calc-alkaline arc related to the OTS. The Karakoram granitic complex is situated in the North Saltoro suture and represents arc magmatism related to the NSS. The area between these two granitic batholiths is occupied by thrust bound belts of ophiolites, flysch and cacl-alkaline volcanics (Khardung volcanics) of Late Paleozoic to Tertiary age. The entire sequence has been offset 200 kms by the right lateral Karakoram Fault.

On the basis of correlated O, Sr and age spectrum <sup>40</sup>Ar/<sup>39</sup>Ar analyses the granitic rocks of the Shyok belt have been divided into four groups. Petrogenetic model using correlated O and Sr isotopic and trace element data indicate (1) a Jurassic - Cretaceous accretionary event along the North Saltaro suture resulting in the emplacement of Karakoram granites of Group 1; (2) a Late Cretaceous - Tertiary accretionary event along the Indus-Tsangpo suture resulting in the emplacement of the main Ladakh batholith (Group III granites); (3) The India-Asia collision in Eocene caused rejuvenation of old structural planes resulting in the emplacement of Oligocene granites in the southern margin of the Ladakh batholith (Group IV) and (4) Miocene anatectic granites along the southern margin of the Karakoram batholith (group II). The calculated rate of movement exceeds 0.5cm/yr for the last 40 Ma along the Karakoram Fault. The data rule out large scale subduction of continental crust along the

**DISSERTATION ABSTRACTS** 

Indus-Tsangpo suture and indicate that the post-collisional northward drift of the Indian plate is being accommodated by shortening both within the Asian and the Indian plates. The data also indicate tectonic continuity between Kohistan, Shyok and Lhasa blocks and support the model of sequential accretion of Gondwana fragments along the Asian margin.

Dissertation Abstracts International Vol. 47 No. 12 June 1987

A study of the "sDom-gSum" of Sapan. Rhoton, Jared Douglas, Ph.D. Columbia University, 1985 469pp. Order Number DA8827637

The present study is designed to introduce the previously untranslated SDom-gSum Rab-tu db Yeba, one of the major works of Kun-dGa'rGyal-mtshan dPal bZan-po (Sapan, 1182-1251 A.D.), the sixth patriarch of the Sa-skya-pa school of Tibetan Buddhism. This particular text has had considerable impact on religious and intellectual developments in Tibet, being one of the first indigenous works to bring together three widely divergent and often contradictory, codes of Buddhist discipline --Sravakayana prati-moksa, Mahayana bodhisattvasamvara, and Vajrayana vidya-dhara-samvara -- for a consideration of their inter-relationship. It also sparked the rise of an entirely new genre of Buddhist literature and generated a number of long-lasting philosophical controversies.

The study was approached by translating the complete text of the *sDom-gSum* into English, comparing the version found in the 1968 Toyo Bunko edition of the *Sa-skya-pa'i bKa'-'bum* (Volume 5, p. 297 ff.) with a wood-block edition published by the Sa-Nor Monastery at Gangtok, Sikkim. References in the *sDom-gSum* to Buddhist *sutras, tantras, sastras*, and other literature were investigated and identified wherever possible. In introductory chapters to the translation and in annotations, research data have been incorporated to identify key concepts and themes in the main text, to compare the theological perspective of its author with other views extant in Tibet at the time it was written, and to describe the historical context in which it appeared.

The role of the sDom-gSum as a seminal work is assessed here in the light of subsequent exegetical, polemical, and imitative literature of the genre. In addition to Sapan's other related works, three commentaries by his principal biographer, Go-rams-pa -- the sDom-gSum dGons-gSal, sDom-sSum sPyi-don, and sDom-gSum 'Khrul-sporn -- have been used as resource materials in clarifying key issues.

Dissertation Abstracts International vol. 49 no. 10 April 1989

Beyond the myth of eco-crisis in Nepal: Local response to pressure on land use in the middle hills. Gurung, Sumitra Manandhar, Ph.D. University of Hawaii, 1988.

This dissertation is an investigation of the belief that land degradation in Nepal due to population growth and deforestation has led to an "ecocrisis". The study provides a critical evaluation of this belief held by foreign investigators. It is based on a holistic perspective which includes insiders' knowledge set within a cultural ecological and mountain adaptation framework.

The study is carried out in three villages in the Kakani area. The objectives are: (1) to understand the subsistence agriculture system and economy in relation to demographic condition and magnitude of crop loss due to erosion and flooding; (2) to understand human-interaction with the natural environment and the process of decision-making based on the environmental knowledge of people; and (3) to identify constraints and opportunities for improvements in agriculture through outside intervention or the stimulation of processes within the existing system.

Data were gathered by use of participant observation, questionnaire survey and informal interviews. Questions were asked about (a) demographic change and the incidence of land hazards; (b) erosion and landslides and the deterioration of the life-style of peasant families; (c) knowledge of the environment held by different cultural groups; (d) whether knowledge reduces adverse impacts on life-style.

Findings indicate that although landslides and soil erosion have increased progressively since the 1960s, variations in land stability and land use patterns are related to cultural differences. Landslides are catastrophic but often short lived while surficial erosion from cultivated dry terraces is an acute problem that threatens productivity. Food needs continue to be met through higher levels of production due to agricultural improvements although costs of production and labor has increased to care for land and livestock.

People know about the opportunities and problems the environment poses and about the interrelationships of soil, slope, vegetation and land use. Landslides are understood as natural phenomena and farmers take advantage of them to help develop cultivable terraces. When hazards ensue at the failure of management techniques, people respond to such predicaments through physical, social and spiritual strategies.

Dissertation Abstracts INternational, vol. 49, no. 10, April 1989.

#### **DISSERTATION ABSTRACTS**

49