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Dissertation Abstracts

VI. DISSERTATION ABSTRACTS

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***Das, Uma Devi**

-- Ed.D.

-- Columbia University Teachers College, 1984. 110 pp.

Title: Guidelines for Selecting Primary Care Nursing Content for the Professional Certificate Nursing Program in Nepal

Order No. DA8424214

Supervisor: Marie M. Seedor

Based on the Alma-Ata Declaration -- "Health for All by the Year 2000" (HFA/2000), this study attempts to prepare guidelines for selecting primary care nursing content for the professional certificate nursing program in Nepal.

The method of the study includes a review of the literature on the Alma-Ata resolution on primary health care, primary nursing, primary care nursing in the context of the United States, and curriculum and a brief description of the current nursing education program in Nepal.

The primary health care approach of the Alma-Ata Declaration stresses the total social and economic development of the community wherein health is one of the components.

Guidelines prepared for the curriculum developed and faculty orientation in the area of primary care nursing include: the philosophy of primary care nursing and its integration into the school's philosophy; the condition essential to learning, orienting the faculty and determining the content. The development of guidelines for curriculum planning and orientation of the faculty is viewed as a key to the achievement of the goal mandated by His Majesty's Government of Nepal.

The study finds that in order to realize the goal of HFA/2000, the present nursing education program must shift (1) from a curative to a preventive approach, (2) from hospital-based to community-based, and (3) from an exclusively health group to a multi-sectoral community team.

The study recommends that (1) concepts of primary care nursing be an integral part of the curriculum, (2) the faculty be thoroughly oriented to the concepts of primary health care, (3) continuing education be organized for renewal and updating of nursing knowledge, (4) community leaders and resources be mobilized in developing primary health care programs, (5) emphasis be placed on preventing illness rather than treating the sick, and (6) research be a component of a nursing education program.

Martin, Edward D.

-- Ph.D.
-- Cornell University, 1986. 345 pp.

Title: "Resource Mobilization, Water Allocation, and Farmer Organization in Hill Irrigation Systems in Nepal"

Supervisor: Randolph Barker

In the hill region of Nepal, irrigation has been a primary input in agricultural production for decades in some villages and for centuries in others. Most of the irrigation systems in the hills are owned and managed by the farmers themselves. In the face of a rapidly growing population and increasing demand for food production, farmers have been intensifying both agricultural production and the management of irrigation systems. The focus of this research has been on farmer-managed irrigation systems and the ways in which the farmer organizations perform irrigation management activities, particularly water acquisition, allocation, and distribution, as well as resource mobilization. Over twenty-five systems were observed, and eight organizations in four locations were studied in detail during the 1982-83 crop year.

Irrigation systems on river terraces with varying levels of available water supply relative to the irrigable land were selected for study to analyze (1) the relationship of management intensity to relative water supply, and (2) the impact of water supply on the structure of irrigation organizations and on efficiency and equity in water use.

The irrigation organizations were found to practice more intensive management of distribution of water, the lower the water supply relative to the area irrigated. However, the factor found to be most determinative of the structure of the organizations was the amount of resources needed to be mobilized to maintain the irrigation system.

Allocation of water rights and careful distribution of the water supply in accordance with each member's entitlement were found to be closely related to the level of resources needed to be mobilized for maintenance of the system. Where the costs of maintaining the system were high, the allocation of water rights was explicitly defined, and methods for strict and accurate distribution of the water in conformance with the pattern of allocation were well developed.

A linear programming model was developed to determine the trade off between the supply of water and level of management input needed to achieve a given level of crop production. The model was also used to determine the impact on economic efficiency of a shift to water rights based on ownership and sale of water shares. Allocation of irrigation water through sale of shares in the system was found to facilitate the expansion of the area irrigated by a supply.

This study illustrates that the farmer-managed hill irrigation systems of Nepal vary across locations and are changing over time in response to varying resource limitations and growing population pressure. Management inputs have been intensified to achieve greater efficiency in the use of water resources. An understanding of the dynamics of this process should assist external agencies in facilitating the process of transition to a more intensive agricultural production.

***Smith, James L. David**

— Ph.D.

-- University of Minnesota, 1984, 155 pp.

Title: Dispersal, Communication, and Conservation Strategies for the Tiger (Panthera Tigris) in Royal Chitwan National Park, Nepal

Order No. DA8429479

The ecology and social aspects of dispersal were studied in young tigers (Panthera tigris). From their natal area they made long distance movements until finally establishing their own territories. In Royal

Chitwan National Park, Nepal, 14 radio monitored subadults showed disassociation from their mothers at 17 to 24 mo. of age and departed from her territory at 18 to 28 mo. Males dispersed farther (33 vs. 9.7 km), were more likely to engage in serious or fatal combat with members of the same sex, and took longer to establish breeding territories. Three of 4 females settled next to their mothers; and, in 2 cases, a daughter displaced her mother from a portion of the mother's territory. All habitats that tigers dispersed through were quantified with respect to prey density, cover, and human use. With the use of discriminant analysis it was possible to predict whether a site could support resident tigers.

The Chitwan tigers typify conditions for most of this species today, being in a small localized population separated widely from other breeding groups. Furthermore, the Park itself does not have the ecological capacity to support 50 breeding adults, the recommended minimum for safeguarding against inbreeding or major stochastic perturbations. A conservation plan was developed, based on management of tigers in the entire Chitwan region rather than only on those within the Park. It also emphasizes that land-use schemes in some sectors adjacent to the park should be designed for compatibility between tigers and the economic activities of the local people.

Concomitant with the dispersal research, extensive data on visual and chemical marking by tigers were recorded. Given the telemetry-based documentation of territorial boundaries, the study showed that marking was concentrated along frequently used contact zones where intrasexual territories abut. Evidence also suggests that reproductive status of females is advertised through scent marking and is monitored by the resident male whose territory encompasses those of 2-7 reproducing females.

Yoder, Robert D.

-- Ph.D.

-- Cornell University, 1986. 375 pp.

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

Supervisor: Tammo Steenhuis

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 maintenence. 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 one system allowed it to expand, while water shares in proportion to the irrigated land owned in another did not encourage expansion.

The high water application rate used by the farmers in the hills of Nepal -- 3 to 6 1/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 is usually assumed to be the problem in the indigenous or farmer-managed systems. A lower water application rate would result in plant water-stress in the end of the growing season.