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**On seasonal migration and family planning  
acceptance: a tale of tribal and low cast people in  
rural West Bengal, India**

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**On Seasonal Migration and Family Planning Acceptance:  
A tale of tribal and low caste people in rural West Bengal, India**

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**Summary**

*The present paper is based on field surveys of two locations of rural West Bengal during the 1990s. It presents contrasting scenarios of fertility behaviour and its transition for one individual tribe (namely Santals) between the two locations as well as for lower caste people in one region. The study reveals that the Santals, who migrate seasonally, evince not only low fertility but they also appear far ahead in terms of contraceptive practices and fertility transition as compared to their tribal counterparts in a location from where Santals do not migrate. In fact the seasonally migrant Santals appear more motivated and mature users of contraceptives (e.g. oral pills and condoms) than even the non-migrant lower caste (nontribal) people, who, though they have undergone mass sterilisation, could not achieve as low as the fertility of seasonally migrant Santals. The positive roles of seasonal migration (e.g. through augmenting incomes and aspirations as well as social interactions and diffusion of knowledge, ideas and motivation relating to family planning) in hastening fertility transition have thus been the central message of the present study. Although all possible encouragement and support for augmentation of seasonal migration and mobility (e.g. development of transport network and provisions for schooling of children of migrant households) seems to be the immediate policy prescription from our study, this should by no means be construed as alternatives to the longer term programmes for permanent and balanced development of the backward regions from where people need to migrate seasonally.*

## 1 Introduction and Background

The present paper is a comparative study of fertility behaviour and its transition among tribal population in the eastern state of West Bengal (India), with a special reference to one major tribe, namely the Santals.<sup>1</sup> Although tribal population is a minority both at the all-India level (8 per cent of the total) as well as within West Bengal (nearly 6 per cent), their absolute sizes of about 68 million and 8 million respectively (according to 1991 census) are not really small.<sup>2</sup> More importantly, unlike in most other parts of the world, the rising civilisation in the Indian subcontinent neither eliminated nor quite absorb these primitive inhabitants of the land, thus leaving room for the continuity of these *materially* less advanced tribal communities with their own socio-cultural distinctiveness and isolation from the 'mainstream'.<sup>3</sup> The tribal existence within larger Indian society is often quite distinctive on various counts, namely the ecological and environmental circumstances of their habitation, lifestyle and culture, social organisation, kinship and inheritance patterns, religious beliefs and practices. There are indeed often several sociocultural ingredients to distinguishing a tribal group from the mainstream population.<sup>4</sup> However there is a long-standing (historical) process - albeit slower in certain places and periods than in others - of distorting such sociocultural distinctiveness of tribals along with their increasing assimilation and integration with the mainstream society. Although this is perhaps a potential source of difficulties for deriving *pure* tribal patterns in the more contemporary periods, tribal groups in most places of India are still (at least socioculturally) somewhat isolated and distinctly different from the mainstream patterns. One micro-level anthropological study in 1959, while noting a considerable intermingling in economic sphere and close proximity and indeed regular contact between Santals and Hindu mainstream society in rural areas of Birbhum district (which is one of the locations in our present study) commented that '[Santals] have *not* been absorbed in the vertical hierarchical order of the Hindu caste organization', and '[t]he Santals still adhere to their traditional culture at least in the major cultural traits' (Mukherjee 1960: 305; italics added).

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<sup>1</sup> Tribes of India are generally known to be descendants of primitive inhabitants, many of whom have in course of history been pushed into the periphery of, and largely isolated from, India's mainstream society and culture. Just after Independence, the Constitution of India prepared two schedules for identifying various tribal and low caste groups, which are officially called 'Scheduled Tribes' (ST) and 'Scheduled Castes' (SC) respectively. The census authorities enumerate tribal and low caste and backward peoples on the basis of these detailed schedules. The lists for ST and SC groups have been substantially enlarged since its first use in the 1951 census, and the numbers of tribes and low caste groups that were declared as 'scheduled' according to the census of 1991 were 573 and 1,091 respectively (for a discussion of major issues relating to identification and enumeration of Indian tribes, particularly from a long-term demographic perspective, see Maharatna 2000b). Santals are one of the major and most numerous tribes of India. They have a long cultural heritage, and they are concentrated in the eastern states of West Bengal, Bihar and Orissa.

<sup>2</sup> The respective figures for recently conducted 2001 census must be even larger. Because of the non-accessibility of 2001 census data we would be referring mostly to the 1991 census whenever necessary.

<sup>3</sup> According to Fürer-Haimendorf, an eminent authority on Indian tribes, this persisting co-existence of 'the old and the new' and the consequent phenomenon of cultural and ethnic heterogeneity - while perhaps *partly* explainable in terms of the size of the subcontinent and dearth of communications - has been made possible largely by 'an attitude basic to Indian ideology which accepted the variety of cultural forms as a natural and immutable, and did not consider their assimilation to one single pattern in any way desirable' (Fürer-Haimendorf 1985:1).

<sup>4</sup> Tribal groups are far from homogeneous not only in India but also elsewhere. Despite tribal diversity across world, what appears somewhat common is their typical *isolation* and *distinctiveness* - on various counts including sociocultural and life-style patterns - from the mainstream population and society. Historically speaking, reasons for such tribal isolation and distinctiveness are complex and not very easy to resolve. Fürer-Haimendorf (1985:1) attributes the 'phenomenon of cultural and ethnic heterogeneity' in South Asia largely to an 'attitude basic to Indian ideology which accepted the variety of cultural forms as natural and immutable, and did not consider their assimilation to one single pattern in any way desirable'.

For instance, there are some traditional features of tribal communities, which are generally conducive to maintaining a *relatively* low fertility regime (see Maharatna 1998 and 2000a). Historically, compared to (nontribal) mainstream population, tribal people (especially females) marry relatively late; they have a greater gender equity and more balanced gender relations; tribal women directly participate in productive activities to a much greater extent, and thus enjoy a greater autonomy; they are also often found to experience lower infant/child mortality, perhaps because of some healthy aspects of their traditional lifestyles patterns (e.g. prolonged breast feeding and early food supplementation among infants), and of their usual habitat (e.g. less crowding and pollution in forest and hills); they have a greater propensity to migrate, and they are more mobile. However in course of long-standing acculturation processes, especially so-called Hinduization and Sanskritization<sup>5</sup> (through which tribals have been taking to the mainstream sociocultural moorings) there have emerged a few forces which exert upward pressure on fertility. For instance, contemporary anthropologists often remark about a declining trend of tribal females' age at marriage, resulting from their deepening contact with Hindu cultural tradition of early female marriage. Similarly tribal gender relations have been conforming to an anti-female mainstream pattern (as broadly evidenced by their declining female-male ratio) (Maharatna 2000a). In such a gradual process of emulation by lower rung people of higher caste lifestyles, sociocultural norms, Indian tribes typically stand last, and they are almost essentially behind the low caste (i.e. SC) people.<sup>6</sup> Consequently tribals could be hypothesised not only to be the last in showing up a fertility transition, but they can be expected to experience a relatively pronounced 'pre-transition rise' of fertility (before it begins to decline). A few general reasons for such pre-transition rise of fertility include: a reduction in breastfeeding intensity and duration, a reduction in postpartum abstinence, a reduction in widowhood, and a reduction in sterility due to improvement of public health services (Nag 1980; Dyson and Murphy 1985). Moreover such changes constituting so-called 'pre-transition fertility rise', though it is relevant to non-tribal population too, should occur *later* among tribals as they are much behind the mainstream population in the march towards modernisation, and as they can be thought - because of their relative isolation and backwardness - to remain comparatively less encompassed by the national family planning programme.<sup>7</sup> Despite historical and contemporary evidence showing higher age at marriage among tribal females (Maharatna 2000b, 1998), its trend of decline in course of their growing integration with mainstream Hindu society could also be a reason for a chronologically *later* occurrence of a 'pre-transition rise' in tribal fertility.

However, largely because of relative vulnerability in many tribal habitations (and perhaps partly due to their greater nomadic inclinations), they often appear relatively more prone to

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<sup>5</sup> The term Sanskritization, first popularized by M.N. Srinivas, refers to 'the process by which a "low" Hindu caste, tribal or other group, changes its customs, ritual, ideology, way of life in the direction of high, and frequently, "twice-born" [Brahmin] caste' (Srinivas 1966:6). The outcome of this process of emulation gets presumably even more complex when the higher caste lifestyles and sociocultural norms themselves change along with economic development and increasing westernisation. The term 'Hinduization' refers to a process whereby Hindu sociocultural and religious norms and practices are increasingly adopted by tribal and backward communities.

<sup>6</sup> It should be noted that although SC and ST peoples are on a fairly similar *economic* footing, the former are more Hinduized than the latter. Indeed the Backward Classes Commission Report in the early 1950s distinguishes tribes from lower castes (SC) people, not on the criterion of economic conditions and related variables, but on account of their lifestyle and other socio-cultural features and norms (see Maharatna 2000b for a discussion on these issues and also references cited therein).

<sup>7</sup> We would provide some evidence of such relative neglect by family planning programme of Santals of one particular location where they are very small minority. There is similar evidence of lack of knowledge about contraceptive methods and their uses among tribes in other Indian locations (e.g. Ram 1999).

migration and spatial mobility for livelihood.<sup>8</sup> There is a considerable evidence of an increasing trend of tribal migration, especially over the recent past. Among various types, seasonal migration - often by adult males and females and other family members - has assumed special importance in the recent past (Racine 1997; Breman 1985, 1996; Rogaly 1998; Rogaly et al. 2001). Indeed this type of rural-rural seasonal migration has a long history tracing back to pre-colonial and colonial periods, particularly in the tribal-concentrated regions like central India (Bates and Carter 1992). What emerges however from a rather limited literature on the growing seasonal migration is of mixed nature. On the one hand, this is often portrayed as a survival strategy of very vulnerable group, who are not able to extricate themselves from acute poverty at home (e.g. Breman 1985, 1996). In this perspective, the seasonal migration - hardly seen as a route to upward mobility - produces serious negative influences, especially on matters like labour relations, children's schooling and health care, living conditions and women's safety from sexual abuse (e.g. Rao and Rana 1997 and literature cited; Rogaly 1998). As Breman (1985) on the basis of his intensive study of Surat district of Gujarat remarks: 'seasonal migration is a matter of survival or, at best consolidation, and hardly ever results in a accumulation or re-investment in the home area' (p.216).

However there is evidence in specific Indian locations that seasonal migration, though originally resorted to as a survival strategy, can often enable migrant households to consolidate (if not accumulate) their economic position, and this could perhaps be seen as a potential route to the amelioration of their vulnerability at home. In fact the seasonal migration in many locations has enabled the migrant households to save some amount of cash, partly because of austerity and hard work at distant places (Weber 1924 quoted in Breman 1985; Epstein 1973:207-11), which they could not have been able to do at home, and partly because of a higher wage rate than the prevailing levels in their original areas (e.g. Krishnaiah 1997). Indeed there is mounting evidence to suggest that seasonal migration of rural (and mostly tribal) households, especially from semi-arid and similar inferior geographical locations, has been instrumental towards an improvement of living conditions as well as some social changes at source areas (e.g. Krishnaiah 1997, Haberfeld et al. 1999; Hema Kumari 1993; Rogaly 1998; Rogaly et al. 2001; and Chaudhuri 1998; Gupta and Prajapati 1998, among others). Our present study confirms such positive and dynamic aspect of seasonal migration with a particular reference to its impact on fertility behaviour and transition among migrant tribal households.

There is evidence in rural West Bengal too - albeit scattered and limited - that incomes earned through seasonal migration have been somewhat beneficial to migrant households' efforts towards economic upliftment at home (e.g. Rogaly 1998; Rogaly et al. 2001). The seasonal migration for agricultural work (what is often called rural-to-rural migration) - especially by tribals of the border regions of Bihar and West Bengal and from elsewhere in West Bengal to southern central regions - has a long history. Formerly it was sporadic and of short durations, but since the increase in agricultural productivity and cropping intensity in West Bengal in the 1980s and early 1990s along with spread of HYV technology seasonal migrant workers find (continuous) longer duration employment for transplanting and harvesting. And some recent studies do show that the

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<sup>8</sup> This is not to suggest that majority of Indian tribes are *typically* nomadic and highly mobile. Nor is the case that SC people do not migrate at all. While there are many tribal groups who are sedentary and settled agriculturists, many are prone to seasonal migration mainly as a survival strategy in face of adverse and harsh circumstances (e.g. drought-proneness, hilly areas with little prospect of cultivation) in their home areas (e.g. Breman 1985; and Jayaraman 1979). However, recent evidence indicates that migration decision (even relating to seasonal type) often depends not only on economic circumstances of migrants' home area, but it is also influenced by several complex considerations including sociocultural factors (e.g. Kalam 1997; Mahadev and Racine 1997; and Rogaly 1998 and literature cited). For instance, as Breman (1996) has argued on the basis of evidence in Gujarat, people can be forced to migrate not because of inadequate employment opportunities in their local areas, but rather due to denial of local employment to them.

number of seasonal migrants has increased rather rapidly in West Bengal since the mid-1980s (Rogaly 1999:361 and references cited).<sup>9</sup> Furthermore these tribal seasonal migrant households recently generally return home with a lump sum cash, and they even accumulate capital - albeit on a rather small scale (Rogaly 1994; Chaudhuri 1998; see also Krishnaiah 1997 for similar evidence for Andhra Pradesh). A fairly recent socio-economic survey among migrant households in a backward village of Bankura district of West Bengal portrays seasonal migration by agricultural workers as 'a blessing for them' (Chaudhuri 1998:335). Thus it would be a reasonable hypothesis that seasonal migration - at least in some regions - would favour fertility transition both directly by raising levels of income and aspirations, and indirectly through empowering and liberating effects on migrant women<sup>10</sup>, and through enhancing the scope for social interactions and diffusion of newer ideas and information about fertility choice and regulation.<sup>11</sup>

Apart from such fertility-reducing effects via escalation of aspirations, female autonomy and diffusion of newer ideas and world-view, the seasonal migration presumably entails some disincentives - for almost obvious reasons - against frequent pregnancy and child birth. As Rogaly shows clearly in the context of harvesting seasons in West Bengal, 'the fewer the number of dependants (those unable to carry out manual work), the greater the likelihood of migration' (Rogaly 1999:363). While this correlation by itself is hardly a sufficient proof of relatively lower fertility among migrating households, this does add plausibility to our above hypothesis. Indeed systematic Indian studies of fertility effects of seasonal migration are remarkably few. One fairly comprehensive empirical study on various effects of migration in rural and urban areas of Ludhiana district of Indian Punjab, based on surveys during 1977, provides fairly strong indication that the rural-rural in-migration (i.e. when both husband and wife migrate together) is significantly associated with lower fertility levels (see Oberai and Singh 1983, Table 5:371-373). Indeed the study concludes that 'the act of migration itself causes a decline in fertility' (ibid:415).<sup>12</sup> Keeping aside some possible adverse consequences (e.g. sexual abuse of women and forced school drop-out especially among girls) of seasonal migration, the (seasonally) migrant households on balance should generally be more likely to achieve a lower fertility with a greater use of contraception as compared to their nonmigrant counterparts, other things being the same. Our present comparative study of seasonally migrant and nonmigrant households in parts of West Bengal does confirm this hypothesis.<sup>13</sup> Indeed we have found in the study that the rural-rural seasonal migration seems to have played a positive role as if a vehicle for fertility transition among the tribal communities of the sending areas.

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<sup>9</sup> According to an estimate of a Bankura correspondent of a leading Bengali daily, over a span of only two weeks as many as 70,000 labourers boarded special buses from Bankura town for reaching villages of Burdwan and Hoogly districts to perform transplanting work on farms (see Rogaly 1999:361).

<sup>10</sup> For evidence on liberating and empowering effects on women of seasonal migration see e.g. Rogaly 1998; Teerink 1995. Indeed there is a substantial body of literature - especially in South Asian context - suggesting a distinct role of female autonomy and women's status in fertility reduction (Koenig and Foo 1992 for a useful review and also Dharmalingam and Morgan 1996; Morgan and Niraula 1995; Malhotra et al 1995; and Basu 1992).

<sup>11</sup> As Teerink (1995) states, tribal women migrants are 'more free from social control than when they stay at their in-laws in the home village'. See Bongaarts and Watkins (1996) on the role of 'social interactions' in fertility transition in contemporary developing countries.

<sup>12</sup> See also Goldstein (1978) for evidence and plausible explanations that relate migration to a relatively low fertility levels in the context of Thai studies during the 1960s.

<sup>13</sup> Note that our hypothesized fertility-reducing effects of seasonal migration is not exactly of the type which is chiefly due to forced spousal separation as has been analysed in the global standard literature on the inter-relationship between migration and fertility (e.g. Menken 1979; Massey and Mullan 1984, and De Walle 1975). Because, unlike in African and Latin American situations, the seasonal migration that we analyse here in the context of rural West Bengal is not predominantly of the type which essentially entails forced spousal separation.

Indeed a detailed and disaggregative study of tribal fertility patterns is potentially useful, as it can bring out important insights not only into the existing theoretical perspectives on fertility behaviour and its transition, but it may well offer crucial messages on policy matters. While a newly emerged 'minority demography' focuses - often exclusively - on various ethnic, religious, or racial minority groups of a country (e.g. Bittles and Roberts 1992; Coleman 1982), our present study takes a broader and comparative perspective, with following twin objectives: 1) to compare fertility and family planning patterns between the Santals and their closest non-tribal group (i.e. the SC people) in a same location; and 2) to compare fertility and its control between the Santals of two contrasting rural locations within the state. These two comparisons are expected to capture implications for fertility (and its transition) of different regional specificities including differential patterns of tribal migration, mobility and interactions with the 'mainstream' society. We would thus basically pursue a differential fertility approach to a deeper understanding of tribal reproductive behaviour and its transition in general and the role of seasonal migration and mobility in particular.

## **2 Background Description of Study Areas and Data Collection**

The primary data that we analyse below come from our household demographic survey among the Santals and SC households in select villages of two districts of West Bengal, namely Birbhum and Bankura.<sup>14</sup> The survey was conducted in several rounds between October 1996 and October 1998. Santals constitute one of the largest tribes of India, who are mostly concentrated in eastern India (West Bengal, Bihar, Orissa and Tripura). In fact Santals alone (out of 38 scheduled tribes of West Bengal) presently constitute 55 per cent of total tribal population of the state. They live in a variety of eco-environments - some in relatively isolated hilly tracts, some in mining-industrial pockets, and relatively few in agricultural plain lands (Fürer-Haimendorf 1985:109). They have a deep-rooted cultural tradition and heritage, which has co-existed with, and has in many places been influenced by, a contrasting and dominant Hindu culture. Before nineteenth century the hunting was one of their major livelihoods, but since then they have mainly taken to settled agriculture.<sup>15</sup>

### **Two Locations of West Bengal: Nanoor (Birbhum) and Khatra (Bankura)**

The selection of the two locations of West Bengal was largely influenced by our purpose to explore implications (for fertility behaviour and its change) of regional differences in geophysical environ, socio-cultural milieu, and also in the level and pattern of development (especially in respect of aspirations and modernisation). Bankura district, situated in western part of the state, lies in sub-humid zone with undulating terrains, high surface water runoff and soil erosion, and some other adverse climatic and geophysical conditions, leaving a large part of agriculture mostly on the vagaries of weather. The extreme climatic condition of the district is due to its location, remoteness

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<sup>14</sup> Apart from the villages of these two districts, we also collected information from an exclusive Santal hamlet of another relatively backward district, namely Purulia. However, partly because the Purulia village does not fit in well with either of the two types of locations (especially in terms of migration pattern) that we have chosen for a contrast, and partly because the sample size in Purulia village is rather small, we refrain from including this information in the following detailed comparative analysis between the two types of location. However the information from the Purulia hamlet has been included in the logit regression analysis of all data put together (in section 4 below) that seeks to estimate predictive powers of several explanatory variables.

<sup>15</sup> In fact the Santals entered the limelight of modern history for a movement of resistance (known as Santal Rebellion of 1855) against oppression and exploitation by Hindu landlords and usurers which had began much earlier.

from Bay of Bengal, lateritic soil, undulating topography and absence of streams (Kar 1997). Slightly more than half of entire land area of Bankura district has been brought under cultivation so far. The man-made irrigation facilities are quite limited, though some progress has lately been made in some pockets of the district. In fact Santals are generally concentrated in semi-arid, rocky and hilly tracts of the district, and the villages that we have surveyed in the administrative block called Khatra Block II (Khatra hereafter), fall within a chronically drought prone region of the district.<sup>16</sup> On the other hand, Birbhum district, situated in the central-east of the state, is relatively diverse in terms of topography and other geo-physical features. The survey villages belong mostly to the administrative block called Nanoor, which extends over the south-eastern part of the district. These villages of Nanoor fall within a large rolling upland topography between two rivers, the Mayurakshi and the Ajoy. The soil in the region is mainly brown and alluvial, and crops like wheat, paddy, peas, sugarcane are generally grown here.

Table 1 presents census-based background information on the two locations (at block and district levels), from each of which a cluster of villages/hamlets was chosen for detailed survey. As can be seen the Nanoor block of Birbhum district is bigger both in terms of area and population than Khatra block of Bankura. Although the district level shares of tribal population are rather similar, both being above the state level figure of 5.6 per cent, the tribal concentration is much greater in Khatra. However, the proportion of SC population is not substantially different between these two regions. Note too that Santals are a distinctly major tribal group within total tribal population in both the locations and of course within the state.<sup>17</sup>

The data on proportions of cultivable and irrigated lands in these two locations (see Table 1) clearly suggest that Bankura district as a whole, and Khatra block in particular, is agriculturally backward and relatively vulnerable to drought. A large part of Khatra block is uncultivable (only a third of the total land has so far been brought under cultivation here as against three fourth in Nanoor). Moreover a pitifully low level of irrigation facilities in Khatra (only one tenth of land irrigated vis-à-vis three quarter in Nanoor) makes cultivation almost exclusively dependent on monsoon rainfall. In terms of other infrastructures too, especially medical facilities and power supply, Khatra appears noticeably backward as compared to Nanoor block (see Table 1).

But somewhat strikingly the literacy rates among ST population in Khatra, are much larger than those of Nanoor. Notably the ST literacy rate in Bankura district as a whole is more than twice as large as that for Birbhum; indeed it is higher than the state-level figure too. Note that tribal literacy in Khatra is about 4 per cent point larger than that of SC group, and it is about 10 per cent point larger at the entire district level (see Table 1). [While 18 per cent of Santals of Bankura were recorded as literate in 1981, this is very likely to have surpassed the 1991 figure of 22 per cent for SC.] Perhaps related to this is the fact that both fertility level and population growth rate in Bankura are lower than those of Birbhum district, with the proportion of children, who have received complete immunisation, being almost double in the former (see Table 1 and Appendix A). But on many infrastructural (e.g. metalled road, drinking water, power supply) and social criteria (e.g. family planning acceptance, female literacy) Bankura district seems to fare no better (and even worse on some counts) than Birbhum. Thus unlike Birbhum (and the state-level scenario as well), the tribal population of Bankura district (and especially those of tribal-dominated Khatra block) are not behind (or are indeed somewhat ahead of) SC group in respects of basic education and implied levels of awareness and aspirations. Also noteworthy (and somewhat related) is the fact that

<sup>16</sup> Each district is divided into several administrative 'blocks' with clearly defined jurisdictions.

<sup>17</sup> In a recent round of survey the National Sample Survey Organisation of Ministry of Planning has considered only Santal as a 'major' tribe of West Bengal, and the other relatively smaller tribes of the state are Oraon, Bhumij, and Munda (see Govt of India 1994a).



metalled road coverage in Khatra block, though lower than the district level figure, is vastly better than that of Nanoor (see Table 1).

### **Survey Villages: Thupsara (Nanoor) and Chitrihutu (Khatra)**

The selection of specific villages and hamlets from within these two contrasting administrative blocks/districts is influenced in large part by our prior familiarity with them. Consequently, our survey may well be branded as a micro-demographic one, as the villages were chosen neither strictly randomly, nor do they cover very large areas. For detailed demographic survey we chose from Nanoor block (Birbhum district) three adjoining villages, namely Thupsara, Bamunia and Jahanabad (to be collectively called Thupsara hereafter) and a cluster of three exclusive Santali hamlets (which we call Chitrihutu after the name of one of the hamlets surveyed) from Khatra block (Bankura district) (see Map). Because of interviewers' prior familiarity with the villages, we could save some resources (e.g. time and travel), which would have otherwise been spent on building rapport and confidence among women interviewees. We have covered almost all households belonging to Santal and SC communities in these villages and hamlets, except those in which none was available and/or willing to respond at the time our visits.

The villages/hamlets chosen are all relatively remote in the sense that villagers do not have easy access to motorable road/highway connections for commuting to any big town/city. This should largely ensure the absence of possible mediating effects of close proximity and regular interactions with urban areas, especially on villagers' perceptions and attitudes. In Thupsara (Birbhum), where Santals, SC and other nontribal people (i.e. higher caste) co-inhabit a village, Santals live together in a sort of hamlet situated at the outskirts of a village, so that they are typically segregated from the nontribals' residential area; and SC hamlets are situated in rather close neighbourhood of the mainstream higher caste people. However, Santals do interact with nontribal people of the villages mostly through production relations (e.g. working as hired labourers) and sometimes through their relatively passive participation in mainstream festivals and social events. Thus the Santal households under our survey in both the locations have generally been able to maintain their own distinctive lifestyle patterns and sociocultural practices.

For the sake of comparative perspective, we have included in our survey the SC people who, though similar to the Santals with respect to broad economic circumstances, are different in terms of sociocultural patterns and practices. And because of their proximity and much closer contact, SC peoples seem relatively more influenced than are the Santals by higher caste people and their socio-cultural norms, values, and practices. However, as Chitrihutu represents a cluster of exclusive Santal villages, the SC households in our survey all come from Thupsara location alone. This provides us with an added opportunity of examining whether Santals' demographic behaviour varies between a village where Santals co-inhabit with nontribal groups and the village inhabited exclusively by Santals.

As was indicated earlier, Thupsara represents a fairly developed region especially in terms of spread of HYV technology. Since the 1980s HYV seeds began to replace traditional varieties, and chemical fertilisers and pesticides are also being used fairly extensively. A considerable part of the arable land is under canal irrigation (under Mayurakshi Canal project). As the canal water is generally quite inadequate especially in years of bad monsoon, farmers depend substantially on private provisions of shallow or deep tube-wells and pumpsets. At least half of the arable land of Thupsara is cultivated twice or in some cases even more in a single year. Although paddy is the main crop here, vegetables are also grown all over the year. While agriculture is the main occupation of the majority, very limited non-agricultural activities are confined to a few families

and castes, who occasionally participate in agricultural activities too, especially during peak agricultural season. Relatively few persons, who have regular professional jobs, mostly belong to the upper castes.

On the other hand Chitrihutu, a cluster of Santal hamlets under Hirbandh Gram Panchayat of Khatra Block is agriculturally quite backward. The soil in this region is harsh and relatively rocky and less fertile. Indeed this entire block (of which only 7.5 percent land is irrigated, as shown in Table 1), is one of the seven officially declared 'drought prone' regions of Bankura district, and it has been included under the Government of India's Drought Prone Area Programme (DPAP). As monsoon rainfall is almost the only source of irrigation in the region, it is only during *kharif* season (i.e. July-October) that there is a possibility of paddy cultivation with traditional varieties seeds. But reasonable levels of productivity and returns are achievable *only* in the years of adequate and well timed monsoon.<sup>18</sup> Understandably enough the amount of land owned by a household is hardly a good index of its material level of living in this area. And the Santals of Chitrihutu obviously do not find it worthwhile to invest on modern inputs (e.g. HYV seeds, pesticides and fertilisers), because of high risk of crop failure. Threats of famine and drought occur with considerable frequency in this region. Under these circumstances, the seasonal migration in response to a demand from agriculturally developed districts is understandably one of very few options open for livelihood of these Santal inhabitants.<sup>19</sup>

Although there is a narrow metalled (motorable) road passing nearby these villages, the number of buses plying along is very limited. But the major motorway (on which buses ply more frequently) is about 5/6 km away from this location. Historically many Santal families have been migrating seasonally to neighbouring Burdwan and Hoogly districts (see migration flows in the Map) during *kharif* harvesting season (September-October), but due to increased demand for labour along with a recent surge of multiple cropping they now migrate in large number during other periods of the year as well (e.g. sowing season for boro cultivation in February/March). They generally migrate with family, but elderly persons (father/mother) usually stay back at home to look after the household and other non-working/school-going children. During *kharif* season they stay home villages for 3/4 months (June-August) for performing cultivation of their own lands with monsoon rains. They sometimes do some non-agricultural activities like stone breaking and similar works, depending upon the opportunities, chiefly under public works and poverty alleviation programmes (e.g. road construction). The primary health centre (PHC) is about 8 km away from these villages, and health (and/or family welfare) workers periodically visit the hamlets.

Our questionnaire has been designed with a focus on questions relating to reproductive behaviour and preferences, and family planning practices. It has two parts: the first part consists of questions relating to basic information on all family members, their status - demographic, educational and occupational - together with questions on economic and other circumstances of the household (e.g. land and other assets owned, number of rooms, source of drinking water etc). Answers in this part are collected from the head of the household. The questions in the second part - for which the respondents are the ever married women - relate to marital and birth history, fertility preference, contraceptive practices, views on ideal family size and family planning etc., and also questions relevant to evaluating the extent of female autonomy.

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<sup>18</sup> In the laterite soil and topographical zone in which both Bankura and Purulia are located, about eighty percent of total annual rainfall is received during four monsoon months of June to September. And it is highly erratic with prolonged breaks during July to October, and 'these abnormalities affect agricultural productivity of this zone' (Reserve Bank of India 1984: 48).

<sup>19</sup> The other possible sources of livelihood include spells of employment in public works in surrounding areas (e.g. road construction or even pond digging, or canal) and also some handicrafts activities or other sporadic paid employment, all of which are very irregular and uncertain.

The survey was done by field workers who had undergone several sessions of training, and who were already familiar with respective localities. The most formidable problem, which is fairly common in demographic surveys across developing countries, relates to misreporting of age. Almost none of the household members has exact record of the date of birth, and most of the reported ages are based on guesses and memory. The standard methods of ascertaining age such as cross-examining, referring to some landmark events (e.g. drought, flood), imputing one's age on the basis of ages of brothers/sisters or other members, were tried. Despite these efforts, age data quite possibly do have some inaccuracies, and an appropriate caution is warranted while interpreting results particularly based on age information.

Apart from recall lapses, a general lack of articulation and shyness among women respondents - especially about their views and preferences regarding reproductive behaviour, contraception and ideal family size - has often been a problem faced by the interviewers. Consequently, the field workers had to undergo a considerable pressure on their patience and perseverance. Furthermore many Santal women were not available for interview until evenings, as they were out of home for work. Notwithstanding these hurdles, appropriate cares were taken to obtain accurate responses as far as possible.

### 3 Broad Socio-Economic and Other Differentials

Table 2 presents information on broad socio-economic differences between the two survey clusters. Although Santals are (as expected) far less numerous than the SC people in Thupsara,<sup>20</sup> both the groups seem to be on a somewhat similar economic footing and circumstances. In respects of landlessness, occupation, assetlessness, and migration, both Santal and SC communities appear rather close to each other. Although the proportions of SC households without land and with a radio are both somewhat larger than the corresponding figures among the Santals, these two groups of Thupsara do appear on the whole as being at the same level of material wellbeing. Thupsara thus seems to deviate somewhat from the state-level aggregate scenario of *greater* tribal (economic) vulnerability.<sup>21</sup> However, it is in terms of the rate of school attendance among persons aged 6 years and above that the SC group of Thupsara appears quite ahead of the ST (Santals) - a fact which corroborates with the state-level differential in literacy rates (see Table 1). Since school participation of children in the Indian context is essentially a household decision, its differential between two social groups with similar material circumstances should largely be the result of differences in perceptions, awareness and motivations of the parents, apart from the considerations relating to accessibility and quality of schools (see e.g. Drèze and Kingdon 2000). Thus, despite being *economically* no richer than the Santals, the SC people of Thupsara can be taken to be somewhat ahead in respect of awareness and exposure to modern ideas, and aspirations (as reflected in their higher level of school attendance). And the higher levels of aspirations and acceptability of newer ideas that we ascribe to the SC community of Thupsara could be arguably related to their residential proximity to, and closer contact, with upper caste mainstream people and

<sup>20</sup> While all SC households surveyed by us belong to one single village, namely Thupsara, the Santal households from two other adjoining villages have also been included in the survey. This means that Santals of a single village constitute even smaller proportion of the total than it appears from Table 2.

<sup>21</sup> It may be noted that this scenario of a substantially greater *economic* vulnerability of tribal (*vis-à-vis* SC) communities is somewhat specific to West Bengal, while all-India aggregate picture is one of somewhat similar economic footing between these two groups. In fact the SC and ST groups for whole of India are generally found fairly at par with each other *economically and materially*.

society.<sup>22</sup> Thus it is important to note that whatever demographic differentials (which we discuss below) emerge between these two groups in Thupsara can hardly be attributed to economic and material differences *per se*.

But there are quite a few notable contrasts in terms of broad socioeconomic and other circumstances between the Santals of Thupsara and Chitrihutu.<sup>23</sup> First, while more than half the households in Thupsara (both among Santals and SC communities) do not own any land, none in Chitrihutu is totally landless. Note too a much larger average size of land holding in the latter location (as compared to the corresponding figure for Thupsara). While about 35 per cent of households are wage labourer in Thupsara, there is none in this category in Chitrihutu. A similar differential pattern is observed in the incidence of tenancy/share cropping: while about 42 per cent households reportedly have leased in land for cultivation in Thupsara, the corresponding figure for Chitrihutu is nil (see Table 2).

Although people of Chitrihutu do possess much larger size of land on average than that in Thupsara, this by itself cannot guarantee a better economic standing for the former, and therefore a large proportion of Santal households of this region migrate seasonally to other places for farm works (particularly harvesting and transplanting). Note that nearly two-third of Santal households of Chitrihutu migrate *seasonally* to other districts every year, but none from Thupsara does so (see Table 2). Historically, adult Santal males and females from semi-arid and unirrigated tracts of Bankura district are hired and brought in as temporary resident (migrant) farm labourers in agriculturally advanced regions (e.g. Burdwan and Hooghly)<sup>24</sup>. Most adult Santals migrate with their families and young children as they are provided with temporary/make-shift accommodation by their employers in receiving villages.<sup>25</sup> As was already mentioned this seasonal migration flow and duration have increased over the recent past, following fairly rapid agricultural growth with HYV technology and increasing ground water use - especially in central southern districts (namely, Burdwan and Hooghly). The wage rate they receive is often higher than what generally prevails in their own backward region.<sup>26</sup>

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<sup>22</sup> In fact tribals' relatively lesser degree of contact (and greater degree of isolation) with upper caste mainstream society has often been held as a cause of tribals lagging behind SC group in reaping benefits from various special state privileges and protectionist measures for SC, ST and other backward communities. To quote from a recent paper on the relative disadvantage of ST vis-à-vis SC in benefiting from the policy of reservations and protections:

'The scheduled castes have ...had a greater exposure to the larger society as compared to the scheduled tribes. This is to say that opportunities made available to the larger societies or the higher castes in the form of knowledge, information, technology, employment, etc. were also in sight for the scheduled castes, even though they were denied access to it. Such advantages were absent for the scheduled tribes. Tribes thus suffered the disadvantage of isolation in this regard' (Xaxa 2001:2768).

<sup>23</sup> A very low recorded sex ratio (F/M) for Chitrihutu appears rather disturbing. While we need to explore this issue further, the only plausible explanation for this could be sex-selective migration (seasonal) to other areas where female members are perhaps more demanded because of lower wage rate for females in receiving areas.

<sup>24</sup> See Rogaly 1999: 359-369 for a useful discussion on recent trends in seasonal migration from several pockets of West Bengal and also on its significance in the recent agricultural growth of the state. It may be also mentioned that the chief common reason that came out of my conversation with some big farmers of Bardhaman who generally bring in migrant Santals during harvesting and transplanting seasons is higher levels of diligence and honesty among migrant Santal workers as compared to the local workers, who are more prone to shirking and more difficult to supervise.

<sup>25</sup> One can sometimes find single spouse migrating with other village neighbour migrants. But this is generally when there is some familial compulsions like looking after elderly or sick or even school-going members of the family. This type of seasonal migration by most family members except elderly or school-going children, especially from relatively vulnerable tribal areas, is often resorted to in other states as well (see e.g. Joshi 1997). This study by Joshi (1997) reports that seasonal migration - mostly for rail/road construction work - from the villages of Jhabua district of Madhya Pradesh is not selective of age, sex or marital status.

<sup>26</sup> The question of why Santals of Thupsara do not migrate seasonally too is of interest. The fact that a small Santal hamlet exists in non-tribal villages like Thupsara is often the result of a past permanent move and settlement into such villages - of course at the

Interestingly however, while seasonal migration seems to be a response to the originally adverse economic circumstances at home areas, the Santals of Chitrihutu turn out to be somewhat better off so far as the possession of bicycle, watch and radio etc is concerned, and they indeed appear far ahead of their counterparts of Thupsara in terms of achievement of basic education. While more than 60 per cent of households in Thupsara do not possess any consumer durable, the corresponding figure for Chitrihutu is only 16 (see Table 2). Thus somewhat better economic standing of the Santals of Chitrihutu (as reflected in their somewhat greater possession of assets) can arguably be attributed to some accumulation of resources resulting from their seasonal migrations – a suggestion which is largely in line with other studies (as was discussed in section 1 above). These direct economic benefits (though limited) and other indirect effects of seasonal migration and mobility (e.g. exposure to modern and newer ideas, and hence a greater accessibility to information and commodities because of closer interactions with mainstream peoples and their life-style, and markets, and perhaps also due to liberating effects on women) presumably have some distinct implications for their fertility behaviour - an issue to which we would return presently.

Table 3 presents percent distribution of working age population among major occupation categories by sex for both the locations. As can be seen, like the state-level scenario, there is a distinct difference between Santal and SC communities in terms of work participation pattern of women: while overwhelming majority of Santal women report agricultural works as their prime occupation, about three quarter of SC women of Thupsara do not participate in any directly productive activities at all. In Chitrihutu females appear to participate in farm activities even to a greater extent than their male counterparts do. But this seems to result from a male-bias in education, as the percentage of 'students' among Santal male and female populations (aged 15-55 years) of Chitrihutu are respectively 15 and 4 (see Table 3). This male-bias in educational opportunities should not necessarily be viewed as resulting from an anti-female attitude of discrimination or low social status of females. This is because the seasonal migration of husband and wife generally requires (older) girls to bear additional domestic responsibilities either in destination areas (e.g. caring children and elderly) or at home (domestic chores in support of school-going children or elderly), who owing to (temporary but prolonged) absence of male supervision often happen to forgo chances of continuing with school education at home.<sup>27</sup>

However, the issue of sex-bias in educational enrolment aside, a relatively large student proportion in the adult Santal population of Chitrihutu is (at least partly) indicative of their higher levels of awareness and aspiration than those among the Santals and SC people of Thupsara. However unlike SC community, the Santal females in both the locations are almost as much involved in productive activities as their male counterparts – a fact which is typical of most traditional tribal communities across India. Such gender equality in productive work participation is generally thought to be conducive to maintaining social fabric of female autonomy and balanced gender relations. It is of interest to see if this holds true among Santal vis-à-vis SC women in our study areas. Our questionnaire included several relevant questions for ever married women to assess their relative autonomy in making decisions about day-to-day functioning of households and also in terms of their freedom of movement (see Table 4 for details).<sup>28</sup> The odds ratios, which have

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behest of powerful and wealthy landlords and farmers. This permanent move in the past in non-tribal villages was almost certainly made possible by Santals' negligible stake at their original home land. Unlike Khatra and Chitrihutu of Bankura, the landless Santal labourers are normally required for round the year farming activities of farmer households of Thupsara – often in a form of an implicit debt-bondage or in forms of similar other commitments. Conversely because of the possession of land (as an important asset, though mostly unproductive and infertile) the Santals of Chitrihutu could never think of making a permanent move into non-tribal villages, and they therefore resort to seasonal migration for livelihood.

<sup>27</sup> See Srivastava (1998:607-609) on these issues and also the literature cited therein.

<sup>28</sup> Our questions on female autonomy are very similar to those that have been employed in several recent researches on the

been calculated on the basis of the respective ratios for SC women as the reference category (i.e. they are in the numerator), reflect the extent to which Santal women of Thupsara and Chitrihutu appear to enjoy freedom vis-à-vis SC women. As can be seen, the Santal women (in both locations) on the whole do appear – expectedly – able to exercise a greater autonomy than their SC counterparts can do, except few matters (e.g. whether wife should work outside home) in which joint decision is more common. Similarly with few exceptions (e.g. in health centre and market), the SC women appear to enjoy overall lesser freedom of movement as compared to Santal counterparts of both locations.

The lower status and lesser freedom of SC women vis-à-vis their Santal counterparts get somewhat reaffirmed by the information relating to marriage patterns and practices (see Table 5). For instance the mean age at marriage (irrespective of present age of women) appears relatively high among Santal women of Thusara vis-à-vis SC counterparts. The marriage age, particularly for females of South Asian societies, is widely known to be a sociocultural norm, which is however subject to change over time. That the average marriage age among Santal females of Chitrihutu does not appear higher than that for the SC women (of Thupsara) may well be a reflection of relatively early influences on both these groups (vis-à-vis Santals of Thupsara) of mainstream Hindu cultural norm of early female marriage (we would return to this issue presently). [Note too the proportion of love marriages among Santal women of Chitrihutu, like SC females of Thupsara, is extremely small, while it is about one quarter among the Santals of Thupsara.]<sup>29</sup> However, Santals of neither location appear to practice dowry, unlike SC community. Given the broad observation that early female marriage, dowry and arranged marriage practices are generally symptomatic of relatively low status and autonomy of women, the Santal females can be said to evince overall a higher status than their SC counterparts have. Therefore it is of interest to see if relatively greater female status and autonomy as observed among Santals does translate – in line with the existing literature on this - into a lower fertility. The foregoing discussion on socio-economic and other differentials between Thupsara and Chitrihutu (as well as between SC and Santals) as a background, we now turn to the fertility differentials and underlying reasons for them.

#### 4. Fertility Differentials and Explanations: the role of seasonal migration

Fertility differentials that we analyse here are based chiefly on our survey information on the number of children ever born and the number of live births to all ever married women in the preceding twelve months period. It should be noted at the outset that because of a small sample size (especially from the standpoint of a standard large-scale demographic survey) a special care and caution is required for calculating and interpreting the fertility measures.<sup>30</sup> In fact we do not go for

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operationalisation and measurement of female autonomy (e.g. Morgan and Niraula's 1995; Dharmalingam and Morgan 1996). This study shows that women with greater autonomy are more likely to have relatively low fertility and they are also more likely to practice contraception than the women with lesser autonomy.

<sup>29</sup> Note that in a recent study of female bidi workers in a village of Tamil Nadu, an increased incidence of love marriage and a trend of somewhat earlier (or a stagnant) marriage age have been observed and explained largely in terms of increased independence and personal autonomy of these female workers (Dharmalingam 1994). However, a tendency for early female marriage as a result of *enhancement* of females' independence and autonomy (through expanded opportunities for female work and incomes) should be distinguished from a falling age at female marriage among tribes under the influence of Sanskritization.

<sup>30</sup> It is interesting that large-scale surveys like NFHS or Rapid Household Surveys are often of little use for estimating detailed (and disaggregative) demographic rates for minority social groups like ST, as the number of cases – selected on random proportional principle - turn out to be pitifully small, say for a particular district. For example, in the recently held Rapid Household Survey (RCH) during 1998-99 the number of ST women selected within entire state of West Bengal were only 50

calculating TFR here partly because of possible effects of age-misreporting on age-specific fertility rates (on which TFR is based), and largely due to a small sample sizes of population exposed to the risk of pregnancy. In Table 6 we present two measures of fertility: mean number of children ever born to ever married women aged 40-49 years, and general fertility rate (GFR) expressed as the number of births in a year per 1000 women aged 14-49 years. These two measures give respectively cohort and current measures of fertility, but just on the basis of them alone a judgement about differential patterns of fertility *trend* cannot be made. While fertility estimates presented in Table 6 may perhaps be subjected to doubt on the ground of inadequate number of respondents, our detailed scrutiny of individual cases fails to warrant any serious distortion in the conclusions based on the average figures. As can be seen, there is considerable fertility differential both between Santal and SC women in the same location (Thupsara), and also between the Santal fertility of two locations (i.e. between Thupsara and Chitrihutu). In Thupsara, Santal women appear to have higher fertility than that for SC counterparts not only at current period but also for the cohort of women who had begun their reproductive career in the 1960s.<sup>31</sup> A somewhat larger average number of children per woman aged 40-49 in the Santal community of Thupsara than that for the SC counterparts is indeed suggestive of a 'pretransition fertility rise' that the former might have experienced, while the latter group (i.e. SC) has perhaps already begun a fertility reduction. This finding could well be seen as a reaffirmation of the proposition that Santals get modernized somewhat *later* than the SC people. This inference is of course premised on the fact that tribal fertility has historically been lower than that for the SC communities, and that the gap seems to have narrowed down in the recent past (see Maharatna 2000a,b on both historical and contemporary evidence across Indian regions). Note too that in terms of GFR (which captures the reproductive performance for more recent periods) the indicated fertility levels appear noticeably lower among SC women than that of Santal counterparts in Thupsara.

Interestingly enough, however, Santal women of Chitrihutu appear to have lowest fertility among all groups considered here, and a relatively low fertility seems to have been true even for the cohort of women, who are currently at the end of their reproductive span, with the mean number of children ever born being only 3.6 to women aged 40-49 years. The GFR among the Santal women of Chitrihutu is remarkably low too (indeed close to the levels found for the lowest fertility regions of India like Kerala).<sup>32</sup> Notwithstanding the well-known difficulties and limitations arising out of small sample size and GFR as a measure of fertility,<sup>33</sup> it appears almost certain that the Santals of Chitrihutu have on average lower fertility levels as compared to those of Santals and SC communities of Thupsara.

There could be several conceivable reasons for these differential patterns of fertility in the two contrasting locations of our study. Let us begin with possible influences of nuptiality

among whom *none* was aged above 25 years. Likewise the numbers of ST and SC even in NFHS are often almost embarrassingly small and are hardly amenable to calculation of many demographic rates like average age at marriage or TFR. In fact our sample size especially for ST population, though not selected randomly from the entire district, is much larger than the total number of sample cases selected by the large-scale surveys.

<sup>31</sup> It should be noted that this corroborates well with the timing of 'pretransition' fertility rise among tribal population at an aggregate all-state level.

<sup>32</sup> The GFR for all-Kerala in 1991 was 89, with the TFR being 3.3, and thus GFR of 79 found for *rural* Santals of Chitrihutu in 1996 should be very close to Kerala's in 1997 with a TFR of 1.8.

<sup>33</sup> Because GFR is not neutral to age distribution of females within the reproductive span, one has to be careful about comparison of fertility between two groups having different age distributions of reproductive women. Note that the proportion of younger women (say below 30 years) to total ever married women aged 14-49 is less among the Santals of Chitrihutu (27 %) than that for the Santals (33%) and SC (41%) women of Thupsara. But this may not necessarily be an explanation of Chitrihutu women's lower fertility, since these groups might have differential degrees and patterns of contraception and deliberate fertility control, apart from influences of other differentials say in the age pattern of child bearing and mean age at marriage.

differentials, if any.<sup>34</sup> As was noted earlier, the average age at marriage is generally higher among Santal women vis-a-vis SC counterparts. However, differentials in the average age at marriage between two cohorts of Santal women (e.g. currently aged above 35 and below 20 years) suggest a marked decline in the age of marriage in Thupsara in the recent past (though number of women in the younger age group is very small), while no similar recent decline is suggested by the data for the Santal women of Chitrihutu (see Table 5).<sup>35</sup> Also, there is a suggestion of a slight (or indeed negligible) decline in average marriage age among SC women of Thupsara in the recent past. Putting aside the issue of small sample size, these differentials could be interpreted to imply several things: first, as indicated earlier a relatively low marriage age among Santals of Chitrihutu (as compared to that for the Santals of Thupsara) may be a reflection of an earlier and perhaps greater influence among the former of the mainstream Hindu socio-cultural practices. This possibility is particularly interesting as the Santals of Chitrihutu have been living in exclusive Santali villages of tribal areas of Bankura district, whereas Santals of Thupsara co-inhabit with SC and other castes in non-tribal villages.

One plausible clue lies in the fact that more than two third of the Santal households of Chitrihutu migrate seasonally at least twice every year to Bardhaman and Hoogly districts mostly during transplanting and harvesting seasons. Since seasonal migration entails travel, temporary settlement away from home, interactions (both personal commercial) with farmers at place of destiny, it presumably has enabled the migrant people to have an early exposure to newer ideas and attitudes, and life-styles of the upper stratum of the mainstream rural population. This long-standing tradition of seasonal migration and mobility of these Santals can, as we would elaborate further, more than compensate for their geophysical isolation and exclusiveness – especially in terms of ideational and sociocultural influences from nontribal people on their perceptions and practices. Conversely, a greater physical proximity with SC and upper caste communities within the boundaries of a single village, as it has been the case with non-migrant Santals of Thupsara, may not prove to be a guarantee for effective nontribal influences on the tribals' socio-cultural patterns. The indication of a recent decline in marriage age among Santal women of Thupsara may be indicative that they have started getting Hindu influences only recently and of course much later than the SC community, who have been emulating the early marriage norm for fairly long. What emerges from the foregoing is that the Santals of Thupsara have been lagging behind their own counterparts of Chitrihutu in getting 'Sanskritized' (and Hinduized), despite the fact the latter are situated in an exclusive Santal region, but they are in constant touch with outer world through seasonal migration.

However these inferences about cultural adaptations and influences are of course premised on the assumption that female age of marriage serves as a fairly good index of broad sociocultural mooring in these communities. In any case the observed differentials in mean age at marriage do not seem to provide an explanation of the fertility differentials as reported in Table 6. First, although SC women of Thupsara appear to marry relatively early, they evince a lower fertility than that of Santals. However an indicated decline in the average age at marriage among the Santal females of Thupsara in the recent past may have contributed to their currently observed high fertility level. Also, a relatively high proportion of unmarried women among the Santal community

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<sup>34</sup> The global literature in the context of developing world, especially African countries, often reports a fertility transition beginning typically with increases in female ages at first marriage and first birth (see e.g. Westoff 1992).

<sup>35</sup> A more recent survey RHC (Rapid Household Survey 1998-99) data at the district level are broadly consistent with a continuity of the trends suggested by our survey data: the mean female age at marriage for ST group and SC in Birbhum is found to be respectively 15.3 and 15.2 years, while the corresponding figures for Bankura are found to be 15.7 and 15.4 years.



of Chitrihutu is notable, and this might well have had some contribution towards shaping a relatively low fertility.

Indeed differentials in other proximate (biological) determinants of fertility such as duration of breast feeding, and period of postnatal abstinence among these groups do not seem to constitute a major explanation of the fertility differentials either. For example, while Santali women of Chitrihutu show the lowest fertility, they appear to breastfeed children for shorter duration (21 months) as compared to both Santal and SC women of Thupsara (28.2 and 39 months respectively). Second, the SC women of Thupsara show longer average duration of postnatal abstinence (3.2 months) than that for the Santal women of both the localities (about a month each). In any case the role of biological determinants and nuptiality in fertility behaviour becomes negligible once the populations concerned begin to practice modern contraception fairly widely.<sup>36</sup> Therefore we turn now to examining the role of fertility regulation and family planning in explaining the observed fertility differentials.

Table 7 presents information on the extent and pattern of use of, and unmet need for, family planning. While 60 per cent of the SC women of Thupsara got sterilized, the corresponding figure for the Santal women is only 12. However, Santals of Chitrihutu, though sterilized to a lesser extent (24 per cent of the respondents) than their SC counterparts of Thupsara, show a much wider acceptance for nonterminal methods of contraception. As much as 34 per cent of eligible women of Chitrihutu appear to be using nonterminal contraceptives, while the corresponding figures for Santals and SC women of Thupsara are only around 10 per cent. Compared to the Santals of Thupsara, who are presumably least influenced by the ideas of small family norm and family planning programme (as is reflected in their largest ideal number of children as well as unmet need for family planning, see Table 7), the Santals of Chitrihutu emerge rather 'mature' users of modern methods of fertility regulation, with their lowest levels of fertility and unmet need for family planning.<sup>37</sup> That the Santals of Thupsara are behind their co-resident SC community and even far behind the Santals of Chitrihutu in terms of family planning acceptance (including sterilization) should hardly be interpreted as a reflection of a low demand for fertility regulation among the former. This is not only because the mean ideal number of children for the Santals of Thupsara - though higher than that for SC group by about one birth<sup>38</sup> - is far below the natural limit (and perhaps far below their current fertility level too), and hence it calls for a deliberate fertility regulation (as is reflected in their fairly large unmet need for FP), but it is also consistent with their overwhelming preference for 'small' family size.

Somewhat related to this is the fact that despite a very high rate of sterilisation among SC women of Thupsara the fertility level is much higher than that of the Santals of Chitrihutu. Indeed many SC women must have undergone sterilization only after their numbers of children born have already crossed the respective 'ideal' numbers. As many as 83 per cent of SC women who got

<sup>36</sup> While differential pattern and incidence of abortion (spontaneous and induced), miscarriages, primary and secondary sterility could also be possible factors behind these fertility differentials. Our scrutiny of the relevant information fails to point to any significant differentials in these factors between these groups. For example, the proportion of miscarriages and spontaneous abortion cases to total number of births appears fairly the same at around 2.5 percent across all three groups under our study. Nor does the extent of childlessness or sterility appear to differ as much as to explain the observed fertility differentials.

<sup>37</sup> Although unmet need for family planning is lowest among the Santals of Chitrihutu, it is still fairly large. This at least partly reflects their relatively stronger preference for small family (as evidenced by their smallest ideal number of children).

<sup>38</sup> The relatively larger mean ideal number of children for the Santals of Thupsara may partly be a result of post-rationalization of achieved fertility. While there is indeed a positive correlation ( $r = 0.38$ ) between ideal number and actual number of children born among those women whose number of children ever born did exceed their respective ideal number, the correlation is far from perfect. Thus their mean ideal number of children perhaps at least partly does reflect the pre-transition perceptions favouring relatively large family.

sterilised, are recorded to have already had *excess* births (i.e. number of births exceeding the ideal number). In contrast to sterilisation, the use of non-terminal methods enables couples more effectively to end up with the desired number of children, as (presumably) reflected in their lower degree of unmet need (see Table 7). The Santals of Chitrihutu, by relying comparatively *more* on nonterminal methods, could thus achieve a lower fertility than that of the SC women of Thupsara, despite latter's high incidence of sterilisation. In fact these differential patterns of fertility and family planning acceptance bring us to the question of what makes the Santals of Chitrihutu the best performers in terms of voluntary fertility regulation through modern contraception. We argue that a large part of the answer lies in their large-scale seasonal migration and its wider socio-economic implications. As has been already indicated (see especially Table 2) the Santals of Chitrihutu do represent a case where a high degree of mobility, particularly seasonal migrations for farming activities, can be seen to be a route to relatively better levels of living and concomitant augmentation of aspirations. This is reflected not only in their possessions of a larger number of consumer durables, but also in their much higher levels of educational achievements. Indeed this kind of dynamic and positive aspects of seasonal migration in enhancing well-being and aspirations of originally vulnerable and disadvantaged sections (of whom tribals are the most prominent) is particularly of late getting increasingly highlighted across Indian regions (e.g. Haberfeld et al. 1990; Rogaly 1999; De Haan 1999 among others). For example, the initial level of poverty in the early 1970s was very similar in both the districts considered here. But Bankura, which of late has gained prominence as a sending region for seasonally migrants agricultural labourers mostly to the fast growing double-cropped districts of Bardhaman and Hoogli (see the Map), experienced nearly 28 percent drop in poverty incidence by the end of 1980s vis-à-vis only 14 percent point drop for Birbhum (see Appendix A).<sup>39</sup> This is not to suggest that a relatively rapid reduction of rural poverty in Bankura during the 1980s has necessarily or even mostly been due to growing seasonal migration, but the recent remarkable growth of agricultural production in the most (agriculturally) advanced parts of rural West Bengal has undoubtedly involved seasonally migrant labourers such as Santals of Chitrihutu of Khatra block in our study. Indeed one of very few contemporary researchers, who have analysed seasonal migration streams and their significance in the context of West Bengal's agricultural growth, describes it 'as potentially progressive as that described by Lenin in 19<sup>th</sup> century Russia' (Rogaly 1999:375).

Apart from direct economic gains from seasonal migration in source areas, there are some possible (indirect) dynamic effects too, particularly in the form of enhanced exposure to, and spread of, newer and modern ideas both relating to technology and method of cultivation as well as attitude and perceptions about ideal family size, and fertility regulation.<sup>40</sup> For example, it is the mobility and seasonal migrations of Santals of Chitrihutu that presumably make possible their keeping in touch with more educated and more articulate nontribal people of various places. This possibly causes them to have a greater degree of exposure to modern ideas, life styles and aspirations, which in turn perhaps has been instrumental in preparing them towards implementing

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<sup>39</sup> It may be noted however that the pace of poverty reduction has slowed down in the 1990s in West Bengal (see Appendix A), and this is perhaps at least partly related to a distinct slowdown of agricultural growth in the state (see Chapter 1 in Rogaly et al. 1999).

<sup>40</sup> Though mentioned in the context of rural-urban migrants, the following observations on the return migrants' role in bringing about ideational change among traditional rural folk should have some echo into the role that seasonal migration could also play in bringing about fertility regulation in the source area:

'These return migrants not only have lower fertility themselves but also spread these norms in the rural areas. They usually return with new ideas, attitudes and values acquired during their stay in the cities and the people at their native place often seek their advice and listen to them with respect (Bhatia and Sabagh 1980).

small family norm as a part of a higher level of aspirations.<sup>41</sup> In contrast, the non-migrating Santals of Thupsara, even when co-inhabiting same villages with upper caste and educated nontribal sections, happen to have lesser chances and scope for social interactions favourable to the spread of small family norm and effective information for fertility regulation. The seasonal migration of Santals of Chitrihutu thus can be viewed as an important channel for enhanced social interactions, to which recent researches have assigned a significant role in fertility transition (e.g. Bongaarts and Watkins 1996). Indeed the significance of this mechanism gets even reinforced by the possibility that people who migrate are often found somewhat more innovative, dynamic and open to ideas, as compared to those who do not migrate and stay behind.<sup>42</sup>

Furthermore seasonal migration, especially a number of times a year, and hence a high degree of mobility (as is found among the Santals of Chitrihutu) is likely to provide some genuine disincentives against high fertility (e.g. migrant households' extra difficulties and hardships associated with pregnancy; difficulty of carrying infants/young children for migratory couples, frequent spells of spousal separation, child rearing being an obstacle to working and earning livelihood and cash as seasonal migrant labourer etc).

Given all these considerations as background, we now attempt to estimate, by applying binary logit regression technique to our household level data, the predictive significance of several possible factors that can influence contraceptive use among eligible women. The variables and their definitions are presented in Table 8. The chief purpose of the exercise is to see how far is the contraceptive use (including sterilisation) among all eligible women is predicted by several explanatory variables, say the caste affiliation (SC or ST), amount of land owned, education level, age and prime occupation of the woman, migration behaviour (e.g. whether or not members of the household migrate seasonally), and finally the independent locational effects. The binary logit model has been estimated for all households of three locations (from Birbhum, Bankura, and Purulia) combined (Table 9) as well as separately for SC and Santal households (Table 10).

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<sup>41</sup> A comparatively low fertility and much greater use of *reversible* contraceptive methods among the Santals of Chitrihutu do not seem attributable to any special family planning efforts and performance in Bankura district. For example, the per cent of couples protected from undesired pregnancy was almost the same (48.1 and 49.1 respectively) in Bankura and Birbhum, and among those 40.5 and 41.9 per cent couples were sterilized up to March 1995 (West Bengal 1995). Therefore there is hardly any indication that Bankura district as a whole has achieved a particularly commendable position vis-à-vis Birbhum in terms of functioning of family planning programme. However, our visits (and interviews/conversations with the staff) to the primary health centres catering to our study villages did suggest a relatively better organisation, enthusiasm and motivation among the staff responsible for carrying out family planning programme in Khatra than in Nanoor. But this differential is possibly, in large part, a reflection of the fact the Santals of Chitrihutu are more motivated and concerned about fertility control. However the fact that infant and child mortality has for a long time been noticeably lower in Bankura than in Birbhum (see Appendix A) may be a reflection of a greater reach and perhaps even better quality of health and child immunisation services. But this presumably better quality of family welfare services, if real, is very likely due to a comparatively more responsive and motivated people of the location. In fact our own calculation of the death rate of children within three years of birth, based on our birth history data, shows that during the late 1970s it was the lowest (115 per 1000 births) and the highest (264) among the Santals respectively of Chitrihutu and Thupsara. But after substantial reduction of child mortality everywhere during the 1980s and early 1990s it is still highest (83) among the Santals of Thupsara, followed by SC (53) and Santals of Chitrihutu (51). As an illustration of seasonally migrant Santals' fairly strong motivation for fertility regulation, as we were told by the Medical Officer of Hirbandh Primary Health Centre, many of these rural Santal couples, while leaving for a few months for work to other districts, do not forget to carry with them the required stock of contraceptive pills or condoms. Remembering the child's next date of immunisation even when away from home is, as we were told, not also not rare among them.

<sup>42</sup> For example, a recent comparative study of demographic features between migrants and non-migrants in Tamil Nadu has shown a higher levels of contraceptive prevalence and lower levels of fertility measures among the migrants from rural areas than those found not only among rural non-migrants but also among urban non-migrants (Sivakumar 2001). While this differential perhaps reflects selectivity of rural migrants by socio-economic background, the distinct influence of migration on demographic behaviour cannot be ignored. A recent survey of literature on seasonal migration by women workers (not necessarily tribals) in various Indian regions has observed an increased female age of marriage and a fertility decline among the migrant women, both of which have been labeled as 'positive' consequences of migration (Hema Kumari and Tataji 1998).

The likelihood of contraceptive use turns out to have – quite expectedly – a highly significant positive association with the age of women, with the additional (and standard) feature of diminishing marginal effects of the latter, as the coefficient on the squared age variable is negative and highly significant. This positive effect of rising age of women on their likelihood of contraceptive use has been always highly significant in all cases – all groups together as well as for separate estimates for SC and Santals (see Tables 9 and 10). And this relation is too obvious for any further elaboration. In case of all groups taken together, a larger land size appears to be associated with lower probability of contraceptive use, which is not very difficult to comprehend so long as land size is a proxy for household income. However in our case this significant negative relationship has emerged perhaps largely because a good number of landless households belonging to SC community in Thupsara fall into the category of sterilized couples (see Table 2 and 7). The school attendance of women appears – quite expectedly and much in line with the recent literature on fertility determinants – to enhance the likelihood of contraceptive use. This relationship derives largely from the fact that the extent of school attendance is relatively larger among both SC community of Thupsara and Santals of Chitrihutu, who also happen to be far ahead in terms of sterilisation/contraception as compared to the least literate group, namely Santals of Thupsara. However, it is interesting that the coefficient on education turns out to be insignificant in the separate estimation for SC, while it is even more significantly positive for Santals (Table 10). This seems consistent with the point mentioned earlier, namely that SC community of Thupsara has undergone large-scale sterilisation largely in the wake of mass mobilisation activities and pro-poor participatory reforms of ruling left parties, and a related escalation of aspirations for upper caste behaviour, life styles and values. In fact these effects appear to have overwhelmed the effects of (a steady but not very fast) spread of female education, female empowerment and related mechanisms as has often been suggested in the vast literature on this question.

That women's household work as the prime occupation turns out to be associated with greater likelihood of contraceptive use, though only marginally significant (at 10 percent level), is apparently counter-intuitive. Because a lesser female (economic) independence and autonomy, which should correspond to a greater female labour time on domestic chores, is widely considered inimical to fertility control and contraception. But this expected relationship has largely been vitiated both by a fairly good number of sterilised SC housewives (who mostly perform household chores), and because a large majority of directly productive Santal women of Thupsara who happen to be non-users of any contraceptive method. This gets confirmed by even more significant negative coefficient on occupation for only SC women, together with a positive coefficient, though slightly outside the borderline significance level, for Santals (see Table 10). In any case all this seems to reaffirm that female work participation and associated female autonomy alone is not sufficient to ensure a lower fertility or greater contraception; it needs for its negative effects on fertility to be accompanied by female education, diffusion of ideas pertaining to fertility control and its advantages, and also by wider accessibility of control methods. Likewise, the expected positive causality between migration propensity and probability of contraceptive use has not been confirmed largely because of the presence of a large number of sterilised SC women of Thupsara, who do not migrate at all. In fact a negative relationship – though only at the borderline significance level - between migration and contraceptive use has partly been contributed by the presence of Santal women of Purulia hamlet from where relatively few households migrate seasonally.

However, a positive link of seasonal migration with contraceptive use – a point that we have discussed with reference to the Santals of Chitrihutu (see Table 2 and 7) – gets strongly reaffirmed in a highly significant negative coefficient of contraceptive use on both the regional dummies (Dist1 and Dist2) with Chitrihutu being treated as a reference category. Indeed a high

likelihood of contraceptive use among seasonally migrating community receives forceful support from a significant positive coefficient on migration variable in separate estimation for Santals, but not for SC community (see Table 10). From our logit regression results it therefore seems fairly reasonable to conclude (and indeed confirm our earlier conclusions based on descriptive statistics) that seasonal migration has a significant predictive power for contraceptive use (and fertility reduction), very possibly by enhancing levels of aspiration as well as by paving the way - through augmented scope for social interactions - for enhanced diffusion of ideas and knowledge relating to fertility regulation. Indeed a large part of the reason why the Santals of Chitrihutu have 'originally' had comparatively lower fertility, lower mortality, and higher education level lies in their long-standing practice of seasonal migration and its favourable demographic implications.

## 5 Concluding Discussion and Remarks

Internal migration of various kinds (e.g. rural to urban sector by unskilled wage labourers, seasonal migration by rural workers to other fast growing agricultural pockets), while usually indicative of limited economic opportunities and relative distress in the source areas, is frequently viewed with a distinct scepticism as to whether such *spatial* mobility can *really* be a route to their economic mobility. The migration, even when beneficial in terms of enhanced income or even survival or livelihood, is hardly ever viewed as costless. The cost of migration is not always measurable in pecuniary terms, as extra hardships and insecurity that generally fall on male migrants' wives, who stay back at home, often with single-handed responsibility of caring children and elderly can be only found in researchers' notes, rather than in any clear cut balance sheet designed to estimate *net* benefit of migration. Given this background of hesitant and 'on the one hand-on the other hand' type verdict in the literature on the impact of migration, our present paper has highlighted the brighter side of one specific type of migration, namely seasonal rural-rural migration from a particular location in West Bengal. Our key findings – based on local level evidence - have arguably managed to take issue with a generalised conclusion about the adverse impact of seasonal migration. Indeed our case study has helped us understand better what is at fault behind the commonly alleged adverse consequences of seasonal migration across Indian regions.

Santal and SC households of Thupsara appear fairly similar economically. The SC people of this location have experienced a considerable fertility decline over the 1980s and early 1990s with a strong bias towards female sterilizations. But the Santals of this location have not only remained relatively untouched by the family planning programme, but they possibly have still been experiencing a 'pretransition fertility rise'. The Santal females' greater work participation rate and indeed their greater female autonomy do not seem to translate *automatically* into fertility transition, unless presumably newer ideas and aspirations give them directions. Conversely, although female work participation and autonomy is distinctly less among the SC community, they have gone for sterilization in a large measure once, arguably, their ideational barrier to family planning<sup>43</sup> was removed by newer ideas and aspirations, which occurred partly through their greater contact with upper caste people, and partly (perhaps indirectly) through political decentralisation and mass mobilisation efforts of the ruling left parties.<sup>44</sup> Indeed the impact of family planning programme

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<sup>43</sup> This barrier not only refers to ideas relating to family size, but by this term we also mean to include misconceptions and fear (e.g. disability due sterilisation) of about family planning methods.

<sup>44</sup> The Bangladesh fertility level has declined fairly fast even with a relatively stagnant levels of socio-economic conditions and literacy over last two decades, largely due to an effective family planning programme with a relatively large emphasis (unlike India's)

seems to have been much less among these Santals partly because they are somewhat segregated from the mainstream society, and they are of course relatively difficult to communicate with (because of language and other cultural barriers).<sup>45</sup> That these inherent disadvantages of tribal minority can be more than offset has been forcefully demonstrated by the Santals of Chitrihutu, who are located in agriculturally backward and drought-prone region, and who have been migrating seasonally for farm work elsewhere for a long time. The seasonally migrant Santals of Chitrihutu have indeed emerged somewhat motivated and conscious users of family planning methods, with far better performance in terms of demographic transition (e.g. lower levels of fertility and child mortality) than that of the Santals (and even SC people) of Thupsara. The Santals of two locations - while evincing similar sociocultural moorings (e.g. similar marriage patterns and practices) and similar degree of female autonomy - have experienced very different demographic regimes, with seasonal migration being key to making the difference. Apart from some income-and-aspiration-raising effects, the seasonal migration has contributed to fertility transition through augmenting social interactions and diffusion of ideas and motivation for family planning acceptance among the Santals of Chitrihutu. The role of seasonal migration in fertility transition, as discovered by our present study, is thus much broader than just the (involuntary) fertility-suppressing effect that sex-selective migration (with attendant forced spousal separation) is often shown to have produced globally.

Despite potential difficulties of generalising on such local level evidence, all possible and practical encouragement to mobility and seasonal migration, particularly from backward rural pockets, does emerge as a policy prescription from the present study. They may include expansion of transport and communications network and greater flexibility of school enrolment norms and school calendar and support for women, children and elderly, who generally stay back home. These suggested measures should by no means be construed to constitute an alternative to the broader (long-term) programmes of balanced regional development, however. Indeed there are of course a few questions on which our study seems to have offered rather incomplete answers. In particular the research for more concrete and focused evidence on exact mechanisms through which rural mobility in general and seasonal migration in particular help bring about ideational and motivational changes towards smaller family and more conscious fertility regulation should come first in the agenda. The question as to why Santals from locations like Thupsara do not migrate (seasonally) at all is also of interest for future.

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on motivational and demand creation efforts (e.g. through door-to-door campaign and service delivery machinery). But political parties' mass mobilisation and campaigns favouring (indirectly and directly) the spread of family planning in West Bengal differ qualitatively from those undertaken by a broad-based family planning programme of Bangladesh. The people in the latter case (Cleland et al 1994; Caldwell et al. 1999; and also Maharatna 2002) emerge more conscious and mature users of contraceptive methods including non-terminal and spacing ones, while in contrast mass sterilisation camps and campaigns are more typical of the former. As is well-known a relative dominance of non-terminal methods is more capable of achieving the desirable *pace and pattern* of fertility reduction as compared to a contraceptive-composition biased heavily towards terminal methods - a point that has been confirmed and well illustrated by contrasting patterns of fertility regulation between the SC of Thupsara and Santals of Chitrihutu in our present study.

<sup>45</sup> The local cadres of the ruling Left parties, with whom I have had discussions, have frequently alleged that Santals are generally more difficult (than the SC people) to convince about newer ideas, as they are relatively introvert and shy. However, the reason why mass mobilisation efforts of the left parties did not reach the Santal households *equally* may have something to do with their tiny size in the region (only about 2 per cent of the total, see Table 5), which perhaps makes them least attractive from the standpoint for winning elections. This is of course one of several outstanding and persistent sources of some special disadvantages suffered globally by the minority communities even in a seemingly vibrant and apparently well-functioning democratic polity (e.g. Bhengra et al. 1998).

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Table 1: Census Based Background Information on Two Locations  
from Birbhum and Bankura Districts, West Bengal 1991-2001

	Nanoor Block (Birbhum)	Khatra Block (Bankura)	West Bengal
Area (Sq. Km)	309.2 (4,545.0)	215.6 (6,882.0)	88,752
Total Population	1,68,364 (25,556,64)	62,216 (28,050,65)	680,779,65
% of ST population to total	2.0 (7.0)	31.0 (10.33)	5.6
% of SC population to total	32.9 (31.0)	25.4 (31.36)	23.6
% of Santals to tribal population (1981)	(90.0)	(83.0)	62.1*
Female-Male ratio 1991:			
Total population	0.957 (0.946)	0.941 (0.951)	0.917
ST	1.014 (0.976)	0.952 (0.972)	0.964
SC	0.962 (0.943)	0.927 (0.960)	0.931
% of cultivable area	72.9 (74.1)	33.3 (56.9)	
% of irrigated area	76.2 (55.3)	7.7 (50.8)	
% literate# :			
ST	10.3 (14.8)	34.0 (32.4)	27.8
SC	24.2 (27.7)	30.3 (22.0)	42.2 22.9*
Santals	(8.0)	(18.0)	
Number of primary schools per 1000 population, 1991	0.81	1.22	
% of rural population served by:			
Education facilities	92.4 (92.5)	88.0 (91.7)	
Medical facilities	59.3 (45.0)	10.5 (41.0)	
Approach by pucca road	0.98 (29.1)	20.1 (31.0)	
Power supply	99.6 (84.8)	17.0 (55.4)	
Decadal growth rate of population 1991-2001 (%)	(17.9)	(13.8)	17.8
Estimated per cent of villages not connected with pucca road (2000-2001)	(65.5)	(58.3)	
Estimated coverage (per cent of habitations) of safe drinking water, 2000	(69.6)	(48.6)	
Female literacy 2001	(52.2)	(49.8)	
% of children getting complete immunisation 1998-99	(34.9)	(67.3)	
Composite Index 2000-2001	(52.1)	(58.7)	59.6
Per cent of eligible couples currently using family planning , 2001	(67.6)	(63.1)	

\* for 1988-89 based on NSS 44<sup>th</sup> Round Survey. # Literacy rate refers to population aged 7 years and above. Figures in parentheses are for the respective district as a whole.

Source: 1991 Census Reports; Govt of India (1994a); Govt of India (2001).

Table 2: Background Information on Santals and SC Groups, Two Locations, West Bengal 1996-98

	Thupsara		Chitrihutu
	Santals	SC	Santals
<b>Number of households</b>	97	151	101
<b>Population</b>	492	669	533
<b>Sex ratio (F/M)</b>	104	98	89
<b>Average land owned per household (acres)</b>	0.20	0.22	2.52
<b>Average land leased in per household (acres)</b>	0.47	0.57	0
<b>Per cent of pure wage labourer households *</b>	37	35	0
<b>Per cent of households owning no land</b>	69	54	0
<b>Per cent of households who cultivate leased-in land</b>	42	43	0
<b>Per cent of households owning land of size (acres):</b>			
>0-<0.5	14	29	3.4
>3	0	0.6	10.0
<b>Average number of rooms per household</b>	1.70	2.26	2.27
<b>Per cent of households without any asset (e.g. bicycle, watch, radio etc)</b>	66	60	10
<b>Per cent of households possessing:</b>			
Bicycle(s)	27	20	69
Watch/clock	8	19	57
Radio	10	26	37
<b>Per cent of people aged 6 years and above who have ever been to school:</b>			
Males	23	41	75
Females	4	12	51
<b>Per cent of households migrating seasonally for work</b>	0	0	68

\* Include households, which neither own any land nor lease in any land for cultivation.

Source: Survey data.

Table 3: Percentage distribution of population aged 15-55 years  
by prime occupation and sex, Two Locations, 1996-97

Location	Agricultural Production		Household work		Non-agricultural activities		Student		Other	
	M	F	M	F	M	F	M	F	M	F
<b>Thupsara:</b>										
Santals	95	79	0	11	4	0	1	0	0	0
SC	92	22	0	73	4	5	4	0	0	0
<b>Chitrihutu</b>										
Santals	63	77	2	10	5	0	15	4	8	0

The category 'other' includes mainly regular job in service sector (e.g. guard, clerk, police, govt service).

**Source:** Survey data (see text).

Table 4 (A). Female Autonomy (Freedom in taking decisions):  
Santali and Scheduled Castes Women, Two Locations of West Bengal, 1996-98

	SC (Thupsara)	Santals (Thupsara)	Santals (Chitrihutu)
<b>Who decides about:</b>			
<b>what food to buy:</b>			
wife alone/husband alone	13/63	19/37 (2.5)	64/1 (304)
together/husband alone	87/63	43/37 (0.8)	67/1 (48.5)
<b>how much to be spent on food:</b>			
wife alone/husband alone	13/63	17/39 (2.1)	122/0
together/husband alone	87/63	43/39 (0.8)	10/0
<b>what to be cooked:</b>			
wife alone/husband alone	161/0	94/0 -	129/0
together/husband alone	3/0	5/0 -	3/0
<b>food distribution at mealtime:</b>			
wife alone/husband alone	161/0	97/0 -	131/0
together/husband alone	3/0	2/0 -	1/0
<b>Expenditure on clothes and other nonfood items:</b>			
wife alone/husband alone			
together/husband alone	13/50	11/27 (1.6)	50/21 (9.16)
	100/50	61/27 (1.1)	61/21 (1.45)
<b>sick child'd treatment:</b>			
wife alone/husband alone	13/45	8/13 (2.1)	5/1 (17.2)
together/husband alone	100/45	74/13 (2.6)	126/1 (56.7)
<b>Whether wife should work outside household:</b>			
wife alone/husband alone	13/42	16/13 (4.0)	11/48 (0.74)
together/husband alone	107/42	69/13 (2.1)	73/48 (0.60)
<b>how many children to have:</b>			
wife alone/husband alone	14/31	8/4 (4.4)	10/17 (1.31)
together/husband alone	118/31	87/4 (5.7)	105/17 (1.62)
<b>how income to be spent:</b>			
wife alone/husband alone	13/48	10/10 (3.7)	5/38 (0.49)
together/husband alone	102/48	79/10 (3.7)	89/38 (1.10)
<b>Whether to purchase major goods:</b>			
wife alone/husband alone	13/47	9/11 (3.0)	3/39 (0.28)
together/husband alone	103/47	79/11 (3.3)	90/39 (1.05)

Note: Figures in parentheses are odds ratios for Santals with reference to SC group.

Table 4 (B). Female Autonomy (Freedom of Movements):  
Santali and Scheduled Castes Women, Two Locations of West Bengal, 1996-98

Whether it is acceptable for her to go alone to:	Santals (Thupsara)	SC (Thupsara)	Santals (Chitrihutu)
health centre: yes/no	97/2 (0.30)	163/1	119/12 (0.06)
per cent yes	98	99	91
market: yes/no	99/0	160/4	117/14 (0.21)
per cent yes	100	98	89
relatives' place: yes/no	53/46 (1.85)	63/101	124/8 (20.2)
per cent yes	54	38	94
fields: yes/no	56/43 (4.63)	36/128	120/12 (35.7)
per cent yes	57	21	91
Community centre: yes/no	10/89 (1.04)	16/148	40/77 (4.7)
per cent yes	10	9	34
fair/shrine: yes/no	17/82 (1.92)	16/148	23/85 (2.46)
per cent yes	17	9	21
next village: yes/no	26/73 (2.89)	18/146	72/60 (10.0)
per cent yes	26	11	55
cinema: yes/no	9/90 (0.86)	17/147	5/127 (0.32)
per cent yes	9	10	4

Note: Figures in parentheses are odds ratios for Santals with reference to SC group.

Table 5: Age at Marriage, Marriage Patterns/Practices and Nuptiality Differentials, Thupsara and Chitrihutu 1996-98

	<b>Thupsara</b>				<b>Chitrihutu</b>	
	Santals	N	SC	N	Santals	N
<b>Median age at first marriage by current age of women:</b>						
All ages						
> 35 years	18.0	101	16.5	166	16.0	168
< 20 years	18.0	38	16.1	52	16.0	53
	15.5	7	15.5	20	16.0	23
<b>Percent of married women by age:</b>						
15-20	30	27	60	30	54	24
20-24	86	14	90	17	83	29
<b>Percent Distribution of ever married women by distance from their parental home:</b>						
Same village	26	101	18	166	7	170
Within 4 km	35	101	24	166	18	170
Mean distance (km)	11.3	101	9.2	166	19.7	170
<b>Percent Distribution<sup>2</sup> of ever married women by marriage type and payment:</b>						
<b><u>Marriage type:</u></b>						
Love marriage	24	101	6	166	10	170
Negotiated marriage	76	101	94	166	90	170
<b><u>Marriage Payment:</u></b>						
Bride Price	95	101	3	166	100	170
Dowry	0	101	66	166	0	170
No payment	5	101	31	166	0	170

Source: Survey data.



Table 6: Fertility Differentials between Santals and SC Group, Two Locations, 1996-98

Fertility Measure	Thupsara			Chitrihutu
	Santals	SC	% diff	Santals
Average number of children ever born to women aged 40-49	6.3	5.0	26	3.7
(N)	(27)	(35)		(31)
GFR <sup>#</sup>	146	112	30	79
(N)	(101)	(166)		(155)

<sup>#</sup> Based on number of births in last 12 months to ever-married women aged 14-49 years.

Source: Survey data.

Table 7: Family Planning Practices, Fertility Preferences, and Unmet Need for Family Planning (FP), Thupsara and Chitrihutu 1996-98

	Thupsara				Chitrihutu	
	Santals	(N)	SC	(N)	Santals	(N)
<b>Per cent of women respondents sterilized</b>	12	(101)	60	(166)	24	(170)
<b>Per cent eligible women using nonterminal method*</b>	10	(88)	8	(86)	34	(106)
<b>Per cent of women preferring 'small' family size</b>	95	(101)	100	(166)	98	(170)
<b>Mean Ideal Number of Children</b>	3.6	(101)	2.8	(166)	2.5	(170)
<b>Unmet need for FP**</b>	35	(89)	25	(147)	22	(68)

\* Includes women who are currently married but are neither sterilized nor pregnant.

\*\* Per cent of currently married women (not having reached menopause) whose numbers of children ever born have either exceeded or are equal to their respective ideal numbers, but who are not using any contraceptive method.

Source: Survey data

Table 8: Description of Variables and their Mean Values

Variable	Description of the Variable	Mean
Usingcon	Dummy: 1 if woman respondent is using any contraception, 0 otherwise (predicted)	
Age	Age of the respondent woman (in years)	31.27
Caste	Dummy: 1 if woman respondent belongs to ST, 0 if belongs to SC	0.65
Land	Size of land owned by the household of the respondent (in acres)	3.51
Migration	Dummy: 1 when respondent's household migrates seasonally, 0 otherwise	0.24
Education	Dummy: 1 if the respondent has ever been to school, 0 otherwise	0.14
Occupation	Dummy: 1 if respondent's prime occupation is not household work, 0 otherwise	0.57
Dist1	Dummy: 1 if the location belongs to Birbhum district, 0 otherwise	0.55
Dist2	Dummy: 1 if the location belongs to Purulia district, 0 otherwise	0.18

The location belonging to Bankura district is treated as the reference category for the other regional dummies e.g. Dist1 and Dist2.

**Source:** Field Survey (see text for details)

Table 9: Binary Logit Regression Estimates on the Current Contraceptive Use and their Marginal Effects, Three locations, West Bengal 1996-98

## Dependent variable: Usingcon

Variable	Coefficient	Marginal Effects
Constant	-3.0632* (-1.894)	-0.5268* (-1.896)
Age	0.4053*** ( 4.374)	0.0691*** ( 4.266)
Age <sup>2</sup>	-0.0052*** (-3.962)	-0.0009*** (-3.881)
Caste	-1.6167*** (-3.538)	-0.2781*** (-3.589)
Land	-0.1115*** (-3.095)	-0.0192*** (-3.052)
Migration	-0.1008* (-1.710)	-0.1735* (-1.691)
Education	1.6212*** (3.621)	0.2788*** (3.421)
Occupation	-0.5569* (-1.655)	-0.0957* (-1.653)
Dist1	-4.6486*** (-6.246)	-0.7996*** (-5.882)
Dist2	-5.324 (5.729)***	-0.9158*** (-6.772)
No of observations	479	479
Log likelihood Function	-200.85	
Psedo-R <sup>2</sup>	0.45	

\* significant at 10 per cent level; \*\* at 5 per cent level; and \*\*\* at 1 per cent level.

Source: Field Survey

Table 10: Binary Logit Regression of the Current Contraceptive Use, ST and SC,  
Three locations, West Bengal, 1996-98

**Dependent variable: Usingcon**

Variable	Scheduled Caste		Santals	
	Coefficients	Marginal Effects	Coefficients	Marginal Effects
Constant	-11.6757*** (-3.915)	-2.6442* (-1.832)	-7.6841*** (-3.884)	-1.3837*** (-4.097)
Age	0.6577*** (3.682)	0.1490* (1.802)	0.2499*** (2.300)	0.0450** (2.328)
Age <sup>2</sup>	-0.0089*** (-3.438)	-0.0020* (-1.770)	-0.0028** (-1.908)	-0.0005 (-1.925)
Land	-0.1024 (-0.691)	-0.0232 (-0.655)	-0.0412 (-1.323)	-0.0074 (-1.326)
Migration	11.9348 (0.088)	2.7029 (0.085)	1.8892*** (5.044)	0.3402*** (5.173)
Education	-0.1310 (-0.168)	-0.0297 (-0.167)	4.2266*** (7.464)	0.7611*** (6.982)
Occupation	-0.8764** (-2.094)	-0.1984 (-1.458)	0.6865 (1.585)	0.1236 (1.607)
Log likelihood function	-94.9467		-126.3155	
Pseudo-R <sup>2</sup>	0.35		0.33	
Sample size	168		311	

\* Significant at 10 per cent level; \*\* at 5 per cent level; and \*\*\* at 1 per cent level.

Source: Field Survey

**Appendix A**  
**Trends in Poverty, Infant and Child Mortality and Fertility, selected regions of rural**

***West Bengal early 1970s to late 1990s***

	West Bengal			Birbhum	Bankura
	General Population		ST	SC	Total Population
% in poverty	Ozler-Datta	PC			
Early 1970s	60.5	73.2		69.1	69.1
1978	56.3				
1983	49.2	63.1	78.9 <sup>@</sup>	74.6 <sup>@</sup>	
1987	34.1		66.1	(65.6) <sup>#</sup>	55.3
1992	28.2[31.51]**				41.5
1993-4	54.2 <sup>@</sup>	41.0	72.8	57.1	40.9
1994*		51.0*	72.0*	56.0*	37.0
1999-2000		31.9(56.2) <sup>\$</sup>			
IMR					
1981	98				
1991	76			77	58
1997	58				
IMR (all areas)					
1981	95			103	83
1991	62			87	63
TFR (all areas)					
1981	4.30			4.40	4.10
1991	3.61			3.81	3.46

PC = Planning Commission estimates; TFR=Total Fertility Rate; IMR= Infant Mortality Rate.

\* Based on NCEAR survey data; # for 1988-89 based on NSS 44<sup>th</sup> Round Survey; <sup>@</sup> Tendulkar et al. (1993), Table 3.1.1; \*\* Average over 1990-1 to 1993-94 calculated in Datta (1998) quoted in Dev and Ranade (1999), Table 3.2;

<sup>\$</sup> Sundaram (2001)

**Sources:** Poverty estimates: Gazdar and Sengupta (1999); Misra (2000); Chakrabarty and Ghosh (2000); Govt of India (1994); Drèze and Srinivasan (1995); Tendulkar et al. (1993); Sundaram (2001); Jean Drèze (Personal Communication); IMR: Registrar General (1999); Rajan and Mohanachandran (1998); and Mishra et al (1994); TFR, Q(1): Registrar General (1997).