

Himalayan Households

*Tamang Demography
and Domestic Processes*



Thomas E. Fricke

HIMALAYAN HOUSEHOLDS

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Introduction

And there is this: the chunk sound of stone against stone, the smell of moss and mud in the fog. Clusters of people scattered across the hillside, smoking and talking, keening or staring. A woman has died in Lapdung and she has been brought to this place above the goths and below the forest, a place between two worlds, to be burned and sent to another. The rain and mist are steady and cold and the slope is alive with people huddled under umbrellas or bamboo shelters. They talk in low tones, an occasional laugh drifting from some odd corner, the shaman whose mother is to be burned wailing rhythmically and calling out, "Ama!" by his mother's body, wrapped in red cloth and sheltered by the canopy of red, blue, white, and yellow.

The lamas have finished consecrating the ground and an old pyre is being dismantled and rebuilt on the ground they have marked—that sound of stone again, the grunting of men as they lift heavy rock. Another shaman stands downhill, a stare silhouetted against the mist—wool shepherds' cloak and water beading on it, the matted dreadlocks of his long shaman's hair wet against his shoulders and a face without expression.

The weeping. Confined to the ground around the body and to the family sitting there. Its sound rises and falls in waves and sobs. The lamas have moved to a narrow level spot up the hill. Kanchalama stands with two dorje—lightning bolts—in his hands and the chanting begins. "Om mane padme hung" is the refrain; the whole crowd joins in here mournfully, a ghost song that goes before the smoke from the body waiting to be placed on the pyre.

I am standing by the men building the pyre—watching the faces and hearing the sounds, stone, chanting, drum, bell, stone, low talking. The sound is the thing. Muffled by the damp and by the mist and joining with the scents. This place becomes old to me, older than my time or the time of that woman of 90 years waiting for the fire where it all ends. There is something here that is out of time—in the repetition of events. How many people have died to be burned on this hill? How many times have the grinding of rock and the archival smell of moss or smokey woolen shepherds' cloaks mingled with the sour scents of human bodies and old ghee? I am spelled in the rain.

2 Introduction

And I look up to the lamas. Wooden flasks of barley beer are being passed their way. Kanchalama holds six by a cord, his gold tooth flashing in his smile. The Gompo Lama motions for me to join them, to chant and drink beer. The spell is broken. I climb the hill to where they sit and drink beer being passed our way and eat the corn that comes by and chant the refrain to prayers in the rain.

—Timling Field Notes, 19 August 1981

I open this study with this somewhat personal invocation from my field journals to convey two ideas and to frame this study of the demography and household processes that characterize an agro-pastoral people of north central Nepal. My first point is an obvious one, even if it is not often made explicit: in spite of the abstractions and frequent recourse to quantitative methods that readers will find in this study, I hope they will remember that it is rooted in an encounter that was often intensely private. I will describe the methods used to allow me to objectify my findings; nevertheless, this personal component of ethnographic research must be thought of as a constant background to all that follows.

Second, I want to use this funereal image to suggest that this study is, in part, elegy. This is a complex point, not meant to imply that the Tamang I describe are actually dying; rather, the study of a people's way of life must finally be a study of process. The patterns of behavior by which people extract a living from their environments are movements that persist in broad outline for many years. Change comes from a combination of intervening external events and processes over which a population has no control and through the consequences of behaviors designed to work in a particular environment but which must paradoxically alter the very environment to which they are adapted. John Berger, in *Pig Earth*, has written of peasants everywhere that they are a class of survivors. He means by this that their lifeway is one committed to survival and at the same time one that has survived the coming of capitalist and socialist states. It is also one that is being radically transformed throughout the world.

While the people of Timling are not strictly peasants, having retained control over their primary productive resources at least until the time of my fieldwork, they can also be thought of as survivors and as a group whose way of life is poised at the threshold of great transformation. To some extent this has always been their situation. From time to time in the past, the Tamang as a people have modified their lifeways to accommodate new conditions. Until the present, these changes have taken the form of new additions or emphases in the local subsistence regime—opening new land to agriculture, including potatoes in the diet, or pasturing yak in the high country. The threshold at which they now stand, however, differs from the rest in that the people of Timling are for the first time faced with the inability of their local environment to supply the vast weight of their subsistence needs. More important, the options for taking care of those needs outside of the village put them in a clearly subordinate position relative to other groups in Nepal. While

in the past they bargained from a position of equality because they traded grain desired by Tibetans for the salt that they required, they are becoming increasingly involved in an economy that requires them to sell their labor in unequal exchange and in competition with others who must do the same. The Tamang, then, are a specific case of a people overwhelmingly organized for local self-sufficiency confronted with a new need to look elsewhere to satisfy their subsistence requirements. I argue that the most important cause of this change is their expanding population and that this follows from the organization of their economy itself.

This book is an attempt to describe and place into context the processes that encourage population expansion in a Nepali mountain community. I will look most closely at the adaptive strategies employed by the people of Timling and show how those strategies intersect with demographic and household processes. The perspective is that of cultural ecology, specifically that version presented by John Bennett. Thus, the intent of this study is to show how particular strategies of making a living have implications for household structure and the organization of the village. In the course of describing these connections, I will also show how anthropological research can gain from demographic methodology while simultaneously making its own contribution to the fuller understanding of demographic processes themselves. Three major processes will be shown to intersect in Timling's adaptation: the annual subsistence cycle, demographic processes of fertility and population expansion, and the household developmental cycle.

My original motivation for this project derived from an interest in the cultural ecology of Julian Steward and a perception that the interaction of culture, behavior, and environment would be most easily examined in those marginal environments where human labor was still the most important means of extracting a living from the local ecology. Although this broad net includes a range of peoples throughout the world, John Hitchcock very quickly directed my studies to the Nepal Himalaya and encouraged me to learn Nepali and read the literature on mountain adaptation in the three years I spent in Madison before going into the field. The obvious stresses imposed on the Himalayan environment by increasing population caused me to take up coursework in demographic methods and to direct my research interests into the relationships between human fertility and adaptation.

I arrived in Kathmandu in January of 1981 armed with a Fulbright-Hays Dissertation Research Grant, an ability to speak Nepali, and a set of questionnaires developed while on grant at the East-West Population Institute in Honolulu. The initial site of my research was to have been a Kham Magar village in northwest Nepal, some eight days' walk from a remote airstrip near Jajarkot, but a combination of events—including the disappearance of a Peace Corps volunteer the previous fall and the consequences of that—convinced me after a six-week stay in that village that I would have to choose a new location.

Thus it was that I set out at the end of May on a walk from Trisuli Bazaar and up the Ankhu Khola in search of a village that retained most of the important characteristics of the earlier village and in which I would be allowed to conduct

my fieldwork. After a week of walking through Tamang country with two porters, I arrived in Timling, a village of 132 households in the rugged country of Ganesh Himal. The requirements for my research were amply satisfied in Timling: its people were warmly receptive to my staying; its size allowed the possibility of doing reliable demographic analysis without being too large for a single researcher; the economy was geared to agro-pastoral subsistence within the local environment.

While in the village, I stayed with a Majhi (a member of the ferryman caste from southeast of Kathmandu) cook in the upper story of a newly constructed house. My landlord lived below. I made it a policy to welcome anybody who stopped by for tea and cigarettes on the porch and operated a minor health clinic, dispensing aspirin and attending to the frequent cuts and gashes that people acquired on the slippery mountain trails during the monsoon. This guaranteed me a steady stream of visitors even after the first weeks when my novelty diminished. As much as possible, I ate the food grown in the village area—potatoes, corn meal, a garnish made from boiled stinging nettles (thus removing the sting), and occasional meat from a cow that had fallen off the trail and died—but the harvest was unusually poor that year and I was forced to pack in most of my own food. I was sick often and had a shaman blow mantra over me. I suffered from leech bites. I had head lice. The fleas and rats were maddening. I could not have been more pleased with any other field site.

Most Tamang men over the age of 15 spoke some Nepali, and I was able to begin fieldwork in that language immediately. Unfortunately, nobody in the village could read and write Nepali well enough to administer the questionnaires I had developed. I had to do that work myself, accompanied by Shelthapa Damrong Tamang, my 27-year-old assistant and friend. Shelthapa helped to translate my apparently absurd questions into Tamang when it was necessary, made people feel comfortable by vouching for my character if he had to, and helped me to figure out if answers were outright lies or close to the truth. At the beginning of my stay nearly all children under five cried and fled from the sight of me, and old women would rub my skin and touch my blonde hair, asking me why I made it that color. But the people of Timling soon became used to my erratic comings and goings, and I could move anywhere without creating a disturbance. Interviews became long sessions of conversation around bowls of beer and a shared pot of boiled potatoes.

After I had set up my household, my first step was to sit on the ridge above the village and draw a rough sketch map of Timling, numbering the households so that I could later match different sets of questionnaires with one another. Next I censused the entire village by visiting each household and getting information on age, sex, clan, literacy, marital status, and relation to household head. Marriage and fertility questionnaires were then administered to all ever-married women. The nature of work in the village made this a time-consuming process since it was difficult to pin people down for interviews during the day and I could not simply assign the process to an assistant. To prevent myself from becoming little more than a survey researcher, I selected a random sample of 30 households that I could

focus on for the economic, life history, and value of children portions of my survey forms. This worked a little better, but I still found that I could not get everybody for each round of questions. The people of Timling are amazingly mobile even within the bounds of their local mountain environment, and tracking down the person to be interviewed can take days, with no guarantee in the end that the person will have time to answer questions. Or he may be very happy to talk and smoke but find that there are a lot more things to talk about than bizarre questions on the number of children he wants.

The economic survey includes each of the sample households; as I carried out the others, I changed my strategy from the time-intensive one of searching for each designated respondent to one of focusing on the sample when I could but taking information from anybody who was available. Thus, while I can claim on statistical grounds that the economic data are representative, information based on the timing of events in life histories or on questions from the value of children survey needs to be argued from other grounds.

In order to protect the privacy of the people of Timling, individuals have been given pseudonyms for the purposes of this book. Their clan affiliations, however, are accurately portrayed. The village identity has also been protected. While it is known as Timling by its inhabitants, its name is rendered differently on maps.

I conducted research with the Tamang from June 1981 to January 1982, a short time by anthropological standards. Nearly the whole period was spent in Timling, with one trip to Kathmandu in September 1981 to resupply and collect my mail. After my return to Kathmandu in December I continued working with people from Timling who came to the valley in search of wage labor. The short period of fieldwork places obvious constraints on the things I can say about the Tamang (for more detailed cultural information on the Tamang of this area, see András Höfer [1969, 1981], David Holmberg [1983, 1984], and Kathryn March [1983]); much of this study is necessarily confined to the level of quantifiable facts. Nevertheless, I hope that some of the spirit of these gentle, helpful people comes through. I dedicate this study to them.

Issues in the Study of a Mountain Adaptation: Toward an Anthropological Framework for Population Research

The life of the village, as distinct from its physical and geographical attributes, is perhaps the sum of all the social and personal relationships existing within it, plus the social and economic relations—usually oppressive—which link the village to the rest of the world. But one could say something similar about the life of a large town. What distinguishes the life of a village is that it is also a living portrait of itself: a communal portrait, in that everybody is portrayed and everybody portrays. As with the carvings of the capitols in a Romanesque church, there is an identity of spirit between what is shown and how it is shown—as if the portrayed were also the carvers. Every village's portrait of itself is constructed, however, not out of stone, but out of words, spoken and remembered: out of opinions, stories, eye-witness reports, legends, comments and hearsay. And it is a communal portrait; work on it never stops.

—John Berger, *Pig Earth*

. . . to convey a sense of the essence of fieldwork—that tension between sensuous reality, especially as expressed in the uniqueness of individuals and events, and those abstractions with which we try to capture it and give it order.

—John Hitchcock, *The Magars of Banyan Hill*

The anthropologist, crouching near a peasant's cooking fire and sharing corn beer, lives in a world of imposing immediacy. In a village of a hundred or so households, those events that are swallowed up by the grand scale of an urban or national context take on an enlarged, often passionate significance. One night there is laughter and joking with a father-to-be about the paternity of his child. Another day there is the intrusion of sudden death when a hunter loses his footing on a rain-soaked trail. The anthropologist observes, or hears about, these happenings as they occur and gives them a kind of permanency by writing them down.

Events overlap on other events and before long the processes of which they are a part take shape. New marriages, even those as subtle as the quiet regrouping of households, are talked about and noted—as are the moments when an arranged marriage breaks down and a delegation of angry clan brothers must mount the trail to the next village to negotiate restitution; or the times when a son demands his inheritance to form a household set apart from his father's. The anthropologist records the events in hopes of exposing the order beneath them.

Surprisingly, anthropologists working among small groups of relatively self-contained people, exactly those societies where small changes in number must reverberate throughout the whole, expressed only minimal interest in demographic work until very recently (Macfarlane 1968:519). As Alan Macfarlane notes, in a work in which he himself takes up the challenge of anthropological demography, the reason was largely “the blinding effects of a theoretical system” (1976:2) that separated anthropology and demography:

The first problem is the basic assumption, implicit in most anthropological work, that population growth is unimportant as a variable. The second is the basic difference between the disciplines of anthropology and demography; one is characteristically static and the other dynamic. Thirdly, anthropology tends to be qualitative and demography quantitative. Fourthly, there is a technical difficulty of establishing ages in many non-literate societies. (1976:5)

That anthropology stands to benefit from demographic techniques is hardly at issue. Contributions to ecological anthropology, in particular, make frequent reference to population variables such as measures of density and carrying capacity (cf. Steward 1938:46–49; Geertz 1963). Rappaport, in attempting to clarify the connection between Tsembaga Maring ritual and ecosystem stability, inevitably discusses these issues (1968:88–96); yet his treatment of Tsembaga demography (1968:14–17) is no more than an abbreviated description of the population structure. Left unexamined are important processual variables such as birth spacing or the rate of natural increase. Conversely, Lee's contribution (1972) to a collection specifically addressed to the anthropological implications of population growth (Spooner 1972) shows how the use of demographic measures can add depth to an analysis of changing settlement patterns among the !Kung San. The addition of demographic methods has transformed other disciplines, notably history (cf. Wrigley 1969; Laslett 1972), by expanding the range of questions that can be addressed; this suggests the possibility of similar depth in anthropological inquiry.

Anthropology is also in a strong position to make its own contribution to population studies, although this needs to be fleshed out. A narrow view of anthropology's potential would confine it to merely proliferating village demographic studies in “primitive” or “peasant” societies. From this view Howell's excellent monograph (1979) on the Dobe !Kung might be considered the model for anthropology's contribution. But this begs the question of whether anthropology can only give empirical breadth rather than theoretical depth to the study of population.

Mamdani's critique of problem-oriented family planning programs indicates another direction:

The political and scientific reasons for the emphasis on overpopulation are, in fact, two sides of the same coin. One follows the other and the two sustain each other in a symbiotic relationship. If population control is to be a substitute for fundamental social change, then the theorist must look at the population "problem" *independently* of other aspects of social relations. It also follows that he must look at motivation as individual motivation, independent of the individual's social existence. (1972:9)

Although Mamdani's conclusions are part of a debate on the definition of the population problem and the sociopolitical implications of family planning programs (cf. Kleinman 1980; Gorz 1980; Lappé et al. 1980), the process by which he arrived at them is patently anthropological. For Mamdani, a society's demographic regime is a manifestation of a whole range of other variables; the context is social and economic.

Anthropology's potential contribution is rooted in its traditional holism, in which all aspects of human behavior are fair game as variables in explaining one another. At a time when the discipline suffers from struggles over the extent to which particular research strategies must dominate it (cf. Harris 1979; Johnson 1982; E. Ross 1982), we must remember that some of the most important contributions may come from the tension between anthropology's humanistic and scientific origins (Bennett 1969:21-22). For an anthropologist, the discussion of mortality must be grounded in the scrape of stone on stone and the cooperation of clan members at the building of the funeral pyre.

This chapter will give context to the arguments that follow by first, and somewhat artificially, discussing contributions to population theory from the point of view of other disciplines and then from that of anthropology. The separation of disciplinary approaches is more a historical accident than a theoretical necessity (Godelier 1977:25-27). Nevertheless, I will argue that the writings of anthropologists offer a productive approach to population issues. After discussing the perspective of this analysis, the chapter will move on to a narrower look at this special case: the Tamang village of Timling in Nepal.

Population Studies in Search of a Framework

Research interest in population took off in the 1960s when development workers from western countries identified a population problem in the less developed, non-western world. The problem's source appeared self-evident when, using gross measures of national income and per capita GNP in conjunction with the new wealth of demographic statistics, analysts could document the far more rapid growth of population than of national wealth. Population growth was seen as the most serious inhibitor of development (Jackson 1977:3-4), and early work concentrated on family

planning programs in spite of the absence of any well-articulated theory (Freedman 1975:4). Since then, research has always moved in tandem with the needs of administration and policy. It was exactly this early emphasis on intervention without regard for the social matrix of high fertility that Mamdani later attacked.

The best candidate for a theory of fertility change existed in the Demographic Transition Theory, which was based on an oversimplified view of the western experience, a view since altered by historical work (Population Council 1981:314; Freedman 1979:1-2; Berelson 1976:230). Caldwell's (1976) discussion of the theory exposes some of its early assumptions while suggesting modifications.

The onset of "modernization and industrialization" is generally associated with lower fertility (Berelson 1976:230), although the growing number of empirical studies has never clearly established why this should be so (Population Council 1981:315). Demographic transition theory begins with the presumed change in European societies from high fertility, family-centered households to low fertility, individualized lifestyles more congruent with urban or industrialized society:

The mainstream arguments of the theory are that fertility is high in poor, traditional societies because of high mortality, the lack of opportunities for individual advancement, and the economic value of children. All of these things change with modernization or urban industrialism, and individuals, once their viewpoints become reoriented to the changes that have taken place, can make use of the new opportunities. (Caldwell 1976:324)

Caldwell goes on to criticize the implicit ethnocentrism in early versions of the theory, quoting a number of writers who contrast the irrational, superstition-laden traditional societies with the rational, calculating modern societies (1976:325). The connection with the organic, developmental analogy that has been the mainstream of western social thought since the Greeks (Nisbet 1968) and which has been criticized by more recent writers on social change (Greenfield and Strickon 1981) is apparent.

Demographic Transition Theory is more observation than explanation; the rise or fall of a particular explanatory scheme affects only the extent to which it can be used as a template for the experience of all societies. Rather than a mold into which we hammer all experience, we need a theory that can explain a whole range of transitions (McNicoll 1980:441; Freedman 1975:5). Since earlier versions of the theory proved unsatisfactory, the most important new insight has been that people everywhere behave rationally (Caldwell 1976:326). Even this narrowing of first principles, however, leaves room for a range of complementary and antagonistic emphases.

For example, the micro-economic approaches of Becker (1960) and Easterlin (1978), although motivated by similar faith in economic models, have only recently converged (Sanderson 1976). Easterlin has tended to give room to such variables as changing tastes and a generally wider range of sociological variables. Yet McNicoll (1978:684) suggests that all such approaches are weak in their handling of institutions and the power structure within a decision-making environment.

National-level analysis has tended to be based on these more economic approaches, and the divergent views of Mueller (1976), who worked at this level, and Nag (1978:8), an anthropologist more concerned with village experience, may stem from their orientation to different research environments. Neither Easterlin's nor Becker's approach may be entirely appropriate to the village setting.

Approaches much more applicable to the community include the work of Caldwell and his students (Caldwell 1976, 1978; Ware 1978), Cain (1981, 1982), and the value of children studies sponsored by the East-West Population Institute (Fawcett 1972; Arnold et al. 1975; Bulatao 1979). These approaches all inform one another and have much in common with those that come more directly from the anthropological tradition. Caldwell and Cain, in particular, make much use of the anthropological literature, while the value of children literature is hardly confined to a single discipline. Fawcett's (1972) collection includes contributions from anthropology, psychology, and economics, for example. In addition, McNicoll's (1980) theoretical suggestions are grounded in the same complex social matrix that motivates the anthropological perspective.

Caldwell's Approach

Caldwell's perspective derives from his efforts to explain the demographic transition from high to low fertility in the Yoruba community of Nigeria. He uses his first major theoretical statement to criticize the failure of earlier explanations of this transition on the basis of their ethnocentrism, assumptions that industrialization and urbanization must necessarily precede development, and confusion about the overlap between modernization and westernization (1976:325-28). The first step toward an explanation, Caldwell argues, is to assume that high fertility is rational in certain settings (1976:326). From there, it is only necessary to work from actual observation of a high fertility society in the transition process to determine the components of this rationality.

Caldwell's supporting arguments are complex and difficult to summarize, but he makes use of the literature from all the social sciences to arrive at his propositions. A basic point is that the family—defined as those groups of close relatives who share economic activities and obligations, whether or not they are co-resident—is the basic context of fertility decision-making. Rationality must be defined in terms of relationships within the family.

Second, based on a fertility and family focus, two types of society exist:

one of stable high fertility, where there would be no net economic gain accruing to the family (or to those dominant within it) from lower fertility levels, and the other in which economic rationality alone would dictate zero reproduction. The former is characterized by "net wealth flows" from younger to older generations, and the latter by flows in the opposite direction. These flows are defined to embrace all economic benefits both present and anticipated over a lifetime. (1978:553)

Within the first type, Caldwell identifies "primitive" and "traditional" components, apparently to distinguish more pristine from more changed Yoruba groups, since their organizational and structural supports for high fertility are virtually identical (1976:338-42). The values of children within this high fertility society are not confined to their economic contribution but ramify throughout the society into politics, lineage status, and psychological well-being:

such disaggregation is a product of external observation or, even more significantly, of hindsight. In relatively unchanging societies no one sees these separate bonuses conferred by fertility. The society is made by a seamless cloth. . . . Indeed, the respondent's ability to see clearly the separate aspects of children's value shows that the old system is already crumbling and that children's roles are not as certain as before. (1976:343)

For Caldwell, the context of high fertility is a whole way of living, in which the familial mode of production includes the integration of ideology, the extended family, and economic relations.

A third proposition is that pre-transition societies are characterized by sex and age hierarchies in which older males dominate the economic decision-making environment. This translates into fertility decision-making, as well, through control of such intermediate fertility variables as the age of marriage and the practice of contraception before and after marriage (1978:557). From the point of view of older males in a society where intergenerational wealth flows in their direction, there is no disadvantage to high fertility. Indeed, there are a great many benefits.

Finally, the transition from high to low fertility is attributed to the familial mode of production giving way to capitalist production. This is not to say that industrialization must precede the change:

It is not the factories and the steel mills that count in the reduction of fertility; it is the replacement of a system in which material advantage accruing from production and reproduction flows to people who can control or influence reproduction by a system in which those with economic power either gain no advantage from reproduction or cannot control it. This usually occurs only with the collapse of familial production, although it can follow fundamental changes in the balance of material advantage and decision-making within the family. (1978:568)

Caldwell identifies this change in mode of production and the ideology of high fertility as westernization, a process that he stresses is rooted in the overwhelming power of the west rather than in any inherent behavioral superiority (1976:356; 1978:571). The peasant familial mode of production is no longer stable according to Caldwell; among the contributors to the transitional environment are increasing opportunities for wage labor, expanding educational opportunity, and the lure of household consumption goods (1978:571).

Reaction to Caldwell

In addition to spurring new research into the structural supports for high fertility (T. Hull 1975; V. Hull 1980; Ware 1978), Caldwell's work has provoked a number

of critiques (Cain 1982, 1981; Thadani 1978). Although he must be credited with a major impact on the way people think about fertility in the developing world, problems with the specifics of his hypotheses have been brought to light. Cain (1982:159-60), for example, makes the point that too much hinges on the Yoruba experience to make for safe generalization. Indeed, Caldwell argues that his model is applicable to at least sub-Saharan Africa and the arc of countries from Morocco to Bangladesh (1978:554).

Cain finds four other problems with the model (1982:160) in addition to Caldwell's overstatement. First, where Caldwell emphasizes the extended family network in pre-transitional societies, Cain feels that the relative independence of the nuclear unit is an empirical problem to be settled anew in each instance. Secondly, Caldwell lays great stress on intergenerational hierarchy and antagonistic interests within the family. While there may be some truth to this, Cain submits that the importance of factors advantageous to the whole nuclear unit is ignored. Thirdly, although Cain and Caldwell agree that sexual stratification within the family supports high fertility, they disagree on how the mechanism operates. Caldwell tends to emphasize the control of intermediate fertility variables by older males while Cain stresses that female dependence encourages them to bear children as security against the possible loss of a husband. Lastly, Cain suggests that an alternative consequence of the extended family network is that it could just as well lower fertility by de-emphasizing the need for children as social security.

Cain's approach is to be more situation-specific than Caldwell by suggesting that each case be evaluated before determining the operable constraints on fertility within the familial mode of production.

The value of children as a source of insurance will be highest in poor settings with a harsh environment of risk, where more effective forms of insurance do not exist. If the possible consequences of inadequate insurance in such settings include loss of all assets or death from starvation, children may indeed be "priceless." If, however, the environmental risk is more benign, the need for insurance in any form will be smaller; and if reliable alternative sources of insurance exist, the security value of children is also likely to be lower. (1982:167)

These environments of risk are determined by a combination of natural factors that threaten the subsistence economy and socio-political factors such as threats of war or lawlessness from minimal administrative development. Caldwell is given credit for mentioning the insurance aspects of children (security in old age, etc.), but he is criticized for stressing the opportunities (immediate economic advantages) provided by them instead (Cain 1982:166).

Thadani provides a complementary criticism: putting the argument into a theoretical perspective, she argues that Caldwell relies ultimately on a diffusion model to explain the acceptance of western family ideology. This leaves unanswered the question of just how the mechanism of acceptance works. Thadani is also uncomfortable with the weight that Caldwell gives to the normative factors in his analysis (Thadani 1978:478-81). Thus Caldwell fails to come up with an adequate explanation in Thadani's view because he misses the interplay between infrastruc-

ture and superstructure (1978:492) and relies too heavily on the fertility transition in Europe as a model for developing societies (1978:489). Finally, Thadani criticizes all approaches that fail to pay explicit attention to social organization, especially lateral connections between households, in each setting (1980).

McNicoll's work also stands as an implicit criticism of Caldwell. For example, McNicoll is able to write that population studies are still without a theory of fertility—"a coherent body of analyses linking a characterization of society and economy, aggregate or local, to individual fertility decisions and outcomes, able to withstand scrutiny against the empirical record" (1980:441). The timing of this statement, after Caldwell's two most programmatic expositions, suggests that something more than a reworking of transition theory is needed.

McNicoll wishes to retain the complexity of fertility decision-making while giving it order through explanation. Consumer demand theorists who simply link fertility decisions to a few variables are far too reductionist from his point of view (1980:442). Like Caldwell and his critics, McNicoll is interested in the social matrix of fertility, and like Cain, he is interested in explaining the important decision-making variables as they exist in each setting (1980:442-43). His solution is to look at rationality as a process of bounded decision-making in which institutions constrain the alternatives that individuals may choose from:

These constraints enter not (or not alone) as direct costs of the search for information nor, at least in the conventional elusive meaning of the term, as psychic costs, but as an outcome of the structuring of the decision environment facing individuals set up by the surrounding institutional forms and cultural patterns. The immediate institutional setting in which fertility decisions are made hence comes directly into play. (1980:442-43)

This concern with the decision-making environment is consistent with earlier statements (1975, 1978) in which McNicoll posited the value of community-level policy and criticized simple cost-benefit analysis. Thus fertility is a process, parts of which are involuntary or by-products of other decisions, parts of which are normative, and parts of which are up to the individual (1978:684; 1980:443). These components need to be separated in any explanation.

Value of Children (VOC)

While it is true that all perspectives starting from the assumption of rationality must have a value of children component to their reasoning, the most explicit attempt to get at the psychological basis is the Value of Children project sponsored by the East-West Population Institute (Fawcett 1972; Arnold et al. 1975). The VOC project begins with the recognition that some part of this process must include the filter of individual perceptions. Fawcett (1980:x) writes that the motive behind the project was to gather information on the relationships between these perceptions, family size preferences, and actual fertility. At the time of the 1972 conference on the value of children, little attention had been paid to these relationships.

The VOC project provided a large body of data on perceived child values within a cross-national sample. Some important points were made. First, the psychological aspects of fertility decision-making are conceived as a component of the explanation of fertility, "an important link in the chain of events through which general social and economic changes are related to fertility changes" (Arnold et al. 1975:1). These aspects are part of the mechanism by which other factors influence actual fertility (Bulatao 1980:17); as a part of the larger explanation of fertility behavior, there is no presumption that ideational factors have precedence in the fertility transition. Second, some of the results of the study support the assumption that fertility decision-making in peasant populations is rational. For example, in all countries the expectations of economic benefits or help from children were higher in the rural than in urban populations (Arnold et al. 1975:42). Lastly, the VOC study shows important correlations between psychological variables and fertility and family planning indices (Arnold et al. 1975:137). Even without proof of direct causal relationships, these findings underline McNicoll's point about the complexity of the process.

An Anthropological Framework

Asserting that anthropology has a contribution to make is not to suppose that it possesses a coherent theoretical package on the order of a Kuhnian paradigm (Kuhn 1962). Anthropology has been characterized as "preparadigmatic" by a number of writers (cf. Stocking 1968:7-10; Martin 1972; Leone 1972), and some of the fiercest theoretical battles have been waged by those who consider this a disciplinary weakness (Harris 1979; E. Ross 1982). This study proceeds from a different perspective, one that considers the competing approaches in anthropology as a source of strength. Thus the questions that will be answered here fall into the domain of cultural ecology, one tradition among many that coexist in anthropology (Johnson 1982:418). The kinds of questions that will be asked stem from a concern with process; before getting into these, I will briefly review some of the main trends in anthropological thinking on population.

Trends in Anthropological Demography

Early anthropological writing treated population variables as another aspect of human culture, something to be described as a part of the background in which aspects of more direct concern were embedded. The first work to see fertility as a part of the causal matrix was a part of the functionalist tradition. Early reviews of fertility (Carr-Saunders 1922; Ford 1945) are noteworthy for their emphasis on population limitation in pre-industrial societies. Lorimer (1954:19) later criticized the implicit equilibrium approach of these earlier studies and suggested that research into the functional relationships among social institutions would be more valuable than the focus on social factors and economic adaptation in environments. Yet Lorimer's

hypotheses (1954:247-48) fail to explore the operating mechanisms that would associate social organization with high or low fertility.

An important work from outside of anthropology (Davis and Blake 1956) suggested a framework for looking at the causes of a particular fertility regime and has been used by anthropologists from Moni Nag (1962) to more recent work (Macfarlane 1976; J. Ross 1981). Nag's attempt was the first systematically to relate intermediate fertility variables and social structure to actual fertility, and it brought anthropology closer to a causal explanation of fertility. He demonstrated the considerable variation in pre-industrial fertility (1962:142) and implied that the most significant factors affecting fertility may not be consciously connected to the desire to have or limit births (1962:149). In spite of its advance over earlier studies, Nag's analysis was seriously limited by the lack of detailed data.

Anthropological demography began to expand in earnest only after 1970 with the convergence of three trends. One of these was the growth of methodological sophistication motivated by the needs of physical anthropologists and archaeologists. In particular, the work of Weiss (1972, 1973, 1975, 1976) and Weiss and Smouse (1976) has provided theoretical justification for applying stable population models to small populations. Nancy Howell's work with the Dobe !Kung, in addition to supporting the possibility of demographic fieldwork (1974, 1976a), also contributed to the development of field methods for data collection (1976b, 1979). Work in other village and band societies has also contributed to this expansion of techniques (Lauro 1979; Fix 1977; Roth 1981; Wood et al. 1985).

A second trend includes the criticisms of family planning programs already mentioned, coupled with the awareness of their inadequacy by funding agencies themselves (Population Council 1978:79). Mamdani's (1972) work was one of the earlier anthropological critiques, but other examples include the work of Polgar (1975b, 1972) and other writings in a collection he edited (1975a). Ben White's research in Java (1976) challenges the assumptions of classic Demographic Transition Theory by showing that colonial contact and capitalization of indigenous populations can actually accelerate population growth by increasing the demand for children.

The third trend, ecological anthropology, possessed a longstanding interest in population that became activated with these other developments. Ecological analysis has always focused on subsistence behavior within an environmental context, and demographic variables were always seen as a part of the relationship. Steward writes that ecological analysis:

requires consideration of the density and distribution of the population, of the role of the sexes, the family and communal groups in hunting, fishing, and seed gathering, of the territory covered and the time required for different economic pursuits, and of the size, distribution, and degree of permanency of villages. (1938:2)

He later even more explicitly stated that cultural ecology needed to determine how much exploitive behavior influenced other aspects of culture, including "demog-

raphy, settlement pattern, kinship structures, land tenure," and land use (1955:41-42).

This focus on production began to take on more explicit demographic trappings after Boserup's thesis (1965) that population growth gave rise to agricultural intensification. The lively debate on the role of population variables in social change was joined by anthropologists and archaeologists and continues to the present (Spooner and Netting 1972; Spooner 1972; Polgar 1975b, Cohen 1977; Netting and Elias 1980).

Cultural ecology has long possessed the potential for contributing to population studies because of its general perspective on all human behavior. Where Caldwell initiated research into the sociocultural matrix of fertility behavior in population studies, anthropology has carried the theoretical justification for such study within its ecological tradition. The interest awaited the development of methods to become manifest.

In spite of this, no well-articulated theory of population exists for ready transfer to population studies. Nor does this imply that the perspectives of Caldwell, Cain, and McNicoll are without value for anthropology. Even within ecological anthropology a number of viewpoints vie for prominence (Keesing 1974). I am suggesting here that the ecological tradition espoused by Bennett (1969, 1976a, 1976b) and elaborated by others (Barlett 1980; Orlove 1980) provides a useful framework for tying population variables into the study of village society.

The Adaptive Context

Cultural ecology directs our attention to the problem of human survival within specific environments. Where earlier studies of the relationship conceived of the environment merely as a limiting factor in human cultural expression (Kroeber 1939), Steward opened the door to more dynamic analyses (Netting 1977:6) in which the interaction between environment and human behavior became important. Nevertheless, there was a tendency to stress the equilibrium aspect of cultural adaptation to environments, as with Rappaport's (1968) study of Tsembaga Maring ritual. This was criticized by Friedman (1975) and Salisbury (1975). Non-equilibrium studies of sociocultural change arose out of the interests of archaeologists in describing the move from simple to complex forms of social organization (cf. Sanders and Price 1968; Flannery 1972) and in explaining the transition from hunting and gathering to agriculture (Cohen 1977). These archaeological studies usefully employed the concept of adaptation to explain large-scale changes in social organization and modes of subsistence through time. But a fuller understanding of social process requires concepts that can explain both the apparent existence of societies in balanced relationships with their environments and the changing behavior observed in the historical and archaeological record.

What was needed was a transformation akin to the change from "typological" to "population" thinking identified by Ernst Mayr to explain the impact of Darwin

on the biological sciences (1959:2-3; 1970:3-5). Typological thinking concentrates on defining classes and assigning individuals to a particular category on the basis of how closely they approach the ideal, while population thinking stresses variation and the individuals that make up a population—a collective description of individuals must be statistical (1959:2).

Mainstream social thought in the west has tended to be typological (Nisbet 1968; Richerson 1977; Greenfield and Strickon 1981), pursuing the analogy of a developing organism to explain social change. Thus, within the society, considered as analogous to an individual, there was no place for variation. One outcome was to attribute goal-directed behavior to whole societies (cf. White 1949) in discussions of cultural change. Richerson (1977) has pointed out the teleological fallacy of assigning such behavior to entities above the decision-making unit itself. While it is possible to speak abstractly of societies in adaptation with their environments, it is more accurate to relate the individual strategies of people seeking to attain specific ends.

Adaptation as an ordering principle must incorporate variation and differential selection (Kirch 1980; Dunnell 1980). Not only are equilibrium models of adaptation unrealistic (Vayda and McCay 1975), but the anthropological use of such models has tended to slight goal-directed and problem-solving aspects of behavior (Bennett 1976a; Jochim 1981:13-31).

In this study, I will be using adaptation to refer to the process "by which behavior is fashioned in such a way as to attain certain ends" (Brush 1977:xii). This parallels Bennett's use (1969:14). Like Bennett, I will distinguish between adaptive strategies, those patterns formed by the many separate adjustments of people to obtain and use resources, and adaptive processes, the long-term changes that result from these choices.

At the level of decision-making, individual adjustments can be thought of as strategic behavior (Bennett 1976b:272) or individual coping to achieve immediate ends. At this level, the decision-making approach of Barth (1967) is appropriate. As Barlett (1980:549) writes, the adaptive framework allows us to integrate concerns with institutions and processes with the emphasis on individual choice and strategic behavior. Institutionalized behavior is, in part, a set of proven solutions to past problems. Its continued existence depends on its continued success.

Adaptation at any level does not occur in a vacuum. Choices can be made only where alternatives exist. The advantage of one particular strategy over another strengthens the chance that others will use it. Codified patterns of behavior must continue to offer advantages to individuals in their social context. The process is analogous to natural selection in biological evolution; and, as in natural selection, it is not necessarily the case that the best or only solution to a problem is the observed pattern (cf. Greenfield and Strickon 1981). As Barlett observes (1980:549), the existence of a particular adaptation implies only that enough positive features allow a complex to exist even when negative features may also be present.

To return to the decision-making level, a person makes choices among alternatives constrained by the intersection of natural and sociocultural environments and his or her own goals. Adaptation is not a cyclical or seasonal process but a continuous one rooted in actors who must constantly decide and act. Change is possible at the level of population because repetitive patterns of behavior may shift with the changing constellation of choices made by individuals.

Such a model can accommodate a number of reasons for social change. The factors influencing a person's decisions can originate in any level of social organization. Thus, this perspective does not exclude the possibility that national or international events may not have a local effect. Power relationships that have encouraged a change in population trends in Java are not inconsistent with this model. Nor are the cases where population growth is itself the independent variable responsible for major social change. Since the description of process is not wedded to any special primary cause, the model can also show how earlier choices can have consequences that are maladaptive in the long run. Large family size can, for example, be a reasonable solution to particular problems of survival at one time. Yet the population expansion that this solution generates must eventually force new changes in behavior when the limits of resource availability are reached.

Modern cultural ecology is distinguished from past analyses by its focus on process. It is a reaction and advance from previous neofunctionalist and neoevolutionist schools represented by Rappaport, Steward, and White, although it incorporates many of the same issues of human and environmental interaction. Orlove has summarized the advantages of this approach:

Adopting an historical time frame rather than examining synchronic homeostatic equilibria or the many millenia of human history, permits a closer focus on mechanisms of change. By studying units other than the local population on which the neofunctionalists concentrated, studies have been carried out of larger units (political economy) and smaller ones (actor-based models). The elimination of functionalist assumptions has had several consequences: (a) a focus on the mechanisms which link environment and behavior; (b) an ability to incorporate conflict as well as cooperation by recognizing that not all goals are population-wide; (c) more precise studies of productive activities, settlement patterns, and the like without assumptions about equilibrium maintenance. (1980:261)

This study is processual in the sense that it seeks to discuss the conditions of change in a single setting while not assuming that this village is without important links to the outside world. In the context of Timling, "adaptation" cannot be taken to imply long-term equilibrium since that would imply either no limits to the resources on which the population depends or a steady state model in which no system grows at the expense of another. Since population is increasing with obvious consequences for traditional production, the focus must be on change. Thus "rationality" is not taken here as the perception by actors that they need to take the limits of their resources into account in having children. It is taken, instead, to refer to the internal consistency of their decisions and the logic of their behavior

in achieving the perceived goals of survival. Thus the focus here is on the perspective of the actors themselves, while the changes that occur are the result of these entirely rational courses of action.

Timling: Population and the Analysis of a Mountain Adaptation

The adaptive perspective is an advance from the various theories mentioned earlier because it integrates demographic change into a general theory of society and social change (cf. Caldwell 1982:269-72), provides a mechanism that can both generate new behavior and retain past behaviors, and is not wedded to any unicausal theory of change. Some of the defects of other theories of fertility transition arise from a confusion of general trends with the empirical forms they take. The adaptive model avoids this problem by, for example, not insisting on directional change as demographic transition theories do. The focus is on process and its constituents.

From the ecological perspective, the primary analytic concern is the process of procuring a living in the local environment. Demographic processes become important in this analysis to the extent that they constrain and offer opportunities to people in search of their livelihood. Thus the logic of ecological analysis is to begin with the subsistence economy, moving outward to the most directly connected systems impinging on it (cf. Barlett 1980:549). This suggests looking at the organization of production and the relationship between population processes and those levels of organization most important to subsistence.

Certain features of the setting make Timling an especially interesting case for study. The village lies at an extremely rugged corner of the Himalaya and holds a number of traits in common with mountain populations throughout the world. (On mountain cultural ecology, see Peattie 1936; Pant 1935; Brush 1976a, 1976b, 1977; Pawson and Jest 1978; Messerschmidt 1974, 1976a; Rhoades and Thompson 1975; Guillet 1983; Orlove and Guillet 1985.) In these marginal or extreme environments, the range of solutions to the problems of survival is relatively narrow compared to that of more generous environments. Steward's point (1938:1) that cultural ecological analysis will be most successful where the level of social organization is relatively simple and institutions more closely patterned by the requirements of subsistence pertains here.

The chief feature of these environments is their great variability within small areas (Peattie 1936:79; Brush 1976a:126). Among the factors to which human adaptation must respond are five:

These are relatively high degrees of: 1) environmental heterogeneity and 2) unpredictability. 3) low primary productivity spread over wide regions, and 4) high environmental fragility accompanied by a 5) downslope flow of materials. (Thomas 1979:147)

Mountain adaptations, of which Timling is an example, have been approached from a number of perspectives: in general terms (Hitchcock 1966, 1973, 1980;

Messerschmidt 1974; Brush 1976a, 1976b), in terms of land tenure and inheritance systems (Weinberg 1972; Netting 1972; Wiegandt 1977; Guillet 1981; McGuire and Netting 1982), in terms of population variables (Macfarlane 1976; Goldstein 1976, 1977; Netting and Elias 1980), and in terms of long-range process and recent change (Hitchcock 1963, 1977; Messerschmidt 1976; Sacherer 1977; Netting 1981). This study seeks to incorporate all of these issues into a single look at Timling's adaptation. The key topics will relate to the interaction of population, social organization, and the working of the economy; analysis is directed toward a commentary on general population issues.

Population as a Determined Variable

Timling's value for population analysis stems from its unique position relative to other studies. Where past analyses have largely focused on societies already affected by western contact or the integrating efforts of national programs, Timling is in many ways an extreme case. It is a natural fertility population—its people practice no birth control and express no desire to do so. More importantly, they are not subject to any active family planning campaign. To use Nardi's (1981:49) continuum from more or less determined to self-regulated fertility, Timling lies at the determined end of the spectrum. In Timling, we are able to examine the effects of social practices not consciously directed to population control or family building. And we are able to do so in a setting where the economy is only now poised at the threshold of major change.

At one level, population will be examined as a dependent variable whose expression is determined by the interaction of biological and social factors. Models for this analysis have been developed following the work of Davis and Blake (1956), Leridon (1977), and Bongaarts (1975, 1976). Leridon isolates the following components of reproductive physiology:

- 1) fecundability—the monthly probability of conception;
- 2) intrauterine mortality—conceptions not resulting in a live birth;
- 3) nonsusceptible period—period when conception is not possible, from the moment of fertilization to the resumption of the ovulatory cycle or intercourse, whichever is later;
- 4) sterility—interruption or end of the fecund period. (1977:16)

None of these components is independent of the others or of the more behavioral factors. For example, fecundability and sterility are closely related; one way of thinking of sterility is as an extreme form of low fecundability. The close relationship between physiological and behavioral components is best illustrated by the length of the nonsusceptible period, which is partially dependent on the resumption of intercourse.

Measures for these variables were not obtained in Timling, but the general characteristics of each component suggest that women should bear about 12 children

throughout their reproductive careers in the absence of other intervening factors. (For a discussion of the effects of sterility, see Leridon 1977:103 and Bongaarts 1975:293. Bongaarts [1975:294] also discusses average times added to birth intervals by intrauterine mortality and the nonsusceptible period.) This is not the case in Timling, where the average completed family is far smaller; the question of how other factors impinge on fertility thus becomes important. Davis and Blake summarized the behavioral determinants of fertility in their classic statement of the interaction of social structure and reproduction. Bongaarts improves the model by attempting to standardize measures for the effects of the separate variables. He modifies the Davis and Blake model by organizing it along a scale ranging from the purely sociological influences to the more physiological, while collapsing Davis and Blake's eleven factors into eight:

- 1) proportion married
- 2) contraception
- 3) induced abortion
- 4) lactational infecundability
- 5) frequency of intercourse
- 6) sterility
- 7) spontaneous intrauterine mortality
- 8) duration of the fertile period. (1978: 107)

By examining the components of fertility for which we have data, we will be able to answer the important question of why Timling's fertility is so low. When this is coupled with an understanding of the rest of Timling's demographic regime—mortality, in particular—we will be in a position to show how these variables intersect with the problem of survival in the local environment.

Social Organization and the Economy

Understanding how demography affects subsistence requires a look at Timling's social organization. The village economy will be seen to share a number of characteristics with peasant organization as it is generally defined. (See Geertz 1961; Silverman 1979; Shanin 1973; Mintz 1973; Orlove 1977; Halperin 1977; Macfarlane 1979.) The most important features of peasant society for this analysis are that the units of reproduction, production, and consumption largely overlap (cf. Scott 1976:13; Macfarlane 1978a:105) and that peasant production is more closely constrained by natural ecosystems than are other types of production (Halperin 1977:11–13). Peasants are considered to be more dominated by outsiders than has been the case in Timling (cf. Shanin 1973:4), but the focus on production makes much of this literature useful for comparison. As Greenwood (1974:1) notes, peasants share similar structural positions within national systems but a variety of adaptations define each case.

Nearly all of the features that Macfarlane includes in his definition of the peasantry (1979:18–32) apply to some extent in Timling, yet it is possible to argue

that the people of this village are not strictly peasants. Macfarlane's definition is based almost entirely on earlier discussions of eastern European village society and includes the following characteristics:

- 1) non-individualized ownership of land; heirs are co-owners and not able to be alienated;
- 2) the unit of ownership is also the unit of production; growth of a labor market signals peasantry's demise;
- 3) there is a striking material and symbolic attachment to land; mobility is curtailed, and a person's entire life cycle occurs in a restricted setting;
- 4) the authority structure within the household tends to inhere in adult males;
- 5) ages at marriage tend to be young, and marriages are usually arranged because of the strong economic component;
- 6) these features combine to create little social differentiation within the village;
- 7) yet there is substantial inequality relative to relations with the outside.

This collection of traits has been criticized on the grounds that it fails to incorporate the role of landlords in addition to ignoring the operation of the economy (Faith 1980). From a broader point of view, the definition's failings may stem from its being too contingent on a limited example. Further, it tends to be overly typological and static, so that Macfarlane is forced to acknowledge that a particular case could deviate from all these conditions and still be considered a peasant society (1979:32). If these limitations are abandoned, the definition then becomes a discussion of a particular kind of economic organization in which the household, or domestic group, is the focus of production and consumption. We are then left with a definition approaching Sahlin's Domestic Mode of Production (1972) and a logical unit within which to analyze the interaction of demographic and economic variables: the household. Orlove's (1977) contention that we do away with attempts at definition to focus on process is then upheld, and the extent to which all aspects of Timling's adaptation approach the classic definition of peasantry becomes a secondary issue.

In terms of process, the important issue is how demography and social organization define the household's development through time. Pioneering work along these lines began with Fortes (1958) and has been expanded in the recent explorations of Hareven (1977, 1978) and Foster (1978). Again, we need not be vitally concerned with problems of definition except to begin with those overlapping functions and to describe the culturally specific unit that fulfills them (Yanagisako 1979). The questions to be examined include the extent to which population variables influence the developmental cycle and the economic context of this process.

Berkner (1972) has demonstrated that cross-sectional analysis can obscure the real significance of household types in a society. Simply noting the predominance of nuclear family households, for example, will not expose the underlying formation systems and rules. A majority of nuclear households is compatible with a system in which each household passes through a stem family stage. Since the processes that impinge on household structure and composition include individual and family cycles (Elder 1981; Hareven 1974, 1978), it is necessary to explore the culturally

defined life course along with the demographic determinants of family building. Foster (1978, 1981) shows the strong correlation between population processes and household formation and suggests that changes in the cross-sectional distribution of household types can be a consequence of changes in either of these systems. Meanwhile, household composition, as it changes through time, can be an important determinant of economic status (Cain 1978).

This has implications for the way we look at children in Timling. It is reasonable to assume that if large families were a disadvantage, people would find a way to limit their number. While recent studies of the value of children (Nag et al. 1978) have looked at their economic contributions and have tied fertility directly to the economy (Odell 1982), the Tamang do not closely quantify each child's potential input into the household. I suggest that the value of children can also be sought in the role they play in the organization of village economy centered around the household. In Timling, children are a way of exploiting the diverse environment. The more children born to a family, the greater the number of economic frontiers that can be efficiently exploited by a household—including expansion into the new wage economy.

This household-centered economy, coupled with the reliance on children, suggests that households move through identifiable changes in economic potential with the different stages of the developmental cycle. The fortunes of a particular household are a function of complex factors involving the timing of births, marriages, and the separation of children into household units of their own. The primary decisions affecting family size in Timling have to do with the timing of marriage and inheritance and not with having children. Thus there is a combination of random events resulting in the expression of fertility with the outcomes of actual decisions that affect the demographic profile of the village and are embedded in the logic of the economy.

Population and Long-Term Process

These issues relate to the present adaptation in Timling. In Bennett's terms, they define the adaptive strategies of the Tamang. Population is also involved in the long-term adaptive processes that have characterized Timling's history. This brings up the question of how far population growth can be considered a primary cause in economic change.

One school in the criticism of population policy has emphasized the degree to which fertility is an expression of economic organization. White's already cited work in Java and Mamdani's monograph on village India are good examples of this. Indeed the last section is predicated on the interaction between population and economy. At the level of immediate strategies, there seems to be a strong correspondence between family size and household success in economies organized along the lines of the domestic mode of production. When we think of historical processes, however, it becomes legitimate to ask how processes that are rational

within the context of the immediate economy may themselves lead to changes in the adaptive context. Cohen (1977) and Boserup (1965) have shown how changes in economy can be motivated by population growth. The important variables here are the subsistence environment and the minimal requirements of economic units. An adaptation, taken as a collection of behaviors, will be stable only as long as the major constraints and opportunities remain constant. In the Himalaya, the crucial variable maintaining community social structure has been land (Macfarlane 1976:199; Hitchcock 1966:105; the literature tying land to social stability in Nepal is invariably linked to the issue of ecological deterioration as in Eckholm 1976; Calkins 1981; Hoffpauir 1978).

Thus the important question of adaptive process in Timling will be answered by showing how the logic of the household economy and its effect on population contribute to the changing subsistence context through the opening of new economic frontiers. The monetization of peasant economies and their growing links with the world economy (cf. Gudeman 1978) are processes affecting large portions of the world today. For Timling, the immediate impetus for this change is rooted in population pressure (cf. Dahal 1983 for another example from Nepal).

Summary

In order to get at the interaction of these factors, I examine three broad categories of Tamang life: demography, the organization of subsistence, and the household. Chapter 2 establishes the historical and ethnographic setting for the study so that we can know the people of Timling and their place in the larger national context. Chapter 4 lays out the general adaptation of the Tamang in their particular environment and establishes the requirements of subsistence. In chapters 5 and 6, I examine the demography of the Tamang, showing how social practices (intermediate variables) affect fertility and establishing the mortality regime of the village. Chapter 7 brings in the household. I will show how the developmental cycle in Timling is a function of the timing of life course events, especially birth and marriage. Here the demographic regime becomes an independent variable constraining the economic potential of households. Some of the opportunities and constraints that must be weighed in the major life course decisions of marriage and the timing of inheritance will also be presented here. Once the broad pattern of household development has been established, chapter 8 brings in the variations that can occur even in a fairly homogeneous society such as Timling's. I use case histories here to show how the fortunes of households can rise and fall through a combination of chance and choice. In this chapter I also begin to consider some of the implications of these patterns for longer term processes of change.

The final chapter summarizes the argument and shows how the pursuit of discrete adaptive strategies can have long-range implications that force the village as a whole to change its adaptation. What were tenable solutions to the problems of survival in the past are shown themselves to create new problems that alter the

nature of the decision-making environment. This examination of long-term processes shows how an economy organized for self-sufficiency can begin to shift to capitalization and what the consequences of this shift are for decision-making. I suggest that some of these consequences involve radical changes in institutionalized solutions to the problem of survival.

The limiting factor throughout this process is the relation between population and locally available resources. A secondary factor is the level of organization of outside groups. In the past, Timling dealt with these people on the basis of essential equality as trading partners; they no longer do so because the outside world no longer needs what Timling can offer, even as the villagers become more dependent on the wage economy outside.

In describing the processes that define Timling's adaptation, I move between two levels of analysis (Brush 1977:19). The first of these concerns itself with the general patterns that typify the village, while the second concerns the experience of individual households. Thus a picture of adaptation that incorporates the inherent variability of populations is presented.

This study of demography and household process in a village adaptation is geared in anthropological fashion toward the intensive description of a particular case. Although it hovers at the descriptive level, its points bear on more general theory. A number of relationships will be illustrated.

First, the examination of Timling's fertility will show that, in spite of the absence of conscious family planning, Tamang fertility is drastically reduced from a potential of 14.3 births to only about 5.4 per woman. The two factors having the largest effect on this reduction are the pattern of marriage and cohabitation and the pattern of breastfeeding. Second, Timling's productive economy is organized to take advantage of a special kind of environment. The two elements of greatest importance here are a high degree of diversification and a precise meshing of various productive cycles. Because the economy is organized at the household level, the importance of children is related to their diversifying, security potential. The third point follows from this: a natural fertility population organized into such an economy means that household fortunes are largely the fortuitous result of household recruitment and retention of new members. The alternative strategies of later age at marriage or inheritance are ways of coping with the demographic hand dealt to a family. Thus the household's economic potential closely follows its developmental cycle.

This describes Timling's adaptation in the presence of relatively equal access to productive resources. But my fourth point is that Timling's egalitarian structure and the close correspondence between household development and economic standing rests on the availability of land. Timling's population growth at a doubling time of roughly 60 years has brought land into short supply. The consequences include smaller inheritances, less chance of acquiring new land by the simple input of labor, greater reliance on the monetized economy, and a destabilization of the mode of production. Threatened are the stability of cooperative kin links, rules of property transmission across generations, and the relatively classless nature of

Tamang society. I argue that this process has been fueled by population increase in a production regime constrained by land availability; that population growth is a necessary by-product of a household-centered economy in a rigorously diversified production environment; and that class formation begins at that point where monetization threatens the utility of kin links. A secondary argument is that relationships transformed from essential equality to subordination to peoples outside of the Ankhu Khola region hasten the process by creating new statuses. When land was plentiful, the most rational course for a livelihood was to identify with the family and the village. A new set of rewards in a land-scarce environment requires new kinds of status based on values from outside of the village.

Finally, this study provides an example from the earliest extreme of the demographic transition. It suggests that Caldwell's perspective is correct—that supports for high fertility are built into the familial mode of production and that the system begins to change with the collapse of this mode of production. Collapse begins with the denial of equal household access to the fundamental resources, and fertility change lags behind economic transformation.

The Tamang settlements of the Kathmandu Valley show far more integration into the national culture of Nepal. In spite of all the positive variations in cultural style within the Tamang territory, a number of features bind the people into a single ethnic identity. Here is a study in cultural anthropology based mainly on demography and household processes that characterize an agro-pastoral people of north central Nepal.

The Book is an attempt to describe and place into context the processes that encourage population expansion in Nepali mountain communities. The author takes a closer look at the adaptive strategies employed by these people and how these strategies intersect with demographic and household processes. It goes a long way in showing how anthropological research can gain from demographic methodology while simultaneously making its own contribution to the fuller understanding of demographic processes themselves. The study in village adaptation is geared in anthropological fashion towards the intensive description of a particular case. Thus a picture of adaptation that incorporates the inherent variability of population is presented. The historical and ethnographic setting for the study is indicative of the place of Timling's people in the larger national context.



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