

Chapter 3

Balancing People, Policies, and Resources in Rural Tibet

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Abstract This chapter examines ways that household-level decisions about reproduction are shaped by available land resources, political discourse on population and impoverishment, and changing perceptions of children's utility to long-term economic strategies. The research centers on three villages in Shigatse Prefecture of China's Tibet Autonomous Region and is based on a combination of longitudinal demographic data gathered through surveys and in-depth interviews with parents about social, economic, and political factors that influenced their decisions to limit family size. The first part of the chapter discusses policy changes in the 1980s that dismantled Tibet's commune system and gave families control over set amounts of arable land, and ensuing processes that led to a sharp reduction in per capita land holdings. The second part of the chapter discusses China's birth control policy in terms of how it is rooted in a vision to create a modern society and how this policy applies in Tibet. The third part of the chapter documents the timing and magnitude of the recent fertility decline in rural Tibet and links it with (1) the reduction in per capita land holdings, (2) China's birth control policy, and (3) the changing roles that children play in households' long-term economic strategies. The concluding section discusses how human-environment interactions are one among several variables involved in the complex reproductive decision-making process in rural Tibet.

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3.1 Introduction

Academic inquiries into the relationship between land, fertility, and population growth have a long history. Two centuries ago, Thomas Malthus (1989[1803]: 293) hypothesized that checks on population growth arose first and foremost from an “insufficiency of subsistence,” and implied a direct relationship between fertility and land by stating, “Plenty of rich land, to be had for little or nothing, is so powerful a cause of population as generally to overcome all obstacles.” Fertility entered the equation either as a static variable in societies where population is regulated by “positive checks” (i.e., via mortality) or as a fluctuating variable in societies where population is regulated by “preventive checks” that operate through changes in the frequency and timing of marriage.

A more contemporary debate emerged in the 1980s when scholars postulated the existence of a direct and discernible relationship between landholdings and fertility (Cain 1985, 1986; Schujter and Stokes 1984; Stokes et al. 1986). The debate centered on the roles that landholding size and land tenure security play in reproductive decision-making. Since that debate was waged, however, high fertility is rapidly becoming a relic of the past as people gain access to reliable means for birth control. Nowadays, a more pertinent question seems in order: How do landholdings and land tenure influence reproductive decision-making in the context of a fertility decline?

This chapter addresses the above question by examining a recent and rapid demographic transition that occurred in rural Tibet.¹ From the mid-1980s to 2000, the total fertility rate² fell from six births per woman to the replacement level of two births per woman (Childs et al. 2005). The transition occurred at a time when population growth and land losses were eroding per capita landholdings, tempting the conclusion that people were modifying their reproductive behavior in an effort to maintain a balance between family size and landholdings. However, such an explanation is complicated by the fact that the fertility decline coincided with three societal-level transformations in rural Tibet: the replacement of rural communes with a land tenure system whereby households became the primary units of production, the implementation of China’s birth control policy, and a campaign to rapidly develop Tibet. The purpose of this chapter is to explore the relationship between land and fertility in a more inclusive context of social, political, and economic factors that influence reproductive decision-making.

¹In this chapter, Tibet refers exclusively to China’s Tibet Autonomous Region.

²The total fertility rate is a synthetic cohort estimate of the average number of children who would be born to each woman in a population if current age-specific fertility rates remain constant. It is one of the most widely used barometers of childbearing used by demographers.

3.2 Landholdings and the Proximate Determinants of Fertility

Research on the relationship between landholding and fertility has centered on two hypotheses: the land-security hypothesis and the land-labor demand hypothesis. The land-security hypothesis predicts an inverse relationship between fertility and the level of confidence that people have in their long-term ability to access agricultural land. Contrary to the proposition that old-age security is a motivating factor for having children (Nugent 1985), the land-security hypothesis posits that the value of children (and consequently the demand for children) as a form of social security declines for those who have secure access to land (Cain 1985; Jensen 1990). For example, in a Nigerian setting where written land deeds are rare, having many children is a strategy to stake claims to land (Renne 1995) which implies that high fertility is related to insecure land tenure. A more recent study in a frontier region of the Ecuadorian Amazon also found evidence to support the hypothesis: women living in households with legal land titles had considerably fewer children than women living in households without legal land titles (Carr et al. 2006).

The land-labor demand hypothesis posits that the size of one's landholding affects the demand for labor, which can be satisfied at the household level through reproduction. If this hypothesis holds true, then landholding size is an important determinant of fertility (Schujter and Stokes 1984; Stokes et al. 1986). However, attempts to test the land-labor demand hypothesis produced mixed results. Several studies found a positive correlation between landholdings and household sizes (summarized in Netting 1993: 85–87), between landholdings and fertility (Mueller and Short 1983; Schujter and Stokes 1984; Schujter et al. 1983), and even between first-birth timing and the proportion of land under agricultural use (Ghimire and Hoelter 2007). Yet Cain (1985: 12–13) challenged the hypothesis by pointing out that any statistical association between landholdings and fertility must be explained in relation to fertility-related motivations, which can be difficult to discern in studies that rely exclusively on survey data. Also, because institutional factors have an undeniable bearing on the relationship between landholdings and fertility, the mere size of a farmer's landholding cannot be a reliable predictor of a reproductive outcome. Other factors demand consideration, including the terms and security of land tenure, mechanisms of property right enforcement, and opportunities for family members to engage in nonfarm labor (Cain 1985, 1986). Cain (1985) thereby argued that a positive relationship between landholdings and fertility could very well be spurious or an "unintended by-product of other behavioral patterns that are associated with landholding status."

Other research indicates that the causal relationship between landholdings and fertility may stem from land scarcity rather than abundance. Clay and Johnson (1992) supported this position by citing a study from historical France (Goldscheider 1971) that found bequeathing equal parcels of land to all children provided a powerful incentive to limit marital fertility, and a study of frontier regions of the United States (Easterlin et al. 1978) where fertility declined when increasing

population density transformed land abundance into scarcity. In a more recent study, Shreffler and Dadoo (2009) found that rural Kenyans considered children beneficial when landholdings were large, but large families became undesirable as the population grew, and land was parceled through inheritance. People responded by using contraception to limit reproduction and by seeking new educational and off-farm employment opportunities for children.

Although Netting and colleagues did not directly engage the land-labor demand hypothesis, their research on household size, population density, land usage, and labor demands is relevant. Netting (1993: 87) used comparative evidence to conclude that, “smallholders everywhere strike some kind of economic balance between household members and land size,” noting that the way land is used has demographic consequences. Drawing on Boserup’s thesis that population increase can impel technological change, Netting argued that agricultural intensification requires rising labor input. For Netting (1965, 1993), the relationship between landholdings and household size was mediated through the demand for and quality of labor. Specifically, on the densely populated Jos Plateau, Kofyar household sizes were small, in part because of diminishing returns achieved by adding people to the household’s labor force. In contrast, households were larger in a sparsely populated frontier region where production was limited by labor rather than land (Netting 1968). Household sizes increased as more time elapsed since settling the frontier, increases that did not necessarily result from rising fertility but from adding new members through polygynous marriages and forming stem rather than nuclear households (Netting et al. 1989; Stone et al. 1984). In both the Kofyar research and Netting’s analysis of smallholders, landholdings have a strong and predictable effect on household size when that relationship is mediated principally by labor demands. Both fertility and household norms change quickly when the marginal utility of adding household workers changes.

Much of the landholding and fertility debate has been waged in the absence of theories developed to explain peoples’ motivations for having children (one exception is Carr et al. 2006). In particular, the land-labor demand hypothesis reflects Easterlin and Crimmins’ (1985) supply-demand model of reproductive decision-making that considers three variables: the demand for children, the supply of children, and the costs of regulating reproduction. The demand for children is influenced by a family’s income, consumer preferences, and cost of living. Meanwhile, the supply of children under natural fertility³ conditions is shaped by the proximate determinants of fertility (see below), as well as infant and childhood mortality. The motivation to regulate fertility derives from the balance between

³The concept of natural fertility was initially defined by Louis Henry (1961: 81) as “fertility which exists or has existed in the absence of deliberate birth control.” Demographers generally understand natural fertility to imply that couples can influence the number of children born, for example, through periodic abstinence and other cultural measures that affect spacing between births, age at marriage, and norms of widow and divorcee remarriage, but that any such action is independent of the number of children already born and therefore not meant to control the ultimate number of children born.

supply and demand. If demand exceeds supply, motivation is absent; if supply exceeds demand, motivation is present. Finally, the cost of regulating fertility involves social costs (e.g., the acceptability of using birth control) as well as economic costs (availability and affordability).

The social cost of fertility regulation varies considerably from one society to the next and is related to cultural and religious perspectives on birth control and political agendas that may be either pro- or anti-natalist. The cost is not static; it can vary through ideational changes that originate within a society or spread from one setting to another. According to Cleland and Wilson (1987), a major determinant of fertility decline is the diffusion of new attitudes about, and technologies for, controlling reproduction. Although their findings focused mainly on ideational changes that occurred during the early phase of fertility transition in Europe, in a contemporary state like China, ideational changes can disseminate very quickly through official policies that are designed to change the social and economic costs of childbearing and fertility regulation.

Caldwell's (1982) wealth flow hypothesis links theories emphasizing economic factors with those highlighting ideational changes. According to Caldwell, attitudes toward the value of children can change in association with rising affluence and the availability of secular education, factors that prompt parents to invest more heavily in their offspring. When wealth flows from children to parents, large families make good economic sense. However, when a wealth flow inversion occurs so that parents invest more heavily in children and can expect fewer returns, a motivation arises to control fertility. The motivation is therefore related to an ideational shift in the way parents value the social and economic roles of their children.

The most effective tool for analyzing fertility is the proximate determinants of fertility model (Bongaarts and Potter 1983; Davis and Blake 1956). As Davis and Blake (1956) point out, background variables such as wealth, education, or religion affect fertility through the proximate determinants, which they group into three categories: factors affecting exposure to intercourse ("intercourse variables," e.g., age at entry into sexual unions, voluntary and involuntary abstinence, coital frequency), factors affecting exposure to conception ("conception variables," e.g., lactational amenorrhea, use of contraception), and factors affecting gestation and successful parturition ("gestation variables," e.g., miscarriage and abortion). To illustrate how background variables work through the proximate determinants, consider the oft-repeated aphorism "education reduces fertility." Staying in school longer and subsequently attempting to establish a career may lead women to delay marriage (an exposure to intercourse variable), and literacy may provide them more access to information on birth control methods (an exposure to conception variable). Education per se (the background variable) does not cause women to have fewer children; fewer children result from delayed marriage and contraceptive usage.

Figure 3.1 illustrates the analytical model we use for linking background variables to fertility outcomes. The background variables we focus on in this chapter are the land tenure system, landholdings, household-level labor demands, and China's birth control policy. These variables present people with a range

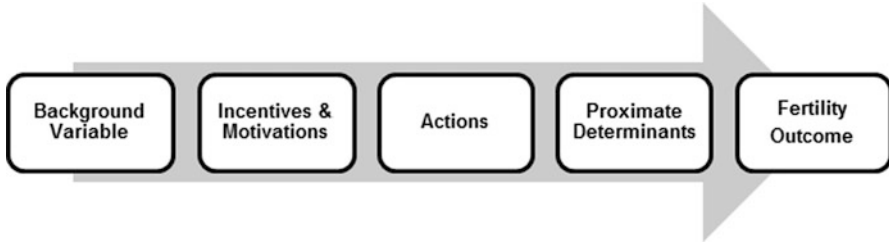


Fig. 3.1 Linking background variables with fertility outcomes

of incentives, motivations, and desires, which lead to actions that shape fertility outcomes via the proximate determinants of fertility. Figure 3.1 should not be interpreted as a deterministic model of how specific background variables invariably lead to specific actions and outcomes. Although a background variable can constrain people's options and provide them with certain incentives, one must never ignore the agency that allows different people to make different choices when presented with similar circumstances. With this important caveat in mind, the model is designed to represent what happens when a background variable influences a significant proportion of a population to select a specific course of action that, in the aggregate, has a discernible effect on fertility.

3.3 Data and Methods

From 2006 to 2009 we conducted four stints of fieldwork for a total of 9 months in three villages in Tibet's Shigatse Prefecture to investigate the impact of modernization on rural families and the elderly.⁴ The three villages, while not selected to represent all of Tibet, lie within a major agricultural corridor running between Tibet's two largest cities: Lhasa and Shigatse. This corridor contains about 30% of Tibet's population. Sogang, the least affected by development, is located in Panam County in the upper part of a tributary river valley, while Norgyong, the intermediate site, is situated below Sogang on the main river. Betsag, the third site, is located only 10 km from Shigatse City and was included in the study to represent a wealthy farming village that is more heavily affected by mechanized agriculture and government development programs. Despite these economic differences, the three villages are geographically close, within a two-hour drive of one another, and are part of the same Tibetan subethnic cultural and linguistic zone.

The demography presented in this chapter combines a previous analysis of survey data from Goldstein and Beall's 1997–1998 study of rural Tibet with the analysis

⁴This NSF-sponsored research project (#0527500) was conducted in collaboration with the Tibet Academy of Social Sciences in Lhasa.

of data from Goldstein and Childs' 2006 household survey of Sogang, Norgyong, and Betsag villages. We use the own-children method, a reverse-survival technique designed to estimate age-specific fertility rates and total fertility rates in the absence of detailed data on reproduction (Cho et al. 1986).

We also present descriptive statistics from surveys and qualitative data from in-depth interviews to shed light on various factors that shape reproductive motivations and outcomes. During interviews with people who are currently having children or recently ceased doing so ($n = 73$), we asked a series of questions on ideal family size, contraceptive usage, reproductive decision-making, and the birth control policy. We also interviewed village leaders about how and when the birth control policy was implemented in the area. Before presenting the emic perspectives that emerged, we detail the societal-level changes that have shaped the environment in which people make decisions that have demographic consequences.

3.4 Land Tenure, Birth Control, and Economic Development in Rural Tibet

In this section, we outline three transformative policies that have changed rural Tibetans' relationships with agricultural land and the way they marry and form households: the distribution of land on a per capita basis, the implementation of a birth control policy, and the initiation of a massive development scheme. This contextual information provides a backdrop for analyzing the changing relationship between land and fertility in rural Tibet.

3.4.1 Land Tenure and Per Capital Landholdings

Following a period from the 1960s to 1982, when Tibet's rural population was organized into communes, China implemented the Household Responsibility System (Tibetan: *genzang*) that transferred land tenure from village collectives to individual households (Goldstein et al. 2003). The government allocated land on a per capita basis so that every person alive at the date of decollectivization received one equal share regardless of age, sex, social status, or any other factor. A household consisting of seven members thereby received seven shares of land, whereas a household consisting of three members received three shares.

Technically, all agricultural land still belongs to the state, so it cannot be bought and sold and is basically held as a long-term lease. In our research area a trio of factors has steadily eroded landholdings both in absolute and per capita terms: the government's use of eminent domain for development projects, the loss of land through flooding and other forces of nature, and the natural increase of the

Table 3.1 Diminishing per capita landholdings

Village	Year	mu per household	Percent change	mu per capita	Percent change
Sogang	1982	12.7		2.5	
	1997	11.8	-7.1	1.7	-32.0
	2006	9.3	-21.2	1.3	-23.5
	1982-2006		-26.8		-48.0
Norgyong	1982	22.6		4.2	
	1997	20.9	-7.5	2.8	-33.3
	2006	16.3	-22.0	2.4	-14.3
	1982-2006		-27.9		-42.9
Betsag	1982	26.4		3.8	
	2006	25.8	-2.3	3.4	-10.5

Sources: Goldstein et al. 1998 survey, Goldstein et al. 2006 survey

population due to births outnumbering deaths.⁵ The first of these, eminent domain, heightens local concerns over long-term land security. This is especially true in Norgyong where officials have appropriated large tracts of land for development projects. The expansion of Panam from a small county seat of government into a burgeoning regional town necessitated that land be taken to construct streets, markets, a hospital, and various buildings for government and private use. Villagers are paid 7,100RMB (\$950) for each mu⁶ of appropriated land, which many consider inadequate compensation. Similarly, Betsag lost some land to the expansion of a thoroughfare connecting the region's two urban areas, Shigatse and Gyantse, whereas Sogang lost a few fields to the construction of a health post and other government buildings. More significantly, Sogang was struck by a flood in 2002 that rendered much land useless. Between 1982 and 2006, Betsag lost 2.8% (71 mu), Norgyong 14.2% (350 mu), and Sogang 22.1% (256 mu) of their agricultural land. Whereas development accounts for most of Norgyong's land loss (93.6%), the majority of land lost in Sogang (84.9%) resulted from flooding.

At the same time when farmers were losing land, rural Tibet was undergoing a period of rapid population growth. From 1982 to 2006 Betsag's population increased from 586 to 712 (17.7%), Norgyong's from 575 to 853 (32.6%), and Sogang's from 503 to 665 (24.6%). Table 3.1 shows the extent to which land losses and population increase diminished landholdings. Sogang and Norgyong were especially hard-hit: 48.0% and 42.9% reductions in per capita landholdings, respectively.

⁵Several initiatives have partially counteracted the diminishing landholding trend. For example, below Sogang the government established a "poverty alleviation village" by building a dam and irrigation system on marginal land. This temporarily increased per capita landholdings in Sogang by moving several poor families to the new village.

⁶Mu, the basic land measurement in China, is equal to 1/15 of a hectare.

3.4.2 *Birth Control Policy and Implementation*

China's initial push toward birth control started in the 1970s with a policy designed around the principles of "later" (commencement of childbearing), "longer" (intervals between births), and "fewer" (total children). By the late 1970s, birth control had become a cornerstone of the nation's drive to achieve rapid economic development and evolved into a massive effort to demographically engineer China toward a smaller population consisting of higher-quality individuals (Greenhalgh 2008; Greenhalgh and Winckler 2005). Since the 1978 inception of China's birth control policy, the government technically has permitted each couple to have a single child. However, in reality, a patchwork of policies evolved catering to regional conditions (Gu et al. 2007). Ethnic minorities like Tibetans have been partially or fully exempt. On one hand, Tibet's population is a miniscule proportion of China's population, so allowing Tibetans a higher birth rate hardly affects national population growth. On the other hand, leaders in Beijing did not want to antagonize potentially restless Tibetans by subjecting them to an unpopular policy. Consequently, Tibet's rural residents are officially permitted to have three children, but this has not been strictly enforced (Goldstein et al. 2002). Most Tibetans living in the neighboring provinces of Qinghai and Sichuan can have only two (Gu et al. 2007; Schrempf 2008).

The government introduced the birth control policy to Tibet during the mid-1980s. In Lhasa, the capital, Han cadres could have only one child and Tibetan employees of the government only two (Goldstein and Beall 1991). Stated penalties for noncompliance included salary deductions, barriers to promotion, and withholding residence cards for excess children, but these were not vigorously enforced (Goldstein et al. 2002).

In the countryside, the government began in the 1980s to propagate the idea that small families are economically advantageous, and announced a limit of three births for rural women in 1984 but did not seriously enforce it (Goldstein et al. 2002). The county in our research area began to disseminate information about the national policy only in 1988 and started implementation in 1989 by having the Maternal Care Office under the Bureau of Health, and the townships' health clinics organize campaigns to encourage people to have fewer children. During these sessions, government representatives emphasized the state's message that "fewer children equal more wealth." Every household was required to send one woman of reproductive age to the meetings, and the task of ensuring attendance was delegated to the local representative of the Women's Association. Households that failed to send a representative had points deducted from their tally of obligatory community labor, which in effect was a small fine. At this early date of the campaign, however, propaganda was not accompanied by birth control services. Most villagers still lacked the means to control their reproduction.

The situation began to change during the mid-1990s when the government started prioritizing agricultural and pastoral communities. The official 1996 document on family planning policy in Tibet said, "In poor areas it is a common situation that 'the

more poor someone is, the higher the number of births, and the higher the number of births, the more poor' If we do not pay attention to the matter of population and do not carry out family planning . . . it will definitely affect the goal of achieving progress and prosperity for the Tibetan nationality."⁷ In weekly meetings, local leaders emphasized that one child is best, two is good, three is the limit, and poor families on welfare should have fewer children for their own economic well-being. In addition to promoting the advantages of smaller families, the government instituted disincentives, in the form of fines and penalties, for exceeding the three-child limit.

Villagers reported feeling anxious that the limit would be strictly enforced, although it was the poorer families who were targeted most; leaders of the Women's Association repeatedly visited their homes and encouraged them to use birth control. The rural poor were much more susceptible to government pressure because local officials acted as conduits for benefits such as welfare. Wealthier families felt less compelled to comply with the policy and were subjected to less pressure.

Similar to other parts of China, each village in Tibet was issued a birth quota. To ensure that the quota was met, county and township officials asked village leaders to make certain that women with more than three children were using contraception, particularly more effective methods such as sterilization or IUDs.⁸ Such services were provided free at scheduled intervals by traveling medical teams. However, consistent with Greenhalgh's (1994) findings elsewhere in China, local officials in our research area seemed reluctant to compel their relatives and neighbors to comply with the unpopular mandate. Enforcement mechanisms proved to be somewhat of a façade because officials in a township that exceeded its quota could "loan" births to a neighboring township that had fallen short of its quota (Goldstein et al. 2002). Other local leaders engaged in the deliberate manipulation of population figures. One explained that his village's initial quota was ten births, but each year double that number of children was born. Because some people passed away, at the end of the year, he would report a net increase in the village of roughly ten people, thereby implying (without directly stating) that the village had kept within the birth quota. Apparently higher-level officials turned a blind eye to this ruse.

To summarize, China's birth control policy was first announced in rural Tibet during the mid-1980s. Officially, each rural household could have three children, although poorer families were strongly encouraged to have fewer. In the mid-1990s penalties were announced for exceeding the limit, yet it quickly became obvious that enforcement would be lax so families continued to have more than three children when they felt it would be advantageous to do so. For example, of the 113 births that occurred to women in a rural study in 1997, 31.4% were fourth order or higher, and 55.9% of women who had ever given birth ($n = 1,100$) had given birth to four or

⁷Document No. 5, Party Committee of Tibet, 1996, as cited in Goldstein et al. (2002).

⁸Individual counties and prefectures had considerable autonomy regarding how to enforce this limit, if at all, and in some areas the limit was changed to allow four children for rich families, three for middle income families, and two for poor families (Goldstein et al. 2002).

more children. Moreover, village leaders also exceeded the limit even though many were party members. The average number of living children for the 20 village heads was 5.1; 70% had four or more, and 60% had five or more (Goldstein et al. 2002).

3.4.3 Rapid Economic Development

With the launch of China's "Develop the West Campaign" in 2000, the government has devoted unprecedented sums of money to a regional development project aimed at rectifying economic disparities between the nation's wealthier eastern provinces and the poorer western provinces, including Tibet. The program includes a series of policies for rapid development such as more investment, preferential tax rates, and huge expenditures for infrastructure. In 2003 alone China invested about 200 billion yuan (\$24.3 billion) in large projects in the western regions. In Tibet, most of the initial money was used for large infrastructure projects: highways, buildings, and the new railway to Lhasa. The central government also implemented projects to bolster the quality of life of rural Tibetans by rebuilding townships and schools, expanding electrification, and improving the health care system (Goldstein et al. 2008). More recently, the government initiated a "People First" policy to bring income-generating opportunities into villages (Goldstein et al. 2010).

China's push to develop Tibet has created new demands for nonfarm labor. People in our research area responded by diversifying their traditional agropastoral household economy. Nowadays, the vast majority sends members off farm to earn cash income in the burgeoning labor market, and the overwhelming proportion of nonfarm laborers (84%) and nonfarm income (79%) derives from going outside the village for work.

Villagers generally engage in three broad types of off-farm activities. The largest and least lucrative category is unskilled manual labor, mainly construction workers who carry loads, mix cement, and so forth. A second category is skilled labor, for example, carpenters, masons, and drivers. A third and growing category includes entrepreneurs who purchase vehicles that can be used to generate income, as well as contractors and subcontractors on construction projects. Because we have described the village-level impacts of developments projects elsewhere (Goldstein et al. 2008, 2010), we will not provide details here beyond showing the dramatic, post-2000 rise in the number of people—males and females alike—who engage in off-farm income-generating activities in the two villages for which we have longitudinal data (Table 3.2).

The new land tenure system introduced in the 1980s, the implementation of a birth control policy, and the rapid push to develop Tibet have all affected families' household management strategies and relationship with the land. The following section charts the fertility decline in rural Tibet and then links the societal-level transformations described above with decision-making and its demographic consequences.

Table 3.2 Percentage of 15- to 49-year-olds in nonfarm work

Village	Ages	Males		Females	
		1997	2005	1997	2005
Sogang	15–19	4.8	30.2	8.3	23.7
	20–29	18.0	69.2	7.4	31.9
	30–39	25.5	71.7	2.1	16.7
	40–49	40.9	38.3	7.7	6.7
Norgyong	15–19	14.9	23.9	2.2	3.9
	20–29	28.4	63.7	2.5	28.0
	30–39	29.3	63.5	6.8	28.3
	40–49	35.5	59.2	0.0	16.0

Source: Goldstein et al. (2008)

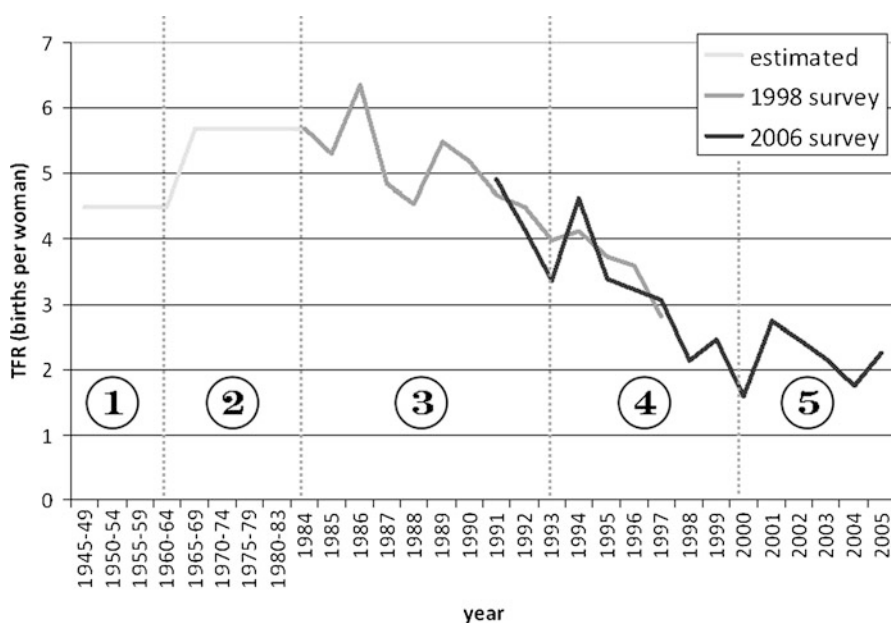


Fig. 3.2 Total fertility rate by year and survey, rural Tibet (Sources: Childs 2008 (for 1945–1983); Childs et al. 2005 (for 1984–1997); Goldstein et al. 2006 survey (for 1991–2005))

3.5 The Rural Tibetan Fertility Transition

Figure 3.2 illustrates the total fertility rate in rural Tibet from the 1940s to 2005. The figure is divided into five phases, each of which is associated with a specific set of conditions.

Table 3.3 Landholdings and household sizes, Kyirong taxpayers, 1958

Taxation units (<i>gang</i>) ^a	Number of households	Mean number of household members
0–0.9	49	4.5
1–1.9	228	6.4
2–2.9	73	8.5
3+	11	9.5

Source: 1958 Kyirong Household Register (see Childs 2008)

^a*Gang* was a land unit calculated on the basis of several factors, including the amount of seed that could be sown in a certain area, the fertility of the soil, and local climatic conditions (Goldstein 1971)

3.5.1 Phase 1: The “Old Society”

Prior to China asserting control over Tibet in 1951, the majority of rural farmers in the “old society”⁹ were legally bound subjects (*miser*) of a government, monastic, or aristocratic estate. One class of subjects, referred to as “taxpayer” (*tretpa*), held usufruct rights to till fields, the extent of which were specified in a contract with the estate-holding institution. Although it was difficult for a household to expand its landholding, it could pass the usufruct right to succeeding generations in perpetuity providing it met a range of tax obligations that included payments of grain and corvée labor (Goldstein 1971).

From at least the eighteenth century until 1959, the land tenure policy gave taxpayers a strong incentive to practice fraternal polyandry.¹⁰ By doing so, they avoided the need to partition landholdings through inheritance. Retaining multiple males in the family also gave them a better chance to fulfill corvée tax obligations to their lords while engaging in a complex adaptive strategy that included farming, herding, and trade. In Kyirong during the 1950s, a strong correlation existed between the size of a household’s usufruct landholding and its membership (Table 3.3). Whether this is evidence of higher fertility among large landholders (Schujter and Stokes 1984; Stokes et al. 1986) or a result of households adding members through other means to increase their labor force (Netting et al. 1989; Stone et al. 1984) is impossible to determine with the data on hand.

Polyandry moderates aggregate fertility through its corollary: a high frequency of female non-marriage. This was first demonstrated by Goldstein (1981) who found that the high proportion of female non-marriage (31%) resulted in a completed fertility rate for all women (6.3 births) that was considerably lower than the completed fertility rate for married women (7.4 births). A subsequent study linking fertility outcomes with the Tibetan manorial estate system found that nearly half of all women aged 25–34 were not formally married into taxpayer households.

⁹In contemporary political discourse and in rural areas where we work, pre-1959 Tibet is commonly referred to as the “old society” (*chitsok nyingba*).

¹⁰Although China asserted control over Tibet in 1951, the traditional manorial estate system continued until 1959.

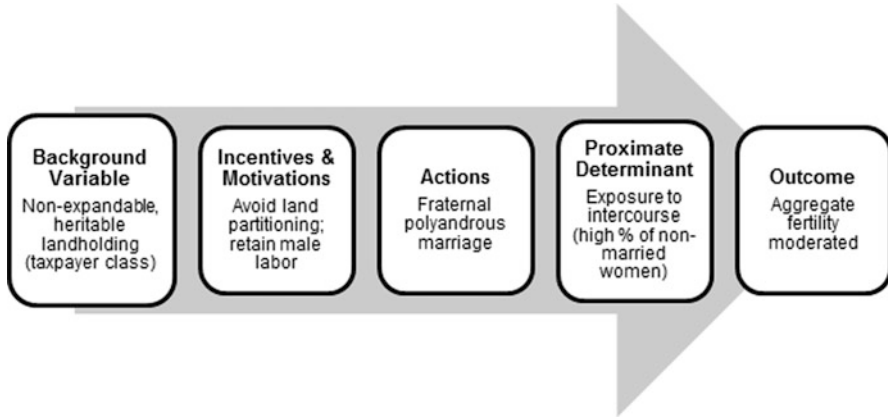


Fig. 3.3 Tibetan fertility, pre-1959

Their relatively low level of fertility (2.2 births per woman) counteracted the marital fertility rate of 6.2 births per woman to result in a total fertility rate of 4.4 births per woman (Childs 2008). Figure 3.3 illustrates how the background variable of limited landholdings provided an incentive to practice fraternal polyandry, which moderated fertility by curtailing marriage—and, by extension, exposure to intercourse—for a significant proportion of the female population.

3.5.2 Phase 2: The Commune Period

Starting in the 1950s, China embarked on a massive campaign to reorganize rural society into communes. Lee and Wang (1999) attribute China's unprecedented high fertility during the 1960s to the commune system in which marriage and reproduction came under the purview of the state rather than the family. This caused a decline in traditional Chinese mechanisms for controlling family size such as coital restraint within marriage and female infanticide. Equally important, living in communes provided incentives to have many children because food and other resources were allocated in part on a per capita basis, so every child entitled a family to additional rations (Lee and Wang 1999: 119–122).

In Tibet, most rural communities were reorganized into communes starting in the mid-1960s. Collectivization of agriculture reduced the incentive to marry polyandrously, at least among the former taxpayer class, because households no longer had their own land to preserve. The decline of polyandry was accelerated by a government mandate that outlawed all forms of marriage except monogamy. It is no coincidence that, at a time when marriage became more universal for women, aggregate fertility rose by approximately one birth per woman. Figure 3.4 illustrates how collectivization changed the marital incentive structure and thereby affected fertility by increasing many women's exposure to intercourse through marriage.

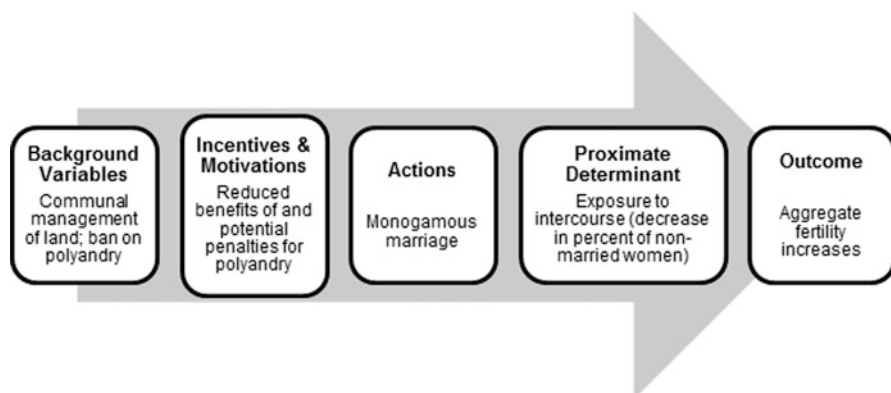


Fig. 3.4 Tibetan fertility, 1960s–1970s

Table 3.4 Never-married females (percent) by age

Age	Rural Tibet, 1998	Sogang, Norgyong, and Betsag, 2006
25–29	39.9	39.1
30–34	25.6	22.5
35–39	24.0	19.2
Total	31.0	27.3

Sources: Goldstein et al. (1998) household survey (rural Tibet), Goldstein et al. (2006) household survey (Sogang, Norgyong, and Betsag)

3.5.3 Phase 3: The Family Responsibility System

In the early 1980s, China dismantled Tibet’s communes and instituted the “Household Responsibility System,” making households the primary decision-making units for agricultural production. Overnight the government created a direct relationship between landholdings and household size by allocating one share of land per family member. Tibetans in our research area responded by reinstituting polyandry (Fjeld 2006; Goldstein et al. 2002; Jiao 2001).

Unlike pre-1959 society, when only a certain class of rural peasants (the taxpayers) held heritable usufruct rights to land, after 1982, all rural households held this privilege. It is important to note that fertility began to decline steadily in the late 1980s—before the birth control policy had been implemented and before contraceptive methods were widely available in rural areas. Therefore, the rise in polyandrous marriages and associated exclusion of many women from marriage is the most likely instigator of the fertility decline. The percentage of never-married females in their prime reproductive age remains high decades after the Household Responsibility System was implemented (Table 3.4).

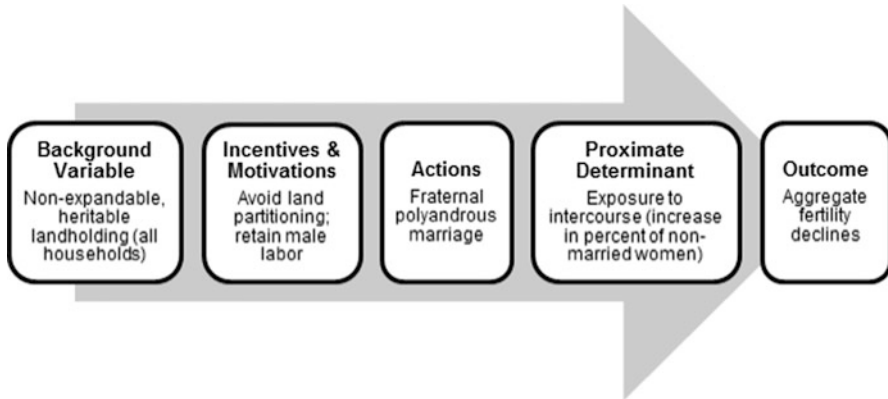


Fig. 3.5 Tibetan fertility, mid-1980s to early 1990s

Figure 3.5 illustrates how the Household Responsibility System changed a key background variable and thereby renewed peoples' incentive to practice polyandry. The result was the resumption of a traditional demographic system in rural Tibet; once again, fertility was moderated by a high frequency of female non-marriage.

3.5.4 Phase 4: Motives and Means for Effective Fertility Control

Fertility continued to decline throughout the 1990s when population growth, eminent domain, and natural disasters were steadily eroding per capital landholdings. Because diminishing landholdings were partially a product of population growth, it is easy to see how—in Easterlin and Crimmins' (1985) economic calculus—the supply of children eclipsed the demand for children. However, people could not act effectively on a desire to limit childbearing unless they had the means to control reproduction.

By the late 1990s, people were fully aware of the birth control policy and had access to a variety of contraceptive methods. In Goldstein and colleagues' 1998 rural fertility survey, 92% of all village women aged 30–44 knew of at least one method and 76.1% knew of four or more ($n = 489$). Regarding policy, 96.7% of married women said that there was a limit to the number of children they could have; 95.3% said the limit was three; and 92.9% believed there was a fine for exceeding the limit. But only a small proportion of married women, 16.0%, said they were currently using contraception because of the birth control policy or that they wanted to avoid fines and difficulties (presumably incurred by acting contrary to the policy) (Goldstein et al. 2002).

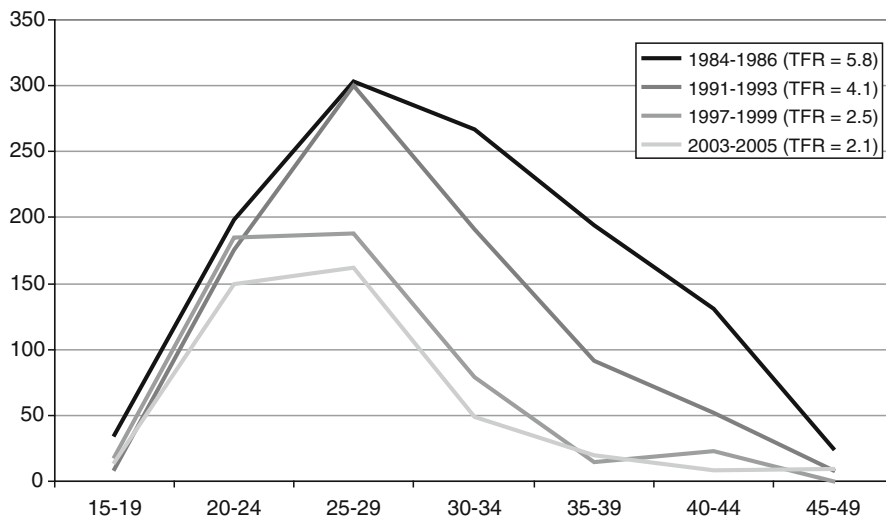


Fig. 3.6 Age-specific fertility rates by 3-year periods (*Sources*: Childs et al. 2005 (for 1984–1997 analysis); Goldstein et al. 2006 survey (for 1991–2005 analysis))

Figure 3.6 demonstrates that a shift took place in rural Tibet from a “natural” to a “controlled” fertility pattern between 1991–1993 and 1997–1999, indicating that a large number of women began to stop reproducing altogether once a certain number of children had been born. This shift coincides with the implementation of China’s birth control policy in rural Tibet.

In their 1998 study, Goldstein and colleagues found that many people were motivated to limit childbearing because they were concerned that their landholdings were insufficient to support a large family (Goldstein et al. 2002). A similar finding emerged from our more recent interviews. Several people expressed concerns that their family size had exceeded the number of land shares they held. For example, one farmer told us:

A while ago it [the birth control policy] seemed serious during community meetings. But nobody came to my home to talk one-on-one about it. I voluntarily had only two children because we have limited land. We have only three shares of land, but now we have six household members. I worried about raising our kids.

Another woman who already had three children said:

I want to stop, but my in-laws and husband want one more child. I tell them that we have to think of each child’s future. There are 14 people registered to our household, but we only have six shares of land. We always have to buy barley.

On the other hand some families were influenced by the government’s position, backed by the threat of penalties, that having many kids was detrimental for poor families. For example, a woman with two children, born in 1989 and 1991, stated:

We are very poor, and the government said that the poor must do the operation. They told us in village meetings that the poor can only have two kids, while wealthier households can have three. I thought, “We are poor with little land, so two children are enough and the operation is free.”

In a few cases the threat of repercussions—especially during the mid- to late 1990s when some feared the policy would be rigorously enforced—was a powerful motivation to use birth control. One man with five children, the last born in 1993, reported that his wife was one of the first to be sterilized by a mobile team of doctors. He said:

At the time many people wanted more children but there was a government birth control movement. My wife was among the first group to do birth control. All women were gathered at a meeting where they announced the names of those who should have the operation. At the time they said we couldn’t have more than three kids. Those with more than three did birth control. At the time they didn’t talk openly about a fine, but it was implied.

Some people regretted the choice they felt compelled to make. For example, a man with two sons and a daughter born between 1991 and 1995 reported, “The government told us there is a limit. If not for that I’d like to have had four or five kids. They are needed to herd the sheep, farm, and go for income.” It is also possible that some women were sterilized against their will during the initial years of the birth control campaign. One person recalled the time when the first mobile operating unit came to her village in the early 1990s. She said that many who were targeted by local officials for the operation were crying, while others were even resisting. She reported that this group of women included many from poorer households who had been pressured into undergoing sterilization. Nevertheless, as the data on high-parity births presented earlier reveal, most women continued to exceed the three-child limit. One man with more than three children said:

In community meetings they [village officials] announced a birth limit, and said they would fine those who had too many kids. I knew we were acting contrary to that. But later nobody mentioned fines and we kept having children.

These days, officials continue to announce the three-child limit, yet one man stated, “They don’t enforce it. Villagers have their own desires for how many kids they want to have.” When asked if anybody had told him to stop having children, a man from a wealthy household bluntly stated, “Even if they say that, we won’t listen.”

The evidence points to the conclusion that some people, notably those living in poor households, may have been pressured to limit their childbearing during the mid-1990s, while others decided to have fewer children in response to rising concerns over their ability to support a large family on limited land. Figure 3.7 represents how the background variables of diminishing per capita landholdings and the implementation of China’s birth control policy created an incentive structure for using birth control, thereby reducing aggregate fertility by impacting many women’s exposure to conception. Because poorer families were encouraged to use birth control more than wealthier families, the effect on them would presumably be greater.

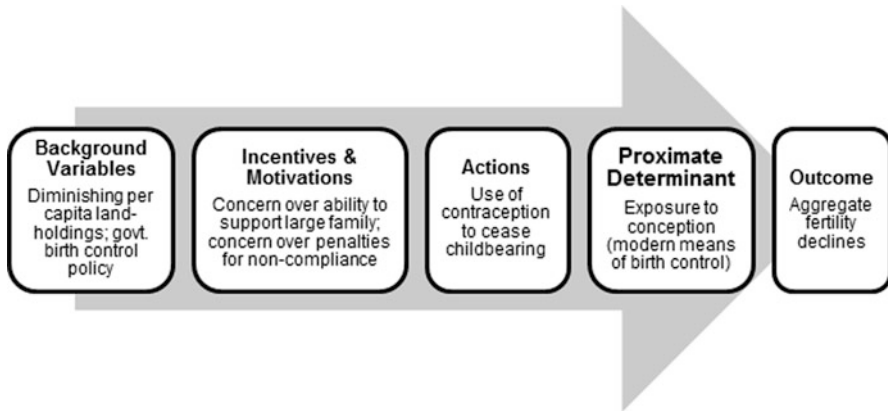


Fig. 3.7 Tibetan fertility, 1990s

3.5.5 Phase 5: *Is Replacement Fertility Here to Stay?*

Since 2000, fertility in our research villages has fluctuated between two and three births per woman, indicating that the rate has stabilized slightly above replacement level. Local leaders are now convinced that their constituents use birth control willingly and out of economic self-interest, which is consistent with findings from Qinghai Province where Tibetans had been subjected to much more stringent birth control regulations (Schrempf 2008). Leaders in our research area believe that the government’s message—a small family is a route to affluence—has taken root. One official explained:

Even though a household may have three husbands and one wife, they only want to have two or three children. They think this is good enough. They think that the more kids they have, the more hardships they will face as parents. They think that the government’s statement “fewer children equal more wealth”¹¹ is correct. If the first two or three children are girls, then they try for a boy [i.e., larger families result from trying to have a son].

A leader from another village concurred:

[Nowadays] you don’t need to say anything. Women go for birth control on their own volition. I still mention the policy in meetings, but nobody takes it seriously. More people are voluntarily using birth control.

There is certainly merit to these village leaders’ assessments. The concern some people have over insufficient landholdings provides a motive to use birth control after having two or three children. Furthermore, in today’s expanding economy, many people continue to value polyandrous marriage as a strategy to improve

¹¹The government propagates this message through radio, television, newspapers, and in village meetings via members of the Maternal Care Office.

the family's standard of living—a strategy that lies at the heart of a strong son preference found among farmers. The combination of polyandry and a desire to have more than one son is affecting fertility in conflicting ways. On one hand, polyandry continues to result in a bride surplus. Some women remain within their natal households and help with agriculture and by earning money through wage labor. Others move permanently to cities or towns, often with the financial backing of their parents and siblings. Some remain unmarried and childless, while others marry out of love or have an illegitimate child. Those who do not marry into farming households usually have one and rarely more than two children.

Labor needs counter the negative impact female non-marriage exerts on fertility. Goldstein and colleagues (2002) found that wealthy families with large landholdings expressed a desire for more children to fulfill labor demands. This continues to be the case. For example, in 2006 a woman with two sons and two daughters explained, “We have a lot of land and a shortage of labor so we thought having more kids would make life easier.” Her husband concurred, “Until now I’m the only one who can do the farming. More children mean more labor.” Many families feel strongly that they need at least two sons to thrive in today’s economic environment. This was already evident from Goldstein and colleague’s 1998 survey. When women were asked to state their ideal number of sons and daughters, the average response for women aged 20–39 (i.e., those in their reproductive years) was 2.0 sons and 1.2 daughters. A strong gender preference is also evident from more recent interviews. For example, while discussing labor needs, an elderly man commented:

Some rich households feel that even four or five sons are not enough. They have many tractors and farm machinery to operate. If they hire outside labor then they must pay and cannot control the quality of the work or the care of the machinery. For middle-class families at least two sons are good: one to drive the small tractor for income and the other to stay home and farm.

Sons are critical for several reasons, including their higher capacity to do agricultural labor, their social and cultural value as household successors, and their ability to garner higher wages in today’s economy. Simply put, a household with two adult sons has one available to fulfill farming tasks and one to send outside to earn income. It therefore comes as no surprise that we found numerous examples of parents whose intense desire for sons prompted them to exceed the government-mandated three-child limit. For example, when we asked a man why he had seven children, he explained:

The first five daughters are from our first wife. . . . Our first wife kept having daughters, so it was my idea to bring in her younger sister [as a second wife]. I think that, for a farming family, sons are critical. If you don’t have several sons you cannot compete with other households. We waited and waited, but our first wife bore no sons. I thought if we changed wives we could get sons.

Another man with one son and four daughters said:

We felt that our family size was small, and that we couldn’t finish [farming] jobs on time. If we had more children, once they grew up, then we could finish jobs on time. At first we couldn’t get a son. After our son was born we wanted a helper for him but only got daughters.

Our research revealed numerous cases whereby families continued having children in the hope of having one, or preferably more than one, son. Conversely, some forces of modernization are counteracting the desire for farming families to have many children. In particular, people feel that the cost of raising children is increasing in the wake of China's recent policy of mandatory ninth grade education. In the words of one man,

If you have many children and limited money, you have to pay school fees which are high. You will not be able to effectively use the money to educate your children in the best way. . . . If you have a small family then you can use your money more effectively. All our family members discussed it and agreed that three children are best. . . . We openly discussed that having fewer children means you can give them better treatment. There are households that have undergone great improvements with only two or three children. You can offer them a good education.

Many parents now stress the importance of educating those children who will not remain in the household, typically daughters and youngest sons, and see this as a strategy for providing externally resident children with independent livelihoods. Caldwell's (1982) thesis on the wealth flow inversion as an incentive to limit childbearing seems to be playing out in rural Tibet as parents invest more heavily in education and thereby diminish their children's roles in the household's labor force.

In summary, aggregate fertility in Tibet is now being moderated by concerns over balancing a household's population with its landholdings, by the increasing cost of raising and educating children, and by a high frequency of female non-marriage generated by polyandry. Through the government's birth control policy, Tibetans now have the ability to control fertility by means of modern contraception. However, some families—especially those with large landholdings—continue to feel that a viable household labor force necessitates having more than three children. In addition, the preference to have two sons so they can marry polyandrously and work jointly to improve the family's standard of living often results in the birth of three or more children. As a result of these conflicting forces, fertility in rural Tibet has apparently stabilized between two and three births per woman or slightly above replacement level.

3.6 Conclusion: Landholdings and Fertility Revisited

In societies that had not yet undergone demographic transitions, scholars hypothesized a direct and predictable relationship between fertility and landholdings (Schujter and Stokes 1984; Stokes et al. 1986) or between household size and landholdings (Netting 1993). In contemporary rural Tibet, even in the wake of a fertility decline, there still exists a strong correlation between landholdings and household size. Table 3.5 divides households according to whether their landholding size is among the top 25%, middle 50%, or lowest 25% in their respective villages.

The correlation between size of landholdings and mean number of residents is consistent: households with the largest landholdings also have the most members.

Table 3.5 Number of household members by relative size of landholding

Village	Lowest 25%	Middle 50%	Highest 25%
Betsag	5.4	8.1	10.3
Norgyong	5.5	7.8	10.0
Sogang	4.7	7.9	10.2
Total	5.2	7.9	10.2

Source: Goldstein et al. (2006) socioeconomic survey

Table 3.6 Children ever born (CEB) and marriage age of married women aged 30–39 in 1998

Land shares	CEB by 1998	Mean age at marriage
2–3	3.0	25.3
4–5	3.7	22.9
6–7	3.8	22.9
8–9	3.9	23.0
10+	4.0	22.3

Source: Goldstein et al. (1998) survey

To a great extent this is a legacy of how the land tenure policy was instituted in 1982: families that were already large received more land because land was parceled on a per capita basis. Demographic fluctuations over time could have leveled the differences, but they did not. Eighty-five percent of households that are now in the top 25% in landholdings started in the top quarter. In other words, most large households in 1982 remain large today, while most small households remain small. This supports Netting's (1993) observation that smallholders tend to strike a balance between their landholdings and household membership.

Table 3.6 shows mean ages at marriage and children ever born according to the number of land shares a household received in 1982. We focus exclusively on the 30–39 cohort of married women because they were aged 14–23 in 1982 and were therefore the first to reproduce in the wake of the Household Responsibility System.

Note that women living in households with the least land shares (2–3) gave birth to fewer children than women living in households with four or more shares. This observation suggests that people with more land want more children than people with less land and end up having more (Schujter and Stokes 1984; Stokes et al. 1986). Our research also found that people living in the poorest households expressed trepidation about having more children than their land could support. Note, however, that those with the least land married significantly later which can partially account for the difference in children ever born. However, poorer families were subjected to more government pressure than wealthier ones to limit reproduction, so fertility outcomes are not merely a function of landholding sizes.

What is clear from our research is that China's policies regarding land tenure have had a considerable impact on the relationship between landholdings and fertility in rural Tibet. Tibetans have adapted their marital and reproductive strategies in response to government policies that first brought agricultural production into a collectivized system, and then redistributed land in such a way that set the size of

a household's landholdings according to the size of its membership. The ability to adjust the size of one's landholdings in response to household-level demographic fluctuations is largely absent because land cannot be bought or sold. Polyandry proved to be a resilient strategy for dealing with land as an inelastic resource, and polyandry affected fertility via an intercourse variable: proportion of women in marital unions. Shortly thereafter, diminishing per capita landholdings provided some people with a strong incentive to regulate their reproduction, which affected fertility via a conception variable: use of contraception. However, the ability to act on any desire to limit childbearing only became possible during the 1990s through government programs that made contraception widely available. The government played a further role in shaping fertility outcomes by convincing poorer families with small landholdings, either through persuasion or coercion, to use birth control.

Although landholdings have played a role in shaping fertility outcomes in rural Tibet, the connection between landholdings and fertility is becoming less important over time because of changing economic conditions. Some families with large landholdings still express a desire to have several children, especially sons. Doing so makes sense in the context of emerging economic opportunities stemming from China's policy to rapidly develop Tibet. Households now have the ability to improve their standard of living by deploying members into the nonfarm labor force. Rural families still want two or more sons not just for farm labor, but so they can earn cash as well. This incentive structure exists for all households, regardless of landholding size, and leads many to overshoot the government's official limit of three children. If the current structure of childbearing incentives remains in place, and in the absence of coercive measure to enforce a birth limit, fertility in rural Tibet will likely hover above replacement level but below three births per woman—a range that the government, according to its own policy, would probably consider acceptable.

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