ECONOMICS OF INFORMAL MILK PRODUCING UNITS IN GUWAHATI CITY

BY

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SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENT FOR THE AWARD OF DOCTOR OF PHILOSOPHY IN ECONOMICS

OF
NORTH-EASTERN HILL UNIVERSITY
SHILLONG, MEGHALAYA

2009

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ACKNOWLEDGEMENT

I express my profound gratitude to all those persons who have directly or indirectly helped me in the course of my present research work.

First of all, I would like to express my heartfelt gratitude to my Supervisor Dr. B. Panda, for all the valuable time and effort that he has provided in supervising this work of mine. He has not only provided his able guidance to complete my work in time, but also has taught me the finer details of economic analysis. I remain always indebted to him.

I am thankful to all the faculty members and office staff of the Department of Economics, NEHU, for their words of encouragement and moral support during the course of my research work.

I am also thankful to the former Principal in-charge of my college Mr. U.C. Deka for all the support that he has extended in completing this research work.

I also extend my indebtedness to Madam Kabita Satapathy and my colleagues in the college for their moral support during the period of my research work.

I also owe my gratitude to Dr. N.P. Goel for providing me the necessary technical help in analysing the data whenever I have approached him.

My special thanks are also due to Keshab Basumatary, Chandra Prasad Tamuli, Dambaru Saikia, Anjali Saikia for their generous help in different stages of this research work.

Finally, I am ever grateful to my wife Purabi Saikia, my son Lipubrat Saikia, my daughter Jinti Saikia for their continuous endurance of my absence from home in connection with this research work. In the absence of this endurance from their side, this thesis perhaps could not have seen the light of the day.

2009, October
Shillong

Jugal Saikia

NORTH-EASTERN HILL UNIVERSITY

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I, Jugal Saikia, hereby declare that the subject matter of this thesis is the record of work done by me, that the contents of this thesis did not form the basis of the award of any previous degree to me or to the best of my knowledge to anybody else, and that the thesis has not been submitted by me for any research degree in any other University/ Institute.

This is being submitted to the North-Eastern Hill University for the degree of Doctor of Philosophy in Economics.

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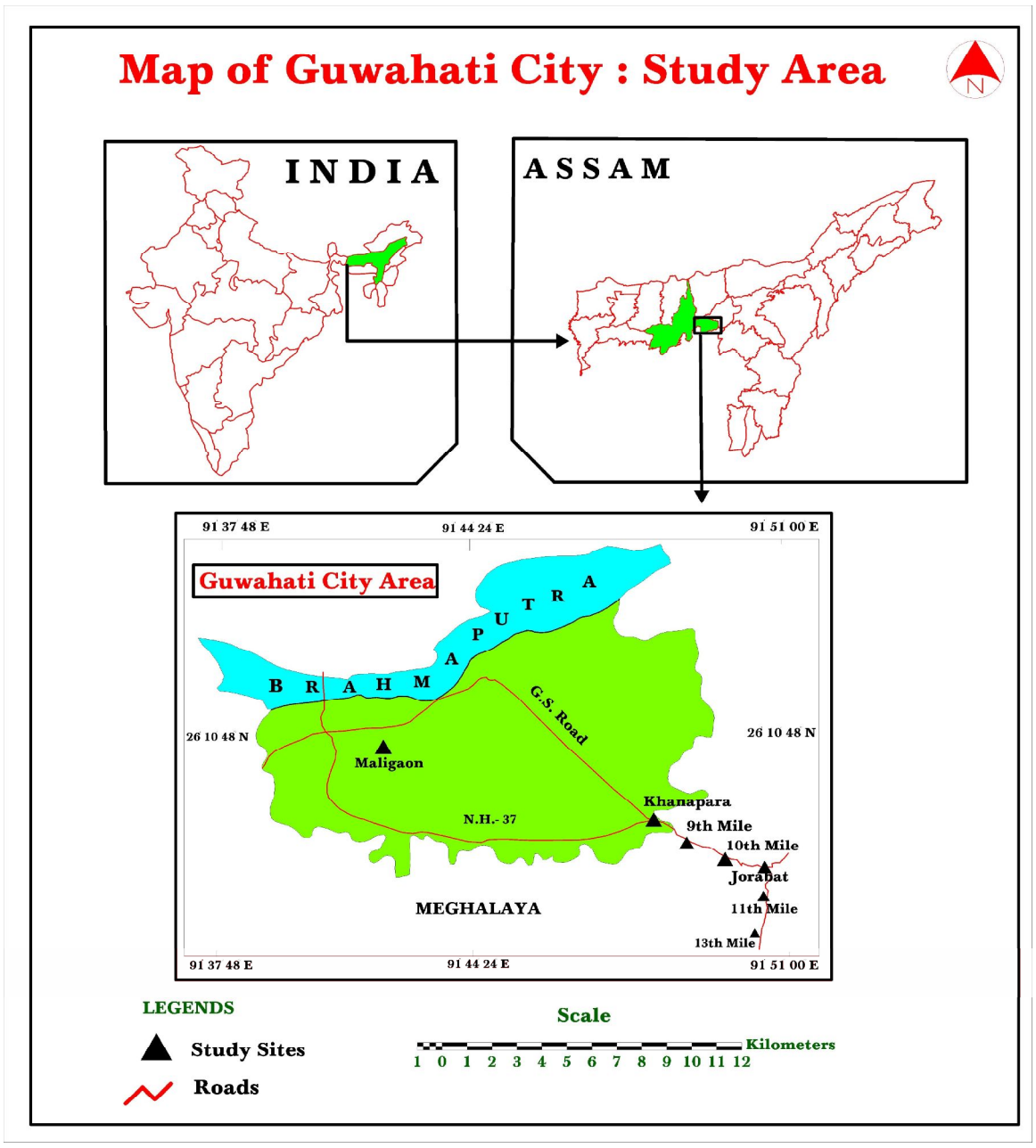

Fig:- Map of the Study Area

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CHAPTER – I

INTRODUCTION AND REVIEW OF LITERATURE

1.1 Introduction

Rapid urbanisation has been an integral part of the developing economies during the past couple of decades. The rural to urban migration coupled with the natural increment of urban population, has caused a significant increase in urban work force. Despite industrial growth, the modern industrial sector has not been able to provide employment to all the surplus and marginal labour force in urban areas. Further, public sector employment in such economics has also considerably gone down because of measures of structural reforms and privatisation undertaken by the governments in these economies. Left to self, this surplus urban labour made a valiant effort to carve out a niche for its own living and subsistence, within the same urban economic system, by means of undertaking a variety of informal activities which is otherwise known as the "informal sector" (ILO, 1972), "unorganised sector" (Joshi & Joshi, 1976; Harriss, 1978; Bharadwaj, 1979), "bazaar-type economy" (Geertz, 1963), "traditional sector" (Reynolds, 1969)[1], "sponge" (Lubell, 1991), "demand induced component" (Mitra, 1994 & 1998), "resilient" and "last resort sector" (Rani & Galab, 1998) and so on in the literature of development and urban economics. Development and promotion of the urban informal sector, therefore, has become the new operational strategy of the developmental policy in the 1990s and post 1990s in many of the developing countries.

In India urban informal sector includes in its ambit a number of activities like manufacturing, trade, transportation, services, etc. Milk production and its distribution happen to be one such productive activity widely undertaken by a section of under privileged urbanites (Gowalas). These small scale producers mostly carry on their production activities either in the far end of the urban boundaries or open spaces available

in the cities and towns. Their distribution activities cover the whole of the city or town or parts of it. These informal producers meet, to a considerable extend the need for raw milk in Indian cities and towns. In this way they take care of an important part of the food needs of the urban people.

Studies undertaken in various parts of the world suggest that these enterprises are basically labour intensive in nature (Omore *et al.*, 2001; Roy, 2003; Roy, 2004; Sarma & Sarma, 2004; Sidhu & Bhullar, 2004). So far as the income and productivity is concerned, most of the studies show that labour productivity and average income from informal dairy enterprises are better than what small and marginal farmers get from crops cultivation (Alam *et al.*, 1992; Dastagiri, 2003; Sidhu & Bhullar, 2004).

Marketing strategy adopted is basically in terms of direct sales to the consumers. These informal units also have backward as well as forward linkages in terms of input use, output sold, jobs created and credit availed (Taylor, 2001; Tuteja and Singh, 2004; Sarma, 2004). Judged from this angle, employment creation in the informal sector like the informal milk producing units (IMPUs) becomes one of the immediate ways of overcoming urban poverty, and unemployment.

1.2 Origin and Evolution of the Concept

In the literature of development economics, one hardly comes across a concept like “Informal Sector” which is so often mentioned and at the same time so much controversial and debatable ever since it was used in a study in Ghana by Hart (1973)[2]. Since it made to include in its ambit every small scale activities of production, trade, services, etc. under the sun, a universal theoretical definition therefore seems next to

impossible. However, for proper understanding of the concept and its importance in the developmental dynamics of developing countries, we need to have a systematic review of literature in this field.

The concept is based on some theory of urban dichotomy developed in the context of dualism.

1.2.1 Dualism

It was Boeke (1953) who first used the term Social dualism to divide the society into two segments – one traditional and the other westernised. Higgins (1966) enumerates technological dualism as an important characteristic of underdeveloped countries. His technological dualism in such countries consists of an industrial sector and a rural sector. However, it was the famous model of Lewis (1954)[3] that perfected and popularised the concept of sectoral dualism prevailing in underdeveloped countries. Lewis divides the economies of such countries into two sectors – a capitalist sector and a subsistence sector. The capitalist sector continuously expands by employing more and more surplus labour from the subsistence sector at constant real wage at subsistence level. This process continues till the entire surplus labour is absorbed in the capitalist sector.

Lewis model was modified latter on by Fei and Ranis (1967). Fei and Ranis talk of the existence of a commercial industrial sector and a subsistence agricultural sector in a labour surplus underdeveloped economy. Their models have been developed drawing heavily from the historical experience of growth in USA and UK in the nineteenth century which exhibits considerable migration of rural people to urban industrial centres,

enabling industrial capitalist to reap huge profits for reinvestment by keeping real wages below marginal productivity of labour.

However, sectoral dualistic models are not compatible with present economic structure of the economics of developing countries. These models are very simplistic in the sense that they failed to represent the dichotomy of urban economies of such countries.

1.2.2 Dichotomy Model of Urban Economy

It is in Todaro's model (1969) dealing with migration that one finds the recognition of dichotomy in an urban economy. Todaro talks of rural-urban migration being a two stage phenomenon and to him such migration is conditioned by two principal factors: (i) the urban-rural real income differential, (ii) the possibility of getting an urban job.

Subsequently a number of scholars started explaining the structure of an urban economy in terms of "dichotomy".

Reynolds (1969) explains the dichotomy character of an urban economy in terms of a "modern sector" and "traditional sector". McGee (1975) explains such a dichotomy in urban economy in the framework of "farm type economy" and "bazaar type economy". Santos (1979) presents an analysis of urban dichotomy using the terms "upper circuit" and "lower circuit". In Santos's treatment, technological advancement and monopoly power are the important organic elements of the "upper circuit", whereas the "lower circuit" is the resort of the poor which includes small scale activities only.

1.2.3 Formal-Informal Dichotomy

1.2.3.i Origin of the Concept

The term informal sector (IS) was first used by Hart (1973) in a study of urban Ghana. In the course of his field work among the urban workers in Ghana, he found a large self-employed sector which provided means of livelihood to the newly migrated labour force to the urban area, who were unable to find the employment in the formal sector (FS). Hart's study classified that the workers engaged in the IS are self-employed whereas the workers employed in the FS are wage-earners. The new entrants to the urban labour force were forced to undertake informal income generating activities as they lacked the necessary skill and experience to find berth in the FS. One serious limitation of Hart's study is that it assumes non-existence of wage-workers in the IS.

However, the concept gains much of its popularity to a large number of country and city studies carried out by ILO under the auspices of its World Employment Programme (WEP)[4]. The first official recognition of the term was made by the ILO-UNDP employment mission to Kenya (1972). This mission discussed the formal-informal dichotomy in an urban sector on the basis of characteristics of enterprises. It specified the main characteristics of IS as – (i) ease of entry, (ii) reliance on indigenous and locally available resources, (iii) family ownership of enterprises, (iv) small-scale operation, (v) labour intensive and adapted technology (vi) skills acquired outside the formal school system and (vii) unregulated and competitive markets.

The greatest contribution of various country missions and city studies of ILO was that they brought the objective of employment generation to the centre-stage replacing the traditional strategy of economic growth which assumed employment generation as a

residual. Further the ILO report classifies the “enterprise” and not the “individual” into two sectors.

In spite of the valued contribution of ILO’s city and country studies on popularising the concept of IS, it also invited a number of criticisms[5]. Most of the criticisms were with regard to (i) the relevance and universal applicability of these ILO depicted characteristics, (ii) comparability and compatibility of these different criteria.

1.2.3.ii Refinement of the Concept

These criticisms also encouraged subsequent authors to redefine the concept of the IS. These definitions are based on any of the below listed factors or a combination of them – (i) characteristics of the enterprise, (ii) exchange relationship with the state and the rest of the urban economy, (iii) employment situation.

1.2.3.iii Employment Situation

Emmerji (1974) identifies IS by small scale labour intensive techniques, supply according to demand oriented market of low income people and exclusion from the official statistical enumeration. Emmerji thinks the IS to be transitory in nature.

Mazumdar (1975, 1977) makes a distinction between formal and informal sectors on the basis of the size of the employment, security of job and unionisation of factory labour force.

Weeks (1975) departs from the traditional conceptualisation of the IS in terms of low income generation, labour intensive techniques, indigenous ownership, etc. and

makes a distinction between the formal and informal sectors on the basis of the organisational characteristics of exchange relationship and position of exchange activities vis-à-vis the State. Weeks is the advocate of the "structural disadvantage" argument which implies that the very nature of smallness of the informal units is itself a factor which debars it from getting access to various state benefits and favours that the FS derives often statutorily. These benefits among others include tariffs and quotas protection for import substitution industries, tax rebates, holding low interest rates, credit benefits etc.

Joshi and Joshi (1976) make a distinction between the formal and informal sectors (they used the word organised and unorganised sectors) on the basis of three major factors – market structure, technology and relationship with Government. To them, the informal activities take place outside the scope of official regulations governing such matters as the setting up of shops or workshops, employers-employees relations, taxation, control of technical skills and product quality.

Sethuraman (1976) defines the IS on the basis of employment of "urban poor". "One of the most convenient way of identifying the informal sector is to define it in terms of the source of employment of the urban poor" (Sethuraman, 1976 b, p. 75). However, Sethuraman modified his definition latter on and his modified definition runs as follows:

> "Informal sector consists of small scale units engaged in the production and distribution of goods and services with the primary objective of generating employment and incomes to their participants not withstanding the constraints on capital, both physical and human and know-how" (Sethuraman, 1981, p. 17).

This definition of Sethuraman based on “enterprise” replaces his earlier definition based on “individual”. Sethuraman also distinguishes both the sectors with reference to mode of production, organisation and scale of activities:

> “Formal sector consisting of activities using modern mode of production and organisation comparable to developed world and hence larger in scale of operation as compared to those of the informal sector” (Sethuraman, 1981, p. 12).

Breman (1976) classifies the labour market in an urban economy into four categories, viz., labour aristocracy, lumpen proletariat, petit bourgeoisie and sub-proletariat, and then goes on to remark:

> “The contrast made between the formal and informal sectors parallels that between labour aristocracy and lumpen proletariat” (Breman, 1976, p. 1940).

Schaefer and Spindel (1976) identify the IS in terms of discontinuities or disparities in the levels of income, size of enterprise and technology.

Yap (1976) makes a division between formal and informal sectors along industry lines on the basis of the concentration of small scale labour intensive and low wage activities in the industry.

Davies (1979) distinguishes the two sectors exclusively on the basis of mode of production and opines that in the FS, the mode of production determines the superstructure, whereas the reverse is true for the IS. To Davies, highly developed division of labour characterises the FS whereas the IS exhibits scant division of labour or if there is at all any division of labour, it is only rudimentary and horizontal in nature.

In a study carried out in the city of Ahmedabad, Papola (1981) defines IS as:

> "A segment of the economy having certain characteristics which led to unfavourable conditions for the growth of enterprises and activities in this segment" (Papola, 1981, p. 13).

Papola lists a number of often observed attributes of the IS but finally comes to a conclusion that various attributes are not always compatible with each other. Hence he settles down on "wage" as the basis of distinction between the two sectors.

A number of other scholars too have defined IS on the basis of mode of production (Gerry, 1979; Remy, 1982; Lipton, 1984).

Paul (1985) in a study finds risk as the most important attribute of IS. To him factors like official harassment, exclusion from subsidised capital markets, officially fixed wages and erratic nature of demand cause risks. It is this imperative to undertake risk that compels IS to undertake activities which exhibit small scale of production, use of little capital, and unstable income generation.

The IS is generally characterised by a great deal of heterogeneity and low earnings. Studies have found that the labour market in India is segmented with the

workers having better education and skills, taking up regular jobs while the illiterate and unskilled end up in contract and casual work (Quadeer and Roy, 1989; Deshpande, 1992).

McLaughlin (1990) from his study finds that IS is characterised by – the use of family and unpaid labour and reliance on manual labour rather than on sophisticated machinery and equipment, flexibility, allowing people to enter and exit economic activities in response to market demand; simple and sometimes precarious facilities; the ability to improvise products from scrap materials; a willingness to operate businesses at times and locations convenient to customers; and a tendency to locate smaller markets, out of the reach of the larger firms.

Tokman (1992) and Portes (1994) define IS on the basis of characteristics. According to them IS is the collection of marginal enterprises characterised by – low entry barriers in terms of skills, capital and organisation; family ownership enterprises; small scale of operation; labour intensive production with outdated technology; unregulated and competitive markets; low levels of productivity; and low levels of capacity for accumulation.

The United Nation's System of National Accounts (1993) refers the IS as consisting of units engaged in the production of goods or services with the primary objectives of generating employment and income for the persons concerned. They form part of the household sector as unincorporated enterprises owned by the households. System of National Accounts (SNAs) characterised the IS productive units by (a) low level of organisation, (b) little or no division of labour and capital, (c) labour relations based on casual employment and social relationship, as opposed to formal contracts.

Becker (1997) defines the IS by classifying the household production activities into the following five distinct categories:

(1) Production of all goods or services that are supplied to units other than their producers:

   (i) IS market production,

   (ii) Other market production (units which do not meet the criteria of the IS – registration criterion and/or employment size criterion);

(2) Own account production of all goods that are retained by their producers for own final consumption such as:

   (i) Subsistence farmers and others engaged in the production of agricultural goods for own final consumption,

   (ii) Production of other goods for own consumption,

   (iii) Construction of own dwellings;

(3) Domestic and personal services produced by employing paid domestic staff;

(4) Own account production of housing services by owner occupiers; and

(5) Hidden economy.

As a subset of the household sector, the IS is just the above household category 1.1. However for practical reasons one may consider a narrow scope and compile in the IS only non-agricultural activities. On the other hand, for a broader scope one may consider inclusion of the domestic and personal services, illegal services and may be part of the hidden economy in the IS.

Panda (1998) defines informal manufacturing sector (IMS) base on the following criteria:

"It includes all manufacturing and repairing units in the private sector owned and operated by a single member of a household with the help of paid and unpaid family members with or without having any hired labourer. The total number of persons including the owner operator, hired labourers, family workers working for the enterprise should be less than 10". This confirms more or less to the ILO definition with the later's extra classification of IS into two sub-sectors – "own account enterprises" and "enterprises of employers".

To Kulshreshtha (1998), "Informal sector refers to economic activities, i.e., production and distribution of goods and services by the operating units of the households which essentially differ from the formal sector in terms of technology, economics of scale, use of labour intensive process, and virtual absence of well maintained accounts. Informal sector has been identified as a sub-set of the household sector".

Das (1998), Jhabvala (1998), Unni and Rani (2001), Kundu and Sarma (2001), Ambalavanan and Madheswaran (2001) define that IS is typically characterised by low productivity, low earnings, poor working environment, long hours of work and unproductive handling of hazardous substances, without proper social recognition and effective social security provision.

Farrel (2000) defines the IS as one which consists of economic activities which are not recorded in the Gross Domestic Product (GDP) and or the national income accounts.

Chandra and Pratap (2001) define IS as the non-factory sector, which includes those employed in small establishments, the self-employed, the casual labour and home-workers. It is characterised by ill-defined employer-employee relationship, acute incidence of underemployment, scattered nature of work place and low wages.

Arimah (2001) opines that the IS does not appear to have a meaning independent of the FS, as it only derives its meaning when contrasted with the FS.

Viswanathan (2002) describes that the informal sectors of West Africa identifies IS as the smallest enterprises, typically those with ten or fewer employees, the vast majority of which are one-person businesses with few wage workers. The enterprises are home based and involve agro-processing or petty trade in the rural area, while urban enterprises engage in trade or services and the use of paid employees is rare. Apart from family members, apprentices who work for little account for the bulk of workers in the IS businesses. Due to ease of entry and consequent large number of participants and the small size of markets served by the IS enterprises, competition is fierce in most IS markets. Lack of specialised skills leads micro enterprises to become concentrated in smaller activities which hastens the market saturation.

Florez (2003) cites that the term IS covers a set of heterogeneous activities, from unpaid labour to any number of unregulated salaried jobs. Basically it refers to activities taking place outside established institutional rules.

Goldberg and Pavcnik (2003) define IS as the part of the economy that does not comply with labour laws and does not provide workers with the benefits mentioned above.

Barker (2003) defines IS as “unorganised, unregulated and mostly legal but unregistered economic activities that are individually or family owned and use simple, labour intensive technology”. This coincides with Statistics South Africa’s definition of IS employment, namely “… unregistered business, run from homes, street pavements or other informal arrangements” (Statistics South Africa, 2003).

Suharto (2003) highlights one of the important informal activities in urban areas is Street-vending. As street-based traders, they use space in the streets that are originally not intended for trading activities and it is also considered illegal. This illegality status makes the street vendors face harassment and threat from police and other government authorities.

Marjit (2003) argues that the IS has in fact two roles in a globalised economy: firstly, as a supplier of intermediary goods to the FS; and secondly, as producer of final goods. In his study, a theoretical model is proposed where the IS consists of both capital-intensive (producer or intermediary goods) and labour-intensive segments (producer of final goods).

The South African IS received more and more attention from researchers during the last two decades. Examples of this attention include the work of Rogerson and Beavon (1980), Krige (1988), Nattrass (2000), Barker (2003) as well as Muller (2003). The consensus in the South African literature is that employment in the IS offered a second best alternative to FS employment. Individuals, Africans in the majority of cases, unable to secure employment in the FS were forced to resort to informal means of employment in order to lead an existence of survival in one of a range of low income marginal IS activities (Muller, 2003: 18).

Unni (2005) defines that the IS economy consists of heterogeneous group of workers (Unni and Rani, 2003). They form a continuum of relationship from the very independent to the most dependent categories (Unni, 2004), while workers in the informal economy constitute both wage and self-employed workers, within the self-employed also they constitute segments having varying levels of entrepreneurial capacities. Given this heterogeneous nature of informal workers, there are likely to be both voluntary and involuntary entry into this sector.

Ademu (2006) defines the IS as comprising those employment generating activities of some urban residents, undertaken for survival in the absence of formal employment. These activities are characterised by the lack of regulations by institutions of society in a social and legal environment in which similar activities are regulated. Common features of operators in the IS includes-

(i) Easier access to production factors which are derivable from social organisation of family and friends,

(ii) Involves entrepreneurs in virtually all branches of the economy ranging from productive activities, general services and specialised services,

(iii) Technology is determined more by the constraints of the social relations,

(iv) Motivation for production by the operators in the IS is becoming more profit oriented (Ademu, 2006).

Upadhyay (2007) defines IS as that sector which consists of the Own Account Enterprise (OAE) or an establishment where 9 or less number of workers work. The

enterprises operate at low level of organisation, with little or no division between labour and capital as factors of production and on a small scale. Labour relations, where they exists, are based mostly on casual employment, kinship or personal or social relations rather than contractual arrangements with formal guarantees.

Andrei and Stancus (2008) define IS in the line of the European System of National Accounts (ESNAs), that the IS includes only illicit work and fiscal evasion.

The above discussion suggests that the concept of IS has got different implications to different scholars. To some, it is synonymous with urban poor, to some others it means urban proletariat, to another group of researchers it is associated with low income households and to a section of other researchers it refers to urban slum dwellers. To some other scholars, it is the first resort of rural migrants to urban areas. It is also clear from the above discussion that the concept is defined on the basis of a number of criteria: specialisation of labour, technology type, degree of organisation, magnitude of income generation, conformation to official rules and regulations, and size of the establishments and prevailing of child labour. However, the most often used criterion is the size of establishment criterion.

A sizable section of scholars (Souza and Tokman, 1976; Sethuraman, 1976; Bose, 1978; Harriss, 1978; Dhesi and Wadhwa, 1980; Guisinger and Irfan, 1980; ILO, 1980; Mazumdar, 1980; ORG, 1980; Papola, 1981; Sreeramamurty, 1986; Samal, 1990; SNA, 1993; Portes, 1994; Becker, 1997; Panda, 1998; Chandra and Pratap, 2001; Viswanathan, 2002; Muller, 2003; Upadhyay, 2007) have defined IS on the basis of size of the firm. Except a few cases, the most often used size criterion has been less than ten employees including casual labour, family labour, self-employed persons and part time workers.

1.2.4 Recent Definition of IS by ILO

The complexity and looseness of the concept of the IS made it difficult to have an international agreement on a definition covering the various analytical purposes adopted by data users. Hence, labour statisticians allowing for different operational definitions of IS to meet the need of users at the tabulation stage, have settled down on one single definition for the purpose of data collection. The 15th International Conference on Labour Statistics (1993) has adopted the ILO prepared operational definition of the IS which runs as follows:

> "The informal sector may be broadly characterised as consisting of units engaged in production of goods or services with the primary objective of generating employment and income to the persons concerned. These units typically operate at a low level of organisation with little or no division between labour and capital as factors of production and on a small scale. Labour relation whether they exist are based mostly or casual employment, kinship or personal and social relations rather than contractual arrangements with formal guarantees. Production units of the informal sector have the characteristic features of household enterprises. The fixed and other assets used do not belong to production units as such but to their owners. The units as such cannot engage in transaction or enter into contracts with other units, nor incur liabilities on their own behalf. The owner have to raise the necessary finance at their own risk and are personally liable without limit, for any debts or obligations incurred in the

> production process. Expenditure for production is often indistinguishable from household expenditure. Similarly capital goods such as buildings or vehicles may be used indistinguishably for business and household purposes. Activities performed by the production units of the informal sector are not necessarily performed with the deliberate intention of evading the payment of taxes or social security contribution or infringing labour or other legislations or administrative provisions. Accordingly, the concept of informal sector activities should be distinguished from the concept of the hidden or underground economy" (ILO, 1993).

Thus, this operational definition of the IS defines IS as household enterprises. It defines: "household enterprises" as follows:

> "Production units engaged in the production of goods and services which are not constituted as separate legal entities independently of the household or household members that own them, and for which no complete sets of accounts (including balance sheets of assets and liabilities) are available which would permit a clear distinction of the production activities of the enterprises from the other activities of the owners and the identification of any flows of income and capital between the enterprises and the owners" (ILO, 1993).

Household enterprises so defined are divided into two categories – (i) own account enterprises and (ii) enterprises of employers.

1.2.4.i Own Account Enterprises

Own account enterprises are those enterprises which do not employ any paid employee/employees on a continuous basis. Depending on national circumstances either all “own account enterprises” or only those which are not registered under specific form of national legislation should be considered as informal. It is managed by the owner himself or with the contributing family members.

1.2.4.ii Enterprises of Informal Employers

Enterprises of informal employers are those which employ one or more paid employees on a continuous basis, and which comply with one or both of the following criteria:

(a) Size of the establishment below a specified level of employment (define on the basis of minimum size requirements embodied in relevant national legislation or other empirical or statistical practices: the choice of the upper size limit taking account of the coverage of statistical enquiries in order to avoid overlap); and/or

(b) Non-registration of the enterprise or its employees.

The utility in importance of this definition lies under the fact that it leans on existing practices for estimating informal employment at a national or macro-economic level.

The International Labour Organisation (ILO, 1999) uses the term IS in the place of unorganised sector[6]. ILO's definition of IS is not specific but descriptive of IS characterised by small scale of production, family ownership, reliance on indigenous resources, labour intensive and adoptive technology. Its definition is very much controversial since one will be in an embarrassed position to identify the industries by application of these criteria. The other problem with applying such multiple criteria is that all of these could be found in its pursuing different objectives.

1.3 Studies on Urban IS in India

In India a number of studies have been undertaken by individual researchers and research institutions at micro-level (i.e., city or town levels). At macro-level (i.e., country or state level) a handful of studies have been undertaken. These macro-level studies are mostly secondary data based and often pertain to rural and urban sectors combined. Below we present a review of some of the studies on urban IS in India.

Operations Research Group (1980) undertook a survey of two types of enterprises: (i) slum-based, (ii) bank assisted in the city of Madras. Ease of entry and limited access to capital were the essential features of the slum-based enterprises. Twenty-five percent of the respondents in this type of enterprise considered the present enterprise to be an occupation of last resort. Most of such enterprises were tiny, employing one person and started with non-institutional finances. The bank assisted units on an average were larger than slum enterprises and had a greater degree of linkage with the organised sector.

In a study in the city of Ahmedabad, Papola (1981) attempts to describe the IS in terms of its various segments. The study advocates that the smallness of the IS can be instrumental in generation of employment and income. So far as degree of exploitation of workers is concerned, it is more in case of IS than FS. However, Papola derives a paradoxical conclusion from this study – if the IS needs to serve as a source of income, employment and policy instrument of equity, it is to be made formal.

Harriss (1982) in his field research in the city of Coimbatore discusses the character of linkages between different forms of production. He makes a distinction between small capitalist units of production and petty commodity producer units and finds a high degree of subcontracting relationship between FS industries and IS units.

Sriramamurthy (1983) in a study of Visakhapatnam analyses the determinants of average earnings of various sub-sectors within IS itself.

Dhesi and Wadhwa (1984) based on a sample of 249 enterprises in the city of Nangal in Punjab reach the conclusion that ownership status, training and education were the most effective influencing variables affecting productivity, earnings and employment potential in the IS.

Aziz (1984) in a study in the city of Bangalore on the waste recycle industry discusses the informality of this industry in terms of organisational and production characteristics. It explains the structure and organisation, income, employment, output, levels of living and earning differentials of the participants. Aziz concludes that, urban IS is a permanent organic element of the process of urban growth.

In a study of Visakhapatnam which includes in its purview samples of informal industries, trade and self-employed categories, Ramana and Krishna (1984) analyse the

structure and functioning of unorganised sector vis-à-vis organised sector. It also explains the socio-economic conditions of worker households.

Buch and Pathak (1985) in a case study in India examines the nature, size, structure, growth dynamics and the role of the IS in context of the development of two intermediate cities of the country – Itarsi and Ratlam in Madhya Pradesh. The study also focuses on the formal-IS linkages and concludes that IS is an important source of employment in small and intermediate cities.

In an important study in the city of Calcutta, Shaw (1985) explains the presence of significant levels of linkages (both backward and forward) between the formal and informal sectors and this presence of linkages becomes instrumental in transferring substantially the value surplus of wage and non-wage goods produced in the IS to the FS.

In a survey based entirely on field data collected from seven IS clusters in different sub-regions of the national capital region, Lall (1987) among other things finds that (i) there exists an inverse relationship between registration status and degree of industrialisation, (ii) there is also presence of little forward and backward linkages between the formal and informal sectors. The study analyses the role of IS units in employment generation and production, various constraints faced by these units and also the structure of sales and investments.

Kashyap and Singh (1987) based upon secondary material, opine that in the state of Gujarat the dichotomous character of the urban economy is a continuum.

National Institute of Urban Affairs (NIUA) (1987) in a study undertaken in four cities of India – Wardha, Ghaziabad, Allahabad and Jaipur on cross sector informal activities finds that: (i) the IS occupies a predominant position in the urban economics of

all the case study cities and its size in terms of total number of enterprises is estimated at above 95 percent of all the economic establishments in the four cities, (ii) there exists heterogeneity in the cross sector informal activities in terms of structural attributes, nature of production, employment generation potential, technology and productivity patterns and levels of income, (iii) they are having small capital base and low employment per unit. On an average they possessed a capital base ranging between Rs. 5000 and Rs. 10000, (iv) despite low income levels, informal enterprises account for a substantial part of aggregate savings of the urban economy, (v) this sector faces constraints of finance and marketing, (vi) despite all these, the future of the urban IS is bright in India because of its very favourable capital output ratio and labour intensive nature.

Applied Manpower Research Institute (AMRI) (1988) in a survey of IS in four selected towns – Tumkur, Karnal, Katni and Derria in India, explains the nature, composition, socio-economic and educational and training background of workforce. It also analyses the inter-sub-sectoral variations (within the IS itself) in employment intensities and labour productivities.

Vishwamitter (1988) in his research study on working of the urban economy in Punjab finds that urban IS provides substantial amount of employment to the urban labour force. Level of education and technical skill of the IS workers was far below the FS workers. Availability of credit is a great hindrance for majority of the enterprises.

Raju (1989) in a study of Visakhapatnam makes an analysis of the profile, background and attitudes of the entrepreneurs in the unorganised sector. An analysis of the size, structure and financial situation of informal enterprises, and explanation of the composition and characteristics of workers in these enterprises too find a place.

Afzal's study (1989) in the city of Hyderabad depicts that the IS is complementary to that of the FS and it renders immense service for the development of the urban economy of Hyderabad city. This study also explains that the IS has got greater potential to absorb not only migrant labour force but also the production of goods and services of the FS.

Samal (1990) in his field study in the class-I town of Sambalpur in Orissa throws considerable light on issues of structure and productivity, size and growth, migration, socio-economic profile and linkages in respect of the urban IS there. The main findings of his study are:

- Fixed capital requirements per job in the IS is around one-third of that in the FS.
- Value-added per worker in the IS is also around one-third of that in the FS.
- The size of IS employment forms 82 percent of the total urban employment in 1984.
- Most workers in IS of Sambalpur were migrants.
- Backward linkages between the informal and formal sectors are substantial; the forward linkages between the two sectors are negligible.

Patel (1990) made a field study in Ahmedabad city about the question, whether IS employment necessarily mean low wages and high poverty? The study of the retrenched textile mill workers in Ahmedabad city showed that the living standard of the affected families had declined considerably, with women leaving the school and the family debt

increasing. The women and other family members came out in the unorganised labour market to help in overcoming falling living standards.

Rao's study (1991) in a labour centred area "Annavarappadu" in Ongole town focuses on the income and employment patterns, levels of living, remittances and fertility differentials of the IS workers.

Jhabvala (1995) in his field study undertaken in Ahmedabad city shows that by the closure of the textile mills, some of the unorganised sector workers, for examples, the women who were engaged in patch work activities were affected. For patch work, women procured the waste cloth from the textile mills. A co-operative of the patch workers, organised under SEWA (Self Employed Women Association), union reported that the supply of waste fell by 75 percent due to the closures. Hence, employment also fell. Due to very high competition for employment and market for goods produced in the IS, the patch workers have been unable to find any alternative employment.

Mahadevia *et al.* (1996) in their study on steady and secure employment and sustainable income of workers in IS in Ahmedabad city find that in IS workers neither have steady employment nor secure and sustainable income and thus lack in economic and social security. They do not have access to housing partly due to lack of access to finance, without housing, access to basic services is also denied. As a result, unorganised labour tends to have lower social development than that of the organised workers.

Rani and Galab (1998) from their survey in the slums of Hyderabad city, in case of traditional activity like Sandal making, reveal that this IS can no more be considered as residual sector as certain sections of it, especially the manufacturing sector offers income comparable to FS wage. It is showed that there is also a lot of variation in the monthly

income accruing to the sandal making households across the methods of production organisation. The United Production[7] Organisation provides a family income of Rs. 15678 per month which is more than ten times the income of a tied production[8] household (Rs. 1531). The income per person working in the family is Rs 2613 in case of united production units as against of Rs. 744 of tied production units. The united production households enjoyed highest incomes which may be attributed to their organisational and managerial capabilities. These households showed signs of economic well-being and prosperity. On the other hand, the tied production households received marginal income. It is only a survival activity for them and they continue in it as there is no better alternative employment available.

Panda (1998) studied about IMS in class-I town Cuttack in Orissa and throws considerable light on issues of structure and productivity, size and growth, socio-economic profile and linkages in respect of the urban IMS. The main findings of his study are:

(i) The fixed capital required to create a job in the IMS is 11 times less than that of the FS.

(ii) Gross value added per employee in the IMS is much lower than that of the formal manufacturing sector (FMS) but gross value added per rupee of fixed assets is 7 times higher in the IMS than that in the FMS.

(iii) Presence of child labour in the IMS.

(iv) Earning level of the entrepreneurs is positively governed by their education levels.

(v) Majority of the IMS firms are indebted.

(vi) Average size of employment in IMS is 3.43 persons.

(vii) Informal sources of finance dominated by money lenders play a significant part in providing credit to IMS units for meeting their working capital requirements.

(viii) Direct forward linkage of IMS units with the FS is very weak; the direct backward linkages between the two sectors are not very strong.

Das (2000) studies the informal manufacture of ceramic ware sub-sector in Gujarat covering three cities – Than, Naroda and Himatnagar. From the study, it is seen that the product profile and technology used by the FS units are generally larger in both size and turnover compared to the informal (unregistered) ones. 90 percent of surveyed formal (organised) units had per unit turnover between Rs. 5 lakh and Rs. 10 lakh and the surveyed informal units had per unit turnover of less than Rs. 5 lakh. The workers of this industry are predominantly from socially deprived communities. Surprisingly high proportions (50%) of employees of the industry are in informal units. Most of the informal manufacturing activities are done in household level and workers are the family members. The average number of workers per unit in informal units is 6.2 persons but in case of formal units it is 22.2 persons. Of course, the sex of the workers across the two categories of units seems familiar with about one-third of the workers being females. The piece-rate system of wages are widely prevalent among informal units. In general the average daily earnings are low (as compared to the daily minimum wages of Rs. 50 for female and Rs. 62 for male) across both for formal and informal categories of units.

Ambalavanan, and Madheswaran (2001) made a study in Erode district of Tamil Nadu about the social protection for urban IS workers. The study was made especially

with the objectives of studying the sex and age composition of workers, health status and health security of workers and the willingness to participate in a contributory insurance scheme. The sex composition of the sample respondents of the urban IS reveals that the percentage of female workers in different units is much lower than that of male workers. In different sub-sectors of the IS, the percentage of female workers are 14.3 percent in tannery, 18.8 percent in bleaching, 22.7 percent in calendaring and 27.2 percent in dyeing. About age composition, more than four-fifth of workers belonged to the average age group 15-45 years in all the processes. When it comes to religion, there is also mixed group of population, with 98.6 percent Hindu, 1.2 percent Muslims, and 0.2 percent Christians respectively. In case of education of the IS workers, 40 percent were illiterates, nearly 30 percent had primary levels of education and approximately one-fourth of them had secondary level of education. Only 2 percent had higher secondary level education. In respect of wages of the workers, it showed variation among these sub-sectors of the IS. On the other hand, in case of health aspects, more than 55 percent workers working in these urban informal sub-sectors were subjected to health hazards and they are suffering from various types of occupational diseases. Only in case of 5 percent sample workers, their employers are meeting the medical expanses of workers. In case of contributory insurance scheme, about 79 percent workers had expressed their willingness to partake in the scheme.

Sundari (2005) made a study in Tamil Nadu about the real earnings of migrant women engaged in urban IS's activities. Overall, a comparison of the real earnings of migrant women and non-migrant women for 2002-03, reveals that the former earn more than the latter, which justifies the movement of women from rural areas to urban areas. Employment wise comparison of yearly real earnings of migrant and non-migrant women

workers in the IS indicates that in all types of activity, the earnings of migrant women exceeds that of non-migrant women. In terms of money wages, the urban migrant women in the IS earn Rs. 6940 per annum or Rs. 578 per month, more than the non-migrant women (Rs. 3795). Women migrant to urban areas earn more than the non-migrant women because there is lack of alternative employment opportunities in the rural areas. Moreover, the scope for self-employment is limited in rural than urban areas. There is great demand for domestic and construction workers in the urban areas. The major advantage of employment in the urban informal labour market is that most migrant women could avail interest free loan from their employers, which is woefully not available to their counterparts in their place of origin (rural area).

Madhavi (2006) made a field survey in Karimnagar and Nizamabad districts of North Telengana region of Andhra Pradesh about the informal beedi manufacturing activity. So far the employment of workers in informal beedi rolling activity is concerned, Andhra Pradesh employ around seven lakh workers, of which five lakhs are employed alone in the North Telengana region. The leader is Nizamabad district which employs around 2.5 lakh workers followed by Karimnagar district, which employs around 2 lakh workers. It is obvious that Nizamabad and Karimnagar districts have huge concentration of informal beedi producing households (enterprises). Over the decades, either because the handloom industry was closed down or shifted from handloom to powerloom, those who lost employment took up beedi rolling activity. As a result, beedi rolling gradually shifted from factories to the homes of the workers. In fact, now in that region, for an unmarried girl, knowing the skill of beedi rolling is a qualification for marriage. This informal household beedi rolling activity is generally undertaken by the women workers.

The field survey threw light on the exploitation of the informal beedi rolling workers, depriving them from the actual wage by the employers and middlemen.

Upadhyay (2007) on the basis of her study made in Arunachal Pradesh shows that the share of informal enterprises is as high as 93 percent in the total spread of formal and informal enterprises and these account for around 50 percent of the total persons employed. The study also shows that there is little inter-district variation in the share of informal enterprises, which is lowest in West Siang (89.20) and the highest in Tawang (96.77). In terms of size of employment, 32 percent of the enterprises operate with only one worker, 24 percent employed between 2 to 3 workers, 26.7 percent employed 4 to 7 workers and 17.3 percent employed 6 to 9 workers. Majority of entrepreneurs in the IS have studied up to primary school. Only 9.3 percent of entrepreneurs are illiterate, only 5.3 percent have studied up to class 12 and 1.3 percent have studied beyond that. The surveyed informal enterprises were clubbed into four broad categories, and it is found that retail trade, hotels and restaurants account for 32 percent of all, followed by, manufacturing and processing 30.7 percent, community, social and personal services 29.3 percent. Transport and communication services account for 8 percent of all enterprises. The enterprises operating without a premise was found to be 18 percent and mainly these enterprises are involved in transport, petty trading in vegetable and textiles. Institutional source of credit have virtually played no role in the urban IS so far as sources of start up capital is concerned. So far migrant is concerned, out of the total workers surveyed, migrants constitute 86.2 percent. These migrants also include the workers who have migrated from other parts of the state to the capital in search of work. But largely the migrant population consists of migrants from other states and countries like Bangladesh and Nepal.

Dev, *et al.* (2008) made a study about informal handloom weaving enterprise in Chittoor, Krishna, Karimnagar, Nalgonda, Vissakhapatnam, Guntur and Medak of Andhra Pradesh. The study showed that the individual weaver, working from home with his own loom continues to be the basic unit of production in informal handloom weaving sector. However, though there are a few independent weavers, production and marketing are generally organised under two institutional structures – co-operatives and master weavers. In some areas, there are also a few middlemen who are generally promoted and controlled by the master weaver. The informal handloom sector has maintained a steady 20 to 25 percent share of total textile production of the state. The field level observations in the course of study revealed that independent weaving is highly seasonal in nature. During peak seasons such as festivals and marriages, the relatively better off weavers take up independent weaving to enhance their income through optimum use of family labour. In respect of monthly income of the household informal weaver, working under a co-operative ranges from Rs. 585 in Karimnagar to Rs. 4121 in Nalgonda. For shed weavers, it ranges between Rs. 448 in Medak and Rs. 2398 in Guntur. The incomes of informal household worker under master weavers ranges from Rs. 856 in Medak to Rs. 3583 in Nalgonda, while among shed weavers the figures ranges between Rs. 827 in Medak and Rs. 2017 in Guntur.

1.4 Studies on IMPUs in India

Most of these studies undertaken on IS throw considerable insight into the nature, size, capital base, labour productivity, value added, employment generation, level of living, intra and inter sectoral linkages in the IS. Some of them too explain the nature, and

status of employment, earnings and conditions of living of employees in the IS. A lot of these no doubt discuss the problems and prospects of this sector and suggest policy measures to make IS as an instrument of socio-economic development in days to come.

However, most of these above studies have been general in nature and have included activities/segments of the urban economy such as manufacturing, trade, transportation, milk production and its distribution etc. within the ambit of IS. To make the policy formulation process more objective, relevant and pin-pointed, sector specific studies are required to be undertaken. Sector specific studies also compliment the information on general studies and surveys on the IS as a whole. Amongst all the activities of the IS in the urban economy, milk production and its distribution (dairy) occupies an important place for various reasons. Firstly, as has just been pointed out, sector specific study will be more relevant for micro level policy formulation. Secondly, it plays an important role in absorbing labour. Thirdly, it is capital saving in nature as: (i) it has got more potential for labour intensive enterprise than the formal dairy sector, (ii) it relies more on household savings, (iii) it is based on locally available resources, (iv) it does not require any complex machine and technology, (v) it acts as a training ground for skill formation and entrepreneurship development. Further, informal milk producing enterprises are believed to take care of an important part of the food needs of the urban people. Hence in our study in the city of Guwahati, we have concentrated on the informal milk producing (dairy) sub-sector of the IS.

In Indian context, few studies have been undertaken on this particular sector, i.e., IMPUs. A brief review of literature on this enterprise with respect to different aspects of its production and its producer is given below. For a systematic and better understanding, they have been grouped and discussed below:

1.4.1 IMPUs and Employment

Christy and Thirunavukkarasu (2002) explain in their study on “Socio-economic dimensions of female participation in livestock rearing: A case study in Tamil Nadu”, that women have a close association with livestock enterprise specially IMPUs in the state. So far the employment of women in IMPUs is concerned, the results of their study reveals that on an average, firm women spent about 294.34 minutes (almost 5 hours) per day per household on ‘in-caring’ of the ruminants (milch animal).

Roy (2004) makes a study in Malda district of West Bengal, covering the period of 2000-2001 about the employment potentiality of IMPUs and sericulture units. It is found from the study that the family labour employment in IMPUs is 89.50 percent as compared to 87.18 percent in sericulture.

On women employment in informal dairy units, Ashok and Somasundaram (2004) make a study in Thirunelveli, Thoothukudi and Virudunagar towns in Tamil Nadu, covering the period 1993-2003. From the study, it is seen that in an IMPU, among the family labourers, males contribute 44 percent and female contribute 38 percent and the rest by the children.

Sarma and Sarma (2004) in their research study show that in Rajasthan per worker employment from crop and informal dairy production units are 80 man-days and 123 man-days, respectively.

Sidhu and Bhullar (2004) make a study in Punjab and find that the demand for labour employment in crop sector has decreased by 23 percent between the periods from

1987-89 to 2000-2003 and in case of IMPUs, it has increased to 41 percent over the same period.

Tuteja and Singh (2004) in their study undertaken in Haryana State show that the milk processing units on an average generate employment of 8.40 persons in Gurgaon and 5.86 persons in Jind districts per day.

1.4.2 IMPUs and Income, Cost and Profitability

Rao *et al.* (2004) from their study in the district Kanpur (Dehat) of Uttar Pradesh show that the total maintenance cost of a milch animal (cow) per lactation has increased as the enterprise size increased. On an average the maintenance cost of a milch cow during a lactation period comes to Rs. 10278.63. Among all costs labour charges accounts for the highest share followed by fodder and concentrates. The gross income from milk production is higher on large producing units because of excess utilisation of concentrates by large producing units. On the cost and profitability of informal dairy units, it is the highest on small units with the ratio of 1:1.31.

Reddy, *et al.* (2004) in their study bring out that the net cost of maintenance of a crossbred dairy cow per day is Rs. 38.99, Rs. 49.36 and Rs. 48.88 in Andhra Pradesh, Tamil Nadu and Karnataka respectively. The cost per litre of milk works out to Rs. 5.48, Rs. 7.20 and Rs. 5.48 in the same order. Feed cost is the major component in gross cost which accounts for 63.88 percent in Andhra Pradesh, 72.14 percent in Tamil Nadu and 73.62 percent in Karnataka. The net profitability varies from 43 percent in Tamil Nadu, 70 percent in Andhra Pradesh and 83 percent in Karnataka.

Sidhu and Bhullar (2004) from their study show that the income from informal dairy producing unit on an average increases from Rs. 6216 during 1987-90 to Rs. 10547

during 2000-03 at constant prices at annual growth rate of 4.66 percent, while the farm business income from crops goes up from Rs. 26426 to Rs. 35027 respectively during this period at the growth rate of 2.08 percent per annum in Punjab.

1.4.3 IMPUs and Finance

Sidhu and Bhullar (2000; 2004) in their study show that the growth of informal dairy (milk) producing units in the state of Punjab has been facilitated and accelerated by the easy availability of institutional credit to the producers.

Srikant (2004) in his paper, “Dairy development in Maharashtra: An economic analysis”, shows that the state government of Maharashtra is giving institutional and organisational support in terms of credit delivery and insurance, to boost the informal dairy sector.

Purohit and Jambagi (2004) in their study, “Economic impact of new breeding technology on dairy farming: A case study of Bagalkot district in Karnataka”, reveal that there is not any effective credit/loan facility to the IMPS from the nationalised banks.

Rao (2004) in his research paper, “Institutional Innovations in Governments: Experience of Women Dairy Project in Rajasthan”, reveals that unlike earlier government programmes for emancipation of women, STEP programme provides support in terms of finance to the informal milk producers undertaken by the women entrepreneurs for the economic upliftment of the womenfolk and gender equalisation.

Kondal, *et al.* (2004) study, in Western Himalaya, the prospects of IMPUs. Their study reveals that there is lack of bank loan to the informal milk producers for purchasing improved cows at lower interest rates.

Verma (2007) shows from his study undertaken in Indore district of Madhya Pradesh that non-availability of credit is the main constraint of the IMPUs. The FS financial institutions do not provide credit facility to the IMPUs, as a result, the entrepreneurs of the IMPUs are facing the problem in improving and extension of their enterprises.

1.4.4 IMPUs and Linkages

So far the linkage effects of the IMPUs are concerned, Sidhu and Sidhu (1990) in their study made in Sangrur district of Punjab, show that IMPUs are earning good income from their enterprise. The Informal Milk Producers have formed the Milk Producers' Co-operative Societies where the societies take the risk of marketing of producers' milk. The IMPUs are selling their finished product to the societies. So, there is direct forward linkage effect of the IMPUs with the FS (societies) and this has ended the monopoly of the milk vendors as well as the exploitation of the IMPUs by them.

Bal (1996) from his study undertaken in the state of Punjab shows that as a result of constitution of Milk Producers' Co-operative Societies by the MPUs, the direct forward linkage between IMPUs and Milk Producers' Cooperatives has been maximised. This has also ended the exploitation of the IMPUs by the middlemen.

Singh and Joshi (2007) in their study undertaken in Moradabad district of Western Uttar Pradesh explain that the IMPUs sell their whole produced milk to the co-operative

society. As a result, the direct forward linkage effect of IMPUs with the FS (co-operative society) is very strong in terms of marketing of milk and the direct forward linkage of IMPUs with the IS is nil.

Verma (2007) throws light on the linkage effects in his study made in Indore district of Madhya Pradesh on economics of production, marketing and constraints of buffalo milk. The study shows that there is lack of market for produced milk. The IMPUs are selling their product to middlemen or Guwalas. The producers are being deprived from the actual price of their product and thus exploited. The IMPUs have no any organised form of co-operative society. So the direct forward linkage of the IMPUs with the IS (middlemen and Gowalas) is very strong and with the FS is nil.

1.4.5 IMPUs and Marketing

Marketing of milk produced by the informal milk producers is a risk taking game, as it is a perishable commodity. Sidhu and Sidhu (1990) have undertaken a study in Sangrur district of Punjab. The IMPUs of the district have constituted two Co-operative Societies – one is Jahangir Primary Milk Producer's Co-operative Society and other is Bunga Primary Milk Producer's Co-operative Society. These societies are providing assured market for the milk and dairy inputs. This helps to break the monopoly of private milk vendors and getting the fair price for the milk to the producers.

Bal (1996) has also highlighted the role of Cooperatives in marketing the milk produced by the IMPUs.

Sujatha, *et al.* (2004) have undertaken a study on market structure, price spread, marketing cost and marketing efficiency for milk in the co-operative and informal sectors

of Andhra Pradesh. A total of 120 milk sellers were selected randomly from four districts, viz., Guntur, Krishna, Nellore and Prakasam of coastal Andhra region and four milk plants-two milk plants each from co-operative and private sectors were selected. The market structure analysed using Hirschman-Herfindahl index. To estimate seller's concentration, Bain's classification was used according to which farmers are said to constitute a "atomistically competitive" market. Four marketing channels were identified for milk marketing in coastal Andhra region. From the study it was observed that in all channels price paid to the informal milk producers were high in the private sector compared to co-operative sector. The major constraints identified in milk marketing were high feed cost, inadequate price for milk, poor credit-facilities, disease outbreak, etc. Because of delay in the payment of fee for the milk sold to the co-operative society, the farmers approached the private firms. For enhancing the marketing efficiency of milk, infrastructure facilities like chilling plant, Pasteurisation and dairy products processing plants have to be developed.

Duhan, *et al.* (2004) have done a study on the nature of markets and role of co-operatives in marketing of milk in Rewari district of Haryana. A total of 120 informal milk producers were selected randomly from two blocks of Rewari district. Their study shows that seasonal fluctuations in prices of milk can be controlled through the intervention of milk co-operative societies. The establishment of milk processing units by the co-operative sector and provision of refrigerated vans and storage facilities can overcome the major constraints faced by the producers in marketing of their milk. Thus, co-operatives have a big role to play in marketing of milk and milk products.

An attempt has been made by Deokate, *et al.* (2007) to identify the channels involved in marketing, to estimate the marketing cost, market margins, price spread and

producer's share in consumer's rupee in different marketing channels of milk in Amravati district of Maharashtra. The primary data for the year 2002-2003 were collected by survey method from 80 IMPUs of the study district. Four breeds of milk animals, viz., local cow, crossbred cow, local buffalo and improved buffalo were considered for the study. The information was collected for a group of 20 IMPUs of each breed and the data were analysed using simple tabular analysis. For the investigation, five types of marketing channels were identified, viz.

Channel I-Producer → Consumer, channel II-Producer → Vendor → Consumer, channel III- Producer → Private milk collecting agency → Distributor → Consumer, channel IV- Producer → Hotel Owner → Consumer and channel V-Producer → Milk Co-operative Society → Government milk scheme Distributor → Consumer (only cow milk). The analysis indicated that among the various channels of milk marketing, Channel-1 (Producer → Consumer) has the highest producer's share in consumer's rupee for buffalo milk and cow milk being 97.26 per cent and 96.52 per cent, respectively. Thus channel-1 was found to be more profitable in regard to sale of milk directly to the consumer.

So far the marketing of produced milk of IMPUs are concerned, Sadeesh, *et al*., (2007) have conducted a study in the Puducherry region of Union Territory of Puducherry. Dairy firming is an important occupation in Puducherry, which is supporting a large number of resource poor families. The sampling unit consisted of small and large firm milk producers, together constituting a sample of 120 IMPUs. They discuss the marketing efficiency of milk in the various channels of marketing and constraints faced by the IMPUs in the production of milk and its marketing. Institutions like co-operative societies play a major role in procuring milk form the IMPUs in Puducherry region. The

reasonable price was the principal reason for marketing of milk by the producers. It was found that the marketing efficiency was highest in channel IV consisting of cycle milk vendors due to its short length and higher efficiency index. But the net price received by the IMPUs was found to be higher in channel III involved with private agency and commission agent with Rs. 10.50 per litre.

Verma (2007) analyse the price spread and marketing of buffalo milk produced by the IMPUs in Indore district of Madhya Pradesh. Of the four milk marketing channels studied besides direct channel (Producer → Consumer), the second channel, viz., producer milk → vendor → urban consumer not only had higher producer's share in consumer's rupee (80%) but the marketing efficiency as well. Remunerative price of milk is the top most marketing constraint followed by the delayed fractional payment for milk.

1.4.6 IMPUs and Its Determinants

With regard to determinants or causes of growth of IMPUs, Gandhi and Mani (1995) state that rapid increases in household income with urbanisation and changing lifestyle have combined a shift in consumption towards non-traditional cereals and value added products, including many derived from livestock and dairy.

Sarma (2004) states that urbanisation and per capita income are the stronger determinants causing the growth of IMPUs. He shows that the regression coefficient of urbanisation indicates that 1 percent increase in urbanisation result in about 0.84 percent increase in milk production and in case of price elasticity of demand, 1 percent increase in price of milk result in nearly 0.18 percent increase in milk production.

Gangwar, *et al.* (2004) show that the growth of population and urbanisation are an important determinant for development of IMPUs in urban and peri-urban areas.

Pathak and Jain (2004) study the cost and return estimates, and show that the benefit-cost ratio is an important determinant of bovine milk production in Raipur district of Chhattisgarh.

Choudhary (2007) shows in his study on economics, marketing and constraints of milk production in progressive dairy firms in Arang block of Raipur district of Chhattisgarh that input cost determines the net return of the IMPUs. His study is based on the data collected from 16 progressive IMPUs of the area for the period 2006-2007. The analysis of the IMPUs reveal that the average cost of milk production was Rs. 30,055.16 per milch animal per annum in large IMPUs, Rs. 20,243.14 and Rs. 26,224.85 for small and medium IMPUs respectively. On an average net return of milk production was worked out to Rs. 16,423.16 per milch animal per annum. The benefit-cost ratio in the production of milk varied from 1:1.60 to 1:1.91 in different categories of units. The average benefit-cost ratio is 1:1.60, which effects the growth and extension of IMPS.

In analysing the factors effecting the growth of IMPU, Gauraha (2007) shows in his study in Raipur district of Chhattisgarh that cost of milch cow rearing is a prime factor. He compares the cost of milch cow rearing between urban and rural areas. Per litre cost of milk production works out to be Rs. 5.15 and Rs. 6.32 for crossbred cow and improved buffalo respectively in urban areas, while it is observed to be Rs. 5.46 and Rs. 6.31 for crossbred cow and improved buffalo respectively in rural areas. The benefit-cost ratio was higher for crossbred buffalo in urban areas as compared to rural areas. As a

result the urban informal milk producers generally undertake crossbred milch cow dairy farming.

1.5 Our Study – Its Necessity

From the above review of literature on IS in general and IMPS in particular, it is evident that there is disagreement among scholars relating to the concept of IS, there is variation in the level and status of workers, productivity and socio-economic characteristics of workers and owners in IS. All the studies have examined the IS from different angles. Some have examined the linkages aspect, some have highlighted the productivity and income generation aspect, some have discussed the labour status and a lot have also discussed a combination of these issues and a few too have examined the problems of IMPS units in general. However, the necessity of the present study arises because of the following reasons:

Firstly, most of these studies have been undertaken in large cities. Recently the imperatives of environmental protection and promotion of balanced development have started emphasising spatial decentralisation of human settlements and industrial and commercial activities. Thus, smaller towns have become focal points of planning and development policies. This necessitates to examine closely the nature, growth and problems of IMPS in such towns both for testing the earlier theories developed in this respect and to deduce appropriate employment and development policies.

Secondly, most of the studies in India on urban IMPS have casually dealt with the problem of finance/credit aspect of the IMPS units. However, it is

found from these studies that lack of finance happens to be one of the most important constraints in the growth of the IMPUs. Hence, we feel the necessity to have an in-depth and detailed study on the financial/credit aspects of such units in our study.

Lastly, an exclusive study of IMPUs segment of IS would make intervention policies more meaningful.

It is in the context of all these issues that we undertake our present study on IMPUs in the city of Guwahati.

1.6 Our Definition of IS

In our present case study in the Class-I city of Guwahati, the concept of IMPUs is based on the following criteria:

It includes all those milk producing units in the private sector owned and operated by a single member of a household or with the help of paid and unpaid family members with or without having any hired labourer. The total number of persons including the owner operator, hired labourers, family workers working for the enterprise should be less than 10. This is in line with the recent definition of IS adopted by the International Labour Organisation (ILO). We therefore exclude from the purview of IMPUs, the following enterprises:

(i) Enterprises working with 10 or more than 10 persons with or without hired labourers

(ii) All public sector units, Co-operative organisations, trusts working in the milk producing sector irrespective of the number of persons working there.

End Notes

[1] See, *The Urban Informal Sector in Asia – Policies and Strategies*, ILO, Geneva, 1994.

[2] Hart presented this paper at the conference on "Urban Unemployment in Africa" in the Institute of Development Studies, University of Sussex in September 1971; subsequently the paper was published in a revised form in *The Journal of Modern African Studies*, Vol. II, No. 1 in 1973, under the title "Informal Income Opportunities and Urban Unemployment in Ghana".

[3] As some scholars started identifying Lewis's subsistence sector with agricultural sector or rural sector, Lewis reasserted that he talks of only subsistence sector and capitalist sector but not any other type of dualism.

[4] WEP (World Employment Programme) was launched by ILO in its 1969 session. Since then the ILO has conducted a large number of country and city studies in 1970s, 1980s and early 1990s. All these studies primarily aim at creating an employment centred growth process.

[5] See Colin Leys, "Interpreting African Underdevelopment: Reflections on the ILO Report on Employment, Incomes and Equality in Kenya", African Affairs, October 1973, reprinted in G.M. Meier (ed.), *Leading Issues in Economic Development*, OUP, New York, 1976, pp. 221-224.

[6] See, ILO (1999) quoted in "Informal Sector: Women in the Emerging Labour Market", Unni, J. and Rani; *The Indian Journal of Labour Economics*, Vol. 42, No. 4, October-December, pp. 625-638.

[7] See G. Swaroopa Rani and S. Galab (1998): Organisation and Economic Performance of Manufacturing Activities in Urban Slums of Hyderabad City: A Case Study of Sandal Making Activity; *Indian Journal of Labour Economics*, 41 (3), July-September, pp. 541-542.

[8] *Ibid.*

CHAPTER – II

DATA AND METHODOLOGY

2.1 Introduction

One of the prime objectives of developing countries in general and India in particular has been to make the process of income and employment generation more efficient and equitable. With the gradual acceptance of IS as an instrument of employment and income generation and redistribution by policy makers in India, evaluation of its spatial growth becomes all the more important. It is in this context and for some other reasons listed below that we have selected the Guwahati city for our survey.

(i) Most of the earlier studies on IMPU have been conducted in large cities. With the gradual acceptance of smaller cities/towns as focal points of development, studies of their IMPU become necessary for formulating suitable micro level employment and investment policies and for testing the earlier theories developed in this regard.

(ii) In Assam till date, not a single systematic study has been undertaken on IMPU. Saikia (2004)[1] has under taken one study “Prospects of Dairy Industry in Assam”. In this study he has just given a little flash about the total demand of milk in Guwahati city, but nothing is said about the economics of IMPUs, which are the prime supplier of milk in Guwahati town. Guwahati city (Presently going to be million plus city) happens to be one of the most important commercial and business centres of Assam as well as it is also the gate way to the entire North-East Region (NER). Growth of Guwahati City has long been considered as a typical case of urbanisation in the state. It is chosen as a representative of the general urban areas of the state.

2.2 Location of Study: The Case of Assam

The study area is Guwahati city in Assam. Assam is a separate province within the Indian State. Formerly Pragjyotishpur, now it is known as Assam. According to some scholars, the term 'Assam' is derived from Sanskrit which means peerless or unparallel. Natural phenomena, plains, river valleys and mystic hills prove this derivation. But the most acceptable occurrence of the name is related with the word 'Ahom', - the band of human beings stepped in Brahmaputra Valley in the early 13^{th} century. Actually the Ahom King 'Sukhapha' who landed on the soil of this province in 1228 AD, shaped the destiny of Assam by establishing Ahom Kingdom. After his death, many Ahom Kings ruled the province as his successor. They carved the identity of Assamese people bringing to light all the nicest forms of cultures. They ruled over the land for a long period of 600 years till Assam came under the colonial rule of British. The province of Assam lies on the north-east of India. The geographical location of the state is in between 24^{o} N and 28^{o} N latitude and almost 90^{o} E and 97^{o} E longitude[2] and the state is almost 79.5 meters above from the sea level.[3] The state is surrounded in East by Arunachal Pradesh, in West by West Bengal, in North by Bhutan and Arunachal Pradesh and in South by Meghalaya, Bangladesh, Tripura, Mizoram, Manipur and Nagaland. Strategically, three sides of the state are surrounded by foreign countries. It is surrounded in North by Bhutan, Tibet and China; in South, by Bangladesh and in East, by Burma. Existence of all these foreign countries has made Assam a strategically important state. Historical evidence suggests that the foreign Mughal invaders invaded Assam 17^{th} times, but could not succeed. After the defeat of Mughals at 'Saraight' battle in 1671, under the leadership of Bir Lachit Barphukan, the then chief of the military staff of Ahom King Udayaditya Singha, the whole of the Brahmaputra valley was under Ahom Kingdom and its rule. After the last

war with Mughals in 1682, the geographical boundary of Assam was extended to the river Manah in the West. The British took over Assam in 1826 on 24th February, after the treaty of Yandaboo held between the British Political Agent and the king of Ava of Brahmadesh. British colonial rulers demarcated it as a separate province in the year 1874 covering the hills tracts.

The present day Assam is having a geographical area of 78438 sq. kms., which accounts for about 2.4 percent of the country's total geographical area.[4] Its total population as per the latest census of 2001 (provisional) is 26638407 of which 13787799 are males and 12850608 females. The density of population per sq. km. is 340,[5] literacy percentage is 64.28 (male literacy is 71.9 percent, female literacy is 56.0 percent) and the percentage of urban population to total population is 12.8.[6] The State's economy is based on agriculture. Nearly 76 percent of its total population are dependent on agriculture and agriculture itself occupies a vital position in the State's economy engaging about 53 percent of the total working force, according to 2001 census.[7] The State has vast amount of natural resources including oil, coal, minerals, alluvial soil, water and forest resources. In spite of it, it is one of the economically poorest provinces of India. The per capita income of Assam is of Rs. 6721 at constant (1993-1994) prices and Rs. 13633 at current prices during 2004-2005, which is Rs. 12416 and Rs. 23241 for all India level during this period.[8] Dispur is the present State capital of Assam, which is situated in the midst of the sacred temple city of Guwahati.

2.3 Guwahati City

Our study area that is the Guwahati city of Kamrup district (urban), is situated in 26^{o} 0´N and 26^{o}30´N latitude and almost 91^{o}15´E and 92^{o}0´E longitude,[9] with the altitude of 54 meters from the sea level.[10] Geographically, Guwahati is situated on the southern bank of the mighty river Brahmaputra in the Kamrup district (Urban) of Assam. Standing on the bank of the mighty river Brahmaputra, this millennium silver city of Assam is bearing a rich socio-cultural history of its own. History reveals that right from the beginning, Guwahati is the centre point of the past glory of the State. In pre-historic time, it was known as Pragjyotisha/ Prajytishpur because of being centre point of practicing astrology in the then country 'Bharat'. The name is mentioned as Pragjyotisha in both the Epics, the Ramayana and the Mahabharata. The 'Navagraha' temple is still the witness to the exercise of this astrology. As an incarnation of Lord 'Kamdev', Pragjyotishpur was known as 'Kamrup' and it was famous later on by this name. It was found in the Allahabad pillar inscription of Samudra Gupta and in early Puranas.[11] The present Guwahati was the capital of the then Kamrup, where the famous king of 'Asur' dynasty "Narakashu" ruled and he built the famous sacred temple of Kamakhya. Guwahati was also the capital of the king 'Bhagadutta', who dug the "Dighali Phukhuri" on the occasion of his daughter Bhanumati's marriage. The great saint 'Bashistha' also prayed the God 'Bishnu' here on the 'Bashistha Hill' where the "Bashistha Aashram" still exists. Guwahati received the importance in international level during the reign of king 'Bhaskar Barma' (594-650 AD), when the Chinese tourist "Hiuen Tsang" came to Kamrup in 643 AD and stayed one month in Guwahati, the capital of Kamrup. The name of Pragjyotishpur later known as Kamrup has been changed to Guwahati, which became famous nationally and internationally since historical period. The name Guwahati is derived from two Assamese words. Pragjyotishpur or Kamrup was full with betel nut

(areca nut) trees planted systematically in rows and rows. The Assamese meaning of betel nut is ‘guwa’ and the meaning of rows is ‘haati’, which formed the complete meaning of “Guwahati”. So this place was known as Guwahati since then. This is known from the inscription of ‘copper plate’ of Nagaon King Third Balavarman (885-910 AD).[12] Mughal’s captain ‘Tughril Khan’ captured Guwahati by defeating the last king of Kamrup, ‘Sandhya’ in 1257 AD and thereafter it was under Mughals control. The Ahom King ‘Chandradhwaja Singha’ rescued Guwahati in 1667 by defeating Mughals under the leadership of ‘Lachit Barphukan’, who was the chief of the military staff of Ahom. Since then, Guwahati became the political, administrative, commercial and defence centre of Assam as well as of the Ahom Kingdom. In 1671 at ‘Saraighat’ battle, the Ahom military power under the leadership of Captain Lachit Barphukan, defeated Mughals and it ended the Mughals invasion into the State. But unfortunately, as a result of Burmese (Maan) third invasion in 1821, Guwahati has gone to the hands of colonial British Rulers in 1824 on 28th March and later on, the whole province Assam as a result of ‘Yandaboo’ treaty held in 1826 on 24th February.[13]

Guwahati attained the first township in the province of Assam in 1853, after the formation of Guwahati Town Committee in the same year by the then Colonial British Rulers, with the total population of almost three thousand, in response to the appeal made by the inhabitants of Guwahati on 11th June 1852.[14] In 1865, the Guwahati Town Committee has been developed to Guwahati Municipal Board and a master plan was also prepared to develop the Guwahati Town.[15] At the initial stage the area of Guwahati town was confined to the areas of Ujanbazar, Chenikuthi, Hedayetpur, Ambari, Paltanbazar, Fancybazar and Bharalumukh. But in 1899, for the first time, the colonial British Ruler, extended the area of Guwahati town covering the new areas – Kharghuli, Silphukhuri,

Chandmari, Rajgarh, Barpul, Bhangagarh, Saraniya, Ulubari, Rihabari, Sanitpur and Bhutnath. In the midst, suddenly, the colonial rulers shifted the capital of Assam from Guwahati to Shillong, considering Guwahati not a healthy place.[16] Shillong was the capital of Assam continuously till 1971. After the shift of the capital of Assam from Shillong to Guwahati, as a result of formation of Meghalaya as a separate State, the shape of Guwahati has been changing rapidly and has become a metropolitan city today. In 1971, Guwahati Municipal Corporation Act was envisaged and in 1974 Guwahati Municipal Board was developed to Guwahati Municipal Corporation, with the recognition of Guwahati as city. The city Guwahati was recognised as the first class city in 1985, with the formation of Guwahati Metropolitan Development Authority under the GMDA Act 1985.[17]

Guwahati, previously spelled Gauhati is a major city in the eastern India. Guwahati is considered as the gateway to all the provinces (called states in India) of the NER of the country and is the largest city within the region. Dispur, the capital of the Indian state of Assam, is situated within the city. Guwahati is one of the most rapidly growing cities in India. During past few decades it has experienced unprecedented spatial expansion and also steep rise in population. In fact, according to a survey done by a UK media, Guwahati is among the first 100 fastest growing cities of the world and is 5th fastest growing among Indian cities. Today, the city straddles in between the Lokapriya Gopinath Bordoloi (LGB) International Airport in the west to Narengi in the east for almost 45 kms. and between the southern bank of the Brahmaputra River and the foothills of the Shillong plateau for around 15 kms. Moreover, the city is also getting gradually expanded to the northern bank of Brahmaputra. Guwahati has become a million plus city today from just 0.2 million population in 1971. Guwahati municipal corporation (GMC),

the city's local government covers an area of around 217 sq. km,[18] while Guwahati Metropolitan Development Authority (GMDA), the planning and development authority covers an area of 340 sq. km.[19] Under the GMC there are 104 revenue villages and four mauzas viz., Beltola, Ulubari, Jalukbari and Guwahati.

In addition to being the capital of Assam, Guwahati is the centre point of the NER in different aspects. It is a major commercial and educational centre of eastern India and is home to world class institutions such as the Indian Institute of Technology, Guwahati. The city is also a major centre for cultural activities, academies, social fineries, sports and intellectuals hub in the NER and for the administrative and political activities in Assam. The city is also an important hub for transportation in the NER.

2.3.1 Demography

Guwahati is one of the most rapidly growing cities in India. The city's population grew from just three thousand in 1853, at the movement of inception of the town, to more than 5.77 lakhs in 1991 and in the census of 2001 the city's population was found to be 8.08 lakhs. It is mentioned that the population of Guwahati was 1.24 lakhs in 1971, before the shifting of capital from Shillong to Guwahati. The decadal growth rates of population during the inter census period 1971-91 and 1991-2001 have been 78.51 percent and 28.59 percent respectively. The annual growth rates of population during these inter census periods 1971-91 and 1991-2001 were 3.93 percent and 2.86 percent respectively. The unofficial sources estimate that the total population to be around 15 lakhs in 2007.[20] By any means this growth rate has been very high. The density of population in Guwahati city according to 2001 census, is 3,935 persons per sq. km. This

clearly shows that, Guwahati has undergone massive urbanisation during the last three decades. The sex ratio as per the 2001 census is 828 females against 1000 males. It was found that 10 percent of the population is less than 6 years of age. Guwahati has an average literacy rate of 78 percent with a male literacy at 81 and female at 74 percent. Its literacy rate is higher than the state average. The average family size per household in Guwahati city is 4.64 persons. Another source says, in 2001, males constituted 55 percent while the females at 45 percent in Guwahati city.[21]

2.3.2 Geographical Area

In 1971, the geographical area of the Guwahati city was 43.82 sq. kms.[22] Now, GMC, the city's local government covers the total geographical area of around 217 sq. kms (2001 census). This shows that the area of the city increased by 79.81 percent during the said 30 years and its population increased by 84.65 percent with in this period (population in 1971 is 1.24 lakhs and in 2001 is 8.08 lakhs). Population growth rate exceeds the city land area covering growth rate which indicates the thick density of urban population. After the formation of GMDA in 1985, the planning and development authority of Guwahati City covers the total geographical area of 340 sq. kms.

The city's landscape is surrounded by hills and forests on all sides and with the mighty Brahmaputra flowing right through it. Hills, forests and wetlands are a vital component of the city's environment and eco-system. Guwahati has 18 hills right within its municipal area, which not just add to the beauty of the city landscape but are crucial for the maintenance of a sound environment. The total forest cover in the hills now is a meagre 13.60 percent. Of the 7,023 hectares of hill land, 2,642 hectares fall under reserve

forests (RFs). But much of even the reserve forest lies destroyed and degraded due to encroachment and tree-felling. There are as many as 75 villages in the hills, consisting of 26,985 households. Guwahati city is having as many as 19 reserve forests and three proposed reserve forests. As per official statistics, 1,640 hectares of the city's reserve forests are under encroachment. The unofficial figure is bound to be much higher, as forest lands are the natural choice for settlement for an ever-growing population. Similar is the case with the city's wetlands that have undergone rapid degradation. 'Deepor beel', a wetland of immense significance for the city, is waging a grim battle for survival. Worse is the case with the 'Silsako beel', which is almost non-existent today. Other major wetlands like the Borsala and Sorusola beels are also exposed to grave threats.

2.3.3 Administration

Guwahati Town Committee was developed to GMC. The GMC was constituted in the year 1974 with only 34 numbers of wards covering an area of around 217 sq. km. Since then, there has been manifold increase in population leading to increase in number of wards to 60 in 1995. The GMC is a legally formed body, it runs the city's local government. There is an 'Executive Council', which is constituted by the elected members, those who come through the democratic election process. There are 60 councillors belonging to 60 wards, elected by the voters of the respective wards. These councillors form the executive council of the municipal corporation and the executive council headed by the Mayor, prepares the planning and development strategies by the democratic process for development of different areas of the municipal corporation. The

development schemes and planning undertaken by the executive council of the GMC is executed by the GMC which is a permanent constituted body.

The GMC has four revenue Zones and six administrative divisions, and each zones/divisions is under a Deputy Commissioner. The revenue zones and the wards under their preview is shown below.

Central Zone, Panbazar – Ward Nos. 23, 27 to 31, 34.

West Zone, Bhutnath – Ward Nos. 1 to 21.

South Zone, Pub Sarania – Ward Nos. 25, 26, 32, 33, 35 to 38.

East Zone, R.G. Boruah Road – Ward Nos. 22, 24, 39 to 60.

The GMC has total six divisions for administrative convenience and to render better service to the urban population. These divisions are as follows.

Table 2.1: Administrative Location of Guwahati Municipal Corporation

Sl. No.	Name of Division	Location of Office
1	West Division	Bhutnath
2	Dispur Division	Supermarket (Dispur)
3	South Division	Ujanbazar
4	East Division	Zoo Road (R.G. Boruah Road)
5	Central Division	Panbazar
6	Lakhara Division	Lakhara Chariali

Source: Information Collected from GMC Office, Pan Bazar, Guwahati, May 2009.

Since GMC is a statutory body of Assam government, constituted to perform the city's local government administration, the corporation has its own employees. With the

total 2,750 number of employees, the GMC is a big administrative organ. Some basic data related to GMC is shown below.

Table 2.2: Basic Parameters of Guwahati Municipal Corporation

Population	8.19 lakhs (2007 estimated figure)
GMC Area	217 Sq. Km. (Approximately)
Wards	60
Employees	2750
Revenue Zones	4
Public Works Division	6
Public Works Zone	23
Primary Schools	5
High Schools	1
Parks	12
Municipal Markets	11
No. of Households	186006
GMC Roads	511.5 Km.
Water Treatment Plants	3
Production of Water	80 MLD
Water Pipe Length	425 Km (Approximately)
Population Served	4 Lacs
Deep Tube Wells	8
Harijan Colonies	6
Trucks Employed in Conservancy	40
Excavators	5

Source: i) www.guwahatimunicipalcorporation.com
ii) Statistical Hand Book, Assam, 2007.

2.3.4 Urban Morphology

Guwahati's 'urban form' is somewhat like a 'starfish'. With a core in the central areas, from the past few decades the southern Guwahati with the areas such as Ganeshguri, Beltola, Panjabari , etc. are forming a southern sub-centre surrounding the capital complex at Dispur and principally depending on the Guwahati-Shillong (GS) Road corridor.

The core area consists of the old city with Pan Bazar, Paltan Bazar, Fansi Bazar and Ujan Bazar, each one facilitating unique urban activities. While Palton Bazar is the hub for transportation and hotels, Pan Bazar id for educational, administrative, cultural

activities and for offices and restaurants, Fansi Bazar is the hub for retail and wholesale-commercial and on the other hand Ujan Bazar is for administrative, retail-commercial and residential activities. The core Guwahati with these areas is the busy and lively part of the city. Ulubari, Lachit Nagar and Chandmari with Zoo (R.G. Boruah) Road can be considered as added part of the core, which have a mix of retail-commercial and residential activities.

Among the corridors, the most important is the corridor formed along the GS Road towards south (almost 15 km. from the city-centre). The GS Road corridor is an important commercial area with retail, wholesale and offices developed along the main road and are also a densely-built residential area in the inner parts. The capital complex of Assam at Dispur is situated in this corridor. The corridor also facilitates growth of a southern node (sub city-centre) at Ganeshguri along with other southern residential areas developed during past few decades.

The corridor towards west (around 30 km from the city-centre) is a rail-road corridor linking not only Guwahati but also other parts of NER, east of Guwahati to western Assam and to the mainland India. The corridor links residential and historically important areas such as Nilachal Hill (Kamakhya), Pandu, Maligaon (headquarters of North east Frontier Railways) and separates into two-one towards North Guwahati and the other one towards further west to the LGB International Airport via the University of Gauhati (Jalukbari). There are also many river ports/Jetties along this corridor.

The third major corridor is towards east (around 15 km from the city-centre) linking Noonmati (Guwahati Oil Refinery-10c Ltd.) and Narengi. The corridor facilitates residential growth towards east.

Moreover, the bypass of National Highway (NH) 37 encircling the city's southern parts linking the western corridor in Jalukbari and the southern corridor in Nomile is currently supporting rapid development along it. Similarly the VIP Road linking Zoo Road and the eastern corridor and recently completed Hengerabari-Narengi Road as planned in the older master plan are also supporting massive residential development in the east.

In brief, the major components of Guwahati's urban structure are:

The core centre or the 'city centre' with Pan Bazar, Paltan Bazar, Fansi Bazar and Ujan Bazar

The extended core with Chandmari, Zoo Road and Ulubari

The North-Southeast GS Road corridor

The southern sub-centre of Ganeshguri

The western corridor towards Kamakhya, Jalukbari and LGB International Airport and

The eastern corridor towards Noonmati and Narengi

2.3.5 Occupation

From occupational pattern of population, we can know the direction and character of a city economy. Generally city population engage themselves in formal (government and private) and informal sectors' economic activities for earning their livelihood. The total number of households are 186006 and the total population is 8.19 lakhs in 2007

(statistical Hand Book, Assam, 2007) in Guwahati city. The work participation rate in different economic activities of formal and informal sectors is 35 percent. So the total population (workers) engaging in formal and informal sectors' activities is 2.87 lakhs.

Out of this total, 2.87 lakhs of workers, around 1.72 lakhs[23] are engaging in IS activities and rest 1.15 lakhs are employing in FS (government and private) activities.

2.3.6 Living Condition

Being the 5th fastest growing among Indian cities, Guwahati city is the hub of rich and aristocratic people. It also provides shelter to the poor and marginalised section of the society. All of the urban populace are not getting healthy living environment. There are 6 Harijan Colonies and at least in four places in Guwahati city slums are growing. These slum areas are Bharalu, Kamakhyagate, Maligaon and Boragoan.

About 70 percent populace of Guwahati city belong to low income group and among them, 30 percent live below poverty line.[24] One-fifth (20 %) of the city's present population already lives in slums, and this will pose another serious challenge in the days to come.[25] On the other hand, the increasing number of beggars is also creating socio-economic problems. Presently there are almost one thousand baggers in Guwahati city.[26] The economic work participation ratio of the total population of Guwahati city is 0.35 percent.[27]

2.3.7 Infrastructure

Guwahati city has all sorts of basic infrastructural facilities in respect of transportation (roads, railways, airlines and waterways) and communication and trade and commerce. These infrastructural facilities are described below.

2.3.7.i Transportation

Transportation facility is the pivot for the development of a place. Transportation has direct forward and backward linkages. Good transport measures provide healthy environment for trade and commerce, communication facility and flow of tourists. Presently, Guwahati city has good transport infrastructure. In 1863 there was not a single Pucca road in Guwahati city. After 1864, the process has been undertaken at the government level to develop the roads within town area. At present, there are four P.W.D. divisions of state Government within Guwahati municipal area to develop and maintain the roads. The total numbers of roads under these four divisions are 415. Moreover, with in GMC, there is more than 1000 number of roads. Under P.W.D, within Guwahati city, total 2.23 kms length of roads are three in tracts, 10117 kms length of roads are two tracts and the rest are one tract roads. Minibus service, for the first time started in Guwahati city in April, 1947. The name of the first city bus was ‘Ford L Land’. Machkhowa was the city bus stand at that time. From 1989, there was started mini city bus service in Guwahati city for the first time and in October, 2002 Delux city bus service has started. Rhino city bus service was added in Guwahati city from first January, 2004 with other city bus services. Presently, Garh Pandu (Aadabari) is the city bus stand for all sorts of city services.

Guwahati city is well connected by air, train and road with the NER as well as rest of the country. There are direct train services from New Delhi and Kolkata with connectivity to Mumbai, Chennai, Bangalore, Kochi and Thiruvananthapuram etc. The head office of the North- East frontier railways is located in Maligaon, within the Guwahati city.

Guwahati is well connected by a network of National Highways and other roads with all the important cities in the neighbouring states and major cities in the country. Both Government and private buses ply from Guwahati city to all the major towns of Assam. These buses also ply to the capitals of the other north-eastern states and other state's capital of the country from Guwahati city. For the buses of the state Transport corporation of the different states, there is a parking place named 'Inter State Bus Terminal' (ISBT) located in Betkuchi, by the side of the bypass no 37 NH. For private network buses, there are parking places in and around in Palton Bazar.

Guwahati city is also well connected by air, through the LGB International Airport of Guwahati, with New Delhi, Kolkata, Mumbai and Chennai, Bangalore, Hyderabad, Imphal and Agartala etc. Indian Air Lines, Spicejet, Jet Airways, Air Sahara, Air Deccan, kingfisher and Indigo operate regular flights to Guwahati.

2.3.7.ii Trade and Commerce

Trade and commerce is one of the most important economic activities. Being the capital of the State and the gateway of the NER, Guwahati, the class-1 city is a hub of trade and commerce. Guwahati city has all the infrastructural facilities for trade and commerce. Although, all the offices of the different departments of the Government (state

and central) sector as well as private sector are located within the Guwahati city, but it is not possible to provide employment facility to all the urban populace by Government as well as private sectors. Moreover Guwahati is becoming a million plus city. As a result, because of lack of alternative employment opportunity, the urban populace resort to trade and commerce. Being the hub of trade and commerce, there is a large number of business enterprises, factories and industries of different categories in different sectors - formal and informal. The business enterprises, factories and industries require to collect permit (no objection certificate)/licence before start their business/industrial/factory activities within Guwahati city from the Authority of GMC. There are total 51100 numbers[28] of business enterprises and 401 numbers of factories and industries[29] within the Guwahati city. The estimated employment of labour in the total 401 number of factories and industries is 13337.

2.3.7.iii Electricity

Electricity is the most important factor among all the factors required for development of an area as well as of its economy. Guwahati, being the capital city of the state, it requires huge amount of electric energy, because it is the centre point of the state economy. Guwahati had been the luck of getting electricity facility first in 1927.[30] After that, with the development of Guwahati city and extension of trade and commerce, industries/factories, extension of economic activities and population, the demand for electric power has increased. Including business enterprises, factories/industries and

household consumers, Guwahati city now requires on an average 48.629 million unit electric power per month.[31]

2.3.7.iv Banking and Insurance

The availability of banking and insurance network facilities are essential factors for commercial, industrial and economic development of a particular area. Guwahati city has the good network facilities of all these two basic development means. Banking and insurance sectors act as the mediator between depositors and borrowers (investors) in present time. Moreover insurance sector acts as the risk taker for the business community (viz. commodity traders, industrialists, wealth and real estates traders) of their losses due to natural calamities or uncertain incidents. There are government sector nationalised banks and regional banks as well as private sector banks in Guwahati city. The nationalised banks operating their business with their several branches in Guwahati city are- Allahabad Bank, Bank of Baroda, Central Bank of India, Canara Bank, Indian overseas Bank, Punjab National Bank, Punjab and Sind Bank, State Bank of India, UCO Bank, Union Bank of India, UBI Vijaya Bank, Assam Co-operative Apex Bank, Dena Bank, Syndicate Bank, Indian Bank and Urban Bank. There also exists the NER branch of the RBI in Panbazar. For industrial development, there are also IDBI, NABARD and SIDBI etc. in Guwahati city. On the other hand, the private sector banks (including MNCs) such as ICICI Bank, HDFC, Axis Bank, HSBC Bank, Standard Chartered Bank, City Bank, Indus Inn Bank and Deutche Bank etc. are operating in this city.

In respect of insurance, there are both government sector as well as private sector insurance corporations/companies working in Guwahati city. The government sector

insurance corporations/companies with their several branches in the city are LICI and GIC. LICI generally takes the risks of lives and GIC covers the risks of business enterprises, industries, wealth and real estates. The GIC has its three sub-branches – (i) Oriental insurance company (ii) New India insurance company and (iii) United India insurance company. Moreover, with these two insurance corporations/companies, there are two other institutions also to cover the life insurance. These are SBI life insurance and Postal life insurance (PLI) Schemes.

So far the private sector insurance companies are concerned; there are offices of several private sector insurance companies in Guwahati city. These private sector insurance companies, operating in Guwahati city are – (i) Reliance LIC, (ii) Bajaj Allianze LIC (iii) Tata AIG. LIC., (iv) HDFC Standard LIC, (v) ICICI Prudential LIC, (vi) Birla Sunlife Insurance Company, (vii) Max New York LIC, (viii) Met LIC and (ix) Bharatiya Extra LIC, etc.

2.3.7.v Communication

Communication in the form of postal and telecommunication (telegraph and telephone) is an essential measure for socio-economic development of a modern competitive society. It is during the British rule that the postal and telecommunication services were introduced and developed on modern lines in Assam. British introduced telegraph and telephone services in Guwahati in 1866 A.D.[32] and this introduced a cheaper, safer and prompt communication service. At present, the head Post office ‘Guwahati Post Office’ located in Panbazar in Meghdoot Bhawan, and it has several branches which are providing postal service to the public of Guwahati city. In this way the telegraph office “central Telegraph Office” located in Panbazar and the telephone

office “Bharat Sanchar Nigam Limited” (BSNL), located in Panbazar, with their several branches with in the Guwahati city, rendering good communicative services to the city populace as well as to the visitors and tourists. Like the Government sector communication measures there exists also a private sector communication measure in Guwahati city. The ‘Courier Service’ a private sector postal system and the Aircel, Airtel, Reliance and Vodafone are also private sector telecommunication measures. These measures are providing immense help to the people of Guwahati city.

So far the “Broadband Service” (Internet service) is concerned; it is transforming the world into a small village. A person can get any kind of information at home through ‘internet’ service of any places of the world without going there. The ‘Internet’ service is providing immense help to commerce, trade, education, culture, technology and tourism. In Guwahati city, this internet service is being provided by the government sector as well as private sector. Bharat Sanchar Nigam Limited (BSNL), the government sector organisation has been providing internet service since 2004 to its people. The private sector organisations/companies which are providing internet service to the people of Guwahati city are Airtel, Tata Indicom, Reliance, Satyam and Sify. Satyam, the private sector company has started providing internet service in the city from few years before. Some other private companies have started their Internet service from 2007 in Guwahati city.

2.3.7.vi Tourism and Its Infrastructure

Guwahati is bestowed with pure natural beauty that includes the greenery of the land, red rivers and blue hills. The tourists get attracted by these at their first sight.

Guwahati is a treasure land of varied colourful cultures glorified with old temples and monuments. The city has immense potential for tourism, since it is the gateway to the greenery land of NER. Tracing the history of tourism, it is seen that in 643 A.D., the Chinese tourist ‘Hiuen Tsang’ came to Pragjyotishpur and stayed in Guwahati for one month. He was fascinated by its natural beauty. At present, Guwahati city has all the infrastructural facilities for inflow of tourists to here. Guwahati is well connected by the all sorts of transportation measures viz. railway communication, surface/road transport communication and airlines communication. For the fooding and lodging of the tourists, there are various deluxe/semi deluxe and from the expensive to the budget hotels and Lodges. One can find various options for stays. The luxury hotels are comparable with the best in the country with good service and travel packages, car rental service. The Hotels and Lodges, recognised by the Assam Tourism Development corporation (ATDC) for tourist and are also available in and around Guwahati Municipal area like Hotel Brahmaputra Ashok, Hotel Dynasty, Hotel Rajmahal, hotel Nandan, Hotel Rituraj, Hotel Vikash international, Chilarai Regency, Pragati Manor, Hotel Belleue, Hotel VIP international, Hotel Bluemoon, Hotel Landmark, Hotel Prag Continental, Hotel Kuber International, Hotel Ambarish Vishwaratna, Hotel President, Hotel Starline, Hotel Embassy, Hotel Rajdoot, Hotel Nova, Hotel Alankar, Hotel Suradevi, etc. Lodges are like Prasanti, Assam Government Tourist Lodge (owned by ATDC Ltd.), Government State Guest House No. 1, and State Guest House No. 2, Circuit House, Railway Retiring Room, Hazi Musafirkhana, Satsang Vihar, YWCA (Chatribari), etc.

Tourist spots and places that a tourist can visit in and around Guwahati Municipal area like Kamakhya Temple, Navagraha Temple, Basistha Ashram, Umananda Temple, Tirupathi Balaji Temple, Srimanta Sankardev Kalakshetra, Sukreswar Temple, Assam

State Museum, Silpagram, Assam State Zoo-cum Botanical garden, Science Museum (Regional Science Centre), Planetarium, Dighali Pukhuri, Deepor Beel, River Cruise (at Panbazar), Tribal Museum, Ethnic Museum, Anthropological Museum and ARTFED Emporium.

Total number of tourists visited Guwahati City during 2008 was 506400, out of which total number of foreign tourists was 53628 and the national tourists were 452772. The total tourists visited Guwahati City during 2007 were 430440 among it total number of foreign tourists were 47949 and the national tourists were 382491.[33] The percentages of flow of foreign and national tourists to Guwahati City during the period 2007-2008 is 10.59 and 15.52 percent respectively and the percentage of total flow of tourists to the Guwahati City during this period is 15 percent as a whole.

2.3.7.vii Social Infrastructure

Social infrastructure is the first and foremost condition for quality and healthy living of the modern people of an area. Guwahati city has considerably good social infrastructure for quality and healthy living of its people in-respect of health facilities (Health and Hygiene), culture, sports and education. These social overhead infrastructures are stated briefly below.

2.3.7.vii (a) Health Facilities (Medical)

Guwahati city is an important centre for health facilities in eastern India. Many government and private specialty hospitals are available. The most important are the

Guwahati Medical college and Hospital, Guwahati Neurological Research Centre (GNRC), Down Town Hospital, B.Baruah Cancer Institute, Sankardev Netralaya, Mahendra Mohan Choudhury Hospital, Red Cross Hospital, Chatribari Christian Hospital, Railway Hospital, Marwari Maternity Hospital, Government Ayurvedic Hospital, International Hospital, T.B. Hospital, Navajivan (Rehabilitation centre), Sanjivanee Hospital, North-East Cancer Hospital & Research Institute and Dispur Poly clinic etc. Excluding government hospitals and laboratories, the total numbers of private sector health facilities are, (i) 51 numbers of Nursing Homes, (ii) 102 numbers of Diagnostic centres and clinical Laboratories and (iii) one Medicine Repacking industry.

2.3.7.vii (b) Health Facilities (Hygiene)

Maintaining good health of the urban populace is an important challenge in Guwahati city. The existing health (hygiene) infrastructure of Guwahati city is shown in Table 2.3.

Table 2.3: Health Facilities Infrastructure and their Enterprises/Arrangements

Sl. No.	Name of Enterprises/Arrangements	No. of Enterprises/Arrangements
1	Lodge	306
2	Fooding & Lodging	27
3	Restaurant	465
4	Bar & Restaurant	71
5	Tea & Sweets	167
6	Bhojanalaya	304
7	Sweet Selling	175
8	Sweet factory	66
9	Cake Biscuits	32
10	Canteen	11
11	Fast Food	100
12	Chaat House	13
13	Dhaba	21
14	Bibah Bhawan	43

15	Coffee and Snacks	13
16	Ice Cream	2
17	Juice Corner	14
18	Paying Guest	23
19	Catering	19
20	Cold Drinks	4
21	Beer Bar	3
22	Beauty Parlour	4
23	Club	1
24	Clod Storage	4
25	Lassi Corner	1
26	Mineral Water	1
27	Bakery	104
28	Girls' Hostel	86
29	Boys' Hostel	13
30	Parks	12
31	Cinema Halls (Entertainment)	15
32	Amusement	4
	Total Enterprises/Arrangements	2124

Sources: i) www.guwahatimunicipalcorporation.com
ii) GMC Office, Ulubari Branch, Guwahati.

2.3.7.viii Sports

Guwahati city has considerably good sports infrastructure. The Nehru Stadium and the Kanaklata indoor Stadium in R.G. Baruah Sport complex in Ulubari locality are two of the old sports complexes in the city. There are smaller stadiums like the N.F. Railway Stadium in Maligaon and the SAI (Sports Authority of India) sports complex in Paltan Bazar.

Recently completed sports infrastructure specially constructed for the 33rd National Games includes a large stadium at Sarusajai-the Indira Gandhi Athletic Stadium, the Dr. Zakir Hussain Aquatic Complex, and the Karmabir Nabin Chandra Bordoloi A.C. Indoor Hall. Other new sports infrastructure includes the Maulana Md. Tayabullah Hockey Stadium in Bhetapara, the Deshbhakta Tarun Ram Phookan Indoor Stadium in Ulubari, Rajib Gandhi Indoor Stadium in Amingaon, and Tennis Complex in Chalchal.

The other renovated sports complexes include - Ganesh Mandir Indoor stadium, Khanapara, Rudra Singha sports complex, Dispur and Gauhati University Sports Stadium.

Moreover, along with the Brahmaputra, there are many lakes and rocky hillocks in the city, suitable for various water and adventure sports.

2.3.7.ix Education and Cultural Hub

Guwahati is the centre point for academics, culture and art, social fineries and intellectual pursuits not only for the state of Assam, but also for the entire north-east India. To spread and develop the English education in Assam, the then British colonial rulers started a primary school named ‘Gauhati Cheminary’ in 1834. Actually, as the centre of intellectual excellence, Guwahati started since 1901 with the establishment of Cotton College. To educate the Assamese people, the British rulers helped to establish the Nabin Chandra Bordoloi Library in 1908. For socio-cultural study and to develop the cultural aspects of the Assamese society, the colonial rulers established the ‘Department of Historical and Antiquarian studies” in Kachari. With the establishment of Gauhati University in Jalukbari in 1948, Guwahati city has possessed great scholastic and cultural values. The Assam Engineering College and the Gauhati Medical College and Hospital are the two important institutions for science and technology and medical education. Among the city’s many other institutions of higher learning, which have the great influence on the academic and intellectuals fields not only in the state but in entire NER, are the Guwahati Commerce College, Arya Vidyapeeth College, B. Borooah College, Pragjyotish College, College of Veterinary Science, Handique Girls College, Assam

Engineering Institute (Engineering Diploma Courses), Pandu College, Guwahati College, LCB College, West Guwahati Commerce College, K.C. Das Commerce College, R.G. Boruah College, Krishna Kanta Handique Sanskrit College etc. With these government institutions, there are other several private higher institutions also.

The Indian institute of Technology Guwahati (IIT-G) is the sixth member of the high-profile world's renowned IITs in India. Since its establishment in 1994, IIT-G has proven itself as an excellent institution for research and education, evidenced by its high ranking among the IITs in India as reported by a variety of national surveys such as India Today and Dataquest.

In respect of fine arts and culture, the college of Fine Arts and Craft established in Basistha and Directorate of cultural Affairs located in Ambari contributing a great deal in this field. The other institutions offering great effective and constructive help in the development of art and culture are Sankardeva Kalakshetra, Kumar Bhaskar Natya Mandir, Pragjyotika, Vivekananda Kendra, Swahid Nyas Bhawan, District Library and Guwahati planetarium etc.

2.4 Methodology

Our study is essentially primary data based. Primary data in respect of IMPUs for the year 2007 (June-July) are collected from the sample enterprises by administering a schedule – cum-questionnaire through personal interview. The data were collected from the owners of these sample enterprises. The important information sought through the schedule-cum-questionnaire are:

i. Identification and operating characteristics of the enterprise.

ii. Extent of income and employment generation.

iii. Constraints under which they operate.

iv. The ways and means adopted by them to over come the constraints.

v. Their access to various organisations, institutions, markets and resources.

The focus of our study is the IMPUs as defined in the previous chapter.

The analysis and presentation of field data have been undertaken with the help of tables, ratios, simple percentages, growth rates, measures of central tendencies, correlation coefficients and multiple regression models.

The regression models used are as follows.

Model-1 is used to determine the association between output of the IMPUs and size of the firm, fixed capital, working capital and size of the firm.

I. $Y = a + b_1 X_1 + b_2 X_2 + b_4 X_4 + b_5 X_5$

Where ‘a’ is the intercept

And model-11 is used to determine the association between output of the IMPUs and size of the firm, productive capital and age of the firm.

II. $Y = a + b_3 X_3 + b_4 X_4 + b_5 X_5$

Where ‘a’ is intercept

As the earnings of the entrepreneurs are concerned, the following regression models are used.

Model-1 is used to determine the association between total output of the IMPUs and age, education, sex, family size and caste.

I. $Y = a + b_1 X_1 + b_2 X_2 + b_3 X_3 + b_4 X_4 + b_5 X_5$

Where ‘a’ is the intercept

Model-II is used to determine the association between total sales turnover of the IMPUs and age, education, sex, family size and caste.

II. $Y = a + b_1 X_1 + b_2 X_2 + b_3 X_3 + b_4 X_4 + b_5 X_5$

Where ‘a’ is the intercept

And model-III is used to determine the association between total gross profits of the IMPUs and age, education sex, family size and caste.

III. $Y = a + b_1 X_1 + b_2 X_2 + b_3 X_3 + b_4 X_4 + b_5 X_5$

Where ‘a’ is the intercept

2.5 Sample Selection

The universe of IMPUs with employment size of less than 10 workers including the owner/operator and members and relatives was derived by pulling together the lists of all those milk producing units in the private sector provided by the Milk Producing Co-operative Societies of the Guwahati City. There are eight Milk Producing Co-operative

Societies in Guwahati City. These Societies are (i) 13th Mile Tamulikuchi Milk Co-operative Society (ii) Jorabat Dudh Udpadak Samabay Samittee (iii) 11th Mile Amerigug Milk Producers' Co-operative Society (iv) 10th Mile Belguri Primary Milk Producers' Co-operative Society (v) 9th Mile Sivapur Marenga Basti Milk Producers' Co-operative Society (vi) 8th Mile Ganesh Mandir-Kali Mandir Dudh Udpadak Samabay Samittee (vii) Khanapara Primary Milk Producers' Co-operative Society and (viii) Maligaon Milk Producers' Co-operative Society. These societies are registered under the Society Act 1949 of Assam. Again, these societies work under two bigger organisations/plat forms-one is 'Greater Guwahati Gu-Palak Santha' and another is 'Brihattor Guwahati Gu-Palak Santha'.

On the basis of such a pulling together exercise, it was found that the universe consisted of about 601 IMPUs. Considering the facts that this research project is not financed by any external agency and this individual researcher had to meet all the expenditures in connection with this research work from his own sources, we had initially taken a sample of 1/3rd (around 33 %) of the universe which came to 200 units. These sample units were selected from the universe by means of simple random sampling method.

2.6 Issues Raised

The important research issues raised in this study are: Does this sector have any strength? And if yes, what should be the appropriate intervention strategy to support this sector? Do the IMPUs promote higher employment opportunities and income distribution as conceived? Do they depend heavily on informal finance for their capital needs and

growth? Is there any link between IMPS and FS? And if any, is it supportive or exploitative?

2.7 Objectives of the Study

The specific objectives of the study are as follows:

(i) To examine the operational characteristics of the IMPUs.

(ii) To examine the output and employment structure of the IMPUs.

(iii) To analyse the capital and cost structure of the IMPUs.

(iv) To examine the finance pattern of these units and to find the importance of informal and formal finance in it.

(v) To study the nature and types of linkages between the IMPUs and the FS.

(vi) In the light of the findings, to specify appropriate policy measures.

2.8 Hypotheses

The following hypotheses have been formulated to be tested in the course of investigation of this study.

(i) IMPUs provide higher output and employment for unit of capital vis-à-vis FS.

(ii) Informal credit plays an important role in financing the productive capital requirements of the IMPUs.

(iii) Growth of IMPUs depends on the FS of the urban economy.

(iv) Socio-economic factors like education, age, caste, and size of the family of the producers/entrepreneurs influence the income levels of IMPUs.

2.9 Outline and Plan of the Study

The study is organised in seven chapters and the scope of each chapter is as follows:

Chapter – I entitled “Introduction and Review of Literature” deals with the origin, evolution, working definition and significance of IS.

The present Chapter (i.e. Chapter - II) “Data and Methodology” provides a brief description of Methodology (sampling process, data collection sources etc.) area, objectives, hypotheses and plan of the study.

The third Chapter is entitled as “Structure and Operation of Informal Milk Producing Units”. It gives an account of the identification characteristics of the IMPUs, their employment, output, capital structures and other operational characteristics.

In the fourth Chapter “Sources of Finance and Informal Milk Producing Units” an attempt is made to analyse the pattern and role of finance (both formal and informal) in the growth of IMPUs.

Fifth Chapter entitled “Linkage Patterns in the Informal Milk Producing Sector” deals with the various kinds of linkages that the IMPUs are having with different agencies. It also explains the implications of such linkages for the IMPUs.

The sixth Chapter “Profile of the Entrepreneurs in the Informal Milk Producing Sector and the Determinants of their Income” explains the personal characteristics of the entrepreneurs and their earning potentials.

The last Chapter is entitled “Summary, Conclusion and Policy Implications”. It summaries the findings of the study and provides relevant suggestions for policy formulation on the part of the government and other relevant bodies.

Notes

[1] Saikia, S.K. (2004), “Prospects of Dairy Industry in Assam”. ‘Prantik’, Vol. XXII, No. 11, 1-15 May, p. 14.
[2] See ‘Assam Year Book’, 2006, Published by Saraighat Prakashan, Bamunimaidan, Guwahati, Assam, 5th edition, December, 2005, pp. 153-154.
[3] Ibid.
[4] See ‘Economic Survey’, Assam, 2003-04, Directorate of Economics and Statistics, Govt. of Assam, Dispur, Guwahati, p. 7.
[5] See ‘Statistical Hand Book’, Assam, 2002, Directorate of Economics and Statistics, Govt. of Assam, Dispur, Guwahati, pp. 6-7.
[6] See Dhar, P.K., “A Text Book of Higher Secondary Economics”, Published by S.K. Ghosh for Asomi Prakashani, Bongaigaon, Assam, 2005, pp. 321-322.
[7] See ‘Economic Survey’, Assam, 2003-04, Directorate of Economics and Statistics, Govt. of Assam, Dispur, Guwahati, p. 13.
[8] NEDFi (2006), *Quarterly Journal of North Eastern States Economy (Horticulture)*, Vol. 5 (1), pp. 5-6.
[9] See “Natun Asomiya Bhuchitrawali”, Assam Book Depot, Published by Smti. Renuka Guha, Guwahati, 1995, p. 16.
[10] See ‘Guwahati City Guide’, Published by the Directorate of Tourism, Assam, Guwahati, 2008.
[11] See ‘Society and Politics in Assam’ Written by Konwar, N., Published by Binod Nath, Book Land, Guwahati, Reprint 2007, pp. 1-3.
[12] See ‘Axamar Itihax’ written by Meena Barkatoky, Published by Axam Jatiya Vidyalaya Siksha Sangshad, 4th edition, 2007, pp. 39-42.
[13] See ‘Assam History (1228-1826)’, Written by Hussain, T.A., 3rd and Enlarged edition, 2004-04, Published by M. Hazarika on behalf of Banalata, Dibrugarh, pp. 19-190.
[14] See ‘Ajir Dainik Batori’, An Assamese Daily Newspaper, Published on 6th August 2006.
[15] See ‘Amar Asom’, An Assamese Daily Newspaper, Published on 25th September 2007
[16] See ‘Ajir Dainik Batori’, An Assamese Daily Newspaper, Published on 6th August 2006.
[17] Official Records of GMC, Ulubari Zone, Guwahati.
[18] See ‘Guwahati City Guide’, Published by the Directorate of Tourism, Assam, Guwahati, 2008.
[19] See www.guwahatimunicipalcorporation.com

[20] See 'Amar Asom', An Assamese Daily Newspaper, Published on 25th September 2007
[21] See www.guwahatimunicipalcorporation.com
[22] See 'Statistical Hand Book', Assam, 2002, Directorate of Economics and Statistics, Govt. of Assam, Dispur, Guwahati, p. 9.
[23] The following procedure is used to calculate the informal sector employment in Guwahati City.
(i) Total business enterprises are in Guwahati City = 51100.
(ii) Total No. of Lodges, Restaurants, Sweet Centres, Tea Stalls, Coffee & Snack Bars, Hostels, Bibah Bhawan, Fast Food Stalls, Beauty Parlours, etc are 2194
Total Establishments/Enterprises = 53294.
Each establishment/enterprises employ on an average 3 persons including self employed. It comes to total employment = 53294 x 3 = 159882 persons.
On the other hand calculated daily wage Labourers in Guwahati City is 11800 persons (The Assam Tribune, An English Daily Newspaper, 1st and 2nd May 2008)
So, Total informal sector workers in Guwahati City are 159882+11800= 171682 persons (1.72 lakh rounded off)
[24] See 'Asomiya Khabar', An Assamese Daily Newspaper, published on 21st June 2007.
[25] The Assam Tribune, An English Daily Newspaper, 31st December 2008.
[26] See 'Asomiya Pratidin', An Assamese Daily Newspaper, published on 20th February 2009.
[27] See www.guwahatimunicipalcorporation.com
[28] Official Records of GMC, Central Zone, Guwahati, April 2009.
[29] Official Records of the Inspector of Factories, Guwahati, April 2009.
[30] See 'Ajir Dainik Batori', An Assamese Daily Newspaper, Published on 6th August 2006.
[31] Official Records of the State Electricity Board, Paltan Bazar Division, Guwahati, May 2009.
[32] See 'Economic Problems of Assam' Written by Choudhary, R.K., Published by Hiranya Bharati on behalf of M/s Kitapghar, Panbazar, Guwahati, 2nd edition, January, 1991, pp. 36-38.
[33] Compiles Figures based on the data collected from the Directorate of Tourism, Government of Assam and Published data, Published in Asomiya Pratidin, An Assamese Daily Newspaper, published on 18th February 2009.

CHAPTER – III

STRUCTURE AND OPERATION OF INFORMAL MILK PRODUCING UNITS

3.1 Introduction

A good number of studies undertaken in the distant and recent past on the structure and operation of the IS enterprises have explained the IS to be characterised by small scale operation, low capital base, flexibility with respect to capital employment, labour employment, input use and output disposal, family ownership and low productivity etc. Some studies (e.g. Guisinger and Mohammed, 1980) show that IS is equally productive in comparison to FS, and even in some cases the productivity of IS workers is higher than those of unskilled workers in FS (Waldorfs, 1983). However, some studies also bring out a great deal of overlap between incomes and productivity in the two sectors (Bromley, 1979; Nelson, 1979)[1].

Quite a number of other studies too established that the IS units are basically proprietary firms. Studies also confirm the various heterogeneities prevalent in this sector.

It is against the backdrop of these observations we undertake an analysis of the structure and operation of the IMPS in the city of Guwahati.

3.2 Identification

3.2.1 Enterprises

Production and distribution of milk happen to be an important activity in the IS in the city of Guwahati. This activity is widely undertaken by a section of under privileged urbanites popularly called as Gowalas. These informal producers mostly carry out their activities either in the far end of the urban boundaries or open spaces available in the city of Guwahati.

Analysis of our data reveals that, all the sample IMPUs in our sampling frame are household enterprises. In majority of the cases, the enterprise is basically under the control of the family headman. However, in few cases members other than the household head might have become the operational head of the enterprise.

In our study, out of 200 sample units of the IMPUs, only two enterprises are found to be partnership units and the rest are proprietary ones. The table 3.1 shows the distribution of ownership/proprietorship of the IMPUs of the sample units of the sampling frame.

Table 3.1: Distribution of Sample IMPUs by Ownership/Proprietorship

Type of Ownership/ Proprietorship	No. of Sample IMPUs/Enterprises (in No.)	Percentage to Total Sample Units/Enterprises
Proprietary	198	99
Partnership	2	1
Total	200	100

Note: Two enterprises, each are jointly managed by two owners.
Source: Field Data

None of the selected IMPUs is in Slum areas. The average distance of location of the sample IMPUs from the main road is 1.283 kms. The lowest distance is 0.1 km and highest distance is 2.99 kms. The maximum numbers of IMPUs are within the distance range of 1-1.49 kms from main road and their number is 80 and the percentage to the total sample units is 40 (Table 3.2). The table 3.2 shows the distance distribution of the enterprises of the sample units of the sampling frame.

Table 3.2: Distribution of Sample IMPUs by Distance from Main Road

Range of Distance of Sample IMPU from Main Road (in Km)	No. of Sample Units/Enterprises (in No.)	Percentage to Total Sample Units/Enterprises
Less than 0.50	28	14

0.50 – 0.99	17	8.5
1.00 – 1.49	80	40
1.50 – 1.99	17	8.5
2.00 – 2.49	55	27.5
2.50 – 2.99	3	1.5
Total	200	100

Source: Field Data

The entrepreneurs of the sample IMPUs are found for both the sexes. Out of sample 200 IMPUs, 7 entrepreneurs are female but all of them are married. The total numbers of male entrepreneurs are 195 constituting 96.5 percent to the total sample units and 3 of them are unmarried and the rest are married (Table 3.3).

Table 3.3: Distribution of Ownership of Sample IMPUs by Sex and Marital Status

Sex of the Owner	Marital Status		No. of Owner of Sample Enterprises (in No.)	Percentage to Total Sample Enterprises
	Married	Unmarried		
Male	192	3	195	96.5
Female	7	-	7	3.5
Total	199	3	202	100

Note: Two enterprises, each are jointly managed by two owners.
Source: Field Data

Type of work place (cow-sheds structure) distinguishes them clearly from the FS units. Generally the FS units are located in permanent buildings. Out of 200 sample IMPUs of our sampling frame, 71 IMPUs have pucca cow-sheds, which is 35.5 percent of the total sample units. 129 IMPUs have kutcha cow-sheds. This constitutes 64.5 percent of the total sampled IMPUs. The table 3.4 shows the details of the nature of work place.

Table 3.4: Distribution of Sample IMPUs by Nature of Work Place (Cow-Sheds Structure)

Nature of Work Place (Cow-sheds Structure)	No. of Sample Enterprises (in No.)	Percentage to Total Sample Enterprises
Pucca	71	35.5
Kutcha	129	64.5

Total	200	100

Source: Field Data

Of the total 200 IMPUs of the sampling frame, total 33 (16.5%) have their own land and premises to operate. 78 (39%) IMPUs have encroached upon government land and operating there from. The rest 89 (44.5%) IMPUs are operating in hired land. These operational details are given in table 3.5.

Table 3.5: Distribution of Sample IMPUs by Ownership or Otherwise of Operating Land

Place of Operation	No. of Sample Enterprises (in No.)	Percentage to Total Sample Enterprises
Own Land	33	16.5
Rented Land	89	44.5
Encroached Government Land	78	39
Leased Land	-	-
Community Land	-	-
Total	200	100

Source: Field Data

Electricity is an important input for running an enterprise.

This is also true for the surveyed IMPUs. Most of the IMPUs regularly use electric fans inside their cow-sheds to keep the temperature low, so that milch animals are spared from the heat. Many of these units also use electricity to pump in water and wash their animals and cow-sheds with the help of this water. Altogether 182 (91%) IMPUs have access to electric power and the rest 18 (9%) IMPUs do not have access to such power source. The details are provided in table 3.6.

Table 3.6: Distribution of Sample IMPUs by Use of Power

Electricity/Other Power Used	No. of Sample Enterprises (in No.)	Percentage to Total Sample Enterprises
IMPUs Using Electricity	182	91
IMPUs without Using Electricity and Other Types of	18	9

Power		
Total	200	100

Source: Field Data

If the IMPS units were transitory in nature, the enterprises in this sector should not be generally very old. But we find from our study that the average age of an IMPU of the greater Guwahati city is about 31.78 years (rounded 32 years). About 86 percent IMPUs are over 10 years old and over more than half i.e., 57.5 percent IMPUs are more than 30 years old (Table 3.7). The table 3.7 also shows that the second largest number 32 of sample IMPUs falls within the age range of 21-30 years which constitutes 16 percent of the total sample enterprise, e.g. IMPUs. The value of standard deviation (13.044) of the age of the sample IMPUs of the Guwahati city reveals that the existence of segmentation among the IMPUs with respect to age is least (Table 3.7).

Table 3.7: Distribution of Sample IMPUs by Age

Age Range of IMPU (in Years)	No. of Sample Units/Enterprises (in No.)	Percentage to Total Sample Units/Enterprises
1 – 2	1	0.5
3 – 6	5	2.5
7 – 10	22	11
11 – 20	25	12.5
21 – 30	32	16
More than 30	115	57.5
Total	200	100
Standard Deviation of the Age of the Sample IMPUs = 13.044		

Source: Field Data

3.2.2 Employment Structure

On an average, a unit in our sample, employs 5.92 (rounded 6) persons including self-employed, family workers, child workers and hired/wage workers. The total number of workforce employed by the sample units is 1183. Of these 1183, 996 (84.19%) are regular labourers and 187 (15.81%) happen to be part time labourers. Family labour force constitutes 79.04 percent of the total employment. Male labour force constitutes 72.44 percent and female labour force forms 27.56 percent of the total employment. The family work force per unit on an average is 4.68 persons of the sample IMPUs. Hired workers constitute one-fifth ($1/5^{th}$) of the total employment in the IMPS. The total number of hired workers of the sample IMPUs is 248. The number of hired workers per unit is 1.24 only. There is also prevalent of child labour in the IMPS. The total number of child labourers is 79, out of which 42 happen to be male labourers and 37 are female labourers. In percentage terms, employment of child labour forms 6.68 percent of the total employment in the IMPS. The low value of standard deviation (2.433) of the size of the enterprise of the sample IMPUs indicates the existence of least segmentation among the sample IMPUs. The details of the employment structure of the sample IMPUs of the sampling frame are given in table 3.8.

Table 3.8: Employment Structure of the Sample IMPUs

				Number	Percentage to Total Workforce
Total Family Labour Force Engaged in the Sample IMPUs (in No.)	Full time Labour	Adult	Male	460	38.88
			Female	209	17.67
			Total	669	56.55
		Child	Male	42	3.55
			Female	37	3.13
			Total	79	6.68
	Full time Total		Male	502	42.43
			Female	246	20.79

		Total	748	63.23
	Part time Labour (Adult)	Male	107	9.04
		Female	80	6.76
		Total	187	15.81
	Total Family Labour	Male	609	51.48
		Female	326	27.56
		Total	935	79.04
Wage/Hired Labour Engaged in the Sample IMPUs (in No.)		Male	248	20.96
		Female	-	-
		Total	248	20.96
Total fulltime workforce/labourers		Male	750	63.4
		Female	246	20.79
		Total	996	84.19
Total Workforce Engaged in the Sample IMPUs (in No.)		Male	857	72.44
		Female	326	27.56
		Total	1183	100
Average Workforce Employed per Sample IMPU (in No.)	Average Family Labour	Male	3.05	
		Female	1.63	
		Total	4.68	
	Total Average Workforce	Male	4.29	
		Female	1.63	
		Total	5.92	
	Average Hired Labour	Male	1.24	
		Female	-	
		Total	1.24	
Standard Deviation of the Size of the Firm (Enterprise) of the IMPUs = 2.433				

Source: Field Data

The total number of fulltime family workforce of the sample units including the self-employed persons[2] and child labour are 748 persons, where male workforce is 502 persons and female workforce happens to be 246 persons, which constitutes 63.23 percent of the total workforce. The share of male, female (adult) and child workforce to the total fulltime family workforce is 61.5 percent, 27.94 percent and 10.56 percent respectively. The fulltime family workforce per unit is 3.74 persons of the sample IMPUs. The table 3.9 shows the details of the fulltime family workforce.

Table 3.9: Fulltime Family Workforce/Labour Employment Structure of the Sample IMPUs

Adult (in No.)			Child (in No.)			Total Fulltime family Workforce (in No.)			Average Fulltime Family Workforce per Sample Unit		
Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
460 (68.76) [61.50]	209 (31.24) [27.94]	669 (100) [89.44]	42 (53.16) [5.61]	37 (46.84) [4.95]	79 (100) [10.56]	502 [67.11]	246 [32.89]	748 [100]	2.51	1.23	3.74

Note: (i) Values in Parentheses ( ) indicate percentage to the total of respective sub-head.
(ii) Values in bracket [ ] indicate percentage to the total of fulltime work force.
Source: Field Data

Total part time family workforce of the sample IMPUs of our sampling frame is 187, out of which 107 happen to be male workforce and 80 are female workforce. In percentage terms, male part time family workforce constitutes 57.22 percent and female part time family workforce forms 42.78 percent of the total part time family workforce. The share of part time family workforce to the total workforce is 15.81 percent. The table 3.10 shows the details about the part time family workforce.

Table 3.10: Part-time Family Workforce Employment Structure of the Sample IMPUs

Adult (in No.)			Child (in No.)			Average Fulltime Family Workforce per Sample Unit		
Male	Female	Total	Male	Female	Total	Male	Female	Total
107 (57.22)	80 (42.78)	187 (100)	-	-	-	0.54	0.40	0.94

Note: Parentheses ( ) indicate percentage to total.
Source: Field Data

About 34 percent units have no hired employee, 26.5 percent units are single hired employee establishments, 24 percent units have 2 hired employees, 13 percent units have 3 hired employees and 2 percent and 0.5 percent units of our sample units have 4 and 5

hired employees respectively. All the salary/wage paid employees are male employees and all of them are migrants from the rural areas. Most of the employees are Assamese speaking Nepali community. A few employees are from the Adivasi community and they speak Assamese and Hindi also. The Table 3.11 shows the distribution of employees employed by the sample units.

Table 3.11: Distribution of Hired Worker/Employee Employed by the Sample Units

No. of Hired Worker(s) Employed	No. of IMPUs (in No.)	Total No. of Hired Worker(s) Employed
0	68 (34)	0
1	53 (26.5)	53
2	48 (24)	96
3	26 (13)	78
4	4 (2)	16
5	1 (0.5)	5
Total	200 (100)	248

Note: Figures in parentheses ( ) indicate percentage.
Source: Field Data

3.2.3 Capital Structure

Capital is one of the most important factors of production in any enterprise. The dynamics concerning capital use have its effects on the productivity and the growth of business enterprises. The total or productive capital[3] of an informal enterprise consists of two major components – 'fixed capital' and 'working capital'.

In calculation of fixed capital and assets[4] of the sample IMPUs, we have taken into consideration the present value of cattle population, cow-sheds, stores & buildings and tools & machines used for the operation of the enterprise. In the fixed capital and assets' sub-head of the sample units, the total capital comes to Rs. 138794600

constituting 98.51 percent of the total productive capital (Table 3.12). The share of cow-sheds, stores & buildings and tools & machines to this fixed capital and assets' sub-head is only 7.55 percent and 2.05 percent respectively, which is very nominal. Value of cattle population to the total value of this sub-head fixed capital and assets' is 90.4 percent.

In an informal dairy enterprise cattle population especially milch cattle population is the prime fixed capital. The volume of milk production and the extent of dairy business depend on the number of milch cattle population. The male cattle population is also important for breeding purpose. The economically viable life span of this type of fixed capital is more than 10 years, whose value at first appreciates and after a certain point of time, its value starts to depreciate. This type of unique character is seen only in case of this type of fixed capital. On the day of survey, the total present value of fixed capital i.e., cattle population of the sample IMPUs comes to Rs. 125466000, which is the main component of the value of fixed capital and assets' and its share is 90.4 percent to the total value of this sub-head, i.e., fixed capital and assets. The contribution of this fixed capital (i.e. value of cattle population) of the sample IMPUs to the total productive capital of the units is also 89.05 percent (Table 3.12).

On the day of survey, for calculation of working capital[5] of the sample IMPUs, we have taken into consideration the present value of the components of cattle feeds, fuels, other stores (cow-dung) and the total amount of money which is kept cash in hand and bank for operation of the milk producing enterprises. In this sub-head of working capital, the total amount of capital of the sample IMPUs comes to Rs. 2096853. This share is 1.49 percent to the total productive capital (Table 3.12). In this category of capital, the major source happens to be the value of cattle feeds and fuels (76.32%). The contribution of stores and cash in hand and bank comes to 0.69 percent and 22.99 percent

respectively. The fixed capital and assets, working capital and productive capital, per workforce and per enterprise of the sample IMPUs are 117324.26, Rs. 693973, Rs. 1772.49, Rs. 10484.27, Rs. 119096.75 and Rs. 704457.27 respectively (Table 3.12).

The value of standard deviation of the total productive capital of the sample IMPUs is the highest (403018.997) in compares to the values of standard deviations of fixed capital and assets, working capital, and the total value of cattle population of the sample units, which indicates the existence of segmentation among the sample IMPUs in the city of Guwahati in respect of total productive capital employed. The details of the capital structure of the sample IMPUs are shown in table 3.12.

Table 3.12: Distribution of Capital Structure of the Sample IMPUs (2006-07)

Head of Capital	Type of Capital	Total Present Value (Rs.)	Average Value per Sample Unit (Rs.)	Average Value per Workforce (Rs.)
A. Fixed Capital and Assets	Cow-sheds, stores & buildings	10478000 (7.44) [7.55]	52390	8857.14
	Tools & machines and others	2850600 (2.02) [2.05]	14253	2409.64
	Cattle Population	125466000 (89.05) [90.4]	627330	106057.48
	Total of Fixed Capital and Assets of Sample IMPUs	138794600 (98.51) [100]	693973	117324.26
B. Working Capital	Value of Cattle Feeds & Fuels	1600343 (1.14) [76.32]	8001.72	1352.78
	Stores Value (Cow-dung)	14400 (0.01) [0.69]	72	12.17
	Cash in Hand and Bank for Operation of the Enterprise	482110 (0.34) [22.99]	2410.55	407.53

	Total of Working Capital of Sample IMPUs	2096853 (1.49) [100]	10484.27	1772.49
Total Productive Capital of Sample IMPUs (A+B)		140891453	704457.27	119096.75
Standard Deviation of the Fixed Capital and Assets Value of the Sample IMPUs = 397380.30				
Standard Deviation of the Working Capital of the Sample IMPUs = 6123.851				
Standard Deviation of the total Productive Capital of the Sample IMPUs = 403018.997				
Standard Deviation of the total Value of the Cattle Population of the Sample IMPUs = 369931.302				

Note: (i) Values in Parentheses ( ) indicate percentage to the total Productive Capital.
(ii) Values in brackets [ ] indicate percentage to their respective Sub-Head Total.
Source: Field Data

Productive capital per sample unit is Rs. 704457 and productive capital per work force on an average is Rs. 119096.75 (Table 3.12). Productive capital for different sizes of the sample units is different. Majority (36.5%) of sample units have the productive capital that ranges between Rs. 2 lakhs to less than Rs. 6 lakhs. Only 1.5 percent units have productive capital within the ranges of Rs. 18 lakhs to less than Rs. 22 lakhs. Total 7 percent of the sample units have the productive capital less than Rs. 2 lakhs. The distribution of sample units by size of productive capital is shown in table 3.13.

Table 3.13: Distribution of Sample IMPUs by Productive Capital Size (2006-07)

Productive Capital Group (lakh Rupees)	No. of Sample IMPUs/ Enterprises	Percentage to Total Sample IMPUs/Enterprises
Less Than 2	14	7
2 to less than 6	73	36.5
6 to less than 10	70	35
10 to less than 14	31	15.5
14 to less than 18	9	4.5
18 to less than 22	3	1.5
Total	200	100

Source: Field Data

The volume of fixed capital (including assets) and working capital for different individual sample units are different.

The distribution of sample IMPUs by fixed capital and assets size is given in table 3.14. This table reveals that the IMPUs in the city of Guwahati is characterised by heterogeneity in the fixed capital and assets structure. Highest percentage of sample IMPUs (38%) has a fixed capital and assets base, the ranges between Rs. 2 lakhs to less than Rs. 6 lakhs. Again around 79 percent of the sample IMPUs have fixed capital and assets base, that is less than Rs. 10 lakhs. Only 1 percent units have the fixed capital within the ranges between Rs. 18 lakhs to less than Rs. 22 lakhs. On the other hand, more than one-fourth (26.5%) of the sample IMPUs have a working capital base that ranges between Rs. 6 thousand to less than Rs. 10 thousand. Further, more than half (52.5%) of the sample IMPUs having working capital base that is less than Rs. 10 thousand. The lowest 1 percent units have working capital base within the ranges between Rs. 26 thousand to less than Rs. 30 thousand. Only 3 percent of the sample units have the working capital base less than Rs. 2 thousand. The table 3.15 gives the details of the distribution of working capital of the sample units.

Table 3.14: Distribution of Sample IMPUs/Enterprises by Fixed Capital and Assets Size (2006-07)

Range of Fixed Capital and Assets (Lakh Rupees)	No. of Sample IMPUs/ Enterprises	Percentage to Total Sample IMPUs/Enterprises
Less than 2	14	7
2 to less than 6	76	38
6 to less than 10	67	33.5
10 to less than 14	34	17
14 to less than 18	7	3.5
18 to less than 22	2	1
Total	200	100

Source: Field Data

Table 3.15: Distribution of Sample IMPUs/Enterprises by Working Capital Size (2006-07)

Range of Working Capital (Thousand Rupees)	No. of Sample IMPUs/ Enterprises	Percentage to Total Sample IMPUs/Enterprises
Less than 2	6	3

2 to less than 6	46	23
6 to less than 10	52	26.5
10 to less than 14	43	21.5
14 to less than 18	34	17
18 to less than 22	12	6
22 to less than 26	5	2.5
26 to less than 30	2	1
Total	200	100

Source: Field Data

3.2.4 Cost Structure

The details of the cost structure concerning the sample IMPUs is given in table 3.16.

Table 3.16: Total Annual Cost Structure (Monetary Value) of the Sample IMPUs (2006-07)

Head of Cost		Total Cost (Rs.)	Percentage to Total Cost
A. Fixed Cost or Overhead Cost	Rent for Hired Land, Cow-sheds and Stores & Buildings	211560 (20.93)	0.18
	Imputed Rent for Own Land, Cow-sheds and Stores & Buildings	799200 (79.07)	0.69
	Total Fixed Cost (A)	1010760 (100)	0.87
B. Variable Cost	Cost for Feeds & Concentrate	71622097 (67.07)	61.53
	Cost for Green Grass	21401775 (18.55)	18.39
	Wages for Hired Workers/Employees	7668000 (6.64)	6.59
	Electricity Cost	212772 (0.18)	0.18
	Insurance Charges	1017000 (0.88)	0.87
	Breeding Related Expenditure	179250 (0.16)	0.15
	Dry Straw, Fuels, etc	920400 (0.8)	0.79
	Medicine and Health-care Expenditure of Cattle Population	737840 (0.64)	0.63

	Interest Paid on Loans/Borrowings	Interest Paid to Banks (SBI)	2654946 (2.3)	2.28
		Interest Paid to Money Lenders	333600 (0.29)	0.29
	Maintenance cost of Fixed Capital and Assets (Depreciation Cost)		8570000 (7.43)	7.36
	Other (Telephone Bill, Meeting Expenditures, Communication Charges, Bank Procedure Charges, etc) Charges		70645 (0.06)	0.06
	Total of Variable Cost (B)		115388325 (100)	99.13
Total Annual Cost of Sample IMPUs (A+B)			116399085	100
Average Cost per Sample Unit			581995.43	-
Average Cost per Workforce			98393.14	-
Standard Deviation of the total Annual Cost of the Sample IMPUs			324306.198	

Note: Figures in parentheses ( ) indicate percentage to their respective sub-head total.
Source: Field Data

In calculation of total cost of the sample IMPUs, we have included all the inputs cost that are required to operate a milk producing enterprise. Total annual cost of the sample IMPUs consists of two components – one is fixed cost or overhead cost and the other cost is variable cost. The share of fixed cost or overhead cost to the total annual cost of the sample units is only 0.87 percent. The variable cost plays significant role in IMPS. The share of the variable cost to the total annual cost of the sample IMPUs is 99.13 percent. Among the various components of the variable cost of the sample IMPUs, the cost for feeds and concentrate governs the highest share 67.07 percent and next 18.55 percent is governed by input cost of green grass (Table 3.16). On the other hand, feeds and concentrate constitute 61.53 percent of the total input cost of the IMPUs and the next larger share 18.39 percent is constituted by the input cost of green grass. The cost of maintenance (depreciation) of the sample IMPUs is Rs. 8570000 which constitutes 7.36 percent of the total inputs cost (total annual cost). Of course, the component, ‘imputed rent’ for own land and buildings governs the major share the total fixed cost or overhead cost which is 79.07 percent (Table 3.16).

In calculation of the fixed cost or overhead cost, we have excluded the cost of maintenance of the cattle population (which has been included as fixed capital/assets). The average total cost per unit and per workforce of the sample IMPUs are Rs. 581995.43 and Rs. 98393.14 respectively. The high value of standard deviation (324306.198) of the total annual cost of the sample IMPUs indicates the existence of heterogeneity among the IMPUs in the city of Guwahati (Table 3.16).

The table 3.17 shows the details of the total annual fixed and variable cost of per sample unit, per workforce and per fulltime family workforce. The total annual fixed cost per sample unit is Rs. 5053.80, per workforce is Rs. 854.40, per fulltime family workforce is Rs. 1351.28 and the total annual variable cost per sample unit is Rs. 576941.63, per workforce is Rs. 97538.74 and per fulltime family workforce is Rs. 154262.47 respectively.

Table 3.17: Average Annual Cost (Monetary Value) Structure of Sample IMPUs (2006-07)

Head of Cost	Total Cost (Rs.)	Annual Average Cost (Rs.)		
		Cost per Sample Unit	Cost per Workforce	Cost per Fulltime Family Workforce
Fixed Cost or Overhead Cost	1010760 (0.87)	5053.80	854.40	1351.28
Variable Cost	115388325 (99.13)	576941.63	97538.74	154262.47
Total Annual Cost of Sample IMPUs	116399085 (100)	581995.43	98393.14	155613.75

Note: Figures in parentheses ( ) indicate percentage to total.
Source: Field Data

To understand the annual cost condition of the sample IMPUs and to calculate the value added per unit and per workforce, we must know imputed cost of the IMPUs. The total imputed cost of the sample IMPUs for the survey year is Rs. 11510560 where 93.06 percent constituted the imputed wage value for family labour[6] including self-employed,

full time, part time and child labour and the rest 6.94 percent is constituted by the imputed rent for own land and buildings[7] used for operation of the IMPUs. The imputed cost per sample unit and per work force is Rs. 57552.80 and Rs. 9730 respectively (Table 3.18).

Table 3.18: Imputed Cost Structure of the Sample IMPUs (2006-07)

Head	Value of Imputed Cost (Rs.)	Percentage to Total Imputed Cost
Imputed Wages for Family Labour (including Self-employed, Fulltime, Part-time and Child Labour)	10711360.00	93.06
Imputed Rent for Own Land, Cow-sheds, Stores and Buildings	799200.00	6.94
Total Imputed Cost of IMPUs	11510560.00	100
Average Imputed Cost per Unit	57552.80	
Average Imputed Cost per Workforce	9730.00	

Source: Field Data

3.2.5 Output and Turnover

The annual output per enterprise for the total sample is Rs. 729441 and annual turnover per enterprise is found to be Rs. 729369. Annual output per unit is slightly more (Rs. 72) than annual per unit turnover because of some amount of inventory of by-products with the IMPUs as a whole. What ever total milk produced by the sample IMPUs, whole output is sold out because it is a perishable commodity. So the annual output of milk and annual turnover of milk product of the sample IMPUs are equal. The output constitutes of two components – total milk production and by-product (cow-dung).

The share of each to total annual output is 99.96 percent and 0.04 percent respectively. But the annual turnover of by-product (cow dung) constitutes only 0.03 percent of the total annual turnover of the sample IMPUs. The annual output of per sample unit and per workforce and the annual turnover per sample unit and per workforce is shown in table 3.19.

Table 3.19: Annual Output and Turnover (in money value) of the Sample IMPUs (2006-07)

Head of Output/ Income	Output			Turnover		
	Value of Output (Rs.)	Average Output Value (Rs.)		Value of Turnover (Rs.)	Average Turnover (Rs.)	
		Per Unit	Per Work force		Per Unit	Per Work force
Milk Production	145828200 (99.96)	729141	123269.82	145828200 (99.97)	729141	123269.82
By-Product (Cow-dung)	60000 (0.04)	300	50.72	45600 (0.03)	228	38.55
Total of Sample IMPUs	145888200 (100)	729441	123328.54	145873800 (100)	729369	123308.37
Standard Deviation of the total Value of Annual Gross Output of the Sample IMPUs = 417768.453						
Standard Deviation of the total Value of Annual Turnover of the Sample IMPUs = 413083.27						

Note: Figures in parentheses ( ) indicate percentage to total.
Source: Field Data

The value of annual output and turnover of milk of the sample IMPUs is Rs. 145828200 and the value of annual output of by-product of the sample units is Rs. 60000 but the annual turnover of by-products is Rs. 45600. Hence, there is some inventory of by-products with the IMPUs worth of Rs. 14400 (Rs. 60000-45600) (Table 3.19).

The higher value of standard deviations with respect to the variables such as total value of annual gross output (417768.453) and total value of annual turnover

(413083.270) of the IMPUs indicate high degree of segmentation in urban IMPS in Guwahati city.

Regarding the annual output of the individual unit of the sample IMPUs, majority of the sample enterprises (33.5%) are in the annual output value ranges of Rs. 2 lakhs to less than Rs. 5 lakhs. Further, 71 percent of IMPUs having output value less than Rs. 9 lakhs and 6 percent of the sample enterprises are having output value less than Rs. 2 lakhs. Only three (3) units have an annual output value within the ranges of Rs. 17 lakhs to less than Rs. 21 lakhs, constituting the share of 1.5 percent to the total sample IMPUs (Table 3.20).

Table 3.20: Distribution of Sample IMPUs by Output (in Monetary Value) Size

Range of Output (Lakh Rupees)	No. of IMPUs/ Enterprises	Percentage to Total Sample IMPUs/Enterprises
Less than 2	12	6
2 to less than 5	67	33.5
5 to less than 9	63	31.5
9 to less than 13	39	19.5
13 to less than 17	16	8
17 to less than 21	3	1.5
Total	200	100

Source: Field Data

An attempt is made to determine the association between output of the IMPUs and size of the firm[8], fixed capital, working capital, productive capital, age of the firm. A statistical analysis using the following models were conducted.

I. $Y = a + b_1 X_1 + b_2 X_2 + b_4 X_4 + b_5 X_5$

II. $Y = a + b_3 X_3 + b_4 X_4 + b_5 X_5$

Where 'a' is intercept and b_i's are regression coefficients.

Y = Output of IMPUs
X_1 = Fixed Capital
X_2 = Working Capital

X_3 = Productive Capital
X_4 = Size of the Firm
X_5 = Age of the Firm

On the basis of the above mentioned models, the following results were obtained:

I. $Y = -37924.249 + 0.823\ X_1 + 6.143\ X_2 + 21490.199\ X_4 + 230.314\ X_5$
(18.739)* (2.888)* (3.743)* (0.323)

$R^2 = 0.94$

Note: * - Significant at 1% level

II. $Y = -32222.1 + 0.886\ X_3 + 21191.767\ X_4 + 465.065\ X_5$
(24.655)* (3.645)* (0.651)

$R^2 = 0.94$

Note: * - Significant at 1% level

From the results of the regression models, it is seen that in both the models, the independent variables incorporated account for 94 percent of the total variation in the output. In model I, fixed capital, working capital and size are statistically significant explanatory variables. This implies that output of the sample IMPUs increases as the firm size increases. Output also increases as the fixed as well as the working capital investment increases. Model II shows that productive capital and firm size are the two statistically significant explanatory variables of output. Increase in output is thus positively linked with increase in productive capital and size of the firm. In both the models, age of the firm/enterprise is not statistically significant variable.

A correlation coefficient matrix of the above variables has been developed and the result is shown in table 3.21.

Table 3.21: Correlation Matrix

Factors	Total Output of IMPUs	Total Fixed Capital	Total Working Capital	Total Productive Capital	Total Labour Force (Size of the Firm)	Age of the Enterprise (Yrs)	Value of Cattle Population (Rs.)
Total Output of IMPUs	1.000						
Total Fixed Capital	0.965**	1.000					
Total Working Capital	0.819**	0.817**	1.000				
Total Productive Capital	0.965**	0.99996**	0.822**	1.000			
Total Labour Force (Size of the Firm)	0.845**	0.842**	0.692**	0.842**	1.000		
Age of the Enterprise (Yrs)	0.573**	0.574**	0.534**	0.575**	0.551**	1.000	
Value of Cattle Population (Rs.)	0.959**	0.996**	0.809**	0.996**	0.833**	0.574**	1.000

** - Significant at 1% level

The analysis of correlation coefficient matrix coincides with the conclusions derived from the regression analysis.

3.2.6 Value Added

Value added[9] per workforce, per rupee of fixed capital and per rupee of productive capital (including cattle population value) of the sample IMPUs respectively is Rs. 24927.40; Rs. 0.21 and Rs. 0.20 (without inclusion of imputed cost). The value added per rupee of fixed capital and per rupee of productive capital excluding the value of cattle

population is Rs. 2.21 and Rs. 1.91 respectively (Table 3.22). But after the inclusion of the imputed cost of the sample units, the gross value added is Rs. 18777755 and the value added per workforce, per rupee of fixed capital and per rupee of productive capital is Rs. 15873, Rs 0.14 and Rs. 0.13 (including cattle population value) and Rs. 1.41 and Rs. 1.22 (excluding cattle population value) respectively. The gross value added per workforce excluding imputed cost is much higher than the gross value added without exclusion of imputed cost (Table 3.22). The value added per rupee of fixed capital and productive capital is higher after the exclusion of value of cattle population in both cases (Table 3.22). Gross value added per sample IMPU is Rs. 147445.58 (excluding imputed cost) and after inclusion of imputed cost, it has come to Rs. 93888.78 (Table 3.22).

Table 3.22: Structure of Value Added (Monetary Value) of the Sample IMPUs (2006-07)

Head	Excluding Imputed Cost (Rs.)	Including Imputed Cost (Rs.)
Gross Value Added	29489115	18777755
Value Added per Workforce	24927.40	15873
Value Added per Rupee of Fixed Capital (including cattle population value)	0.21	0.14
Value Added per Rupee of Fixed Capital (excluding cattle population value)	2.21	1.41
Value Added per Rupee of Productive Capital (including cattle population value)	0.20	0.13
Value Added per Rupee of Productive Capital (excluding cattle population value)	1.91	1.22
Gross Value Added per Sample Unit	147445.58	93888.78

Note: (i) Gross Output Value Rs. 145888200; (ii) Gross Input Value Rs. 116399085;
(iii) Total Imputed Value Rs. 11510560 and
(iv) Value of Cattle Population Rs. 125466000.
Imputed value for wages for Family labours = Rs. 10711360.
Source: Field Data

3.2.7 Revenue and Profits

The total annual revenue and cost of the sample IMPUs are Rs. 145873800 and Rs. 127110445. The average revenue (AR) average cost (AC) and average profit (AP) of

per sample IMPU is Rs. 729369; Rs. 635552 and Rs. 93817 respectively. The monthly profit of per sample IMPU is Rs. 7,818. The percentage of profit earning per sample IMPU is 14.76 per annum (Table 3.23). The high value of standard deviation (420037.752) of the total annual profits of the sample IMPUs indicates about the heterogeneity character of IMPS in respect to profit structure in Guwahati city.

Table 3.23: Structure of Annual Average Revenue (AR), Average Cost (AC) and Average Profit (AP) per Enterprise/per Unit of the Sample IMPUs (2006-07)

Head	Amount (Rs.)
Total Revenue (Total Turnover)	145873800
Total Cost (Including imputed Wages of Family Labour)	127110445
Total Profits of the Sample IMPUs	18763355
Annual AR of per Sample Unit	729369
Annual AC of per Sample Unit	635552
Annual AP of per Sample Unit	93817
Profit per Sample Unit per Annum (%)	14.76
Standard Deviation of the total Annual Profits of the Sample IMPUs = 420037.752	

Source: Field Data

3.3 IMPS and FS – A Comparison on Structural Characteristics

The relevance and importance of the IS in the developing countries can be better understood if both the sectors are compared and contrasted on the basis of some important characteristics. Keeping this in view, we have here made a comparison between the IMPS and the FS. Although we understand, that it would have been extremely prudent to compare the IMPS with the formal dairy sector on the basis of some given structural characteristics; non-availability of data for the State of Assam/Guwahati city with regard to the formal dairy sector, required us to go for a comparison between the

IMPS and the Small Scale Industry (SSI) sector in Assam. The details of the comparison with regard to some important structural characteristics are given in table 3.24.

Table 3.24: Structural Characteristics of SSI (Formal Sector) and IMPS

Sl. No.	Characteristics	SSI Sector of Assam as a Whole	IMPS of Guwahati City
1	Productive Capital per Unit	Rs. 311.63 Lakh	Rs. 7.04 Lakh
2	Productive Capital per Employee/ Workforce	Rs. 3.99 Lakh	Rs. 1.19 Lakh
3	Fixed Capital per Unit	Rs. 254.21 Lakh	Rs. 6.94 Lakh
4	Fixed Capital per Employee/ Workforce	Rs. 3.26 Lakh	Rs. 1.17 Lakh
5	Gross Output per Rupee of Productive Capital	1.81	1.04
6	Employment per Rupees One Lakh of Fixed Capital	0.31	0.997
7	Employment per Rupees One Lakh of Productive Capital	0.25	0.98
8	Child Labour per Unit	0.54	0.4
9	Employment per Unit	2.53*	5.92
10	Gross Output per Employee/ Workforce per Annum	Rs. 0.58 Lakh*	Rs. 1.23 Lakh

Note: * - Figures are related with the Kamrup District.
Source: i) http://www.assamgov.org/ecosurvey/table 15.3.htm
ii) Report on the 3rd All India Census of Small Scale Industrial Units, Assam, 2004.

From the Table 3.24, it is seen that Productive Capital per unit, Productive Capital per workforce/employee, Fixed Capital per unit and Fixed Capital per workforce/employee in the SSI (formal sector) in Assam as a whole is Rs. 311.63 lakh, Rs. 3.99 lakh, Rs. 254.21 lakh and Rs. 3.26 lakh respectively, which is higher than the corresponding figures of Rs. 7.04 lakh, Rs. 1.19 lakh, Rs. 6.94 lakh and Rs. 1.17 lakh in the IMPS. Thus the SSI units in the FS are many times more capital intensive than the IMPS. Since productive capital and fixed capital per workforce/employee is three times lower in the IMPS compared to the FS SSI, a comparatively lower amount of capital is required to create a job in the IMPS.

In respect of creation of employment, IMPS compares much better to the FS SSI units. From the table 3.24, it is seen that employment creation per Rs. One lakh of fixed capital and productive capital is 0.99 and 0.98 respectively in case of IMPS, which is higher than that the figures of 0.31 and 0.25 in the FS SSI units. In regard of child labour employment per unit, it is less (0.40) in IMPS than 0.54 in the FS SSI units. In case of average employment per unit, it is around 6 persons (5.92 persons) in IMPS, which is about more than two times than the FS SSI units employment of 2.53 persons. On the other hand, gross output per workforce/employee (per annum) is Rs. 1.23 lakh in IMPS which is also almost two times higher than that Rs. 0.58 lakh of FS SSI units (Table 3.24). Therefore, in many of the structural parameters the IMPS does better than the SSI units in the FS.

3.4 Summary

The IMPUs in the city of Guwahati confirm to a number of traditionally recognised characteristics of IS. Majority of IMPUs (99%) in the city are proprietary units and only 1 percent IMPUs are partnership units. Basically these IMPUs are under the control of the family headman. The IMPUs are concentrated in the suburb areas of the Guwahati city and the average distance of the sample IMPUs from the main road is 1.283 kms. The IMPS enterprises are male entrepreneurs dominated. Out of the total 200 sample units, 96.5 percent entrepreneurs are happen to be male entrepreneurs and rest 3.5 percent entrepreneurs are female entrepreneurs. Baring 3 male entrepreneurs, all are married entrepreneurs.

As far as the operational structure of the urban IMPS of the city of Guwahati is concerned, about 35.5 percent of our sample units have pucca structure and 64.5 percent IMPUs have kutcha structure. On the other hand, only 16.5 percent IMPUs have their own land and premises to operate. 39 percent IMPUs have encroached upon government land and are operating there from and the rest 44.5 percent IMPUs are operating their milk producing activities in hired land. The average age of an IMPU in the city of Guwahati is around 32 years. To a large extent, the IMPUs of urban IMPS uses family workforce, it is structurally weak and low capital base. The capital is local in character, and the enterprises of the IMPS use the indigenous and local resources as inputs and provide modest earnings to the individual or the family. The size of employment per sample IMPU is moderate and it is around 6 persons of our study, while the hired workforce engaged by per sample IMPU is 1.24 persons only. The family workforce plays an important role in operation of IMPUs. The prevalence of child labour is also seen in urban IMPS in Guwahati city which share is 6.68 percent to the total workforce of the sample IMPUs. Major portion of the fixed capital of IMPUs is constituted by the value of cattle population which share is 90.4 percent to its sub-head and it constitutes 89.05 percent of the total productive capital of IMPUs. So, their fixed capital is cattle population's value centric and the size of the enterprise is related with it (value of cattle population).

In respect of the total cost of the sample IMPUs, cost for feeds and concentrate governs highest share which is more than $2/5^{th}$ times of the total cost. The next share of total cost is governed by the cost for green grass which share is 18.39 percent of the total cost. Cost is the prominent factor for determining the profit. The profit per sample unit of

the IMPUs is Rs. 93817 per annum and the percentage of profit earning per sample IMPU is 14.76 percent.

Capital intensity and size of the IMPS enterprises are significantly positively correlated. Out put level is also positively significantly correlated with working capital, fixed capital, productive capital and size of the firm. This shows the important role that productive capital has got to play in increasing the output of IMPS units.

Imputed cost plays significant role in IMPS. The value added per work force and per sample unit is lower after inclusion of imputed cost than without inclusion of it. The value added per rupee of fixed capital and per rupee of productive capital is also lower after inclusion of imputed cost. Of course value added per rupee of fixed capital and per rupee of productive capital excluding cattle population value is higher in both the case without inclusion of imputed cost and with the inclusion of imputed cost.

Capital intensity of the IMPS in respect to productive capital per unit, productive capital per workforce/employee, fixed capital per unit and fixed capital per workforce/employee is much lower than the SSI units of FS. To create a job in the IMPS, comparatively lower amount of capital is required than the FS SSI Units. In case of average employment per unit and gross output per workforce/employee in the IMPS is much higher than the FS SSI units. In many of the structural parameters the IMPS does better than the SSI units of FS.

The standard deviations of the different parameters such as value of fixed capital and assets (397380.30), working capital (6123.851), total productive capital (403018.997), value of cattle population (369931.302), value of total annual gross output (417768.453), total annual turnover (413083.27), total annual profits (420037.752), and

total annual cost (324306.198) of the sample IMPUs are very high. These high standard deviations indicate the existence of high degree of segmentation of the urban IMPS in the city of Guwahati.

3.5 Structural Characteristics

A statistical account of the structural characteristics of the sample IMPUs of Guwahati city are given in table 3.25.

Table 3.25: Structural Characteristics of Sample IMPUs

Characteristics	Units	IMPUs
Total No. of Sample IMPUs	No.	200
Sample IMPUs – Proprietary	No.	198
Sample IMPUs – Partnership	No.	2
Male Owner of the Sample IMPUs	No.	195
Female Owner of the Sample IMPUs	No.	7
Sample IMPUs having Pucca Structure	No.	71
Sample IMPUs having Kutcha Structure	No.	129
Sample IMPUs Operating on Own Land	No.	33
Sample IMPUs Operating on Rented Land	No.	89
Sample IMPUs Operating on Government Land (Encroached land)	No.	78
Sample IMPUs Using Electricity	No.	182
Sample IMPUs without Using Electricity and Other Powers	No.	18
Total Fulltime Family Workforce/Labour of the Sample IMPUs (including Self-employed Persons)	No.	748
Male Fulltime Family Workforce/Labour of the Sample IMPUs	No.	502
Female Fulltime Family Workforce/Labour of the Sample IMPUs	No.	246
Total Child Fulltime Labour of the Sample IMPUs	No.	79
Male Child Fulltime Labour of the Sample IMPUs	No.	42
Female Child Fulltime Labour of the Sample IMPUs	No.	37
Total Part Time Family Workforce of the Sample IMPUs	No.	187
Male Part Time Family Workforce of the Sample IMPUs	No.	107
Female Part Time Family Workforce of the Sample IMPUs	No.	80
Total Family Male Workforce/Labour of the Sample IMPUs	No.	609
Total Family Female Workforce/Labour of the Sample IMPUs	No.	326
Total Family Workforce/Labour (Fulltime and Part-time) of the Sample IMPUs	No.	935
Total Hired Workers/Labourers of the Sample IMPUs	No.	248
Total Workforce/Labour of the Sample IMPUs	No.	1183
Average Family Worker per Sample IMPU	No.	4.68

Average Male Family Worker/Labour per Sample IMPU	No.	3.05
Average Female Family Worker/Labour per Sample IMPU	No.	1.63
Average Hired Worker/Labour per Sample IMPU	No.	1.24
Average Workforce/Labour per Sample IMPU (Size of the Firm)	No.	5.92
Average Age of the Sample IMPUs	Years	31.78
Total Value of Fixed Capital and Assets of Sample IMPUs	Rs.	138794600
Average Value of Fixed Capital and Assets per Sample IMPU	Rs.	693973
Average Value of Fixed Capital and Assets per Workforce/Labour of the Sample IMPUs	Rs.	117324.26
Total Value of Working Capital of the Sample IMPUs	Rs.	2096853
Average Value of Working Capital per Sample IMPU	Rs.	10484.27
Average Value of Working Capital per Workforce of the Sample IMPUs	Rs.	1772.49
Total Value of Productive Capital of the Sample IMPUs (2006-07)	Rs.	140891453
Average Value of Productive Capital per Sample IMPU	Rs.	704457.27
Average Value of Productive Capital per Workforce of the Sample IMPUs	Rs.	119096.75
Total Value of Cattle Population of the Sample IMPUs (2006-07)	Rs.	125466000
Average Value of Cattle Population per Sample IMPU	Rs.	627330
Average Value of Cattle Population per Workforce of the Sample IMPUs	Rs.	106057.48
Total Value of Fixed Cost of the Sample IMPUs (2006-07)	Rs.	1010760
Average Value of Fixed Cost per Sample IMPU	Rs.	5053.80
Average Value of Fixed Cost per Workforce of the Sample IMPUs	Rs.	854.40
Total Value of Variable Cost of the Sample IMPUs (2006-07)	Rs.	115388325
Average Value of Variable Cost per Sample IMPU	Rs.	576941.63
Average Value of Variable Cost per Workforce of the Sample IMPUs	Rs.	97538.74
Total Annual Cost (Inputs cost) of the Sample IMPUs (2006-07)	Rs.	116399085
Average Annual Cost (Inputs cost) per Sample IMPU	Rs.	581995.43
Average Annual Cost (Inputs cost) per Workforce of the Sample IMPUs	Rs.	98393.14
Total Value of Imputed Wages for Family Workers/Labours (2006-07) (Including self-employed persons)	Rs.	10711360
Total Value of Imputed Rent for Own Land, Cow-Sheds, Stores & Buildings (2006-07)	Rs.	799200
Total Value of Imputed Cost of the Sample IMPUs (2006-07)	Rs.	11510560
Average Value of Imputed Cost per Sample IMPU	Rs.	57552.80
Average Value of Imputed Cost per Workforce of the Sample IMPUs	Rs.	9730
Total Value of Output of Milk of the Sample IMPUs	Rs.	145828200
Total Value of Output of By-Products (Cow-dung) of the Sample IMPUs	Rs.	60000
Total Value of Output of the Sample IMPUs (2006-07)	Rs.	145888200
Average Value of Output per Sample IMPU	Rs.	729441
Average Value of Output per Workforce of the Sample IMPUs	Rs.	123320.54

Total Turnover of Milk of the Sample IMPUs	Rs.	145828200
Total Turnover of By-Product (Cow-Dung) of the Sample IMPUs	Rs.	45600
Total Turnover of the Sample IMPUs (2006-07)	Rs.	145873800
Average Turnover per Sample IMPU	Rs.	729369
Average Turnover per Workforce of the Sample IMPUs	Rs.	123308.37
Average Turnover of Milk per Sample IMPU	Rs.	729141
Inventory of By-Product (Cow-dung) of the Sample IMPUs (2006-07)	Rs.	14400
Gross Value Added of the Sample IMPUs (2006-07) Excluding Imputed Cost	Rs.	29489115
Gross Value Added of the Sample IMPUs (2006-07) Including Imputed Cost	Rs.	18777755
Average Value Added per Sample IMPU (excluding Imputed Cost)	Rs.	147445.58
Average Value Added per Workforce of the Sample IMPUs (excluding Imputed Cost)	Rs.	24927.40
Average Value Added per Sample IMPU (including Imputed Cost)	Rs.	93888.78
Average Value Added per Workforce of the Sample IMPUs (including Imputed Cost)	Rs.	15873
Value Added per Rupee of Fixed Capital (excluding Imputed Cost)	Rs.	0.21
Value Added per Rupee of Productive Capital (excluding Imputed Cost)	Rs.	0.20
Value Added per Rupee of Fixed Capital (excluding Imputed Cost and Cattle Population's Value)	Rs.	2.21
Value Added per Rupee of Productive Capital (excluding Imputed Cost and Cattle Population's Value)	Rs.	1.91
Value Added per Rupee of Fixed Capital (including Imputed Cost)	Rs.	0.14
Value Added per Rupee of Productive Capital (including Imputed Cost)	Rs.	0.13
Value Added per Rupee of Fixed Capital including Imputed Cost and excluding Cattle Population's Value	Rs.	1.41
Value Added per Rupee of Productive Capital including Imputed Cost and Excluding Cattle Population's Value	Rs.	1.22
Total Annual Revenue (turnover) of the Sample IMPUs (2006-07)	Rs.	145873800
Total Annual Cost (including Imputed Wages of the Family Labour) of the Sample IMPUs (2006-07)	Rs.	127110445
Total Annual Profits of the Sample IMPUs	Rs.	18763355
Annual AR per Sample IMPU	Rs.	729369
Annual AC per Sample IMPU	Rs.	635552
Annual AP per Sample IMPU	Rs.	93817
Monthly AP per Sample IMPU	Rs.	7818.08
Rate of Profit per Sample IMPU per Annum	%.	14.76
Distance of the Sample IMPUs from the Main Road	Km.	1.283
Mean Age of the Sample IMPUs (in years)	31.775	
Standard Deviation of the Age of the Sample IMPUs	13.044	
Mean Value of the Firm (Enterprise) Size of the Sample IMPUs	5.915	
Standard Deviation of the Firm (Enterprise) Size of the Sample	2.433	

IMPUs	
Mean Value of the total Fixed Capital and Assets Value of the Sample IMPUs	693973.000
Standard Deviation of the total Fixed Capital and Assets Value of the Sample IMPUs	397380.30
Mean Value of the total Working Capital of the Sample IMPUs	10484.27
Standard Deviation of the total Working Capital of the Sample IMPUs	6123.851
Mean Value of the total Value of the Cattle Population of the Sample IMPUs	627330.00
Standard Deviation of the total Value of the Cattle Population of the Sample IMPUs	369931.302
Mean Value of the total Productive Capital of the Sample IMPUs	704457.27
Standard Deviation of the total Productive Capital of the Sample IMPUs	403018.997
Mean Value of the total Annual Value of Gross Output of the Sample IMPUs	729441.00
Standard Deviation of the total Annual Value of Gross Out of the Sample IMPUs	417768.453
Mean Value of the total Annual Turnover of the Sample IMPUs	729369.00
Standard Deviation of the total Annual Turnover of the Sample IMPUs	413083.27
Mean Value of the total Annual Profits of the Sample IMPUs	729369.00
Standard Deviation of the total Annual Profits of the Sample IMPUs	420037.752
Mean Value of the total Annual Cost of the Sample IMPUs	581995..430
Standard Deviation of the total Annual Cost of the Sample IMPUs	324306.198
Mean Value of the Size of the Family of the Sample IMPUs	6.40
Standard Deviation of the Size of the Family of the Sample IMPUs	2.347
Mean Value of the Age of the Entrepreneurs of the Sample IMPUs	48.9
Standard Deviation of the Age of the Entrepreneur of the Sample IMPUs	8.628
Standard Deviation of the Education Standard of the Entrepreneurs of the Sample IMPUs	0.958
Variance of the Education Standard of the Entrepreneurs of the Sample IMPUs	0.918
Variance of the Family Size of the Sample IMPUs	5.508
Variation of the Age of the Entrepreneurs of the Sample IMPUs	74.442

Source: Compiled Data

End Notes

[1] See Samal, K.C. (1990). *Urban Informal Sector in Orissa*, p. 33.

[2] Self employed person: A person is regarded as 'self employed' in an occupation if he had been working as an employer or own-account worker in that occupation. An own-account worker could be both a single worker and/or joint worker of an enterprise (Rural Labour Enquiry).

[3] Productive capital is the total of fixed capital and working capital.

[4] Fixed capital and assets includes the present value of cattle population, cow sheds, store buildings, tools and machines. We have excluded the value of land and buildings from fixed capital and assets as only 16.5 percent of the sample units have their own land and buildings. We have taken only the present value of the fixed assets including tools and machines as reported by the entrepreneurs of the enterprises, since majority of them were not able to tell the purchase prise of these assets.

[5] Working capital (or inventory capital) = the present value of raw materials (i.e., cattle feeds, concentrates and fuels) + cash in hand and bank for meeting day to day operational expenditures of the units.

[6] 'Imputed wage value of family labour' in this informal milk producing sector is assumed of a minimum average wage per family worker per day. A family labour is defined by us as "person who work without monetary remuneration for a minimum period of two-third of a normal days' work in the business of a member of the family".

[7] Imputed rent for owned land and buildings = the average rent prevailing in the market in this informal milk producing sector for land and buildings used for operating a dairy enterprise. The average imputed rent for owned land and buildings is assumed of Rs. 600 per month.

[8] Size of the firms is measured in terms of average workforce employed by per sample IMPUs.

[9] We have taken "gross value added" here. Gross value added = value of total output – value of total inputs.

CHAPTER – IV

SOURCES OF FINANCE AND INFORMAL MILK PRODUCING UNITS

4.1 Introduction

Scarcity of capital is one of the characteristic of IS enterprises. Most of the studies undertaken on urban IS find lack of credit as the most important constraint facing the entrepreneurs (Fowler: 1981; Mobagunje: 1981; Sethuraman: 1981; Schmitz: 1982; Romatet: 1983; Levitsky: 1989; Tokman: 1989; Lubell and Zarour: 1990; ILO: 1991; IAMR: 1995; Pouda: 1997; Panda: 1998; Kundu and Lalitha: 1998; Rajput and Yadav: 2004; Mishra: 2005; Marjit and Kar: 2007; Upadhyay: 2007).

The existing literature on access of the IS enterprise to finance focuses on a number of issues. Some discuss the source, size and nature of their finance (Fowler: 1981; Romatet: 1983; Chandravarker: 1988; Mayer: 1988; Okelo: 1988; Samal: 1989; Singh: 1994; IAMR: 1995; Panda: 1998; Mishra: 2005; Upadhyay: 2007); some reflect on the issue of access to informal finance and its preference to formal finance (Chandravarker: 1988; Mayer: 1988; Tokman: 1989; Singh: 1994; Kundu and Lalitha: 1998; Mishra: 2005; Marjit and Kar: 2007) and some others focus on the efficacy of credit delivery mechanism for the growth of the IS enterprises (Fapohunda: 1981; NIUA: 1987; Harper: 1988; Samal: 1989; Majumdar and Lall: 1993; IAMR: 1995; Sidhu, *et al.*: 2000, 2004; Upadhyay: 2007). In view of the growing importance of these issues, a brief review of related literature on these issues is presented below.

4.2 Review of Related Literature

Romatet's (1983) study in Calcutta's slum industries shows that 84 percent of the entrepreneurs/heads of IS units report lack of capital as the direst constraint. Although, "start-up" capital mainly comes from the entrepreneurs own sources, 80 percent of their borrowings come from informal sources. Capital deficiency affects their working capital

needs and expansion plan. In the tanneries industries the survey shows 75 percent of the entrepreneurs are compelled to borrow funds from money lenders at a minimum rate of 5 percent per month.

NIUA's (1987) study on IS enterprises in four cities in India reveals that the IS entrepreneurs mostly depend on their own sources of funds and on friends and relatives to meet their fixed capital requirement. The role of the private money lenders has been reported to be insignificant. Banks and other financial institutions have emerged as significant sources of financing of these enterprises in all the four cities. The study suggests creation of separate financial/credit agencies to meet the overall credit requirements of IS entrepreneurs in view of the inherent disadvantage of this sector's entrepreneurs vis-à-vis the FS.

Chandavarkar (1988) in a cross country survey finds the following aspects with regard to financing of the IS enterprises.

(1) Personal savings are a substantial source of start-up finance and seed capital for micro business. The share of institutional finance rises with the increase in the size of micro business.

(2) The availability rather than the cost of credit seems to be the major financial problem of micro business.

(3) While lack of collateral is the main reason for rejection by institutional lenders, social and educational status are reportedly influential in obtaining credit.

(4) The formalities of institutional finance are a formidable deterrent to micro business; many of whom may even lack the formal education necessary to cope with them. The entrepreneurs of the informal units do not possess bankable

collateral and even when they do possess them, the usually vexations procedures and restricted hours of work of formal financial institutions effectively debar them from institutional credit.

(5) Informal lenders mostly concern themselves with the overall credit standing and financial position of the borrower rather than the end purpose of credit.

(6) The informal financial institution's typical characteristics of predominance of cash transaction, freedom from official registration and regulation, ease of entry or exit, small-scale operations, multiple interest relationship (financial and socio-cultural) between lenders and borrowers and their ability and willingness to extend credit much more quickly and flexibly than the formal financial institutions on the basis of personal knowledge etc. allow them to have substantial competitive advantages over the formal financial institutions.

Harper (1988) in a paper submitted for the international micro-enterprise conference writes that the only genuine bottleneck that the micro enterprises face is the lack of credit and suggests modest intervention in capital supply with a minimum of associated assistance to make these enterprises self-sustaining.

Okelo (1988) in his paper submitted for the international micro-enterprise conference finds that the main sources of micro-enterprise financing are personal savings, friend, occasionally retained earnings and very limited funding from formal financial institutions. Access to formal institutional credit is limited and difficult because of their small scale of operation, lack of adequate collateral and unfamiliarity with complicated loan application procedures and paper work involved. He also opines, in spite of the easy

entry into the IS, these units are cut up into a vicious cycle of low investment, low incomes, low profits and savings because of the absence of funds for expansion.

Mayer (1988) in an article views that small entrepreneurs frequently complain about lack of credit but not about high interest rates. They put higher priority on speed of loan disbursement, availability of second loans and simplicity of procedures. They perceive the formal financial institutions as being overly cautious, averse to risk and unimaginative with respect to lending to them. Most of the capital requirements of the small entrepreneurs are self financed. Loans from friends and relatives furnish much of their start-up capital. They take loans from informal lenders at interest rates much higher than regular bank rates.

Tokman (1989) finds restricted access to credit as the single constraint which when removed will allow more productive and profitable livelihoods for the beneficiaries in the IS enterprises. He calls lack of credit as the most common missing piece at micro level for IS enterprises.

Samal (1989), in his study in the class-I town of Sambalpur in Orissa finds that contrary to general beliefs, the problem with the IS units is not the availability of institutional finance at concessional rate but availability of credit in adequate amount even at a rate at which the FS gets loan from the bank and other financial institutions. Surprisingly 34 percent of entrepreneurs had taken loans from the nationalised commercial banks and government agencies. Hence the theory that the IS enterprises do not have access to formal financial institutions does not hold true.

Lubell and Zarour (1990) in a study in the city of Dakar found lack of credit as the most important problem of the IS entrepreneurs. Eighty-six percent of the entrepreneurs

wanted to go for a bank loan. However, 7 percent of them tried to obtain a loan at some point of time, 21 percent cited difficult procedures as the reasons, 62 percent said that they lacked sufficient bankable guarantees, 4 percent stated other conditions imposed by the banks were too hard to satisfy and the rest said that they had lost interest in getting a loan or no longer needed one.

ILO (1991) in its Director General's report (Part: 1) in the international labour conference, 75th session concludes that one of the main obstacles to the growth of IS producers is in obtaining credit on the same terms as modern enterprises.

Alam, *et al.* (1992), in their study find that Bangladesh government has initiated investment promotion project for the formal milk producing sector from March 1993 by providing financial facility/credit facility to the dairy entrepreneurs. Some of the dairy entrepreneurs come forward to establish mini dairy enterprises and the number is 14499, who registered their enterprises with the Directorate of Livestock Census. But the measures for financial/credit facility from the formal financial institutions to informal milk producing entrepreneurs were not taken up by the Bangladesh government.

Majumdar and Lall (1992) are of the view that inaccessibility of institutional credit to the IS is one of the most serious impediments to its growth and development. They opine that these units require multiple dosages of financial inputs in three stages. The first dosage of financial input is required for initiating an activity. The second dosage is required to attain a take-off stage; and the third dosage is required to embark upon a self-sustaining stage.

IAMR's National Seminar paper[1] on 'Employment promotion in the urban informal sector' (1995) shows that the major difficulty of the IS entrepreneurs is lack of

liquidity. These entrepreneurs have little access to bank credit. There has been no lessening of dependence of IS enterprises on informal financial markets in spite of widening and deepening of the banking system in India over the past 25 years of so. Money lenders have been charging high rates of interest and such high rates of interest contain considerable element of monopoly rents. The paper concludes:

"While public sector banks have done a commendable job of reaching out to farmers both big and small, they have hardly touched the fringe of the informal sector. Part of the problem lies in established lending procedures and practices, which come in the way of bank's accessibility. Lack of collateral, illiteracy among informal sector borrowers, the nature of micro businesses which may not fit into the established processing framework of loan proposals by banks, unjustified belief on the part of bankers that small borrowers are bigger risks than large borrowers, and sizable unit cost in processing, monitoring and administering small loans, are the major factors responsible for the inaccessibility in institutional credit to the informal sector" (IAMR National Seminar paper in 'Employment Promotion in the Urban informal sector', Technical-III, pp. 6-7).

Panda (1998), in his study in the class-I town of Cuttack in Orissa finds that majority of the urban IS enterprises view, lack of availability of credit from formal financial institutions as their most important constraint. Only 17 percent of the enterprises have used formal financial institutions including banks as the source for working capital, and for fixed capital, 9 percent depend on banks and other formal financial institutions. Hence the theory that the IS enterprises do not have access to formal financial institutions hold true.

Sidhu, *et al.* (2000; 2004) in their research paper titled “Economics of Farming in Punjab”, show that the growth of informal dairy producing units in the state of Punjab has been facilitated and accelerated by the availability of institutional credit to the producers.

Kalamkar (2004) in his paper, “Dairy development in Maharashtra: An Economic Analysis”, shows that the state government is giving institutional and organisational support in terms of credit delivery and insurance, to boost the informal dairy sector.

Rajput and Yadav (2004) conducted a study in Madhya Pradesh about the economics and constraints of the IMPS relating to finance. From their study they found that there is need for financial/credit facility from the organised financial institutions to purchase milch animals and feed, fodder and veterinary aids. In their findings they cited that there is no provision in the state for providing capital and credit at subsidised rate to the IMPS.

Jangid and Rohilla (2004) study on IMPS in Rajasthan reveal that there is no loan/credit facility for the informal milk producing enterprises from the formal financial institutions to popularise the improved informal milk producing practices.

Pathak and Jain (2004) in their study ‘Economics of Dairying: A Micro-level Evidence from Chattisgarh’, show that there is no financial provision for IMPS in the state. Based on the findings of the study, the paper suggests for large-scale credit support with flexible financial terms and repayment schedules and effective credit delivery mechanism to the IMPS, which will lead to boost the growth and development of the IMPS.

Kondal, *et al.* (2004) made a study in Western Himalaya about the prospects of dairying enterprises in IS. Their study reveals that there is lack of bank loan to the informal milk producers for purchasing the improved cows at lower interest rates.

Dixit, *et al.* (2004) in their paper titled, 'economics of milk producing in Kerala - an inter-regional empirical study', reveal that there is lack of banking service facility to the IMPS irrespective of urban and rural base. So they suggest in their paper for improvement in banking services to the IMPS so that the informal dairy entrepreneurs may get encouraged.

Rao (2004) in his research paper, 'Institutional innovations in governments: experience of women dairy project in Rajasthan', reveals that unlike earlier government programmes for emancipation of women, STEP programme provided support in terms of finance to the IMPS under taken by the women entrepreneurs for the economic upliftment of the womenfolk and gender equalisation.

Sujatha, *et al.* (2004) make a comparative study in Andhra Pradesh about the milk marketing in co-operative and private sector. From the study they reveal that the informal milk producers are not in a position to acquire good market facility from the milk market due to lack credit facility from the FS banking institutions.

Purohit and Jambagi (2004) in their study, 'Economic impact of new breeding technology on dairy farming: a case study of Bagalkot district in Karnataka', reveal that there is no any effective credit/loan facility to the IMPS from the nationalised banks.

Mishra (2005) in his study shows that informal sources of finance (micro finance) play an important role in urban IS enterprises. Informal sources of finance, i.e. money lenders, Self Help Groups (SHGs) provide small loans to urban IS units for start up or

working capital. Inaccessibility of urban IS enterprises to formal financial institution for credit is one of the most important impediments to its growth and development.

Upadhyay (2007) from her study under taken in Arunachal Pradesh, finds that formal financial sources of credit have virtually played no role in the urban IS enterprises so far as sources of start up capital is concerned. The laws against land alienation also prevent the transfer of land to anyone other than the indigenous population. So lack of fixed collateral severely curtail the access of urban IS entrepreneurs to formal institutional credit. Hence own saving remains the main source of start up capital for a majority entrepreneurs followed by funds from moneylenders, family and friends.

The above review of related literature brings out the following facts:

1. Majority of entrepreneurs consider lack of finance as their most important constraint.
2. Access of the IS entrepreneurs to formal (institutional) source of finance is limited. This is attributed to the typical structure and operation of the IS units, (smallness and non-registration status of the units etc.); and organic deficiencies in the operation and lending policies of the FS financial institutions (such as complicated lending procedure, insistence on collateral, fixed working hours', formality in operation and above all indifference of the bank people towards the IS entrepreneurs etc.)
3. Most of the capital needs of the entrepreneurs of IS units own sources of the entrepreneurs. Friends and relatives in a number of cases also play significant role in providing financing to them. Although IS entrepreneurs also borrow from money lenders, in majority of cases such borrowing are not significant.

4. Rapid and healthy growth and development of the IS requires creation of an effective credit delivery system. This can be achieved either by examining the existing lending procedure and policy of the FS financial institutions (especially banks) in favour of the IS or by establishing separate financing agencies to meet their credit needs.

All these issues will be dealt by us in the light of the data available. However, the literature on the nature of relationship between credit outstanding, access to formal financial institutions with a number of personal characteristic variables of the entrepreneur and of the firm, is either lacking or deficient. These will also be dealt in this chapter as they are thought to provide enough guidelines and policy contours to formulate effective credit delivery mechanism for the IMPUs of the IS.

4.3 Result of Field Data: Financial Constraints

About 92 percent of our sample informal milk producers/entrepreneurs view lack of credit as their most important constraint.

4.4 Sources of Funds

4.4.1 Fixed Capital

Informal milk producing enterprises require funds to meet their start up fixed and working capital needs. Analysis of data shows that (Table 4.1) 40 percent of the sample IMPUs depend on their own savings for fixed capital, 42.5 percent on friends and

relatives and a surprisingly 17.5 percent depends on money lender for start up fixed capital requirements. The role of banks and other formal financial institutions are insignificant in providing the start up fixed capital to the IMPUs to start their milk producing activity. Therefore to start an IMPU, the finance from FS institutions does not play any significant role. This conforms to findings of most of the studies undertaken on this aspect and reviewed in the beginning of this chapter.

Table 4.1: Distribution of Sample Units/Enterprises by their Sources of Funds for Start-up Fixed Capital

Source	No. of Units	Percentage to Total Sample Units
Own Savings	80	40
Friends and Relatives	85	42.5
Money Lenders	35	17.5
Banks & Other Formal Financial Institutions	Nil	Nil
IMPUs as a Whole	200	100

Source: Field Data

4.4.2 Working Capital

In the front of working capital, the entrepreneurs' own savings and retained earnings represent a dominant source of finance. All but all, the IMPUs depend on the savings of their proprietors for present working capital needs (Table 4.2). Nationalised bank, particularly SBI plays an important role in meeting out the present working capital needs of 46.5 percent of sample IMPUs. Money lenders also play an important role in meeting out the present working capital needs of 17.5 percent of sample IMPUs. The friends and relatives of the sample IMPUs do not play any role in meeting out the working capital needs of the units. The role of other FS financial institutions and nationalised scheduled commercial banks providing working capital needs to the sample IMPUs are non-existent.

Table 4.2: Distribution of Sources of Funds of the Sample IMPUs for Present Working Capital

Source	No. of Units	Percentage to Total IMPUs
Own Savings	200	100
Nationalised Bank (SBI)	93	46.5
Money Lenders	35	17.5
Other Formal Financial Institutions	Nil	Nil
Friends and Relatives	Nil	Nil

Source: Field Data

The total 17.5 percentage of sample IMPUs were opting for money lenders at higher rates of interest (to be discussed later in this chapter) and 46.5 percent of enterprises/units opting for FS finance for working capital needs. It reveals that all total 53.5 percent of the sample IMPUs does not have accessibility to formal financial institutions. Does this fact plus the earlier findings of lack of finance being the most important constraint in the expansion and growth of the IMPUs suggest an underlying reality of unstable and risky conditions of productions or distortions in the views and practices of those in-charges of the credit institutions[2]? This issue will be discussed latter in this chapter.

4.5 Need for Credit

4.5.1 Credit and Turnover

On the question of need for credit, about 92 percent of the sample IMPUs opined that they need credit. Sixty percent of the IMPUs reduced their output level because of lack of finance/credit. All most all of them (of those who opine that they need credit) think that, their turnover will increase if credit is available to them. We wanted to confirm it from our field data.

It is also noteworthy that IMPUs taking credit from formal financial institutions and informal financial sources like money lenders are not investing all their credits/borrowings in the development and growth of the IMPUs. Some IMPUs are taking credit to solve their household problems like spending in marriage ceremony, purchase of land, spend in medical treatment of family member and also to invest in other business. So a huge portion of credit is diverted to other purposes. We exclude such diversification of loan from our discussion which has no influence on the development and growth of IMPUs. The total amount of borrowings taken by the IMPUs from different sources, diverted for different purposes are shown in table 4.3.

Table 4.3: Distribution of Credit/Borrowings taken by the Sample Units/Enterprises from Different Sources

Source		Total Credit/ Borrowings of the Sample IMPUs (Rs.)	Purpose of Diversion of Credit/ Borrowings	No. of Units/ Enterprises	Amount of Diversion (Rs.)	Percentage to Sub-Total
Formal sources	Natio		Purchase of Land	10	380000	19.44
			Repayment of Earlier Loan	27	665000	34.02

		11500000	Marriage & Other Social Ceremony	14	330000	16.88
			Domestic Consumption	11	120000	6.14
			Construction of House	2	70000	3.58
			Medical Treatment of Family Member(s)	1	30000	1.53
			Investment in Other Enterprises/Business	11	360000	18.41
			Sub-Total	76	1955000 (17)	100
Informal Source	Money Lenders	690000	Purchase of Land	2	30000	31.58
			Medical Treatment of Family Member(s)	3	25000	26.32
			Marriage & Other Social Ceremony	2	40000	42.1
			Sub-Total	7	95000 (13.77)	100
Total		12190000	Grand Total	83	2050000 [16.82]	

Note: (i) Parentheses ( ) indicates the percentage to total credit/borrowings of the respective sub-head.

(ii) Values in brackets [ ] indicates percentage to total credit/borrowings of sub-totals.

Source: Field Data

Table 4.3 reveals that out of the total borrowings taken from formal financial institutions-nationalised bank (SBI) by the 93 sample units (Table 4.2), 76 units out of it, have diverted 17 percent borrowings out of total borrowings to another activity, instead of investing in dairy enterprise. In this way, out of 35 IMPUs, who have taken loan from informal financial sources especially from money lenders (Table 4.2), 7 IMPUs have diverted their borrowings to other directions. The diverted borrowings amount to13.77 percent of the total borrowings from money lenders. It can also be mentioned here that, 7 IMPUs who have diverted their borrowings to other activities instead of making investment in dairy unit, 5 IMPUs have diverted the whole borrowings taken from money lenders to other uses. The total borrowings taken by the 128 IMPUs from formal and

informal financial sources is of Rs. 12190000 and the diversification of the total borrowings made by the total 83 IMPUs is of Rs. 2050000, constituting of 16.82 percent.

Analysis of data in table 4.4 reveals that the annual turnover per sample IMPU having borrowings from formal or informal or both the sources is 6.06 percent higher than the annual turnover of per IMPU without having any kind of borrowing. Further, table 4.5 shows that the average annual turnover per sample IMPU having borrowings from only formal financial institutions is 13.77 percent higher than the annual turnover per IMPU without having any borrowings from formal financial institutions. Data also reveal (Table 4.6) that among the indebted IMPUs, the annual turnover per unit having borrowing from only formal financial institutions is 19.75 percent more than that of the per unit having borrowings from only informal financial institutions (money lenders). This analysis once again strengthens our earlier findings that lack of finance in general and formal source of finance in particular is the most important constraint for the growth of the IMPUs.

Table 4.4: Average Annual Turnover of IMPUs by Indebted/Non-Indebted Status

Status of IMPU	No. of IMPUs	Total Annual Turnover (Rs.)	Average Annual Turnover or per Sample IMPU (Rs.)
Indebted IMPUs	128	95320200	744689
Non-Indebted IMPUs	72	50553600	702133
IMPUs as a Whole	200	145873800	729369

Source: Field Data

Table 4.5: Average Annual Turnover of IMPUs by Formal Source Indebted/Non-Indebted Status

Status of IMPU	No. of IMPUs	Total Annual Turnover (Rs.)	Average Annual Turnover of per Sample IMPU (Rs.)
IMPUs Indebted to Formal Financial Institutions (SBI)	93	72526800	779858
IMPUs not Indebted to Formal Financial Institutions	107	73347000	685486

IMPUs as a Whole	200	145873800	729369

Source: Field Data

Table 4.6: Average Annual Turnover of Indebted IMPUs by Formal/Informal Source of Credit

Source of Credit	No. of IMPUs	Total Annual Turnover (Rs.)	Average Annual Turnover of per Sample IMPU (Rs.)
Formal Sources only	93	72526800	779858
Informal Sources only (Money Lenders)	35	22793400	651240

Source: Field Data

4.5.2 Role of the Banks

To judge the role of the banks, the entrepreneurs were asked whether they ever sought a credit from the bank and if sought whether they faced any problem. Total 69.5 percent of the IMPUs sampled, had at some point of time or other, sought bank credit. Around 31 percent IMPUs sampled, had never sought a bank credit. When asked about the reasons for not seeking a credit from a bank; 75.41 percent of them (those not seeking a credit) viewed complicated lending procedures of the banks as the reason, 31.15 percent viewed insistence on collateral as the reason, 60.66 percent viewed non-cooperation by the banking authorities as the reason, 55.74 percent thought their ignorance about banking credit was the cause, 42.62 percent assigned smallness of their unit as the reason and another 73.77 percent viewed other factors being the reason. The reasons of not securing a bank credit by 31 percent IMPUs are shown in table 4.7, according to the ranking of the reasons. The entrepreneurs, who sought bank credit, were also asked if they had faced any problem when seeking bank credit. According to the importance of the problems faced by the IMPUs sampled at the time of seeking bank credit, 63.31 percent assigned complicated lending procedures as the main problem, 71.94 percent

viewed non-cooperation by the banking authorities as the second most problem, 82 percent viewed insistence on fixed collateral as the third most problem and 93.53 percent assigned other factors being the fourth order problem (Table 4.8).

Table 4.7: Reasons for not Seeking Bank Credit by the Sample IMPUs

Reasons and Number of IMPUs							
Ordering in terms of Importance of Reasons	Complicated Lending Procedures	Smallness of the Unit	Non-Co-operation by the Banking Authorities	Ignorance about Bank Credit	Non-Availability of Collateral	Other Reasons	Total of Sample IMPUs not Seeking Bank Finance (no.)
1st	46 (75.41)	6	3	5	1	=	61
2nd	1	16	7	6	19 (31.15)	12	61
3rd	-	13	37 (60.66)	11	-	-	61
4th	-	-	4	34 (55.74)	20	3	61
5th	14	26- (42.62)	10	5	5	1	61
6th	-	-	-	-	16	45 (73.77)	61
Total of IMPUs	61	61	61	61	61	61	

Note: Parentheses ( ) indicates percentage to total of sample IMPUs not seeking bank credit.
Source: Field Data

Table 4.8: Problems Faced and their Ordering in Importance Revealed by the Sample IMPUs at the Time of Seeking Bank Credit

Problems and Number of IMPUs					
Ordering in Importance	Insistence on Fixed Collateral	Non-Cooperation by the Banking Authorities	Complicated Lending Procedures	Other Harassment/ Problems	Total of Sample IMPUs Seeking Bank Finance
1st	19	24	88 (63.31)	8	139
2nd	6	100 (71.94)	32	1	139
3rd	114 (82)	15	10	-	139
4th	-	-	9	130 (93.53)	139
Total of	139	139	139	139	

IMPUs					

Note: Parentheses ( ) indicates percentage to total of sample IMPUs seeking bank credit.
Source: Field Data

4.5.3 Borrowing for Working Capital and Rate of Interest

As has been shown in table 4.2, after own savings sources, 17.5 percent enterprises sampled, depend on money lenders for their working capital needs. However, the average interest charged by the money lenders per annum is very high at 72 percent. On the other hand, average annual interest charged by the FS financial institutions (SBI) comes to 14 percent. Difficulties in getting FS finance, especially bank finance compels the IMPUs to go for informal finance. In addition, informal (money lender) financing is flexible and simple. The IMPUs sampled, having borrowings from informal sources, have borrowed without any fixed collateral. The transaction process is simple without much paper work and there is no fixed transaction hour unlike the banks and other formal financial institutions. Regarding the most important factor which makes the informal lender advance credit to the IMPUs, 80 percent of them opine that it was their “credit worthiness” measured in terms of past credit repayment record and future potentialities that govern their receipt of informal finance and its size.

4.5.4 Risky Conditions or Distortions

We have found that one-sixth of the sample IMPUs borrowed capital from money lenders at an average interest rate of 72 percent per annum and the access of these enterprises to formal financial institutions for funds (both working capital and fixed capital) is very limited. On the other hand, 92 percent of the units feel the necessity of credit even at a rate at par or higher than the one charged by the formal financial institutions. Does this paradox reflect an underlying reality of unstable and risky

conditions of productions? (and hence repayment defaults) or does it imply distortions in the views and practices of those in charge of the credit institutions[3]? When nearly thirty-one percent enterprises not seeking a credit, view complicated lending procedures of the banks, insistence on collateral, non-cooperation by the banking authorities and ignorance about bank credit as the reason for not seeking a credit, and when the value added per rupee of fixed capital in IMPS is 2.21 excluding imputed cost and value of cattle population and 1.41 including imputed cost and excluding the value of cattle population and when average turnover of per sample IMPU having borrowings from formal financial institutions is 13.77 percent higher than the average turnover of IMPUs without any borrowings from such institutions; the conclusion is that the above paradox is more a result of the distortions in the views and the practices of the banking authorities than being suggestive of risky conditions of production in the IMPS.

4.5.5 Loan Outstanding

Analysis of data shows that loan outstanding per sample IMPU is Rs. 37628.43 and the average loan outstanding for the indebted IMPUs taken loan irrespective of formal and informal financial sources is Rs. 58794.42 (Table 4.9). The loan outstanding per indebted IMPU taken loan from formal financial institutions (SBI in this case) is Rs. 74846.09 and the loan outstanding per indebted IMPU taken loan from informal financial source (Money Lenders) is Rs. 16142.88. Borrowings from formal financial institutions account for 92.49 percent of the total value of loan outstanding and borrowings from informal source form 7.51 percent of such outstanding (Table 4.9).

Correlating the number of IMPUs having loan outstanding with size class of fixed capital and assets of the enterprises, it is found that highest percentage of enterprises (33.59%) having loan outstanding are in the fixed capital and assets size class range of Rs. 450000 to less than Rs. 750000; followed by 26.56 percent in the size class range of Rs. 150000 to less than Rs. 450000 (Table 4.10). Only 1.56 percent enterprises having loans outstanding are in the fixed capital and assets size class of Rs. 1650000 and above. Altogether 128 (64%) sample IMPUs are having loan outstanding. This implies that majority of the IMPUs are indebted.

Table 4.9: Loan Outstanding of Sample IMPUs by Sources of Loan (2006-07)

Source of Loan	No. of IMPUs	Total Loan Amount of IMPUs (Rs.)	Outstanding of Loan Amount (Rs.)	Average Loan Amount of Indebted IMPUs (Rs.)	Average Outstanding of Loan Amount of Indebted IMPUs (Rs.)
Formal Financial Institutions (SBI)	93	11500000	6960686 (92.49)	123655.91	74846.09
Informal Financial Source (Money Lenders)	35	690000	565000 (7.51)	19714.29	16142.88
ICS/SHGs/Relatives	-	-	-	-	-
Other Sources	-	-	-	-	-
Total	128	12190000	7525686	95234.38	58794.42

			(100)		

Note: i) Figures in Parentheses ( ) indicates percentage to total loan outstanding
ii) ICS = Informal Credit Society; SHGs = Self Help Groups
Source: Field Data

Table 4.10: No. of Sample IMPUs having Loan Outstanding by Size Class of Fixed Capital and Assets Value (2006-07)

Size Class of Fixed Capital and Assets Value (Rs.)	No. of IMPUs having Loan Outstanding	Percentage to Total Indebted IMPUs
Less than 150000	2	1.56
150000 – 450000	34	26.56
450000 – 750000	43	33.59
750000 – 1050000	31	24.22
1050000 – 1350000	12	9.38
1350000 – 1650000	4	3.13
1650000 – 1950000	2	1.56
1950000 & above	Nil	Nil
Total	128	100

Source: Field Data

An attempt is made to determine the association between loan outstanding of the indebted sample IMPUs and age of the enterprise, size of the firm, size of the family, age of the entrepreneurs, education level and caste of the entrepreneurs.

A statistical analysis using the “Correlation Matrix” is undertaken and the result is given in table 4.11.

Table 4.11: Relationship between Loan Outstanding of Indebted IMPUs with Age of the Enterprise, Firm Size, Family Size, Age, Education Level and Caste of the Entrepreneurs

	Enterprise Age	Firm Size	Family Size	Entrepreneurs Age	Entrepreneurs Education Level	Entrepreneurs Caste	Outstanding Loan
Enterprise Age	1.000	0.456**	0.387**	0.336**	0.185*	0.312**	0.161
Firm Size		1.000	0.555**	0.219*	0.175*	0.136	0.193*
Family Size			1.000	0.381**	- 0.010	0.137	- 0.023
Entrepreneurs Age				1.000	0.008	0.029	0.024
Entrepreneurs Education Level					1.000	0.054	0.435**
Entrepreneurs						1.000	0.061

Caste							
Outstanding Loan							1.000

Note: * - Correlation is significant at 0.05 Level (2 tailed)
** - Correlation is significant at 0.01 Level (2 tailed)

From the correlation matrix's result, it is seen that education level of the entrepreneur and size of the firm are statistically significant explanatory variables. This implies that more educated an entrepreneur and the larger the size of the firm, the more is the chance of getting access to financial institutions for credit.

4.5.6 Education Level and Loan Outstanding

A few studies reveal that education levels of the entrepreneurs influence positively their magnitude of borrowings (ILO: 1994; Singh: 1994; Panda: 1998; Upadhyay: 2007; Roomi and Parrot: 2008). In our sample, 51 (39.84%) IMPS indebted units are headed by entrepreneurs having educational level of Primary standard. Thirty-Seven (28.91%) and 36 (28.31%) such indebted enterprises are having entrepreneurs with educational qualification of Middle standard and Secondary level or Matric respectively. The number of indebted enterprises having entrepreneurs with educational qualification of Graduation (General) is 3 (2.34%). Lowest number of enterprises (1 in number and 0.78%) having outstanding loan are headed by entrepreneurs with educational level of Higher Secondary. None of the enterprises are indebted having illiterate entrepreneurs. In the indebted enterprises group, average value of loan outstanding per enterprise increases as the educational level of the entrepreneurs' increases. Such average value of loan outstanding per enterprise is the lowest at Rs. 54174.24 for enterprises having Primary standard. The average value of loan outstanding per enterprise for enterprises having

Middle standard entrepreneurs is Rs. 59732.16 and for the entrepreneurs having educational qualification of Secondary level or Matric, the average value of loan outstanding per enterprise is Rs. 61985.89. It increases as the educational levels of entrepreneurs' increases from Secondary level to Graduation level (Table 4.12). This average is highest at Rs. 85406 for enterprises having entrepreneurs with education level of Graduation (General). Since the average loan outstanding per enterprise in the indebted enterprises group increasing with the increase in the educational level of the entrepreneurs, hence the fact conforms to the theory that more educated an entrepreneur is more are the chances of getting access to financial institutions for credit.

Table 4.12: No. of Indebted Enterprises by Education Levels of Entrepreneurs

Educational Level	Indebted IMPUs		Loan Out-standing (Rs.)	Loan Outstanding per Enterprise (Rs.)
	No.	Percentage to Total		
Illiterate	-	-	-	-
Primary	51	39.84	2762886	54174.24
Middle	37	28.91	2210090	59732.16
Secondary (Matric)	36	28.13	2231492	61985.89
Higher Secondary	1	0.78	65000	65000.00
Graduate (General)	3	2.34	256218	85406.00
Graduate (Technical)	-	-	-	-
Others	-	-	-	-
Total	128	100	7525686	58794.42

Source: Field Data

4.6 Access to Formal Financial Institutions

4.6.1 Access to Formal Financial Institutions and Educational Level

In total 93 (46.5 %) enterprises out of 200 are having access to formal financial institutions (Table 4.13) for credit. Out of these 93, 33 (35.48%) are having entrepreneurs with education level of secondary level (matric) or above. None of such indebted enterprise is having illiterate entrepreneurs. This implies that entrepreneurs with higher education level are having better access to formal credit institutions. Education thus plays an important role in determining the access of the entrepreneurs to FS finance.

Table 4.13: Enterprises Indebted to Formal Financial Institutions by Education Level

Education Level	Enterprises Indebted to Formal Financial Institutions	
	Number	Percentage to Total
Illiterate	-	-
Primary	30	32.26
Middle	30	32.26
Secondary (Matric)	29	31.18
Higher Secondary	1	1.07
Graduate (General)	3	3.23
Post-Graduate and Above	-	-
Total	93	100

Source: Field Data

4.6.2 Access to Formal Financial Institutions and Size of the IMPUs

Studies show that as the size of the IMPUs increases, their access to formal credit institutions also gets enhanced[4]. In our case study we also derive the same conclusion (Table 4.14). Out of 93 enterprises having loan outstanding to formal financial institutions, 50 (53.8%) are having a firm size of 6 and above but less than 10, 33(35.5%) a firm size of 4-5, 6 (6.45 %) a firm size of 3, and only 4 (4.3%) a firm size of 2. Thus larger firms are having greater access to formal financial institutions than smaller ones. Further, analysis of our field data reveals that 72.04 percent of the IMPUs having access to formal financial sector borrowings are employing around 2 hired labours continuously, whereas almost 27.96 percent of such IMPUs operate without any hired labourer

employed on continuous basis. This means that IMPUs without employing at least one hired labourer continuously have little access to formal financial institutions.

Table 4.14: Enterprises having Outstanding Loan to Formal Financial Institutions by Size Criteria

Size of the IMPU/ Enterprise	Indebted IMPUs/Enterprises	
	Number	Percentage to Total
1	Nil	Nil
2	4	4.3
3	6	6.4
4 – 5	33	35.5
6 & Above	50	53.8
Total	93	100

Note: Size of the firm is measured in terms of number of persons employed.
Source: Field Data

So far the size of the IMPUs[5] and their accessibility to formal credit institutions are concerned, the accessibility of the IMPS units to formal credit institutions can also be examined in terms of the value of fixed capital and assets of the IMPUs. Out of 93 enterprises having loan outstanding to formal financial institutions, 1(1.08%) is having the value of fixed capital and assets upto Rs. 150000, 23 (24.73%) are having the value of fixed capital and assets within the range of Rs. 150001 - Rs. 450000, 29(31.18%) are having the value of fixed capital and assets within the Range of Rs. 4.50001 - Rs. 750000 and 40(43.01%) are having the value of fixed capital and assets within in the range of Rs. 750001 and above (Table 4.15). Thus larger IMPUs with higher value of fixed capital and assets are having greater access to formal financial institutions than smaller ones.

Table 4.15: Enterprises having Outstanding Loan to Formal Financial Institutions by Size Criteria (Fixed Capital and Assets' Value)

Range of Fixed Capital and Assets' Value of the IMPU (Rs.)	Indebted IMPUs/Enterprises	
	Number	Percentage to Total
Up to 150000	1	1.08
150001 – 450000	23	24.73
450001 – 750000	29	31.18

750001 and Above	40	43.01
Total	93	100

Source: Field Data

4.7 Summary

To sum up, majority of the IMPUs view lack of funds as their most important constraint. Almost all enterprises depend on their own funds for working capital and majority of them also depend on the same source for their fixed capital requirements. Money lenders play an important role in providing credit to meet the working capital needs of the IMPS enterprises. However, the average annual rate of interest charged by the money lenders on an average comes to 72 percent, which is five times more than the average annual rate of interest charged by the FS financial institutions. Formal financial institutions provide finance for working capital to limited number of enterprises. Majority of the entrepreneurs did not seek any credit from the banks primarily because of complicated lending procedures of the banks, non-cooperation by the banking authority, ignorance about the bank credit, smallness of the enterprises and their insistence on fixed collateral requirements. Majority (92%) of the IMPUs in Guwahati feel the necessity of credit and are prepared to borrow at the same or higher rate of interest at which the FS units borrow. Again majority of the IMPUs feel that their turnover will increase if credit is made available to them. This has been confirmed by analysis of our field data. Turnover of per unit having borrowings from any source (formal and/or informal) is 6.06 percent higher than the turnover of per unit having no borrowings. Among the indebted IMPUs, the turnover of per unit having borrowings from only formal financial institutions is 19.75 percent higher than the turnover of per IMPU having borrowings from only informal sources. Non availability of bank credit to them presents a paradox. This is

essentially because of the distortions in the views and lending practices of the banks. Majority of the IMPUs are indebted. However, the nature and extent of loan outstanding vary according to the size of the enterprises. Loan value outstanding per indebted enterprise increases with the increase in the education level of their entrepreneurs. Enterprises having entrepreneurs with higher education level are having better access to formal credit institutions. Size of the enterprise also positively influences their access to FS borrowings. IMPUs employing no hired labour on continuous basis are having little access to FS borrowing whereas such units employing at least one hired labourer on continuous basis are having a lion's share in FS credit. Hence it can safely be concluded that the dice of FS credit is comparatively loaded in favour of the bigger enterprises, and enterprises having entrepreneurs with higher education levels. This also shows segmentation of the IMPS units on the question of availability of FS credit

End Notes

[1] IAMR National seminar on "Employment promotion in the urban IS" was held in December 14-15, 1995 in collaboration with the ILO. Seminar paper on technical session III subtitled "integrated development of urban informal sector" was prepared by V.K. Dhar of N.I.U.A., New Delhi.

[2] Hubert Schmitz, World development, Vol. 10, No. 6, 1982, pp. 429-450.

[3] Hans Singer, Chief of the ILO, Kenya Mission also concludes in this one.

[4] See Chandavarkar in Jacob Levistky's edited Volume "Micro Enterprises in Developing Countries", 1988; and Levy, World Bank Economic Review, Vol. 7, No. 1, 1988.

[5] Size of the IMPUs indicate here in terms of the monetary value of "Fixed Capital and Assets" of the enterprises/units.

CHAPTER – V

LINKAGE PATTERNS IN THE INFORMAL MILK PRODUCING SECTOR

5.1 Introduction

One school of researchers opine that the very birth of the IS is due to the formal sector's growth and the former's future growth depends upon the latter's growth and prosperity. Another view although not so often expressed but nevertheless finds mention is that whatever may be the reasons for the birth of the IS, the ultimate growth and continuity of the FS depends on the survival and growth of the former. Leaving aside the controversy "who is for whom", the fact which is beyond doubt is that no piece of research on IS will be completed without an analysis of such linkage patterns between them. The studies of this inter linkage – its nature and extent assumes importance in view of its utility in employment and investment planning.

There are two fundamental views about the linkage patterns between the two sectors. One view sees the relationship between the two sectors as mutually beneficial (ILO: 1972; Papola: 1981; Sethuraman: 1981; Rahman *et al.*: 1989; Harriss: 1990; Kundu and Lalitha: 1998; Shah: 1998; Omore *et al.*: 1999; Dastagir: 2003; Sidhu and Bhullar: 2004; Mian: 2007). These authors discuss the positive relationship between the two sectors in terms of various demand and supply linkages. For example, the FS depends upon the IS for cheap intermediate goods for use in further production; wage goods for its employees, for services; for sale of its final products, etc. and the IS also depends upon the FS for various types of inputs such as raw materials, intermediate products, credit and sale of its products and marketing.

The opposite view terms this inter-sectoral relationship as basically exploitative and some studies have established this exploitative character empirically (Gerry: 1974; Landreth: 1976; Bose: 1978; Romatet: 1983; Shaw: 1985; Samal: 1990; Schmitz: 1990; Panda: 1998; Mitra: 1998; Rajput and Yadav: 2004; Jangid and Rohilla: 2004; Upadhyay: 2007). As one scholar Portes (1978) says –

"Even the apparently benign linkage of the supply of cheap informal sector wage goods to blue collar formal sector worker can be interpreted malignantly: the informal sector subsidises part of the costs of formal capitalist enterprises in peripheral capitalist countries, enabling them to reinforce comparatively low wages on their own labour"[1].

The IMPUs have both backward and forward linkages effects. ILO (2001), made a study in Kenya and Ghana on 'Conceptual frame work for employment creation' in informal dairy sector, find that much of the employment is created by the forward linkage, viz., marketing and processing of milk in urban areas. The backward linkages include purchase inputs, supplies and services used by informal dairy entrepreneurs.

Barrett and Reardon (2000) show the forward linkage effects of IMPS in their study made in Kenya and Ghana. They specifically highlighted the role of dairy processors and traders in processing of dairy products and marketing. It should be noted, however, that these agents also hire services from others to repair their equipment, provide transport, etc., which in turn creates indirect employment.

Taylor (2001) states about the forward linkage effects of IMPUs through marketing and processing businesses. He shows from his survey that every 100 litres of milk traded in by marketing and processing business can create direct and indirect jobs for retailers, assemblers and small-processors through forward linkages effects. It is measured in numbers, 17.20 persons in Ghana, 13.42 persons in Bangladesh and 4 persons in Kenya.

Tuteja and Sing (2004) show that in Haryana state, the milk processing units on an average generate employment of 8.40 persons in Gurgaon and 5.86 persons in Jind districts through forward linkages effect.

Ramachandran (2004) shows from his study made in Kanyakumari district of Tamil Nadu that the informal dairy enterprises give employment opportunities in the form of sale of milk, processing of milk and marketing of milk and milk products through forward linkages effect.

With regard to backward linkages effect of IMPS, Ramachandran (2004) shows from his study made in Kanyakumari district of Tamil Nadu, that the informal dairy enterprises give employment opportunities in the form of collecting dung, cleaning shed, watering and feeding animals, grazing and cutting grass.

Irrespective of the debate on the nature of relationship, the fact that there is some kind of interlinkage between the two sectors formal and informal, provides enough ground to study at micro level the nature of such linkages in order to devise suitable micro level employment and investment policies in the overall context of urban regional planning. Since in our study area, i.e., the Greater Guwahati, a class-I town of Assam, no such study has yet been undertaken in this aspect, we feel the necessity of such a study for formulation of effective micro-level planning with specific reference to employment creation and investment allocation.

These linkage patterns can be studied in the pattern formulated by Reichmuth[2]. His analysis of linkages involved between the two sectors is worked out with particular reference to production activities and therefore much suitable to our analysis. Broadly we have three types of linkages –

(a) Direct forward linkages

(b) Direct backward linkages

(c) Indirect linkages (structural or macro-level linkages)

In our analysis we concentrate only on “direct forward” and “direct backward linkages” and exclude from the purview of analysis the “indirect linkages” because of complications involved in their derivation and testing.

Direct forward linkages pertain to provisions of outputs including sales of products, sub-contracting and job work and direct backward linkages pertain to provisions of inputs: (a) material inputs, viz., raw materials, equipment, intermediate goods and (b) non-material inputs, viz., finance, energy and skill acquisition.

5.2 Direct Forward Linkages

5.2.1 Sale of Products

So far as the direct forward linkage in terms of sale of final products/raw materials (milk) to the FS is concerned, it is found to be weak (Table 5.1). Only 1.38 percent of total sales (in money terms) of IMPS units is made to the FS (Co-operative Societies) and the highest percentage of total sales, 98.62 percent is made directly to the IS (middlemen). Hence direct forward linkage with the FS is very weak.

5.2.2 Sale of By-Products

IMPUs not only produce final products/raw materials but simultaneously they produce by-products – cow-dung also. Although the cow dung has a great economic value as in the form of organic manure for enhancing agricultural production and also in the preservation of bio-diversity in balancing environment, but due to the concentration of the IMPUs in urban area or in urban periphery/urban suburb, the demand for the by-

products of the IMPUs is negligible. So it suffers from lack of a competitive market. So far as the direct forward linkage in terms of sale of by-products of the IMPUs to the FS is concerned, it is found nil (Table 5.1). The whole sales (in money terms) of by-products of IMPS units are made to the IS, i.e., middlemen.

Table 5.1: Enterprises by Major Source of Disposal of their Products/By-Products/Services (2006-07)

Source of Disposal	Amount of Sales Products (lt)	Monetary Value and Percentage		Sale of By-Products		
		Percentage of Sale	Total Sales Value (Rs.)	Total Amount of By-Products (in Trucks)	Percentage of Sale	Total Sale Value (Rs)
Formal (Co-operative Societies)	114840	1.38	2009700	-	-	-
Government	-	-	-	-	-	-
Informal (Middlemen)	8218200	98.62	143818500	38	100	45600
Directly to Consumers	-	-	-	-	-	-
Total	8333040	100	145828200	38	100	45600

Source: Field Data

5.2.3 Subcontracting

Direct forward linkage in terms of limited exchange of output of the IMPUs with the FS are found through subcontracting. This linkage between the informal and formal is too weak. Only 1.38 percent of the total sold milk is transacted (sold to the registered Co-operative societies) by the IMPUs. There is in total 8 numbers of registered “Co-operative Societies” of the sampled IMPUs. Under each “Co-operative Society” there are a certain number of its members (IMPUs). Each ‘Co-operative Society’ of the sample IMPUs makes provision of floating credit to the IMPUs from the formal financial institutions (particularly from SBI). The society takes the risk as guarantor for granting credit by the formal financial institutions to its members (IMPUs). As a result of institutionalisation of credit, the Society contracts with the indebted IMPUs, which get

the loan under the Society's guarantee subject to giving 2 litres of milk per day against loan amount of rupees one lakh. Some other IMPUs of a Society give one or two litre/litres of milk to the Society in the hope that the Society will make recommendation of their name and take guarantor role for getting credit from the formal financial institutions. The Society collects the milk and sales it to the middlemen as per prior contract, charging a minimum price of Rs. 0.50 per litre of milk sold, over and above the usual rate to meet their day-to-day operational expenditures. This is a typical type of "extended subcontracting"[3] and there is no system of technology or technical know-how being transferred to these middlemen. The sales proceeds are kept with the Society as deposits. The Society makes use of this money to pay off the pending loans of the IMPUs if they default on their payment. Those IMPUs who regularly pay-back their loans and clear their loan over-dues, the Society return the accumulated deposits against their name to the respective IMPUs. These best performing IMPUs can again be recommended for further doses of loan, if they so need, by the Society. The Co-operative Society helps in channelising the credit flow to its member IMPUs. Thus the FS (i.e., Co-operative Societies) are not an institution of exploitation rather it is an institutions of facilitation for the IMPUs.

On the other hand, direct forward linkage of the IMPUs with the IS is very strong. It is found, around 100 percent of the sampled IMPUs sale 98.62 percent of their total milk products in terms of value transaction to the middlemen (IS) according to their prior contract.

5.3. Direct Backward Linkages

5.3.1 Inputs Linkage

Material inputs, viz., fodder concentrate is essential and inevitable for a dairy enterprise for rearing of healthy milch animal (cow/buffalo). So far as the direct backward linkage in purchases of material inputs, viz., fodder concentrate from the FS (government and private) is concerned, it is nil (Table 5.2). All, i.e., 100 percent of total purchases (in money terms) of material inputs requirements of IMPUs is made from the IS vis-à-vis from private retail sellers and from private whole sellers respectively. The purchases of the material inputs are made directly from the IS sellers. Highest percentage of total purchases (99.66%) is made from private retail sellers and only 0.34 percent is made from private whole sellers. Hence direct backward linkage with the FS is nil.

As far as the green and dry fodder, viz., green grass, dry straw and fuels is concerned, the direct backward linkage in purchases (in money terms) of these fodder requirements of the IMPUs from the FS is nil. Hundred percent of total purchases of these green grass, dry straw and fuels of IMPUs is made from IS only (Table 5.3). Higher percentage of total purchases (57.5%) of green grasses is made directly from the middlemen and the rest (42.5%) is made from the retail private fodder firms. With regard to the purchases of dry straw and fuels of IMPUs from IS, only 13.93 percent of total purchase is made from the wholesale traders, 30.42 percent from the middlemen and the highest percentage of total purchases (55.65%) is made from retail traders.

In respect of an another important inputs, viz., medicine and healthcare respectively, so far as the direct backward linkage in purchases of these inputs, viz., medicine and healthcare measures from the FS is concerned, it is to be weak (Table 5.4). Only 0.54 percent and 11.11 percent of total purchases (in money terms) of medicine and

healthcare services of IMPUs are made from the FS, i.e., government departments (i.e., government medical service). On the other hand, 79.74 percent and 19.72 percent of total purchases of medicines and 88.89 percent of total purchases (in money terms) of healthcare (animal) services are made from private pharmacy, middlemen and private veterinary doctors and compounders respectively. Hence, it can safely be concluded that the direct backward linkage between the IMPUs and FS are nil in case of fodder concentrate, green grass, dry straw and fuels inputs and weak in case of medicine and healthcare inputs. But such a linkage between sample IMPUs and other IS is very strong.

Table 5.2: Distribution of Sample Enterprises by Major Sources of Purchase of Material Inputs (Fodder Concentrate) (2006-07)

Source of Purchase	Percentage	Total Value of Fodder Concentrate (Rs.)	Location of Purchase
Private Retail Sellers	99.66	71380177	Within the city Guwahati
Private Whole Sellers	0.34	241920	Within the city Guwahati
Government	-	-	-
Formal (Private)	-	-	-
Total	100	71622097	Within the city Guwahati

Source: Field Data

Table 5.3: Distribution of Sample Enterprises by Major Sources of Purchase of Green Grass, Dry Straw and Fuels (Inputs)

Source of Purchase		Green Grass			Dry Straw & Fuels		
		Percentage to Total Value	Value of Green Grass (Rs.)	Purchase Location	Percentage to Total Value	Value of Dry Straw and Fuels (Rs.)	Purchase Location
Informal Sector	Private Firms	42.5	9095900	Outside Guwahati	-	-	-
	Middlemen	57.5	12305875	Within the Guwahati	30.42	280000	Within Guwahati
	Retail Traders	-	-	-	55.65	512200	Within Guwahati
	Wholesale Traders	-	-	-	13.93	128200	Within Guwahati
Formal Sector	Government	-	-	-	-	-	-
	Formal (Private)	-	-	-	-	-	-

Total	100	21401775		100	920400	

Source: Field Data

Table 5.4: Distribution of Sample Enterprises by Major Sources of Purchase of Medicine and Healthcare Services (Inputs)

Source of Purchase		Medicine			Healthcare Services		
		Percentage to Total Value	Value of Medicine (Rs.)	Purchase Location	Percentage to Total Value	Value of Health Care (Rs.)	Purchase Location
Formal Sector	Formal (Private)	-	-	-	-	-	-
	Government Medical Service	0.54	3000	Within Guwahati	11.11	20000	Within Guwahati
Informal Sector	Private Pharmacy	79.74	448840	Within Guwahati	-	-	-
	Middlemen	19.72	110000	Within Guwahati	-	-	-
	Private Medical Service	-	-		88.89	160000	Within Guwahati
Total		100	557840		100	180000	Within Guwahati

Source: Field Data

Data also reveal that all of the sample units reporting purchase of main material inputs, viz., fodder concentrate, medicine, healthcare services, dry straw and fuels are within the Greater Guwahati City. In case of the input green grasses, data reveal that out of 191 sample units reporting purchase of green grasses, 163 (85.34%) purchase them within the Greater Guwahati City, 24 (12.57%) make such purchase outside the city exclusively, and 86 (45%) purchase both within the Greater Guwahati City and outside the Guwahati City. This implies that the market for input materials/intermediate products is localised.

5.3.2 Financial Linkage

So far as direct backward linkage with regard to credit supply is concerned, 184 (92%) sample IMPUs sought credit. Out of that, 128 sample IMPUs received credit which is 69.57 percent of the IMPUs those who sought loan/credit and it constitutes 64 percent of the total sample IMPUs. Out of the total 128 indebted sample IMPUs, 93 percent IMPUs (i.e., 72.66%) have directly received credit from FS financial institutions (here SBI) and 35 sample IMPUs constituting 27.34 percent of the total indebted sample IMPUs have received such credit from informal sources. This implies that although the direct backward linkage for supply of credit input with the FS is stronger to such direct backward linkage with the IS, yet the latter is not that much weak.

5.4 Other Characteristics

About three-fourth of the IMPUs reveal that they purchase their main input materials at a premium, i.e., at a price on an average 9 percent more than the market price when they purchase them on credit.

5.5 Summary

Analysis of linkage patterns of IMPUs shows that direct forward linkage of these units with the FS (i.e., registered Co-operative Societies) through the provision of sale of outputs/by-products/services is extremely weak. Direct forward linkage with the FS through subcontracting is found in case of 100 enterprises (i.e., 50% of the sample IMPUs). However, in terms of value transaction, it forms only 1.38 percent of the total value of the output sold.

The direct forward linkage between the IMPUs and the IS in terms of sale of output happens to be very strong. Almost all the selected sample IMPUs are having direct

forward linkage in terms of sale of product and by-products with the IS. In terms of value transaction, it comes to 98.62 percent of the total value of the output sold. The relationship between the IMPUs and the IS acts as the mechanism of ensuring market facility and reducing uncertainty of the output markets for the informal milk producing entrepreneurs.

IMPUs have some direct backward linkages in terms of material and non-material inputs, viz., fodder concentrate, green grass, dry straw and fuels, credit and cattle healthcare medicines and services with the FS. This linkage is too weak except the linkage with respect of credit. Of the total IMPUs who have availed credit, 72.66 percent have got it from the FS financial institutions (here SBI) and it constitutes 46.50 percent of the total sample IMPUs. Only 11.11 percent of the IMPUs depend wholly or partially on FS for their inputs of materials, viz., cattle healthcare medicines and services needs. However, direct backward linkages with the IS through the retail and wholesale traders are found to be very strong. There is exploitation of the IMPUs in terms of supply of material inputs at a premium by the IS.

In passing, in the Greater Guwahati City, in an independent environment, the IMPUs are not dependent on the FS for sale of their products; however they are dependent on the FS to some extent directly and to a great extent indirectly for the purchase of material inputs. Their dependence on other IS for both these purposes is very strong.

End Notes

[1] Portes, A. (1978): "The Informal Sector and the World Economy – Notes on the Structure of Subsidised Labour", *IDS Bulletin*, June, p. 37.

[2] Reichmuth (1978): He speaks of direct linkages (both forward and backward), which involve actual transfers of production through the provisions of supply of and demand for inputs and outputs. His indirect linkages (he calls them macro-level or structural linkages) refer to mechanisms of exclusion and to competition and complementarily in production and markets of factors and goods.

[3] These IMPUs are provided all sorts of help by their respective "Co-operative Societies" for getting credit/borrowings from the formal financial institutions and in return of it, these IMPUs are prepared to sale a portion of their product to the Society. Again, the Societies sale it to the middlemen according to their prior contract.

CHAPTER – VI

PROFILE OF THE ENTREPRENEURS IN THE INFORMAL MILK PRODUCING SECTOR AND THE DETERMINANTS OF THEIR INCOME

6.1 Entrepreneur

Entrepreneur happens to be an important factor of production, among all factors of production. Being the human factor, entrepreneurship happens to be the active factor in the production process.

The entrepreneur is the driving force of business, an innovator of products and production techniques, a maker of his firm's policy decisions, a bearer of risk and uncertainty. He may be all of these. He organises a new firm, or enters a new market, introduces a new product, or installs a new process which requires investment in new, untried equipment. He is a 'communication specialist'. He is the co-ordinator, the uncertainty-bearer, the capital-owner, the residual-claimant. Profit or net revenue or surplus is the aim of the entrepreneur.

The concept of entrepreneur as well as entrepreneurship and economic development are intimately connected to each other. "Peter Druncker" has emphasised that this is the age of entrepreneurial society. Economic development and growth of a country depends to a great extent upon effective entrepreneurship.

The traditional literature on entrepreneurship is pregnant with discussion on entrepreneurship development. However, literature on theories governing the entrepreneurship, its growth, its nature and its role, in the IS are relatively scant. This is the reason for which we have made an attempt here to study the dynamics concerning the entrepreneur in IMPS.

6.1.1 Definition of Entrepreneur

Schumpeter was the first economic thinker to have assigned the entrepreneur a key role in the process of economic development (Desai: 2002). An entrepreneur is described and defined in various ways.

According to Schumpeter (1934), the entrepreneur is one that has the quality of leadership in being a pioneer in breaking new grounds. He does not go by rational calculations but is an innovating/dynamic type of individual who enjoys facing challenges and doing something new.

Sayigh (1962), defines, entrepreneurship as a dynamic force. The entrepreneur, therefore not only launches a venture, but also contributes to the objectives of employment creation, output growth, technological up-gradation and improvement in the quality of production, export promotion, import substitution and supply of goods at a reasonable price to the customers.

In his another definition Schumpeter (1967) defines, “An entrepreneur is one who with his innovative nature proves economic leadership to engineer discontinuous dynamic change by forcing means of production into new channels”. He visualised this happening by means of –

“Introduction of a new product, institution of a new technology, opening a new market, discovery of a new source of supply of raw materials and carrying out a new form of organisation”.

According to Shackle (1970) and Knight (1971), an entrepreneur is an adventurer – he bears risk and uncertainty, tries to discover and supply new knowledge and bears the incidence of its limitations.

Druncker (1985) defines, an entrepreneur as one who plays a crucial role for the creation of new small enterprises that energises the economic structure. Through constant creativity, new entrepreneurs assure a strong economy and rising national income. Carland *et al.* (1984) and Collins *et al.* (2004) define entrepreneur in the same line and according to them – "An entrepreneur is someone who independently owns and actively manages a small business".

The definition put forwarded by Chakraborty and Chakraborty (2007) is that an entrepreneur and its entrepreneurship is considered to be a better career option as it makes an individual financially self-reliant as well as adds to the economy's wealth creation process, paving the path to fast growth and development of the nation. Entrepreneurs initiate and sustain the process of economic development in the following ways –

(a) Capital formation; (b) generation of employment; (c) improvement in per capita income; (d) balance regional development; (e) improvement in living standards; (f) economic independence and (g) backward and forward linkages.

According to Rao (2008), a person, who has the ability to identify a real market for a product or service idea, can price it economically, and make the whole venture sustainable, can be considered an entrepreneur. Further, the term entrepreneur could also pertain to a business innovator whose creative vision leads to a venture that builds and adds value to an existing supply chain, contributes to a country's productivity and generates employment opportunities.

6.1.2 Review of Related Literature

Scholars like Spalter, *et al.* (1992), Schmitz (1993), Schmitz and Muzyck (1994), Nadvi and Schmitz (1994) commented on the entrepreneurs of IS enterprises. They have seen a simultaneous mushrooming over the past twenty years of literature on the role of micro-finance and IS enterprises in economic development, especially poverty alleviation. Much of this literature tells tales of small businesses that attract attention either because they are run by shoe-string entrepreneur in adverse settings, or because they are managed owned by especially entrepreneurial women in settings where women cannot run businesses, or because they are entrepreneurial in how they manage to operate in the informal economy.

Literature on informal enterprise's entrepreneur is mostly related with the economic sociology of immigrants. Immigrants largely land up in informal activities which are closely related to their participation in small-scale entrepreneurship. For some immigrants, the informal economy is a means of survival in an alien social environment; for others, it is a vehicle for rapid economic ascent. Still for others, it is a way of reconciling economic needs with culturally defined obligations. A study of the Haition informal economy in Miami reveals that discrimination, official hostility and lack of resources forced the Haitians into informal menial and low paid activities. This is also true of many established informal enterprises in Chinatown in New York (Portes: 1995). The immigrants largely depend on family-based strategies of economic adjustment, because it may be the only resource available to those who came with few material assets and low-level skills and also demand and supply interact to generate entrepreneurship (Light and Rosenstein: 1995). Waldinger *et al.* (2000) have developed an explanation for immigrant enterprises that they undertook generally the informal enterprises because

these enterprises lower the entry barriers to immigrants with limited capital and technical resources.

In this chapter, we make an analysis of the personal characteristics of the entrepreneurs of the IMPS in the city of Guwahati and how these characteristics affect the working of the IMPUs.

6.2 Personal Characteristics

Ninety nine percent (99%) of the sample IMPUs are proprietary units[1] and only 1 percent IMPUs are run on partnership basis, managed by two owners. Data further reveal that IMPS in Guwahati city is primarily a male domain. 195 (96.5%) entrepreneurs of the sample IMPUs are male and only 7 (3.5%) are female (Table 6.1). The male dominance of enterprise headship is due to the nature of enterprises selected. The entrepreneurs of the sample units of IMPS of Guwahati city are from different communities. Highest percentage of entrepreneurs (96.04%) is from Nepali community and Hindu by religion. Only 4 (1.98%) entrepreneurs are each from Assamese and Bihari communities. The significant point is that all the entrepreneurs of the sample IMPUs are Hindu by religion. Thus IMPUs of Guwahati city are dominated by Nepali entrepreneurs (Table 6.1).

Table 6.1: Distribution of Entrepreneurs by Sex, Community, Religion and Marital Status

		Sex		**IMPUs as a whole**
Community		**Male**	**Female**	
	Nepali	187	7	194 (96.04)
	Assamese	4	-	4 (1.98)
	Bihari	4	-	4 (1.98)
	Others	-	-	-

Total	No. of Entrepreneurs	195 (96.5)	7 (3.5)	202 (100)
Religion	Hindu	195 (96.5)	7 (3.5)	202 (100)
	Muslim	-	-	-
	Christian	-	-	-
Marital Status	Married	192	7	199 (98.51)
	Unmarried	3	-	3 (1.49)
Total Entrepreneurs		195 (96.5)	7 (3.5)	202 (100)

Note: Values in parentheses ( ) indicate percentage to total
Source: Field Data

6.3 Education, Family Size and Age

Education is an important factor affecting the efficiency and dexterity of the entrepreneurs. There exists a good number of literatures on this aspect[2]. Further, in the IS literature, findings on educational level of entrepreneurs suggest a low level of schooling of entrepreneurs. A study on Manila found that 48 percent of the entrepreneurs had not completed their high school[3]. Another study on IS enterprises (excluding those operating without premises and those based in home) in selected towns in India found that 35 percent of entrepreneurs had schooling below matric (secondary) level[4]. Our case study confirms to these findings. Table 6.2 shows that 34.65 percent of the entrepreneurs are having education upto primary level, 31.19 percent of the entrepreneurs are middle standard, 29.21 percent is secondary level and 0.99 percent is illiterate. There is not a single post graduate entrepreneur and the percentage of graduate entrepreneurs are only 1.98. If we club together the primary level and middle standard to constitute the below matric[5] level of the entrepreneurs, then the number of entrepreneurs, below matric level comes to 66.83 percent. The rest 1.98 percent entrepreneurs are higher secondary/ intermediates[6] level. The total number of entrepreneurs having educational qualification of higher secondary and more is only 3.96 percent. On the other hand, the low variance

(0.918) of education level of the entrepreneurs of the sample IMPUs, shows the less existence of segmentation among the units of the IMPS in Guwahati city.

Table 6.2: Distribution of Entrepreneurs by Educational Level

Level of Education		Sexwise Number of Entrepreneurs		
		Male	Female	Total
Illiterate		1	1	2 (0.99)
Primary Level		66	4	70 (34.65)
Middle Standard		63	-	63 (31.19)
Secondary Level		57	2	59 (29.21)
Higher Secondary		4	-	4 (1.98)
Graduate	General	4	-	4 (1.98)
	Technical	-	-	-
Post Graduate Level		-	-	-
Others		-	-	-
Total		195 (96.53)	7 (3.47)	202 (100)
Standard Deviation of the Education Standard of the Entrepreneurs of the Sample IMPUs = 0.958				
Variance of the Education Standard of the Entrepreneurs of the Sample IMPUs = 0.918				

Note: Values in parentheses ( ) indicate percentage to total
Source: Field Data

The average size of the family of the entrepreneurs of the sample IMPUs is 6.4 persons. Majority of the entrepreneurs, 90 (44.55%) are having family size of 6-8 (Table 6.3) persons. Only 0.99 percent of the entrepreneurs are having a family size of 1-2 persons, but 82.18 percent of the entrepreneurs are having a family size of 3-8 members. The low variance (5.508) with respect to family size of the entrepreneurs indicates lower degree of segmentation in urban IMPS in Guwahati city.

Table 6.3: Distribution of Entrepreneurs by Family Size

Family Size	No. of Entrepreneurs	Percentage to Total
1 – 2	2	0.99
3 – 5	76	37.62
6 – 8	90	44.55
9 – 11	31	15.35
12 and above	3	1.49
Total	202	100

Standard Deviation of the Family Size of the Sample IMPUs = 2.347
Variance of the Family Size of the Sample IMPUs = 5.508

Source: field Data

The average age of the entrepreneurs is 48.9 years. Not a single entrepreneur is below twenty five years (25) of age (Table 6.4). About 3 percent of the entrepreneurs are in the age group of within 30 years. Around 47 percent (actually 46.53%) of the entrepreneurs are in the age group of 41-50 years. Sample average age is 48.9 years and a relatively high percent (47%) of entrepreneurs in the age group of 41-50 years, suggest that IMPUs are mostly owned by the middle-aged than young entrepreneurs. This suggests that the entry to the IMPU as an entrepreneur is not that easy as it is generally made out to be. This may be due to the reason that the young first work as apprentice, workers etc. in the IMPU and then leave IMPU after acquiring necessary skill. The high variance (74.442) of the age of the entrepreneurs of sample IMPUs, shows the high degree of segmentation in urban IMPS in Guwahati city.

Table 6.4: Distribution of Entrepreneurs by Age

Age Group of Entrepreneur	No. of Entrepreneurs	Percentage to Total
21 – 30	6	2.97
31 – 40	31	15.35
41 – 50	94	46.53
51 – 60	58	28.71
61 and above	13	6.44
Total	202	100
Standard Deviation of the Age of the Entrepreneurs of the Sample IMPUs = 8.628		

Variance of the Age of the Entrepreneurs of the Sample IMPUs = 74.442

Source: Field Data

6.4 Process of Skill Acquisition

Basic skill acquisition is an important as well as a vital factor for the entrepreneurs. Studies[7] reveal that in developing countries basic skill in various types of economically productive activities is formed through apprenticeship. Here we make an attempt to study the source of skill formation of the IMPS entrepreneurs. Highest number (93.56%) of entrepreneurs has learnt the basic skill as hereditary occupation. Only 0.99 percent entrepreneurs have learnt the basic skill as apprentice in other IMPUs in the same line and 2.97 percent and 2.48 percent entrepreneurs had done so with relatives and friends as source of skill formation. These findings imply that for most of the IMPS entrepreneurs graduating to entrepreneurship happen through heredity (Table 6.5).

Table 6.5: Distribution of Entrepreneurs by their Source of Skill Formation

Source of Skill Formation	No. of Entrepreneurs	Percentage to Total
Hereditary	189	93.56
Relatives	6	2.97
Friends	5	2.48
Formal Training Centre	-	-
Other IMPUs	2	0.99
Other Enterprises in the Same Line	-	-
Total	202	100

Source: Field Data

6.5 Caste and Entrepreneurs

As far as caste of the entrepreneurs of the sample IMPUs is concerned, it is a peculiar character of the urban IMPS. The highest, i.e., 62.38 percent of the entrepreneurs belong to other caste (non-classified). The entrepreneurs belonging to OBC, SC and ST caste are 33.16 percent, 1.49 percent and 2.97 percent respectively (Table 6.6). Among the Nepali community, the entrepreneurs belonging to the OBC, SC, ST and Other castes

are 31.68 percent, 0.99 percent, 1.98 percent and 61.39 percent respectively. In case of the entrepreneurs of Assamese community, OBC and SC are 0.49 percent each and ST is only 0.99 percent to the total entrepreneurs of the sample IMPUs. From the entrepreneurs of Bihari community, there is 0.99 percent entrepreneurs each of OBC and other caste to the total of the sample IMPUs (Table 6.6).

Table 6.6: Distribution of Entrepreneurs by Caste of the Sample IMPUs

Community	Caste				
	OBC	SC	ST	Others	Total
Nepali	64 (31.68)	2 (0.99)	4 (1.98)	124 (61.39)	194 (96.04)
Assamese	1 (0.49)	1 (0.49)	2 (0.99)	-	4 (1.98)
Bihari	2 (0.99)	-	-	2 (0.99)	4 (1.98)
Others	-	-	-	-	-
Total of Sample IMPUs	67 (33.16)	3 (1.49)	6 (2.97)	126 (62.38)	202 (100)

Note: Values in parentheses ( ) indicate percentage to total.
Source: Field Data

6.6 Migration of Entrepreneurs

Rapid urbanisation and growth of employment in IS are taking place simultaneously in the process of economic development. Two phenomena are considered most often to be a result of large scale migration. The most popular model to explain the pattern of migration and its link with IS is of Todaro (1969). Migration is regarded as two-stage phenomenon in Todaro's model. The evidence emerging from the ILO nine studies suggest a strong link between migration and IS (Sethuraman: 1981). To Amin (1974), there is a "push" effect – a force of expulsion – in the process of rural-to-urban migration. The nature of this "push-effect" is closely related to the social transformation that the rural areas undergo. To several other scholars (Myrdal, 1968; Dandekar and Rath, 1971; Santos, 1979; Papola, 1981; Oberai and Singh, 1983; Aziz, 1984) migration is the result of dire poverty which alone compels the people to abandon their native land[8]. The

"push" factor 'cause' of migration to move out of their villages (Sovani, 1966; Caldwell, 1969; Connel *et al.*: 1976; Majumdar and Majumdar, 1978). Connel *et al.* (1976) have shown that economic conditions in villages in India push up the migration rates. Other studies on migration (Godfrey, 1979; Wagner, 1980; Stark, 1982; Oberai and Singh, 1983; Cole and Sanders, 1985) found socio-economic system and structural transformation as the influencing factors in the process of migration.

The socio-economic conditions of the society as well as States are the prime influencing factor for increase in inter-state and rural to urban migration of the entrepreneurs of the sample IMPUs of our sampling frame. The socio-economic condition of the society is grouped as "pull" and "push" factors being responsible for migration of the entrepreneurs of the sample IMPUs. About 45.05 percent entrepreneurs of the total sample IMPUs are migrants and out of them 43.56 percent entrepreneurs are inter state migrants and 1.49 percent entrepreneurs are rural to urban migrants (Table 6.7). About inter state migration, some of the Nepali entrepreneurs have migrated from the nearby state Meghalaya during the period 1971-72 and afterwards to Assam and settled down and ran their dairy business in the state. Few Bihari entrepreneurs (1.98%) are here, who have migrated to the state from Bihar. Only 3 Assamese entrepreneurs are migrants who migrated from rural area to urban area of Guwahati city. The other 111 entrepreneurs (54.95%) of the total sample IMPUs are native (non-migrants) and they are Nepali entrepreneurs (Table 6.7). Among the total migrant entrepreneurs of IMPS of Guwahati city, highest 92.3 percent are Nepali entrepreneurs, and rest 4.40 percent and 3.30 percent are Bihari and Assamese entrepreneurs respectively.

Table 6.7: Distribution of Migrant of Entrepreneurs

Place of Origin	Community of Migrants	No. of Migrated	Percentage to Total Entrepreneurs of Sample

		Entrepreneurs	IMPUs
Meghalaya	Nepali	84 (92.3)	41.58
Bihar	Bihari	4 (4.4)	1.98
Rural Areas of Assam	Assamese	3 (3.3)	1.49
Total Migrant Entrepreneurs of Sample IMPUs		91 (100)	45.05

Note: Values in parentheses ( ) are percentages of total migrant entrepreneurs
Source: Field Data

As far the mother tongue of the entrepreneurs is concerned, about 98.02 percent entrepreneurs of the sample IMPUs speak the major language of the State, i.e., Assamese. Although, the mother tongue of the Nepali entrepreneurs are Neplai, but they speak the language of Assamese fluently. In fact, they are Assamese speaking Nepali entrepreneurs. Only 1.98 percent Bihari entrepreneurs speak Hindi, although their mother tongue is Bhojpuri.

6.7 Earnings of the Entrepreneurs

A large number of studies suggest variations in earnings of entrepreneurs across activities (Samal: 1989; Panda: 1998). Besides other variables, it has been found that entrepreneurs with more education tend to have higher gross earnings[9]. Studies[10] reveal that the gross income from milk production was higher on large producing unit because of better utilisation of concentrates by these units.

Analysis of our data shows that the average gross earnings[11] per month of the entrepreneurs in the sample is Rs. 9325.87. Majority of the entrepreneurs (28.71%) are having gross monthly earnings below Rs. 6500. A large portion (27.72%) entrepreneurs of the sample IMPUs are having average gross monthly earnings within the range of Rs. 6500 to below Rs. 12500.

Only 3.47 percent of the entrepreneurs are having an average gross monthly earning of Rs. 30500 and above. Hence from the analysis of data it is evident that gross monthly earnings levels of the entrepreneurs vary within the selected units (Table 6.8).

Table 6.8: Distribution of Entrepreneurs by Gross Monthly Earnings

Earning Range (Rs.)	No. of Entrepreneurs	Percentage to Total
Below 6500	58	28.71
6500 – 12500	56	27.72
12500 – 18500	40	19.8
18500 – 24500	30	14.85
24500 – 30500	11	5.45
More than 30500	7	3.47
Total	202	100

Source: Field Data

6.8 Earnings of the Entrepreneurs and Family Size

As far the IMPS is concerned, it is basically a family based labour intensive traditional enterprise. More the family size, it speaks more about the united efforts and the intensity of the cooperation of the family members in IMPU. As the sprit of cooperation prevails, it gets translated into increased turnover of the IMPU. Hence, here we make an attempt to study the correlation between gross earnings and average family size of the IMPUs' entrepreneurs. For highest number (28.71%) of entrepreneurs having an average size of family 5.33 persons, monthly gross earnings is below Rs. 6500. Total 27.72 percent entrepreneurs of the sample IMPUs, having their average family size 6.23 persons, earn monthly gross earnings between the ranges of Rs. 6500 to below Rs. 12500. Only 3.47 percent entrepreneurs of the sample IMPUs, with the highest number of average family size 7.7 persons, earn their monthly gross earnings of more than Rs. 30500 (Table 6.9). These findings imply that more the average size of the family of the entrepreneurs of the sample IMPUs, the earnings of the entrepreneurs are more.

Table 6.9: Distribution of Entrepreneurs by Gross Monthly Earnings and Average Size of Family of the Sample IMPUs

Earning Range (Rs.)	No. of Entrepreneurs	Average Size of Family of the Entrepreneurs (Persons)
Below 6500	58 (28.71)	5.33
6500 – 12500	56 (27.72)	6.23
12500 – 18500	40 (19.8)	6.88
18500 – 24500	30 (14.85)	7.42
24500 – 30500	11 (5.45)	7.5
More than 30500	7 (3.47)	7.7
Total	202 (100)	-

Note: Values in parentheses ( ) indicate percentage to total entrepreneurs.
Source: Field Data

6.9 Earnings of the Entrepreneurs and Education Level

A number of studies conclude that earning differentials in the IS is caused, in addition to other important factors by educational levels of the entrepreneurs (Samal: 1989; Singh: 1994; Panda: 1998). In our study, we find that as the education level of the entrepreneurs increases the proportion of them with monthly gross earnings of Rs. 6500 or less decreases (Table 6.10). On the other hand, as the educational qualification goes up, the proportion of entrepreneurs with earnings of Rs. 24500 and above also goes up. Hence the association between education level and earnings level of the entrepreneurs is positive. The reason may be that the educated entrepreneurs are having better access to FS finance, better management of the units/enterprises in the fields of production, marketing through better supervision and liaisoning.

Table 6.10: Distribution of Entrepreneurs by Education Level and Monthly Gross Earnings

Average Gross Earning per Month (Rs.)	No. of Entrepreneurs by Educational Level							
	Illiterate	Primary	Middle Standard	Matric	Higher Secondary	Graduate (General)	Graduate and Above	Total
Less than 6500	-	32 (15.81)	21 (10.39)	5 (2.47)	-	-	-	58 (28.71)
6500-12500	2 (0.99)	22 (10.89)	19 (9.41)	13 (6.44)	-	-	-	56 (27.72)

12500-18500	-	10 (4.95)	13 (6.44)	16 (7.92)	1 (0.495)	-	-	40 (19.8)
18500-24500	-	4 (1.98)	6 (2.97)	16 (7.92)	2 (0.99)	2 (0.99)	-	30 (14.85)
24500-30500	-	2 (0.99)	2 (0.99)	6 (2.97)	-	1 (0.495)	-	11 (5.45)
30500 and above	-	-	2 (0.99)	3 (1.49)	1 (0.495)	1 (0.495)	-	7 (3.47)
Total	2 (0.99)	70 (34.65)	63 (31.19)	59 (29.21)	4 (1.98)	4 (1.98)	-	202 (100)

Note: Values in parentheses ( ) indicate percentage to total
Source: Field Data

6.10 Earnings of Entrepreneurs – A Regression Analysis

An attempt is made to determine the association between total output of the sample IMPUs and age, education, sex, family size and caste in model-I, total turnover of the sample IMPUs and age, education, sex, family size and caste in model-II and total gross profits of the sample IMPUs and age, education, sex, family size and caste in model-III of the entrepreneurs respectively. A statistical analysis using the following models was conducted:

I. $Y = a + b_1X_1 + b_2 X_2 + b_3 X_3 + b_4 X_4 + b_5 X_5$
II $Y = a + b_1X_1 + b_2 X_2 + b_3 X_3 + b_4 X_4 + b_5 X_5$
III $Y = a + b_1X_1 + b_2 X_2 + b_3 X_3 + b_4 X_4 + b_5 X_5$

Where ‘a’ is intercept and b_i’s are regression coefficients
X_1 is age of the entrepreneurs
X_2 is educational level of the entrepreneurs
X_3 is Sex of the entrepreneurs
X_4 is family size of the entrepreneurs
X_5 is caste of the entrepreneurs

On the basis of the above mentioned models, the following results were obtained:

I $Y = - 407188.038 + 4999.057 X_1 + 187424.539 X_2 – 150675.386 X_3 + 61385.211 X_4$
(1.756)** (7.783)* (1.293)
(5.796)* + 75565.459 X_5
(2.064)***

$R^2 = 0.43$

Note: * - Highly Significant
** - Significant at 5 percent level
*** - Significant at 10 percent level

II. $Y = - 407538.796 + 4997.516\ X_1 + 187421.619\ X_2 – 150585.021\ X_3 + 61407.771\ X_4$
(1.755)** (7.783)* (1.292) (5.799)*
$+ 75599.270\ X_5$
(2.065)***

$R^2 = 0.43$

Note: * - Highly Significant
** - Significant at 5 percent level
*** - Significant at 10 percent level

III. $Y = - 55723.121 + 1125.051\ X_1 + 58712.905\ X_2 – 66360.204\ X_3 + 17838.391\ X_4$
(1.009) (6.225)* (1.454) (4.30)*
$- 3460.812\ X_5$
(0.241)

$R^2 = 0.27$

Note: * - Significant at 1 percent level

From the regression results, it is seen that in all the three models, the independent variables incorporated account for 43 percent of the total variation in the total output and total turnover each and 27 percent of the total variation in case of total gross profits. In the analysis of all the three models, educational standard and family size of the entrepreneurs of the sample IMPUs are statistically significant explanatory variables. This implies that total output (in Model-I), total turnover (in Model-II) and total gross profits (in Model-III) of the sample as a whole increases as the education level of the

entrepreneurs increases. Total output, total turnover and total gross profits also increases as the family size of the entrepreneurs' increases. Increase in total output, total turnover and total gross profits is thus positively linked with education level and family size of the entrepreneurs.

Since education empowers the entrepreneurs to work pro-actively in the different lines of criticality in the IS – like credit, employment, capital, technology, cost minimisation, other input mix, marketing, etc., this help in deriving a reasonable amount of profits/earnings.

Size of family of the entrepreneurs helps in minimising labour cost by providing family labour force to IMPS. Minimising labour cost through familial involvement in the production process in a widely known strategy adopted by IMPS units to weather competition (Das: 2000)[12]. A critical minimum of family size is required to render better services to IMPS enterprises. Having sufficient number of family workforce, the entrepreneurs of IMPUs can engage themselves in other activities like – accumulation of credit, capital, technological knowledge, information about the source of input variables, other input mix and marketing etc. These activities help to accrue economies of scale-internal and external through which the entrepreneurs can earn profits.

6.11 Summary

Our sample enterprises are dominated by male entrepreneurs, as 96.5 percent of the entrepreneurs happen to be males. Education level of majority of the entrepreneurs reveals low level of their schooling. Level of education significantly varies within the enterprises of the sector. Relatively high percentages (46.53%) of entrepreneurs are found

in the age group of 41-50 years. This coupled with the sample mean age of 48.9 years of the entrepreneurs, implies less ownership of the enterprises by the young. This too implies that the entry to IMPS is not as easy as it is commonly believed to be. Majority of the entrepreneurs learnt their basic skill as hereditarily from the enterprises in the same line. Earnings per month of the entrepreneurs vary within the enterprises of the sector. Earning of the entrepreneurs is positively related to their education level. Factors that affect the accessibility to IMPU of the entrepreneurs are affiliating to community/race and heredity. Inter-state migration of the entrepreneurs is high (43.56%) in comparison to rural-urban migration. Almost 98.02 percent entrepreneurs speak the State language, i.e. Assamese. The gross monthly earnings level of the entrepreneurs varies within the sample units of the IMPS.

Output level is positively significantly correlated with education level, size of the family, of the entrepreneurs. This shows the important role that education level of the entrepreneurs has got to play in increasing the output of sample IMPUs.

The higher variance with respect to variables such as the family size and age of the entrepreneurs indicate high degree of segmentation in urban IMPS in Guwahati city.

End Notes

[1] Single Owner Unit
[2] Psacharopoulos (1985) and Singh (1992)
[3] Alonzo, R.P. and Abrera-Mangahas, A. (1989), p. 76.
[4] IAMR (1992), pp. 56 and 61.
[5] When one passes out in the class 10^{th} board examination, conducted by the Board of Secondary Education, Assam (SEBA), or similar examination boards like – CBSE, etc. he/she becomes a matriculate and his educational level is secondary level or matric. Thus the level of education "below matric" in respect of the entrepreneurs means that yet to pass out in class 10^{th} board examination.
[6] When one passes out in the class 12^{th} final examination conducted by the Assam Higher Secondary Education Council (AHSEC) or similar examination boards like – CBSE, etc. he/she is called an intermediate or his/her education level is called Higher Secondary level.

[7] Child and Kaneda (1975) and King (1974, 1989).
[8] Samal, K.C. (1989), "Urban Informal Sector", pp. 64-71.
[9] See George in S.V. Sethuraman's edited Volume "The Urban Informal Section in Developing Countries – Employment, Poverty and Environment", 1981.
[10] Rao, *et al.* (2002), "Economics of Milk Production in District Kanpur (Dehat), Uttar Pradesh", *Indian Journal of Agricultural Economics*, July-September, Vol. 59, No. 3, pp. 624-625.
[11] Gross earnings are the difference between turnover and Total cost.
[12] See Upadhyay, V. (2007), "Employment and Earnings in Urban Informal Sector – A Study on Arunachal Pradesh", *NLI*, Noida, India, p. 14.

CHAPTER – VII

SUMMARY, CONCLUSION AND POLICY IMPLICATIONS

7.1 Overview

Notwithstanding the predication of the conventional economic wisdom that IS is a transitory one and would weather away as the forces of economic growth get reinforced; the informal continues and has proved its continuity beyond doubt in the recent history of economic development of the developing world. A critical examination of the dynamics of development practice and development theory in many of the developing countries of the world shows the inadequacy and inefficiency of the FS in realising the various dimensions of development. Whether it is employment creation, resource allocation, promotion of equity and ensuring of environmental, social and cultural sustainability; the FS on many occasion could not ensure it. On the other hand, it became increasingly evident that the IS can very well accomplish many of the cherished requirements of development in the underdeveloped world. This realisation got vindicated in the recent past when many of the developing countries embraced upon structural adjustment programmes inconformity to their subscription towards globalisation and liberalisation. The recent global economic meltdown and all the negative forces emanating from it has further strengthened the believe of the champions of the IS that informal is universal and integral and will remain so at least in developing countries for a considerable period of time hereafter.

The over ridding realisation in the developing countries in the context of their developing dynamics is that the “informal is small and it is beautiful”. Its beautiful because it’s a necessity, its often efficient, its socially, culturally and environmentally sustainable, it’s a catalyst of equity and above all in the context of the recent economic meltdown, it’s a saviour of the economics.

In our thesis we made an humble attempt to examine one of the sub-sectors of the ‘urban informal’ economy that is “Informal Milk Producing Sector” (IMPS) in a growing

north-eastern city of India that is Guwahati in the context of some of the parameters of development which we have just out lined above. To be specific these parameters happen to be economic efficiency, equity (in terms of employment creation) and sustainability (i.e. continuity, complementarity and supplementarity). We have also examined some specific problems that this sector faces e.g. finance, linkage (absence or prevalence of it).

7.2 Findings

The important findings of this study are given below:

The sampled IMPUS in the Guwahati city of Assam exhibit most of the features that are supposed to characterise the IS units in general. However there are also some deviations from the typical widely discussed characteristics of the IS. Majority of the IMPUs (99%) are proprietary firms. All the enterprises operate from fixed premises. A sizable number (44.5%) of them operate from rented premises and around 39 per cent enterprises operate from encroached government land. Non-maintenance of accounts, non-registration of the units is some of its characteristics found. The average age of the sample units is around 32 years.

Majority of the sample units (64.5%) do not own their pucca cow-shed structure and around 91 per cent sample IMPUs have the electricity connection. The average distance of location of the sample IMPUs from the main road is 1.283 kms. The entire sample IMPUs own some type of tools, machines, whose average value per sample unit is of Rs. 14253. Majority (38%) of the enterprise own fixed capital assets with in the range of Rs. 2 lakhs to Rs. 6 lakhs. The IMPUs are very much fixed capital intensive. Fixed capital and assets forms 98.51 per cent of its productive capital base. In respect of

working capital, majority of the sample units (26%) operate with working capital within the range of Rs. 6 thousand to Rs. 10 thousand. The average value of fixed capital and working capital employed per unit and per work force of the sample IMPUs are worth of Rs. 693973, Rs. 10484.27 and Rs. 117324.26 and Rs. 1772.49 respectively.

Average size of employment in the IMPUs is around 6 persons. Hired workers constitute about 21 per cent of the total employment size in the IMPUs. This casts doubt on the general observation that the IS units are mostly managed by household members. Employment of children below the age of 14 forms 6.68 per cent of the total employment which shows, presence of child labour in the IMPS. There is negligible size of female participation (20.79%) in this sector. Majority of the participants speak 'Assamese'. Nepali participants form 96.04 per cent of the total number of participants in the sector. Assamese and Bihari participants form only 1.98 per cent each of the total number of participants in this sector. Capital intensity and size of the IMPUs are significantly positively correlated.

Output and turnover per IMPU and per work force are worth of Rs. 729441 and Rs. 123328.54 and Rs. 729369 and Rs. 123308.37 respectively. Output level in the sector is significantly positively correlated with education level and family size of the entrepreneurs. Likewise, total turnover and total gross profits of the sector is significantly positively correlated with education level and size of the family of the entrepreneurs. Gross value added per rupee of fixed capital and per rupee of productive capital (excluding cattle population value and imputed value) are 2.21 and 1.91 and excluding cattle population value and including imputed value, the gross value added per rupee of fixed capital and per rupee of productive capital are 1.41 and 1.22 respectively. On the other hand, the value added per work force of the sample IMPUs excluding imputed cost

is worth of Rs. 24927.40 per annum and including imputed cost is worth of Rs. 15873 respectively.

There is dominance of male entrepreneurs in the sample. The percentage of male entrepreneurs is 96.5 per cent of the total entrepreneurs. Majority (34.65%) of the entrepreneurs are having low level (primary level) of education. The average family size of the entrepreneurs of the sample IMPUs is 6.40 persons. The sample mean age of 48.9 years for the entrepreneurs reflects the fact that the access of the young to own IMPUs is restricted. So far as skill formation is concerned, majority (93.56%) of the entrepreneurs have learnt their basic skill through hereditary occupation. Earning level of the entrepreneurs is positively governed by their educational levels as well as family size. Another important characteristic of the entrepreneurs of the sample IMPUs is that majority (62.38%) of the entrepreneurs belong to other (general) casts and 92.3 per cent entrepreneurs are migrants from Meghalaya state.

Lack of credit emerges as the most important constraint faced by majority (92%) of the IMPS entrepreneurs. All but all entrepreneurs depend upon their own sources of finance for meeting their working capital and fixed capital requirements, but friends and relatives play an important role in this case. Majority (42.5%) of the sample IMPUs depend on friends and relatives for their start up and fixed capital. Informal sources of finance dominated by money lenders also play an important part in proving credit to the IMPUs for meeting their working capital requirements and here the percentage is 17.5 per cent of the total sample IMPUs. FS financial institutions provide finance to limited number of enterprises. Majority of the IMPUs are indebted. Although around 92 per cent of the enterprises need credit for expansion and operation, majority of them do not seek any loan from the banks (FS financial institutions) mainly because of complicated

lending procedures of the banks and their insistence on fixed collateral requirements. When about 92 percent of IMPS enterprises need FS credit and are prepared to avail it, and when 17.5 percent of IMPUs have borrowed from money lenders at an average annual rate of interest of 72 percent and when average turnover is much higher in enterprises having access to credit in general and to FS credit in particular than the average turnover of units with out any access to credit; non-availability of institutional credit to them presents a paradox. This is mainly because of the distortions in the views and lending practices of the banks.

Majority (64%) of the IMPUs are indebted. IMPUs having entrepreneurs with higher education level are having better access to formal credit institutions and also are having more loan outstanding. IMPUs without hired worker are having little access to FS borrowings. On the other hand IMPUs having at least one hired worker employed continuously are having a major share in FS credit. Hence the IMPUs are segmented on the issue of access to FS credit. The larger the size of the firm/enterprise the more is the access to FS borrowing.

Direct forward linkage of IMPUs with the FS through the provision of sale of products/services is very weak. IMPUs mostly sale their final products/services directly to the IS whose share is 98.62 per cent. Therefore, direct forward linkage is found to be strong with IS. Direct forward linkage through the provision of ‘extended subcontract’ is also found. The forward linkage between IMPUs and FS (co-operative Societies) is too weak (its share is only 1.38 percent of the total products/services sold).

IMPUs having direct backward linkage with the FS through the provision of purchase of raw material inputs/fodder concentrate are almost non-existent. In respect of

purchase of medicine and health care services for cattle population, whatever the direct backward linkage exists with the FS, it is too weak and its share is only 0.54 percent and 11.11 percent respectively. So far as direct backward linkage with regard to credit supply is concerned, the direct backward linkage for supply of credit input with the FS (SBI) is stronger to such direct backward linkage with the IS, yet the latter is not that much weak.

Markets for purchase of important raw material inputs by the IMPUs is very much localised as 100 percent of the IMPUs purchase their main raw materials within the Guwahati city. Only in case of green grass, 12.57 percent enterprises of the total sample IMPUs make such purchases outside the city exclusively and 45 percent IMPUs of the total sample units purchase green grass both from within the Guwahati city and outside the city.

7.3 Conclusion and Policy Implications

Our study of IMPS in Guwahati city of Assam shows that these enterprises confirm to a good number of observed characteristics of IS establishments as pronounced in a number of studies undertaken by a large section of scholars and institutions. These characteristics are (i) single ownership (ii) non-registration (iii) non-maintenance of accounts (iv) recent origin (v) cent percent operation from fixed premises.

There are of course certain findings as predominance of hired workers and minimum capital base especially fixed capital and assets, which run contrary to commonly observed characteristics of the IS enterprises. However, overall conformation to the commonly observed characteristics of IS enterprises; do provide a sufficient working definition of urban IMPUs.

The next question is about the role that IMPS Plays and is expected to play in the process of economic development. The question especially the second part of it assumes importance mainly in developing countries where a large number of them have initiated the process of economic liberalisation in late 1980's and early 1990's. The immediate fall-outs of such exercises are (i) reduction in the size of public sector employment and/or (ii) slowing down the process of labour recruitment in the public sector. This coupled with the fallouts of the ongoing urbanisation process and dynamics of population growth in these countries, makes the existence of the IS (thus its various sub-sectors) both a necessity and a reality. Such a reality is increasingly being accepted these days primarily on account of its increased employment creating potentialities. Further in the context of the recent global meltdown, IS and its various sub-sectors like informal milk producing one, hold a ray of hope for the developing economics as they can absorb a number of FS retrenched and thrown out workers in the context of ever increasing demand for milk in urban areas of developing countries. The sector often proves its efficiency vis-à-vis the FS. In our present study with respect to labour productivity, requirements of capital per unit and per employee, the IMPS compares better vis-à-vis the FS. However with respect to capital productivity the dust is yet to be settled. In our present study also the capital productivity is slightly higher in the FS vis-à-vis the IS. However, those who term the IS as unproductive and inefficient, forget a reality that this sector faces a historical neglect and discrimination by policy makers and planners in government in such countries. There is no denying of this point and more so in the context of the recent global meltdown.

This sector now needs to be developed. What should then be the strategy? IMPUs as we have seen in the present study and so also in other such studies vary with regard to their problems and characteristics, implying thereby that the sector is having a lot of

heterogeneity. There are of course a number of common characteristics and problems. An uniform policy prescription therefore may not be of much help for the growth of this sector.

To realise the full potential growth of this sector, first of all, the strengths and weaknesses of this sector are needed to be understood and evaluated properly. As we see in our study, the major strengths of this sector are its flexibility, its higher employment generation capacity with lower amount of capital base, family labour base, its freedom from official rules and regulations and above all its own informality in every sphere of its operation beginning from labour relation to marketing arrangement. Public policy should aim at preserving and supplementing these strengths of the IMPS, rather than destroying them. Our study also brings forth some weaknesses of this sector.

The sector as a whole suffers from a number of structural deficiencies in the input front. These are non-availability/scanty availability of institutional finance, and purchase of raw material inputs at a premium. Lack of finance has universally been stated as one of the most important constraint. Our study also shows it as most important constraint. As access to formal financial institutions is limited, they borrow heavily from the money lenders at a very high rate of interest (72% per annum). Some are compelled to reduce their output levels implying thereby the creation of ‘unutilised capacity’. This affects negatively these units’ productivity and value added through increase in cost of production. Our study reveals that the inaccessibility of these units to formal finance is not due to their risky or uncertain conditions of production but because of the malfunctioning of the lending policies of formal financial institutions especially the public sector banks. Since IMPU owners require flexibility and informality in their credit requirements, the FS banking practices cannot conform to these qualities. Hence a

separate micro business finance corporation on the lines of SIDBI should be created which should imbibe all the flexibilities of informal lending institutions.

In addition to credit, the state should also undertake programmes for entrepreneurial development, skill up gradation, technology updating, marketing arrangement, insurance facility and provision for extension services to the IMPS.

The IMPUs have been facing an important problem that is non-existence of an organised and suitable market for sale of their products/services. Lack of an organised market universally been stated as most important constraint in the development of IMPS. Our study also shows it as one of the important constraints. The nature of direct forward linkage in respect of selling the products/services of IMPS is very strong with the IS causing exploitation of IMPUs and therefore hindering their development. So the state government should come forward to make a provision for an organised market for the products/services of the IMPUs and monitoring of it.

Entrepreneur and entrepreneurship is a dynamic force. The entrepreneurs, therefore not only launch a venture for creation of new small enterprises (in respect of this IMPS) but also contribute to the objectives of employment creation, output growth, technological upgradation, improvement in the quality of production and supply of goods at a reasonable price to the customers. Development of entrepreneurship and acquisition of skill and graduating to entrepreneurship through institutional training/ arrangement can create an environment for bearing of risk and uncertainty in productive activities like dairy enterprises. Our study reveals that majority (93.56%) of the entrepreneurs of IMPS have acquired entrepreneurship and graduating in this field through hereditary practices. As a result, the entrepreneurs of the IMPS are unable to apply new technology for

increase of production and skill upgradation which ultimately affect the profits of the entrepreneurs. To develop the IMPS, the state government should take effective step for providing training for entrepreneurship development, skill up-gradation and updating technology, to graduating IMPS entrepreneurs and other unemployed youth in this field free of cost. Hence, on the lines of 'Indian Institute of Entrepreneurship' (IIE) and 'State Institute of Rural Development' (SIRD), a separate training institute should be created.

The spirit of cooperation among the IMPS entrepreneurs in actual sense should be promoted. Our study reveals that there are total eight Cooperative Societies constituted by the IMPUs, but in terms of activities they do little. As a result the spirit of doing something good together by all the IMPS entrepreneurs of Guwahati city is absent. So the entrepreneurs of the IMPS are suffering from the institutional infrastructural problems like procurement, processing, marketing and product enhancement services. Therefore all the IMPS entrepreneurs should meet together on the same platform and form a strong conglomeration of "Dairy Cooperative Society" on the lines of Gujarat and Maharashtra States. The state government should come forward with the positive and constructive attitude to organise and form a mega dairy cooperative society by the IMPUs and should facilitate the provision of credit facility from FS financial institutions at low rate of interest and also technical assistance so that the 'Society' can create physical and institutional infrastructure for procurement of their products/services (i.e., milk), processing, marketing and production enhancement services for all round growth of the IMPS.

Provision should be created for extension services like insurance facility, veterinary services (related to cattle health care) and credit cards to IMPS entrepreneurs. Since cattle population is a typical kind of fixed capital of the IMPS entrepreneurs, so the

lives of the cattle population of the IMPUs should be covered by the insurance. In our study it is seen that only the lives of that cattle population which are purchased by taking credits/loans from the FS financial institutions (here SBI only) are covering the risk by the insurance agencies and the others are not covered by insurance. The state government should make provision for insuring all live cattle population of the IMPUs of the IMPS at a low premium rate. For this purpose, the government should make a tie-up (i.e., contract) with the 'National Insurance Company' for covering the lives of cattle population by insurance policy providing assurance of avoiding risk and uncertainty for the loss of the lives of cattle population. So far the backward linkage effect with respect to input services are concerned, it is seen from our study that the direct backward linkage of the IMPS with the FS in case of veterinary services (i.e., medicines for cattle and services and advices from veterinary doctors, compounders and field assistants) is very weak. Proper and sufficient veterinary services are required for the development and efficient functioning of the IMPUs. Thus the state government should create a separate cell/wings in the government veterinary hospitals and veterinary sub-centres for the IMPS and also an emergency veterinary services on the lines of 'Mritunjoy' scheme which is instituted for human beings. On the other hand, to develop the IMPS, the state government should make provision of 'Dairy Credit Card' for the entrepreneurs of the IMPUs on the lines of 'Kisan Credit Card' through which the entrepreneurs of the IMPUs can avail loans/credits from the formal financial institutions wherever its necessary.

The linkage pattern between the IMPS and the FS should be analysed carefully. If the IMPUs operate in an independent environment, they should be treated differently from the IMPUs which operate in an environment of dependence with the FS. In case of a dependence relation, it becomes necessary to analyse the nature of linkage patterns to see

if such a relationship is exploitative or benign. Accordingly, the set of public policies should be tailored to check this exploitative nature if present, and to encourage the benign dependency when and wherever found. Our field study shows that the IMPUs in the Guwahati city operate mostly in an independent environment having some elements of direct backward linkage with FS through the provision of medicine and health care and credit inputs.

There are also some distortions in the input market including labour for the IMPUs. Even in an independent environment of operation, the IMPUs are exploited by the traders in terms of price margins on the supply of raw material inputs. The state should extend the policy of positive discrimination as applicable to the small scale sector in toto to the IS. This will in principle remove a lot of distortions in the factor as well as product market.

IMPUs and for that matter, IS as a whole is an entity of heterogeneity. There are some IMPUs having own land and some IMPUs without having own land. The IMPUs having fixed collateral have easy access to FS financial institutions for credit. In this context, an extension of the positive discrimination policy to IMPS is likely to exclude the wage earners and the resource-less from the purview of benefits. Although specific policies are required for the development of this sector but all such policies should be organically linked with the ultimate objective of this sector which is nothing but its “wholesome development”. Longevity and development of IS ultimately lies in such an approach.

ANNEXURE

ANNEXURE – I

MAP OF THE STUDY AREA

ANNEXURE - II

SCHEDULE

PART – I

I. Identification Particulars of Sample Enterprises

1. Name and Address of the Unit:
2. Name of Owner/Operator:
3. Name of Informant:
4. Survey Code:
5. Sample Enterprise No.:

Code for Item 4 – Original Sample Surveyed – 1; Substitute Sample Survey – 2; Nothing Surveyed -3.

II. Operational Characteristics

1. Type of Ownership (code): Proprietory-1; Partnnership-2
2. Act/Authority of Registration:
3. Whether located in fixed and owned premises (Yes – 1; No – 2):
4. Type of power used (code):
5. Age of the present enterprise:
6. Whether accounts maintained (Yes – 1; No – 2):
7. Average number of working hours per working day:
8. Total working days for the last year:
9. Distance from the main road:

Codes:

Item 2: Shops and Commercial Establishment Act-01; DIC-02; Municipality-03; Other Agency-04; Not Registered-09.

Item 4: Electricity-01; Stream-02; Diesel/Petro-03; Other Motive Power-04; No Power-05.

III. Family Particulars

Sl. No.	Name of the Family Member	Sex	Age	Education Qualification	Primary Occupation	Secondary Occupation	Annual Income from (Rs)		
							Primary Occupation	Secondary Occupation	Total Annual Income
1									
2									
3									
4									

5									
6									

Code:

Column 5: Illiterate–0; Primary Level–1; Middle Standard–2; Secondary Level–3; Higher Secondary Level–4; Degree (G)–5; Degree (T)–6; Master Degree–7; Others-8

G – General; T – Technical

IV. Fixed Capital and Assets

Sl. No.	Item		Capital Assets Owned (Rs)				Capital Assets Not Owned (Rs)	
			Area/No.	Purchased/ Constructed Price	Year of Constructed/ Purchase	Value as on date of Survey	Present Value	Rent per Month
1	Total Land Area (2+3+4+5+6)							
2	Land used for Cultivation							
3	Land used for Grass Production							
4	Land used for Shed Construction for Rearing Milch Cow & Buffalo							
5	Land used for Household Courtyard							
6	Land Unutilised							
7	Livestock	Cow						
		Buffalo						
8	Building							
9	Plant & Machinery							
10	Tools & Other Assets							
11	Total							

V. Livestock Details

Category	Male	Female	Total
1. Total No. of Livestock			
1.a Cow			
1.b Buffalo			

2. Category	**Total**	**Category**	**Total**
2.a No. of Cows in Milch		2.e No. of Buffaloes in Milch	
2.b Cows in Milch with Calf		2.f Buffaloes in Milch with Calf	
2.c Cows in Milch without Calf		2.g Buffaloes in Milch without Calf	
2.d Average Age of Cows in Milch		2.h Average Age of Buffaloes in	

		Milch	

VI. Inventory Capital

Sl. No.	Items	Value (Rs.)
1	Animal Feed, Stores, Straws, Fuels, etc	
2	Semi Finished Goods	
3	Finished Products	
4	By-Products	
5	Sub-Total (1+2+3+4) Physical Working Capital	
6	Cash in Hand and Bank	
7	Total Working Capital (5+6)	

VII. Quantity and Value of Products etc. Produced and Other Receipts Last Year

Sl. No.	Item	Unit	Quantity	Value (Rs.)
1	Products			
2	By-Products			
3	Other Receipts			
4	Total			

VIII. Purchase and Sale of Important Products

Sl. No.	Source	Purchase Value of Products (Rs.)					Sale Value of Products (Rs.)				
		Against Full Payment	Against Advance Payment	On Loan	Total	Location of Purchase	On Delivery	Against Advance Payment	On Credit	Total	Location of Sale
1	Government										
2	Cooperative Societies										
3	Middlemen										
4	Private Retail Traders										
5	Private Wholesale Traders										
6	Consumers										
	Total										

Code for Location: In the City of Guwahati – 1; Outside the City of Guwahati - 2

IX. Quantity and Value of Animal Feed, Materials, Fuels, etc. Consumed and Value of Other Expenditures during the Year

Sl. No.	Item	Unit	Quantity	Value (Rs.)
1	Water Purchased/Consumed			
2	Electricity Purchased/Consumed			
3	Green Grass Purchased/Consumed			
4	Concentrate Purchased/Consumed			
5	Sub-Total (3+4) Total Cow/Buffalo Feed Purchased/Consumed			
6	Repair & Maintenance Cost of Fixed Assets			
7	Local Taxes & Other Fees			
8	All Interest Paid			

9	Wages, Salaries through Cash/Cheques			
10	Wages/Salaries through Kind Payment			
11	Total Wage/Salaries Paid (9+10)			
12	Breading Cost (including Natural and Artificial)			
13	Insurance Cost			
14	Others			
15	Total			

X. Loan Particulars on Fixed Capital/Assets

Source	Year of Loan	Principal	Interest Rate	Security Type	Diversion of Loan		Present Outstanding (Rs.)
					Amount	Type of Use	
ASFC							
Government							
Public Sector Banks							
RRBs							
Other Commercial banks							
Cooperative Banks							
Money Lenders							
Friends & Relatives							
SHGs							
Others							
Total							

Code for Security Type: Land & Building-1; Other Capital Asset of IMPU-2; Fixed Deposits-3; Shares & Debenture/Certificates-4; Gold & Silver-5; Other Security-6; No Security-9

Code for Type of Use: Investment in Other Enterprises-1; Marriage & Other Social Ceremonies-2; Domestic Consumption-3; Repayment of Earlier Loans-4; Other Use (specify)-9

XI. Structure of Employees (Including all Labourers, Hired Workers, Unpaid Family Labourers, Child Labourers etc)

Sl. No.	Item	1	2	3	4	5	6	7	8	9	10
1	Age (years)										
2	Sex										
3	Origin										
4	Religion										
5	Caste										
6	Marital Status										
7	Mother Tongue										
8	Education										
9	Designation										

10	Work Status										
11	Status of Employee										
12	Wage (PM/ PD/per Piece)										
13	Other Benefits										
14	Year of Working in the Unit										
15	Others (Specify)										

Codes

Item 2: Male – 1; Female – 2
Item 3: Native – 1; Migrant – 2
Item 4: Hindu-1; Muslim-2; Christian-3; Sikh-4; Others-9
Item 5: SC-1; ST-2; OBC-3; Others-9
Item 6: Married-1; Unmarried-2; Divorcee/Separated-3; Widow/Widower-4
Item 7: Assamese-1; Hindi-2; Nepali-3; Others-9
Item 8: Illiterate-0; Primary Level–1; Middle Standard–2; Secondary Level–3; Higher Secondary Level–4; Degree (G)–5; Degree (T)–6; Master Degree–7; Others-8
Item 10: Self Employed-1; UFL-2; Hired Worker-3; PFL-4
Item 11: Permanent/Regular-1; Temporary-2; Casual-3; Part Time-4; Job Work-5; Others-9.

XII. Personal Characteristics of Entrepreneur

Sl. No.	Item	Description/No.
1	Education	
2	Caste	
3	Religion	
4	Sex	
5	Marital Status	
6	Total Number of Family Members	
7	Age of Entry into IMPU	
8	Method of Access to IMPU	
9	Place of Formation of Skill	
10	Father’s Occupation	
11	Year of Apprenticeship	
12	Secondary Occupation	
13	Annual Income from Secondary Occupation	
14	Others	

Codes

Item 1: Illiterate-0; Primary Level–1; Middle Standard–2; Secondary Level–3; Higher Secondary Level–4; Degree (G)–5; Degree (T)–6; Master Degree–7; Others-8
Item 2: Hindu-1; Muslim-2; Christian-3; Sikh-4; Others-9
Item 3: SC-1; ST-2; OBC-3; Others-9
Item 4: Male – 1; Female – 2
Item 5: Married-1; Unmarried-2; Divorcee/Separated-3; Widow/Widower-4
Item 8: Hereditary-1; Relative-2; Caste/Community-3; Other Personal Contact-4
Item 9: Hereditary-1; Relative-2; Friends-3; Formal Training Centre-4; Other IMPUs-5; Other-9
Item 10: In Same Occupation-1; Different Occupation-2

PART – II

PROBLEMS AND PROSPECTS

Q. 1. What is your most important constraint for the growth of your Enterprise?

1. Non-availability/less availability of raw materials
2. Lack of finance/credit
3. Lack of demand
4. Lack of suitable premises/space
5. Lack of appropriate technology
6. Government Regulations
7. Any other problem (specify)
8. No problem

Q. 2. (I) Do you need Credit? (Yes/No), If yes,

(a) Inadequate amount with quick disbursement and with high interest.
(b) Adequate amount at concessional rate
(c) Low amount at concessional rate

(II) If credit is available to you as desired, do you think that your sales will expand in future? Yes/No

Q. 3. Are you able to get adequate amount of credit from financial institutions? Yes/No

If No,

(I) What are the problems in getting credit for fixed capital and for working capital (Elaborate).

(II) How do you solve this problem?

(a) Going to informal credit sector?
(b) Reducing business turnover?
(c) Any other (specify)

Q. 4. (I) Did you ever seek a bank loan? Yes/No

If No, reason for it:

i) Complicated lending procedure
ii) Smallness of the unit
iii) Non-cooperation by the banking authorities
iv) Ignorant about banking loans
v) Non-availability of collateral
vi) Other reasons

(II) If yes, did you face any problem when bank loan was sought? (Yes/No)

If yes, type of problem faced:

i) Insistence on fixed collateral
ii) Non-cooperation by banking authorities
iii) Complicated lending procedure
iv) Other harassment/problems

Q. 5. Have you borrowed from ICS/SHGs? (Yes/No)

Q. 6. Does the lender borrow from ICS and lend the same to you at higher rate of interest?

If yes, what is the rate of interest?

Q. 7. Why do you borrow from ICS? (Elaborate)

Q. 8. Have you got/Are you getting subsidy? (Yes/No)

If yes, (a) What is the nature of subsidy
(b) Agency giving subsidy

Q. 9. Do you purchase raw materials/inputs at a higher rate than the market rate when purchasing on credit?

If yes, what is the percentage of difference?

Q. 10. Are you able to repay the loan in time when purchased on credit? Yes/No

If No, mention reasons for non-payment in time

1. Non-payment of dues by the purchases in time
2. Increased domestic expenditure/burden
3. Other reasons (specify)

Q. 11. Do you sale at higher rate when you sale on credit? Yes/No
If yes, what is the percentage difference between the market price and the price of goods sold on credit?

Q. 12. Do you recover all your credit? Yes/No
If No, what is the percentage of credit transaction going as bad debt?

Q. 13. Are you able to sale all your output produce? Yes/No
If No, what are the problems in marketing your products? (Elaborate)

Q. 14. Do you face any problem in getting raw materials/inputs? Yes/No
If yes, mention the problems.

Q. 15. Do you have the required infrastructure for running your unit? Yes/No
If no, type of infrastructure lacking, mention.

Q. 16. Do you face any harassment from public authorities? Yes/No
If yes, mention the nature of harassment and the authority harassing.

Q. 17. Has your sales increased over the last three years?

1. Yes – Substantial increase
2. Yes – Marginal increase
3. Remain constant
4. No – Marginal decrease
5. No – Substantial decrease

Q. 18. When you started your enterprise, what was your main problem?

1. Raw materials
2. Finance/Credit
3. Lack of demand
4. Lack of suitable premises/space
5. Lack of proper technology
6. Government Regulations
7. Any other problem (specify)
8. No problem

Q. 19. Is there any condition of sub-contracting with formal sector? Yes/No
If Yes, have you received any sort of technological help from the formal sector? Yes/No
If yes, mention the form of assistance

1. Transfer of equipment
2. Sharing of technical know-how
3. Transfer of skill

4. Others (specify)

Q. 20. How do you rate the prospect of your business in future?

1. Excellent
2. Fairly good
3. Average
4. Bad

BIBLIOGRAPHY

Ademu, W.A. (2006): "The Informal Sector and Employment Generation in Nigeria – The Role of Credit", *Nacubo Endowment Study (NES),* Annual Conference. <http://www.eurojoutnalsn.com>.

Afzal, Md. (1989): "Role of Informal Sector in an Urban Economy – A Study of Hyderabad", in S.V. Sethuraman (ed.), *Urban Informal Sector in Asia – An Annotated Bibliography*, Geneva, International Labour Office, 1992, International Labour Bibliography, No. 3.

Alam, J. et al. (1992): "Economics of Dairy Farming in Bangladesh", *Indian Journal of Dairy Science*, July-August, 2003, 56 (4), 245-247.

Alexandratos, N. (ed.) (1995): *World Agriculture: Towards 2010*, Food and Agriculture Organisation of the United Nations, Rome.

Ambalavanam, V. and S. Madheswaran (2001): "Social Protection for Urban Informal Sector Workers – Micro Evidence from Erode District, Tamil Nadu", *The Indian Journal of Labour Economics*, 44 (4), October-December, pp. 601-618.

Amin, S. (ed.) (1974): *Modern Migration in Western Africa*, OUP, London, p. 91.

_____ (1983): *Human Resources, Employment and Development*, Vol. 5, Developing Countries, Macmillan, London.

Anderson, D. (1982): "Small Industry in Developing Countries – A Discussion of Issues", *World Development*, November, 10 (11), 913-948.

Anderson, K. et al. (1997): "Asia-Pacific Food Markets and Trade in 2005 – A Global, Economy-wide Perspective", *Australian Journal of Agricultural and Resource Economics*, March, 41 (1), 19-44.

Andrei, T. and S. Stancu (2008): "Econometric Methods Used to Study the Informal Economy and Regional Development", *Revista Informatica Economica*, nr 3 (47), p. 121.

Anonymous (2003): "Feed International", *A Journal of Veterinary Science*, August 24 (8), 8.

Applied Manpower Research Institute (AMRI) (1988): *Employment Potential in the Informal Sector*, New Delhi, January.

Arimah, B.C. (2001): "Nature and Determinants of the Linkages between Informal and Formal Sector Enterprises in Nigeria", *African Development Review*, 13 (1).

Aryee, G.A. (1978): "Education and Training and Informal Sector Employment in Kumasi, Ghana", in U.G. Damachi and V.P. Diejomaon (eds.), *Human Resource and African Development*, Praeger, New York.

———— (1981): "The Informal Manufacturing Sector in Kumasi", in S.V. Sethuraman (ed.), *The Urban Informal Sector in Developing Countries – Employment, Poverty and Environment*, ILO, Geneva, 90-100.

Asho, J. et al. (1989): *Credit for the Poor – A Policy Discussion Paper*, UNDP, New York.

Ashok, A. (2004): "Planning for Livestock Development", *Livestock International*, November, Vol. 8 (11), pp. 5-9.

Ashok, K.R. and G. Somasundaram (2003): "Determinants of Livestock Population and Crop Livestock Linkages in Small Forms of Southern Tamil Nadu", *Indian Journal of Agricultural Economics*, July-September, 59 (3), 639.

Asian Development Bank (2002): *Finance for the Poor – Micro-Finance Development Strategy*, Asian Development Bank, Manila.

Aziz, A. (1984): *Urban Poor and Urban Informal Sector*, Ashish Publishing House, New Delhi.

Bal, G. (2006): "Entrepreneurship Among Diasporie Communities – A Comparative Examination of Patidars of Gujarat and Jats of Punjab", *The Journal of Entrepreneurship*, 15 (2), July-December, 184-196.

Bal, H.K. (1996): "Management Practices and Performance of Milk Processing Units – A Case Study of Selected Co-Operative Sector Units", *Indian Journal of Agricultural Economics*, 51 (4), October-December, pp. 736-742.

Balu, D.M. (1986): "Self-Employment Earnings and Mobility in Peninsular Malaysia", *World Development*, Vol. 14, 839-852.

Banerjee, A.V. (2001): "Contracting Constraints, Credit Markets and Economic Development", *Working Paper Series 02-17*, Massachusetts Institute of Technology, Department of Economics, September.

Banerjee, N. (1981): "The Weakest Link", *IDS Bulletin*, 12 (3), July, 36-40.

———— (1988): "The Unorganised Sector and the Planner", in A.K. Bagch (ed.), *Economy, Society and Polity*, Oxford University Press, New Delhi.

Barker, F. (2003): *The South African Labour Market*, 4th edition, Pretoria, Van Schaik.

Barrett, N. and T. Reardon (2000): "Conceptual Framework for Employment Creation". <http://www.fao.org/AG/AGAINFO/subjects/documents/LPS/dairy/employ>.

Basu, D.N. and A.K. Sundaram (1984): "The Urban Informal Sector – A Search for the Process and Appropriate Strategies", in S. Amin (ed.), *Human Resources, Employment and Development*, Vol. 5, Developing Countries, Macmillan, London, 243-264.

Becker, B. (1997): "Informal Sector Statistics and National Accounting", Paper presented at the *Workshop on Contribution of the Unorganised Sector*, Organised Jointly by the NCAER and SEWA, New Delhi, March 31-April 2.

Becker, K.F. (2004): "The Informal Economy", SIDA Report, March.

Bell, C. (1988): "Credit Markets, Contracts and Interlinked Transactions", in H. Chenery and T.N. Srinivasan (eds.), *Handbook of Development Economics*, Vol. 1, Amsterdam, London and New York, Elsevier Science, North-Holland.

Berlinek, M. et al. (1981): "The Urban Informal Sector and Industrial Development in a Small City – The Case of Capinas (Brazil)", in S.V. Sethuraman (ed.), *op.cit*., 159-167.

Besley, J. et al. (2001): "Household Participation in Formal and Informal Institutions in Rural Credit Markets in Developing Countries – Evidence from Nepal", Background Paper prepared for *World Development Report 2001/2002*, Institutions for Markets, May.

Bhardwaj, K. (1979): "Towards a Macro-Economic Framework for a Developing Economy – The Indian Case", *The Manchester School*, Vol. LVII, No. 3, Sept., pp. 270-302.

Biradar, R.D. (1986): "Changing through Dairy Development – A Case Study", *Dairy Guide*, 8 (3), 2-24.

Birbeek, C. (1978): "Self-Employment Proletarians in an Informal Factory – The Cause of Cali's Garbage Dump", *World Development*, 6 (9/10), September/October, 1173-1185.

Boeke, J.M. (1953): *Economics and Economic Policy of Dual Societies*, New York, Haarten: Tjeenk Willink and Zoom, pp. 3-5.

Borah, Bedabrat (2008): *Asomor Arthanity*, (Compiled) Published by Asomor Buniyad, Dispur (first Edition), January.

Bose, A.M. (1974): "The Informal Sector in the Calcutta Metropolitan Economy", *ILO*, WEP/WP, Geneva.

_____ (1978 a): "Calcutta Metropolis and the Informal Sector", *Nagarlok*, February, 15-16.

_____ (1978 b): *Calcutta and Rural Bengal – Small Sector Symbiosis*, Minerva, Calcutta.

Bose, A.N. (1980): "Informal Sector – Problems and Prospects", *Nagarlok*, Vol 12, April-June, pp. 24-37.

Breman, J. (1976): "A Dualistic Labour System? A Critique of the 'Informal Sector' Concept", *Economic and Political Weekly*, XI (48, 49, 50), November 27, December 4 and 11, 1870-1876, 1905-1908 and 1939-1944.

Bromeley, R. (1978 a): "The Urban Informal Sector – Why it is Worth Discussing?", *World Development*, 6 (9/10), September/October, 1033-1039.

_____ (1978 b): "Organisation, Regulation and Exploitation in the so-called Urban Informal Sector", The Street Traders of Cali, Columbia, *World Development*, 6 (9/10), September/October, 1161-1171.

Bromeley, R. and Gerry Chris (eds.) (1979): *Casual Work and Poverty in Third World Cities*, John Wiley and Sons.

Buch, M. and N.P. Pathak (1985): "The Role of the Informal Sector in the Development of Small and Intermediate Cities of India", Paper presented at the International Seminar on *The Role of the Informal Sector in Urban Development*, Berlin (West), 17-27 February, German Foundation for International Development, Berlin, 1988.

Caldwell, J.C. (1969): *African Rural-Urban Migration – The Movements to Ghana's Town*, C. Hurst and Co., London.

Carland, J.F. et al. (1984): "Differentiating Entrepreneurs from Small Business Owners – A Conceptualization", *Academy of Management Review*, ix.

Castaneda, W. (1993): "Patrones de Migracion hacia Barranquilla, Cali, Medelling Santafe de Bogota", *Revista Coyuntura Social*, No. 9, Noviembre.

Castells, M. and P. Portes (1986): "World Underneath – The Origins, Dynamics and Effects of the Informal Economy", Paper presented to a *Conference of the Comparative Study of the Informal Sector*, Harper's Ferry, 2-6 October.

Census of India (2001): *Primary Census Abstract*, Office of the Registrar General of India, New Delhi.

Chakrabotry, D. and P.S. Chakrabotry (2007): "Role of Entrepreneurship in Complementing and Supplementing Economic Growth in North-Eastern Region", *DGCCS'S Journal of Commerce*, IV (1), 87-89.

Chana, T. and H. Morrision (1975): "Nairobis' Informal Economy Sector", *Ekistics*, 257, August, 120-130.

Chandavarkar, A.G. (1985): "The Financial Pull of Urban Areas in LDCs – The Phenomenon 'Urban Bias' in its Financial Aspects and Some Possible Corrections", *Finance and Development*, 22 (2), June, 24-27.

———— (1988): "Micro Enterprises in Developing Countries", in J. Levistky's (ed.), *World Bank Economic Review*, Vol. 7, No. 1.

———————— (1989): "Informal Credit Markets in support of Micro-Business", in J. Levitsky (ed.), *Micro-Enterprises in Developing Countries*, Intermediate Technology Publications, London.

Chandra, N. and S. Pratap (2001): "Organising Informal Sector Workers", in Amitabh Kundu and A.N. Sarma (eds.), *Informal Sector in India*, Institute for Human Development, New Delhi.

———————— (2001), Quoted in Madhavi, P. (2006): "Organising the Invisible and the Informal – A Study of Unions in the Beedi Industry in Telengana Region of Andhra Pradesh", *The Indian Journal of Labour Economics*, 49 (4), p. 497.

Charmes, J. (1990): "A Critical Review of Concepts, Definitions and Studies in the Informal Sector", in D. Turnham et al. (eds.) (1993), *Employment and Development – A New Review of Evidence*, OECD, Paris.

Chaudhary, V.K. (2007): "Economics, Marketing and Constraints of Milk Production in Progressive Dairy Farms", *The Indian Journal of Agricultural Economics*, 62 (3), July-September, p. 482.

Chen, M.A. and E. Dunn (1996): "Household Economic Portfolios", *AIMS Paper*, Management Systems International, Washington, D.C.

Choudhury, R.K. (1991): *Economic Problems of Assam*, Kitabghar, Guwahati.

Christy, R.J. and M. Thirunavukkarasu (2002): "Socio-Economic Dimensions of Female Participation in Livestock Rearing – A Case Study in Tamil Nadu", *Indian Journal of Agricultural Economics*, 62 (2) April-June, 99-103.

Cole, W.E. and R.D. Sanders (1985): "Internal Migration and Urban Employment in the Third World", *American Economic Review*, Vol. 75 (3), June, pp. 481-494.

Collins, C.J. et al. (2004): "The Relationship of Achievement Motivation to Entrepreneurial Behaviour – A Meta-analysis", *Human Performance*, Vol. 17, pp. 95-117.

Connel J. et al. (1976): *Migration from Rural Areas – The Evidence from Village Studies*, Oxford University Press, Delhi.

Dandekar, V.M. and N. Rath (1971): *Poverty in India*, Indian School of Political Economy, Poona.

Das, K. (1998): *The Unorganised Sector*, Alternative Survey 1991-1998 – Seven Years of Structural Adjustment, Alternative Survey Group, Rainbow Publishers Ltd., Delhi.

_____ (2000): "Workers and Earnings in Informal Manufacturing – Evidence and Issues in Estimation", *The Indian Journal of Labour Economics*, 43 (2), April-June, pp. 261-276.

Dasgupta, B. (1973): "Calcutta's Informal Sector", *IDS Bulletin*, Vol. 5, October, 53-75.

Dastagiri, M.B. (2003): ""Is India Self-Sufficient in Livestock Food Products?" *Indian Journal of Agricultural Economics*, 58 (4), October-December, 729-739.

Davies, R. (1978): *The Informal Sector – A Solution to Unemployment"*, Catholic Institute for International Relations, London.

_____ (1979): "Informal Sector or Subordinate made of Production? A Model", in Ray Bromely and Chris Gerry (Eds.), *Casual Work and Poverty in the Third World Cities*, John Wiley and Sons, 87-104.

Delgado, C.L., et al. (1998): "Global Food Demand and the Contribution of Livestock as We enter the New Millennium", *MSSD Paper No. 21*, International Food Policy Research Institute, 2033 K, St N.W., Washington, D.C.

_____ (1999): "Transformation in Livestock Products Demand and Supply", *Indian Journal of Agricultural Economics*, 59 (3), July-September, 527.

Deokate, T.B. et al. (2007): "Marketing of Milk in Amravati District of Maharashtra", *The Indian Journal of Agricultural Economics*, 62 (3), July-September, pp. 453.

Desai, V. (2002): *Small Scale Industries and Entrepreneurship*, Himalaya Publishing House, Mumbai, 344.

Dhesi, A.S. and U. Wadhwa (1980): "The Informal Sector in Nangal, 1980 (Punjab) – An Over Review", *Indian Journal of Regional Science*, XV (1), pp. 38-47.

———————— (1984): "Productivity, Earnings and Employment Potential of Informal Sector – A Case Study of Nangal (Pubjab)", *Indian Journal of Industrial Relations*, 20 (1), July, pp. 1-16.

Deshpande, L.K. (1992): "Institutional Intervention in Labour Market in Bombay's Manufacturing Sector", in T.S Papola and G. Rodgers (eds.), *Labour Institutions and Economic Development in India*, International Institute for Labour Studies, Geneva.

Dev, S.M. et al. (2008): "Economics of Handloom Weaving – A Filed Study in Andhra Pradesh", *Economic and Political Weekly*, XLIII (21), May 24-30, pp. 43-50.

Deviji, Z.H. (1989): "Informal Sector Savings in Kenya", in Vinay D. Lall (ed.), *Research Mobilisation – International Experiences of the Informal Sector*, Published by Director, Society for Development Studies, New Delhi, 150-160.

Dhar, P.K. (1998): *The Economy of Assam (Including Economy of North-East India)*, Kalyani Publishers, New Delhi.

Dixit, P.K. et al. (2004): "Economics of Milk Production in Kerala – An Inter-Regional Empirical Study", *Indian Journal of Agricultural Economics*, Vol. 59(3), July-Sept., p. 646.

Drucker, P.F. (1984): "Our Entrepreneurial Economy", *Harvard Business Review*, Vol. 62, pp. 58-64.

———————— (1985): *Innovation and Entrepreneurship*, New York: Harper and Row.

Duhan, V.K. et al. (2004): "Nature of Markets and Role of Co-Operatives in Marketing of Milk in Rewari District of Haryana", *Indian Journal of Agricultural Economics*, 59(3), July-Sept., pp. 651-652.

Eid, F. (2006): "Recasting Job Creation Strategies in Developing Regions – A Role of Entrepreneurial Finance", *The Journal of* Entrepreneurship, 15 (2), July-December, 116-118.

Emmerij, L. (1974): "New Look at Some Strategies for Increasing Productive Employment in Africa", *International Labour Review*, 110 (3), September, pp. 199-218.

Fan, S. and M. Agcaoili-Sombillia (1997): "Why Projections on China's Future Food Supply and Demand Differ?" *The Australian Journal of Agricultural and Resource Economics*, 41, June, 169-190.

Fapohunda, O.J. and H. Lubell (1978): *Lagos – Urban Development and Employment*, ILO, Geneva.

———— (1980): "Human Resources and the Lagos Informal Sector", in S.V. Sethuraman (ed.), *Labour and Society*, 5(1), January.

———— (1981): "Urbanisation and Employment in Developing Countries – The Role of Informal Sector", *Labour and Society*, 5 (1), January.

Farrel, D. (2000), Quoted in Akintoye, I.R. (2008), "Reducing Unemployment through the Informal Sector – A Case Study of Nigeria", *European Journal of Economics, Finance and Administrative Sciences*, ISSN No. 1450-2275, Issue 11 (2008), p. 9.

Fei John, C.H. and G. Ranis (1967): *Development of the Labour Surplus Economy – Theory and Policy*, Richard D. Irwin, Inc, Illinois.

Feige, E.L. (1990): "Defining and Estimating Underground and Informal Economics – The New Institutional Economic Approach", *World Development*, 10 (7), 989-1002.

Florez, C.E. (2003): "Migration and the Urban Informal Sector in Colombia" *The Paper Prepared for Conference on African Migration in Comparative Perspective, Johannesburg*, 4-7 June, pp. 1-27.

Fluitman, F. (ed.) (1989): *Training for Work in the Informal Sector*, ILO, Geneva.

Fowler, D.A. (1981): "The Informal Sector in Free Town – Opportunities for Self-Employment", in S.V. Sethuraman (ed.), *op.cit*., 52-69.

Gandhi, V.P. and G. Mani (1995): "Are Livestock Products Rising in Importance? A Study of the Growth and Behaviour of their Consumption in India", *Indian Journal of Agricultural Economics*, July-September, 50 (3), 283-292.

Gangwar, G.S. et al. (2004): "Production per Performance and Future Scenario of Livestock Sector – Challenges of Trade Liberalisation", *Indian Journal of Agricultural Economics*, 59 (3), July-Sept., pp. 628-629.

Gauraha, A.K. (2007): "Economics of Milk Marketing in Chhattisgarh", *The Indian Journal of Agricultural Economics*, 62 (3), July-September, pp. 463-464.

Geertz, C. (1963): *Peddlers and Princes – Social Change and Economic Modernisation in Two Indonesian Towns*, The University of Chicago Press, Chicago.

Gerry, C. (1974): "Petty Producers and the Urban Economy – A Case Study of Dakar", *WEP Research Working Paper*, ILO, Geneva.

———— (1978): "Petty Production and Capitalist Production in Dakar – The Crisis of Self-Employed", *World Development*, 6 (9/10), September/October, 1147-1160.

_____ (ed.) (1979): *Casual Work and Poverty in Third World Cities*, John Wiley and Sons.

Ghate, P. et al. (1992): *Informal Finance – Some Findings from Asia*, OUP, Hongkong.

Ghate, P.B. (1992): "Interaction between the Formal and Informal Financial Sector – The Asian Experience", *World Development*, 20 (6), 59-72.

Goldfrey, E.M. (1973): "Economic Variables and Rural-Urban Migration – Some Thoughts on the Todaro Hypothesis", *The Journal of Development Studies*, Vol. 10(1), Oct., p. 69.

_____ (1979): "Rural-Urban Migration in a 'Lewis Model' Context", *The Manchester School of Economic and Social Studies*, No. 3, September, pp. 230-247.

Goldberg, P.K. and N. Pavcnik (2003): "The Response of the Informal Sector to Trade Liberalisation", *Journal of Development Economics*, Vol. 72, pp. 463-496.

Government of Assam (2004): *Annual Report 2003-2004*, Economic Survey of Assam, Government of Assam, Guwahati.

———— (2004): *Annual Report Economic Survey of Assam.*

<http://www.assamgov.org/ecosurvey/table15.3.html>.

———— (2004): *Report on the 3rd All India Census of Small Scale Industrial Units, Assam*, Directorate of Small-Scale Industries, Guwahati.

———————— (2004): *Annual Report, Industrial Survey of Assam.*

<http://www.assamgov.org/ecosurvey/table15.3.html>.

_____ (2008): *Annual Report 2007-08, Economic Survey of Assam*, Government of Assam, Dispur.

Government of India (1969): *Report of the National Commission on Labour*, Ministry of Labour, New Delhi, 417.

_____ (2001): *Census of India, 2001, Final Population Totals*, Assam, PRG – 169, Ministry of Home Affairs, New Delhi.

Guisinger, S. and Md. Irfan (1980): "Pakistan's Informal Sector", *The Journal of Development Studies*, 16 (4), July, 412-426.

Gupta, A.D. (1989): *Reports on Informal Credit Markets in India*, National Institute of Public Finance and Policy, New Delhi.

Gupta, K.L. (1984): *Finance and Economic Growth in Developing Countries*, Croom, Helm, London.

Hakam, A. (1983): "Apprentice System in Ghana – An Investment for Technology Transfer and Diffusion", in S. Watanbe (ed.), *Technology, Marketing and Industrialisation – Linkages between large and Small Enterprises*, Macmillan, New Delhi, 58-72.

Harper, M. and T.T. Soon (1979): *Small Enterprises in Developing Countries – Case Studies and Conclusions*, Intermediate Technology Publication, London.

Harper, M. (1988): "Training and Technical Assistance for Micro-enterprises", Paper submitted for the *International Micro-enterprise Conference*, Washington D.C., 6-9, June.

Harriss, B. (1978): "Quasi-Formal Employment Structures and Behaviour in the Unorganised Urban Economy and the Reverse – Some Evidence from South India", *World Development*, 6 (9-10), 1077-1086.

Harriss, J. (1982): "Character of an Urban Economy – Small Scale Production and Labour Markets in Coimbatore", *Economic and Political Weekly*, XVII (23-24), June 5 and 12, 945-954, 993-1002.

_____ (1990): "Linkages between the Formal and Informal Sectors in Developing Countries – A Review of Literature", *ILO/WEP, Research Working Paper Series*, WEP 2-19/WP 50, Geneva.

Hart, K. (1970): "Small Scale Entrepreneurs in Ghana and Development Planning", *Journal of Development Studies*, 6 (4), 104-120.

————— (1973): "Informal Income Opportunities and Urban Employment in Ghana", *The Journal of Modern African Studies*, 11 (1), 61-89.

Hicks, J. (1969): *A Theory of Economic History*, Clarendon Press, Oxford.

Higgins, B. (1966): *Economic Development*, Oxford University Press, New York.

_____ (1979): "Dualism Dependency, Informal Sectors and Continuiting Underdevelopment", *UNCRD Working Papers No. WP: 79-04*, March, Nagaya, Japan.

Hill, H. (1985): "Subcontracting, Technological Diffusion and the Development of Small Enterprises in Philippine Manufacturing", *The Journal of Developing Areas*, January, 245-262.

Hirschman, A.O. (1958): *The Strategy of Economic Development*, Yale University Press, New Haven.

Hirshman, C. (1982): "Unemployment among Urban Youth in Peninsular Malasia, 1970 – A Multivariate Analysis of Individual and Structural Effects", *Economic Development and Cultural Change*, Vol. 30(2), p. 391.

Hisrich, R.D. and M.P. Peters (1995): *Entrepreneurship – Starting, Developing and Managing a New Enterprise*, Boston: Irwin.

Hofmann, M. (1970): "Small Scale Entrepreneurs in Ghana and Development Planning", *Journal of Development Studies*, 6 (4), 104-120.

———————— (1986): "The Informal Sector in Intermediate City – A Case in Egypt", *Economic Development and Cultural Change*, 34 (2), January, 263-277.

Hosier, S. (1987): "Informal Sector in Kenya – Spatial variation and Development Alternatives", *Journal of Developing Areas*, July.

House, W.J. (1984): "Nairobi's Informal Sector – Dynamic Entrepreneurs or Surplus Labour", *Economic Development and Cultural Change*, Vol. 32, January, 277-302.

<http://www.assamgov.org/ecosurvey/table 15.3.html>.

Hulme, D. and P. Mosley (1996): *Finance Against Poverty*, Vol. 1, Routledge, London.

IAMR (1995): IAMR National Seminar on "Employment Promotion in the Urban Informal" was held in December 14-15, 1995 in collaboration with the ILO. Seminar Paper on Technical Session III subtitled "Integrated Development of Urban Informal Sector" was presented by V.K. Dhar of NIUA, New Delhi.

_____ (1998): *Manpower Profile – India*, Institute of Applied Manpower Research, New Delhi.

ILO (1972): *Employment, Income and Equality – A Strategy for Increasing Productive Employment in Kenya*, Geneva.

———————— (1980): *Report of the Natural Workshop on Income Generation Skills for Women in Sri Lanka*, Geneva.

———————— (1991): "The Urban Informal Sector in Africa in Retrospect and Prospect - An Annotated Bibliography", *International Labour Bibliography*, No. 10, Geneva.

_____ (1991): "The Dilema of the Informal Sector, Report of the Director-General", *International Labour Conference*, 78th Session, Geneva.

_____ (1992): "The Urban Informal Sector in Asia – An Annotated Bibliography", *International Labour Bibliography*, No. 13, Geneva.

———————— (1993): *Report of the Conference*, Fifth International Conference of Labour Statisticians, ICLS/15/D.6 (Rev. 1), Geneva.

———— (1993): "Programa nacional de apoyo a la micro y pequena empresa", *PRONAMYPE,* Informe Final, Proyecto COS/91/MOI/NET, San Jose, Costa Rica, Evaluation Report, ILO, September.

———— (1994): *Development of Urban Informal Sector in Asia – Policies and Programmes*, Geneva.

———— (1994): *The Urban Informal Sector in Asia – Policies and Strategies*, Geneva.

———— (1999): *World Employment Report 1988-89*, Bookwell, New Delhi.

———— (1999): as quoted in J. Unni and U. Rani "Informal Sector Women in the Emerging Labour Market", *The Indian Journal of Labour Economics*, Vol. 42(4), October-December, pp. 625-638.

———— (2001): *ILO Study made in Kenya and Ghana on Conceptual Framework for Employment Creation.*

<http://www.fao.org/AG/AGAINFO/subjects/documents/LPS/DAIRY/DAP/employ>.

Jagannathan, N.V. (1989): *Informal markets in Developing Countries*, OUP, New York.

Jangid, B.L. and P.P. Rohilla (2004): "Constraints in Adoption of Improved Animal Husbandry Practices in Arid Fringers of Rajasthan", *Indian Journal of Agricultural Economics*, 59 (3), July-September, 617-618.

Jarvis, L.S. (1986): *Livestock Development in Latin America*, World Bank, Washington, D.C.

Jhabvala, R. (1995): "Textiles in the People's Sector – Impact of Global Trading Practices on Women in the Unorganised Textile Sector in India", Paper presented at the Regional Seminar on *Global Trading Practices and Poverty Alleviation: A Gender Perspective*, 30 Jan – 2 Feb, SEWA, Ahmedabad.

———— (1998): "Social Security for Unorganised Sector", *EPW*, 33 (22).

Joshi, H. (1980): "The Informal Urban Economy and its Boundaries", *Economic and Political Weekly*, XV (13), March 29, 638-644.

Joshi, H. and V. Joshi (1976): *Surplus Labour and the City – A Study of Bombay*, OUP, Delhi.

Jurado, J.M. et al. (1981): "The Manila Informal Sector – In Transition", in S.V. Sethuraman (ed.), *op.cit.*, 121-143.

Kamalanabhan, T.J. (2006): "Evaluation of Entrepreneurial Risk Taking Using Magnitude of Loss Scale", *The Journal of Entrepreneurship*, 15 (1), January-June, 37-44.

Kalamkar, S.S. (2004): "Dairy Development in Maharashtra – An Economic Analysis", *Indian Journal of Agricultural Economics*, 59 (3), July-September, 612-613.

Kannappan, S. (1977): *Studies of Urban Labour Market Behaviour in Developing Areas*, International Institute of Labour Studies, Geneva.

Kashyap, S.P. (1988): "Growth of Small Size Enterprise in India – Its Nature and Content", *World Development*, 16 (6).

Kashyap, S.P. and H. Singh (1987): "Urban Informal Sector – Issues Arising Out of Gujarat's Experience", *Indian Journal of Industrial Relations*, 23 (1), July, pp. 43-53.

Kashyap, S.P. et al. (1984): *Facts of an Urban Economy – Economic Base Study of Ahmedabad*, Sardar Patel Institute of Economic and Social Research, Ahmedabad.

Kazi, S. (1987): "Skill Formation, Employment and Earnings in the Urban Informal Sector", *The Pakistan Development Review*, Vol. 26 (4), Winter, pp. 711-719.

Kharpuri, O. (2004): "Poverty, Inequality and Human Development in the Northeastern Region of India", *Ph.D. Dissertation*, North-Eastern Hill University, Shillong

King, K.J. (1975): "Skill Acquisition in Informal Sector in African Economy – The Kenya Case", *The Journal of Development Studies*, 11 (2), 108-122.

_____ (1989): "Training for the Urban Informal Sector in Developing Countries – Policy Issues for Practitioners", in F. Fluitman (ed.), *op.cit.*

Knight, F.H. (1971): *Risk, Uncertainty and Profit*, Chicago: University of Chicago Press.

Kondal, R.R. et al. (2004): "Prospects of Dairying Enterprise – A Study of Lanjhta Village in Western Himalayans", *Indian Journal of Agricultural Economics*, 59(3), July-Sept., p. 644.

Krige, D. (1988): "The Prospects for Informal Small Business in Kwamashu", *Development Southern Africa*, 5(2), pp. 168-185.

Krishna, R. (1984): "A Three-Sector, Time Series Model of the Labour Market in India", *World Bank Staff Working Paper*, No. 637, Washington D.C., The World Bank.

Kulshreshtha, A.C. (1998): "Informal Sector in India – Conceptual and Estimational Issues in the Context of the U.N. System of National Accounts", *Indian Journal of Labour Economics*, 41 (3), July-September, 449-457.

Kundu, A. (1993): "Growth and Changing Structure of Employment in Urban India – An Analysis of the Context of the New Economic Policy", *The Indian Journal of Labour Economics*, Vol. 36 (4).

———— (1997): "Trends and Structure of Employment in the 1990s – Implication for Urban Growth", *Economic and Political Weekly*, June 14, 1399-1405.

Kundu, A. and N. Lalitha (1998): "Informal Manufacturing Sector in Urban India – Sectoral Trends and Interdependencies", *The Indian Journal of Labour Economics*, Vol. 41 (3), July-Sept., pp. 483-499.

Kundu, A. and A.N. Sarma (eds.) (2001): *Informal Sector in India Perspectives and Policies*, Institute of Human Development and Institute of Applied Manpower Research, New Delhi.

Kundu, A. and P.N. Mathur (1984): "Informal Sector in Cities of different Sizes – An Explanation within the Case Theoretic Framework", *Regional Development Dialogue*, 5 (2), Autumn, 82-85.

Lall, V.D. (1987): "Informal Sector Savings – The Vital Parameters", in Vinay D. Lall (ed. in 1989), *Resource Mobilisation: International Experiences of the Informal Sector*, Published by Director, Society for Development Studies, New Delhi, pp. 65-80.

_____ (1987): "International Workshop on Mobilisation of Informal Sector Savings – Survey and Recommendations", in Vinay D. Lall (ed. In 1989), *Resource Mobilisation: International Experiences of the Informal Sector*, Published by Director, Society for Development Studies, New Delhi, p. 26.

Landreth, H. (1976): *History of Economic Theory*, Houghton, Mifflin Co., Boston.

Leibovich, J. (1996): "La Migracion Interna en Colombia. Un Modelo Explicativo del proceso de asimilacion", *Revista Planeaciony Desarrollo*, Vol. XXVII, No. 4, Octubre-diciembre.

Levenburg, N.M. and V.T. Schwarz (2008): "Entrepreneurial Orientation among the Youth of India – The Impact of Culture, Education and Environment", *The Journal of Entrepreneurship*, 17 (1), January-June, 15-25.

Levitsky, J. (1989): "Innovative Financing Systems" in *Netherland Development Cooperation Small Eterprises, New Approaches*, The Hague, pp. 123-138.

Lewis, W.A. (1954): *Economic Development with Unlimited Supplies of Labour*, The Manchester School of Economics and Social Studies, May, Vol. 22(2), pp. 139-191.

———— (1975): *Economic Development with Unlimited Supplies of Labour*, The Manchester School of Economics and Social Studies, May 1954, 139-191; reprinted in A.N. Agarwalla and S.P. Singh (eds.), *The Economics of Underdevelopment*, OUP, New Delhi, 1975, 400-449.

Leys, Colin (1976): "Interpreting African Underdevelopment: Reflections on the ILO Report on Employment, Incomes and Equality in Kenya", African Affairs, October 1973, reprinted in G.M. Meier (ed.), *Leading Issues in Economic Development*, OUP, New York, 1976, pp. 221-224.

Light, I. and C. Rosenstein (1995): "Expanding the Interaction Theory of Entrepreneurship", in Alekandro Portes (ed.), *The Economic Sociology of Immigration – Essays on Networks, Ethnicity and Entrepreneurship*, New York: Russell Sage Foundation, pp. 166-212.

Lipton, M. (1977): "Why Poor People Stay Poor – A Study of Urban Bias in World Development", in John Harriss and Mick Moor (eds.), *The Journal of Development Studies*, 20 (3), April, published in 1984.

———— (1984): "Urban Bias Revisited", *The Journal of Development Studies*, Vol. 20 (3), April, pp. 139-167.

Little, P. (1997): "Background Paper on Income and Assets as Impact Micro-Enterprise Credit", *AIMS Paper*, Management Systems International, Washington, D.C.

Lubell, H. (1973): "Urban Development and Employment – The Prospect for Calcutta", *International Labour Review*, 108 (1), July, 25-41.

———— (1991): *The Informal Sector in the 1980s and* 1990s, OECD, Paris.

Lubell, H. and C. Zarour (1990): "Resilience Amidst Crisis – The Informal Sector of Dakar", *International Labour Review*, Vol. 129 (3), pp. 387-396.

Lucas, R. E. (1988): "On the Mechanics of Economic Development", *Journal of Monetary Economics*, 22 (1), 3-6.

Madhavi, P. (2006): "Organising the Invisible and the Informal – A Study of Unions in the Beedi Industry in Telangana region of Andhra Pradesh", *The Indian Journal of Labour Economics*, 49 (4), October-December, pp. 947-953.

Mahadevia, D. et al. (1996): As quoted in D. Mahadevia (1998), "Informalisation of Employment and Incidence of Poverty in Ahmedabad", *Economic and Political Weekly*, 41 (3), 515-527.

Mahajan, V. (2005): "From Micro-credit to Livelihood Finance", *Economic and Political Weekly*, October 8-14, XL (41), 4416-4419.

Majumdar, N.A. (1997): "Overhauling the Somnolent Rural Credit System", *EPW*, Vol. 32 (42), October, 18.

Majumdar, P.S. and I. Majumdar (1978): *Rural Migrants in an Urban Setting (A Study of Two Shanty Colonies in the Capital City of India)*, Hindustan Publishing Corporation (India), Delhi.

Maldonado, C. and S.V. Sethuraman (1992): *Technological Capability in the Informal Sector – Metal Manufacturing in Developing Countries*, ILO, Geneva.

Marga Institute, Colombo (1981): "Informal Sector without Migration – The Case of Colombo", in S.V. Sethuraman (ed.), *op.cit*., 101-108.

Marjit, S. (2003), Quoted in Verick Sher (2006): *The Impact of Globalisation on the Informal Sector in Africa,* Economic and Social Policy Division, United Nations Economic Commission for Africa (ECA) and Institute for the Study of Labor (IZA), p. 12.

Marjit, S. and S. Kar (2007): "The Urban Informal Sector and Poverty – Effects of Trade Reform and Capital; Mobility in India", *Policy Research Brief, Poverty and Economic Policy*, September-November, 31.

Mathur, O.P. and C.O.N. Mosev (1984): "The Urban Informal Sector – An Agenda for Future Research", *Regional Development Dialogue*, 5 (2), Autumn, IX-XXI.

Mazumdar, A. (1980): *Immigration and Informal Sector – A Case Study of Urban Delhi*, Birla Institute of Scientific Research, Economic Research Division, Vision Books, New Delhi, p. 25.

Mazumdar, D. (1975): "The Urban Informal Sector", *World Bank Staff Working Paper*, No. 211, Washington, p. 1.

_____ (1977): "Notes on the Informal Sector", in Subbaiah Kannapan (ed.), *World Bank Staff Working Paper*, No. 211, Washington.

_____ (1981): "The Urban Labour Market and Income Distribution – A Study of Malasdia", *A Worldf Bank Research Publication*, OUP, New York.

Mazumdar, N.A. and V.D. Lall (1992): "Satellite Banking and Micro Business Development Corporation for Financing the Informal Sector", *Society for Development Studies*, March, New Delhi.

Mayer, R.L. (1988): "Financial Services for Micro-enterprise – Programmes or Markets?", Paper submitted for the *International Micro-enterprise Conference*, Washington D.C., 6-9, June.

McGee, T.G. (1975): "Peasants in Cities – A Paradox, A Most Ingenious Paradox", *Human Organisation*, 32 (138).

McLaughin, S. (1990): "Skill Training for the Informal Sector – Analysing the Success and Limitations of Support Programmes", in D. Turnham, B. Salome and A. Sehwarz (eds.) (1990), Chapter 9, pp. 156-186.

Mehta, M. (1985): "Urban Informal Sector Concepts, Indian Evidence and Policy Implications", *Economic and Political Weekly*, XX (8), February 23, 326-332.

_____ (1990): *Employment, Income and the Urban Poor*, Harman Publishing House, New Delhi.

Mian, Md. R.U. et al. (2007): "Impact of Dairy Farming on Livelihood of Participating Women Under Grameen Bank in a Selected Area of Rangpur District in Bangladesh", *Indian Journal of Agricultural Economics*, 62 (2), April-June, 258-270.

Minghuan, L. (2004): "Re-emrgence of Labour Brokers in China Today – The Xiamen Example", *The Indian Journal of Labour Economics*, 47 (3), pp. 572-573.

Mingione, E. (1983): "Informalisation, Restructuring and the Survival Strategies of the Working Class", *International Journal of Urban and Regional Research*, 7 (3).

————— (1984): "The Informal Sector and the Development of Third World Cities", *Regional Development Dialogue*, 5 (2), Autumn, 63-74.

Mishra, I. (2005): *Micro Credit for Macro Impact on Poverty*, National Publishing House, New Delhi.

Mishra, R.K. (2005): "Impact of Institutional Finance on Farm Income and Productivity – A Case Study of Orissa", *Indian Journal of Agricultural Economics*, Vol. 60 (3), July-Sept., pp. 361-362.

Misra, B.S. (2003): "Analytics of Credit – Output Nexus in India", *Reserve Bank of India Occasional Papers*, 24 (1, 2), Summer and Monsoon.

Mitra, A. (1989): *Urban Slums – The Informal Sector Perspective*, Delhi School of Economics, New Delhi, Mimeo.

———— (1994): "Industry, Informal Sector Employment and Poverty", *The Indian Journal of Labour Economics*, Vol. 37 (3).

———— (1998): "Employment in the Informal Sector", *Indian Journal of Labour Economics*, 41 (3), 475-481.

Mittar, V. (1986): "Income Distribution and Poverty in the Urban Informal Sector", *Margin*, 18 (2), January, 29-46.

Mobagunje, A.L. and M.V. Filani (1977): "Absorption of Migrants into Kana City, Nigeria", *ILO, Geneva.*

———— (1981): "The Informal Sector in a Small City – The Case of Kano (Nigeriia)", in S.V. Sethuraman (ed.), *The Urban Informal Sector in Developing Countries – Employment, Poverty and Environment*, ILO, Geneva, pp. 84-89.

Mosev, C.O.N. (1978): "Informal Sector on Petty Commodity Production – Dualism or Dependence in Urban Development", *World Development*, 6 (9, 10), September/October, 1041-1064.

———— (1984): "The Informal Sector Reworked – Viability and Vulnerability in Urban Development", *Regional Development Dialogue*, 5 (2), Autumn, 135-180.

Mosley, P. (1978): Implicit Models and Policy Recommendations – Policy towards the Informal Sector in Kenya", *IDS Bulletin*, 9 (3), 3-10.

Mukherjee, D. (2004): "Informal Manufacturing Sector in India – Pre and Post Reform Growth Dynamics", *The Indian Journal of Economics*, 47 (2), p. 293.

Muller, C. (2003): "Investigating South Africa's Informal Sector – Measurement, Participation and Earnings", *Unpublished Masters Thesis*, University of Natal, Durban.

Murillo, G. and P.D.L. Monica (1985): "The Urban Informal Sector in Columbia – A Review of the Literature and Outline of Research Priorities", *Comparative Urban Research*, Vol. 11, 126-136.

Myrdal, G. (1968): *Asian Drama*, Penguin, Vol. 2, p. 1112.

Nadvi, K. and H. Schimtz (1994): "Industrial Clusters in Less Developed Countries – Review of Experiences and Research Agenda", *Working Paper No. 339*, Institute of Development Studies (IDS), Sussex.

Nair, K.R.G. and A. Pandey (2006): "Characteristic of Entrepreneurs – An Empirical Analysis", *The Journal of Entrepreneurship*, 15 (1), January-June, 47-49.

Nath, K. (1970): "Female Work Participation and Economic Development – A Regional Analysis", *EPW*, Vol. 5(21), p. 846.

Nath, L. (2002): "Labour Migration in an Earlier Phase of Global Restructuring – The Nepali Dairy Farmers in Assam", in Monorama Sharma and D.R. Syiemlieh (eds.), *Proceedings of North-East India History Association, Twenty-Third Session*, Tripura University, Tripura, 26-28 September 2002, On Behalf of North-East India History Association, Department of History, NEHU, Shillong.

Nath, V. (2000): "Entrepreneurship by Regions and Castes – A Survey", *Economic and Political Weekly*, 35, pp. 4217-4221.

Nattrass, N. (2000): "The Debate about Employment in the 1960s", *Studies in Economics and Econometrics*, Vol. 24 (3), pp. 73-90.

Nelson, J.M. (1979): "The Urban Poor as a Political Class" in *Access to Power – Politics and the Urban Poor in Developing Countries*, Princeton, New Jersey, Princeton University Press.

Nihan, G. and R. Jourdian (1978): "The Modern Informal Sector in Nouakchott", *International Labour Review*, 117 (6), November-December.

NIPFP (1989): *Reports on Informal Credit Markets in India – Summary*, NIPFP, New Delhi.

NIUA (National Institute of Urban Affairs) (1987): "Gender Bias in Employment of Women in the Urban Informal Sector", *Research Study Series*, No. 20, New Delhi, October.

———— (1987): "Structure and Performance of Informal Enterprises – A Study of Four Cities", *Research Study Series No. 19*, New Delhi.

NSSO (2005): *All India Debt and Investment Survey – Household Indebtedness in India as on 30.062002*, NSS 59th Round, Report No. 501 (59/18.2/2), National Sample Survey Organisation, Government of India, New Delhi.

Oberai, A.S. and H.K.M. Singh (1983): *Causes and Consequences of Internal Migration*, Oxford University Press, New Delhi.

Okelo, M.E. (1988): "Support for Women in Micro-enterprises in Africa", Paper submitted for the *International Micro-enterprise Conference*, Washington D.C., 6-9, June.

———— (1989): "Support for Women in Micro-enterprises in Africa" in J. Levitsky (ed.), *Micro-enterprises in Developing Countries*, Intermediate Technology Publications, London.

Omore, A.J. et al. (1999): *Employment Generation through Small-Scale Dairy Marketing and Processing Experiences from Kenya, Bangladesh and Ghana*, A Joint Study by the ILRI, Market Oriented Smallholder Dairy Project and the FAO.
<http://www.fao.org/AGAINFO/subjects/documents/LPS/DAIRY/DAP/employ>.

———— (2001): "Employment Generation through Small Scale Dairy Marketing and Processing Experiences from Kenya, Bangladesh and Ghana – A Joint Study by the ILRI Market Oriented Smallholder Dairy Project and the FAO", Animal Production and Health Division, Rome/Nairobi, December.
<http://www.fao.org/AG/AGAINFO/subjects/documents/LPS/DAIRY/DAP/employ>.

ORG (Organisation Research Group) (1980): "An Economic Profile of Urban Poor – Slum Dwellers of Madras", *Mimeograph*, Madras, p. 37.

———— (1980): *Informal Sector Enterprises in Madras – A Profile and Strategy*, Madras, April.

Oyenege, O.Y (1980): "Apprenticeship in the Informal Sector in Nigeria", *Labour Capital and Society*, November.

———— (1981): "Factors Influencing Entry into the Informal Sector Apprenticeship System", *African Social Research*, December, 1-27.

Pallangyo, E.A. (1998): "The Urban Informal Sector Characteristics, Problems and Potentials of the Market Vendors in Batangas City, Philippines", *Theses and Dissertations*, U.P. School of Urban and Regional Planning, September.

Panda, B. (1998): "Urban Informal Manufacturing Sector in Cuttack, Orissa", *Ph.D. Dissertation*, Utkal University, Bhubaneswar.

Papola, T.S. (1978): "Informal Sector in an Urban Economy", *Nagarlok*, October-December.

_____ (1980): "Informal Sector – Concept and Policy", *Economic and Political Weekly*, 15 (18), May 3, 817-824.

_____ (1981): "Discussing the Informal Sector", *Economic and Political Weekly*, 16 (31), August 1, 1272-1274.

_____ (1981): *Urban Informal Sector in a Developing Economy*, Vikas Publishing House, New Delhi, p. 13.

_____ (1992): "Informal Sector – Concept and Policy", in M.K. Rao (ed.), *Growth of Urban Informal Sector and Economic Development*, Kanishka Publishers Distributors, Delhi.

Patel, B.B. (1990): *Survey of Workers of Closed Textile Mills in Ahmedabad for Planning for Alternative Employment*, Gandhi Labour Institute, Ahmedabad.

Pathak, H. and B.C. Jain (2004): "Economics of Dairying – A Micro Level Evidence from Chhattisgarh", *Indian Journal of Agricultural Economics*, 59 (3), pp. 641-642.

Paul, L.A. (1985): "The Urban Informal Sector in Economic Development", Unpublished *Ph.D. Thesis*, Faculty of Graduate School, University of Maryland, Maryland.

Ping-Yu, S. (1984): "The Impact of the Informal Sector on Urban and Rural Socio-Economic Development in China", *Regional Development Dialogue*, 5 (2), Autumn, 105-113.

Portes, A. (1978): "The Informal Sector and the World Economy – Notes on the Structure of Subsidised Labour", *IDS Bulletin*, June, 37.

———————— (1983): "The Informal Sector – Definition, Category and Relation to National Development", *Review*, Summer, 151-174.

_____ (1994): "The Informal Economy and its Paradoxes", in Neil J. Smelser and Richard Swedberg (eds.), *The Handbook of Economic Sociology*, Princeton University Press, pp. 426-449.

———————— (1995): "Economic Sociology and the Sociology of Immigration – A Conceptual Overview", in Alejandro Portes (ed.), *The Economic Sociology of Immigration – Essays on Networks, Ethnicity and Entrepreneurship*, New York: Russel Sage Foundation, pp. 1-41.

Prasad, K.N. (1986): *Foundations of Modern Economics*, Sterling Publications Pvt. Ltd., New Delhi.

Purohit, S.G. and H.G. Jambagi (2004): "Economic Impact of New Breeding Technology on Dairy Farming – A Case Study of Bagalkot District in Karnataka", *Indian Journal of Agricultural Economics*, 59 (3), July-Sept., p. 654.

Quadeer, J. and D. Roy (1989): "Work, Wealth and Health – Sociology of Workers", *Social Scientist*, Vol. 17, No. 5 & 6.

Quijano, A. (1974): "The Marginal Pole of the Economy and the Marginalised Force", *Economy and Society*, 3 (4), 393-428.

Rahman, R.I. (1989): "Informal Sector and Institutional Credit in Bangladesh", in Vinay D. Lall (ed.), *Resorce Mobilisation: International Experiences of the Informal Sector*, Published by Director, Society for Development Studies, New Delhi, 172-184.

Rajput, A.M. and S. Yadav (2004): "An Economic Analysis of Cross-bred Cow Milk Production and Identification of Constraints in Indore District of Madhya Pradesh", *Indian Journal of Agricultural Economics*, July-September, 59 (3), 614-615.

Raju, R.S. and C.S.V. Ratnam (1985): "A Perspective on Unorganised Sector in India", *The Indian Journal of Labour Economics*, Vol. XXVII (4), January, 310-321.

Raju, S. (1985): "Informal Sector in Urban Labour Markets – A Review of Literature", *Nagarlok*, XVII (2), April-June, 15-29.

Raju, S.R. (1989): *Urban Unorganised Sector in India*, Mittal Publications, New Delhi.

Ramachandran, T. (2004): "Rural Employment and Income Generation in Dairy Farming – A Case Study of Kanyakumari District", *Indian Journal of Agricultural Economics*, Vol. 59 (3), July-Sept., p. 643.

Ramachandran, V.K. and M. Swaminathan (2001): "Does Informal Credit Provide Security? Rural Banking Policy in India", *Mimeo*, International Labour Office, Geneva. <www.ilo.org/public/english/protection/ses/download/does/2india.pdf..>.

Ramana, K.V. and K.S. Krishna (1984): *Structure and Working of Unorganised Sector in Visakhapatnam City* (Mimeo), Department of Economics, Andhra University, Waltair.

Ramatet, E. (1983): "Calcutta's Informal Sector – Theory and Reality", *Economic and Political Weekly*, December 10, 18 (50), 2115-2128.

Rani, G.S. and S. Galab (1998): "Organisation and Economic Performance of Manufacturing Activities in Urban Slums of Hyderabad City – A Case Study of Sandal Making Activity", *The Indian Journal of Labour Economics*, 41 (3), July-September, pp. 539-553.

Rao, C.H. (1991): "Promotion of Women Entrepreneurship", *SEDME*, 18 (2), pp. 21-28.

Rao, K.S.R. and A.K. Tripathi (2001): "Indebtedness of Households – Changing Characteristics", *Economic and Political Weekly*, 36 (2), 1617-1626.

Rao, N. et al. (2004): "Economics of Milk Production in District Kanpur (Dehat), Uttar Pradesh", *Indian Journal of Agricultural Economics*, July-September, 59 (3), 624-625.

Rao, P. (2008): "Environmental Initiatives Undertaken by Entrepreneurs in the Philippines", *The Journal of Entrepreneurship*, January-June, 17 (1), 73-79.

Rao, V.M. (2004): "Institutional Innovations in Governments – Experience of Women Dairy Project in Rajasthan", *Indian Journal of Agricultural Economics*, July-September, 59 (3), 648.

Ray, D. (1999): *Development Economics*, OUP, New Delhi.

RBI (1999): "All India Debt and Investment Survey, 1991-92 – Salient Features", *Reserve Bank of India Bulletin*, 53 (5), 673-691.

———— (2000): ""All India Debt and Investment Survey, 1991-92 – Incidence of Indebtedness of Households", *Reserve Bank of India Bulletin*, 54 (2), 83-103.

Reddy, M.J. et al. (2004): "A Comparative Study of Cost of Milk Production under Different Agro-Climate Regions in Semi-Arid Regions", *Indian Journal of Agricultural Economics*, July-September, 59 (3), 611.

Reichmuth, M. (1978): *Dualism in Peru – An Investigation into the Interrelationships between Lima's Informal Clothing Industry and the Formal Sector*, Oxford University Press, Oxford, p. 151.

Remy, D. (1982): "Formal and Informal Sectors of the Zaria, Nigerian Economy – An Analysis Framework with Empirical Content", in Helen I. Safa (ed.), *Towards a Political Economy of Urbanisation in Third World Countries*, OUP, New Delhi, pp. 233-246.

Reynolds, L.G. (1969): *Economic Development with Surplus Labour – Some Complications*, in Oxford Economic Papers (New Series), March.

Richardson, H.W. (1984): "The Role of the Urban Informal Sector – An Overview", *Regional Development Dialogue*, 5 (2), Autumn, 56-62.

Rogerson, C.M. and K.S.O. Beavon (1980): "The Awakening of 'Informal Sector' Studies in Southern Africa", *South African geographical Journal*, 62(2): pp. 175-190.

Roomi, Md. A. and G. Parrott (2008): "Barriers to Development and Progression of Women Entrepreneurs in Pakistan", *The Journal of Entrepreneurship*, Vol. 17 (1), Jan-June, pp. 59-71.

Rossin, R.G. and J.J. Thomas (1990): "The Size of the Informal Sector in Peru – A Critical Comment on Hernands de Soto's El Otro Sondero", *World Development*, 18 (1), 125-135.

Roy, A.D. (1951): "Some Thoughts on the Distribution of Earnings", *Oxford Economic Papers*, 3, 135-146.

Roy, T. (2003): "Social Costs of Reforms – A Study of Job Loss with special reference to Declining Industries in 1990-1998", in S. Uchikawa (ed.), *Labour Market and Institution in India – 1990s and Beyond*, Manohar, New Delhi.

Roy, T.N. (2004): "Role of Livestock in Stabilising Income and Reducing Risk of Marginal and Small Sericultural Farmers of West Bengal", *Indian Journal of Agricultural Economics*, July-September, 59 (3), 660-661.

Sachi, K.L. (1989): *Informal Sector in Zimbabwe*, Zimbabwe Institute of Development Studies, Harare.

Sachoo, B. and N.K. Nayak (1983): "The Urban Informal Sector and the Problem of Unorganised Labour in Orissa", Paper presented in AWDI, February, Rourkela.

Sadeesh, J. et al. (2007): "An Economic Analysis of Marketing Efficiency of Milk in Puducherry Region in Union Territory in Puducherry", *The Indian Journal of Agricultural Economics*, 62 (3), July-September, p. 471.

Saikia, S.K. (2004): "Possibility of Dairy Industry in Assam", *Prantik* (Fortnightly), 1-15 May, 23 (11), 14-16.

Samal, K.C. (1984): "Informal Finance Sector – I. Need to Streamline Functioning, II. Scope for Effective Role in Many Areas", *Business Standard*, September 25 and 26, Calcutta.

———— (1984): "Seventh Plan Document – Informal Sector Ignored Again", *Business Standard*, December 22, Calcutta.

———— (1989): *Urban Informal Sector and Rural-Urban Migration – A Case Study*, Manak Publications Pvt. Ltd., New Delhi.

———— (1990): *Urban Informal Sector – An Exploration of the Informal Sector in a Small City of Orissa*, Manak Publications Pvt. Ltd., New Delhi.

———— (1998): "Some Aspects of Informal Sector Growth in Orissa", *The Journal of Entrepreneurship*, 7(1), pp. 83-91.

Sampson, S. (1985): "The Informal Sector in Eastern Europe", *Telos*, No. 66, Winter, 1985-86, 44-46.

Sanchez, C.E. et al. (1981): "The Informal and Quasiformal Sectors in Cordoba", in S.V. Sethuraman (ed.), *op.cit.*, 144-158.

Santos, M. (1979): *The Shared Space – The Two Circuits of the Urban Economy in Underdeveloped Countries*, Methuen, London and New York.

Sarma, B.L. and R.C. Sarma (2004): "Contribution of Dairy and Crop Enterprises to the Economy of the Rural Families in Semi-Arid Region of Rajasthan", *Indian Journal of Agricultural Economics*, July-September, 59 (3), 608-609.

Sarma, V.P. (2004): "Livestock Economy of India – Current Status, Emerging Issues and Long Term Prospects", *Indian Journal of Agricultural Economics*, 59 (3), July-September, p.536.

Sastry, N.S.R. et al. (1994): *Livestock Production Management*, (Third Revised Edition), Kalyani Publishers, New Delhi.

Savvides, S. (1994): *Risk Analysis in Investment Appraisal – Project Appraisal*, Survey, Beech Tree Publishing, 9 (1), U.K., 3-18.

Sayigh, Y.A. (1962): *Entrepreneurs of Lebanon*, M.A. Harvard University Press.

Schaefer, K. and C.R. Spindel (1976): *Sao Paulo – Urban Development and Employment*, ILO, Geneva.

Schmitz, H. (1982 a): *Manufacturing in the Backyard – Case Studies on Accumulation and Employment in Small-Scale Brazilian Industry*, Frances Printer, London.

_____ (1982 b): "Growth Constraints on Small-Scale Manufacturing in Developing Countries – A Critical Review", in *World Development*, Vol. 10(6), Pargamon Press.

_____ (1982): *World Development*, Vol. 10(6), pp. 429-450.

_____ (1990): "Small Firms and Flexible Specialization in Developing Countries", *Labour and Society*, Vol. 15, pp. 257-285.

_____ (ed.) (1993): *The Measurement of Efficiency – Techniques and Applications*, Oxford University Press, New York.

Schmitz, H. and B. Musyck (1994): "Industrial Districts in Europe – Policy Lessons for Developing Countries", *World Development*, Vol. 22 (6), pp. 889-910.

Schumpeter, J.A. (1934): *A Theory of Economic Development*, Harvard University Press, Cambridge.

———— (1950): *Capitalism, Socialism and Democracy*, George Allen and Unwin Ltd., London.

———— (1967): *The Theory of Economic Development*, New York: OUP.

Scott, A.M. (1979): "Who are the Self-Employed", in R. Bromley and C. Grey (eds.), *op.cit*., 105-129.

Seibel, H. (1989): "Linking Informal Sector and Formal Financial Institutes in Africa and Asia", in J. Levitsky (ed.), *Micro-enterprises in Developing Countries*, Intermediate Technology Publications, London.

Senanayake, S.M.P. (1989): "Some Aspects of Mobilisation of Rural-cum-Urban Informal Sector Savings in Sri Lanka", in Vinay D. Lall (ed.), *Resource Mobilisation: International Experiences of the Informal Sector, o.cit*., 108.

Sethuraman, S.V. (1976 a): *Jakarta – Urban Development and Employment*, ILO, Geneva.

_____ (1976 b): "The Urban Informal Sector – Concept, Measurement and Policy", *International Labour Review*, July-August, 114 (1), 69-81.

_____ (ed.) (1981): *The Urban Informal Sector in Developing Countries – Employment, Poverty and Environment*, ILO, Geneva, pp. 12-17.

SEWA (Self-Employed Women's Association) (1988): *SEWA in 1988*, No. 171 in Chapter 10.

———— (1996): *Report on the Workshop on the Contribution of the Unorganised Sector to the Indian Economy*, SEWA Academy, Ahmedabad.

Shackle, G.L.S. (1970): *Expectation, Enterprise and Profit*, George Allen and Unwin, London.

Shah, A. (1994): "Inter-Farm Linkages in India – A Class within the Small Scale Industry", *Small Business Economics*, Vol. 6(3), June.

_____ (1998): "Scalar Linkages in Industries – Implications for Productivity and Employment", *The Indian Journal of Labour Economics*, Vol. 41)3), pp. 501-513.

Shaw, A. (1984): "Wage Labour in Slum Households of Calcutta", *Labour, Capital ad Society*, Vol. 17(1), April, pp. 26-42.

————— (1985): "The Informal Sector in a Third World Economy – A Case Study of Calcutta", *Bulletin of Concerned Asian Scholars*, 17 (1), pp. 42-53.

Shaw, E.S. (1973): *Financial Deepening in Economic Development*, OUP, New York.

Sher, Verick (2006): "Impact of Globalisation on the Informal Sector in Africa", *Economic and Social Policy Division*, United Nations Economic Commission for Africa (ECA) and Institute for the Study of Labour (IZA), pp. 3-15.

Sidhu, R.S. and M.S. Sidhu (1990): "Case Studies of Successful and Unsuccessful Primary Co-operative Service Society and Milk Producers' Co-operative Society in Punjab", *Indian Journal of Agricultural Economics*, 45 (3), July-September, pp. 608-609.

Sidhu, R.S. et al. (2000): "Economic Sustainability of Wheat and Rice Crops in Punjab – Issues on Prices, Profitability and Natural Resources Use", *Indian Journal of Agricultural Economics*, Vol. 58(3), July-Sept., pp. 389-390.

————— (2004): "Agricultural Trade Liberalization, Increasing Food Stocks and Depleting Natural Resources in Punjab", Paper Presented at *Rural Development*, ICSSR-North-Western Regional Centre, Chandigarh, March 27-28.

Sidhu, R.S. and A.S. Bhullar (2004): "Changing Structure of the Farm Economy in Punjab – Impact of Livestock on Income and Employment", *Indian Journal of Agricultural Economics*, July-September, 59 (3), 578-586.

Simon, D. (1984): "Urban Poverty, Informal Sector Activity and Inter-Sectoral Linkages – Evidence from Windhock, Namibia", *Development and Change*, 15 (4), 551-576.

Sinclair, S.W. (1976): "Informal Economic Activity in African Cities", *Journal of Modern African Studies*, December, 14 (4), 696-699.

Singh, A.K. and S. Joshi (2007): "Milk and Milk Marketing in Western Uttar Pradesh", *The Indian Journal of Agricultural Economics*, 62 (3), July-September, pp. 466-467.

Singh, S. (1994 a): *Some Facets of Informal Sector in Developing Countries*, Institute of Development Studies, Jaipur.

———— (1994 b): "The Dimesnion of Urban Informal Sector in Jaipur", in *Symposium on Informal Sector*, Marga Institute, Colombo.

———— (1994): *Urban Informal Sector*, Rawat Publications, Jaipur.

———— (2007): "Marketing of Liquid Milk – A Case Study of Ahemdabad Milk Market", *The Indian Journal of Agricultural Economics*, 62 (3), July-September, pp. 440-447.

Singh, S. and A. Singh (1989): "The Urban Informal Sector – Some Issues", *IASSI (Quarterly)*, Vol. 8, 122-125.

SNA (1993): *System of National Accounts 1993, Commission of the European Communities*, International Monetary Fund, Organisation for Economic Co-operation and Development, United Nations, World Bank Brussels/Luxembourg, New York, Paris, Washington, D.C.

Spalter, R.R. et al. (1992): *Combining Work and Welfare – An Alternative Anti-Poverty Strategy*, Washington D.C., Institute for Women's Policy Research.

Souza, P. and V.E. Tokman (1976): "The Informal Urban Sector in Latin America", *International Labour Review*, November-December, 114 (3), 355-365.

Sovani, N.V. (1966): *Urbanization and Urban India*, Asia Publishing House, Bombay.

Sriramamurthy, K. (1983): "Urban Labour in the Informal Sector – A Case Study of Visakhapatnam City", Unpublished *Ph.D> Thesis*, Andhra University, Waltair.

_____ (1986): *Urban Labour in Informal Sector*, B.R. Publishing Corporation, Delhi.

Srivastava, P. (1992): "Are Formal and Informal Credit Markets in India Interlinked", *Economic and Political Weekly*, October 10, 27 (41), 2241-2245.

Stark, O. (1982 b): "On Modelling the Informal Sector", *World Development*, April, 10 (5), 413-416.

Statistics South Africa (SSA) (2003): *Labour Force Survey*, September 2002, Pretoria.

Stearns, K.E. (1988): "Assisting Informal Sector Enterprises", *Economic Impact*, Vol. 63 (2), pp. 18-22.

Stelcner, M. et al. (1990): "Education and Earnings in Peru's Informal Non-Farm Family Enterprises", *Living Standards Measurement Study*, *Working Paper 64*, World Bank, Washington, D.C.

Stern, N. (1989): "The Economic of Development – A Survey", *Economic Journal*, 99 (397), 597-685.

Suharto, Edi (2003): *Accommodating the Urban Informal Sector in the Public Policy Process – A Case Study of Street Enterprises in Bandung Metropolitan Region (BMR), Indonesia*, Research Paper International Policy Fellow.

<http://www.policy.hu/suharto/finalresearchpaper.html>.

Sujatha, R.V. et al. (2004): "Milk Marketing in Co-operative and Private Sectors – A Comparative Study in Andhra Pradesh", *Indian Journal of Agricuktural Economics*, Vol. 59(3), July-Sept., pp. 650-651.

Sundaram, K. and V. Pandit (1984): "Informal Credit Markets, Black Money and Monetary Policy – Some Analytical and Empirical Issues", *Economic and Political Weekly*, April 21, 19 (16), 675-682.

Sundari, S. (2005): "Real Earnings of Migrant Women in Urban Informal Sector – A Study in Tamil Nadu", *The Indian Journal of Labour Economics*, 48 (3), July-September, pp. 619-629.

Suryanarayanan, S.S. (1998): "Information Base for the Informal Sector", *Indian Journal of Labour Economics*, July-September, 41 (3), 458-467.

Taylor, D.S. (2001): "Approach to Analysis of Employment Generation".

<http://www.fao.org/AG/AGAINFO/subjects/documents/LPS/dairy/employ>.

Taylor, J.G. and P.J. Scharlin (2004): "Smart Alliance – How a Global Corporation and Environmental Activities Transformed a Tarnished Brand", in James C. Scott (ed.), *Yale Agrarian Studies*, Yale University Press, New haven and London.

TCPO (1983): *Government of India, Informal Sector, In a Metropolis – Case Study of Delhi*, December.

Thomas, J.J. (1988): *Providing Credit to the Informal Sector – A Case Study of the Garment Industry on Lima*, London School of Economics, London.

Timberg, T. and C.W. Aiyar (1980): "Informal Credit Markets in India", *Economic and Political Weekly*, Annual Number, February, 15 (5, 7), 279-302.

Todaro, M.P. (1969): "A Model of Labour Migration and Urban Unemployment in Less Developed Countries", *American Economic Review*, Vol. 59, pp. 138-148.

Tokman, V.E. (1978 a): "An Exploration into the Nature of Informal-Formal Sector Relationship", *World Development*, September-October, 6 (9, 10), 1065-1075.

_____ (1978 b): "Competition between the Informal and Formal Sectors in Retailing – The Case of Santiago", *World Development*, September-October, 6 (9, 10), 1187-1198.

———— (1989): "Policies for Heterogeneous Informal Sector in Latin America", *World Development*, Vol. 17 (7), July, pp. 1067-1076.

———— (1992): "The Informal Sector in Latin America – From Underground to Legality", in Tokman, V. (ed.), *Beyond Regulation – The Informal Economy in Latin America*, Lynne Rienner Publishers.

Turner, K. (1982): "Extrapolations from the Search for Definition – The Current Zambian Debate in the Urban Informal Sector", *African Social Research*, June, 123-132.

Tuteja, U. and N. Singh (2004): "Employment and Income Generation through Livestock-based Milk Processing Units in Rural Haryana", *Indian Journal of Agricultural Economics*, July-September, 59 (3), 658-659.

Unni, J. (2004): "Globalisation and Securing Rights for Woemn Informal Workers in Asia", *Journal of Human Development*, 5(3), November.

_____ (2005): "Wages and Incomes in Formal and Informal Sector in India", *The Indian Journal of Labour Economics*, 48 (2), p. 311.

Unni, J. and U. Rani (1999): "Informal Sector – Women in the Emerging Labour Market", *The Indian Journal of Labour Economics*, 42 (4), October-December.

_____ (2001): "Social Protection for Informal Workers", *The Indian Journal of Labour Economics*, 44 (4), pp. 559-574.

_____ (2003a): "Changing Structure of Workforce in Unorganised Manufacturing", *The Indian Journal of Labour Economics*, 46 (4), pp. 983-997.

_____ (2003b): "Employment and Productivity in the Unorganised Manufacturing", Paper presented at the National Seminar on the *Results of NSS 56th Round* Survey, National Sample Survey Organisation, Ministry of Statistics and Programme Implementation, Government of India, March 21, New Delhi.

Upadhyay, V. (2007): *Employment and Earnings in Urban Informal Sector – A Study on Arunachal Pradesh*, Published by Krishan C. Khurana on behalf of V.V. Giri NLI, Noida.

Verma, A.R. (2007): "Economics of Production, Marketing and Constraints of Buffalo Milk in Indore District of Madhya Pradesh", *The Indian Journal of Agricultural Economics*, 62 (3), July-September, pp. 452-453.

Vijverberg, W.P.M. (1990): "Non-farm Self-employment and Informal Sector in Cote d'lvore – A Test of categorical Identity", *Journal of Developing Areas*, Vol. 24, 523-542.

Vishwamitter, R. (1988): *Growth of Urban Informal Sector in a Developing Economy*, Deep and Deep Publications, New Delhi.

Vishwanath, T. (2001): "Informal Economy – Safety Value or Growth Opportunity", Paper Presented at the *Linking Work, Skills and Knowledge – Learning from Survival and Growth International Conference*, 10-12 September, Interlaken, Switerzerland.

Viswanathan, K.U. (2002): "The Informal Sector and Micro Finance Institutions in West Africa", in Leila Webster and Peter Fidler (eds.), The World Bank, Washington,

D.C., (1996), pp. XV + 365. *The Indian Journal of Agricultural Economics*, 57 (1), January-March, pp. 126-129.

Wagner, F.E. and J.O. Ward (1980): "Urbanization and Migration in Brazil", *The American Journal of Economics and Sociology*, Vol. 39 (3), July, pp. 249-259.

Waldinger, A. et al. (2000): "Ethnic Entrepreneurs", in Swedberg Richard (ed.), *Entrepreneurship – The Social Science View*, OUP, New Delhi, pp. 356-388.

Waldrof, S.T. and W.H. Waldrof (1983): "Earnings of Self-employed in an Informal Sector – A Case Study of Bangkok", *Economic Development and Cultural Change*, Vol. 31 (3), April, pp. 587-607.

Watanabe, S. (1978): *Technological Linkages between Formal and Informal Sectors of Manufacturing Industries*, ILO, Geneva.

Weeks, J. (1975): "Policies for Expanding Employment in the Informal Urban Sector of Developing Economics", *International Labour Review*, January, 3 (1), 1-3.

Wellings, P. and M. Suteliffe (1984): "Developing the Urban Informal Sector in South Africa – The Reformist Paradigm and its Fallacies", *Development and Change*, 15 (4), 517-550.

Werlin, H.H. (1974): "The Informal Sector – The Implications of the ILO's Study of Kenya", *African Studies Review*, April, 17 (1), 205-212.

Willis, R.J. and S. Rosen (1979): "Education and Self-Selection", *Journal of Political Economy*, 85, No. 5, Pt. 2, 507-536.

Wishwakarma, R.K. (1980): "Urban Informal Sector – Concept, Public Policy Issues and Measures", *Nagarlok*, April-June, 12 (2), 38-49.

World Bank (1989): *World Development Report*, Oxford University Press, Washington, D.C.

<www.guwahatimunicipalcorporation.com>.

<www.siteresources.worldbank.org/INTWDR2002/Resources/2490_Ja in.pdf>.

Xaba, J. et al. (2002): "The Informal Sector in Sub-Saharan Africa", *ILO Working Paper on the Informal Economy*, No. 2002/10.

Yamada, G. (1996): “Urban Informal Employment and Self-Employment in Developing Countries – Theory and Evidence”, *Economic Development and Cultural Change*, The University of Chicago Press, Journal Division, Chicago, 289-314.

Yap, Lorens Y.L. (1976): “Rural-Urban Migration and Development in Brazil”, *Journal of Development Economics*, Vol. 3, pp. 227-243.

———— (1977): “The Attraction of Cities – A Review of the Migration Literature”, *Journal of Development Economics*, Vol. 4 (4), pp. 326-329.

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Present Position: Selection Grade Lecturer

Teaching Experience

1st September 1990- till date	Selection Grade Lecturer, Department of Economics, Goreswar College
5th Jan 1990 to 21st April 1990	Lecturer of Economics, Murkongselek College, Dhemaji District
2nd May 1990 to 16th August 1990	Lecturer of Economics, Silapathar College, Dhemaji District

Publications: Published several articles in Magazines, Journals.
Attended National and Regional Level Seminars and presented several papers.