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CONTESTING POSTMODERNISM: A VIEW WITH A GENDERED LENS

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Introduction

Recently, I had an opportunity in the company of geography colleagues to talk on postmodernism. In an interactive mode when I asked what they had understood by the term, 'postmodernism' so far, several of them said that they were thoroughly confused. I promised them that I would try to dispel some of their confusion to the extent possible. However, when I said this to the next speaker, the response was: if you think you have understood postmodernism that means you have not understood it at all!

Such and other comments, 'we are not even modern, why to talk about postmodern', has prompted me to engage with the present project. I intend to divide this paper into three parts, i.e., the first part deals with emergence of postmodernism as a response/reaction to modern. The second part is about the content of postmodernism as a process and the third part offers a critique of the postmodernist engagements, particularly with a 'gender lens' from the perspective of a Third World view. In doing so I consciously stay out of highly theoretical conundrums in postmodernism for obvious reasons – by my own admission trying to make sense of what postmodernism is all about and conveying it to audience – I have tried to keep this narrative as simple and clutter free as I possibly could.

Defining Postmodernism

According to the Latin etymology, postmodern literally means 'after what is now' (Encyclopedia/Postmodernism, 2004). In this sense, then postmodern as an era is a chronological follow-up of modern and postmodernity refers to the social and economic processes associated with the historic period of 'postmodern'. Postmodern can also be seen as a phase of modernism – 'late modernism' as some call it (Strohmayer and Hannah, 1992), but more of this later.

Rather than concern with the temporal bounding of the category, and regardless of when it began, let me admit postmodernism is notoriously difficult to define; first modernism has to be defined, which again is in no uncertain terms, a formidable task. By and large, modernism stood for rational and objective viewpoints - the 'Enlightened' way of seeing the world as orderly, organized and causally generalized: However, some scholars have differentiated between 'modernism' and 'high modernism' to maintain that 'universalism- a formal purity and a stark functionalism', which has been the hallmark of modernism, arose during the high modernism phase (Barnes and Gregory 1997: 510).

Conventionally, "Enlightenment" is a project associated with European and eighteenth century philosophical and historical enterprise occurring in the then national context. The central concern has been "the public use of reason to change human society and to demystify the world. . . [which meant defining it] as relatively homogeneous and with quite precise temporal definition" (Johnston *et al.*, 2000: 209). In a way, a world where the Homo-Economicus man responds to

certain, primarily economic, impulses as rational human being. Since rationality is essentialized, it is assumed that such responses would also be identical. Such construct left out a possibility that responses can vary or similar responses may result in dissimilar outcomes. It was in this genre of scholarship, for example, that one can place geographer Brian Berry's notion of 'equifinality' - that he so infamously conceptualized talking about Chicago and Calcutta acquiring over time identical forms in terms of status-based residential ordering in space, amongst other characteristics. Derek Gregory captures the essence of modernism most aptly and I quote:

"[O]ne of the characteristic preoccupations (of modernist scholars) was the transfer of concepts from the new science of physiology, defined by Bernard as the experimental study of the properties of organized matter, of the forms and conditions of existence of "life", to the realm of social – particularly concepts of function, hierarchy, regulation, and norm . . . into a search for "a spatial localization of function in society similar to that found in the body". This was, in part, a product of what [Robinow] calls particular "practices of reason" – the rationalism of the problematic is surely obvious..." (Gregory,1994: 137).

It was against such assumptions and search for overarching meta-narratives: the Grand Theory, the universal truth, sometimes called God's eye view that postmodernism arose as a reaction, skeptism and resistance, initially in the domain of architecture and planning, linguistics, literature and philosophy thereafter spreading to theology, the arts and medical and social sciences including geography.

Postmodernism is not only about questioning meta-narratives or the grand theories, it is also about questioning the construct of human as rational being completely overwhelmed by overarching structures independent of social and cultural embeddedness. Some have therefore preferred to use the term 'poststructuralism' to 'postmodernism'; poststructuralism to refer to theoretical claims while postmodernism for social and cultural shifts (McDowell, 1997).

Some have argued that postmodernism is a radical break- 'an internal rift or fissure' with the past and with what symbolized modernism (Slater, 1997: 50) while others have questioned the stereotypical account of "Enlightenment" as central to the modernity project and its summary repudiation and supersedence by the postmodernists by pointing out that "enlightenment" against which postmodernism has been dichotomously posited has elements frequently associated with postmodernity. As pointed out by Gregory (1994), more than 40 years ago Stuart Mills had thought that the world was already showing palpable tension between rationalization and freedom- concerns that were to become hallmark of postmodernism later.

The Underlying Concerns

It must be stressed that postmodernism is not a critique or replacement for the modernist paradigm, but a movement to challenge the very notion of the modernist paradigms of overriding structural imperatives to produce fundamentally ordered truth through overarching theories – to be nowhere and everywhere in somewhat simplistic manner, as it were.

Orthodox views enmeshed in overarching theorization also meant that reality was thought to be produced objectively by researchers without persuasion and/or their biases. In other words, the presumption of objectivity in so-called scientifically produced knowledge was never questioned as impossible, unnecessary and problematic. In questioning the modernist project for universal truth and objective realities, the postmodernist argument is that there is no one truth. Truth can be produced several ways and each one of them can be as legitimate as the other; that the world is not an uncluttered unified whole- that reality is complex, nuanced multi-textured and kaleidoscopic- too difficult to be captured by a single theory, that people do not always act rationally- they are socio-culturally and emotionally embedded and unveiling of 'truth'

requires a closer engagement with 'contextualities of social life' (Warf, 2001).

The other concern of postmodernism has been the way modernism has legitimized certain type of knowledge and methodologies at the expense of other possibilities. Since modernism saw the world as essentially rational and orderly, production of 'truth' entailed use of methods which could 'prove' that rationality and order. It was not surprising, therefore, that objectively produced knowledge that could stand to scientific rigour and scrutiny took precedence over other forms of knowledge that may not be amenable to such type of handing, a point I take up later.

Postmodernist questioning of the modernist paradigm then also meant questioning the whole process of knowledge production and the ownership of that knowledge. Issues such as who produced knowledge, how and which knowledge is privileged over the others became crucial. It was pointed out that the researcher- the subject views the field from a vantage point and however dispassionately this viewing is done - representing the viewing is not free from the cultural baggage the researchers carry with them. The so-called 'representative scientific knowledge' thus becomes the knowledge of a 'chosen few'- white Anglo-American, essentially male (given the generally androcentric nature of 'scientific' knowledge) researcher with a view (Edney, 1999).

It was argued that the objective statistics are produced within the framework of preconceived categories in the minds of researchers. Texts and landscapes which get represented are thus constructed, authored and/ or imposed and can be only partial and may not even be true. For example, while talking about literacy/educational levels, all with graduate degrees can be put in one category without realizing or bothering whether getting a graduate degree also meant a similar experience. Similarly, two daughters in a family may have very different stories to tell depending upon which place (location) they were born as two daughters or which spaces they occupied in the family hierarchy. Such examples can be *ad infinitum.* Moreover, representational texts may be read variedly by different readers (Warf, 2001), what Spivak called 'the pleasure of the bottomless' in the process of which the perceived certainties (of scientific knowledge) are decentred and the authority by which all knowledge claims are made is questioned (Spivak, 1976).

As McDowell (1992: 56) points out, many of these were not new questions and have been raised in different ways in diverse body of literature subsumed under the label of 'radical' scholarship. In particular, predominantly androcentric nature of geography and parallel debates in other disciplines has led feminist geographers raise many of the same questions about the links between theory, power, and knowledge wondering if geography could be freed from certain rigidities which can then be called emancipatory geographies. To start with, feminist concerns entered geographical knowledge in the form of reformist agenda. Later on, however, the epistemological basis of the discipline came under scanner by questioning theories and methods that were so imbued with western, bourgeois, and masculine projects (Harding 1986: 9 quoted in McDowell, 1992).

Implicated in these critiques are issues of power that representation uses for ends not always visible at the surface (Edney, 1999). Although at the risk of digression, I quote Ahmad's observation which he made in the context of colonial India to advance the point:

"[D]escription is never ideologically or cognitively neutral . . . Description has been central . . . in the colonial discourse. It was by assembling a monstrous machinery of descriptions— our habitats... [and] our societies . . . that the colonial discourse was able to classify and ideologically master the colonial subject, enabling itself to transform the descriptively verifiable multiplicity and difference into the ideologically felt hierarchy of value" (Ahmad, 1986: 68).

The postmodern critique of the modernist view thus concerned the latter's

Table – 1
An Overview of Modern and Postmodern Characteristics

Constitutive Features		Research Methods	
Modern	Postmodern	Modern	Postmodern
Objective, rational, universal, orderly, meta-narratives (grand theory), commonalities, uniform structural dominant, (Marxian` orthodoxy), Euro-American centrism, simplistic	subjective, emotional, multiple voices (polyvocality), chaotic (random), spatially contextualized, heterogeneity, cultural dominant, multiple locations, (re)claiming space, heterogeneous & fragmented, subaltern, margins, complex and nuanced	Grand theorization, Scientific, logical, mathematic al, quantitative, validity, standardizat ion	Multiple theories, qualitative-dairies,oral testimonies, participatory observations, case studies and so on-Subaltern experiences, Indigenous knowledge production

Note: This is a generalized table. Each one of the attributes associated with modernism and postmodernism has been critically contested and owned/disowned driven by ideologies and should not be construed as immutable (see, Gregory 1994, passim).

singularity as well as its privileged and masculine position - the fact that it allowed for only one truth and one story whereas there can be many truths/ stories and even one truth/story can be told in myriad ways. That is, there can be no hegemonic or monolithic text; no objective truth to discover, but many voices - articulated individually as well as collectively - to hear.

Implications for Research

Suspicious of any dogmatic claims to knowledge, postmodernism is characterized by a certain kind of eclecticism and relativism – one that knows no absolute truths, acknowledges the presence of multiple reference points, and privileges the non-linear (like the web) explanations over any objectivity or rationality of modernism.

By implication therefore postmodernism is also about questioning the methods of modern enquiry – the process of knowledge production which could stand to statistical scrutiny and which could 'prove' hypotheses - the one which would have the distinction of being 'scientific'. That there is universal truth and all truths are partial meant acceptance of alternative methods of data gathering, data that are not necessarily quantifiable. Table 1 is an attempt to summarize some of these features.

Interestingly, as against the grand theorization which also implicate a final statement as it were that characterized 'modernism', confusion remains the uncanny property of postmodernism- partly because none of the postmodernist projects come as a finished product. It is the state of being - in a flux, a moment complicated further because of several 'readings' and 'constructs' of phenomena as well as several approaches to deal with it, but that is the essence of it all in the first place, a point I come back to later.

Since postmodernists assert about 'multiple truths', it would necessarily imply that the 'truth' cannot be obtained from a singular source. Also, postmodernist discourses entail that researchers open up discursive spaces to varied voices what has come to be termed as polyvocality without privileging one (often the researcher's who is also in the position of authority as compared to those researched) over the other.

Opening up of spaces for varied voices is also about acknowledging that these voices are multiply located and differentiated what Spivak called 'the pleasure of the bottomless' in the process of which the perceived certainties are not only decentred, the authority by which all knowledge claims are made is also questioned.

As discussed earlier, scientific research looking for neatness and order had a certain way of looking at information – information that had been objectively produced and which could be validated preferably through statistical exercises. In such schema of things personal experiences and histories as legitimate sources of informed enquiry were devalued so that not only the personal had to be stripped from writing and research, the 'objective' authors had to be at a distance capturing the truth dispassionately. Postmodernist's engagement with multiple voices meant that the researchers and the researched did not stand at differentiated pedestals as it asks for researcher's active engagement with the subjects. The idea is to blur the typically unequal power relations/boundaries between researchers and the researched.

Perhaps, something needs to be said about the researcher at this juncture. Whichever way a research framework is conceived and executed, eventually it is the researcher's point of view that gets presented in that s/he, as an architect of the project, decides what to ask, how much time interviewees get, whom to listen and what to listen. The postmodernists well aware of such eventualities ask that the researchers make their positionality in terms of personal, intellectual, social and political orientations explicitly clear at the outset so that the readers can contextualize their viewpoints and understand the author's 'gaze'. That is, the author could no longer remain absent from the text and the 'personal' has to enter into public discourses, what Adrienne Rich calls 'a politics of location', theorizing begins with the material, not transcending the personal, but claiming it (Rich, 1989).

With the myth of absolute objectivity - the 'gaze from nowhere'- busted, it was increasingly recognized that the 'truths' do not need validation and legitimization through data mostly quantitative in nature of the sort as in hard sciences; they can sustain on localized mix of cultural politics, knowledge and power and can be obtained through equally legitimate means of qualitative or ethnographic research methodologies including detailed interviews, case studies, focus group discussions, oral histories and personal narratives and participants observations etc., besides collaborating with participants in the development of research questions, the interpretation of data at both the descriptive and interpretive levels, and the writing of research reports. It is imperative that in doing so previously subsumed and marginalized voices essentially of subalterns, women, people of colour and queers would be reclaimed.

Contesting Postmodernism

At the outset, it is of importance to know that much of postmodern discourses arose from within feminist scholarship essentially because the meta-narrators were largely men. At the same time, however, the most robust critique is also from feminist scholars (Hooks, 1991).

Through hegemonic discourses and privileging masculine knowledge production - largely by white men - modernism has created the 'other' which could only be studied and researched against the hegemonic referential universe. For example, Christopherson (1989) uses examples to show how theory building itself reflects and reinforces the structures of

social power which embed in masculine views of the world. Thus, men's experience becomes the norm and competitive and sometimes brutal forms of social interaction between hierarchically placed groups exclude those who are either unwilling or unable to conform to the rules of the game. Postmodernism searched for multiplicity of constructs and voices questioning the very paradigm of dominant referential discourse. Yet postmodernism faced its share of influential critiques.

It is argued that postmodernism has created so much anxiety amongst scholars about not being 'authentic' in treading alien territories that the researchers have occasional apologies for being 'the outsider' and how because of it they cannot be 'authentic' voices so much so that self-reflexive exercises have become mere 'navel gazing' intended to gain legitimacy as 'authentic researchers'. Such pressures and fears have led to an impasse increasingly reflected in avoidance of fieldwork by researchers (Nagar, 2002).

More importantly, what constitutes 'authenticity' remains rather unresolved. Serious researchers have become painfully aware that true or authentic voices cannot be retrieved primarily on two accounts. First, experiences of the researched at an existential level are mostly private whereas even the most sensitive researcher theorizes and frames that experience primarily for the consumption in public domains. To that extent, the original narratives do get transformed into the researcher's overarching agenda (Arber, 2000). How the researchers treat their own interpretative voices – as one among many or by the virtue of being the narrator s/he would enjoy a privileged position? How does one sift the voice of the author and the participants? Second, individual subject may have voices that keep assuming different hues at different times. There is an issue therefore as to which, whose voice, at what juncture becomes authentic? A tribal who has lived all her life in metro cities or a foreigner who spends years in the jungles of Jharkhand? Further, even as researchers recognize differences and try to include the multiple voices of subject and object within the text, their own identities continue to be a part of the very structures of power that are being deconstructed. That the voices can be architected is yet another issue (Sutherland, 2004).

Acknowledging multiple voices can make it appear as if other voices have been allowed a say whereas even in pluralistic narratives, the author/researcher may continue to retain control over other voices, however subconsciously it may be. It is quite likely that in order to replace a modernist singularity with a multiplicity, the dominant continues to occupy the centre without adequately recognizing the reality of multiplicity of others with their own trajectories (Schutte, 2000: 51).

Whether we like it or not, despite grass-roots struggles and assertions, in real world all voices do not carry equal weight. Ideally the subaltern, the marginalized, the downtrodden must speak for themselves, but what if they cannot, not because they do not know what they want, but because they may not be able to articulate themselves in ways that would be heard and responded to at places where it matters, i.e., bureaucrats at policy level, political leaders, industrial/business houses etc., to name some. Would the privileged be mute spectators even if their speaking, however tinted and biased their voices (assuming that they would be), might make a difference (Raju, 2002).

The tension derives from what would seem to be the antithetical claims by different groups of scholars. On one hand, given the overall social structure and submission/ marginalization of women within it, women do share commonalities across caste, class and ethnic locations by virtue of being women, withholding differences at individual level. On the other hand, however, the philosophical project of postmodernism deconstructs all such broad humanist categories including 'women' as falsely totalizing (Fraser and Nicholson, 1988: 83-85). Postmodernist discourses are thus characterized by intense debates and

counter-debates about differences among women around not only theoretical orientation but basic conceptual categories and the possibilities of feminist identity and politics (Pratt and Hanson, 1994: 5)..

Postmodernism has been criticized for being too apolitical without any scope for collective action as there are no collective agenda (Herbold, 1995). .The major argument is that while the recognition of the differences is an important departure from earlier positivistic generalisations, there is an inherent danger of falling into irreconcilable categories of representation so that in the end there is no common platform or forum for alliances or collective action.

According to Kirsch and Ritchie (1995) postmodernist's plea that one spells out one's politics of location is not enough because in doing so, one risks ignoring hierarchies and creating the same unifying and totalizing master narratives which feminist scholars have sought to revise and oppose. More specifically, they point out how the individualized scholar, a woman in this case, stands the risk of defining gender biologically - a binary of male and female as opposite and inherently different human beings - rather than recognizing it as a construct resulting from varied set of social relationships with multiple permutations of gendered experience and how that may restrict scholars from adequately asking and answering the questions one needs in order to understand how both men and women are affected by cultural contexts.

Geography, Gender and Postmodernism

How does postmodernism implicate geographical research is an issue that I now turn to. One can argue that contextualizing – the hallmark of postmodernist vocabulary - brings the question of spatiality/location as a variable in explaining differences. Ironically, at the same time, however, postmodernism, in its extreme manifestation trivializes structures that may supersede/subsume highly localized specificities (Nagar and Raju, 2003). For example, when we talk about female infanticide in India or China, in a small village in Tamil Nadu in South India, or in a Rajasthani village in northern India, the socio-economic and cultural context within which it takes place is once again a subtext to overarching patriarchal discourses articulated and reinforced in varied ways wherein girls are devalued, although different groups may follow different ways to eliminate girls.

At macro-level Chinese women can become a category of analysis *vis-à-vis* African women or Indian women, independent of their localized differences whereas at a meso level, Indian women can be from states, e.g., Andhra Pradesh, Kerala or Uttar Pradesh. At yet another level they can be from the lace-makers' community of Narsapur village in Andhra Pradesh. None of these identities deny them the other! The village women do not cease to be South Indian women as also the South Indian women do not cease to be Indian woman. The issue is that of immediate referent point. Identities can thus be plural and nested at the same time (Raju, 2002). Conceptualized thus, the categories become fluid and the identity boundaries can be crossed over, interplayed and contested – each legitimate in its own right. However, postmodernism leaves out the possibility of differences being conceptualized and understood in a scaler manner - local, regional, national and international - and how the spatially constructed/contextualized identities can coexist.

Those familiar with demographic indicators would know that fertility rates amongst Muslim women are usually higher than that of Hindu women in India. In fact, this has resulted in a heightened anxiety amongst some about Muslims overtaking Hindus in numbers by some imaginary deadline in future. It is true that in general Muslim fertility is higher than their Hindu counterparts almost everywhere. However, when socio-economic parameters such as education, work status, rural-urban locations and standard of living and so on are controlled for, the fertility rates for both the communities emerge as closely interlinked as they covary

in the same direction in a given location. This suggests that some externalities other than being Muslim or Hindu act upon women's fertility behaviour (Alagarajan and Kulkarni, 2008). Although such generalities do not stop women to exist as individuals, we know they are not entirely free of their socio-spatial embeddedness, irrespective of being women belonging to two different religions. Kerala and Uttar Pradesh are two good examples.

The 'regional hold' on fertility is so well known that almost all recent models of fertility incorporate a significant geographical component with the help of dummy regional variables. Guilmoto and Rajan (1998) have examined the regional heterogeneity both from statistical and cartographic perspectives, using factor analysis of non-demographic data, models of fertility determinants and district-wise mapping to test out the presence of regional clustering. Regional analysis reveals that economic, social and health indicators display spatial patterns as strong as fertility rates. The map of fertility decline spreading along culturally and spatially contiguous regions also suggests that diffusion mechanisms may play an independent role in the spread of new reproductive behaviour such as the small family norm.

Though diffusion *per se* is no real explanation for the fast decline of fertility in Southern or Coastal India, it is definitely important to understand how social and cultural homogeneity or regional policies facilitate these mechanisms. Another instance can be that related to access to literacy and higher education. In India although women from historically underprivileged castes have lower levels of literacy as compared to women of higher castes, the two move in the same direction in a given locale to the extent that the primary axis of differentiation emerges at the rural/urban divide rather than caste/class/ethnic differences (Raju, 2008).

Alternatively, differences that are historically and geographically shaped can be contained through ideologies as Friedman argues. She recognizes that the struggles that mandates a quota of representation by lower caste women in village councils of rural India is not the same as that of demonstrators for reproductive choice outside a beleaguered abortion clinic in the USA. However, the broader quest for gender and social justice mark both the events comparable. To quote her:

"[B]oth participate in the notion that the given social order privileges the masculine and distributes power inequitably according to gender (in whatever ways, for whatever reasons, and however differently interactive with other issues of power). Both advocate [for] a form of gender equity (however 'equity' is conceived or to be achieved)." (Friedman, 1998: 2)

Undoubtedly women are not a homogeneous identity and there are as much differences amongst them as between them and men. Although these stem from age, caste, class, religion, which disrupt a common gender identity, as we would see it is a matter of scale at which truths are being produced. A classic case, which I offer as an example can be that of a senior matriarch with male children who has enormous domestic power as opposed to the subordinated youngest daughter-in-law, or even a senior one with no children or only girl children in an average Indian family.

How do we reconcile these two positions? There is absolutely no denial for a need, even in a politicized struggle, to question universalizing theories and meta-narratives and to engage in intense debates about differences among women and about listening to multiple voices. These interrogations are essential in determining whether problems are tackled top—down or bottom—up. However, what the examples show is that even as deconstructed specificities remain in focus, we need not lose perspective of structures such as colonial history, neoclassical economic and political frameworks, and patriarchy even as they assume varied manifestations. And if this is agreed upon, one will have to move constantly between the 'micro' and the 'macro' to understand the scales at which 'specificities' exist and deviate from the regional scene and *vice versa*.

One way of taking cognizance of postmodernist's concerns with differences as well as accounting for commonalities is to explore the processes through which differences are created so as to show the ways in which gendered and class identities are fluid and constituted in place and therefore articulate in different ways in different places. We can think of differences as construct of place and geography, both as metaphor and material context. That is, how space and place enter into the construction of difference (Friedman, 1998, 1999; Pratt and Hanson, 1994: 6). In other words, the element of space becomes a critical component in any analyses, particularly postmodernist. Though such an argument may be taken as deeply deterministic, the point that it strives to make is that spaces contain possibilities, and these nurture and shape human experience, and colour the world view of its inhabitants. Thus, differences can be seen as contained spatially without undermining foundational differences among women that stem from other systems of stratification.

In sum, the identity politics in terms of highlighting differences (and thus destroying search for common processes) cannot and should not overshadow the concept of 'regional holds' of structures that shape the existential gendered experiences. To reiterate what I have said earlier, geographers with their training in spatial organizations and interlinkages therein are particularly well-equipped to theorize differences as scalar in nature. This can be done in recognition that certain of the differences reflect and reinforce broad structures of social domination that need constant contestation and overturning rather than one grand dismissal of singular voice. Thus, subsequent discourses on multiplicity of subjects and voices tend not to seek deconstruction of subject along differences as much as reconstruction of a critical subject.

References

Ahmad A. (1986) "Jameson's Rhetoric of Otherness and the 'National Allegory", *Social Text*, 15 (Fall).

Alagarajan, Manoj and P M Kulkarni (2008) "Religious differentials in fertility in India: Is there a conversion?", *Economic and Political Weekly*, XLIII (48), pp. 44-53.

Arber R. (2000) "Defining Positioning within Politics of Difference: Negotiating spaces `in be-tween'", *Race Ethnicity and Education*, (3), pp. 45-63.

Barnes and Gregory (1997) (Ed.) *Reading Human Geography: The Poetics and Politics of Inquiry*, London: Arnold.

Christopherson, S. (1989) "On being outside 'the project'", *Antipode,* 21, pp. 83-89.

Edney, M. (1999) "Reconsidering Enlightenment Geography and Map Making: Reconnaissance, Mapping, Archive", in Livingstone, D. N. and Withers, C. W. J., (eds.), *Geography and Enlightenment*, Chicago: University of Chicago Press, pp. 165-198.

Fraser N. and L. Nicholson (1988) "Social Criticism without Philosophy: An Encounter between Feminism and Postmodernism", in A. Ross (Ed.) *Universal Abandon: The Politics of Postmodernism*, Minneapolis: University of Minneapolis Press, pp. 83-104.

Friedman S. S. (1998) *Mappings: Feminism and the Cultural Geographies of Encounter*, Princeton NJ: Princeton University Press.

Friedman S. S. (1999) "Spatial Rhetorics of Feminism in the age of Globalization", address delivered at the Symposium *Emerging Rhetorics at Texas Women's University*, April 30.

Gregory D. (1994) *Geographical Imagination*, Oxford: Basil Blackwell.

Guilmoto Christophe Z. and S. Irudaya Rajan (1998) "Regional Heterogeneity and Fertility Behaviour in India", *downloaded ideas.repec.org/p/ind/cdswpp/290.html*

Harding S. (1986) *The Science Question in Feminism,* Ithaca: Cornell University Press.

Herbold S. (1995) *SIGNS Journal of Women in Culture and Society,* 21 (1).

Hooks (1991) *Yearning: Race, Gender and Cultural Politics*, London: Turnaround.

Johnston R. J., D. Gregory, G. Pratt and M. Watts (2000) (Eds.) *The Dictionary of Human Geography*, Oxford: Blackwell.

Kirsch E. and J. S. Ritchie (1995) "Beyond the Personal: Theorizing a Politics of Location in Composition Research", *College Composition and Communication,* 46 (1), pp. 7-29.

McDowell L. (1992) "Multiple Voices: Speaking From Inside and Outside 'The Project'", *Antipode*, 24: (1), pp. 56-72.

McDowell L. (1997) "Understanding Diversity: The Problem of/for 'Theory'", in T. Barnes and D. Gregory (Eds.) *Reading Human Geography: The Poetics and Politics of Enquiry*, Arnold: London, pp. 124-136.

Nagar R. (2002) "Footloose Researchers, 'Traveling' Theories and the Politics of Transnational Feminist praxis", *Gender, Place and Culture*, 9, pp. 179-186.

Pratt G. and S. Hanson (1994) "Gender and the Construction of Difference", *Gender, Place and Culture*, 1(1), pp. 5-29.

Raju S. (2002) "We are different, but can we talk", *Gender, Place and Culture*, 9 (2), pp. 173-177.

Raju Saraswati (2008) *More Unequal than Others: Gender Differentials in Access to Higher Education, State and District Level Patterns*, unpublished report as a part of resource material in preparation of approach and strategy for higher education in the 11th Five Year Plan. University Grants Commission, New Delhi.

Raju, Saraswati and Richa Nagar (2003) "Women, NGOs and the Contradictions of Empowerment and Disempowerment: A Conversation", *Antipode*, 35 (1), pp.1-12.

Rich, Adrienne (1989) "Notes on a Politics of Location", *Blood, Bread, and Poetry*, New York: Norton.

Schutte O. (2000) "Cultural Alterity: Cross-cultural Communication and Feminist Theory in North—South Contexts", in Narayan A. & S. Harding (Eds) *Decentering the Center: Philosophy or a Multicultural, Postcolonial and Feminist World,* Bloomington IN: Indiana University Press.

Slater D. (1997) *Consumer Culture and Modernity*, Cambridge: Polity Press.

Spivak G. C. (1976) "Translator's preface" in J Derrida C. (Ed.) *Of Grammatology*, Baltimore: Johns Hopkins University Press.

Strohmayer, U. and M. Hannah (1992) "Domesticating Postmodernism", *Antipode*, 21, (1), pp. 29-55.

Sutherland E.(2004)"In-the-field Politics: Multiple Voices of Outworkers and Researcher", *Australian Geographer*, 35 (2), pp. 161-168.

Warf B. (2001) "Space and Social Theory in Geography', *International Encyclopedia of the Social & Behavioral Sciences*, downloaded, Science Direct, January 2004.

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THE ETHNIC COMPOSITION OF PENINSULAR MALAYSIA'S POPULATION

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Abstract

This paper, based mainly on data from the Population and Housing Census of Malaysia, 2000, attempts to understand the spatial pattern of ethnic composition in Peninsular Malaysia. Apart from its location between the top two clusters of world population, China and India, tin mining, trade, rubber estates and the British colonial rule are the main factors responsible for the present ethnic fabric of the area. Further, the New Economic Policy (NEP) of Malaysian Government and subsequent policy inputs have also played a vital role in further chiselling out the ethnic distribution pattern during the past about four decades.

KEY WORDS: Ethnic composition, Immigration, Urbanization, Peninsular Malaysia.

Introduction

Ethnic diversity provides a fecund and fascinating theme for geographical research. Ethnic boundaries, and their construction and deconstruction, is connected with socio-political dynamics of a given society. As expected, ethnic competition, whether subtle or otherwise, always comes to be there in various fields. Electoral politics along ethnic lines is just one manifestation of ethnic competition. If managed properly, ethnic diversity could become a valuable resource for enrichment of socio-political, artistic and cultural life of a country. On the other hand, if it stays improperly managed, then it could also become a source of serious socio-economic tensions. So long as a country experiences economic dynamism, it remains more or less free from tensions springing from ethnic competition for various socio-economic resources. However, a period of economic slowdown would need a much more competent and dedicated governance to avoid emergence of ethnic tensions. In multi-ethnic countries like Malaysia, if an ethnic group, somehow, gets marginalized economically it would not be able to catch up with other groups without the help of some special provisions for its socio-economic development.

Climatic uniformity and population diversity are the two key features of Malaysia's geography. Similarly, tin mining and rubber plantations have played a determining role in the socio-economic and demographic pulse of the country. Besides, three major development Corridors of the country, i.e. "the West Coast Corridor from Johor Bahru to Kangar, the lesser-developed East Coast Corridor, and the East-West Corridor" which links the other two have been of vital importance in the overall development of the country (Bruton and Mohamad, 2002, p.33). Significantly, despite efforts towards modifications in transport infrastructure in recent decades, the present-day transport network "still reflects the needs of pre-independence Malaysia to connect the tin and rubber producing areas to the coastal ports and favours the Western Development Corridor" (Bruton and Mohamad, 2002, p.36).

Malaysia's geographical location at the middle of the vital sea route between East Asia on the one hand and South and West Asia, and Europe on the other has been a strong part of its destiny. Owing to its

privileged location on this route, it has been an ideal meeting place between traders from East Asia and those from South and West Asia for centuries. It is no wonder that "Malacca was an international market-place" where prized merchandise from both its east and west were sold even during the pre-modern period (Hoyt, 1993, p.18; Gullick, 1981, p. 12). Of course, this international commercial interaction was ably assisted by the then rulers of Melaka (earlier name Malacca) by providing the traders with "warehouses secure against fire and theft, a consistent system of taxation and a reliable standard of weights and measures", (Hoyt, 1993, p.11). The locational advantage of Malacca Straits, aptly named after Malaysia's top administrative, commercial, and cultural centre – Melaka or Malacca — of yesteryears could be gauged from the fact that "more than 50000 vessels per year transit the 621 mile long straits linking the Indian and Pacific Oceans", (http:/ /Steve's Home Page).

Another distinguishing feature of Malaysia is its very thin cover of human population (Trewartha, 1949, p.524) sandwiched between two thick clusters of population in East and South Asia. It was particularly true till the beginning of the 19th century (Sidhu and Jones, 1981, p. 29). The basal distributional pattern of population at that time comprised of Malays in the coastal and marine settlements, and a few thousand aborigines in the forested and mountainous interior tracts (Jin-Bee, 1976, p.113; Sidhu and Jones, 1981, p. 29). Apart from other advantages, its thin scatter of population provided an attractive ground for settlement of people from adjoining thickly populated parts of Asia.

The annexation of Melaka by the British in 1825 marks a turning point in the socio-economic and demographic history of the country. Unlike the earlier two colonial administrations - of the Portuguese and the Dutch - the British rule was instrumental in transforming the political, economic, and ethnic contours of Malaysia.

The annexation of Melaka by the British in 1825 marked the beginning of a period of a substantial spurt in immigration of Chinese and Indians to Malaysia. In order to have a proper comprehension of this process, there is a need to go back to the third decade of the 19th century. Just before the beginning of the 19th century, the total Malay population in the whole of Peninsular Malaysia was only 0.25 million (Dobby, 1967, p.128). This estimate of population seems to be close to reality as even after 90 years, despite significant improvement in health and hygienic conditions under the British rule, it was only 1.37 million. Thus, the density of population in the study area was only 10 persons per square kilometre in 1911 although it indicates an impressive increase as compared to merely 2 persons per square kilometre at the beginning of 19th century. Thus, at the time of capture of Melaka by the British in 1825, Peninsular Malaysia was very thinly populated (about 2.5 persons per square km). It points out that the density of population in the study area was much below the optimum for promoting rapid economic development (Sandhu, 1969, p. 152). Besides, there was "little shortage of land and no shortage of sea for food resources" (Hooker, 2003, p.29). This 'abundance' of physical resources all around provided a feeling of security and satisfaction, or even a sort of complacency to a large share of Malay population to stay put at their places of residence which usually happens to be the case in the pre-capitalist stage of development. Besides, the Malay Aristocracy at that time also wanted to protect the Malay population from "economic competition, ugly commercialism and the deleterious effects that modern life was considered to pose for their culture (Rigg, 1991, p.114). The combined effect of the above three factors together seems to have kept Malay population less interested in participating in the new economic opportunities that emerged after the strengthening of the British hold on the West Coast region in 1825. Their lack of interest in new employment avenues was quite conspicuous both in the case of tin mining and rubber plantations (Fisher, 1964, 598; Gomez, 1999, p. 171). Nothing would be

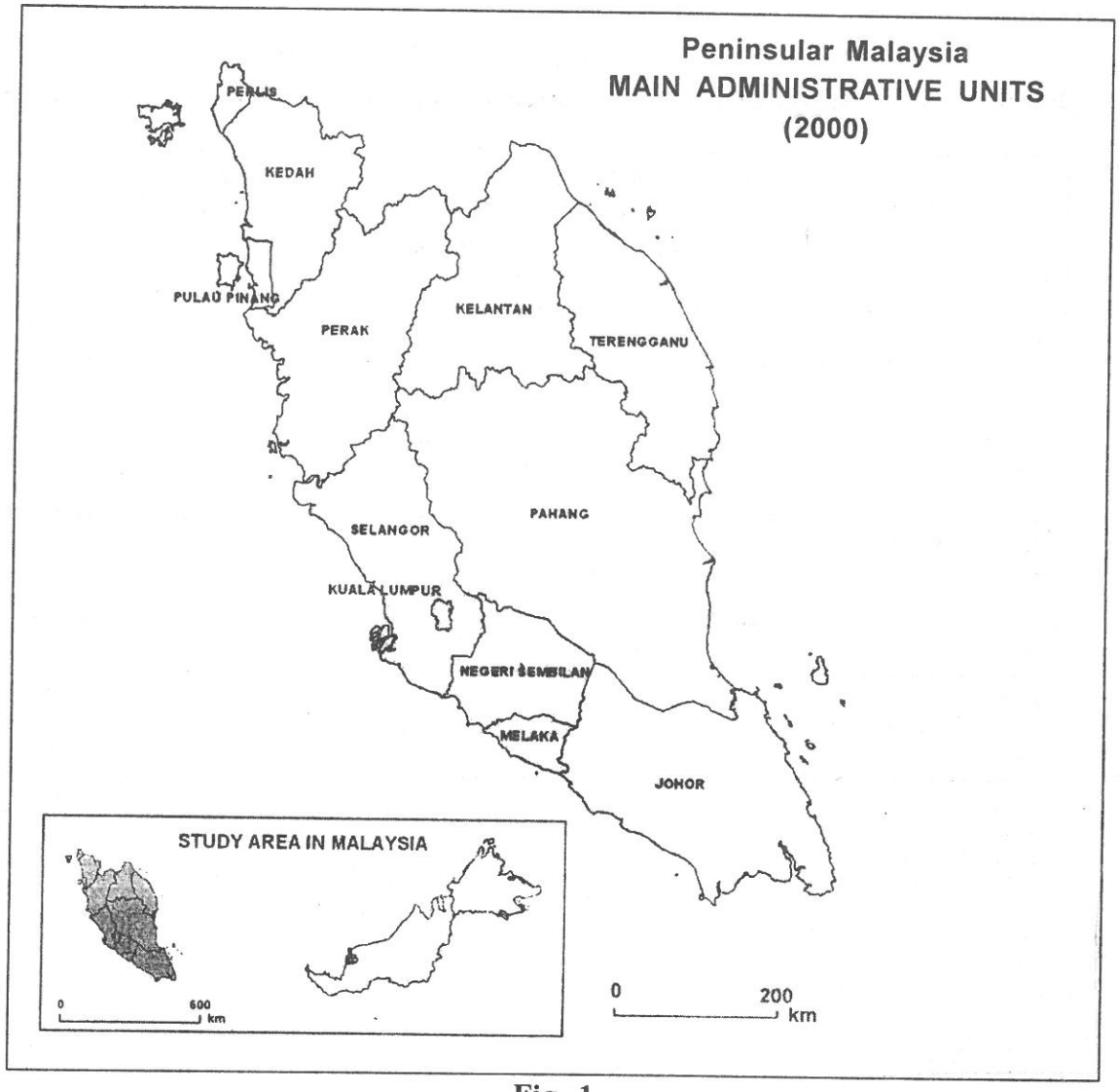

Fig. 1

further from the truth than to attribute Malay people's lag in migration to the new areas of economic opportunities during the British rule to their hereditary 'laziness' or 'gene-factor' as asserted by Mahathir bin Mohamad (1970, p. 25). Notable acceleration in the tempo of urbanization as well as occupational change among the Malays in the past 3-4 decades is an eloquent negation of the above assertion.

In this backdrop recruitment of workers from thickly populated areas outside Peninsular Malaysia was the only option for financiers/contractors involved in tin mining and later in establishing rubber estates .The British colonial rulers who had originally come as traders had money and profit as their first and foremost interest. Anything and anyone helping them in this regard naturally received their preferential attention. Many Chinese and a few Indian businessmen who had come forward to invest in the British ventures in tin mining and also in pepper, gambier and rubber plantations were awarded

Table – 1

Peninsular Malaysia : Distribution, Density and Urbanization by States (2000)

State	Distribution of Total Population (%)	Density of Total Population (%)	Distribution of Urban Population (%)	Level of Urbanization (%)
Johor	11.8	129.7	11.9	63.9
Kedah	9.1	164.5	4.4	38.7
Kelantan	6.1	84.9	3.1	33.5
Melaka	3.4	354.4	3.0	67.3
Negeri Sembilan	3.8	120.5	3.3	55.0
Pahang	6.9	32.9	3.8	42.1
Penang	9.3	92.2	7.1	79.5
Perak	1.1	246.1	8.8	59.5
Perlis	5.7	1147.8	0.5	33.8
Selangor	22.2	474.7	25.4	88.3
Terengganu	4.1	66.9	3.2	49.4
Kuala Lumpur	7.2	3618.8	3.2	100.0
MALAYSIA	**100.0**	**55.8**	**100.0**	**61.8**

a few contracts/subcontracts as a part of this process (Hooker, 2003, p.150).

In addition, the rapid growth in tin mining activity on the West Coast from 1850s, and "the growth of Singapore and Penang into thriving *entrepots*" at the beginning of the 20th century also resulted in an enormous demand for cheap labour all of which could not be met domestically (Rigg, 1991, p.111). This made the contractors look beyond Malaysia for recruitment of workers. The densely populated parts of China and India, having an abundance of cheap labour force and which also happened to be the home areas of many of the financiers, provided an ideal source areas for labour.

It is notable that each one of the three main ethnic groups in Malaysia comprises a number of sub-groups. For instance, the Chinese are sub-divided into about a dozen groups, including the Baba-Chinese, mainly on the basis of dialects and areas of their origin (Siow, 1983, p.171). Similarly, the Indian population includes several distinct sub-groups like Tamils, Telugus, Malayalis and the Sikhs. Further, Pakistanis, Bangladeshis, and Sri Lankans have also been usually considered as Indians (Swee-Hock, 2007, p.67).

In the same way, the *Bumiputeras* (literally meaning sons of the soil) also comprise quite a few sub-groups such as *Ibans, Kadazans* and *Melanaus*. Thus, ethnic diversity is much greater in Malaysia than what emerges from published census data. Partly due to its location between the two most densely populated parts of Asia, China and India, and its sparse population during the colonial period, and partly due to its strategic location on a vital sea route, major Malaysian towns, like Melaka (Malacca) and Kedah, have been characterised by a cosmopolitan character for many centuries. Singapore's cosmopolitanism also reflects the role of the same factors. However, since census data are available for only four main ethnic groups, i.e. Malays, Other Bumiputeras , Chinese and Indians the present study is limited to these groups only.

The Study Area

Covering an area of 131690 square kilometres, and characterised with equatorial type of climate, Peninsular or West Malaysia is one of the most developed parts of Asia. It comprises 12 of the 14 states of Malaysia (Fig. 1). Its share in the total area of the country was 39.9 per cent while its share in the total population was as high as 81.5 per cent in 2000. Accordingly, its density of population (129.5 persons per sq. km) was more than double the figure for the whole country. As per the 2000 census the highest share of total population of the study area resided in the state of Selangor (22.2 per cent) followed by Johor (11.8 per cent), Penang (9.3 per cent), and Kedah (9.1 per cent). On the other hand, Perak had only 1.1 per cent of the total population (Table 1). The highest density of population, 3619 persons per sq. km., was found in the federal capital Kuala Lumpur followed by Perlis (1148), Selangor (475), Melaka (354), and Kedah (165). The lowest density was recorded in the predominantly mountainous state of Pahang (33). Similarly, the level of urbanization was perceptibly higher in the study area (65.3 per cent) as compared to the national average of 61.8 per cent. The level of urbanization varied from 100 per cent in Kuala Lumpur to 33.5 per cent in Kelantan (Table 1). Kuala Lumpur, Selangor, Penang, Melaka and Johor had higher levels of urbanization as compared to the national average. The states of Kedah (38.7 per cent), Perlis (33.8 per cent) and Kelantan (33.5 per cent) had the lowest level of urbanization. Expectedly, the level of urbanization showed strong positive relationship with socio-economic development of different states of the area.

In terms of overall socio-economic development, the country could be sub-divided into three broad zones, i.e. West Coast Region, East Coast Region, and the Central Mountainous Tract. Significantly, the areas which were under the British colonial rule rank higher in terms of socio-economic development as compared to the rest of the study area. The differences in socio-economic development of these two types of areas call for a separate in-depth study. The West Coast Region along with Johor tract is far ahead in socio-economic development than the rest of the study area. Due to a relatively much higher level of economic development, denser network of roads, concentration of more than three-fourths of the population a large number of urban centres of the study area, and also a high proportion of people with a long experience of migration, this region is expected to stay in the lead as compared to other parts of the study area.

Malaysia is a "multi-ethnic and multi-cultural nation, with a dominant Malay base" (Kheng, 2003, p.233). It ranks among the very few countries of the world where minority ethnic groups get full recognition and are allowed free space to live and promote their respective identities. In this way, Malaysia has come up with its own model of ethnic life wherein the hue of each group remains distinctly visible.

Ethnic Composition of Population

The peopling of the area could be conveniently sub-divided into the following five phases, i.e., Pre-1825, 1825-1930, 1930-1946, 1946-1957, and Post-1957 (Sidhu and

Jones, 1981, pp.1-7). The period since the onset of globalization also deserves to be considered separately as it has witnessed a highly stepped up pace of urbanization and international migration to the area. In the pre-1825 phase the distribution of population was essentially that of Malays and the aborigines. While the Malays were largely settled along the rivers and along the sea coasts, the aborigines or the *Orang Asli* were almost entirely nomadic and were found in the interior mountainous and forested areas. After the capture of Melaka by the British in 1825, notable immigration of the Chinese, Indians, and also of a sizeable number of Malays from the nearby islands of Indonesia, particularly, Sumatra and Java to the area can be identified during 1825-1930. The period from 1930 to 1946 was marked by net out-migration and notable redistribution of population in the study area. The first four years of this period, i.e., 1931 to 1934, recorded "a net migration loss of 400,000 persons, mainly Chinese and Indians" and also a notable rural-urban migration owing mainly to the well-known global economic recession running at that time (Sidhu and Jones, 1981, p. 4). Besides, there was also a compulsory shift, mainly of non-Malays, from urban to rural areas particularly during the period of Japanese occupation from 1942 to 1945.

Following the end of Second World War, large parts of the study area experienced communist insurgency for about a decade or so. As one of the measures to combat and suppress the insurgents, the government resettled about a million persons, mostly Chinese, into 600 'new' settlements so that the rural settlements could be conveniently and effectively policed and monitored (Sidhu and Jones, 1981, p.7). Apart from its other intended implications the relocation of Chinese community, mostly along main roads and railways, has given this community a distinct locational advantage. This has also further enriched their migration experience which often happens to be a positive socio-economic input.

The post-independence or post-1957 period of the country also experienced considerable redistribution of population in the Peninsula due to various land development schemes launched by the government as well as a distinct acceleration in the pace of socio-economic development. Consequently, whereas thousands of people, mostly Malays, got relocated in new areas in the countryside, tens of thousands of others became involved in rural-urban and urban-urban migration. More recently, the post-1990 period stands apart in terms of its demographics which are mainly shaped by impulses of globalization. Marked by a strong trend towards the development of intra-country as well as multi-country linkages under the impress of globalization, it distinctly favours major urban nodes. As a result, this period has been characterized by vigorous migration to major cities in the study area. Expectedly, the Kuala Lumpur urban conurbation has emerged as the prime destination for migrants.

The Malay Population

With a total population of 10,543,133 persons the Malays constituted 61.82 per cent of the total population of Peninsular Malaysia in 2000 (Table 2). If Other *Bumiputeras* are also included to their population then the proportion of Malay population increases to 63.03 per cent as against 65.62 per cent in Malaysia as a whole. The proportion of these two components of population has gone up by 13 percentage points in the study area since independence of the country, i.e from 49.8 per cent in 1957 to 63 per cent in 2000. It was mainly the result of differential fertility rates of various ethnic groups in the country.

The highest proportion of Malays and Other *Bumiputeras* was found in the states of Terengganu (96.80 per cent) followed by Kelantan (95.55 per cent), Perlis (86.33 per cent), Kedah (77.15 per cent), and Pahang (77.15 per cent). On the other hand they had a relatively low share in population in Perak (54.70 per cent), Selangor (53.62 per cent), Kuala Lumpur (43.68 per cent) and Penang (42.71 per cent). Significantly, their share was

Table - 2

Peninsular Malaysia: Proportion of Ethnic Groups by States (2000)

State	Malaysian citizen											
	Malay		Other Bumiputera		Chinese		Indian		Others		Total	
	Total	%	Total	%	Total	%	Total	%	Total	%	Total	%
Perlis	168,373	86.04	562	0.29	19,308	9.87	2,505	1.28	4,935	2.52	195,683	100.0
Melaka	371,143	63.16	4,260	0.72	170,774	29.06	37,862	6.44	3,607	0.61	587,646	100.0
Negeri embilan	450,110	56.19	10,564	1.32	207,661	25.92	129,027	16.11	3,668	0.46	801,030	100.0
Terengganu	835,877	96.51	2,512	0.29	24,007	2.77	1,805	0.21	1,897	0.22	866,098	100.0
Pahang	862,895	72.82	51,130	4.32	206,973	17.47	58,438	4.93	5,487	0.46	1,184,923	100.0
Penang	502,938	42.42	3,385	0.29	549,497	46.34	124,839	10.53	5,024	0.42	1,185,683	100.0
Kuala Lumpur	527,821	42.77	11,218	0.91	536,777	43.50	140,696	11.40	17,510	1.42	1,234,022	100.0
Kelantan	1,201,345	94.72	10,550	0.83	44,545	3.51	3,499	0.28	8,376	0.66	1,268,315	100.0
Kedah	1,193,323	76.99	2,534	0.16	224,435	14.48	108,768	7.02	20,967	1.35	1,550,027	100.0
Perak	1,015,214	52.41	44,412	2.29	618,972	31.95	253,331	13.08	5,254	0.27	1,937,183	100.0
Johor	1,433,713	58.22	25,867	1.05	825,002	33.50	166,749	6.77	11,453	0.47	2,462,784	100.0
Selangor	1,980,381	52.43	41,144	1.09	1,161,917	30.76	552,691	14.63	40,908	1.08	3,777,041	100.0
Peninsular Malaysia	**10,543133**	**61.82**	**208,138**	**1.21**	**4,589,868**	**26.91**	**1,580,210**	**9.32**	**129,086**	**0.81**	**17,050,435**	**100.0**
MALAYSIA	**11,294,359**	**54.02**	**3,425,630**	**11.62**	**5,356,822**	**25.63**	**1580,210**	**7.62**	**257,701**	**1.22**	**20,914,722**	**100.0**

high in relatively less developed areas. Though a high proportion of Malay population is the result of *in situ* development in the study area, yet a notable inflow of "Malay stock from Indonesia to the Peninsula has been going on for centuries" (Jin-Bee, 1976, p.122). The main source areas of Malay migrants in Indonesia included Sumatra, Java, and other adjoining islands. There were mainly three reasons for the immigration of Malay people from Indonesia: (i) Ample availability of agricultural land in the area; (ii) better economic conditions as Malaya was known to be the richest British colonial territory in Afro-Asia; and (iii) the Acehnese war of 1873-1899 against the Dutch which forced many people to move out, particularly to Kedah and Perak (Tregonning, 1964, p. 183).

As the Malay population did not benefit much from the economic dynamism in large parts of the study area during British rule, it had, consequently, lagged behind as compared to the other communities. Understandably, it also trailed behind in terms of education levels, urbanization and proportion of non-agricultural workers. In other words, this section of population stood notably marginalised in the country at the time of independence in 1957.

Though socio-economic marginalisation of Malays at that time calls for a comprehensive and dispassionate study, it seems that the following factors were mainly responsible for this situation: (i) the general lack of participation in new economic avenues which emerged during the colonial rule due partly to paucity of Malay entrepreneurs, and partly to the then socio-economic elite's view that participation in new and modern ventures would undermine cultural and ethical values, and (ii) lack of requisite attention paid by the rulers and aristocracy in the non-federated Malay states to work for necessary economic change and development as was happening at that time in Straits Settlements as well as in the West Coast Region.

However, with the introduction of economic incentives to Malay community under the New Economic Policy (NEP) since early 1970s, its socio-economic marginalization has been removed to a considerable degree. If the present pace of change continues for another decade or so, the Malay community would be at par with the rest of the population in the study area. Significantly, rapid socio-economic development and high pace of urbanization experienced by the Malays during the past about 35 years squarely belies the 'theory' which attributed their earlier marginalisation to their so-called 'laziness' or 'gene-factor'.

Fig. 2 reveals that the Malay population had an overwhelming majority (above 75 per cent) in most of the East Coast Region as well as in the north-western part of the study area. However, the proportion of their population varied widely in the West Coast Region from less than 50 per cent in 10 districts to about 95 per cent in Perak Tengah district. It is important to note that till about the mid-20th century their numbers in the area were largely determined by migration patterns of the other two communities, the Chinese and the Indians. However, since Independence of the country in 1957, internal migration as well as differentials in fertility rates have become increasingly more important in shaping the spatial distribution of Malay population.

Other Bumiputeras

With a population of 2,425,630 persons the Other *Bumiputeras* constituted 11.62 per cent of Malaysia's population in 2000. However, their proportion in the population of Peninsular Malaysia was 1.21 per cent only (Table 2). Unlike the other ethnic groups, the distribution pattern of this group is not much associated with the level of socio-economic development of different areas and it mainly reflects the areas of their pre-colonial concentration. Accordingly, their highest proportion was recorded in the largely mountainous state of Pahang (4.32 per cent) and was also notably higher (2.29 per cent) than the average for the study area in the socio-economically more developed state of Perak.

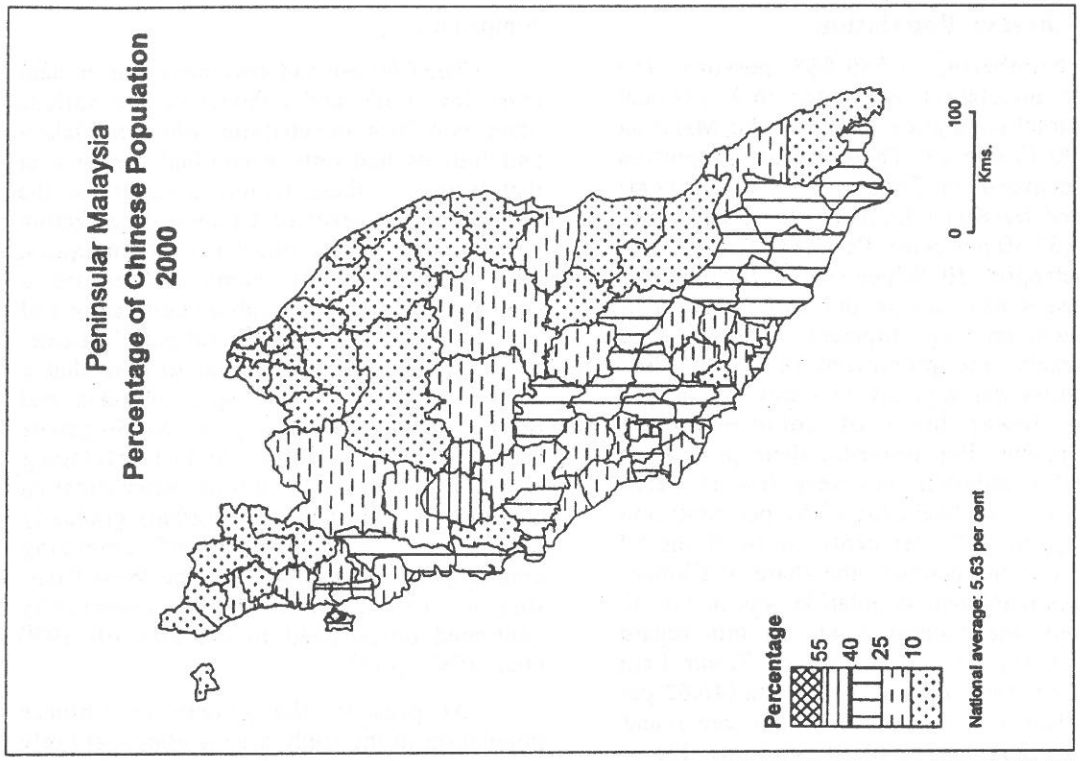
Peninsular Malaysia
Percentage of Chinese Population
2000
Percentage
55
40
25
10
National average: 5.63 per cent
0
100
Kms.

Fig. 3

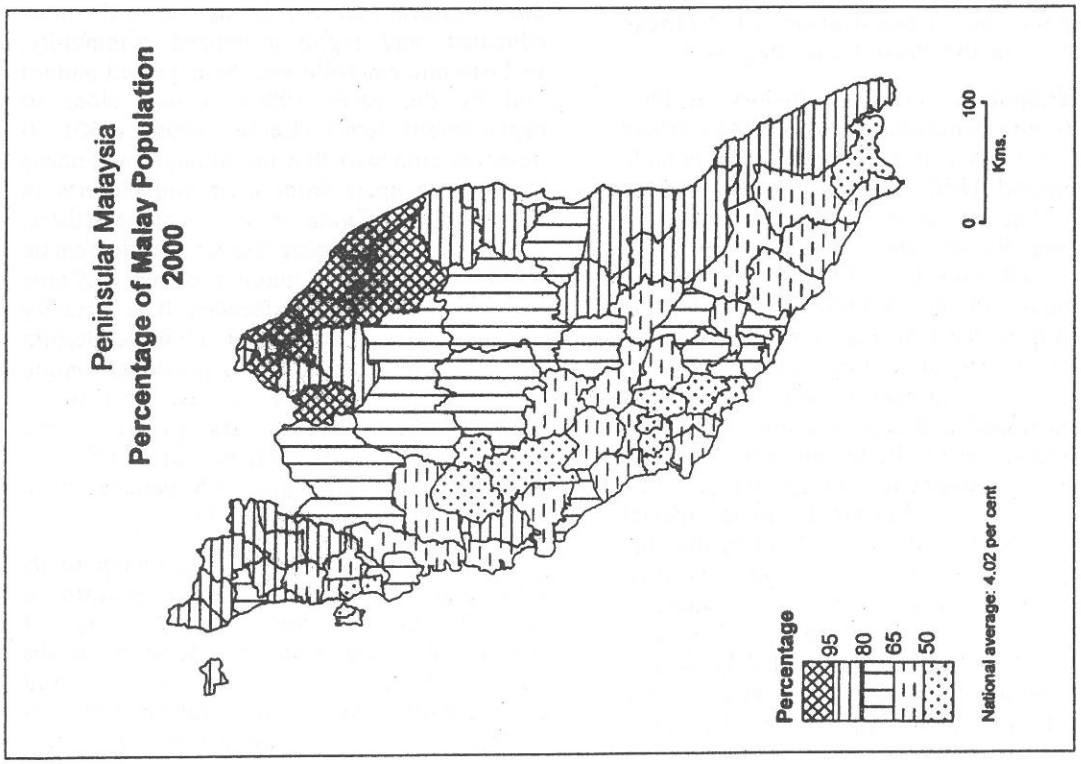
Peninsular Malaysia
Percentage of Malay Population
2000
Percentage
95
80
65
50
National average: 4.02 per cent
0
100
Kms.

Fig. 2

The Chinese Population

Numbering 4,589,868 persons, the Chinese population constituted 26.91 per cent of the total population of Peninsular Malaysia in 2000 (Table 2). Their highest proportion was recorded in Penang (46.34 per cent) followed by Kuala Lumpur (43.50 per cent), Johor (33.50 per cent), Perak (31.95 per cent) and Selangor (30.76 per cent). Incidentally, all these states rank in the upper bracket of socio-economic development in the country. Conversely, the proportion of the Chinese population was very low in states which were at the lower level of socio-economic development. For instance, their percentage in total population was very low in Perlis (9.87 per cent), Kelantan (3.51 per cent) and Terengganu (2.77 per cent). In 14 of the 82 districts of the country, the share of Chinese population in total population was above 30 per cent, the highest figure in this regard being in the tin-rich district of Timur Laut (63.21 per cent) followed by Kinta (46.62 per cent), Kuala Lumpur (41.11 per cent) and Cameron Highlands (40.10 per cent). Fig. 3 highlights the concentration of Chinese population in the West Coast Region.

Despite a very long history of their contacts with Peninsular Malaysia, the Chinese migration to this area experienced a notable spurt around 1850. It was prompted by the rapidly "increasing economic opportunities under the British and disruptive events in China" (Raybeck, 1983, p.21). The development of the tin industry provided the main fillip to the Chinese immigration to the area at that time. It is important to point out that in the second half of the 19th century "tin was mined and exported almost entirely by Chinese with little participation of European entrepreneurs" (Tregonning, 1964, p.188). However, it was not due to any special favour of the British colonial rulers that the Chinese remained virtually in full control of the tin industry in the area. For instance, in less than three decades of the introduction of dredger, imported from Europe by the British for tin mining in 1912, the Chinese were almost totally dislodged by the European companies.

The Chinese had also made a prominent entry into trade and commerce, and various other non-farm occupations wherein Malays and Indians had only a nominal presence at that time. All these factors account for the notably higher level of Chinese urbanization as compared to the other two communities. Later on, they also came to acquire a significant presence in "rubber cultivation and commercial agriculture in rural areas" (Leete, 1996, p.7). It is significant to note that a very heavy share of Chinese migrants had reached Peninsular Malaysia *via* Singapore (Jen, 1982, p.114) which was fast developing as a major *entrepot* at that time. After alighting at Singapore, the Chinese migrants gradually drifted to various areas of emerging employment opportunities in the West Coast Region. Immigration of this community continued unrestricted to the area till 1930 (Jen, 1982, p.115).

At present, the growth of Chinese population in the study area is almost entirely due to natural increase. Being one of the most educated, and highly-urbanized community, its birth rate has followed the expected pattern and by the early 1990s it was close to replacement level (Leete, 1996, p.60). It deserves emphasis that the Malaysian Chinese stand quite apart from their counterparts in the Mainland China in one, among others, important demographic aspect. While female foeticide has been a major problem in China for the past about 2-3 decades, it is virtually unknown among Malaysian Chinese despite the very small family norm prevalent among them currently. In other words, the Chinese population in Peninsular Malaysia has come to acquire a quite distinct and different mindset, during the past 4-5 generation in their new homeland, Malaysia.

The Chinese community, owing to its long experience of internal migration, a cultural memory, even if grown hazy, of international migration by ancestors in the past, and higher educational level and consequently larger information field, is undergoing rapid occupational mobility

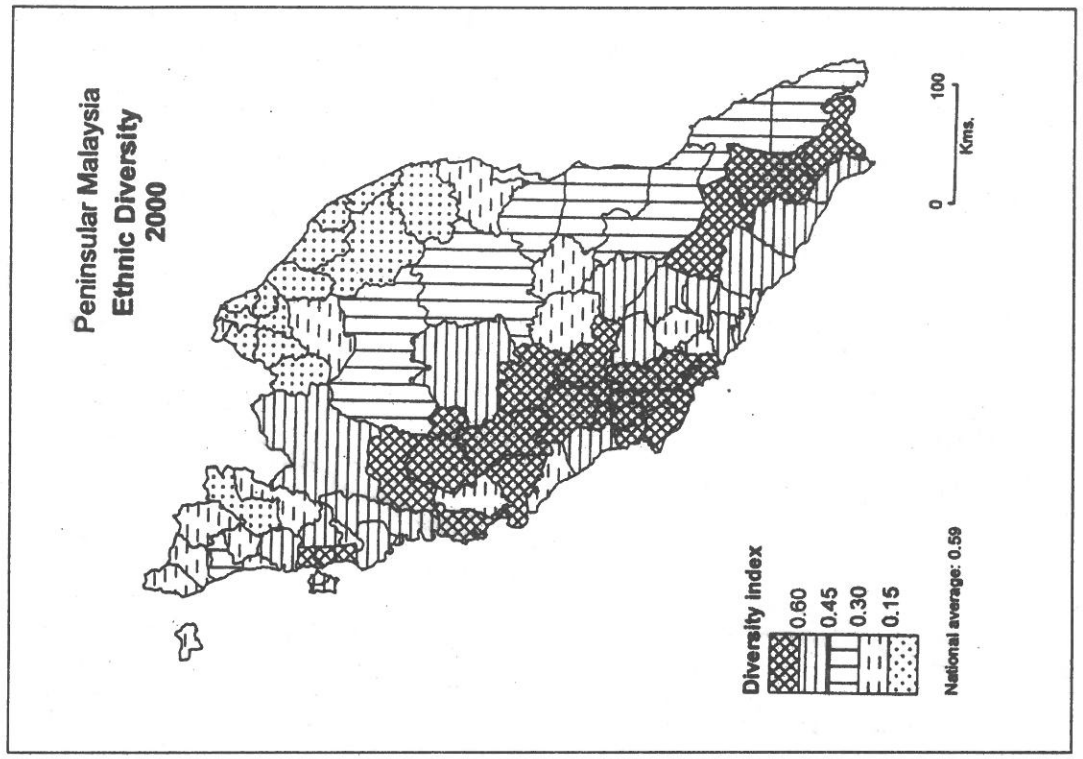
Peninsular Malaysia
Ethnic Diversity
2000
Diversity index
0.60
0.45
0.30
0.15
National average: 0.59
0
100
Kms.

Fig. 5

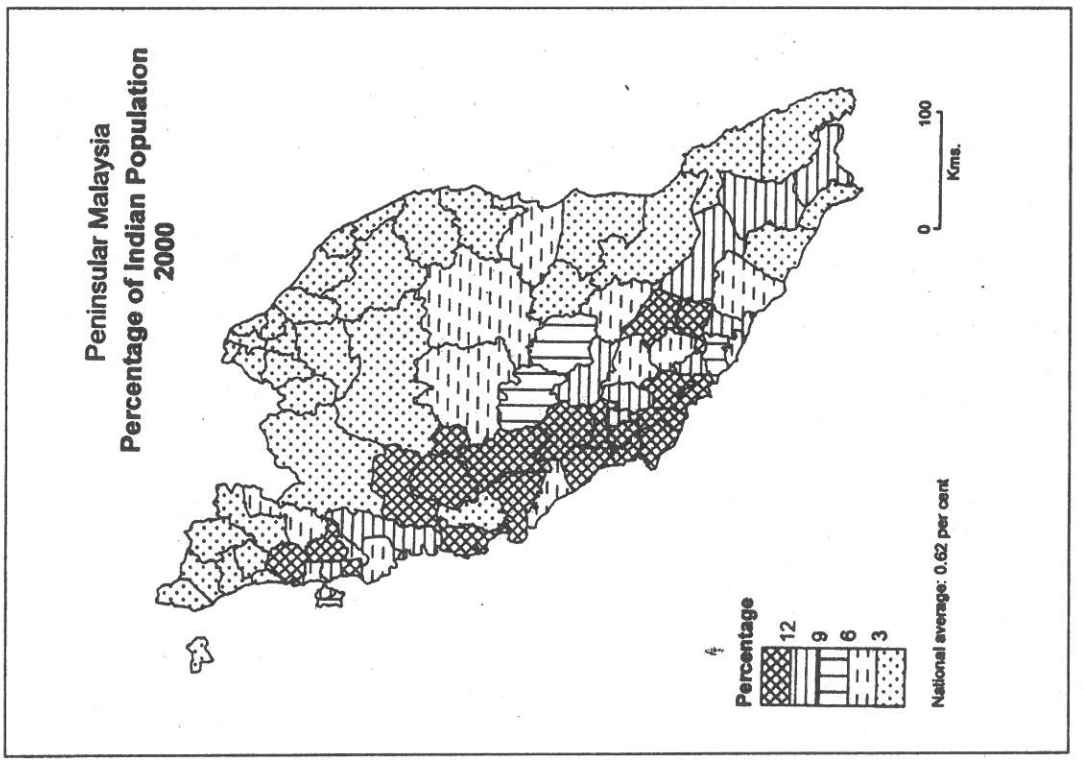
Peninsular Malaysia
Percentage of Indian Population
2000
Percentage
12
9
6
3
National average: 0.62 per cent
0
100
Kms.

Fig. 4

toward tertiary and quaternary occupations. Similarly, their urban to urban migration toward bigger cities is distinctly visible. Both these factors portend to keep this community in the lead in the socio-economic dynamics in the country. However, these changes are a special feature of the Chinese in the West Coast Region and the Straits Territories. People belonging to this ethnic community in the East Coast states, particularly in Kelantan and Terengganu, lag behind considerably and rank at par with the Malays in this regard (Raybeck, 1983, p. 24).

The Indian Population

India's economic and socio-cultural links with Malaysia and other Southeast Asian countries go back to over two millennia. Traders, financiers and travellers had been frequenting the area quite often even in the distant past. The first Indian migration to Peninsular Malaysia was in the form of bringing prisoners as cheap and ready labour to work on various construction projects (Swee-Hock, 2007, p.35). As in the case of the Chinese population, a few South Indian businessmen had also come forward to invest money in development projects, particularly the rubber estates, as planned and needed by the British rulers in the early years of the 20th century. Expectedly, these financiers were free to recruit labour for their projects from any place or area. Invariably, big financiers/ contractors preferred, as is usually the case, to recruit from areas abounding in cheap labour. The South Indian entrepreneurs at that time recruited labour from their previous home-areas in Tamil Nadu, adjoining tracts in Kerala and Andhra Pradesh. Apart from cultural links of the recruiters for labour, the main reasons for selection of South Indian states was the fact that the labour could be easily recruited at cheap rates from these densely-populated, poverty-stricken and ill-governed areas. The same was not possible in the then thinly populated and economically much better-off Peninsular Malaysia. Tamils constitute the largest share of the Indian-origin population in the study area followed by the Malyalis, Punjabis, Bengalis and Gujaratis.

Unlike the migration from South India, the one from parts of North India was of voluntary type comprising mainly small entrepreneurs. Persons from pre-partition Punjab, particularly Sikhs, and from Bengal and Gujarat and were in the lead in this regard. Similarly, quite a perceptible number of personnel from the British Indian army, who had served in the area prior to 1945 are also known to have settled in it to avail themselves of better economic prospects. While the South Indian migrants were engaged mainly in clerical, and technical services and unskilled chores, the Punjabis in general and the Sikhs in particular worked mostly as soldiers, policemen, watchmen and carpenters (Sandhu, 1969, p.69; Singh, 1991, p.262).

With a total population of 1,580,210 persons the Indian population constituted 9.32 per cent of the study area's total population (Table 2). Their highest proportion was found in the state of Negeri Sembilan (16.11 per cent) followed by Selangor (14.63 per cent), Perak (13.08 per cent), Kuala Lumpur (11.40 per cent), and Penang (10.53 per cent). On the other hand, their share in total population of the area was even less than 2 per cent in three of the states, i.e. Perlis (1.28 per cent), Kelantan (0.28 per cent) and Terengganu (0.21 per cent). In terms of district level distribution the persons of Indian origin in 15 of the 82 districts in the area accounted for less than 1 per cent of the population, while in 25 of the districts their proportion was more than 10 per cent. Fig. 4 underlines the fact that this component of Peninsular Malaysia's population is primarily concentrated in the West Coast Region. Interestingly, its distribution pattern even at present closely corresponds to that of the rubber estates for which most of the Indian labour was brought in the first three decades of the 20th Century.

The Indian population has already entered the third stage of demographic transition around late 1980s and their birth rate is close to replacement level (Leete, 1996, p.160). Accordingly, their growth patterns in the study area are the outcome of natural increase and internal migration.

Table - 3
Peninsular Malaysia :
Ethnic Diversity by States (2000)

State	Diversity
Terengganu	0.06
Kelantan	0.10
Perlis	0.25
Kedah	0.38
Pahang	0.43
Melaka	0.51
Johor	0.54
Negeri Sembilan	0.59
Penang	0.59
Perak	0.61
Selangor	0.61
Kuala Lumpur	0.61
Peninsular Malaysia	**0.54**
MALAYSIA	**0.59**

Ethnic Diversity

Table 3 reveals that ethnic diversity in Peninsular Malaysia is marked by a strong regional variation. The diversification index values are high (0.61) in three states, i.e. Kuala Lumpur, Selangor and Perak. These also constitute a region of high level of socio-economic development in the western part of the region. With the exception of Pahang (0.43), and to some extent Kedah (0.38), the three less developed states, viz., Perlis, Kelantan and Terengganu reveal much lower levels of ethnic diversity. The disparity index is virtually nil in Terengganu (0.06). The spatial pattern of ethnic diversity at the district level, presented in Fig. 5, suggests a strong and positive correlation with the level of socio-economic development.

Vital rates play an important role in determining the ethnic composition of an area. The three main communities in Peninsular Malaysia – Malays, Chinese and Indians – share a demographic commonality, i.e. they all have almost the same level of mortality. However, in terms of birth rate they stand apart in two groups. The Chinese and the Indians have very low birth rate which is almost close to the replacement level (Peng, 2006, p.26). On the other hand, the Malay birth rate continues to remain quite high *vis-*

Table - 4
Peninsular Malaysia : Pearson Correlation of Dependency Ratio (2000)

Variables	Dependency ratio	
	Pearson Correlation (r)	Sig. (2-tailed)
Per cent Malay Population	0.811	0.000
Per cent Chinese Population	-0.800	0.000
Per cent Indian population	-0.640	0.000

** *Correlation is significant at the 0.01 level (2-tailed).*

Table - 5
Peninsular Malaysia : Pearson Correlation of Urbanization (2000)

Variables	Percentage of Urbanization	
	Pearson Correlation (r)	Sig. (2-tailed)
Per cent Malay Population	-0.609	0.000
Per cent Chinese Population	0.668	0.000
Per cent Indian Population	0.469	0.000
Dependency ratio	-0.705	0.000

** *Correlation is significant at the 0.01 level (2-tailed).*

a-vis the other two communities. Relatively high birth among Malays is largely associated with cultural and political factors (Leete, 1996, p.61), and a much lower cost of bringing up children due to little shortage of land, housing and employment. Despite governmental incentives for having larger families, relatively high fertility among Malays is likely to have its own economic costs *via* higher dependency ratio for the community in the long run (Table 4). Pearson correlation of urbanization also shows that Malays have lagged behind in urbanization. This is partly related to their quite late start on the road to urbanization and partly due to their distinctly higher dependency ratio (Table 5).

No doubt, this time lag in demographic transition of Malays might provide some strategic advantage in electoral politics, but it would also act as a deterrent for this community in its efforts to compete for lucrative and vitally important higher position in MNCs/TNCs, both within and outside the country. It is hoped that the younger generation, being a quite well-connected part of the 'global teens', would make its own decision regarding level of fertility keeping in tune with what their peers are doing in other countries of the world.

Summary

The Malays enjoy a decisive majority in Peninsular Malaysia. This is particularly true of the East Coast region. While the spatial distribution of their population had been primarily the result of their *in-situ* growth during 1825-1950, that of the Chinese and the Indians evolved mainly from their immigration patterns. However, after independence of the country in 1957, and particularly since 1970, internal migration has been the prime factor in shaping out the distribution pattern of various communities in the study area. Significantly, the settlement of the Malay population under the government policies since 1970 in rural areas has been primarily in the East Coast region which already has been a Malay majority area.

Ethnic composition provides an interesting and increasingly important area of research. The study of the processes and spatial patterns of various ethnic groups, as well as the construction and deconstruction of ethnic categories and identities is invariably necessary to understand and manage the socio-political implications of a characteristic ethnic mosaic.

In the case of Peninsular Malaysia rivers and sea-coast played a vital role in the basal

settlement of various groups of Malay population in the pre-colonial period. However, since the beginning of the British colonial rule in the country in 1825, tin, rubber, trade, and towns have been the catalytic agents in immigration, internal migration and settlement of various ethnic groups in the country. Being largely engaged in secondary and tertiary activities, the Chinese community has out-paced the other ethnic groups in terms of urbanization and socio-economic development. Having been through the process of long-distance migration has also helped this community to remain more mobile both spatially and occupationally. On the other hand the Indian community has remained largely restricted to areas of rubber estates for which they had migrated as indentured labour mostly in the early three decades of the 20th century. As the Malay population had remained mostly indifferent in their involvement in the new economic opportunities which emerged during the British rule, its distributional pattern did not experience any notable change during that period.

Though the socio-cultural and trade links of Peninsular Malaysia with China and India date back to the pre-Christian era, the present pattern of ethnic composition in the area mainly evolved during the British rule which was marked by considerable migration of Chinese and Indians. The streams of immigration of the two communities were mainly the result of the combined effect of the following developments in the area: spurt in tin mining, rapid development of rubber estates particularly in the western coast region, rise of Singapore and Penang as major *entrepots*, emergence of major towns, and construction of main roads and railways.

Expectedly, immigration of Chinese and Indians took place primarily to areas of economic dynamism at that time, i.e. the Straits Settlements, and the Western Coastal Region of the study area. In comparison, since the eastern part of the study area, which mainly constituted the then non-federated states of Malaya, did not have equally good economic conditions, the Chinese and Indian immigration to this area was insignificant.

Malaysian society is neither like the American 'melting pot' nor like a 'salad bowl', as Musa (1999, p.225) calls it. In fact, it is in the making of a distinct 'ethnic integration model' comprising three main communities which have been gradually integrating together while retaining their distinct cultural hues and flavours. As the ongoing process of globalization necessitates having multiple identities and somewhat dilution of hard-bound identities, it is hoped that Malaysian 'integration model' would become still more varied and colourful.

References

Bruton, M.J. and Mohamad, Jamilah (2002) " Urban Land Use Transportation and the Management of Growth: the Malaysian Experience", (translated into Mandarin), Journal of the China Academy of Urban Planning and Design, *Guowai Chengshi Guihua (International Urban Planning)*, Vol. 17, No.6, pp.33-42. ISSN 1003-0956

Dobby, E.H.G. (1967) *Southeast Asia*, University of London Press LTD., London.

Fisher, Charles A. (1964) *South-East Asia: A Social, Economic and Political, Geography*, Methuen and Co. Ltd. London.

Gomez, Edmund Terence (1999) "Tracing the Ethnic Divide: Race, Rights and Redistribution in Malaysia" in Plaff-Czarnecka, Joanna, Darini Rajasingham-Senanayakeya, Ashis Nandy and Edmund Terence Gomez (Eds.) *Ethnic Futures: The State and Identity Politics in Asia*, Sage Publications, New Delhi, pp.167-202.

Gullick, John (1981) *Malaysia: Economic Expansion and National Unity*, Ernest Benn Limited, London.

Hooker, Virginia Matheson (2003) *A Short History of Malaysia: Linking East and West,* Allen & Unwin, Crow's Nest, NSW, Australia.

Hoyt, Sarnia Hayes (1993) *Old Malacca*, Oxford University Press, Kuala Lumpur.

***http://Steve's maritime pages/the world's marine canals*, accessed on 09/07/2009, 11.45.**

Jen, Li Dun (1982) *British Malaya : An Economic Analysis*, INSAN (Institute of Social Analysis, Kuala Lumpur.

Jin-Bee, Ooi (1976) *Peninsular Malaysia*, Longman, London.

Kheng, Cheah Boon (2002) *Malaysia : The Making of a Nation*, Institute of Southeast Asian Studies, Singapore.

Leete, Richard (1996) *Malaysia's Demographic Transition: Rapid Development, Culture and Politics*, Oxford University Press, Kuala Lumpur.

Mahathir bin Mohamad (1970) *The Malay Dilemma*, Times Books International, Singapore, 5th reprint 1981.

Musa, M. Bakri (1999) *The Malay Dilemma Revisited*, Merantau, Gilroy, California (USA).

Peng, Tey Nai (2006) "Population and Development Trends", in Wong Yut Lin and Tey Nai Peng, (Eds.), *Our People and Our Future: Malaysian Population in Perspective*, University of Malaya Press, Kuala Lumpur, pp. 7-27.

Raybeck, Douglas (1983) "Chinese Pattern of Adaptation in Southeast Asia", in L.A. Gosling and Linda Y.C. Lim (Eds.) *The Chinese in Southeast Asia: Identity, Culture and Politics, Maruzen Asia*, Singapore, pp.15-33.

Rigg, Jonathan (1991) *Southeast Asia: A Region in Transition*, Unwin Hyman, London.

Sandhu, Kernial Singh (1969) *Indians in Malaysia: Some Aspects of Their Immigration and Settlement (1786-1957),* The University Press, Cambridge.

Sidhu, Manjit S. And Gavin W. Jones (1981) *Population Dynamics in a Plural Society: Peninsular Malaysia*, UMCB Publications, Kuala Lumpur, Malaysia.

Singh, Navtej (1999) " Sikhs Overseas and the British" in S.K.Gupta, ed., *Creation of the Khalsa : Fulfilment of Guru Nanak's Vision*, Publication Bureau, Punjabi University, Patiala, India, pp. 262-268.

Siow, Moli (1983) "The Problem of Ethnic Cohesion among the Chinese in Peninsular Malaysia: Intraethnic Division and Interethnic Accommodation" in L.A. Gosling and Linda Y.C. Lim (Eds.) *The Chinese in Southeast Asia*, Vol. 2, Maruzen Asia, Singapore, pp.170-188.

Swee-Hock, Saw (2007) *The Population of Malaysia*, Institute of Southeast Asian Studies, Singapore.

Tregonning, K.G. (1964) *A History of Modern Malaya*, Eastern Universities Press Ltd.

Trewartha, G.T. (1949) "Population" in Vernor C.Finch and Glenn, T. Trewartha, (Eds.), *Elements of Geography: Physical and Cultural,*, McGraw-Hill Book Company, Inc., New York, pp.511-542.

POPULATION GEOGRAPHY Volume 30 Numbers 1 & 2 June-December 2008

POPULATION GROWTH AND FOOD SECURITY IN THE VALLEY OF KASHMIR (JAMMU AND KASHMIR, INDIA): A REGIONAL ANALYSIS

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Introduction

Food security refers to the availability of food as well as one's access to it, which implies both purchasing power and timely delivery. Food security exists when all people, at all times, have access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life (FAO, 2000). In this sense, from a farmer to a nation, production should be more than a household's and a nation's requirements or the economy should be so diversified that the household income is improved or capital is formed to purchase or import food.

The stages of food security range from a food secure situation to full scale famine. Famine and hunger are both rooted in food insecurity. However, this sweeping generalization needs a little qualification as sometimes such a situation (famine and hunger) can be created through manipulation of market forces or other similar instruments.

The number of people without enough food to eat on a regular basis continues to be stubbornly high in the world without any indication of a significant downward trend. Over 60 per cent of the world's undernourished people live in Asia, and a quarter in Africa. The proportion of people who suffer from hunger is greater in Africa (33 per cent) than in Asia (16 per cent).

The sheer number of people growing at a fast rate mainly in the developing world coupled with a stagnant or at best a slow growth in food production has resulted in the food-crisis looming large all over the world. The situation has become so alarming that politicians, policy makers, scientists and others are talking of the Third Green Revolution in the developed world, while in India concerned people are discussing about a Second Green Revolution. If a little credit is given to the opinion of former President of USA, G.W. Bush, the fault lies with the basic premise of the economists that food demand remains inelastic with improving incomes. The fact is that with improving incomes, less nourished people eat more and the well nourished demand not only more but quality food to the extent of a change in their food habits[1]. This is one of the several reasons contributing to the impending food crisis in the world.

This problem has attracted attention of many scholars from different sciences resulting in a voluminous and diverse literature from various perspectives. Some of the important contributions are by Ross(1977), Mohammad (1978&1995), Swaminathan (1996 & 2001), Mitra & Mukherji(1980), Ayalew(1988), Kravdal(2001), Mohammad (2001), Singh (2003) and others.

This paper attempts to analyze the extent of food security/insecurity in the Valley of

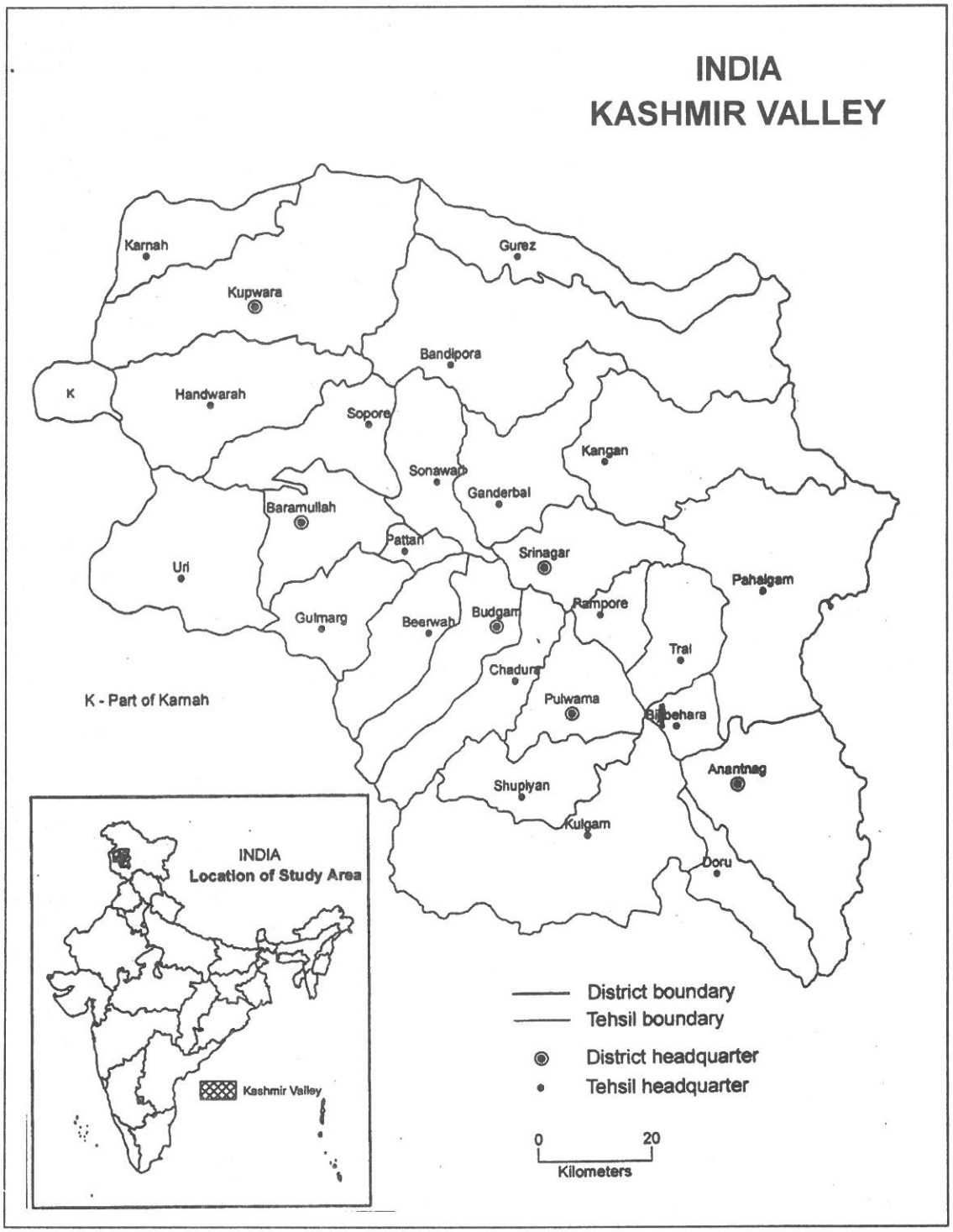
INDIA
KASHMIR VALLEY
Karnah
Kupwara
Gurez
Bandipora
K
Handwarah
Sopore
Kangan
Sonawari
Ganderbal
Baramullah
Pattan
Srinagar
Uri
Pahalgam
Gulmarg
Beerwah
Budgam
Rampore
Tral
Chadura
K - Part of Karnah
Pulwama
Bijbehara
Anantnag
Shupiyan
Kulgam
Doru
INDIA
Location of Study Area
Kashmir Valley
District boundary
Tehsil boundary
District headquarter
Tehsil headquarter
0
20
Kilometers

Fig. 1

Kashmir (J & K) from the geographical perspective. The objectives of this analysis are:

1. To examine the trends in food production at the level of the Valley;
2. To examine the trend in the food availability in the Valley;
3. To analyze the dynamics of spatial pattern of food availability in the Valley and;
4. To suggest measures to ensure food availability and explore the possibilities of self-sufficiency in food production in the valley.

The Study Area

The Valley of Kashmir, a part of the state of Jammu & Kashmir, is situated amidst the lofty ranges of the Himalayas. It has the character of a semi-closed ecosystem. The region extends between 33° 25'N and 34° 45'N latitude and between 73° 55'E and 75° 35'E longitude over an area of 15,948 square kilometers. The Valley is, in fact, an elongated geosynclinal trough between the Pir Panjal Range of the Lesser Himalayas in the south-east and the Greater Himalayas and its Kashmir Range in the north-west. The flat floor of the Valley is formed mainly of alluvium, having silt and clay. The soils are rich in nutrients and organic matter. These are renewed almost every year and are very fertile soils. However, about half of the floor of the Valley is formed of tableland like high flat surfaces along the flanks of the surrounding mountains, locally known as the *karewas*. These are formed of fluvio-lacustrine sediments with a high proportion of coarse sand. These are poorly drained and deficient in nutrients, therefore, are unable to support a good crop especially due to lack of irrigation.

The Valley has an undulating landscape with rich water resources and forests. The region is crisscrossed by a good number of streams, lakes and rivers. The main river passing through the length of the Valley is the Jhelum. The climate of the Valley is characterized by sub-Mediterranean conditions. Summers are less rainy than winters. The Valley receives almost 66 per cent of its annual precipitation during December and January in the form of rain and snowfall. The Valley, despite having a small areal extent, is characterized by highly variable temperature and precipitation conditions from meso- to micro-level. In general, the temperature decreases from the Valley floor towards the rim lands.

According to 2001 Census of India, the total population of the Valley is 5,441,341 persons. Thus, the average density of population in the Valley works out to be 341persons/km^2. The region has about 1.3 million strong workforce (main workers), of which 37.12 per cent is engaged in food production as cultivators (31.49 per cent) and agricultural labourers (5.63 per cent).

The Valley of Kashmir, having a long history of subsistence farming, has started showing strong symptoms of deterioration in agriculture in recent decades. The yields of crops are falling and total food production has declined over the years. The rural population is migrating in search of sustenance and employment to urban areas. The study area comprises of 6 districts covering 26 *tehsils* (Fig.1.)

Data and Methodology

This study on food security/insecurity in the Valley of Kashmir is based on a large volume of secondary data obtained from the following official sources:

1. Census of India- 1981, Jammu & Kashmir, Selected Tables and District Census Handbooks;
2. Census of India- 2001, Jammu & Kashmir, Selected Tables and District Census Handbooks;
3. Data on area and crop production by *tehsils* for 1981 and 2001obtained from the Revenue Wing of the Financial Commissioner's Office, Srinagar, Government of Jammu & Kashmir; and

4. Digests of Statistics, Directorate of Economics and Statistics, Government of Jammu & Kashmir (1983-84, 1992-93, 1996-97, 2001-02 and 2006-07).

In order to calculate food-grains requirements, the population is divided into age-sex categories. The requirements of child population (irrespective of sex) and those of adults (aged 15 and above) by sex have been determined as per recommended food-basket by Gopalan(2004). Since, the age-sex distribution of population is not available at *tehsil* level; hence, age-sex distribution of rural and urban populations of a district is applied to respective populations of its *tehsils* to estimate sizes of relevant age and sex categories of their populations. It is presumed to be a reasonably close approximation of these categories at *tehsil* level. Thus, the per person per year availability for a *tehsil* is worked out by summing up the requirements of child and adult population as per the recommendation of the ICMR, Hyderabad.

The total production of food-grains from local cultivation of three cereal crops of rice, maize and wheat is compared with the requirements of a *tehsil's* population as explained above. In this way, *tehsils* where food-grains have been produced in excess of requirements and also where production has been deficit of the recommended norm have been identified. These *tehsils*, whether showing surplus or deficit, are classified into four categories applying nested-means method. The results of this exercise are presented in Table 5 and Figs. 7 & 8.

The analysis of food security at different points of time for the Valley is carried in the same way using data on food-grains production from Digest of Statistics for different years. A further analysis of trends in population growth, availability of food-grains, yields of different crops and that of total cereals, area under them, and production is also carried out. This analysis of availability of cereals from local cultivation is expected to be representative of the magnitude of food security/insecurity in the Valley.

Population for 1985 is calculated by applying average annual linear growth rate during 1981 and 1991 to the population of 1981. For this purpose, the enumerated population of 1981 and estimated population of 1991 by the Census of India is taken into consideration. So far as the size of different relevant age-sex categories of population is concerned, first the proportion of these segments is worked by averaging their proportions in the total population of the Valley for 1981 and 2001 Censuses. These average proportions are then applied to the Valley's estimated population in 1991 to determine the approximate sizes of these categories in 1991. Again, the average proportions of these categories in the populations of 1981 and 1991 have been applied to the estimated population of 1985 to obtain the size of child and adult males and females in the Valley. The population in 1995 has again been estimated by using linear growth rate between the estimated 1991 and 2001 population. The size of pertinent categories of population for that year has also been calculated by applying average of their proportions in 1991 (estimated) and 2001 (enumerated) population.

In the case of population projection for 2005, the average annual linear growth rate during 1991-2001 is worked out and presuming a slowdown in the population growth, this observed average annual growth rate during 1991-2001 (3.053 per cent) is reduced by a margin of 5.25 per cent to 2.893 per cent/annum. This growth rate is applied to the population of 2001 to project a reasonable figure of population for 2005. Again, 5.25 per cent reduction in the proportion of child population in 2001 is applied, while a 4.75 per cent increase in the proportions of adult men and women in this population is used to calculate their size in the projected population for 2005. However, this approximation of the three categories of population does not hold true for the total projected population of 2005. Hence, proportions of these segments in the first total approximated population for 2005 are calculated and applied to the originally projected population of 2005 and thus the size of these segments has been obtained which

Table - 1
Kashmir Valley: Land utilization (1981-2005)

Year	Reported area*	Land not available for cultivation[1]	Per cent[3]	Fallow land[2]	Per cent[3]	Net sown area	Per cent[3]	Double cropped area	Per cent[4]
1981	528181	180253	34.13	29897	5.66	318031	60.21	66181	20.81
1985	558000	192000	34.41	21000	3.76	345000	61.83	43920	12.73
1991	556579	192402	34.57	35382	6.36	328795	59.07	45439	13.82
1995	556987	188938	33.92	37997	6.82	337189	60.54	55195	16.37
2001	557905	187044	33.53	30371	5.44	340490	61.03	78495	23.05
2005	556577	188403	33.85	39331	7.07	328843	59.08	79604	24.21

* *Area in hectares*

1. This category includes land under settlements, roads, forests, lakes, wetlands, water logged, barren land, land under difficult terrain as hills etc.

2. This category includes current as well as old fallow lands.

3. Percentage share in the reported area.

4. Percentage share in the net sown area.

Table – 2
Kashmir Valley: Area, Production and Yield of Cereal Crops (1981-2005)

Year	Crops									Total Valley		
	Rice			Maize			Wheat					
	Area[1]	Yield[2]	Production[3]	Area	Yield	Production	Area	Yield	Production	Area	Yield	Production
1981	167.0	39.2	6.6	98.1	10.8	1.1	4.5	07.1	0.03	269.6	28.3	7.6
1985	166.2	41.7	6.9	100.0	11.2	1.1	4.9	14.7	0.07	271.1	29.9	8.1
1991	163.4	34.5	5.6	98.3	09.5	0.9	3.0	07.9	0.02	264.4	25.0	6.6
1995	159.0	29.5	4.7	100.2	11.2	1.1	3.0	31.6	0.09	262.2	22.5	5.9
2001	136.7	25.1	3.4	110.0	07.1	0.8	1.7	08.3	0.01	248.4	17.0	4.2
2005	130.6	25.7	3.4	106.4	06.6	0.7	1.4	08.8	0.01	238.4	17.1	4.1

Source: Based on data from Digests of Statistics, Govt. of Jammu & Kashmir

1. Area in thousand hectares; 2. Production in million quintals; 3. Yield in quintals per hectare.

aggregates exactly to the projected population.

Food Production in the Valley

The rapid growth of population, under- and unemployment in the countryside, urbanization and encroachment on productive agricultural land have led to several agro-ecological problems, especially that of food supply. The production of food-grains in the country has been steadily increasing since independence. However, the case of the Valley, in view of rapid decline in food production and thus in food availability, is a unique one. During the study period of 1981-2005, the area, production and yield of food-grains has decreased by 11.57, 46.77 and 39.80 per cent

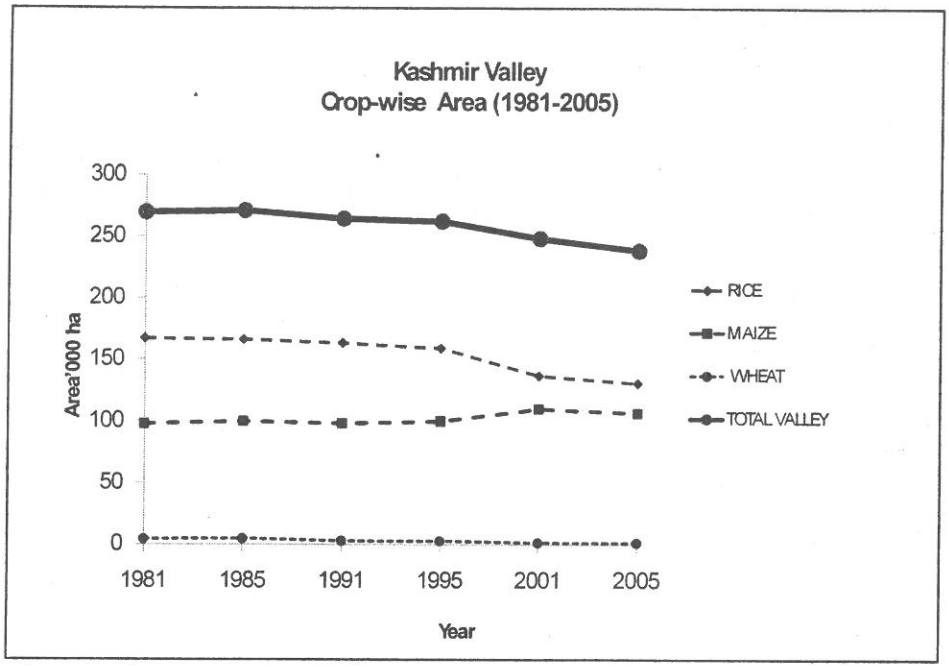
Kashmir Valley
Crop-wise Area (1981-2005)
300
250
200
150
100
50
0
Area'000 ha
1981
1985
1991
1995
2001
2005
Year
RICE
MAIZE
WHEAT
TOTAL VALLEY

Fig. 2

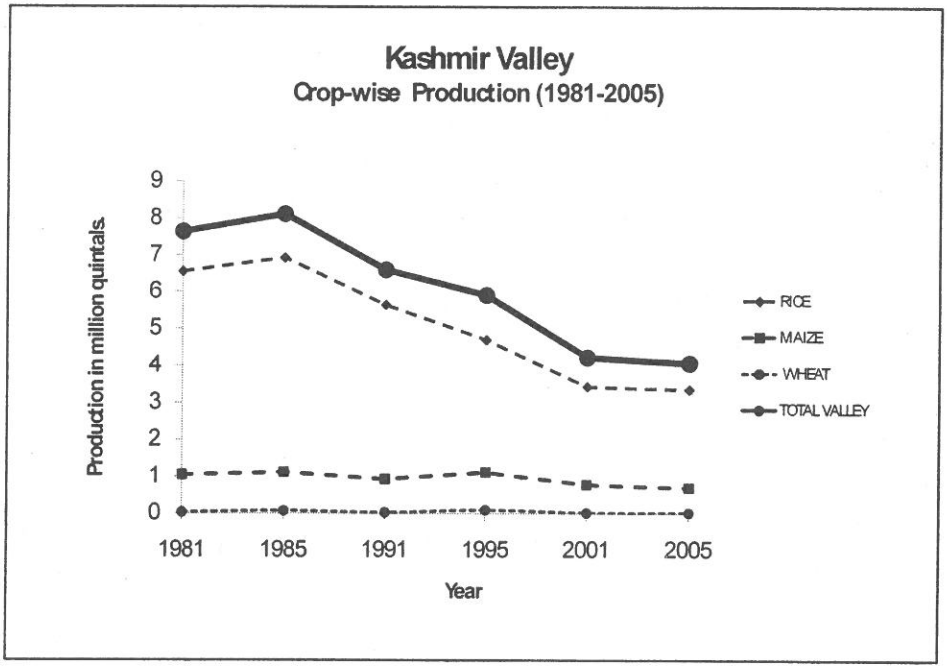
Kashmir Valley
Crop-wise Production (1981-2005)
9
8
7
6
5
4
3
2
1
0
Production in million quintals
1981
1985
1991
1995
2001
2005
Year
RICE
MAIZE
WHEAT
TOTAL VALLEY

Fig. 3

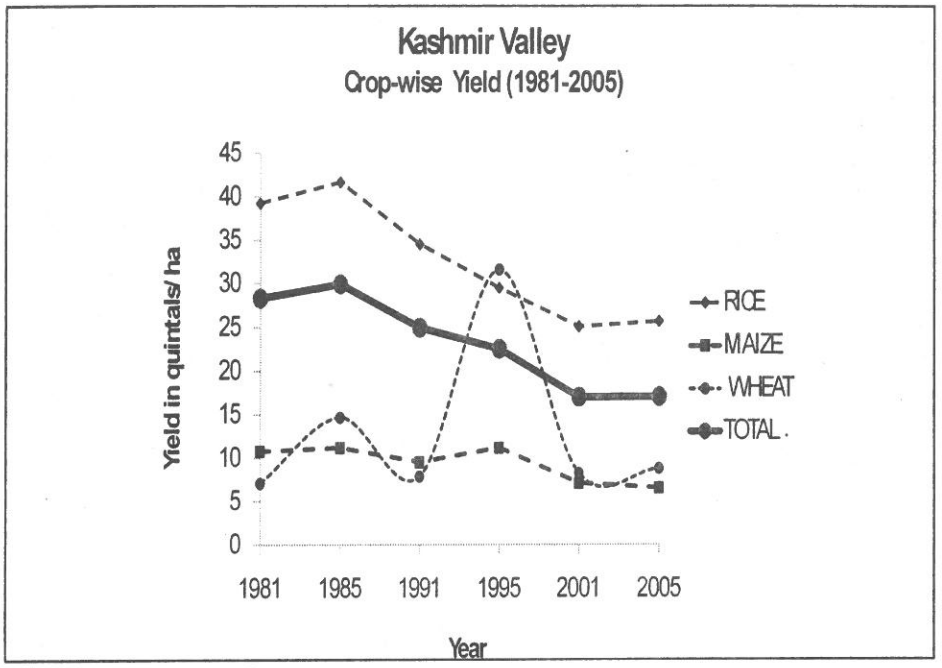
Kashmir Valley
Crop-wise Yield (1981-2005)
Yield in quintals/ ha
45
40
35
30
25
20
15
10
5
0
1981
1985
1991
1995
2001
2005
Year
RICE
MAIZE
WHEAT
TOTAL

Fig. 4

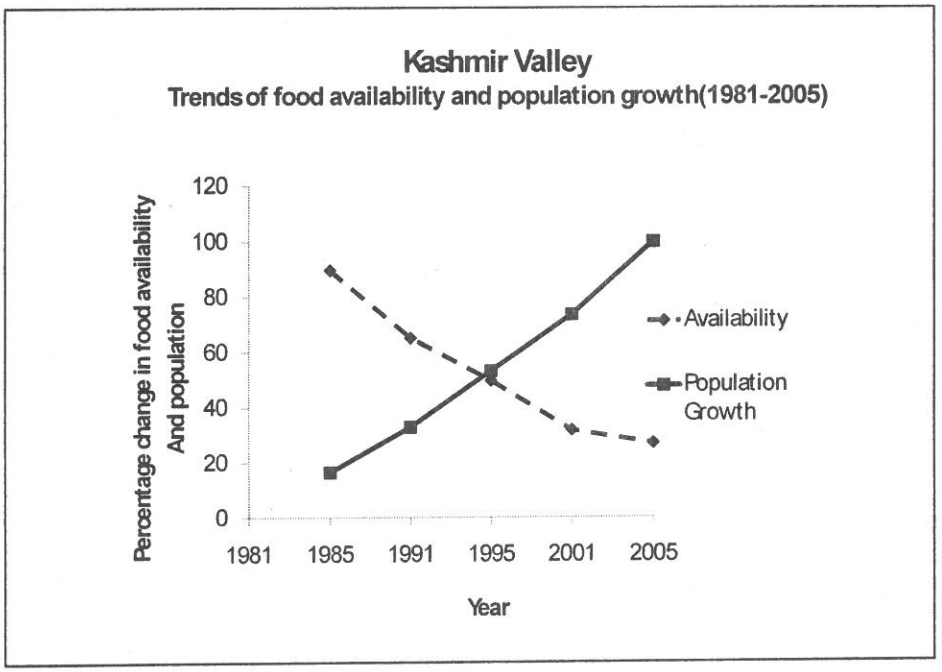
Kashmir Valley
Trends of food availability and population growth(1981-2005)
Percentage change in food availability And population
120
100
80
60
40
20
0
1981
1985
1991
1995
2001
2005
Year
Availability
Population Growth

Fig. 5

respectively. During the same period the population of the Valley has increased from 3,134,904 persons to a projected population of 6,228,431 amounting to an increase of about 98.68 per cent. Since the population of the Valley has doubled from the base year of 1981 and production of total food-grains has decreased by 46.77 per cent, the Valley might be experiencing a shortage of food supply from local production.

In 1981 the total reported area was 528 thousand hectares of which about 318 thousand (60.21per cent) was net sown area and fallow land was only about 30 thousand hectares (5.66 per cent) (Table 1). Area sown more than once was 20.81 per cent of the net sown area. The land not available for cultivation was 34.13 per cent. Though, the reported area in 1985 increased a little to 558 thousand hectares, the proportion of land not available for cultivation (34.41 per cent) and net sown area (61.83 per cent) remained almost constant while proportion of fallow land declined (03.76 per cent). However, the proportion of area sown more than once (12.73 per cent) decreased not only relatively but also in absolute terms. It means that horizontal expansion took place during this period. In later years, the reported area remained around 557 thousand hectares. In the same way the net sown area remained almost constant around 60.00 per cent. The proportion of land not available for cultivation showed marginal fluctuations. In comparison, the area under fallow lands has shown an upward trend except for 2001 when it was 5.44 per cent of the reported area, while it was 6.36, 6.82 and 7.07 per cent in 1991, 1995 and 2005 respectively. The area sown more than once recorded a very high proportion of the net sown area from 13.82 per cent in 1991 to 16.37, 23.05 and 24.21 per cent, respectively in 1995, 2001 and 2005 (Table 1). During this period the proportion of fallow land showed only marginal changes and a more intensive use of land can be noted since the area sown more than once increased consistently.

Table 2 and Figs. 2 & 3 reveal the trend of area and production of major cereal crops. An analysis of the two reveals that rice, which is the major food component of a Kashmiri's food, has experienced a decrease in both area and production during 1981-2005 along with an accelerating decline in yield of rice per unit area. The decrease in the area and production has been as high as 21.79 and 48.79 per cent respectively during this period. The production of rice increased during 1981-1985 though its area declined marginally by 0.47 per cent during this period.

Maize, an important food crop of the Valley, has always ranked second in terms of its area and contribution to total food-grains production. However, it shows a fluctuating trend in both area and production. An average increase of 8.49 per cent in its area is noted during1981-2005, while its production has declined on an average by 33.77 per cent during the same period.

Wheat, which is not the staple food of the Kashmiris, is cultivated over a small area and hence its contribution to total food-grains production is also very low. Table 2 and Fig. 2 reveal that area under wheat increased by 8.65 per cent initially during 1981-1985. However, after 1991 the area under wheat registered an accelerated decline. The production of wheat shows a fluctuating trend. The lowest production of wheat (12,000 quintals) was in 2005 and the highest (95,100 quintals) in 1995. On an average the production of wheat has declined by 62.50 per cent from 32,000 quintals in 1981 during the study period.

Table 2 & Fig. 4 depict the trend in the yield of food-grains in the Valley. The overall picture of yield shows a downward trend with the exception of a small increase of 1.60 quintals per hectare in 1985 compared to that of 1981, while there has been a steady and rapid decline in the yield of total food-grains during 1985-2005. The maximum decline has been recorded in 2001 i.e., 17.0 quintals per hectare which is 11.30 quintals less than the one recorded in 1981. The average decline in the yield of total food-grains during the entire study period is as high as 39.58 per cent in the Valley.

Table - 3
Kashmir Valley : Comparative Population Growth Rates (1951-2001)

Year	Kashmir Valley		Jammu & Kashmir		India	
	Total Population	Growth Rate (% per year)	Total Population	Growth Rate (% per year)	Total Population	Growth Rate (% per year)
1951	1712964	-	3253852	-	361088090	-
1961	1899438	1.089	3560976	0.944	439234771	2.164
1971	2435701	2.823	4616632	2.965	548159652	2.480
1981	3134904	2.871	5987389	2.969	683329097	2.466
2001	5441341	3.679	10069917	3.409	1027015247	2.515
2005	6228431[1]	2.893	-	-	-	-

Source: Calculated from the Census data of 1951, 1961, 1971, 1981& 2001

Table – 4
Kashmir Valley: Per Cent Change in Food Availability and Population (1981-2005)*

Year	Food Availability	Population Growth
1981	-	-
1985	89.74	16.49
1991	65.22	32.97
1995	49.82	53.27
2001	31.85	73.57
2005	27.05	99.93

** Changes in food availability and population are calculated with respect to 1981 figures.*

Table - 5
Kashmir Valley : Surplus and Deficit Production of Food-grains (1981-2005)*

Year	Surplus/deficit
1981	+66.0
1985	+52.0
1991	+05.2
1995	-15.5
2001	-48.6
2005	-53.7

**Calculated with respect to the requirements adjusted for age and sex composition of the population.*

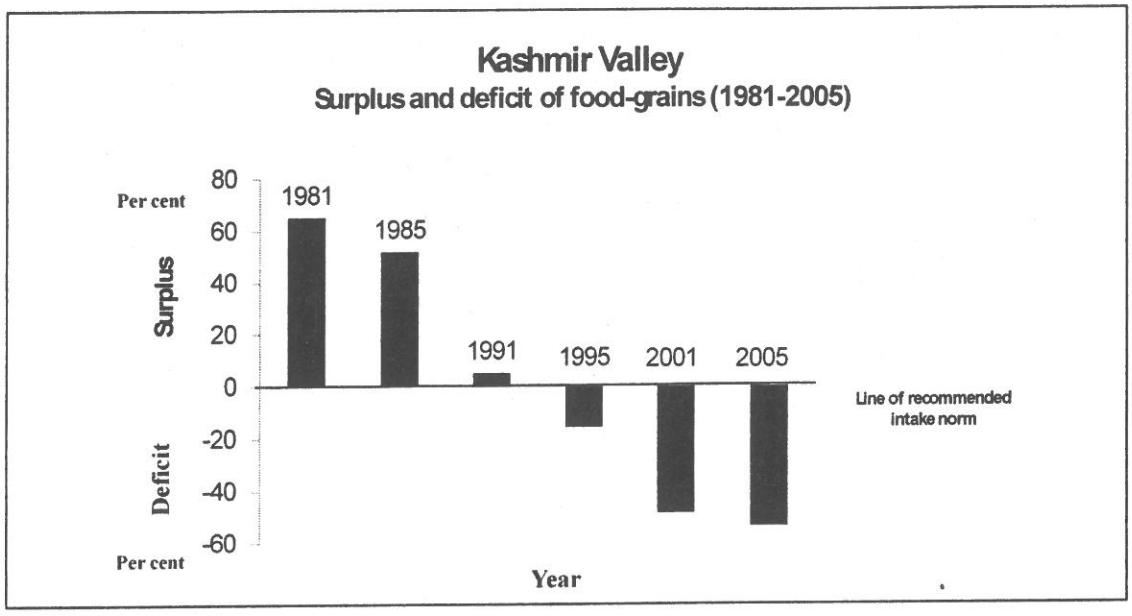

Fig. 6

The yield of rice also follows a similar trend and shows a marginal increase of 2.5 quintals per hectare during 1981-1985 (Fig. 4 & Table 2). However, from the highest yield of 41.7 quintals per hectare in 1985, it has been continuously decreasing. The maximum decline (17.26 per cent) was registered in 1991. The lowest yield of rice (25.1) was registered in 2001 which marginally increased to 25.7 quintals per hectare in 2005. This is 34.43 per cent less than the yield in 1981.

The average yield of maize and its contribution to the total food-grains production is much lower than that of rice in the Valley. In 1981, the average yield of maize was 10.8 quintals per hectare. It increased to its maximum level of 11.2 quintals in 1985. Since then, it has been fluctuating, but the maximum decline was in 2001, when its average yield came down sharply to 7.1 quintals per hectare from 11.2 quintals in 1995, a decline by 37.27 per cent. However, its lowest yield (6.6 quintals per hectare) was in 2005. There has been a decline of 38.90 per cent in the yield of this crop from the base year i.e., 1981.

The yield of wheat, as compared to other cereals, has been widely fluctuating during the study period. In 1981, it was only 7.1 quintals per hectare which more than doubled in a short span of five years to 14.7 quintals in 1985. In 1991, it declined almost to the level of the base year, but again increased phenomenally to 31.6 quintals in1995. This was more than double the yield in 1985. Its production per unit area in 2001 has shown a sharp decline to 8.3 quintals and has remained almost constant for the next five year period (Table 2).

Trends in Population Growth and Food Availability

Food availability and population growth have been an issue on the national agenda since independence. Although, the trend in the initial years was of a deficit, that is, population grew much faster than food production, but the introduction of Green Revolution changed the situation from scarcity to surplus, since during 1951-2001 the population almost tripled, while food-grains production grew almost fourfold. Recently however, the food production in the country

is either showing signs of stagnation or at best a slow growth while population is showing a trend of a very small decline. This presents a situation where achieved self-sufficiency in food production is getting eroded and India has to import food, especially wheat, from other countries. If this trend continues, even a diversified and dynamic economy would fail in the near future to feed its teeming billions.

The situation in the Valley is more severe since the Green Revolution conditions never prevailed in it and population growth never showed a sign of slowing down (Table 3). The population has been increasing at a very rapid rate, whereas food-grains production has registered an overall decline, especially after 1985. Therefore, the food availability may be expected to decline acutely in future. Fig. 5 shows the trend of food availability and growth of population in the Valley. An analysis of per capita availability of food-grains during the study period shows a steep decline in comparison to rapidly growing population.

Fig. 5 further reveals that the gap between population growth and food availability has widened with time. The main cause of decrease in food availability in the Valley is the rapid growth of population, which has almost doubled since 1981 (Table 4). In 1981, per capita availability from locally produced food-grains was around 244 kg per annum, while in 2005 it declined to only 66 kg per capita per annum. Thus, the decrease in local food availability is of the order of 72.95 per cent during these twenty-five years. Further, the decline in food availability has been very steep during 1991-2001 (51.17 per cent). It should be noted that population growth alone does not account for the food insecurity in the valley. The decline in the area and yield of food grains has also contributed to this situation of food shortage from local resources.

Table 5 & Fig. 6 suggest that the Valley of Kashmir had a surplus of 66.0 per cent of the requirements in its food-grains availability from its own resources since availability in 1981 was 2.44 quintals/person/year against the annual requirements of 1.47 quintals. Though a significant headway was made in food-grains production in 1985, but population outpaced the production and availability of food grains declined to 2.19 quintals/person/year. However, the Valley was still in surplus on the whole (52.0 per cent). In 1991 the situation deteriorated since the available food-grains surplus was only 5.2 per cent of the requirements.

Since 1991 the level of deficit has become increasingly acute. The food production in the Valley fell short by 15.5 per cent of the requirements in 1995, 48.6 per cent in 2001 and 53.7 per cent in 2005.

Regional Pattern of Food Grain Availability (1980-81)

In this section an attempt is made to examine the regional pattern of food availability in the Valley. The availability is calculated with reference to the datum of food-grains requirements with due consideration to age and sex structure of population of the unit of observation, that is, *tehsil.*

The areas of surplus and deficit food-grains production for the year 1980-81 are shown in Table 6 and Fig. 7. It is observed that twenty two out of the total twenty six *tehsils* in the Valley had a surplus production of food-grains and only four *tehsils* had a deficit i.e., did not produce sufficient food-grains to meet the local requirements. The surplus *tehsils* have been classified into four categories of very high (more than 132 per cent), high (98 per cent to 132 per cent), low (65 per cent to 98 per cent) and very low (less than 65 per cent) surplus. The *tehsils* recording a deficit have been classified into two categories of high (more than 36 per cent) and low (less than 36 per cent).

Surplus Regions

Out of a total of twenty six *tehsils* only three registered a very high surplus of more than 132 per cent of the requirements. The highest value of 155 per cent was in Kulgam in this category. The three *tehsils,* namely,

Table - 6

Kashmir Valley : *Tehsil*-wise Per cent Surplus/Deficit in Food-grains (1980-81 and 2000-01)

S.No.	Tehsil	Surplus/Deficit (1980-81)	Surplus/Deficit (2000-01)
1	Anantnag	81	-39
2	Bandipora	22	-44
3	Baramulla	64	-64
4	Beerwah	115	-15
5	Bijbehara	123	-19
6	Budgam	98	-6
7	Chadoora	118	-22
8	Doru	124	-42
9	Ganderbal	112	-56
10	Gulmarg	108	-50
11	Guraize	-67	-62
12	Handwara	93	-63
13	Kangan	64	-22
14	Karnah	25	-77
15	Kulgam	155	-10
16	Kupwara	75	-68
17	Pahalgam	115	-3
18	Pampore	-3	-62
19	Pattan	128	-48
20	Pulwama	200	-3
21	Shopian	163	-44
22	Sonawari	58	-49
23	Sopore	55	-36
24	Srinagar	-66	-87
25	Tral	90	-24
26	Uri	-7	-90

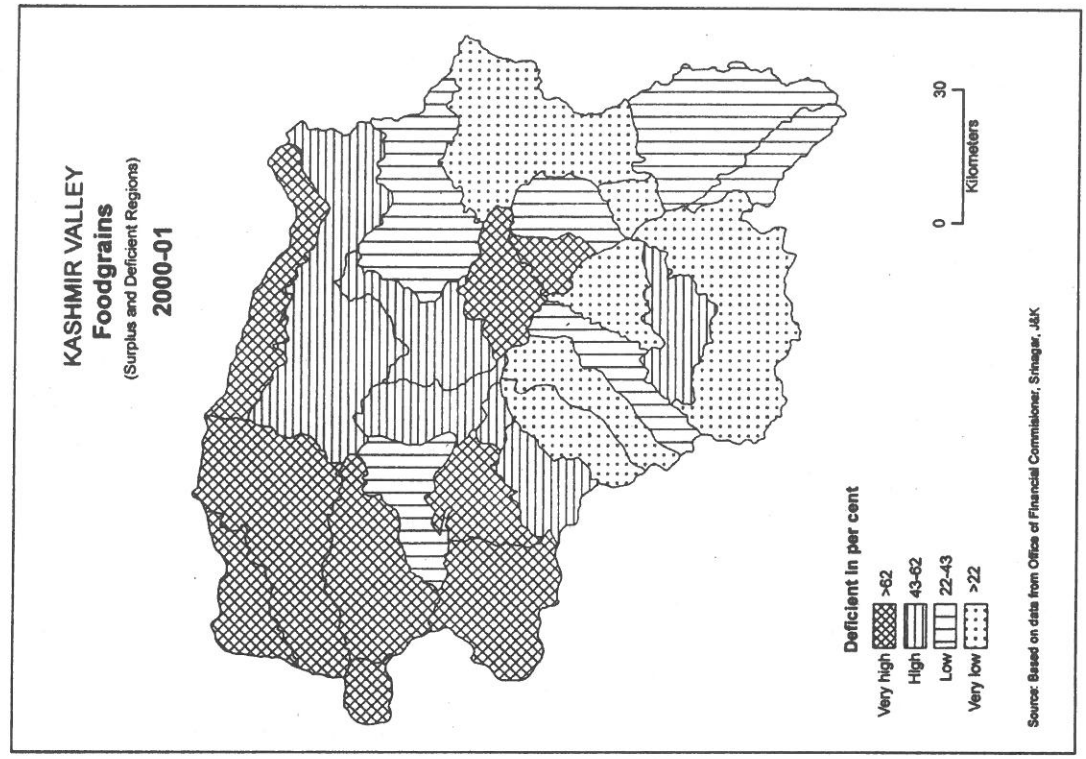
KASHMIR VALLEY
Foodgrains
(Surplus and Deficient Regions)
2000-01
Deficient in per cent
Very high >62
High 43-62
Low 22-43
Very low >22
0
30
Kilometers
Source: Based on data from Office of Financial Commissioner, Srinagar, J&K

Fig. 8

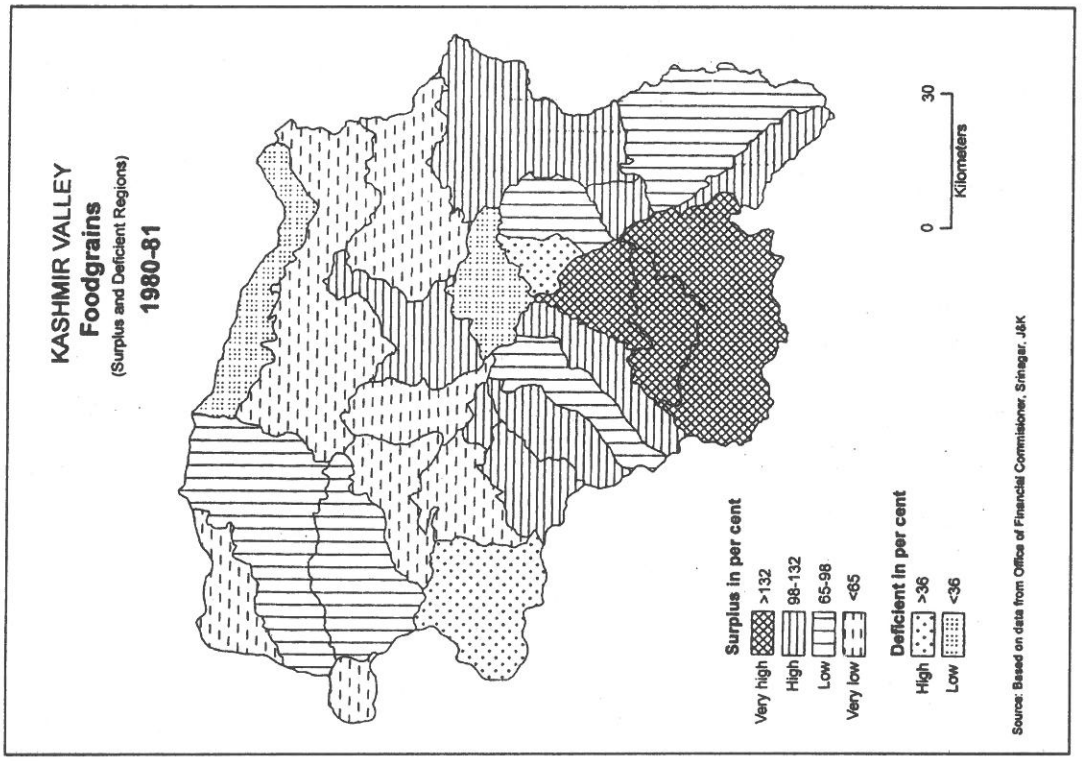
KASHMIR VALLEY
Foodgrains
(Surplus and Deficient Regions)
1980-81
Surplus in per cent
Very high >132
High 98-132
Low 65-98
Very low <65
Deficient in per cent
High >36
Low <36
0
30
Kilometers
Source: Based on data from Office of Financial Commissioner, Srinagar, J&K

Fig. 7

Pulwama, Shopian and Kulgam comprise a contiguous region in the south of the Valley.

Eight *tehsils* recorded a high level of surplus food production ranging between 98 to 132 per cent. Among these Pattan recorded the highest value (124 per cent) and Gulmarg the lowest surplus of 108 per cent. The *tehsils* which fall in this category are located in south, central and western parts of the Valley (Fig. 7).

Five *tehsils* in the valley had a low surplus production of food-grains. Among these the surplus values range between 65 to 98 per cent. Handwara had the highest surplus (93 per cent) and the lowest (75 per cent) was in Kupwara (Table 6). These two together form a contiguous region in the north- western part of the Valley, while the other three, viz., Tral, Budgam and Anantnag, located in the southern part of the Valley form isolated pockets.

The category of very low surplus (less than 65 per cent) includes six *tehsils*, viz., Kangan, Baramulla, Sonawari, Sopore, Karnah and Bandipora Among these, Kangan and Baramulla recorded the highest surplus of 64 per cent each, while Bandipora had the lowest (22 per cent) value. The *tehsils* in this category, except Karnah which forms an isolated patch in the extreme north of the Valley, are concentrated in the north-west and north-east parts of the Valley and form a large contiguous region. These *tehsils* have hilly terrain.

Deficit Regions

A high deficit of food-grains production (above 36 per cent) existed in two *tehsils*, viz., Gurez and Srinagar (67 and 66 per cent respectively). The former, located in the north has a hilly terrain. The latter, located in the central part of the Valley, is predominantly urban and has the highest concentration of population (about 18 per cent of the population of the Valley) but a small area under cultivation.

Two *tehsils*, Uri and Pampore, had a low deficit (less than 36 per cent). Among the two, Uri recorded a higher deficit (7 per cent) as compared to Pampore (3 per cent). These *tehsils* form two different and isolated pockets, Uri in the western and Pampore in the southern part of the Valley. Uri has a hilly tract while Pampore is located in the *karewas* of the Valley.

Regional Pattern of Food Availability (2000-2001)

Fig. 8 and Table 6 reveal that no *tehsil* in the Valley produced surplus food-grains in 2000-2001. These *tehsils* are grouped into four classes of very high (more than 62 per cent), high (43 to 62 per cent), low (22 to 43 per cent) and very low (less than 22 per cent) deficit food availability from local production with respect to the requirement norm.

In 2000-2001 out of a total of twenty six *tehsils* eight, namely Uri, Srinagar, Karnah, Kupwara, Baramulla, Handwara, Pampore and Gurez, had a very high deficit of more than 62 per cent in food-grains production. Among these, Uri had the highest deficit of 90 per cent and Pampore and Gurez had the lowest deficit of 62 per cent each. Most of the *tehsils* in this category have a very low area under paddy, the staple food crop of the Kashmiris, because of the hilly terrain and lack of means of irrigation. Out of the eight *tehsils*, Srinagar and Pampore are situated in the central and southern parts respectively, the remaining are concentrated in the north-western side of the Valley.

A high deficit of local food-grains availability has been identified in six *tehsils*, namely, Ganderbal, Gulmarg, Sonawari, Pattan, Shopian and Bandipora (Table 6). Among these Ganderbal has highest deficit (56 per cent), and Bandipora the lowest (44 per cent). Generally, they are situated in the *karewas* which have leached soils deficient in essential nutrients and handicapped by absence of irrigation.

A low deficit of food-grains has been identified in six *tehsils*. The deficit values among these range from the highest of 42 per cent in Doru and the lowest of 22 per cent

each in Kangan and Chadoora (Table 6). The *tehsils* in this category are Doru, Anantnag, Tral, Pahalgam, Kangan, Chadoora and Sopore. Except Sopore, these are concentrated in the south-east of the Valley and form a contiguous region. Sopore located in north-west of the Valley forms an isolated patch.

The category of very low deficit (less than 22 per cent) in food-grains availability from local production includes six *tehsils* viz., Bijbehara, Kulgam, Pulwama, Budgam, Beerwah and Pahalgam. Among these Bijbehara has the highest deficit (19 per cent) and Pulwama, the relatively more fertile *tehsil* with adequate irrigation, has the lowest deficit (3 per cent). It is the least deficit *tehsil* in the whole Valley. All the *tehsils* of this category are located in the south and the south-western parts of the Valley (Fig. 8).

Discussion

The analysis of data in this study reveals that as a whole as well as in terms of regional pattern the Kashmir Valley has changed from a surplus food production region to a severely deficit one. This change has not been caused by a rapid population growth alone, but by a considerable decline in the production of food-grains as well. The magnitude of deficit in local food production has been 53.7 per cent in 2005 as compared to a surplus of 66.0 per cent in 1981. In order to maintain the per capita annual availability in 2005 an extra 5 million quintals of food-grains should have been produced locally. The gross yield of food-grains per hectare should have been 36.9 quintals, almost at par with that of Punjab (39.9 in 2005), as compared to the realized yield of 17.1 quintals, that is, less than half of the required.

In 1980-81 only four *tehsils* having 22.76 per cent of total population of the Valley suffered some shortage in local availability of food-grains and the remaining twenty two *tehsils* accounting for 77.24 per cent population of the Valley not only produced food-grains above subsistence level but in excess of meeting their requirements. The regional pattern in 2001 has presented a situation in which every *tehsil* in the Valley recorded shortage in food-grains production. Out of a total of twenty six *tehsils* twenty, accounting for 83.72 per cent of the total population of the Valley, had a deficit of 22 per cent and above. Further, the deficit was more acute (more than 42 per cent) in fourteen *tehsils* accounting for 60.82 per cent population of the Valley. The worst affected were the areas of the *karewas* and those in the flood prone belt along the Jhelum river.

The relationship between level of food deficit and population growth is ambiguous. A comparison of growth rates of population in the Valley with those of the state of Jammu & Kashmir and India since 1951 shows a consistent increase in population during 1981-2001 (Table 3). However, the population growth rate in the Valley during 1981-2001 does not have any supporting evidence of any drastic change either in the reproductive behaviour or a large scale in-migration in the Valley. In fact, an estimated 0.4 million Kashmiri *pandits* and others together constituted a large volume of out-migrants from the Valley from 1990 onwards. Further, the psycho-social conditions prevailing in the Valley during the period of turmoil were not conducive for a reproductive behavior in favour of a high fertility rate (Guilmoto & Rajan, 2002: 668-669; Arokiasamy, 2007: 2). In his report to the Planning Commission of the Government of India under the heading of "Identification of Critical and Priority Areas for Research" Zutshi (*c.* 2003) has pointed out this anomaly very succinctly in these words, "Enumerated population size among the districts shows phenomenal growth rates in the case of Kashmir division and parts of Jammu division which cannot be explained by the demographic parameters as in-migration of population into these districts is ruled out due to terrorist activities prevailing in these districts. While on the other hand out-migration from these districts as well as high mortality rates due to terrorist activities cannot be ruled out. NFHS-II information on fertility indicates decline in the fertility rates for Srinagar division, which is not corroborated

by the Census enumeration figure of 2001. Surprisingly the districts, which have witnessed large-scale in-migration of population from the other districts, have depicted less population growth rate."

Thus, even if some allowance may be made for a lesser population growth rate in the Valley than the one obtained from 2001 Census data it would not alter the situation of food insecurity in the Valley. Even if a zero growth rate of population is assumed in the Valley, the production of food-grains declined by 35.54 per cent in 2001 and 37.93 per cent in 2005. In terms of food-grains availability it translates into a deficit of 8.16 and 11.56 per cent in 2001 and 2005 respectively. The Valley is therefore in the grip of a grave food insecurity, at least in terms of locally available food-grains.

Conclusion and Suggestions

The study clearly establishes that the Valley of Kashmir faces an acute food grain deficit as a result of declining food grain production and increase in population. In order to bring the Valley out of the current food insecurity the following suggestions are made.

The population growth rate should be brought down by manipulating fertility keeping in mind that the Valley is a Muslim majority area. For this purpose, it is suggested that specific efforts should be directed at the female segment of the population particularly in terms of (a) providing education to the population especially girls with better incentives than the existing ones, (b) economic empowerment of women through employment and encouraging the society at large to allow them to retain their earnings with themselves, as is allowed in Islam because the man is assigned the role of the bread-earner for the family, (c) encouraging women to participate in social and political activities keeping in mind the modesty and honour accorded to them by Islam, (d) ensuring that each woman gets her share in the movable and immovable property of the parental as well as husband's family to provide economic security in old age as per Muslim Personal Law. It is expected that this will enhance women's horizon in social participation and pre-dispose them to the adoption of a small family norm. Further, social marketing of contraceptives i.e., contraceptives at the doorsteps of households, may be undertaken. The decision of accepting or rejecting their use can be left to the households. This would help in overcoming the natural hesitation on the part of the women so far as accessibility to this method of contraception is concerned and might encourage their participation in decision making process for the birth of a child. As per Islamic injunction 'the wife has right on the semen of the husband'[2]. By inference, it is up to her to accept or reject it.

Expansion and intensification of agriculture also offer a good opportunity to come out of the current crisis of food insecurity. In view of the observations with regard to land utilization and crop production the measures suggested are, (a) cultivation of left out fallow lands by using scientific methods to enhance their productivity, (b) reclamation of the sizable water logged area by draining it through engineered channels, (c) undertaking of irrigation projects to use the abundantly available water resources to intensively cultivate the *karewas*. These projects can aim at providing sprinkle irrigation by lifting underground water through powerful electric-motors based at lower elevations of *karewas* or the water can be lifted to the top and provided through *kuhls* or government canals, (d) since the cultivation of 'spring-wheat' is not possible due to climatic conditions, crops which can withstand the climatic peculiarities of the Valley and ripen before planting of paddy in the summer should be identified and introduced, (e) use of bio-fertilizers and green manure, and need-based minimum use of chemical fertilizers after regular soil testing should be encouraged. This would help in protecting the environment, specially of the lakes and wetlands, (f) the encroachment of productive agricultural land or its acquisition by the government for industrial or other non-agricultural uses should be prohibited, (g) lands which are cultivable

but cannot be cropped should be given to marginal farmers after treatment for development of horticulture on co-operative basis, (h) the conversion of land from food crops to orchards, generally practiced by big farmers, should be stopped immediately and, (i) through diversification of economy employment be generated to improve household income so that the purchasing power of the weaker and poorer sections of the population increases. Though the state has the lowest proportion of population below poverty line in India, the visible poverty conveys a different situation.

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Notes

1. Prior to the Green Revolution, the poor as well as agricultural labourers, small farmers and a large population of certain areas used to eat millets and other coarse food-grains, but due to improved income and availability of fine food-grains such as rice and wheat made available after flourishing of the Green Revolution they have changed their food habits consuming better quality food. Now a days, they do not consider millets etc. as food for human beings.
2. During the life-time of the last Prophet of Allah (PBUH), his companions used to practice *azl (coitus interruptus)* with their slave-women, presuming they have right on their semen. When the Prophet was told about this, he simply said, "If you do not do this, then what?" That is, he did not categorically disapprove or prohibited this practice. So, his companions continued this practice. However, it is not applicable to a woman married to a man according to Islamic traditions as the husband does not have right on his semen. Hence, any temporary measure including *coitus interruptus* to prevent or controlling and spacing of births for that matter may only be practiced with the consent of the wife. This makes significance of suggested measures self-evident.

References

Arokiasamy, P. (2007) "Returns of Fertility Decline among Uneducated Women in India", *Research Brief*: 2 IIPS. (www.iipsindia.org)

Ayalew, M. (1988) "Famine early warning system", *Paper presented for theNational Disaster Prevention and Preparedness Conference*, Addis Ababa, Ethiopia, Mimeographed.

FAO. (2000) *State of Food Security in the World.* New York: United Nations.

Gopalan, C. *et al.*(2004) *Nutritive Value of Indian Foods*. Hyderabad, Indian Council of Medical Research.

Gulmoto, Z.C. & S.R. Rajan (2002) "District Level Estimates of Fertility from India's 2001 Census", *Economic and Political Weekly,*. February 16: 665- 672.

Kravdal, O. (2001) "Has Population Growth Restricted Improvement in Food Availability Per Head, 1970-95 ?", *Population Studies,* 55:105-117.

Mitra, A. & S. Mukherji (1980) "Population, Food, and Land Inequality in India,1971", *A Geography of Hunger and Insecurity*New Delhi: ICSSR , 5-6.

Mohammad, A. (1978) *Situation of Agriculture- Food and Nutrition in Rural India,* New Delhi, Concept Publishing House.

Mohammad, A. (1995) "Problem of Food Availability and Security in the Middle East",*The Geographer*: 50: 43-44.

Mohammad, N. (2001) "Spatial Inequality in Food Security in Rural India", *The Geographer.* 50: 43-57.

Ross, D. N. (1977) "Feeding the World", *Encyclopedia of Food, Agriculture and Nutrition*, New York: McGraw Hill, 1-9.

Singh, P. (2003) "Indian Agriculture", in P. Chaturvedi (ed.). *New Dimensions in Food Security in South Asia,* New Delhi: Concept Publishing Company, 1-7

Swaminathan, M. S. (1996) "Science and Technology for Sustainable Food Security", *Indian Journal of Economics*, 51: 60-75.

Swaminathan, M. S. (2001) "Science and Sustainable Food Security", *IndianFarming, 50 :*04-06.

Zutshi, B. (c.2003) *Human Resource And Social Cultural Changes in Jammu And Kashmir, (*http: //www.isca.org.in/reports/12.pdf)

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REGIONAL DIMENSIONS AND DETERMINANTS OF GENDER DISPARITY IN EDUCATIONAL ATTAINMENT IN RURAL HARYANA

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Abstract

Despite taking a great leap forward in the economic sphere, the rural society in the state of Haryana at large continues to be socially underdeveloped. This is reflected in the discrimination experienced by women in accessing education, healthcare, nutrition, sanitation etc. The continuing low level of women's education and perpetual gender discrimination therein in the rural landscape is a major cause of concern. There is a wide regional gap in the level of female education as well as gender inequality. The north-eastern region has performed much better than southern and western areas of the state in this regard. The gender bias in attainment of education amplifies with the increase in the level of education i.e. middle school onwards. The widest gender gap in educational attainment persists at the level of higher education. The regional difference in the level of women's education is largely attributed to prevalence of patriarchal ethos which restricts the social sphere of women particularly in southern and western parts of the state. Social status continues to be a significant determinant of educational attainment of women. There exists a very wide gap in the education level of upper and lower caste women. However, this difference is only marginal among the communities placed at the centre of social scale i.e. intermediary (cultivating) and backward (artisan) castes. The economic status of the households also has a very significant bearing on women's education. The land ownership status and size of land holding have a positive association with educational attainment of women and negative correlation with the degree of gender disparity. The desirable social development in rural Haryana can only be achieved by inducing social and economic equity and breaching the hard cultural pan of patriarchal ethos impeding equitable and gender balanced diffusion of education.

Introduction

Haryana is one of the economically most developed states of India. It is generally projected as a progressive province as it has witnessed success in 'Green Revolution' and development of physical and social infrastructure i.e. roads, electrification, healthcare facilities, educational institutions and communication. But despite this the state has fared poorly on the front of social development and lags behind a large number of states in the country in terms of access to education, healthcare facilities, nutrition and sanitation facilities etc. The pervasiveness of social backwardness in the state is also reflected in the discrimination meted out to women in terms of accessing education, health, sanitation, employment and economic self-sufficiency. The bias against women is also mirrored in the demographic indicator, ratio of female to male child mortality, in terms of

which Haryana is placed in a position worse than any other country in the world (Filmer, King and Pritchett, 1998). Access to education, without doubt, is the most crucial indicator of social development. Women's education in particular plays a vital role in the process of overall social development. It has a direct bearing on the quality of life of a family. It also ensures exceptionally high social returns in terms of lowering the rates of fertility, infant and child mortality (Dasgupta, 1993, Subbarao and Raney, 1995, World Bank, 1997). Rise in the level of women education has also been found to have a positive impact on child nutrition and education (Sengupta and Guha, 2002). Moreover, female education does exercise a greater influence on economic growth than male education (Schultz, 2001).

In terms of female literacy as many as 17 states of the country are doing better than Haryana. Furthermore, the state is among the top five states in the country (Jammu and Kashmir, Gujarat, Rajasthan and Uttar Pradesh being others) exhibiting utmost gender disparity in attainment of education. The rural women in the state are in the most disadvantageous position in this respect. This is not surprising since Haryana happens to be a part of the prosperous northwestern region of the country that has treated women shoddily for ages (Bardhan, 1974; Dasgupta, 1987). The position of women has become further disadvantageous as prosperity in rural economy during last three decades or so has accentuated inequalities in the society, whereas the traditional cultural bias against females has persisted and remained entrenched (Miller, 1981; Agnihotri, 2000).

Causes of Gender Disparity in Educational Attainment

The underlying causes of gender disparity in educational attainment are rather complex and may be individually categorised as cultural, economic and social. The cultural taboos and prejudices play a pivotal role in perpetuation of discrimination against women in educational sphere. The low educational attainment of women stems from gender socialisation which assigns different roles to males and females. The role of woman as a homemaker takes precedence over personal achievements. The cultural values have lesser variation across the social and economic classes than at the spatial scale. The variation in the cultural milieu largely explains the regional disparity in level of female education and gender gaps therein (Sopher, 1980, Raju, 1991 and Chateley, 1995). The impact of caste and social status on the educational level of women in India is well documented. It has been found that women belonging to higher castes or having acquired higher social status possess better education as compared to those belonging to socially backward communities (Ramchadran and Saihjee, 2002). The caste based inequalities in education and gender bias are rather sharp in rural areas (Paranjape, 2007). So far as the influence of economic factors on women's education is concerned, the National Committee on Status of Women (1975) underlined that poverty plays an important role in determining the attitude towards girl's education, particularly for the people below subsistence level. Various scholars have recognized the importance of economic prosperity as a means to combat gender disparity in education (Ramchandran and Saihjee, 2002, Sengupta and Guha, 2002). The social class (rather than caste or social status) has been found to exercise a greater influence on the continuity of child education (Vaid, 2004), educational diffusion and reduction in gender bias in educational attainment (Alam and Raju, 2007). But there are also studies which suggest that there is no correlation between per capita income and gender disparity in education. The absolute level of women's education is strongly related to the economic conditions but the difference between educational attainment of girls and boys does not vary significantly across income groups (Filmer, King and Pritchett, 1998).

Gender inequality in educational attainment also varies across different levels of education. The difference between educational attainment of males and females may be expected to be least at primary level but the drop out rate of girls accelerates with

the increase in level of education. This may be attributed to a number of factors such as distance of educational institutions, early marriage of girls and perception about the usefulness of higher education for girls etc. The gender disparity in enrollment is reported to increase from primary to secondary level and decrease at college level since at this level education is mainly accessible to the upper and middle classes (Khan and Khan, 2004).

Objectives, Data and Methodology

The present paper aims at exploring the regional, social and economic dimensions of educational attainment and determinants of gender disparity in this regard in the rural society of Haryana. The paper attempts to explore the answers to the following questions:

1. What is the extent of gender bias in attainment of education in rural Haryana?
2. What is the extent of gender disparity at different levels of educational attainment and what are the underlying processes?
3. How do the social and economic factors influence the educational attainment in rural areas of the state?

The paper is primarily based on a household level survey conducted in 2002-03. To give a fair representation to different areas in the collection of household level data, the state has been divided into four regions[1]. Eight villages in total, two from each region were selected for carrying out the household survey. Of the two villages from each region, one from among the villages of least irrigated, and the other from among the most irrigated Community Development Block, were randomly selected. This was done keeping in mind that level of irrigational development in a village is a surrogate indicator of its level of agricultural development. To give a proportionate representation to different sections of society, households were selected from the sample villages using a stratified random sampling procedure. The number of households selected were proportional to the strength of households of different social strata, i.e., upper, intermediary, backward and Scheduled Castes[2]. These social strata have also been taken into account while analysing the relationship between social status and level of educational attainment. The possession of land and size of land holding has been taken as an indicator of economic status to observe the relationship between educational attainment and economic status.

The data pertaining to district level literacy has been collected from Census of India, 2001. The literacy rates at district level have been computed by dividing the number of literates by respective population minus 0-6 age group population. For the sample population, the educational attainment level has been computed as percentage of persons having attained an education level to total population in that category minus 0-6 age group population.

Sopher's Disparity Index (1980), modified by Kundu and Rao (1985) has been used to compute disparity level in education at different levels.

$$Ds = \log (x_2/x_1) + \log (200- x_1/200- x_2)$$

Where, Ds is gender disparity index, x_1 is percentage of females attained educational level to the total female population and x_2 is percentage of males attained educational level to the total male population.

Regional Variations in Gender Disparity in Literacy

The level of literacy is undoubtedly one of the vital indicators of social and cultural development in a rural society. There are as many as 17 states in the country which have a literacy rate higher than the state of Haryana. Interestingly, although literacy level in Haryana is lower than the states of Kerala, Mizoram, Tamil Nadu, Tripura, Uttaranchal, Himachal Pradesh and Goa, these states lag far

Table-1
Haryana:Literacy Rate and Gender Disparity Index in Different Regions (2001)

Region	Literacy Rate (Total) (Per Cent)			Disparity Index	Literacy Rate (Rural) (Per Cent)			Disparity Index	Literacy Rate (Urban) (Per Cent)			Disparity Index
	Male	Female	Total		Male	Female	Total		Male	Female	Total	
N.E. Region	80.61	65.43	73.56	0.14	76.00	57.45	67.37	0.18	87.86	78.14	83.37	0.09
Eastern Region	78.15	56.79	68.28	0.21	75.55	51.53	64.44	0.24	85.11	70.97	78.59	0.13
Western Region	74.80	50.62	63.48	0.25	72.28	45.62	59.78	0.28	83.13	67.45	75.84	0.15
Southern Region	81.39	54.09	68.65	0.27	78.15	45.64	62.79	0.34	87.25	70.47	79.61	0.15
State Total	**78.49**	**55.73**	**67.91**	**0.22**	**75.37**	**49.27**	**63.19**	**0.27**	**85.83**	**71.34**	**79.16**	**0.13**

Source: Census of India, 2001.

Table-2
Haryana:Percentage of Educated Persons (Primary and above level) to Total Population and Gender Disparity Index

Region	Educated Persons (Per Cent)			Disparity Index
	Male	Female	Total	
N.E. Region	75.75	53.72	65.91	0.22
Eastern Region	75.14	49.83	63.61	0.26
Western Region	51.44	27.36	40.37	0.34
Southern Region	60.24	23.15	42.83	0.52
State Total	**65.91**	**38.56**	**53.39**	**0.31**

Source: Field Survey

behind Haryana in terms of parameters of economic development. Table 1 shows the total, male and female literacy rates and gender disparity index for rural, urban and total population in Haryana in 2001. It is evident that there is a wide gap in the literacy level of urban and rural areas (16 percentage points), males and females (23 percentage points) and urban and rural females (22 percentage points) in the state. There are perceptible regional variations in literacy level. The gap in the literacy rate between the most (Ambala) and least (Fatehabad) literate districts is 17 percentage points. Overall, the northeastern region of the state with literacy rates of 73.56 per cent (total), 67.37 per cent (rural) and 83.37 per cent (urban) is far ahead of other regions. This region also records the highest female literacy (57.45 per cent) and least gender disparity in rural area of the state. The rural area of agriculturally most developed eastern region of the state ranks second in terms of female literacy (51.53 per cent). The lowest female literacy in the state is found in western and southern regions of the state. Faridabad and Gurgaon districts in the south and Fatehabad district in the west have the lowest rural female literacy rates in the state.

There is a significant gender disparity in literacy in rural areas of the state (0.27), which gets accentuated as one moves from north to south. It is lowest in the northeastern parts of the state (0.18) and highest in the southern region (0.34). Interestingly, the southern region records highest rural male literacy (78.15 per cent) as well as lowest rural female literacy (45.6 percent) in the state. Except for the northeastern region, all other regions in the state have considerable intra-regional variations in gender disparity. In the eastern region gender disparity is found to be lowest in Kurukshetra district (0.19) and highest in Jind district (0.30). A comparatively higher gender disparity in literacy exists in western region (between 0.25 to 0.30). The southern region displays the most significant intra-regional variation in gender disparity in literacy. It is lowest in Rewari district (0.28) and highest in Faridabad district (0.39). It is paradoxical that the rural society in the industrially most developed district of the state viz., Faridabad, displays highest gender disparity in the sphere of education.

Regional Pattern of Gender Disparity in Educational Attainment

Table 2 presents aggregated household level data on proportion of persons having attained at least primary education in different regions of rural areas of Haryana. The table shows that only 53.39 percent of the sample population in rural Haryana has attained at least primary level formal education and there is a significant male-female disparity in educational attainment. About two-third males in rural area have attended school as compared to less than two-fifth females. The northeastern region of the state again portrays a different picture from the rest of state. It has the highest educational attainment (65.91 per cent) as well as the lowest gender disparity (0.22) in the state. A significant aspect is that there is no difference in the level of educational attainment and gender disparity between economically developed and underdeveloped villages in this region. The largest gender gap in educational level (0.52) exists in the rural areas of southern region of the state. The gender disparity index in the less developed village, located in Mewat in this region, is as high as 1.16. Only about 43 per cent persons in the region have received formal education. The difference between males and females in this regard is to the tune of 27 percentage points. The western region of the state has the lowest educational attainment level (40.37 per cent) and high gender disparity (0.34). The situation in the region is worse in economically underdeveloped villages. In the economically most developed eastern region of the state, the level of educational attainment is comparatively high (63.61 per cent) and gender disparity is moderate (0.26). In general, while traversing through the rural landscape of the state from northeast towards south and west, the educational attainment of women declines and gender disparity increases. It is

Table-3
Haryana:Percentage of Persons Having Attained Primary, Middle and High School Education and Gender Disparity Index

Regions	Primary Education (Per Cent)			Disparity Index	Middle Education (Per Cent)			Disparity Index	High School Education (Per Cent)			Disparity Index
	Male	Female	Total		Male	Female	Total		Male	Female	Total	
N.E. Region	22.62	19.59	21.27	0.07	13.90	12.16	13.12	0.06	25.61	14.53	20.66	0.27
Eastern Region	16.30	17.16	16.69	-0.02	19.61	16.83	18.35	0.07	23.20	11.22	17.74	0.34
Western Region	19.83	8.78	14.75	0.38	13.51	9.12	11.49	0.18	12.64	5.41	9.32	0.39
Southern Region	21.96	9.73	16.22	0.38	15.13	6.04	10.87	0.42	17.51	5.37	11.81	0.54
State Total	**20.16**	**13.83**	**17.26**	**0.18**	**15.56**	**11.06**	**13.50**	**0.16**	**19.87**	**9.14**	**14.96**	**0.36**

Source: Field Survey

Table-4
Haryana:Percentage of Persons Having Attained Higher Secondary Education and Higher Education and Gender Disparity Index

Regions	**Higher Secondary Education (Per Cent)**			**Disparity Index**	**Higher Education (Per Cent)**			**Disparity Index**
	Male	**Female**	**Total**		**Male**	**Female**	**Total**	
N.E. Region	11.17	5.74	8.75	0.30	2.45	1.69	2.11	0.16
Eastern Region	10.77	3.30	7.37	0.53	5.25	1.32	3.46	0.61
Western Region	2.01	2.70	2.33	-0.13	3.45	1.35	2.48	0.41
Southern Region	4.15	1.34	2.83	0.50	1.48	0.67	1.10	0.35
State Total	**7.14**	**3.27**	**5.37**	**0.35**	**3.18**	**1.26**	**2.30**	**0.41**

Source: Field Survey

observed that the regional pattern of educational attainment and gender disparity construed from the primary data is quite analogous to that of literacy pattern obtained from the Census data.

Gender Inequality at Different Levels of Education

The gap between male and female educational attainment varies across various levels of education, i.e. primary, middle, matriculation, higher secondary and higher education. Table 3 shows that 17.26 per cent persons in the sample villages are educated up to primary level. The level of attainment of primary education in rural areas is comparatively high in north-eastern (21.27 percent) and eastern (16.69 percent) parts of the state. The gender disparity index values in these regions are also only nominal suggesting an almost complete absence of any bias against women in attaining primary education. In comparsison, the level of primary education is comparatively low (14.75 per cent) and patently biased against women in western Haryana (gender disparity index 0.38). Southern Haryana is also equally biased against women so far as attaining primary education is concerned.

Middle level education has been attained by 13.50 per cent persons in the sample villages (Table 3). Eastern Haryana leads in attainment of middle level education (18.35 per cent) and it is followed by the north-eastern region (13.12 per cent). In both these regions the gender disparity values are only nominal. On the other hand the southern region of the state has only about 11 per cent persons having middle level education and the gender disparity index in this region is also the highest (disparity index value 0.42). The values in Western Haryana indicate a better position than the southern region in this regard.

High school education has been attained by 15 per cent persons in the sample villages. The proportion of matriculates is highest in north-eastern region (20.66 per cent), followed by the eastern region (17.74 per cent). The proportion of persons having attained high school education is comparatively low in western and southern Haryana (Table 3). In general, the gender disparity in the state increases significantly from high school level onwards. At this level, a moderate gender disparity (0.36) exists in the state. This, to some extent, may be attributed to distance factor as all the villages do not have high and higher secondary schools, and many parents may not be willing to send the girls outside the village for education. At this level as well, the northeastern region has the lowest gender disparity index value (0.27) while the southern region exhibits very high gender bias (disparity index 0.54) in attainment of high school education.

Table 4 reveals that only 5.37 per cent persons in the state have attained education up to higher secondary level. The educational attainment at this level is comparatively high in northeastern (8.75 per cent) and eastern (7.37 per cent) regions. The western and southern regions are lagging far behind in this regard. There is a moderate gender disparity (0.35) at higher secondary level education. Interestingly, in the western region the females are doing slightly better than males at this level. A bias against females in attaining higher secondary education in the villages of eastern and southern regions is suggested by the highest disparity index values(disparity index 0.53 and 0.50 respectively). The northeastern region also shows a moderate level of gender bias at this level of education.

Only 2.30 percent people in the sample villages have passed graduation or higher level examination (Table 4). A higher proportion of sample population had attained education up to this level in eastern region (3.46 per cent) and the least in southern region (1.10 per cent). The highest value of gender disparity index for various levels of education in the state exists at this level (0.41). At the regional level, the agriculturally developed eastern region has the highest gender disparity (0.61) followed by the western (0.41) and southern regions (0.35). The northeastern region of the

Table-5
Haryana:Percentage of Educated Persons (Primary and above) to Total Population (minus 0-6 age population) and Gender Disparity Index according to Social Status

Social Status	Educated Persons (Per Cent)			Disparity Index
	Male	Female	Total	
Upper Castes	74.58	52.43	64.35	0.22
Intermediary Castes	66.27	37.94	53.16	0.33
Backward Castes	69.77	46.08	59.31	0.25
Scheduled Castes	52.36	19.64	37.89	0.51
Total	**65.91**	**38.56**	**53.39**	**0.31**

Source: Field Survey

state has the lowest gender disparity (0.16) in attainment of higher education.

Explaining Gender Disparity in Educational Attainment

The determinants of the educational attainment in the state may be classified as regional-cultural attributes, social factors and, economic factors.

Regional-Cultural Attributes

The patriarchal ethos and attitudes which devalue the role of women in social, political, and, economic arena and contribute to the replication of gender stereotypes are to a large extent responsible for keeping the women out of the ambit of knowledge and modern education in Haryana. The cultural attributes vary rather slowly across social and economic classes as compared to the geographical space. Hence, the discernible spatial pattern of educational attainment and gender bias in educational development observed in the state may be largely attributed to the socio-cultural processes which are operating at regional level. As mentioned earlier, the northeastern region of the state shows least gender inequality in educational attainment. It is located in contiguity with Himachal Pradesh which exhibits most placid patriarchal inclination and does not display extreme forms of gender discrimination witnessed in adjoining plains of northwestern India (Kabeer, 2003). On the other hand, southern and western parts of Haryana display gender bias of a high degree in educational attainment. Incidentally, these regions adjoin the cultural territories of Rajasthan, where a strong patriarchal predisposition deprives the women from having equal access to education. However, the economic developmental processes in the rural areas of eastern Haryana seem to have mellowed down the negative effects of cultural attributes on women education.

Social Factors

Social status is expected to play a significant role in determining the level of education of women in the rural society of Haryana. Table 5 shows the relationship between educational attainment, in terms of having completed at least primary level education, and social status of individuals. The level of women's education (52.43 per cent) as well as overall educational attainment (64.35 per cent) is found to be highest among the upper castes. In comparison the Scheduled Castes, the most deprived section of the rural society, continue to lag far behind in overall attainment of education (37.89 percent). These

Table-6
Haryana:Percentage of Educated Persons (Primary and above) to Total Population (minus 0-6 age population) and Gender Disparity Index according to Economic Status.

Economic Status	Educated Persons (Per Cent)			Disparity Index
	Male	Female	Total	
Landless	57.33	22.81	42.42	0.49
Marginal Farmers	66.11	37.29	53.06	0.33
Small Farmers	63.50	39.13	52.33	0.28
Medium Farmers	74.53	47.50	61.41	0.28
Large Farmers	67.69	48.21	58.68	0.21
Total	**65.91**	**38.56**	**53.39**	**0.31**

Source: Field Survey

castes also exhibit the lowest level of female educational attainment (19.64 per cent) and the highest degree of gender bias in education (disparity index 0.51). Placed at the other end of the social scale, the upper castes reveal comparatively low gender disparity in educational attainment (disparity index 0.22). What is more interesting is that the intermediary castes (Jat, Jat Sikhs, Ahir, Gujjar etc.) which largely control land resources in the state have an education level (53.16 percent) lower than that of the socially backward (artisan) castes (59.31 percent). There is a difference of 8 percentage points between female educational attainment among the backward castes (46.08 per cent) and the intermediary castes (37.94 per cent). Furthermore, the backward castes (gender disparity index 0.25) are less biased against women in providing education than the resourceful intermediate castes (gender disparity index 0.33). This may be attributed to the fact that the agrarian communities in the state largely continue to depend on the land resources for earning their living and hardly perceive any organic link between education and their way of living or quality of life. Being socially and economically dominant, these castes at the collective level also carry the millstone of patriarchal value system which perpetuates discrimination against women in all spheres of life including education. On the other hand, the artisan communities in the state, which have been largely forced to diversify their occupation following the diffusion of modern agricultural technology, reveal a different perception about education. The reservation of these socially backward but economically not so languishing castes in educational institutions and government jobs has also provided an impetus for faster diffusion of education among these communities and loosening of the gender barrier to some extent.

Economic Factors

Economic status is also expected to exercise a significant influence on the level of educational attainment in rural society. Table 6 shows the relationship between the size of land holdings, a surrogate indicator of economic status where agriculture continues to be the mainstay of the rural economy, and the level of educational attainment and gender inequality in education. The table reveals that the landless are the least educated (42.42 percent) group in rural society of Haryana. The education level of females is also found to be lowest among the landless households

(22.81 per cent). Among the farmers, the level of education tends to increase with an increase in the size of land holdings. Interestingly the medium farmers (61.41 per cent) instead of the large farmers (58.68 per cent) are found to be the most educated. The educational attainment level of females also increases with an increase in the size of land holdings. The bias against women in attainment of education is also found to be maximum (disparity index 0.49) among the landless households. The gender disparity index decreases progressively with an increase in the size of land holdings. The lowest disparity in gender disparity in educational attainment (0.21) is found among the large farmers. It is evident from aforementioned analysis that the economic status of the household positively influences the educational attainment of women. The gap between educational attainment of males and females narrows down with an increase in size of land holding.

Conclusions

Despite being a small sized state, Haryana exhibits considerable regional variations in the level of educational attainment among women and degree of gender bias therein. This is reflected in the spatial pattern of district level literacy rate as per census data, as well as level of educational attainment as revealed through primary data for this study. The rural area of north-eastern region of the state has the highest level of female education and least gender disparity. On the other hand, the southern region records the lowest level of female educational attainment and highest gender bias in it. The situation is almost similar in the western region as well. However, the agriculturally most developed eastern region has done relatively well in comparison to southern and western parts of the state.

The gender disparity in educational attainment is found to be the least at the primary level. In fact it is only nominal in north-eastern and eastern regions of the state but it is considerably high in southern and western Haryana. In general, gender bias in attainment of education magnifies with increasing level of education, particularly middle school onwards. Utmost gender discrimination prevails at the level of higher education which covers only a minuscule (2.3 percent) of rural population in the state.

The regional variations in gender inequality in educational attainment are largely attributed to prevalence of patriarchal ethos which restricts the social sphere of women particularly in southern and western regions of the state. Social status is an important determinant in educational attainment of women as castes located at the two ends of the social scale present contrasting patterns. Gender disparity in education is found to be the lowest among upper castes and highest among Scheduled Castes. But this distinction blurs around the centre of this scale where artisan (backward) castes do better than intermediary (cultivating) castes in terms of educational attainment of women. The economic status of the households taken in terms of land ownership status and size of land holding shows a positive association with educational attainment of women. The gender discrimination in education is observed to be high among landless households and decreases with an increase in the size of land holding. The desirable social development in rural Haryana can not be achieved without inducing social and economic equity and breaching the hard cultural pan of patriarchal ethos impeding equitable and gender balanced diffusion of education.

Notes

1. The northeastern region comprising Shiwalik hills and piedmont plains spreads over the districts of Ambala, Yamunanagar and Panchkula. The eastern region is a fertile irrigated plain and stretches over the districts of Kurukshetra, Kaithal, Karnal, Panipat, Jind, Sonipat, Rohtak

and Jhajjar . The southern region is dotted with Aravalli hills and sand dunes. It spreads over the districts of Faridabad, Gurgaon (including present Mewat district), Rewari and Mahendragarh. The western region comprises the districts of Bhiwani, Hisar, Fatehabad and Sirsa. It is a dry but fertile plain overlain by sand dunes.

2. The households have been classified as upper caste (Brahmin, Vaishya and Rajput), intermediary caste (Jat, Ahir, Ror, Gujjar, Meo and Kamboj), backward caste (artisan castes, i.e. Khati, Sunar, Lohar, Teli etc.) and Scheduled Castes. A sample of about 50 to 60 households was drawn randomly from each village covering a total of 437 households (2607 persons, 1414 males and 1193 females of more than 6 year age).

References

Agnihotri, S. B. (2000) Sex *Ratio Pattern in Indian Population – A Fresh Exploration*, Sage, New Delhi.

Alam, M. S. and S. Raju (2007) 'Contextualising Inter-, Intra-religious and Gendered Literacy and Educational Disparities in Rural Bihar', *Economic and Political Weekly*, 42: 1613-22.

Bardhan, Pranab (1974) 'On Life and Death Questions', *Economic and Political Weekly*, 9 (9):1293-1304.

Chately, Y. P. (1995) *Population, Education and Development*, CRRID, Chandigarh.

Dasgupta, M. (1987) 'Selective Discrimination against Female Children in Rural Punjab', *Population and Development Review*, 13: 377-400.

Dasgupta, P. (1993) *An Inquiry into Well-Being and Destitution*, Oxford, UK.

Filmer, D., E. M. King and L. Pritchett (1998) 'Gender Disparity in South Asia – Comparisons Between and Within Countries', *Policy Research Working Paper 1867*, The World Bank.

Kabeer, Naila (2003) 'Gender Inequality in Educational Outcome: A Household Perspective', *Background Paper for Education for All Global Monitoring Report, 2003-04*, UNESCO.

Khan, Tasnim and Rana Ejaz Ali Khan (2004) 'Gender Disparity in Education – Extent, Trends and Factors', *Journal of Research (Faculty of Language and Islamic Studies)*, 5: 27-42.

Kundu, A. and J. M. Rao (1985) 'Inequality in Educational development: Issues in Measurement Changing Structure and Its Socio-economic Correlates with Special Reference to India' in Moonis Raza (ed.), *Educational Planning: A Long Term Perspective*. NIEPA, New Delhi, pp. 403-466.

Miller, Barbara D. (1981) *The Endangered Sex: Neglect of Female Children in Rural North India,* Cornell University Press.

National Committee on the Status of Women (1975) *Status of Women in India: A Synopsis of the Report, 1971-74*, Indian Council of Social Science Research, New Delhi.

Paranjape, M. S. (2007) 'Uneven Distribution of Education in Maharashtra', *Economic and Poltical Weekly*, 42: 213-16.

Raju, Saraswati (1991) 'Gender Deprivation: A Theme Revisited with a Geographical Perspective', *Economic and Political Weekly*, 26 (49): 2827-39.

Ramchandaran V. and A. Saihjee (2002) 'The New Segregation: Reflections on Gender and Equity in Primary Education', *Economic and Political Weekly*, 37(17): 1600-13.

Sengupta, P. and J. Guha (2002) 'Enrolment, Dropout and Grade Completion of Girl Children in West Bengal', *Economic and political Weekly*,37 (17): 1621-37.

Shultz, T. P. (2001) 'Why Governments Should Invest More to Educate Girls', *Economic Growth Centre Discussion Paper No 836*, Yale University.

Sopher, D. E. (1980) 'Sex Disparity in Indian Literacy', in D E Sopher (ed.) *An Exploration of India: Geographical Perspective on Society and Culture*, Longman, London, pp.130-88.

Subbarao, K. and L. Raney (1995) 'Social Gains from Education: A Cross-National Study', *Economic Development and Cultural Change*, 44: 103-128.

Vaid, Divya (2004) 'Gendered Inequalities in Educational Transitions', *Economic and Political Weekly*, 39: 3927-38.

World Bank (1997) *Primary Education in India*, World Bank, Washington DC.

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CHANGING CASTE AND KINSHIP NETWORK AMONG MUSLIMS OF JAMMU CITY (J&K), INDIA

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Abstract

Caste and kinship network constitutes an important component of social system in any region. Jammu region of Jammu And Kashmir state is the composite agglomeration of different religions having a rich diversity of caste, colour and creed. Among all the religions in Jammu city, Muslims account for about 20 percent of total population although they constitute 67 percent of the total population of the state of Jammu and Kashmir. During the last twenty years of turmoil in the state, migration of Muslim population from various districts of the state has continuously changed the social structure in selected areas of Jammu urban agglomeration. The Muslims themselves intermingle with other castes and change their kinship network to a large extent.

The present study is an attempt to analyze the changing caste and kinship networks among the Muslims of Jammu city and their impact on the social structure of the study area. The study reveals that the educational and technological advancement among Muslims has played an important role in the transformation of caste and kinship network in the study area.

KEY WORDS: Caste, Kinship, Alliance marriage, Patrilineal marriage, Matrilineal marriage, *Dogra* (local) Muslims, *Nikah* ceremony (marriage ceremony), *Rukhsati* (departure)

Introduction

Caste system is a distinctive feature of India and Muslims are not an exception. As per religious ideology there is no caste among Muslims but they have adopted caste system due to the influence of Hindu social order and also because most of the Indian Muslims are converts from various Hindu castes. Hence caste system and even castism is prevailing among Muslims due to Indo-Islamic culture. Thus though there is no caste system among Muslims at the ideological level, in actual practice social stratification is based on caste among Muslims in general and of Jammu city in particular.

Muslims have imbibed more of the Hindu tradition, norms and value of life rather than *vice-versa*. As such they reveal a number of similarities with Hindus in their social practices and traditions especially pertaining to their marriage, kinship and family. The aspect of Muslim marriages and kinship has not received the continuous and scholarly attention as other socio-economic aspects of their life. In this study the attempt has been to describe the demographic characteristics of the Muslims and their changing caste and kinship network.

Objectives

1. To trace the origin of caste and the process of conversion among the Muslims of Jammu city
2. To study the nature of social stratification in relation to caste among the Muslims
3. To explore the marriage and kinship rules and rituals among the Muslims
4. To understand the impact of modernization on caste and kinship relations among the Muslims.

Hypotheses

1. Modernization with reference to education, employment and political system largely influences the kinship alliance among the Muslims.
2. The distinctiveness of caste among the Muslims through various features like endogamy, occupation and social interaction, group consciousness and mobility leads to identity formation among them.

Methodology

The study is based upon primary data and personally observed facts to interpret the social phenomenon of caste and kinship network among the Muslims of study area. The primary data pertaining to different aspects of the study has been obtained through a well prepared questionnaire filled with meticulous accuracy from different localities of the study area during 2005-06. As the present work is descriptive as well as explanatory in nature, cluster sampling method has been applied to collect the relevant data. Cluster sampling implies to divide the population into clusters and drawing the samples from selected clusters. Convenience sampling has also been applied to interpret certain relationships. 300 households have been selected as sample households in Muslim dominated localities of the study area. Opinions of elders among the Muslims based on interviews forms an important aspect of the present study. These interviews proved to be the best source for understanding the changing caste and kinship scenario over time and space.

Study Area

The present study is undertaken in the Jammu city of Jammu District of Jammu And Kashmir State. The study area is located between 32 degrees 44minutes North Latitude and 74 degrees 55 minutes East Longitude at an altitude of 300 meters above the mean sea level. The study is conducted in Muslim dominated areas of Jammu City viz., Bathindi, Sunjawan, Ustad Mohalla, Gujjar Nagar, Bajalta, Narwal, Sanik Colony, Sidera, Talab Khatkan, Janipur, Amphalla and some other areas. Out of the eleven individual areas studied Muslims constitute more than 70 percent of the total population in four, 60 to 70 per cent in another four and, 50 to 60 per cent in the remaining three localities (Table 1).

Results and Discussion

Status of Muslims(Background)

The Muslims emerged as a dominant community during the Medieval Period in the Kashmir valley and the adjoining regions. There were conversions to Islam from all Hindu castes. The Muslims of Jammu region are mostly the converted Rajputs. The nomadic Gujjars and Bakerwals along with Kashmiris from different Hindu castes who had migrated to Jammu region also got converted to Islam.

The Muslims inhabiting a small hilly tract of land popularly known as *Duggar Dash* are called as *Dogra* Muslims, and are mostly converted from *Dogra* Hindus, conversion having taken place mostly during the Mughal period. They carry with them the remnants of their earlier faith. The common communities that can be found among *Dogra* Muslims are *Chib, Manhas, Choudhary, Rathore, Thakur, Jaral,* etc.

Most of the Muslims of J&K converted under the influence of Muslim rulers and Sufism. Most of the Muslim castes still have their names that signify their cultural and caste affiliations. For instance, Kashmiri Muslims have caste names like *Zargar, Mattoo, Dar, Bhat* etc. and Rajput Muslims continue with the castes like *Manhas, Chouhan, Chib* etc.

The distinctiveness of caste among the Muslims of Jammu region, which are mostly converted from Hindu caste as stated earlier, is maintained through such features as endogamy, occupation and social interaction. In certain cases these differences of socio-economic and cultural dimensions are extended to public and political realms,

Table - 1
Jammu City : Status of Muslims

Localities/Aspects	Proportion of Muslims to Total Population	Proportion of Muslims Converted from Various Castes	Percentage of Muslims who claim to have embraced Islam during or immediately after Prophet
Bathindi	82.5	58.7	41.3
Sunjawan	74.3	63.5	36.5
Ustad Mohalla	69.5	48.6	51.4
Gujjar Nagar	71.3	53.6	46.4
Bajalta	62.5	52.5	47.5
Narwal	59.8	43.6	56.4
Sidera	62.5	46.8	53.2
Talab Khatkain	85.6	52.3	47.7
Janipur	64.3	38.9	61.1
Amphalla	57.8	41.0	59.0
Sanik Colony	52.6	39.7	60.3
Other Areas	37.2	30.0	70.0

Source: Field Survey.

Table - 2
Jammu City : In-migration of Muslims

Localities/Aspects	Proportion of Native Muslims	Proportion of Migrant Muslims
Bathindi	53.7	46.3
Sunjawan	56.9	43.1
Ustad Mohalla	62.3	37.7
Gujjar Nagar	62.3	37.7
Bajalta	69.8	30.2
Narwal	56.8	43.2
Sidera	61.3	38.7
Talab Khatkain	67.8	32.2
Janipur	57.4	42.6
Amphalla	52.4	47.6
Sanik Colony	48.2	51.8
Other Areas	46.9	53.1

Source: Field Survey.

whereby the identity of the group acquires importance. This particularly happens in those cases where caste category is often combined with ethnic, cultural and regional community. For instance the Kashmiri Muslims who converted mainly from the "*Brahmins*" still maintain caste endogamy at the social level, but identify themselves more as "Kashmiri" at the political level. Similarly the Gujjars of Jammu region maintain endogamy and other features of caste system. For them, caste forms a basis for community identity, which is different from other Muslim groups, and is of greater importance and becomes more meaningful in the contemporary situation of political identity. The rich diversity of caste system among the Muslims in the city shows that more than 60 percent of Muslims are converted from Hindus castes. In Jammu the Rajpu converted in larges numbers. The Rajput chiefs who embraced Islam first were of *Khokhar* tribe. According to 2001 census the proportion of Muslims in the state is 67.0 percent and that of Hindus is 29.6 percent. The status of Muslim population in different localities of the city as brought out by the data generated in the field and presented in Table 1 shows that out of eleven localities converted Muslims form more than fifty percent of the total sampled population in five, and more than 50 per cent in three localities. Further, it is important to note that more than 62.4 percent of the sampled population revealed that they are in 6th to 9th generation after conversion. The high proportion of converted Muslims in these localities is also related to migration from different district of the state. The proportion of migrant Muslim population in these localities as presented in Table 2 shows that the proportion of Muslim migrant population in these localities varies from 30.2 per cent in Bajalta to 51.8 per cent in Sanik Colony and 53.1 per cent in other areas of the city.

Diversity of Caste System

Though Islam prescribes equality in front of Allah, caste distinction and even untouchability among the Muslim population prevails. Untouchability is not religious but social in character. Most of the castes among the Muslims can be placed in a system of stratification. In the study area the Muslims belong to about sixty different castes. The castes that have been identified in these localities include *Sayyad, Shah, Sheikh, Hamdani, Bhat, Rathur, Mir, Dar, Bukhari, Naik, Magaray, Malik, Jaral, Khan, Manhas, Domal, Chib, Janjua, Qureshi, Gakhar, Thakiyal, Manyal, Safyal Bhatti, Chouhan, Solari, Bajran, Lone, Kasana, Khatana, Kholi, Chachi, Kalas, Dadhar, Rizvi, Sambyal, Hashimi, Jafari, Katoch, Zargar, Balvan, Pandit, Kamhar, Choudhary, Hanz, Waza, Akhnoon, Bakarwals, Kazmi, Bhangi, Chamar, Pathan, Sudan, Mirza, Paswal, Gorsi, Sungo, and Badana* etc.

Among these some castes like *Sayyad, Kazmi, Sheikh, Jafari,* and *Hamdani* consider themselves as higher in social hierarchy as compared to other Muslim castes because they embraced Islam either during the life time of Prophet Mohammad SA or immediately after Him. The Muslim castes like *Chib, Manhas, Katoch* and a host of other contemporary Hindu castes among Muslims belong to the middle order and Gujjars, Bakerwals and castes like *Chamar* (cobbler), *Bhangi* (sweepers) etc. are placed at the lowest rung of caste hierarchy.

Changing Kinship Network

Marriage constitutes an important base out of which kinship relations grow and are sustained. The most remarkable feature of the Muslim marriage and kinship life is the constant effort to strike a balance between adherence to Islam on the one hand and to adjust and adapt to the local socio-cultural milieu on the other. These adjustments and compromises have brought about a judicious synthesis of Muslim and Hindu world view acquiring a typical indigenous character among the Muslims. Sometimes, however, this creates conflict and tensions, many of which have become a regular feature of their lives, especially in the changing situation.

The various castes among Muslims in the study region follow kinship rules that are similar to contemporary Hindu castes because

Table - 3
Jammu City : System of Marriage

Localities/Aspects	Proportion of Endogamous Marriages	Proportion of Exogamous Marriages
Bathindi	53.8	46.2
Sunjawan	49.8	50.2
Ustad Mohalla	56.8	43.2
Gujjar Nagar	61.2	38.8
Bajalta	64.2	35.8
Narwal	56.8	43.2
Sidera	57.8	42.2
Talab Khatkain	52.6	47.4
Janipur	58.9	41.1
Amphalla	54.7	45.3
Sanik Colony	64.2	35.8
Other Areas	58.9	41.1

Source: Field Survey.

Table - 4
Jammu City : Patrilineal and Matrilineal form of Marriage

Localities/Aspects	Proportion of Patrilineal form of Marriages	Proportion of Matrilineal form of Marriages
Bathindi	57.8	42.2
Sunjawan	64.5	35.5
Ustad Mohalla	64.3	35.7
Gujjar Nagar	59.8	40.2
Bajalta	57.3	42.7
Narwal	49.8	50.2
Sidera	58.9	41.1
Talab Khatkain	57.4	42.6
Janipur	55.3	44.7
Amphalla	54.3	45.7
Sanik Colony	57.3	42.7
Other Areas	48.6	51.4

Source: Field Survey.

of the conversion of people from Hinduism to Islam. It has been observed during the field study that those castes or groups who are able to get education resulting in employment and a higher standard of living adhere more strongly to Islamic tenets. In comparison, the castes placed lower in the Muslim stratification system tend to be less particular about Islamic practices and continue to follow the customary practices because of ignorance about Islamic laws due to lack of education.

It has been estimated that about 30 to 45 percent *Sayyads* have adopted this title in the recent past and it is very difficult to differentiate between them and those who inherited their social position. Thus, the changes in the social status among various Muslims castes, especially the lower ones is not only the result of change in such aspects as education and employment, but is also an attempt to move upward in social hierarchy. As such, if a person of lower caste is better educated and employed he/she seeks a marriage alliance in the higher social group. In this sense caste remains an important base and kinship starts expanding covering dimensions cutting across caste and community affiliations.

Marriage alliances thus formed go beyond traditional rules of caste endogamy and kinship ties, giving rise to new forms of kinship network. In such networks, religion is important as it provides space to hitherto prohibited alliances, for example customarily marriage between cousins otherwise is not allowed but Islam permits such alliances.

Social class acquires a new meaning as marital relations are formed on the basis of economic and official status. It means that a marriage is sought with the economically well off, politically influential and socially higher placed position. This leads to building and fostering of new and different kind of kinship networks. The marriage proposal need not essentially be initiated by the parents. The young males and females, who come in contact with each other at work places, educational institutions or elsewhere, accept each other and approach their parents for formalizing the marriage proposal.

The conception of Muslim marriage as a civil contract has tended to create the impression that marriage among Muslim groups in India is a relatively simple and unostentatious affair. The essential requirement of a Muslim marriage is that the marriage partner should not be chosen from among some specific relations and the partner to a marriage should give full consent.

The specific relations where Muslim rules restrict marriage lie beyond the nuclear family. The Koran prohibits a man marrying his mother, daughter, sister, father's sister, mother's sister, brother's daughter and son's wife. Further, a man is not allowed to marry two sisters at the same time, nor is he allowed to marry a foster mother. The system of marriages in different localities of the present investigation is presented in Table 3.

A perusal of Table 3 clearly reveals that the marriages out side one's own family constitute a high percentage. This indicates the extent of changing kinship network among most of the Muslims in the selected areas of the study region. However, in certain localities like Gujjar Nagar, Bajalta and Sanik Colony, endogamous marriages are more prevalent.

The pattern of marriages among the Muslims in the selected localities of Jammu region shows that while maintaining the endogamous marriages, the marriages are being solemnized in both patrilineal and matrilineal forms. Patrilineal descent forms the backbone of Muslim kinship system. It is patrilineal descent around which the functions of families and households as well as rules and regulations regarding marriage are based. The patrilineal kin group among the Muslims is termed as *biraderi* or *khandan*. The proportion of marriages in the patrilineal and matrilineal forms in the selected localities are presented in Table 4.The table reveals that both the patrilineal and matrilineal form of marriages are important among the Muslims in Jammu city. This is because both husband and wife want to maintain their contacts in their own kinship network.

Table - 5
Jammu City : Nature of Marriage

Localities/Aspects	Percentage of Arranged Marriages	Percentage of Love Marriages	Percentage of Arranged/ Love Marriages
Bathindi	28.9	42.3	28.8
Sunjawan	35.8	46.9	17.3
Ustad Mohalla	37.4	38.6	24.0
Gujjar Nagar	34.6	35.7	29.7
Bajalta	34.2	42.3	23.5
Narwal	37.2	32.4	30.4
Sidera	38.9	38.5	22.6
Talab Khatkain	40.2	38.9	20.9
Janipur	38.5	35.6	25.9
Amphalla	34.7	32.4	29.9
Sanik Colony	38.2	34.6	27.2
Other Areas	30.8	34.5	34.7

Source: Field Survey.

Table - 6
Jammu City : Percentages of Marriages of Gujjar and Bakerwal to the Higher Caste and *vice-versa*

Localities/Aspects	Percentage of Marriages in Higher to Lower Castes	Percentage of Marriages in Lower to Higher Castes	Percentage of Marriages in Similar Status
Bathindi	25.7	38.9	35.4
Sunjawan	38.9	47.9	13.2
Ustad Mohalla	32.8	42.6	24.6
Gujjar Nagar	36.5	44.3	19.2
Bajalta	27.6	45.2	27.2
Narwal	24.3	47.4	28.3
Sidera	32.5	34.8	32.7
Talab Khatkain	30.2	23.6	46.2
Janipur	31.2	38.0	30.8
Amphalla	34.2	39.2	26.6
Sanik Colony	32.1	42.3	25.6
Other Areas	32.0	44.3	23.7

Source: Field Survey.

The sentiments of Muslims are very much akin to the Vedic beliefs cherished by Hindus on marriage and divorce. Though surprising it is true. A Muslim of the region can marry any number of times and can possess more than one wife at a time whereas a women can have only one husband and can legitimately be married with full ritual honours only once in her life. This clearly shows the influence of Hindu society on the Muslim population. Remarriage of women is deplored and looked down upon by the Muslims. They also follow many other marriage and kinship rules which are closer to the local Hindu society.

The prevalence of caste like features among Muslims in Jammu and Kashmir is mainly because of their conversion to Islam from Hinduism. However, they are slowly and steadily giving up these features. Muslims do not constitute a homogenous community; and one finds a lot of variation among different Muslim communities, for instance the Rajput Muslims follow clan exogamy to a certain extent. Among some of the Muslim caste groups even though the inter-caste marriages have started taking place, many of them do not give their females, but accept them from other castes in marriage. It has been observed during the field study that the Kashmiri Muslim castes hesitate to get their daughter's marriage solemnized with a Gujjar male but would not hesitate to get a Gujjar promising groom. It has further been observed during the field study that due to educational attainment corresponding social changes are fast coming up in the Muslim community. Love marriages and arranged-cum-love marriages are out numbering the simple arranged marriages (Table 5). It has further been observed that love leading to marriages between cousins is not uncommon. It therefore, follows that though exogamy is coming in slowly yet endogamy is not completely out. In the light of the above it can be said that more discernible changes can be observed in matters related to marriage than on religious tenets. In the case of a few Muslims, it was noticed that even though cross-cousin marriages have started taking place in recent years, the rules of clan and *gotra* exogamy are followed quite rigidly. In addition to the traditional arranged marriages, two more forms of marriages are recognized in selected localities of Jammu city. These are love marriages and arranged/ love marriages. The percentage share of different types of marriages in different localities of Jammu city is presented in Table 5.

While in arranged marriages parents and guardians have a crucial role, in love marriages the initiative for selection of the partner rests with the young. In comparison, in arranged/ love marriages, the consent of parents and guardian is sought before tying the wedding knot. Table 5 shows that the percentages of love marriages among the Muslims is higher than the other two types of marriages in five of the selected localities for this study while the proportion of love/arranged marriages is the lowest in all the localities. If we consider the proportion of love marriages and love / arranged marriages we find that the role of parents/ guardians seems to have become less important in almost all the localities. However, several ceremonies associated with Muslim marriages such as *Nikah* (marriage), *Rukhsati* (departure), *Runumai* (face showing) etc. are observed in almost all forms of marriages. The institution of *Maher* is also a dominant feature of marriage in the Muslim community.

Hierarchy of Caste System and Kinship

In Islam, there is no hierarchy of castes, but socially and politically the Muslims comprise certain castes identified above. The Government of India has declared several Muslim castes as Scheduled Tribes and Other Backward Classes. The most important among these are Gujjars and Bakerwals which have also been identified in the localities selected for this study. The persons belonging to these two categories are considered as lower castes among the Muslims. It is interesting to note here that members of these groups follow their own kinship tradition and maintain their culture and tradition to a large extent. Traditionally, the Gujjars and Bakerwals of

Jammu and Kashmir recognize three principal kinship groups known as the *dera* (household), the *dada–potra* (lineage) and *gotra* (clan). But these kinship groups are also undergoing a change due to the exposure of Gujjars and Bakerwals to the internal and external influences.

In Jammu and Kashmir the pastures are not allotted to individual families (*deras*) or to the heads and are deemed to be the property of the kinship group whose ancestors had first established control over them and had been using them traditionally. The *dada-potra* is a group of patrilinealy related kinsmen tracing their descent from a common ancestor. The size of this group can be extremely variable and may comprise of as many as 250 or more persons depending upon the extent to which the division of pastures and migration routes has taken place. The presence of *gotra* (clan) among the Gujjars and Bakerwals seems to be derived from their Hindu ancestry. This view receives some support from the fact that the names of the Gujjar Bakerwal clans are the same as those found among the Hindu Gujjars in other parts of the country. The *gotra* name is usually used by the Gujjars Bakerwals as a suffix to their names. The entire Gujjar Bakerwal community is divided into a number of *gotras* (clans). Unlike the *dada-potra* unit, which is based on actual patrilineal descent, the clan is based on the principle of a common descent. The members of a clan believe that they are descendants of a common ancestor but it is not necessary for them to demonstrate their kinship links.

Currently, considerable changes are occurring among the Gujjar and Bakerwal community but the higher castes among the Muslims do not accept these communities among them. In the changing kinship network, it seems that the higher caste Muslims give their daughters to a lower caste male only when the male from the lower caste attains a higher status in terms of employment. However, they do not allow a son to marry a female from a lower caste. The proportion of marriages of Gujjar and Bakerwal with higher caste and *vice versa* in the selected localities of Jammu city has been presented in Table 6. The percentage of marriages has been calculated taking males into consideration i. e. where a male of higher caste marries a female of lower caste or a male of lower caste is married to a female of upper caste.

The perusal of Table 6 shows that marriages have been solemnized among the Muslims with out rigidly maintaining the hierarchy of caste system. However the percentage of marriages of males from higher caste to lower caste females are quite low as compare to the marriages of males from lower castes to higher castes females. At the same time a fair proportion of marriages in each locality of study are solemnized with the caste of equal status.

Conclusion

Caste and kinship net work among the Muslim population in Jammu city is quite diverse. Almost sixty castes have been identified comprising the Muslim population in the city. A fair proportion these converted to Islam from Hinduism and continue to follow their traditional social tenets mainly due to lack of awareness about the Islamic value system. Many among these are considered to be of a lower social status by the rest of the Muslim community. However, due to better educational attainment and employment some changes are taking place in their kinship network. These are reflected in the proportions of endogamous/exogamous, patrilineal/ matrilineal, arranged/love/love-arranged and marriages across caste alignments. At the same time the existence of the traditional tenets of kinship network have also been observed.

References

Ahmad, I. (1966) *Caste and Social Stratification among the Muslims,* Manohar Publication, New Delhi.

Ahmad, I. (1976) *Family, Kinship and Marriage among the Muslims in India,* Manohar Publication, New Delhi.

Bose, N. K. (1969) "The Tribal Situation", *Man in India*, Vol. LI, No. 4, pp 567-74.

Chauhan, A. (2003) "Kinship Principles and the Pattern of Marriage Alliance: The Meos of Mewat", *Sociological Bulletin: Journal of Indian Sociological Society*, Vol. 52 (1).

Gautam, A. (1984) "The Hill Saoras of Orissa: A Case of Tribal on the Road to Prosperity", *The Geographical Observer*, Vol. XX, pp 21-26.

Indrapal and A.K. Pareed (1984) "Geo- Economic Prospects for Tribal Upliftment: A Case Study of Banswara District", *Annals of the Association of Rajasthan Geographers*, Vol. IV, pp. 101-07.

Knight, D. B. (1982) "*Identity and Territory, Geographical Perspectives on Nationalism and Regionalism*", *Annals of the Association of American Geographers*, Vol. LXXII, pp 514-531.

Lhungdim, H. (1994) "Ethno- lingual Diversity and Communication in Northeastern India", *Annals of the National Association of Geographers, India*, Vol. VIII, No. 2 pp 73-87.

Raza, Moonis (Ed.) (1979) *A Survey of Research in Geography*, New Delhi: Indian Council of Social Sciences Research, pp. 63-65.

Ramachandran, Janani (1988): "*The Warli Tribal Community: Economic Resources and the Warli Viewpoint*", *Annals of the National Association of Geographers, India*, Vol. VIII, No. 2 pp. 1-9.

Schwartzberg, J. E. (1965) "The Distribution of Selected Castes in the North Indian Plain", *The Geographical Review,* Vol. LV, No. 4, pp. 477-495.

Sharma, A. K. (1989) "Growth of Muslim Population in India, Some Policy Issues", *The Eastern Anthropologist*, Vol. XLII, No. 4, pp. 55-74.

Singh, R. P. B. (1987) "Emergence of the Geography of Belief System: A Search of Identity in India", *The National Geographical Journal of India*, Vol. XXXIII, No. 2, pp. 185-190.

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SURVIVAL OPPORTUNITIES OF CHILD POPULATION IN AN INDIAN HILL STATE : A CASE STUDY OF HIMACHAL PRADESH

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Abstract

In any development effort children should be the focus. A wise investment in children's health, nutrition and education is the foundation stone for all national development plans. A child usually has one chance of survival and thus protection of that one chance should be given a first call on society's concerns. An efficient administration of child development programmes ensures better survival opportunities for children. Similar is the case of Himachal Pradesh which has made a commendable progress in lowering birth and death rates. Consequently, its average life expectancy at birth is 66.5 against 63 at national level and is placed at fourth rank among the sixteen major states in India. However, the state needs to strengthen efforts to enhance survival opportunities for children in the first week of their birth. This needs special attention of planners and policy makers. Another area of serious concern is the training of medical and paramedical staff especially traditional *dais*/ birth attendants to ensure clean, safe and aseptic deliveries.

Introduction

"There is no second chance at childhood. It comes and goes quickly. The growing child cannot wait until he is older for the things he needs now. Later will be too late. If he does not get sufficient food and protection from disease when he is young, he may not even live to receive everything we would want him to have later. The year of his life when he is most impressionable, his life when he is most eager and ready to learn, will have been lost beyond recall".

D.F. Boguslawski (1975)

The last decade of the 20th century witnessed a worldwide concern on the welfare and development of children. The World Summit on Children, held in September 1990 made a global declaration on the survival, protection and development of children. The Colombo Resolution adopted at the SAARC Conference on Children further sharpened and reiterated this global concern for children in the regional context. It drew up a series of specific goals to be achieved by the end of 2000 A.D. The Government of India, in line with the global declarations on children and keeping in view its own situation, prepared the National Plan of Action on Children titled "A Commitment to the Child" in 1992 spelling out sectoral, multi sectoral and inter sectoral approaches to attaining optimal growth and development of the child.

The National Population Policy 2000 also provides a policy framework for advancing goals and prioritising strategies during the next decade to meet the reproductive and child health needs of the people of India. The immediate objective of the National Population Policy is to address the issues of child survival, maternal health and contraception while increasing outreach and coverage of a comprehensive package of reproductive and child health services by the

government.

The present paper in similar vein purports to assess the survival opportunities of children by examining the incidence of mortality and morbidity amongst children in the State of Himachal Pradesh. The paper also analyses the pertinent issues of maternal health which are a prerequisite for child survival. The paper has been divided into two sections. The first section deals with the child health and the second with maternal health.

SECTION - I

Child Health

Himachal Pradesh faces a radically different demographic and health situation currently as compared to 1971 when it attained statehood. The existing system of health infrastructure in Himachal Pradesh has about 2641 medical institutions including hospitals. Table 1 shows that the number of persons served per medical institution decreased from 7179 persons in 1971 to 2323 persons in 2000. The average radius served per institution has also decreased from 6.06 kms (1971) to 2.67 (2000). Similarly, availability of beds per 1000 population increased from 25.61 percent (1971) to 51.57 (2000). These achievements in the health sector indicate Himachal Pradesh's success in strengthening the health care delivery system in the State (Table 1).

The performance of the State on most of the vital rates has also been quite commendable (Table 2). Except for peri-natal and still birth rates, the figures for other vital rates in Himachal Pradesh are lower than the national rates. However, the state needs to strengthen its efforts to control peri-natal and still birth rates. There has been a strategic shift in the State's family planning programme from its preoccupation with demographic goals and fertility reduction in 1994 to a more broad-based mother and child health (MCH) programme. Within MCH, child-centred interventions dominate. While supporting and extending services to unserved areas and social groups, the programme has sought to raise concern for the mother and the child i.e., Safe Motherhood and Child Survival. Consequently, the Child Survival and Safe Motherhood (CSSM) programme became very important. In 1996, Safe Motherhood and Child Services were incorporated into the Reproductive and Child Health Programme (Ghosh, 1991).

Under the CSSM programme, children are protected from the six major childhood diseases (tuberculosis, diphtheria, pertussis, tetanus, polio and measles) and pregnant women are protected from tetanus. Apart from this, attention is also focused on the (i) Curative (diarrhea and acute respiratory infection) (ii) Preventive (Anemia and Vitamin A deficiency) and (iii) Promotive (breast feeding and birth spacing) services. The essential obstetric care (EOC) component was also added to the ante and post natal services being provided to the mother.

A detailed discussion on various issues of child health in order to apprise of the challenges of child survival in the State follows. Also a detailed analysis on the incidence of child mortality, and morbidity and pertinent issues of maternal health has been made.

Incidence of Mortality

Himachal Pradesh has been quite successful in increasing the expectation of life and decreasing the risk of dying in the first four years of infancy. The life expectancy at birth in the State is 66.5 against 63 at the National level. The infant mortality rate decreased from 118/1000 in 1971 to 52/1000 in 2005, and is lower than the present national average of 57. The SRS (Sample Registration Survey) estimates for the year 2005 show that the neo-natal mortality rate, peri-natal mortality rate and still birth rate in the State are higher than the national average. The state needs to strengthen efforts to enhance survival opportunities for children in the first week of their birth. The mortality rate of 1-4 years old in 2005 was 14 as compared to national average of 17 (Table 3). The achievements so far as these indicators are concerned are

Table - 1
Himachal Pradesh: Select Indicators of Health Infrastructure

S. No.	Health Infrastructure	1971	1981	1991	2000
1	Population Served per Medical Institution	7179	3336	2336	2323
2	Average radius (in kms) served per Institution	6.06	3.72	2.77	2.67
3	No. of beds per 1000 of Population	0.96	1.04	1.30	1.42

Source: Family Welfare Programme, Yearbook 1999-2000, Directorate of Health and Family Welfare, Himachal Pradesh

Table - 2
Himachal Pradesh and India : Comparative Vital Rates (2006)

S. No.	Vital Rates	Rural	Urban	Total (H.P.)	India
1	Birth Rate	19.5	12.4	18.8	23.5
2	Death Rate	7.1	4.8	6.8	7.5
3	Infant Mortality Rate	52	26	50	57
4	Peri-Natal Mortality Rate	40	21	39	37
5	Neo-Natal Mortality Rate	31	21	30	37
6	Post-Neo-Natal Mortality Rate	14	12	14	20
7	Still Birth Rate	20	12	19	9
8	Under Five Mortality	14	6	14	17

Source: SRS estimates.

Table - 3
H.P. and India : Comparative Vital Mortality Rates (2005-06)

State/ Country	Pre-School Child (0-4 yrs.) Mortality Rate	Infant Mortality Rate	Neo-Natal Mortality Rate	Post Neo-Natal Mortality Rate	Peri-Natal Mortality Rate	Still Birth Rate
H.P.	14 (2005)	52 (2006)	31 (2006)	14 (2006)	40 (2006)	20 (2006)
India	17 (2005)	57 (2006)	37 (2006)	20 (2006)	37 (2006)	9 (2006)

Note: Figures in parenthesis denote the latest year for which data of SRS estimates are available.
Source: Health at a Glance, 2007, Directorate of Health and Family Welfare, Himachal Pradesh.

Table-4
Himachal Pradesh: Immunisation Coverage (2007-08)

Vaccine	Coverage in the State (%)
DPT	107.17
OPV	107.17
BCG	109.20
TT	93.34
Measles	105.14

Source: Family Welfare Programme, Yearbook 2007-08, Directorate of Health and Family Welfare, Himachal Pradesh.

significant owing to the expansion of health infrastructure and improving accessibility. Besides, the implementation of the Expanded Programme on Immunisation (EPI) in 1978, Universal Immunisation Programme in 1985 and the Child Survival and Safe Motherhood since 1992 made a visible impact in the State.

On some of the indicators on infant health like neo-natal mortality and peri-natal mortality the State needs to improve its performance by intensifying the child survival programmes at the field level to achieve further reduction (Table 3).

Peri-natal mortality rate which refers to the number of still births plus deaths within first week of delivery per 1000 live births in a year is estimated to be 40 in Himachal Pradesh (SRS estimates, 2006). In 1989 it was 27.8. The registered increase of almost 13 points owes to high still birth rate and unsafe deliveries. Approximately 50 per cent of births delivered continue to be attended by untrained traditional birth attendants (*dais*) (NFHS-III, 2005-06). These issues are of grave concern especially towards infant's health during the first month of life. Another major concern in this regard is the lower percentage of institutional deliveries and almost total absence of trained assistance for expectant mothers. The current level of deliveries conducted by trained birth attendants in the State is merely 50.2 per cent. According to the NFHS report (2005-06) in Himachal Pradesh, a very large majority of live births (55 per cent) were delivered at home and among these, the majority (60 per cent) were attended by untrained persons. This situation is conducive neither to child survival nor safe motherhood. These results from the NFHS relating to assistance during delivery and antenatal care, infact, are strongly corroborated by other MCH Programme evaluation studies conducted in the State Population Research Centre, Shimla (Bose, 1986). This calls for a strong case for the training of the traditional birth attendants in the State.

Similarly, neo-natal mortality which refers to the number of infants dying in the first month (28 days) of life per 1000 live births is 31 (SRS estimates, 2006). In 1997 it was 41 per 1000 live births. Although the state has been successful in controlling new born deaths yet, there is a considerable need for enhancing the facilities for basic, essential, newborn care, promoting institutional deliveries and antenatal coverage in all the districts of the State. Improved nutritional status coupled with requisite antenatal visits and institutional deliveries can substantially aid the reduction of incidence of peri-natal and neo-natal mortality in the State.

Incidence of Morbidity

Children are immunised against six serious but preventable diseases viz., tuberculosis, diphtheria, pertussis, tetanus, polio and measles in order to curb the incidence of morbidity. According to the available data, the immunization coverage in the State has not yet been universally

Table - 5
Himachal Pradesh: Districtwise Immunization Coverage for Infants (2007-08)

S.No.	Districts	DPT (%age)	Polio (%age)	BCG (%age)	Measles
1	Bilaspur	101.30 *	101.30	107.84	97.66
2	Chamba	103.24	103.24	111.54	101.24
3	Hamirpur	114.16	114.16	112.68	107.13
4	Kangra	108.74	108.74	108.78	106.41
5	Kinnaur	91.39	91.39	87.35	88.58
6	Kullu	113.73	113.73	111.69	113.18
7	Lahaul & Spiti	65.38	65.38	61.08	76.15
8	Mandi	107.48	107.48	108.99	107.10
9	Shimla	99.96	99.96	107.53	99.94
10	Sirmaur	114.41	114.41	109.18	112.13
11	Solan	110.64	110.64	115.65	108.18
12	Una	104.51	104.51	106.99	101.28
	H.P.	**107.17**	**107.17**	**109.20**	**105.14**

*Source: Family Welfare Programme, Yearbook 2007-08, Directorate of Health and Family Welfare, Himachal Pradesh. * Figures are in percentage. If the achievement is greater than the target, then the figure exceeds 100.*

achieved. With the efforts of the government in sustaining the pace of its present achievement rate, it should not be difficult either. According to the NFHS Report (1992) "although Himachal Pradesh has still not achieved the goal of universal immunization of children, it has one of the highest rates of vaccination of children among the States in India".

Analysis of vaccine specific data shows complete immunization coverage for all infants (Table 4). In fact the achievement is higher than the target set up and hence the figures for immunization coverage go a little beyond 100 percent. There are however, striking inter district variations in terms of immunization coverage in the State (Table 5). Districts like Sirmaur and Solan lead the districts whereas Lahaul & Spiti registers the lowest immunization coverage. Similarly, Chamba, Kinnaur and Lahaul & Spiti districts have recorded lower immunization coverage in respect of State average for almost all the vaccines. Apart from this, the coverage of each type of vaccine in urban areas was higher as compared to rural areas. Similarly drop out rates for DPT and polio were lower in urban areas (6 per cent) than in rural areas (13 per cent) (NFHS Report, 1992). There also exists a gender bias in the immunization coverage as for male children it was found to be higher (66 per cent) than female children (59 per cent). Consequently, the female child mortality in the State is 44 per cent

Regarding the incidence of various diseases, Himachal claims to be polio free as there has been no reported case during the last 3 years. The pulse polio campaign, which has been a great success in the State, has shown desired results. These efforts should be sustained. At the same time, the State should now think in terms of launching similar campaigns for tetanus for which the incidence is very high and the immunization coverage is comparatively much lower. Although there has been no reported case of death due to

tetanus in the State, yet the prevalent practice of delivery at home by untrained birth professionals makes it crucial for the government to enhance the coverage of this vaccine in order to eliminate neo-natal tetanus.

Diarrhea is a major killer of children, especially those who are under five years of age, in the State. The incidence of diarrhea is very high as 16490 cases and 3 deaths due to diarrhea and 5367 cases of dysentery were reported in March 2005. About 52.5 per cent of children under age three suffered from diarrhea in the first two weeks (NFHS - III, 2005-06). Deaths due to acute diarrhea are most often due to dehydration resulting from loss of water and electrolytes. However, nearly all dehydration related deaths could be prevented by prompt administration of a rehydrating solution. Because deaths from diarrhea are a significant proportion of all deaths among children, the government has launched the Oral Rehydration Therapy (ORT). A major purpose of this programme is to increase awareness in the community and especially among women about the causes and treatment of diarrhea. As per NFHS - II (2005-06) about 20 per cent of mothers in Himachal Pradesh had no idea about proper management of diarrhea. This suggests that mothers in Himachal Pradesh need more education in the proper management of diarrhea.

Acute respiratory tract infection, primarily pneumonia, is a common cause of illness or death in infancy and childhood in the State owing to its hilly terrain and severe climatic conditions. Early diagnosis and treatment with antibiotics can prevent a large proportion of these ARI/pneumonia deaths. NFHS – III (2006-07) found that 80.3 per cent of children under age three years in Himachal Pradesh suffered from ARI. However, ARI continues to take a heavy toll of the lives of children under five years of age. The children suffering from ARI comprised between one third and half of all pediatric OPD attendance and 10 to 30 per cent of all child admissions to the State's health system. (Survey Report, Child Health and Safe Motherhood in ARI Blocks, 2005, p. 2). To counter the extent of morbidity and mortality through the prevalence of ARI, an UNFPA ARI control scheme was launched in 10 blocks of five districts where the ARI incidence was very high. These blocks were situated in Shimla, Sirmaur, Chamba, Kullu and Lahaul Spiti. The scheme commenced in 1990 and lasted for five years. Under this scheme about 1040 medical, paramedical and *anganwadi* workers were trained in case-management studies. Requisite drugs and equipment were also supplied to various delivery spots. Similar schemes need to be continued and promoted in other districts where the prevalence rate is high.

Another issue of grave concern is the spread of AIDS, which is posing a serious threat in the State. The first case of AIDS was detected in 1987. Since then the number has increased to 434 in 2007. To meet this challenge, a State AIDS cell has been established under the guidelines of the National AIDS Control Organisation (NACO). HIV testing has been made an essential feature in all blood banks, which are also provided with needle/syringe destroyers. Installation of incinerators in all blood banks as per directions of the Supreme Court dated January 4, 1996 is in progress. Condom vending machines have been provided at the district level. Training for medical/para-medical staff has been initiated and more than 50 per cent of the staff has been trained. The State is also involving NGO participation for implementation of the programme. However, the results of NFHS - III (2005-06) reveal that 21 percent of females had not heard of AIDS. Further only 59.2 percent who were aware of AIDS knew that consistent condomn use can reduce the chances of getting AIDS.

SECTION - II

Maternal Health

Improving maternal health and safe motherhood are prerequisites for child survival. Efforts in this direction include advice on correct diet and availability of professional antenatal care. Improved nutritional status,

Table 6
Himachal Pradesh: Districtwise Coverage for IFA to Pregnant Mothers (2007-08)

Sr. No.	Districts	%age Coverage
1	Bilaspur	71.46
2	Chamba	107.24 *
3	Hamirpur	66.74
4	Kangra	75.15
5	Kinnaur	69.27
6	Kullu	71.71
7	Lahaul & Spiti	70.03
8	Mandi	66.99
9	Shimla	58.92
10	Sirmaur	113.89
11	Solan	121.27
12	Una	97.09
	H.P.	**81.68**

Source: Family Welfare Programme, Yearbook 2007-08, Directorate of Health and Family Welfare, Himachal Pradesh. * Figures are in percentage. If the achievement is greater than the target, then the figure exceeds 100.

coupled with antenatal care can help in reducing maternal morbidity and mortality.

The maternal mortality rate in the State is 3.5/1000 live births (SRS, 1989) against the national average of 4.4. As per surveillance data collected by the State Government for finding out the extent and nature of maternal mortality from among those registered in the hospitals during 1995-96, there were 10 maternal deaths reported before delivery, 8 during delivery and 15 within 6 weeks of delivery. The government has undertaken Child Survival and Safe Motherhood (CSSM) programmes and UIP to ensure the care of women especially adolescent girls, pregnant women and lactating mothers in tandem with the Integrated Child Development Scheme (ICDS). Maternal mortality is mostly due to septic abortion, anemia, obstructed labour, toxemia and post-partum infections. Majority of deaths are preventable if antenatal care services are ensured. The present antenatal coverage rate in the State is 88.68 per cent. Antenatal care refers to pregnancy related health care provided by a doctor or health worker in a medical facility or at home. Studies conducted in the State support this high utilization of antenatal care services. At the same time, however, studies indicate that women in Himachal Pradesh are far behind in following the minimum standards set for antenatal visits (a minimum of four antenatal visits are recommended during the third, sixth, eight and ninth months of pregnancy). The majority of women in Himachal Pradesh receive antenatal care quite late in their pregnancy and consequently the number of visits is also fewer than desired. Only 62.6 per cent mothers had at least 3 antenatal care visits for their last birth (NFHS - III, 2005-06). Another important thrust of safe motherhood is the encouragement of institutional deliveries under the supervision of trained health professionals as it is advantageous for the birth of the baby to take place under hygienic conditions. According to NFHS - III Report only 50.2 percent births were assisted by a doctor or a trained health personnel. Further for rural areas, it is only 47.6 percent. Besides, only 40.8 percent mothers received post natal care from a doctor or a trained health personnel

within two days of delivery. This is a matter of grave concern because 50 percent of the deliveries are being conducted by untrained persons. The government needs to promote institutional deliveries and train traditional birth attendants (*dais*). Another issue regarding maternal health requiring priority consideration is to prevent anemia among mothers and children. About 37 percent pregnant women (15-49 years) are anemic. Similarly 58.8 percent children (6-35 months) are also anemic in the state as per NFHS-III Report. The main reason for this is low consumption (38.6 percent) of IFA (Iron and Folic Acid) during pregnancy. The districtwise data further shows that Bilaspur, Hamirpur, Kangra, Kinnaur, Lahaul & Spiti, Mandi and Shimla districts recorded a lower coverage of IFA to pregnant mothers as compared to the state average (Table 6). The government needs to formulate adequate strategies for enhancing reach of IFA tablets to pregnant mothers.

Conclusions

The government interventions in the State have been quite successful in enhancing the survival opportunities of the child population. However major problems remain intertwined with poor nutrition. The major causes of infant mortality viz., diarrhea, pneumonia, neonatal tetanus and measles are often aggravated by malnutrition. Intensification of immunization and Child Survival Programmes, especially in Chamba, Kinnaur and Lahaul & Spiti districts need to be taken on priority. Regular monitoring and surveillance of cases of tetanus, measles and acute respiratory infections should be undertaken. Training of medical and paramedical staff, especially traditional *dais*/ birth attendants, is the need of the hour to ensure clean, safe and aseptic deliveries. Last but not the least, information, education and communication system on preventive, curative and promotive child and maternal health care needs to be further strengthened in the State.

References

Alfred Jacob (1979) *Children of India*, Manohar Publication, New Delhi.

Bose, A. B. (Ed.) (1986) *Monitoring Survival and Development of Young Child*, National Institute of Public Cooperation and Child Development, New Delhi.

Family Welfare Programme Yearbook (2007-2008) Directorate of Health and Family Welfare, Himachal Pradesh.

Ghosh, Shanti (1991) *You and Your Child*, Voluntary Health Association of India, New Delhi.

Government of India (1991) *Rights of the Child*, Convention on the Rights of the Child, Department of Women and Child Development, Ministry of Human Resource Development, New Delhi.

National Family Health Survey – III (2005-06) *Himachal Pradesh*, ORC Macro and Mumbai: International Institute for Population Sciences, Mumbai.

Weiner, Myron (1992) *The Child and the State in India*, Oxford University Press, New Delhi.

http://hphealth.gov.in

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GROWTH OF POPULATION, MIGRATION AND LAND USE CHANGES IN AN INDUSTRIAL CITY : A CASE STUDY OF PANIPAT (HARYANA)

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Abstract

During the years 1961-2001 the population and urban area of Panipat city increased rapidly with 428.37 per cent and 463.83 per cent growth respectively. Interesting changes in the demographic profile and land use patterns of the city are noticeable. The population of in-migrants in Panipat city is 47.03 percent of the total population in 2001 since employment opportunities are available in the increasing number of medium/ large scale industrial units. In 1991, out of 81,258 total migrants, females comprised 53.37 per cent but in 2001 there were 51.34 per cent males out of 1,66,575 migrants. Mainly the migration of labour is from Haryana state and there is a rapid decline in number of persons coming to Panipat city for business. The proportion of migrants for employment purposes has increased from 19.61 per cent in 1991 to 28.8 per cent in 2001. The occupational structure of population has also undergone a change between 1961-2001. In 2001, nearly 87.9 per cent of the migrants are the workers in factories and 5.29 per cent are engaged in household activities and these are mainly the females. There have been significant changes in the area under different land uses in the city between 1971 and 2001. The growth of Panipat city in terms of its population, migration to the city and industries raises important questions regarding the implications of such growth through conversion of agricultural land to non-agricultural urban uses.

Introduction

With rising trends of India's economic growth since mid 1990s, the country experienced the highest percentage of urban population (30.5 per cent) to the total population in 2001 (Reddy, 2002). This phenomenon of urbanization has exhibited decennial growth rate of 21.63 percent during 1991-2001. But, still we live in one of the least urbanized countries of the world, although during 1951-2001, the total urban population increased by 184.4 per cent (Reddy, 2002). However, the level of urbanization increased by only 13.21 per cent.

In Haryana, the highest urban growth has been recorded in and around the city of Gurgaon situated adjacent to the national capital region of India. In addition, the cities between Ambala and Delhi situated on the Grand Trunk Road (NH-1) which passes through Haryana have also grown rapidly due to increase in their population. Panipat is one of such cities and is famous as an industrial city of the state. The city is a centre of trade of textile products, mainly carpets and 'household linen'. This study pertains to the growth of Panipat during 1961-2001 in terms of (i) population growth, migration and changes in occupational structure and, (ii) changes in land use and the extent of urban area.

Study Area

Panipat city is located at 29° 23' North Latitude and 77° 10' East Longitude. The

Table - 1

Panipat City : Growth of Population, Density and Area (1961-2001)

Year	Population	Absolute Growth of Population	Growth Rate of Population (in %)	Population Density (Persons/Sq. Km)	Area in Sq. km.
1961	67,026	12,045	21.91%	8626	7.77
1971	87,981	20,955	31.26%	11323	7.77
1981	137,927	49,946	56.77%	6625	20.82
1991	191,212	53,285	38.63%	9184	20.82
2001	354,148	162,936	85.21%	8084	43.81

Source: Statistical Abstract of Haryana (2001).

Table – 2

Panipat City : Establishment of Industries and Migration (1981-2001)

Year	No. of small scale industries	No. of medium/large scale industries	Total Migration
1981	464	7	-
1991	1208	15	81,258
2001	1608	15	1,66,575

Source: Haryana–Large and Medium units Directory, 1999; District Industries Centre(1991-2001); and Census of India: Migration Tables (COI, 1991b-2001).

average altitude above mean sea level is 235-250 m. Situated on the National Highway No. 1 the city is the district headquarters of the same name and the third largest city of Haryana according to 2001 Census. It is connected with Delhi, Karnal, Kurukshetra, Ambala and Chandigarh through good roads and railways. Delhi is nearly 90 kms. from Panipat in south-southeast direction, while Chandigarh is located towards north-northeast at a distance of about 160 kms.

Panipat city is situated on a high mound composed of debris of centuries of habitation near the old bank of river Yumna. The city has a long history dating back to the Mahabharata and the Pandawas and Kaurwas. At one time the town was protected by a wall with 15 gates. Prior to the region coming under the administrative control of the British, Panipat was famous for copper and glass used in ornamentation or in dresses of the ladies. During the period of British rule modernization of industry in Panipat took place and the city became famous for the manufacture of furnishing fabrics and blankets. During the last nearly 20 years it also became famous due to the establishment of a refinery of Indian Oil Corporation and a National Fertilizer Factory. These developments have resulted in physical expansion of the city and have provided a great fillip to the establishment of several ancillary industries (Singh, 2008). At present Panipat has its suburbs stretching in all directions except the east.

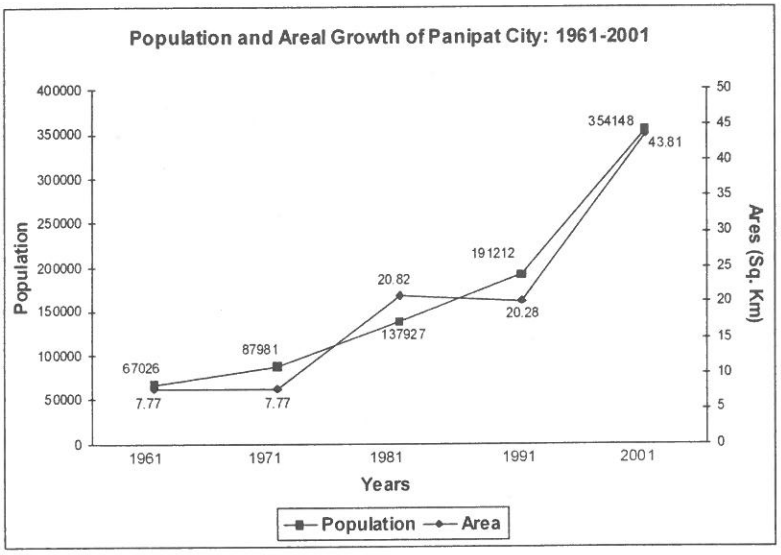
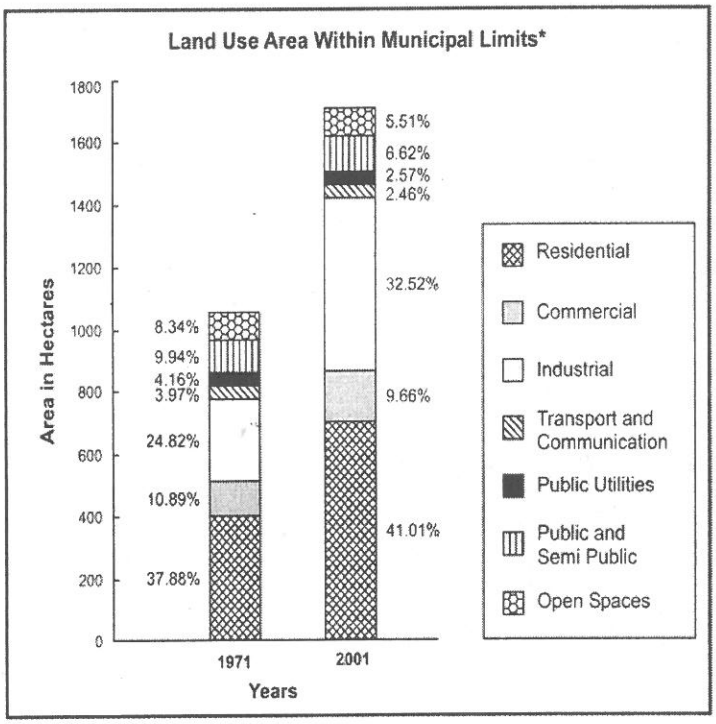


Fig. 1



Source: Haryana Government Gazette. Town and Country Department, Panipat (1971 & 2001).

*Municipal Area in 2001 is inclusive of total area within Municipal limits and extended Municipal limits by this year

Fig. 2

Sources of Data and Methodology

The study is based on secondary data. The population figures for the city for the period 1961-2001 have been taken from the Statistical Abstract of Haryana (2001). The study of migration and occupational structure is based on Census of India publications for various years. The data related to the industries located in Panipat city have been collected from the District Industries Department. Data on land use in 1971 and 2001 have been obtained from the Town and Country Planning Department, Panipat. After suitable processing these data are presented in tables, graphs and bar diagrams. The year 1961 in this study signifies the base before the formation of Haryana as a state due to the reorganization of Punjab State in 1966. The subsequent decades provide the timeframe for the study of growth of the city as an important urban centre in Haryana.

Growth of Population

In 1901 Panipat was a small town with a population of 26,914 persons. Its growth during the pre-independence period conformed to the general trend of growth of urban population in the region i.e. a marginal decline in population during 1901-11 and a sluggish growth during 1911 and 1941. During this period of four decades the population of the town increased by only 10,923 persons. Compared to this the population of the city increased by 17144 persons during 1941-51 and was recorded as 54981 persons in 1951. The major contributing factor for this substantial increase in population was the resettlement of a large number of displaced persons from Pakistan in the wake of independence of the country and the partition of Punjab in 1947. The year 1951 also marks the beginning of a period of consistently high population growth of Panipat city. During 1951-61 the population growth rate of Panipat was 21.91 per cent, which increased to 31.26 per cent during 1961-71. In 1981 the city emerged as a Class I city after registering a population growth rate of 56.77 per cent during 1971- 81. The year also marked an almost three times increase in the area of the city from 7.77 sq. km to 20.82 sq. km. (Table 1 and Fig.1). During 1981-91 although the city registered an absolute increase in its population, the growth rate was lower than that of the previous decade (38.63 per cent) and, the density of population had registered an increase. The previous decade (1991-2001) saw an increase of 162,936 persons in the population of the city giving a growth rate of 85.21 per cent but a decline in its population density because of doubling of its area from 20.82 sq. km. in 1991 to 43.81in 2001 (Table 1). During 1961-2001 the over-all increase in population of the city was 428.37 per cent i.e. from 67,026 persons in 1961 to 3,54,148 persons in 2001.

Population Density and Areal Expansion of the City

During the study period the highest density of population in the city was in 1971 (11,323 persons/sq. km.) and the area of the city was 7.77 sq. km. There was an increase of 2697 persons/ sq. km. since 1961 but the area of the city had not increased (Table 1). In 1981 the density value had come down to 6625 persons/ sq. km. because of the increase in the area of the city to 20.82 sq. km. However the density of population increased again to 9184 persons/ sq. km. in 1991. The area of the city more than doubled in 2001 resulting in a decline in population density from 9184 in 1991 to 8084 persons/ sq. km. in 2001. During the years 1961-2001, the area of Panipat city increased from 7.77 to 43.81 km^2 i.e. by 5.638 times during 40 years (Table 1). The maximum increase in urban area of Panipat was during 1991 to 2001 i.e. from 20.82 km^2 to 43.81 km^2 (110.42 percent increase).

Factors Contributing to Population Growth

As elsewhere the growth of Panipat city has been due to natural increase, migration to

Table-3
Panipat City: Migrants by Place of last Residence and Reasons for Migration (1991)

Categories of migrant workers /Reasons		Total Migrants	Employment	Business	Education	Marriage	Moved with Household	Due to Natural Hazards	Others
All categories combined	T	81258	15570 (19.16)	4468 (8.49)	610 (0.75)	22741 (27.98)	26791 (32.97)	210 (0.25)	10868 (13.37)
	M	37886	14250	4168	380	160	12446	110	6372
	F	43372	1320	300	230	22581	14345	100	4496
1. Last Residence anywhere in India	T	67193 (82.69)	15010 (22.33)	4148 (6.17)	580 (0.86)	21579 (32.11)	21474 (31.95)	210 (0.31)	4192 (6.23)
	M	30829	13790	3888	380	150	9919	110	2592
	F	36364	1220	260	200	21429	11555	100	1600
(i) Within the state of enumeration (Haryana)	T	32829 (48.85)	5450 (16.6)	1908 (5.81)	400 (1.21)	12249 (37.31)	10680 (32.53)	80 (0.24)	2062 (6.28)
	M	13560	4980	1768	230	100	6980	30	1292
	F	19269	470	140	170	12149	3700	50	770
(a) Within the district of enumeration (Panipat)	T	8328 (25.36)	1440 (17.29)	728 (8.74)	130 (1.56)	2070 (24.85)	3370 (40.46)	30 (0.36)	560 (6.72)
	M	4048	1280	678	60	10	1750	0	270
	F	4280	160	50	70	2060	1620	30	290
(b) In other districts of State of Haryana	T	24501 (74.63)	4010 (16.36)	1180 (4.81)	270 (1.1)	10179 (41.54)	7310 (29.83)	50 (0.24)	1502 (6.13)
	M	9512	3700	1090	170	90	3410	30	1022
	F	14989	310	90	100	10089	3900	20	480
(ii) From any state in India excluding Haryana	T	34364 (51.14)	9560 (27.81)	2240 (6.51)	180 (0.52)	9330 (27.15)	10794 (31.41)	130 (0.37)	2130 (6.19)
	M	17269	8810	2120	150	50	4759	80	1300
	F	17095	750	120	30	9280	6035	50	830
2. Last residence outside India	T	14065 (17.3)	560 (3.98)	320 (2.27)	30 (0.21)	1162 (8.26)	5317 (37.80)	0 (0.0)	6676 (47.46)
	M	7057	460	280	0	10	2527	0	3780
	F	7008	100	40	30	1152	2790	0	2896

Source : Census of India: Haryana - Migration Tables (COI, 1991b)

Table - 4

Panipat City: Migrants by Place of Last Residence and Reasons of Migration (2001)

Categories of migrant workers/Reasons		Total Migrants	Employment	Business	Education	Marriage	Moved with Household	Due to Natural Hazards	Others
All categories combined	T	166575	48025 (28.83)	1088 (0.65)	348 (0.20)	30313 (18.19)	55289 (33.19)	1995 (1.9)	29517 (17.71)
	M	85532	44395	933	205	305	21911	1141	16642
	F	81043	3630	155	143	30008	33378	854	12875
1.Last Residence anywhere in India	T	154646 (92.83)	46981 (30.37)	1041 (0.67)	333 (0.21)	29991 (19.39)	49952 (32.30)	1959 (1.26)	24389 (15.77)
	M	79345	43465	899	199	292	19457	1118	13915
	F	75301	3516	142	134	29699	30495	841	10474
(i)Within the state of enumeration (Haryana)	T	62803 (40.61)	11607 (18.48)	528 (0.84)	212 (0.33)	16048 (25.55)	18204 (28.98)	611 (0.97)	15593 (24.82)
	M	27844	10586	471	123	136	7532	380	8616
	F	34959	1021	57	89	15912	10672	230	6977
(a)Within the district of enumeration (Panipat)	T	17610 (27.32)	1958 (11.11)	98 (0.55.)	79 (0.44)	1372 (7.79)	3635 (20.64)	96 (0.54)	9923 (56.34)
	M	9511	1814	91	47	22	1678	54	5805
	F	7650	144	7	32	1350	1957	42	4118
(b) In other districts of State of Haryana	T	45642 (72.67)	9649 (21.14)	430 (0.94.)	133 (0.29)	14676 (32.15)	14569 (31.92)	515 (1.12)	5670 (12.42)
	M	18333	8772	380	76	114	5854	326	2811
	F	27309	877	50	57	14562	8715	189	2859
(ii) From any state in India excluding Haryana	T	91843 (59.38)	35374 (38.51)	513 (0.55)	121 (0.13)	13943 (15.18)	31748 (34.56)	1348 (1.46)	8796 (9.57)
	M	51501	32879	428	76	156	11925	738	5299
	F	40342	2495	85	45	13787	19823	610	3497
2. Last residence outside India	T	11929 (7.16)	1044 (8.75)	47 (0.39)	15 (0.12)	322 (2.69)	5337 (44.73)	36 (0.30)	5128 (42.98)
	M	6182	930	34	6	13	2454	23	2727
	F	5742	114	13	9	309	2883	13	2401

Source : Census of India: Haryana - Migration Tables (COI, 1991b, 2001)
Note :Figures in parenthesis denote percentage values

the city, expansion of the area of the city and the inclusion of rural population in the population of the city due to increase in its area. Among these factors adequate data are not available for assessing the contribution of natural increase and the component of rural population included in the population of the city due to increase in its area. However, the contribution of migrant population can be understood in some detail. As mentioned earlier the first major addition of migrants to the population of the city was in 1951 due to the resettlement of a large number of displaced persons from Pakistan after 1947. In subsequent decades the city followed the trend of a substantial increase in its population which apparently could not have been due to natural increase only. Further, the growth of population in the city was also associated with its emergence as a centre of trade and manufacture of cotton *durries*, mats, carpets, floor coverings, blankets etc. and becoming an export hub for these items. The development of handloom industry must have generated employment attracting migrants to the city. Since 1981 there has been a steady increase in the number of industrial units in the city. The number of small scale units increased from 464 in 1981 to 1608 in 2001 and that of medium/large scale units from 7 in 1981 to 15 in 2001 (Table 2). The establishment of the oil refinery and the fertilizer factory further strengthened the trend of migration. In 1991 the number of migrants in the city was 81,258 persons accounting for 42.49 per cent of its total population. In 2001 this number increased to 1,6,575 persons forming 47.03 per cent of the total population of the city.

Migration to Panipat City

Migration is one of the principal causes, along with natural increase or decrease of population, for fluctuations in population. Migration may be motivated by various causes which include social, economic, political, cultural and natural factors such as education, marriage, employment and natural and man-made calamities. Search for employment and better employment opportunities has been the most dominant factor for movement of people from one area to another in India for the past several decades.

Data regarding migrant population in Panipat by place of last residence and reasons for migration for 1991 and 2001 are presented in Tables 3 and 4. The number of total migrants in Panipat city increased by 104.99 per cent during 1991 - 2001. It has already been mentioned above that the proportion of migrants in the total population of the city increased from 42.49 per cent in 1991 to 47.03 per cent in 2001. In 1991 82.69 percent of the migrants were from within India. This proportion increased to 92.83 percent in 2001. The proportion of migrant population from outside the state of Haryana increased from 42.29 percent in 1991 to 55.13 percent in 2001. In comparison, the proportion of migrants to the city from within the state of Haryana decreased from 48.85 percent in 1991 to 40.61 percent in 2001. Further, there was only a marginal increase in the proportion of migrants from within the district of enumeration from 25.36 percent in 1991 to 27.32 percent in 2001. In comparison, the proportion of migrants from other districts in the state of Haryana declined from 74.63 percent in 1991 to 72.67 percent in 2001. The proportion of migrants in Panipat city from states other than Haryana increased from 51.14 percent in 1991 to 59.38 percent in 2001. An interesting feature about the sex composition of migrant population is that among the total migrants the proportion of female migrants was more (53.37 percent) in 1991 which declined to 51.34 percent in 2001. The data regarding migrant population according to the last place of residence suggests that the migrant population is becoming more male dominant, there are fewer migrants from districts other than Panipat, and more migrants have come to the city from outside the state during 1991-2001.

At the aggregate level the highest proportion of migrants moved to the city with household. Their proportion increased only marginally from 32.97 percent in 1991 to

33.19 percent in 2001 (Tables 3 and 4). Marriage was the second most important reason for migration in 1991. In 2001 however, employment was the second most important reason. The proportion of migrants in the category of marriage however declined from 27.98 percent in 1991 to 18.19 percent in 2001. The association between the economic growth of the city and migration can be seen in the increase in the proportion of migrants for employment from 19.16 percent in 1991 to 28.83 percent in 2001. In 1991 the proportion of migrants to Panipat for employment from within Haryana was 16.60 percent and those from other states of India was 27.81 percent. The comparative values for 2001 are 18.48 percent and 38.51 percent respectively. Evidently the proportion of migrants from outside the state of Haryana for employment has increased more substantially.

A similar trend can be observed in the case of migrants for employment from within the district of Panipat whose proportion decreased from 17.29 percent in 1991 to 11.11 percent in 2001 and those from other districts of Haryana whose proportion increased from 16.36 percent in 1991 to 21.14 percent in 2001 (Tables 3 and 4). These trends suggest that migration to Panipat city has been from longer distances during the last decade. A comparison of proportion of migrants for business in 1991 and 2001 shows that as compared to 1991 very negligible proportion of migrants came to Panipat city for business reasons. This also indicates a gradual change in the status of Panipat city from a trade centre to an industrial centre.

Occupational Structure

The data about the occupational structure of population in Panipat city according to various categories of workers during 1961-2001 is presented in Table 5. Although the data are not comparable for all the categories for 1981 and 2001 these do help us in understanding the changes that have taken place over the last forty years. The proportion of total workers in the population of Panipat city remained a little above 30 percent during 1961 to 1991, except in 1971. However in 2001 the proportion of total workers increased to 36.69 percent. The proportion of cultivators has declined consistently, though marginally during 1961 and 1991. The decline has been substantial during 1991 and 2001 (from 2.35 percent to 0.73 percent). An almost similar trend can also be observed in the case of agricultural labourers (Table 5). The proportion of workers in household industries was 22.5 percent in 1961. However, from 1971 onwards it has remained around 7 percent and in 2001 it was 7.60 percent. The decline in the proportion of workers in this category is probably associated with a change in the nature of handloom industry from a house hold one to a better organized non-household industry. This can be partly inferred from the increase in the proportion of workers in non-house hold industry from 19.06 percent in 1961 to 25.62 percent in 1971 and further to 33.29 percent in 1991. This increase is of course also related to the coming up of new units and an expansion of industrial activity in the city after 1971. Trade and commerce in the city employed 19.77 percent of the total workers in 1961. This value increased to 25.86 percent in 1971 and was only marginally lower (24.59 percent) in 1991. The proportion of workers employed in transportation, storage and communication has remained around five percent with marginal fluctuations during 1961 and 1991. A similar trend can be identified in the case of workers in construction whose proportion has remained around three percent. during the same period. The proportion of workers in other services was 21.29 percent in 1961 and 22.47 percent in 1991.

The data on occupational structure of population during 1961-2001 shows that throughout this period the highest proportion of workers has been employed in industries, trade and commerce and other services in the same order of importance. At the same time the city has grown to the status of the third largest city of Haryana. The growth of population and the concentration of industry in the city has resulted in the inevitable emergence of slums (Singh and Kaur, 2007).

Table – 5
Panipat City : Occupational Structure of Population (1961-2001)

Year		Total Workers	Cultivators	Agricultural Labourers	Workers in Household Industries	Workers in Non-Household Industries	Mining Quarrying, Fishing, Forestry, Orchard, Live-stock	Construct-ion	Trade & Commerce	Transport, Storage & Communi-cation	Other Services	Non Workers	Marginal Workers
			I	II	III	IV	V	VI	VII	VIII	IX	X	XI
1961	Total	20398 (30.41)	702 (3.44)	915 (4.48)	4590 (22.5)	3888 (19.06)	170 (0.83)	668 (3.27)	4034 (19.77)	1108 (5.43)	4323 (21.29)	46628	-
	Male	17020	628	671	2599	3489	162	664	4019	1099	3689	18546	-
	Female	3378	74	244	1991	399	8	4	15	9	634	28082	-
1971	Total	23555 (26.77)	781 (3.31)	1360 (5.77)	1695 (7.19)	6035 (25.62)	90 (0.38)	635 (2.69)	6093 (25.86)	1425 (6.04)	5441 (23.09)	64426	-
	Male	22031	758	1059	1528	5817	87	629	6048	1421	4684	24830	-
	Female	1524	23	301	167	218	3	6	45	4	757	39569	-
1981	Total	41892 (30.37)	970 (2.31)	1183 (2.82)	3259 (7.77)	–*	–	–	–	–	36482 (87.0)	95743	292
	Male	38751	942	978	2975	–	–	–	–	–	33856	35022	78
	Female	3141	28	205	282	–	–	–	–	–	2626	60721	214
1991	Total	58036 (30.35)	1368 (2.35)	1520 (2.61)	3738 (6.44)	19325 (33.29)	164 (0.28)	1780 (3.06)	14275 (24.59)	2791 (4.8)	13045 (22.47)	132670	506
	Male	53189	1212	1358	3520	17945	156	1758	14034	2769	10407	48968	104
	Female	4847	156	162	218	1380	8	22	241	22	2638	83702	402
2001	Total	129960 (36.69)	957 (0.73)	904 (0.69)	9917 (7.60)	-	-	-	-	-	118182 (90.93)	224188	15687
	Male	104933	654	710	6009	-	-	-	-	-	97560	89917	5994
	Female	25027	303	194	3908	-	-	-	-	-	20622	134271	9683

Source : 1. Primary Census Abstract (COI, 1961); 2. State Primary Census Abstract (COI, 1971); 3. District Primary Census Abstract (COI, 1981); 4. Primary Census Abstract (COI, 1991c).c

** Data not available for 1981& 2001 for columns IV, V, VI, VII, VIII and IX individually.*

The figures in column IX give the aggregate from IV to IX.

Note :Figures in parenthesis denote percentage values.

Table - 6
Panipat City : Land Use (1971)

S. No.	Types of Major Land-use	I	II	III	IV (I+III)	V
		Area within Municipal limits (in hectare))	Percent of Total Area within Municipal Limits Area	Proposed Development Area within Controlled Area (in hectare)	Municipal Area and Proposed Development Area within Controlled Area (in hectare)	Percent of Total Land use Area
1	Residential	400	37.88	1880	2280	38.93
2	Commercial	115	10.89	260	375	6.40
3	Industrial	262	24.82	1105	1367	23.34
4	Transport and Communication	42	3.97	388	430	7.34
5	Public Utilities	44	4.16	675	719	12.27
6	Public and Semi Public	105	9.94	44	149	2.54
7	Open Spaces	88	8.34	450	538	9.18
	Total	1056	100	4802	5858	100

Source: Haryana Government Gazette. Town and Country Planning Department, Panipat (1971).

In 2001, there were 1,02,853 slum dwellers in the Municipal Council area living in 32 slum colonies and during 2001-2004 the number of slums increased to 148 but their population had increased only to 1,03,522 (Singh, 2008).

Land Use Changes

There have been major changes in the area under various land uses in Panipat city during 1971 and 2001. The area under some categories of land use has increased and for others there has been a decrease. The total area of the city itself has increased from 7.77 sq. km. in 1971 to 43.81 sq. km. in 2001. The total area within municipal limits and extended municipal limits increased from 1,056 ha in 1971 to 1,707 ha (61.64 per cent increase) while the municipal and proposed development area within municipal limits increased by 302.28 per cent. The increase in the area of the city through land acquisition itself has resulted in the basic change from agricultural lands to non-agricultural uses e.g. residential and industrial expansion. Tables 6 and 7 and Figs. 2 and 3 depict the area under different land uses in Panipat city.

Only 1,056 ha of land was included in the municipal limits of Panipat in 1971, (Table 6). In 2001, the area of municipal lands increased to 1,707 ha (Table 7). In 1971 the municipal area and the proposed development area within the controlled area was 5,858 ha.

Table – 7
Panipat City : Land Use (2001)

Sr. No.	Types of Major Land use	I	II	III (I+II)	IV	V	VI	VII
		Area within municipal limits (in hectares)	Area within Extended municipal limits (in hectares)	Total Area within Municipal and Extended municipal limits (in hectares)	Percent Of Total Area within municipal limits and Extended municipal limits	Proposed Development Area within Controlled Area (in hectares)	Municipal Area and Proposed Development Area within Municipal Limits (in hectares)	Percent of Total Land use Area
1	Residential	400	300	700	41.01	2308	3008	43.80
2	Commercial	115	50	165	9.66	112	277	4.03
3	Industrial	262	293	555	32.52	1167	1722	25.08
4	Transport and Communication	42	-	42	2.46	393	435	6.33
5	Public Utilities	44	-	44	2.57	178	222	3.23
6	Public and Semi Public	105	8	113	6.62	274	387	5.64
7	Open Spaced	88	-	88	5.15	238	326	4.75
	Special Zone	-	-	-	-	490	490	7.14
	Total	1056	651	1707	100	5160	6867	100

Source: Haryana Government Gazette. Town and Country Planning Department, Panipat,(COI, 2001).

This increased to 6,867 ha in 2001. As shown in Figure 2, in 1971 the residential area constituted 37.88 per cent of the total municipal area, whereas the total area for residence within municipal limits and extended municipal limits in 2001 was 41.01 per cent. The total area earmarked for residential use to meet the future increase in demand is 43.80 per cent (Figure 3).

The area under commercial use within municipal limits was 10.89 per cent in 1971 constituting 6.40 per cent of the total area (Table 6). In 2001 the area under commercial activities within municipal and extended municipal limits decreased to 9.66 per cent whereas total area under commercial land use was only 4.03 per cent of municipal area and proposed development area within controlled area (Table 7). This decrease could be related to an increase in the total area of the city rather than an actual decline in area under this landuse.

The area under industrial use constituted 24.82 per cent of the total area within municipal limits and 23.34 per cent of the total land use area in 1971 (Table 6). In 2001, the extent of industrial area within municipal and proposed development area (PDA) limits had increased to 32.52 per cent whereas its proportion in total land use area was only 25.08 per cent (Table 7).

In 1971 the area under transport and communication constituted 3.97 per cent of the area within municipal limits and 7.34 per cent of the total land use area (Table 6). In 2001 the area under transport and communication within municipal and extended municipal (PDA) limits had decreased to 2.46 per cent and its proportion in the total land use area also decreased to 6.33 per cent as compared to 1971. This is related to a substantial increase in the area of the city while the area under this land use has not increased proportionately (Tables 6 and 7).

In 1971 public utilities covered 4.16 per cent of the area under municipal limits and 12.27 per cent of the total land use area in the city. In 2001 the area under public utilities within and extended municipal limits had decreased to 2.57 per cent and 3.23 per cent of the total land use area in the city (Figures 2 and 3).

In 1971 the area covered by public and semi public activities within municipal limits was 9.94 per cent and the comparative value in the total land use area in the city was 2.54 per cent (Table 6). In 2001 the area under this land use declined to 6.62 per cent of the area within municipal and extended municipal limits whereas its proportion in the total land use area in the city increased to 5.64 per cent (Table 7). This indicates a dispersal in the distribution of these activities as well as an increase in their area outside the municipal and extended municipal limits.

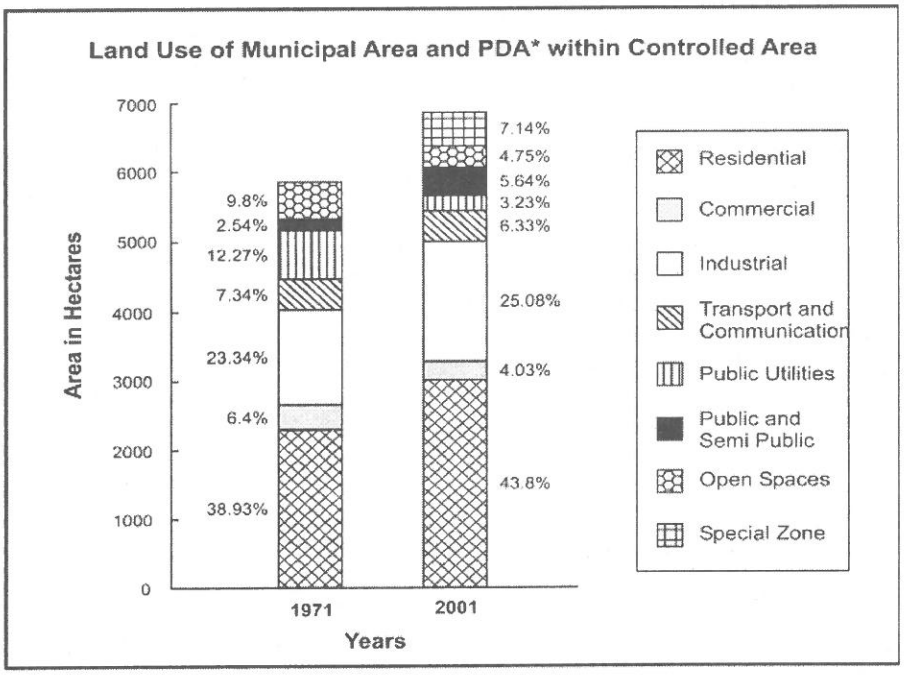
In 1971 open spaces comprised 8.34 per cent of the area under municipal limits and and 9.18 per cent of the total land use area in the city (Table 6). In 2001 the comparative value of this land use within municipal and extended municipal limits declined to 5.15 per cent and to 4.75 per cent of the total land use area in the city (Table 7). In absolute terms however there has been an increase in the area under open spaces in the city mainly outside the municipal limits.

An important development in the city in recent years has been the allocation of 490 ha. of land comprising 7.14 per cent of the total land use area in 2001(Table 7).

The changes in the area under different land uses within the municipal limits and the area acquired for the expansion of the city suggest the both infilling and expansion have taken place in the city. While infilling leads to congestion expansion is mainly in the form of urban sprawl over agricultural spaces vacant or otherwise. Compared to other land uses the area under residential, industrial and public/ semi public activities has increased considerably during the study period.

Discussion and Conclusions

The Town Planning Department's plan for growth of Panipat city has been criticized



Source: Haryana Government Gazette. Town and Country Department, Panipat (1971 & 2001).
*Proposed Development Area

Fig. 3

as being unrealistic (Sharma, 2006). The proposed acquisition of 5,000 acres of land by Indian Oil Corporation in and around Panipat will be a major setback to agriculturists of the region and in the process their status will change from land owners into labour class of the industries. The term "urban process" connotates the sum total of changes in the way of life, in values and in social structure which derive man's divorce from primary activities (Jones, 1972). Within the parameters of Friedman's definition of urban process the population living within an urban society becomes totally dependent on outside support for their food requirements as well as for daily chores of life.

During 1961-2001, Panipat city has witnessed very high growth in terms of its population, area, and industrial units (Tables 1 and 2). As expected, this growth has been accompanied by an increase in migration of population to the city which constituted 42.49 per cent of city's total population in 1991 and 47.03 per cent in 2001. The important role played by population migration in the growth of large cities in India has already been analysed (Khairkar, 2003). The sex composition of migrants in Panipat in 1991 and 2001 (Tables 3 and 4) shows that in 1991 more females (53.37 per cent) migrated to the city where as in 2001 the proportion of male migrants was more (51.34 per cent). This reflects the emergence of Panipat city as a centre of employment for male industrial workers in the upcoming large scale industries. This situation is comparable to the changes that have taken place in Ludhiana, an industrial city in Punjab (Singh *et al.*, 2005, 2006).

The acquisition of agricultural land and its conversion to non-agricultural uses, particularly residential and industrial, is a major process in the physical expansion of cities. In India over 1.5 x 10^6 ha of land, mostly agricultural, went to urban growth between 1955-1985 and further 8,00,000 ha, were expected to be transferred for

urbanization between 1985 and 2002 (Chabra, 1985). Such loss of agricultural land is most severe in developing economies such as India (Singh & Fazal, 2002). A similar process can be identified in the case of Panipat city also whose area increased by 1009 ha. from 5858 ha. in 1971 to 6867 ha. in 2001. Panipat's expanded urban area was mostly on agricultural lands as in the case of most of the cities of Punjab and Haryana. The increase in the area of the city has resulted in a change in extent of area under various land uses. There has been an absolute increase in area under various land uses, although in terms of proportion of total land use area of the city some of the land uses indicate a percentage decrease between 1971 and 2001. This is related to an increase in the area of the city. The increase in residential and industrial area clearly indicates a direct relationship between growth of population and an increased level of industrialization. There is considerable increase in planned residential area to accommodate the rapidly growing population but in spite of these there has been a massive increase in slum areas in the city (Singh and Kaur, 2007). Industrial growth has taken in its expansion orbit a lot more of agricultural land.

"Economic theory interprets urbanization as a response to efficiencies and cost advantages that arise when economic activities are undertaken in close proximity to each other. Eventually, urban dis-amenities, pollution, congestion, etc. should cause growth of mega cities to slow down" (O'Neill *et al.*, 2001). This gives a clear signal for a need to draw a boundary for expansion limits right in the beginning of establishment or expansion of urban areas. But more important is to adhere to these boundaries. In spite of all the inefficiency and adverse consequence of urbanization processes in India, it is suggested that it is still important for planners to accept increased levels of urbanization in all its facets for development. At the same time in the management of urban areas the local governments with the help of private sector can play an important role in housing, on-site infrastructures, and municipal utilities (Kaur, 2004). This is a very significant aspect of the urban process because cities are going to increasingly become the productive and dynamic centres of human life (Reddy,2002).

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References

Census of India (1961) *State Primary Census Abstract, Series-8*, Directorate Census Operations, Haryana, pp. 180-185.

Census of India (1971) *State Primary Census Abstract, Series-8*, Directorate Census Operations, Haryana, pp. 103-107.

Census of India (1981) *District Primary Census Abstract, Series-8*, Directorate Census Operations, Haryana, pp. 174-175.

Census of India (1991a) *District Census Handbook Village and Town Directory, Series 8, Part XII- A & B,* Directorate Census Operations, Haryana, *pp. 22-24.*

Census of India (1991b) *Migration Tables, Series-8, pp. 712-713*, Directorate Census Operations, Haryana.

Census of India (1991c) *Primary Census Abstract, Series 8, pp. 348-353*, Directorate Census Operations, Haryana.

Census of India (1991d) *Town Directory, Series 8, Part IXA*, Directorate Census Operations, Haryana.

Census of India (2001) *Urban Agglomeration/ Town Primary Census Abstract of Total Population, pp. 62-66,* Directorate Census Operations, Haryana.

Chabra, R. (1985) *India: Environmental Degradation, Urban Slums, Political Tension*, Drapper Fund Report.

District Industry Centre, Haryana. (1999). *Large and Medium Units Directory*, District Industry Centre, Panipat.

Haryana Government Gazette. (1971, 1981, 2001). Town and Country Planning Department, Government of Haryana, Panipat.

Jones, Emrys. (1972). "Some geographical aspects of urbanization", in Wright W.D.C. & Stewart D.H. (eds.) *The Exploding City*, Edinburgh University Press, 22 George Square, Edinburgh, p 85.

Kaur, I. (2004). "Urbanization as a Developmental Strategy: International Issues in Environment", Technical Session I: Changing Planing Concepts with emphasis on Norms and Standards, *Seminar on Challenges and Priorities in Urban and Regional Planning,* March 22-23, 2004, Guru Ram Dass School of Planning, Guru Nanak Dev University, Amritsar, pp 1-24.

Khairkar, V.P. (2003) "Migration and Population Growth in the million cities of India", *National Geographer* 38(1), pp. 53-67.

O'Neill, Bryan C, MacKellar F. Landis, and Lutz Wolfgang. (2001) *Population and Climate Change*, Cambridge University Press, Cambridge, U.K.

Reddy, Sudhakara. (2002). "The Urban Challenge", in Parikh K.S. & Radhkrishanan R. (eds.). *India Development Report 2002*, Indira Gandhi Institute of Development and Research. Oxford University Press, New Delhi, pp 128-139.

Sharma, A. (2006). "Town Planning Dept's Plan for City Growth 'Unrealistic'", *The Tribune*, Chandigarh, Wednesday, October 18, 2006.

Singh, Abha Lakshmi and Fazal, Shahab. (2002). "Suburban land conversion and its impact on Agricultural Land: A GIS based study from a predominantly agrarian economy (India)", *Annals Nat. Assoc. of Geographers India,* 22(1) pp.14-30.

Singh, Yadvinder. (2008). "Ecological implications in an urban industrial ecosystem of Panipat City, Haryana, NW India". *Geographical Review of India* (communicated).

Singh, Yadvinder and Kaur, J. (2007). "Industrial Growth and its Ecological implications in an Urban-Industrial Ecosystem of Panipat City, Haryana, NW India", *National Seminar on "Population, Environment and Development in North West India*, February 1-2, 2007. Department of Geography, Panjab University, Chandigarh. Abstracts, p. 30.

Singh, Yadvinder, Sawhney, U. and Nayyar, I. (2005)."Urbanization in Punjab, Northwest India: Urban – Industrial Growth of Ludhiana City (1971-2001)", *Annals Nat. Assoc. of Geographers India,* 25(2), pp. 39-54.

Singh, Yadvinder, Singh, G. and Gaganpreet. (2006). "Urbanization in India: Growth of Slums and related environment problems in Ludhiana - An Industrial City of Northwest India," *Indian Jour. of Landscape Systems and Ecological Studies,* 29(1), pp.12-26.

Statistical Abstract of Haryana (2001). Economic and Statistical Organization, Haryana, Chandigarh.

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UNBORN GIRLS IN HARYANA : EVIDENCE FROM THE FIELD

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Abstract

Sex composition of the human population is one of the basic demographic characteristics and a very crucial indicator for a meaningful analysis of demographic transition and its socio-cultural dynamics. In the global scenario India has one of the lowest sex ratios i.e. 933 in 2001 which declined from 972 in 1901. The sex ratio in Haryana has been declining continuously since the beginning of 20th century with only some nominal exceptions. It was 867 in 1901 and declined to 861, the lowest sex ratio amongst 28 states of India, in 2001

The lowest sex ratio in Haryana is commonly associated with (i) the desire of couples to have a male child for the continuation of their family tree and to support them in their old age; (ii) sex-selective abortions (SSAs) because of availability in abundance of technology for sex detection of the unborn child; (iii) money-power of people to pay for the sex-selective technology and easy access to the clinics because of improved infrastructure; (iv) the rising demand for dowry that makes daughters a financial burden on parents; (v) the consideration of girl as *Paraya Dhan*, because she grows and settles in her husband's household after marriage; and (vi) the feeling of insecurity of a girl child among parents.

The high incidence of unborn girls because of female foeticide in Haryana has led to an alarming fall in sex ratio. The situation has worsened since 1991, particularly in the 0-6 age group. Census 2001 figures show that the child sex ratio, which had become a concern in the 1991 census itself, has gone down even further– from 879 in 1991 to 820 in 2001 which is not a good sign for the future.

The present study endeavors to know the attitude of people towards female child and various causes responsible for the increasing incidence of female foeticide resulting in unborn girls in Haryana. It also lays emphasis on the resultant socio-cultural implications for the society. The study is based mainly on primary data collected through questionnaires and some relevant data obtained from secondary sources.

Introduction

Female foeticide resulting in unborn girls and an imbalanced population in India has emerged as a grave concern recently. The sex ratio in India has been declining from the very beginning of twentieth century. It was 972 in 1901 and decreased to 933 in 2001. During the last decade, in spite of a 6 point increase (from 927 in 1991 to 933 in 2001) in over all sex ratio, the sex ratio of 0-6 years of age group has declined more rapidly than before. It was 962 in 1981 which declined to 945 in 1991 and in 2001 it declined further to 927, a sharp decrease of 35 points as compared to 1981census.

According to UNICEF, about 40 to 50 million girls have been missing in India since 1901, because they have not been allowed to be born or if born, were killed immediately thereafter. It has become a more serious issue in some of the economically better off states such as Haryana, Punjab, Chandigarh and Delhi and drawing considerable attention from academicians, bureaucrats, and politicians.

Table – 1
Haryana : Districtwise Child Sex Ratio by Descending Order (2001)

State/District	Females Per 1000 Males
Haryana	**819**
Gurgaon	858
Faridabad	850
Bhiwani	841
Hisar	832
Panchkula	829
Fatehabad	828
Jind	818
Mahendragarh	818
Sirsa	817
Rewari	811
Karnal	809
Panipat	809
Yamunanagar	806
Jhajjar	801
Rohtak	**799**
Kaithal	**791**
Sonipat	**788**
Ambala	**782**
Kurukshetra	**771**

Source: Census of India (2001).

Table – 2
India:Child Sex Ratio in Bottom Ten Districts of India by Descending Order (2001)

Sr. No.	District	State	Sex Ratio
1	Ambala	Haryana	784
2	Sonipat	Haryana	783
3	Amritsar	Punjab	783
4	Mansa	Punjab	779
5	Bathinda	Punjab	779
6	Kapurthala	Punjab	775
7	Gurdaspur	Punjab	775
8	Kurukshetra	Haryana	771
9	Patiala	Punjab	770
10	Fathegarh Sahib	Punjab	754

Source: Census of India (2001), Provisional Population Totals, Paper 1 of 2001 (Supplement), District Totals, Series-1, India, Statement-19, p. 46.

Literature Cited

Notable contributions made by geographers regarding sex composition of Haryana are only a few and include studies by Siddiqui and Ahmad (1971); Chandna (1972); Krishan and Chandna (1973); George and Dahiya (1998); Gill (2000) and Hasan (2002). However, the present study is a modest attempt to know the attitude of people towards female child and various causes responsible for the increasing incidence of female foeticide resulting into missing unborn girls in Haryana. It also laid emphasis on the resultant socio-cultural implications in the society. The study is based mainly on primary data obtained from questionnaires. However, some relevant data have been taken from secondary sources also.

Objectives

Haryana is a state with excessive deficiency of females and is characterized with the lowest sex ratio of 861 females per thousand males amongst various states of India as per 2001 census. The sex ratio has been on a continuous decline since the beginning of the 20th century with only some marginal changes. The objectives of the present study are as follows:

1. To provide an in-depth analysis of child sex ratio and its rural-urban break up in Haryana.
2. To know about the prevailing social attitude of people towards the increasing incidence of female foeticide in Haryana.
3. To identify the causes responsible for the increasing incidence of female foeticide in Haryana.
4. To examine the socio-cultural implications of missing unborn girls in the patriarchal society of Haryana.
5. To suggest some measures for controlling the increasing incidence of female foeticide in Haryana.

Data Base and Methodology

The study is based on both primary and secondary sources of data. The primary data have been obtained through questionnaires distributed among 1342 married female teachers of reproductive age randomly selected from different schools, colleges and universities in Haryana during the year 2005. However, the reference year for the secondary data is 2001 which have been obtained mainly from Census of India publications by Directorate of Census Operations, Haryana, Chandigarh and the Registrar General and Census Commissioner, New Delhi. The data have been converted into ratios and presented in the form of tables.

Child Sex Ratio in Haryana (2001)

Census 2001 figures showed that the child sex ratio in India, which had become a concern since the 1991 census, has gone down even further from 945 in 1991 to 927 in 2001. States such as Punjab, Haryana, Himachal Pradesh, Chandigarh and Delhi now have fewer than 900 girls per 1,000 boys.

In Haryana the sex ratio of this age group is 819 female children per 1000 male children. In 1991 not a single district of Haryana had recorded a sex ratio of less than 800. However in 2001 as many as five districts viz. Kurukshetra, Ambala, Sonipat, Kaithal and Rohtak recorded child sex ratio of less than 800 (Table 1).

Viewed in its regional perspective, the child sex ratio in Haryana varies greatly from one part of the state to another. Out of the total of 19 districts, only 8 districts have a sex ratio higher than the state average of 819 females per 1000 males. However, all the districts have a sex ratio below the national average of 927 females per 1000 males. It means the whole of Haryana is characterized with excessive deficiency of females.

Gurgaon district of southern Haryana has the highest child sex ratio of 858 females per 1000 males. It is followed by Faridabad

Table – 3
Haryana :Child Sex Ratio by Residence (2001)

State/District	Females Per 1000 Males		Rural-Urban Differential
	Rural	Urban	
Haryana	**823**	**808**	**+15**
Jind	828	775	+53
Gurgaon	866	816	+50
Fatehabad	834	798	+36
Hisar	839	806	+33
Kaithal	796	769	+27
Panchkula	839	813	+26
Rohtak	807	781	+26
Mahendragarh	821	795	+26
Yamunanagar	814	789	+25
Sirsa	823	801	+22
Karnal	813	792	+21
Sonipat	792	775	+17
Bhiwani	844	827	+17
Kurukshetra	773	766	+6
Panipat	810	807	+3
Faridabad	851	848	+3
Jhajjar *	800	804	-4
Rewari*	810	816	-6
Ambala*	770	808	-38

Source: Census of India (2001)
** Indicates districts with higher urban sex ratio than rural,*
Note: Sex Ratio values have been arranged in descending order of rural-urban differential.

district (850). Both the districts are major industrial areas and have made their place on the industrial map of Haryana. The other districts having child sex ratio above the state average are Bhiwani (841), Hisar (832), Panchkula (829) and Fatehabad (828). At the other end of the scale are the districts of Rohtak (799), Kaithal (791), Sonipat (788), and Ambala (782). Kurukshetra district, famous as the holy land of *Mahabharata*, has the lowest child sex ratio of 771 females per 1000 males. Out of the bottom ten districts in India in terms of child sex ratio, Haryana accounts for three viz. Ambala, Sonipat and Kurukshetra (Table 2).

Rural-Urban Differentials in Child Sex Ratio

Rural-urban break up of child sex ratio indicates that out of the 19 districts in Haryana, 16 have a higher rural child sex ratio than the urban (Table 3). Gurgaon district has the highest rural child sex ratio of 866 and is followed by the adjoining district of Faridabad with 851 females per 1000 males. Extremely

low rural child sex ratio of less than 800 females per 1000 males have been recorded in only three districts viz., Sonipat (792), Ambala (770) and Kurukshetra (773).

Only 3 districts viz., Rewari (816), Ambala (808), and Jhajjar (804) registered higher urban child sex ratio values as compared to their rural counterpart (Table 3).Although the difference between rural and urban child sex ratio is not very wide except in Ambala district, the higher urban child sex ratio could be mainly associated with family migration to urban areas either on getting job or for the attainment of education for children, greater survival rate of both males and females because of the availability of better medical facilities. Moreover, attitudinal change in urban society leading to somewhat greater attention towards the girl child in recent years could also contribute to higher urban child sex ratio to some extent.

The rural-urban differentials in child sex ratio in India, as in the case of over all sex ratio, could be the result of sex-selectivity among the rural-urban migrants. The male-selective influx into urban areas is the result of (i) prejudice against female employment and mobility, (ii) scarcity of jobs suitable for females, and (iii) high cost of living and problem of housing in urban centers which discourage and compel many male migrants to leave their families behind. Moreover, the joint family system prevailing in rural areas facilitates male-selective migration as the male migrant is assured of the safety and security of his family left behind (Krishan and Chandna, 1973). Thus, the rural-urban differential in child sex ratio is could largely be the product of male dominant rural-urban migration. This explanation is also relevant in case of Haryana.

Jind district has the highest rural-urban differential (+53) in child sex ratio and Faridabad and Panipat the lowest (+3 each). The small rural-urban differential in child sex ratio in Kurukshetra, Panipat and Faridabad suggests an increasing trend toward family type rural-urban migration which might be associated with (i) increased social approval of out-of-home female mobility, (ii) large number of avenues for female employment, and (iii) the increased trend toward nuclear families.

According to SRS Bulletin 2005, the crude death rate (CDR) in India is 8.0. This crude death rate is much lower in urban (6.0) than rural (8.7) areas. The female crude death rate is 7.5 which is lower than the male crude death rate of 8.4. In urban areas female crude death rate (5.4) is lower than the male crude death rate (6.4).

A similar pattern of death rates by sex and residence can be identified in Haryana also. The female crude death rate in Haryana is 6.0 which is lower than the male crude death rate (8.0) and it is much lower in urban (5.5) as compared to rural areas (6.1). If this is so then why is sex ratio declining? The answer is simple that either the girls are not allowed to be born or female foeticide is rampant in urban areas. As a result, sex ratio is declining more in urban than in rural areas.

Data on infant mortality rate (IMR) by sex and residence provided by SRS 2005 can provide further insight for understanding the dynamics of sex ratio decline in Haryana. The national IMR is 60. In case of males it is 57 and for females it is 64. In rural areas female IMR (69) is more than that of male IMR (63). Even in the urban areas, female IMR (44) is more than that of male IMR (33). The total IMR in Haryana is 59, while it is 61 in rural and 49 in urban areas. There is a wide gap in IMR between males (54) and females (65). In rural areas the difference between IMR for males (56) and females (67) is large. The same is also true in case of urban areas in which the IMR is 43 for males and 56 for females. In Haryana, the total IMR is 11 points more for females than males, which is almost the same in both rural (11 points) and urban (13 points) areas, while it is only 7 points at the national level. The infant mortality rate by sex clearly indicates why sex ratio is getting imbalanced in Haryana.

Table – 4
Haryana : Preference for having a Son /Daughter

Response	No. of Respondents	Percentage
Preference for first born child.		
Son	748	55.74
Daughter	162	12.07
Does not matter	432	32.19
Total	**1342**	**100.00**
Preference for a son after the birth of a daughter as first born-child		
Strongly Agree	477	35.55
Agree	394	29.36
Agree to some extent	285	21.23
Disagree	186	13.86
Total	**1342**	**100.00**
Preference for a daughter after the birth of a son as first born-child		
Strongly Agree	345	25.71
Agree	505	37.63
Agree to some extent	242	18.03
Disagree	250	18.63
Total	**1342**	**100.00**
Preference for more than one male child		
One	277	20.64
Two	843	62.82
Three	120	8.94
Four	102	7.60
Total	**1342**	**100.00**
Preference for a daughter as the third child after having two sons		
Yes	247	18.41
No	1095	81.59
Total	**1342**	**100.00**
Preference for a son as the third child after having two daughters		
Yes	874	65.13
No	468	34.87
Total	**1342**	**100.00**

Source: Field Survey

Table - 5
Haryana : Opinion Response to Female Foeticide

Response	No. of Respondents	Percentage
What is an ideal family?		
Two Sons & Two Daughters	82	6.11
Two Sons & One Daughter	188	14.01
One Son & One Daughter	1006	74.96
One Son & Two Daughters	66	4.92
Total	**1342**	**100.00**
Girls are an economic and social liability while sons are an asset to the family.		
Strongly Agree	91	6.78
Agree	218	16.24
Agree to some extent	321	23.92
Disagree	712	53.06
Total	**1342**	**100.00**
Female foeticide is more prevalent in urban areas		
Strongly Agree	547	40.76
Agree	465	34.65
Agree to some extent	226	16.84
Disagree	104	07.75
Total	**1342**	**100.00**
Female foeticide is more prevalent among the educated		
Strongly Agree	518	38.60
Agree	497	37.03
Agree to some extent	208	15.50
Disagree	119	08.87
Total	**1342**	**100.00**
Pre-natal tests should be permitted if the first child is a daughter so that couples can plan for the birth of a son. After this they can go in for sterilization.		
Strongly Agree	277	20.64
Agree	418	31.15
Agree to some extent	184	13.71
Disagree	463	34.50
Total	**1342**	**100.00**
Do you know about statutory laws like MTP Act, 1992 and Pre-Natal Diagnostic Techniques (Regulation and Prevention of Misuse) Act,1994		
Yes	438	32.64
No	904	67.36
Total	**1342**	**100.00**

Source: Field Survey

Missing Unborn Girls in Haryana : Evidence from Survey

To know the attitude of people towards female child and the causes associated with their deficiency in Haryana a total of 1342 questionnaires, 581 for rural and 761 for urban respondents, were distributed among married female teachers of reproductive age randomly selected from various schools, colleges and universities of Haryana during the year 2005. Their responses in terms of preferences and opinions on different aspects related to child sex ratio and female foeticide are presented in Table 4 and 5.

Table 4 reveals that, despite being educated, more than half (55.74 per cent) of the respondents wanted to have a son as their first born child, while for 32.19 per cent it did not matter whether the first born child is a son or daughter. If the first born child was a daughter 35.55 per cent of parents strongly agreed and 29.36 percent agreed to have a son as their second child. In comparison, if the first child was a son 25.71 per cent of respondents strongly agreed and 37.63 per cent agreed to have a daughter as their second child. More than three-fourth of respondents (79.36 per cent) desired to have more than one male child. Among these, highest proportion of respondents (62.82 per cent) desired to have two sons in the family, the remaining preferred to have only one child – a son. 81.59 per cent of respondents did not want to take a third chance for a female child. In comparison, in case there were already two daughters in the family, 65.13 per cent of parents wanted to take a third chance to have a son as the third child. The remaining 34.87 per cent parents did not want to take a third chance in spite of the fact that they were having two daughters.

Table 5 shows that 74.96 per cent of the total respondents were of the opinion that an ideal family comprises of one son and one daughter. More than half (53.06 per cent) of the respondents did not agree with the statement that the girls are an economic and social liability while sons are an asset to the family. The remaining 47 per cent agreed to the proposition to different extents (Table 5). The response to this aspect reflects a divide regarding the status of female child. Interestingly, about three-fourth of the respondents agreed that female foeticide is more prevalent in urban areas (75.41 percent) and among the educated (75.63 per cent). The former could be related to the easy access and availability of ultrasound sex-selective technology in urban areas and the money-power to pay for its use, while the later with the preference for a son and the perception of an ideal family. This is further corroborated by the fact that 51.79 per cent of the respondents agreed with the proposition that sex determination tests should be permitted if the first born child is a daughter so that couples can have a planned birth of a son. Thereafter they can go in for sterilization to achieve the target of an ideal family (Table 5). Surprisingly, 67.36 per cent of the respondents were not aware about statutory laws like MTP Act, 1992 and Pre-Natal Diagnostic Techniques (Regulation and Prevention of Misuse) Act (PNDT Act), 1994. This response is a reflection on the awareness campaigns on this issue and the lack of any serious involvement of civil society in fighting the menace of female foeticide.

Table 6 reveals that more than half of the total respondents consider that the most important reason for increasing trend of female foeticide in Haryana is the desire of couples to have a male child for the continuation of their family tree and to support them in their old age. Secondly, sex-selective abortions (SSAs) are common because of the availability of child sex detection technology in abundance.

A UNFPA study, based on data generated by the National Family Health Survey I and II conducted in 1990-92 and 1996-98 respectively and the Sample Research Survey, has pointed out that the estimated number of SSAs, which are considered not only to be a violation of the basic human rights of a girl child to come into existence but also an indicator of the low status of

Table - 6
Haryana : Main Reasons for increasing trend of Female Foeticide (in order of importance)

Response	Respondents	Percentage
The desire of couples to have a male child for the continuation of their family tree and to support them in their old age.	712	53.05
Sex-selective abortions (SSAs) because of availability of technology for sex detection of the unborn child in abundance	276	20.57
Money-power of people to pay for the sex-selective technology and easy access to the clinics because of improved infrastructure	135	10.06
The rising demand for dowry that makes daughters a financial burden on parents	93	6.93
The girl is considered as *Praya Dhan*, because she settles in her husband's household after marriage.	79	5.89
The feeling of insecurity of a girl child	47	3.50
Total	**1342**	**100.00**

Source: Field Survey

women, was about 69,000 (68 per cent of all induced abortions in Haryana) in 1990-92 which increased to 82,000 (81 per cent of total abortions) in 1996-98. The study pointed out that had there been no SSA's in the state, the fertility rate would have been 3.2 instead of 2.9. Though the rural areas of Haryana registered a decline in SSAs during this period, urban areas showed a sharp increase. In fact, female foeticide in urban areas of Haryana increased five times.

The responses from the survey indicate that the main reasons for the increasing SSA's in Haryana are both social and economic. The preference for a male child is related to the attitude that a male child is necessary for the continuation of the family tree, for support in old age, as an earning partner, and for performing the last rites of parents. In comparison a girl child would settle in her husband's household after marriage, would require substantial finances in the form of dowry and marriage expenses, and presents a continuous security threat before marriage.

Implications of Missing Unborn Girls

Female foeticide in Haryana has led to an alarming fall in child sex ratio. The situation has worsened since 1991. Census 2001 figures show that the child sex ratio which had already become a concern in the 1991 census, has gone down even further from 879 in 1991 to 819 in 2001 which is not a good sign for the future.

This imbalance in the sex composition may lead to disastrous demographic and social consequences for the state, particularly in terms of perpetuation of crime against women, specially sex related crimes; disturbances and imbalances at the family level and in inter-personal relationships; female foeticide means missing daughters which, in turn, means

missing brides for unemployed youth; trafficking in girls as brides from backward states through the process of buying and selling of brides; and a significant decline in fertility.

Remedial Measures

The gender balance cannot be restored unless a frontal attack on all the players and stakeholders is undertaken. One possible way could be job reservation for women to take care of the financial stigma attached with them as daughters. A three-tier model for action involving the government, the NGOs and Panchayati Raj institutions, with technical back-up from academic experts, social activists and management experts should be adopted. This can also help in evolving meaningful strategies for countering the problem. Local initiatives by NGOs and individuals with vision in such fields must be initiated. Funds must be made available to organizations, especially in the health sector, to initiate an awareness campaign through electronic and print media. A nation-wide campaign must be launched to create awareness about the disastrous consequences of demographic imbalance. The role of the father in determining the sex of the child must be highlighted to counter the common perception that the mother is responsible in this matter. All suspected cases of female foeticide must be examined by State Commissions and women's organizations, and action to punish erring doctors must be undertaken. The PNDT and Dowry Acts must be implemented in letter and spirit. The government should consider empowering reputed NGOs to deal with cases of female foeticide on a trial basis. These can also be entrusted with the task of undertaking vigilance in suspected cases of SSA's. The government should combine its efforts towards population stabilisation with measures to protect the girl child i.e. linking of population control measures to schemes for protecting the girl child with the slogan *Aabaadi ghatao, beti bachao* (Reduce population, Save the daughter).

Summary

The child sex ratio in Haryana according to 2001 census is 819 female children per 1000 male children. It has declined from 879 in 1991 which is not a good sign for the future. The child sex ratio in Haryana varies greatly from one part of the state to another. Out of the total of 19 districts, 6 districts display a sex ratio of more than the state average of 819 females per 1000 males. At the other end of the scale, Kurukshetra district, the legendry and holy land of Mahabharata, has the lowest sex ratio of 771 females per 1000 males. Among the bottom ten districts in India in terms of child sex ratio Haryana accounts for three viz., Ambala, Sonipat and Kurukshetra. Rural-urban differential in child sex ratio is highest in Jind district (+53). The lowest rural-urban differential exists in Kurukshetra (+6), Faridabad and Panipat districts (+3 each). The small rural-urban differential suggests an increasing trend toward family type rural-urban migration.

Responses from the survey carried out for this study indicate that preference for a son as the first child is predominant. Even more predominant is the desire to have two sons. More than 80 per cent of the respondents did not wish to take a third chance to have daughter if there were already two sons in the family, but 65 per cent were ready for it if the first two children were daughters. Although the concept of a small family is popular, having a girl child carries a low priority. Only half of the respondents agreed that girls are a social and economic liability. Interestingly, an almost similar proportion agreed that if the first born is a daughter sex determination tests should be permitted to have the planned birth of a son and the couple can go in for sterilization after that. The lack of awareness about statutory provisions regarding SSA's among a majority of respondents is a cause for concern and makes these provisions largely ineffective. The paper has suggested some remedial measures for tackling the problem of female foeticide in the state in an effective manner.

References and Bibliography

Census of India (2001) *Provisional Population Totals, Paper 2 of 2001, Series-7, Haryana,* Director of Census Operations, Haryana, Chandigarh, pp. 40-50.

Chandna, R.C. (1972) "Scheduled Caste Population in Rural Haryana: A Geographic Analysis", *The National Geographical Journal of India*, Vol. 23, Nos. 3 & 4, pp. 177-186.

Chandna, R.C. and Sidhu, M.S. (1979) "Sex Ratio and Its Determinants", *Transactions, Institute of Indian Geographers*, Vol.1, No.1, pp. 17-23.

George, Sahu M. and Dahiya, R.S. (1998) "Female Foeticide in Rural Haryana", *Economic and Political Weekly*, August 8, pp. 2191-98.

Gill, M. S. (2000) " Sex Ratio Differentials in Northwest India", *Population Geography*, Vol. 22, Nos. 1&2, pp.71-86.

Hassan, M.I. (2000) "Sex Composition of Haryana's Population : Some Evidence of Persisting Gender Inequality", *Man and Development,* Vol.XXII, No. 1, pp, 61-68.

Hassan, M.I. (2002) "Sex Ratio in Haryana's Population: A Disaggregated Spatial Analysis", *Geographical Review of India,* Vol.64, No.3, pp. 254-261.

Krishan, G. and Chandna, R.C. (1973) "Sex Composition of Haryana's Population",*Geographical Review of India*, Vol.35, No.2, pp. 113-125.

Registrar General, India (2005) *SRS Bulletin*, Sample Registration System, 39,1, Tables 3-4, Vital Statistics Division, Ministry of Home Affairs, New Delhi, pp.4-5.

Siddiqui, N.A. and Ahmad, Q.M. (1971) "Regional Variation of the Sex-Ratio in the Population of Haryana", *The Geographer*, Vol.18, pp. 99-114.