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## DISSERTATION ABSTRACTS

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Acharya, Meena.

Ph.D., The University of Wisconsin-Madison, 1987. 231 pp.

Title: A Study of Rural Labor Markets in Nepal.

This study investigates the nature of the rural labor markets in developing countries with specific reference to Nepal. Particularly, the issues of underemployment are analyzed in the context of the labor market segmentation and sexual division of labor. The two implicit hypotheses tested are (a) there is a significant regional difference in the rural labor markets in Nepal; and (b) the pattern and the determinants of demand and supply of male and female labor are significantly different.

The analysis proceeds within the overall theoretical framework of the new household economics. A separable model conditional on household labor and other resources is assumed and a set of derived demand equations for hired male and female labor estimated, for the four major regions of the country and for the two crop seasons separately. For the supply analysis both participation and hours supply decisions have been considered.

The findings support both above hypotheses. The labor demand functions estimated show significant differences between the Hills and different Tarai regions regarding the importance of market forces in the production and profit maximization decisions. On the supply side although factors such as caste, culture, demographic composition and the property status of the household play more significant roles than wage rates in both male and female participation decisions, for women, the hours supply are mostly demand determined. These findings indicate that while women from higher socio-economic strata are

reluctant to participate in the wage labor, women from lower-economic strata have less opportunity of finding work once they are forced into the market.

The analysis leads to the policy conclusions that the problem of surplus labor in rural Nepal is rather a relative one. Diversion of labor force from agriculture to industrial and tertiary sectors would not be cost free in terms of agricultural production, unless accompanied by modernization of agriculture and better intra-country labor mobility. Contrary to general belief, the female labor supply is quite elastic; the problem is that of opportunity cost of home activities foregone, particularly in crop cultivation and food processing.

**Ames, William Longstreet.**

Ph.D., University of Washington, 1986. 652 pp.

Title: Bhavaviveka's Prainapradipa: Six Chapters.

This dissertation contains an English translation of chapters three, four, five, seventeen, twenty-three, and twenty-six of Bhavaviveka's Prainapradipa, as well as an edition of the Tibetan text. The Prainapradipa is Bhavaviveka's commentary on the fundamental text of the Madhyamaka school of Buddhist philosophy. Nagarjuna's Mola-madhyamaka-karikas. The edition is based on the Peking, Narthang, Derge, and Cone editions of the Bstan 'gyur. For both the translation and the edition, extensive use was made of Avalokitavrata's subcommentary. The dissertation also contains three introductory chapters, which deal with Bhavaviveka's works, his place in the history of the Madhyamaka, and related matters.

**Blangero, John.**

Ph.D., Case Western Reserve University, 1987. 212 pp.

Title: Population Genetic Approaches to Phenotypic Microevolution in the Jirels of Nepal.

Empirical research on between-population micro-differentiation in quantitative traits has largely ignored the growing corpus of work devoted to the integration of the mathematical theories of quantitative genetics and population genetics. This study, focusing on a small hybrid ethnic group, the Jirels of eastern Nepal, demonstrates that data on quantitative traits (digital dermatoglyphic ridge counts) can be analyzed using explicit population genetic models permitting basic inferences about population structure and phenotypic microevolution in subdivided populations.

A general methodological framework for the examination of population structure using quantitative traits is presented. Successive partitions of the phenotypic variation are advocated which enable the operationalization of mathematical evolutionary models. Phenotypic variation within and between nine Jirel villages is first separated into its constituent genetic and environmental components using standard quantitative genetic techniques for the analysis of family data. Population structure techniques are dependent upon the assumption of local selective neutrality. Available techniques permit the explicit testing of the neutrality of multivariate quantitative characters. To supplement these methods, a new technique is developed that allows the isolation and removal of dimensions of phenotypic variation that are shown to be inconsistent with neutrality. Using these

methods, the neutrality of between-village dermatoglyphic variation is supported. Therefore, all dimensions of the dermatoglyphic variation are retained for subsequent population structure analysis.

Several new analytical techniques are utilized to examine the population structure of the Jirels. Significant genetic microdifferentiation between Jirel villages is documented. The patterns of genetic relationships between villages revealed by genetic distances is shown to be consistent with that expected from observed levels of intervillage migration.

Using a new method for the maximum likelihood estimation of admixture from multivariate quantitative traits, the ethnohistorical hypothesis that the Jirels are a hybrid group resulting from Sunwar-Sherpa admixture is supported. The hypothesis that the admixture event took place eight generations ago is also supported by several statistical tests. These results show that accurate admixture estimation is possible using quantitative traits even when the parental populations are closely related. It also demonstrates that population genetic methods can provide independent support for historical hypotheses regarding ethnogenesis.

**Cabezon, Jose Ignacio.**

Ph.D., The University of Wisconsin-Madison, 1987. 1112 pp.

Title: The Development of a Buddhist Philosophy of Language and its Culmination in Tibetan Madhyamika Thought.

The work is in two parts. The first seeks to explore and identify the factors in the Indian and early Tibetan Buddhist tradition that influenced the development of a coherent and systematic Buddhist philosophy of language in the Tibetan dGe lugs pa school. This is undertaken by examining the different roles that language plays: as scripture, as the material for hermeneutical analysis, and as an epistemic source; also discussed is the relationship of language to ontological concerns.

It is the thesis of the work that the dGe lugs pa school, in its unique synthesis of the Madhyamika (Middle Way) and Pramanika (Logic) traditions, attempts to establish the importance and centrality of language in its various forms. This it accomplishes by demonstrating the need for reliance on and proper interpretation of scripture, by demonstrating the importance of preserving the validity of language and conceptual thought and by showing how language (as the basis for their nominalist ontological views) acts as the middle way between the extremes of realism and nihilism. The work examines relevant texts of the Indian Buddhist philosophical tradition in order to identify the historical basis for the dGe lugs pa views on language, unique in the history of Buddhism. Also examined are some of the relevant rival views that challenge the dGe lugs pa synthesis in an attempt to contextualize the latter's enterprise in terms of the response that it was to these views.

The second part of the dissertation focusses on a work of mKhas grub dGe legs dpal bzang (1385-1438), the sTong thun chen mo, a synthetic and virtually encyclopedic work on Mahayana Buddhist thought. After a brief biographical sketch of the author and a discussion of text-critical questions, the bulk of the second part is devoted to an annotated translation of the sTong thun chen mo. Part I should be seen, therefore, as a contextualization of the translation (Part II) which not only provides source material for discussions in Part I but which perfectly exemplifies the unique dGe lugs pa scholastic synthesis which the dissertation seeks to examine.

**Dhungel, Sanat K.**

Ph.D., University of Montana, 1985. 126 pp.

Title: Ecology of the Hog Deer in Royal Chitwan National Park, Nepal.

Between 1981 and 1983, 95 hog deer were captured and measured; 21 were radio collared and monitored for 30 months. Maximum weights (mean for males = 42.7 kg; mean for females = 32.2 kg) and lengths (mean for males = 137.8 cm; mean for females = 120.6 cm) were reached at 2-3 years of age. Males were 32.6% heavier than females. Sex ratios generally favored females. Groups of more than 20 deer were observed during February through April after the first fires in the grasslands, but the basic social group consisted of an adult female and her juvenile offspring. The peak fawning season was March through April, about 7 months after copulation. Litter size was normally 1, and the recruitment rate was estimated at 13%. Population densities of hog deer in the study area, estimated by various methods, ranged from 15.5/km<sup>2</sup> to 29.2/km<sup>2</sup> in tall grassland habitat to 0.13/km<sup>2</sup> in riverine forests. During all seasons, the deer fed in the mornings and evenings and bedded and ruminated during the hot part of the day. They were 41% active during the day and 26-29% active at night. Home ranges overlapped extensively and mean home ranges of females and males were estimated at 60 and 80 ha, respectively. Seasonal home ranges differed little from yearly home ranges. Home range shape was dictated by food and water. Small home ranges indicated that hog deer were sedentary, preferring grasslands where food, cover, and water were available. Habitat use based on transmitter locations, pellet group counts, and direct observations showed that hog deer preferred grasslands to sal and riverine forests. Foraging and feeding behavior, recorded inside an enclosure and from cafeteria trials, indicated that grasses, ferns, semal flowers, and vellor fruits were the most important food items. Saccharum spp., Imperata cylindrica, and Cynodon dactylon comprised 70% of the grass species available as food and cover with an average mean green biomass of 2.6 km/m<sup>2</sup>.

**Gombo, Ugen.**

Ph.D, State University of New York at Stony Brook, 1985.  
350 pp.

Title: Tibetan Refugees in the Kathmandu Valley: A Study in Socio-cultural Change and Continuity and the Adaptation of a Population in Exile.

**Johnson, Rodney Lewis.**

Ph.D., Colorado (Boulder), 1985. 158 pp.

Title: Mother-Infant Relations among Wild Monkeys in India and Nepal.

Based on observations among three populations of rhesus monkeys (Macaca mulatta) in a rural, agricultural setting in the Gangetic basin of India, in a temple and parkland setting on the west side of Kathmandu, and in a forest preserve on the east side of Kathmandu.

**Krause, Inga-Britt.**

Ph.D., London School of Economics and Political Science.  
399 pp.

Title: Kinship and Economics in North-West Nepal.

(For copies, write to the University of London Library, Senate House, Malet Street, London WC1E 7HU, United Kingdom.)

**McHenry, John Persons.**

Ph.D., Pennsylvania, 1986. 777 pp.

Title: A Theoretical and Empirical Critique of the Easterlin-Crimmins Synthesis Model of Fertility: With Applications to Colombia, Costa Rica, Nepal, Sri Lanka, and the United States.

**Nayava, Janak Lal.**

Ph.D., Australian National University, 1982. xxii. 284 pp. (For copies, write to the Australian National University Library, Canberra, A.C.T. 2601, Australia.)

Title: Climates of Nepal the Their Implications for Agricultural Development.

Agroclimatological data play an important role in the socioeconomic development of any country. These data may provide the scientific agricultural base needed in planning for the optimum production of various crops in different regions. There have been very few studies on agroclimatology for Nepal, due to the limited availability of normal climatological data. Therefore, the objective of this research is to develop and test methods of expansion using standard climatological data to obtain a practical guide for agricultural planning at the regional level of Nepal.

While there are only a few stations with long term climatic records in Nepal, there are many sites with records less than the conventional thirty year period. A comprehensive data set of 10 elements for 168 sites has been developed based on extrapolation from the long term, the partial and the incomplete data records. Mean monthly rainfall was based on those stations with more than 20 years of record and on stations where the missing data over the twenty year period were estimated by regression techniques using the closest station with records. A regression relationship between mean temperatures, dew point, maximum and minimum at stations with six years of record and other environmental parameters; latitude, longitude, elevation and rainfall was used to estimate the temperatures for the network. The substitution of a shorter period for the above elements was found to introduce only small errors when the data sets were compared against the available long term data.

Information on the other climatic elements is even scantier over Nepal. Only Kathmandu monitor solar radiation and network values are derived using the Angström equation. There are very few measurements of Class A pan evaporation and here the network values are estimated for both the Penman and the Priestly/Taylor methods. the two additional elements necessary for the above equations; sunshine hours and wind run were estimated by regression selectively applied to regional areas. These areas are

homoclimates of temperature and rainfall identified using a numerical taxonomy and each area contained at least one site recording sunshine hours. Six homoclimates sufficiently defined conditions in Nepal; 2 in the Tarai, 3 in the Hills and one for the Mountains. Where actual mean monthly wind run was not available, an average from all Nepalese stations was substituted for missing data. In this way the analysis has closed the large gap between the sparse data available and the data necessary for investigating applied environmental relationships.

A study of the topoclimatology of the Kathmandu Valley was undertaken to demonstrate mesoscale variation in the climate that could be expected for other localities. Data for rainfall, maximum and minimum temperatures were estimated by regression techniques for 1225 points on a 900m grid. Global solar radiation was estimated at 394 pints using an atmospheric attenuation model which considered the energy receipt on inclined surfaces. The potential evapotranspiration estimating from the same 394 points was based on the above radiation estimates and potential evapotranspiration derived from the Kathmandu data. The variety of climatic regions associated with the Kathmandu Valley were identified as follows using numerical taxonomy: (i) the humid valley floor and mountain top (ii) the subhumid south facing slopes (iii) the wet, gentler north facing slopes and (iv) wettest of all, the steeper north facing slopes.

The derived data sets transformed to mean weekly information provided the base input into a climatic-crop growth model "GROWEST" (Fitzpatrick and Nix 1970). The generalized functional relationships in that model are used to evaluate the macroclimatic environment of Nepalese crop communities. The analysis of the potential yield for tropical, warm temperate and cool temperate crop species indicates that at best annually, one crop can be grown optimally for virtually all Nepalese environments. At present, crop yields are uniformly low and do not reflect environmental gradients as indicated by the calculated growth indices. This suggests that considerable scope exists for greatly increased crop yields in the more favorable environments.

**Pfau, Geeta.**

Ph.D., The University of Connecticut, 1986. 196 pp.

Title: Primary Health Care Needs within "Pode Tole" in Kathmandu, Nepal.

The purpose of this study was to identify and examine the health practices and services available to and used by an untouchable community in the Kingdom of Nepal, and to examine ways in which the utilization of those services might be improved.

The untouchable community studied is called "Pode Tole," and is located in the capital city, Kathmandu. A random sample of 60 out of a total of 141 households was taken. Heads of households selected were interviewed using a semi-structured questionnaire during the spring of 1985.

The most frequently used health care services were found to be traditional herbal practitioners (called Baidya), private medical doctors, and local community clinics. Traditional birth attendants were also usually used when giving birth.

**Ramble, Charles Albert.**

D.Phil., Oxford, 1985. 426 pp.

Title: The Lamas of Lubra: Tibetan Bonpo Householder Priests in Western Nepal.

(For copies write, British Library Lending Division, Boston Spa, Yorkshire, United Kingdom.)

**Schuler, Margaret Ann.**

Ed.D., George Washington, 1986. 253 pp.

Title: Women, Law, and Development: An Exploration of Legal, Educational and Organizational Strategies to Raise the Status of Low-Income Third World Women.

Contains comparative case studies from Nepal, Kenya and Peru.

**Shapiro, Allan Aaron.**

Ph.D., Columbia University, 1987. 860 pp.

Title: Salagramasila: A Study of Salagrama Stones with Text and Translation of Salagramapariksa.

The salagrama is any stone which comes from a specific site called salagramatirtha or Salagramaksetra, situated in the Mustang District of western Nepal, near the Tibetan border. The various interpretations of what particular stone it is form an important part of the thesis, the definition of the stone and its place of origin being crucial to understanding the object and its meaning. The differences in the interpretation of the salagrama between the late 17th century, when the Salagramapariksa was composed, and the late 20th century, when archaic religion is being explored, are discussed. The secondary characteristic of the stone, the aperture, which it shares with the svayamatrnnna pierced stone, important in the late Vedic Agnicayana sacrifice and with such other objects as amulets, has formed an important part of the paraphernalia of religion ever since the cup holes of a paleolithic burial. The salagrama's primary importance, however, is its provenance from a sacred place which represents the earth's navel (axis mundi). Therefore, the salagrama can be shown to be analogous to the primeval mound of the archaic cosmogony, and to be part of the complex which defines man's earliest religion as far as is known today. In this discussion, archaeological finds are utilized as texts to be interpreted, which I have done freely, although I have not breached the limits set in this field by those who are competent to explain these archaic documents.

The introduction begins with an inventory of literature relating to the salagrama and the facts to be culled from this literature. It includes Vedic texts describing the svayamatrnnna, the earliest literary reference to pierced stones, and the Ghosundi Hathibada inscription (first century B.C.) which may refer to worship of particular types of salagramas. References to salagrama itself by name are first found in the epic Mahabharata and become more frequent in the puranas, tantric texts, and Dharmasastras. The discussion continues with the Salagramapariksa itself, Viramitrodaya, another important text which preceded it, ending with a contemporary Hindi text describing the pilgrimage to Salagramaksetra.



Other topics touched upon include worship of the salagrama, its differences from image worship, and the importance of worship of aniconic images--what it explains about the nature of religion--as well as a discussion of who may worship the salagrama and how, the latter being the more important point.

**Simkhada, Shambhu Ram.**

Ph.D., University of Miami, 1986.

Title: Study of Peace Zones with Special Reference to Nepal's Zone of Peace Proposal and Its Political, Economic and Security Implications.

**Thapa, Poonam.**

Ph.D., Indiana, 1986. 290 pp.

Title: Socioeconomic Change and Rural Migration in Nepal: Individual and Household Relations.

**Thapa, Shyam Pratap.**

Ph.D., Brown, 1985.

Title: Fertility in Nepal: A Sociodemographic Analysis.

Investigates the determinants of fertility both at the aggregate and the individual levels.

**Wagley, Mana Prasad.**

Ph.D., Southern Illinois University at Carbondale, 1986. 149 pp.

Title: Design of a Longitudinal Study to Determine the Impact of the Introduction of Television in Nepal.

The purpose of this study was to design a longitudinal research to determine the impact of the introduction of television in Nepal. Six categories were studied from literature to select variables for the design. From these studies, the impact of mass media, especially television, on society was depicted; the reasons for long term research were analyzed; different methods of longitudinal research designs were discussed; the immediate development needs of Nepal were identified; the social, cultural, educational, economic, cultural and political indicators of both developed and developing countries were explained; and long term studies done on the impact of television in the past were summarized. On the basis of these studies a list of variables under each heading, social, cultural, economic, educational, and political aspects was prepared.

A longitudinal design was prepared to determine the impact of the introduction of television in Nepal. Three types of data collection techniques were employed in the design: Governmental data, interview with adult households, and questionnaire to secondary school and college teachers. A questionnaire and an interview scale were developed as tools for

research. The design followed a trend study technique where the population remained the same but the sampling of subjects would be done at each data collection point. Interview would be given once prior to exposure to television and four times after exposure to television in ten years. Questionnaires would be administered three times after exposure to television in ten years. Governmental data would be collected annually for five years prior to exposure to television and for ten years after exposure to television for each district. Data would be analyzed by (a) comparing within group pre- and post-television differences and (b) comparing between group television and non-television group differences.

**Yoder, Robert Daniel.**

Ph.D., Cornell University, 1986. 393 pp.

Title: The Performance of Farmer-Managed Irrigation Systems in the Hills of Nepal.

The sculptured rice fields in the river valleys are evidence of the tremendous effort made by farmers in Nepal to use all of their limited land resource. Less visible is an even larger effort that requires collective and continuing activity, careful organization, skillful engineering, and often bravery to divert the water from small streams and convey it along mountain slopes to irrigate the fields. This study describes the technology, skills, knowledge and labor used in the construction, operation, and maintenance of farmer-managed irrigation systems in the hills of Nepal. Over twenty-five systems were observed and the performances of three systems were examined in detail during the 1982-83 crop year. The author evaluated the ability of these systems (1) to meet local equity criteria and (2) to use the land and water resource efficiently.

River terrace irrigation systems were selected for study with varying levels of available irrigation water relative to irrigable land. In one, the water supply was extremely limited, however, little effort was required to acquire the water resulting in few manifestations of organized irrigation activity. The other two systems had a medium level of water supply but required high levels of resource mobilization to acquire and deliver the water and required disciplined organization. The allocation of water rights and careful distribution of the irrigation supply according to each member's entitlement was found to be closely related to the level of resources that needed to be mobilized for operation and maintenance. Where the costs of operating the system were high, methods for strict and accurate water distribution to each member were well developed. The method of water allocation by purchased shares in proportion to the irrigated land owned in the other did not encourage expansion.

The high water application rate used by the farmers in the hills of Nepal--3 to 6 l/sec/ha for growing rice on the river terraces--is necessary to balance the high seepage and percolation losses due to the deep water table. This study shows that the high application rate is not a consequence of inefficient water use or a result of high losses from unlined canals, as usually assumed to be the problem in the indigenous or farmer management systems. A lower water application rate would result in plant water-stress in the end of the growing season.

## MASTERS THESES

**Duvadi, Ashok Kumar.**

M.Sc., Carleton University, 1984. 105 pp.  
Title: Geology of the Himalayas and Southern Tibet.

**Ramsay, William James Hope.**

M.Sc., University of British Columbia, 1985. 178 pp.  
Title: Erosion in the Middle Himalaya, Nepal, with a Case Study of the Phewa Valley.

(For copies of the two Master theses above, write Canadian Theses on Microfiche Service, National Library of Canada, Ottawa K1A 0N4.)

## HIMAL and Himal Associates

Himal Associates is a newly established non-profit group of professionals in Kathmandu. Its objective is to provide a citizen's forum for discussion and action on all areas of Himalayan "development" broadly understood, including public health, the economy, the environment, education and culture.

The organization emphasizes the development of indigenous knowhow backed by appreciation of innovation worldwide. It supports small-scale research and applications which will directly help improve the quality of life.

Himal Associates publishes the magazine HIMAL because it takes seriously the slogan "Communications for Development". Public information is one of the scarcest commodities in the mountains and hinders progress.

Even though HIMAL is not a political newsmagazine aimed at the mass market, we expect it to ultimately earn its keep. Till then, as publisher, Himal Associates will continue to welcome contributions from individuals and foundations to help support this publication.

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