



Graduate School of Development Studies

**Rise of Informalisation in Global Capitalism:
Exploring Formal-Informal Linkages and
Environmental Sustainability**

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ABSTRACT

This is an exploratory paper which deals with the process of informalisation in the context of global capitalism. By revealing the interconnections and dependency between the formal and the informal economy, it argues that the latter is an outcome of the propensity of the former to escape regulations. To this end, the formal capitalist economy encourages the emergence of the informal economy and feeds its creation to materialise its profit objectives. Through informalisation, the burden of environmentally unsustainable activities is often passed on to the informal economy. This raises crucial questions regarding the ability of environmental policies (predominantly the paradigm of Sustainable Development) to suitably address the environmental implications of global capitalism.

KEYWORDS: informalisation, capitalism, sustainable development, environment, artisanal mining.

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CHAPTER 1: INTRODUCTION

1.1 Background of the Research

The prospect of flexible specialisation with post-fordist restructuring of economic production has intensified the phenomenon of informalisation which has become the dominant trend characterising labour employment internationally today. Informalisation is interwoven in the process of the progressive integration of the different parts of the world into one global economy whereby multinational production processes can be successfully decentralised across (and within) national boundaries. The rise of informalisation has been no less fostered by the growth of neo-liberalism which has transferred the power from the nation-states in the ‘invisible hand’ of the market and transnational corporations (Gallin 2001, Robinson 2004).

Informalisation is any shift away from contractual relationship between capital and labour which is particular to the formal economy. It is also a move in favour of flexibility and deregulation. Contrary to the earlier theories which predicted the sector as a temporary phenomenon, the modern informal space is an enduring and dynamic extension and complementary to the formal capitalist sector in production of goods and services. Infact the two sectors together function as two sides of the same coin in the advance of capitalism; the informal one being unregulated, unorganised, unrecorded and often invisible (Weiss 1987)¹. Though in its nomenclature and conceptualisation the informal economy forms the dual opposite of the formal economy, it is the twin of the formal sector, performing specific functions for it. For this very reason, the workings of the informal sector are often well within the control of global capitalism. To further its profit-oriented goals, the formal economic sphere directly encourages the growth of the informal sector by the informalising strategies adopted in the course of production like cost minimisation, avoiding organized labour and evasion of regulations. Informalisation thus should be understood as a structural tendency of the capitalist expansion (Murray

¹ Even when visible, those economic activities are regulated by different devices than those deployed for the formal sector.

1983), which has been promoted to augment and reproduce capitalism against potential shocks and crises (Portes and Castells 1989, Portes and Sassen-Koob 1987, Sassen 1994, Standing 2008).

Historically, the prevalent modes of production and consumption have preyed heavily on the environment. The repercussions of human actions on the environment are being gradually recognized in the present era. The implications of environmental degradation have caused alarm globally. As a consequence, there has emerged the need to arrest the harmful environmental ramifications of all economic processes. Production systems have also come under severe scrutiny and thus there has surfaced an array of regulations and standards which are meant to check the environmental impact. All these instruments and regulatory institutions however appear ineffective with regard to the informal sector as it is beyond the scope of any regulations. The informal sector is commonly believed to impinge on environmental sustainability as informal sector activities by their very nature are not amenable to existing systems of regulations (Blackman 2000). This is not to say that environmental regulations necessarily work in case of the formal sector; the environmental disasters in the contemporary history (Bhopal, Chernobyl) bear testimony to this.

1.2 Research Question and Methodology

The objective of the paper is to investigate the informalising tendency of the present age capitalism in detail. Through a critical analysis and interpretation of the structural relationship between the formal and the informal economy, the persistence and pervasiveness of the informal economy worldwide is explored. If the informal sector represents the remains of pre-capitalist era, then how is it integrated in the system of modern capitalist growth? Or does it exist at the margins of the modern socio-economic structures of production and profit, excluded from its benefits? The paper provides an explanation for the increasing phenomenon of informalisation in the context of the

capitalism. Hence the research centres around the primary question, as to what is the nature and purpose of informalisation in the global capitalist economy?

An analysis of the interactions between the formal and the informal economy clearly points towards a systemic relation between the two. The character of contemporary informalisation indicates that it is not an autonomous segment of the economy but is necessarily created by and subordinate to the formal capitalist system. The informal economy often functions as a cover through which formal capitalism hides its anomalies from the regulatory institutions.

One of the many anomalies of capitalism is in its implications on environmental sustainability. Continuing the existing patterns of production and consumption can lead to severe resource constraints and ruin the environment. The discourse of Sustainable Development emerged as a response to the crucial realization of the need for compatibility between economic and environmental objectives. The paper thereby also examines whether the current system of regulations is able to address the environmental consequences of informalisation. A close inspection of the case of gold artisanal mining in Africa suggests otherwise. Despite the adoption of a stringent regulatory framework, none of the policies have effectively worked for the informal economy of artisanal mining.

A political economic approach is used to deal with these questions. Combined with critical development theories, a political economic analysis renders itself to a thorough exploration of the structural forces relevant in the relationship between informalisation and capitalism. Political economy aids in the exploration of the political dynamics behind the relationship by locating the informal sector in the broader social, economic and historical context of capitalism. With a methodical engagement with the radical social theories applicable for development, the origins, functions and implications of informalisation have been studied.

To tackle the question of the environmental viability of the process of informalisation, the case of artisanal gold mining in Africa is used. The rationalization for the choice of the case is provided by the pervasive incidence of artisanal mining in the developing

countries. Moreover, it is a sector replete with social, economical and environmental problems which have received much international attention. With special emphasis on the relation of gold artisanal mining to the broader economic structure, its stage in development, the production technologies and finally the environmental policies, how this economic activity exacerbates the deterioration of the environment is reviewed. By understanding the artisanal informal sector in relation to the global system of capitalism, the apparently immediate causes of environmental degradation and natural resource depletion would be examined to identify the bigger forces at work which exert the pressure of production on resources.

However, the paper is limited to the extent that it is not based on a case study designed and conducted to answer the specific research questions of this paper. Due to a shortage of time, such an extensive field research could not be undertaken. Of crucial importance here is also the fact that informal sector by its very nature is not really amenable to in-depth field research. Trying to tease out the interlinkages with the formal sector presents further complications as there are often incentives for suppression of such facts. Hence the study has drawn on case studies performed with other research objectives and have analysed them to fit the requirements of the paper. Ideally such a paper requires a detailed investigation of how such interlinkages play out practically. This would help expose the true intentions behind the process of informalisation which is forced on the society. The relationship between the different sectors of an economy is unique to history and space. Usage of additional material to demonstrate such associations would have added to the quality of the argument. Also, some other radical theories which could have been pertinent to the problem here have not been breached (particularly theories of the regulation school)

The structure of the paper is as follows. The second chapter directly deals with the question of informalisation and uses various perceptions on the informal economy to facilitate a comprehensive insight into the process. It also illustrates the course of informalisation with brief accounts of real cases. It then places informalisation in the background of capitalist expansion to bring out the connections between the two. In the

third chapter, the question of the implications of informalisation on the environment is raised with the help of the case of artisanal mining. Though a closer look has been taken into gold artisanal mining in Africa, it can be reasonably extrapolated for the rest of the artisanal mining sector across the world. The fourth chapter brings in the concept of sustainable development which is the main policy framework for ensuring environmental sustainability. It critically evaluates the discourse by assessing its applicability in the event of informalisation. Chapter five provides a brief conclusion by highlighting the main arguments of the paper.

CHAPTER 2: INFORMALISATION IN CAPITALISM

2.1 Introduction

Capitalism as a system of production of profit based on the exploitation of wage labour has undergone radical changes since its inception. It has evolved through various stages by continuous adjustment and modification. In the more recent history of the evolution of capitalism², informalisation of the production process constitutes a very important development. The practice of informalisation forms an integral part of the world production system and its socio-economic organization today. The course of informalisation can only be comprehended as a political economic process that emerges from the structural dynamics of capitalism. It is hard to find a lucid working definition of informalisation and the phenomenon can only be understood in the context of the emergence of informal economic activities. An array of heterogeneous informal economic activities constitutes the informal sector or the broader concept of informal economy³.

In this chapter, first the notion of the informal sector or economy and the way it has evolved is explored. The next section identifies three approaches to understand the informal economy and explains the different perceptions on the same. Following that, the issue of informalisation is taken up and discussed with two case studies to highlight the causal factors behind it. Finally, informalisation is posited in the context of three interlinked causal processes which manifest the underlying dynamics of capitalism.

2.2 The Origin of the Informal Sector/Economy

The diverse economic activities that have been amalgamated under the overarching notion of informal economy are numerous and extremely heterogeneous. Naturally much debate has surrounded the issue of what qualifies as ‘informal’ and has consequently led

² For the purpose of this paper, recent history refers to the post world war period of approximately sixty years.

³ Here informal sector and informal economy are used interchangeably to refer to the broader notion of informal economy. An informal economy means an alternative system of production and exchange outside the purview of formal accounting and regulation.

to a plethora of theories which try to explain its existence, its functionings and its dynamics with the rest of the economy. Though the informal economy has existed for a long time in some form or the other, the idea of informal sector was first introduced by Keith Hart in 1971 with his paper ‘Informal Income Opportunities and Urban Employment in Ghana’(Bromley 1978b, 1990,Light 2004,Peattie 1987). In 1972, the phrase informal sector was coined in the Kenya Report following ILO’s employment mission to Kenya. According to the ILO, the informal activities are a way of doing things, characterized by

- a. ease of entry;
- b. reliance on indigenous resources;
- c. family ownership of enterprises;
- d. small scale of operation;
- e. labour-intensive and adapted technology;
- f. skilled acquired outside the formal school system; and
- g. unregulated and competitive markets

Informal sector activities are largely ignored, rarely supported, often regulated and sometimes actively discouraged by the Government.

(Kenya Report 1972, as cited in Bromley, 1978)

It is interesting to note how the concept of the informal economy was introduced in the international developmental literature. Continued persistence of poverty and unemployment in the Third World despite reasonable economic growth led scholars to look into the workings of less developed economies whereby they realised the overwhelming presence of what was conceptualised as the ‘informal sector’. This was an outcome of post war reconstruction in the global north and the development of erstwhile colonies of the Third World (Bangasser 2000). It was presumed that with appropriate macroeconomic policies and institutions, developing countries would embark on an accelerated industrial growth path (reflected in measurable per capita income increase). Heightened job opportunities (with a higher expected wage rate) in the modern urban industries were supposed to attract labour from traditional rural agriculture, even when

there is no surplus labour in the latter (Harris and Todaro 1970). With an increase in industrial output, the demand for labour would rise and consequently result in wage employment expansion which would eventually take care of the unemployment by absorbing the migrant labour. However, the rate of urbanization greatly exceeded that of industrialization (Moser 1978) and thus the unemployment problem not only remained but actually escalated in the urban areas. This did not stop rural migrants from pouring in as the expected wage rate, even in the presence of unemployment in the urban sector was more than the rural wage rate (Harris and Todaro 1970). This growing number of migrants managed a living in the margins of the modern economy by engaging themselves in some form of unorganized economic activities (usually unskilled, labour-intensive, poorly-paid, often family employed with low level of productivity). Contrary to popular theory, following a ‘take off’ of the economy, this residual group was not absorbed by the modern sector (Bangasser 2000). This lead to two simultaneous events- a need was felt to directly target the cause of unemployment and perhaps more importantly, this group of people caught the attention of the world. As against the unemployed, they were called the ‘working poor’:

We identify the main problem as one of employment rather than unemployment.

By this we mean that in addition to people who are not earning incomes at all, there is another – and in Kenya more numerous- group of people whom we call the ‘working poor’.

(Kenya Report, 1972 as cited in Moser, 1978)

This group of the ‘working poor’, who refused to disappear even with the expansion of modernization, was to comprise the informal sector. The very name of the informal sector connotes something which is not ‘formal’ or in other words anything that is outside the mainstream of formal economic production. In fact, the advent of the concept is based on several antonyms- it is an assortment of numerous income generating activities which are primarily unregulated (by the prevailing institutions) but also unorganised, unproductive, unrecorded, unprotected, invisible and irregular.

Following the coining of the phrase, there has evolved a sizeable literature portraying different schools of thought which try to locate the sector in the narrative of development. Here three approaches towards conceptualising the informal sector are identified (this categorisation is based partly on Rakowski, 1994)⁴ namely the Economic Reformist, the Legalist and the Structuralist Approach. A brief account depicting the main ideas of each approach in their reading and articulation of the informal economy is presented below.

2.3 Three Approaches to Informal Economy

The purpose of examining the three different approaches to informal economy is to facilitate a transition from the concept of the informal economy to that of informalisation. In building a comprehensive insight into the process of informalisation, it is fundamental to understand the different perceptions on the informal economy.

2.3.1 The Economic Reformist Approach

The ILO's original take on the informal economy can be best described as an economic reformist approach. The informal economy is chiefly understood in economic terms of income generation which is subsidiary to the formal economic production system. An abundant supply of labour far exceeding the demand for it (driven mainly by rapid rural-urban migration) and the simultaneous failure of industrialization (primarily due to application of capital-intensive imported technologies) in creating adequate employment which can absorb the excess labour culminated in the growth of the informal sector (Gerry 1987). The informal sector acts as an intermediate space between the mainstream formal system and complete unemployment where people who are unable to find work in the formal economy take refuge in. Informal sector employment provides these poor migrants with the minimum subsistence requirements (thus pulling them out of a situation

⁴ Rakowski (1994) identifies four approaches, which are I) The ILO-PRELAC (structuralist) Approach, II) The Underground Economy Approach, III) The Legalist or ILD- De Soto Approach IV) The Micro-Enterprise Development Approach. While the first three approaches are adopted here with modifications (as the Economic reformist approach, the Legalist approach and the Structuralist approach respectively), the last one is dropped as it is basically an action-oriented approach with little or no conceptual underpinnings (Rakowski, 1994).

of complete poverty or destitution) till a possible avenue in the formal economy opens up. Hence its was characterised by low skills and productivity, poor education, small scale of operation, labour intensive technology, low earnings degrading those engaged in it to a marginal existence. In Hart's original expression of the informal sector, the sector had a dynamic entrepreneurial potential and was not a dismal portrayal of survival strategies of the poor (Portes and Schauffler 1993). This tone though retained in the Kenya Report (ILO 1972), lost its ground in later ILO views on the sector (Bangasser 2000). Thus ensued a typically reformist attitude towards the sector and welfare policies of government relief and support was advocated for the sector. By assisting the informal economy, it could be developed to provide for a substantial section of people whom the employment opportunities and benefits of the formal sector bypass and who would have been otherwise trapped in the rural agricultural sector.

Such an understanding of the informal activities are informed by a completely dualistic interpretation reflected in the formal-informal dichotomy (akin to Lewis' classical dualistic model of modern and traditional sectors in underdeveloped economies) where the former is seen as modern, dynamic and capitalist and the later as traditional, backward and pre-capitalist where the benefits of capital do not reach the people. But according to Lewis' orthodox development theory, once development receives ample impetus, the modern economy would grow to absorb the surplus labour in its periphery (Sanyal 2007). Following Marxist and Neo-Marxist line of argument, the informal sector constitutes a pre-capitalist economy which serves as a reserve army of labour which would be absorbed by the expansion of the modern capitalist system (Gerry 1987, Portes and Sassen-Koob 1987). In both these arguments, the informal sector is seen in contrast to the modern capitalist production system. The formal or the capitalist industry's operations based on the profit incentive for surplus accumulation is differentiated from the informal economy which is primarily geared towards meeting survival goals. Also the informal economy is seen purely as an urban phenomenon located in the reality of developing world. Bromley (1978) argues that there is no reason why the possibility of a simultaneous existence of a rural informal sector should be ruled out. Economic activities

with features similar to those mentioned above qualify as informal activities and can well be found in a rural setting. However, most analysis of informal sector (following ILO's lead) has understood the sector to be urban and it has formed an integral part of urban development planning (Moser 1978). As an extension of the dualistic thinking constituting a dynamic formal sector and a passive informal sector, informality was seen as a feature of underdevelopment typically found in the developing context. The incidence of stray informal activities in any advanced capitalist economy was seen as a temporary aberration which the process of modernization would soon correct. This approach completely lacks any political analysis and fails to place the informal sector in the suitable context of history and space. It conforms to a linear understanding of processes of change and sees the informal sector as an isolated unit of study, devoid of any structural linkages with the rest of the society. However, in response to active criticism and by incorporating the learnings from later studies, over the years ILO's initial stand has been modified. The previous definition of the informal economy has been expanded to include such experiences in the developed countries and has been extended to the rural backdrop by including informal employment within and outside agriculture (Chen 2007).

2.3.2 The Legalist Approach

Yet another approach in the examination of the informal economy is proposed by Hernando De Soto in his celebrated book, *The Other Path: The Invisible Revolution in the Third World* (1989). With a neoliberal orientation he argues that informality is a rational voluntary choice made by people in face of legal rigidities imposed by the intervening state (Rakowski 1994) with a mercantilist agenda of favouring the elite in their formal production endeavours. In fact, he attributes the growth of the sector to the severity of state laws and regulations rather than emerging from a condition of excess labour supply. Hence he promotes decentralization of the state authority and deregulation and privatization of economic activities as policies favouring the informal economy in place of ILO's advocacy for state assistance for the sector (Bromley 1990). Also De Soto

glamourizes informal entrepreneurs as innovative and ingenious, providing growth impetus of a capitalist nature to the economy. They are not a group of disadvantaged living on the margins. Though the informal sector may breach legal boundaries at times, is not necessarily criminal and do not indulge in theft, violence, murder and other underground activities. Uncertain system of property rights in developing countries hamper full utilization of assets and properties by informal owners and entrepreneurs which would have otherwise fueled capitalist growth. De Soto's ideas gained immediate popularity as it was presented at that opportune moment in history when Keynesian reforms were being questioned and discarded for neoliberal policies (Portes and Schauffler 1993). However, it later invited much criticism from different academic and policy circles. It has been pointed out that De Soto focuses exclusively on the informal entrepreneurs and not the workers who often are in conditions of abject poverty. Also, it is an essentially dualistic view which poses the informal sector as the engine of capitalist development (in contrast to ILO's view of the sector as pre-capitalist) in opposition to the existing mercantile enterprises. In this case, informality is viewed in seclusion as arising out of stringent state systems and its interconnections with the rest of the economy are insignificant. But in its blaming of the state regulations, it offers a simplistic narrow view of the sector not embedded in historical context or reasoning. Much criticism has also been directed at De Soto's articulation of his native Peruvian economy as mercantile and his vision of the informal economy as a capitalist alternative to the same. However, a more detailed discussion of this legalist approach is avoided in this paper as it does not serve the cause of understanding informalisation.

2.3.3 The Structuralist Approach

Against the ILO's fundamentally economic conceptualisation of the sector, there emerged another branch of ideas which used a political economic approach to explain the informal economy in relation to its linkages with the broader power structures and forces dominating the local, regional and global arena (Rakowski 1994). The most remarkable point of departure for this approach is in its understanding of the phenomenon of

informality as a process rather than an object. Instead of an isolated condition the informal economy is best understood as a process of income generation which is 'unregulated by the institutions of the society, in a legal and social environment in which similar activities are regulated' (Portes and Castells 1989). Thus it effectively looks at the informal economy in relation to the rest of the socio-economic and political situation and stresses the formal-informal relationships denouncing a demarcation between the two sectors. It is only in the context of the existence of the formal sector in a particular order of regulations, authorities and institutions that a comprehensive insight into the informal sector can be developed. Hence the informal sector is contingent upon the system of formal production specific to the context of an economy, its historical stage in development (and its position in the international domain of power and hierarchy), the nature of its institutions, and not the least the characteristics of its labour force (Portes and Sassen-Koob 1987). As a consequence of such a different inspection of the phenomenon of informality, this approach presents distinctly different understanding of the informal economy.

Informal sector is not the last resort for underprivileged migrants; it can often be a deliberate and conscious choice on the part of the worker. Workers appointed in secure but low paid jobs in the formal economy frequently supplement their income by parallel participation in the informal sector (Bangasser 2000, Roberts 1989). Often people might voluntarily seek employment in the informal sector because the nature of work offers more flexibility, lack regulations, provide tax-savings and non-wage benefits (Maloney 2004). Hence the informal economy workers are not essentially poor or unskilled; in fact there are cases when people save to raise enough capital to venture into entrepreneurship in the informal sector (Bromley 1978b, Fortuna and Prates 1989). These factors accentuate the interconnectedness between the two sectors, as opposed to the dualistic visions. Also, a watertight compartmentalisation of the two sectors overlooks the fact that there is ample proof of informal behaviour in formal sector and vice versa (Harriss 1978).

The informal sector coexists with the dominant capitalist mode of formal production and is integrated with the rest of the economy through a relation of compliance and/or

exploitation. Even when functioning autonomously, it provides access to casual income opportunities and low-cost consumption goods and services, not only for informal workers but for workers of the formal enterprises as well. There exists in every economy sizable gaps in the supply of certain services in which case the formal sectors either do not reach a considerable number of consumers or do not engage in such activities due to its localized and unprofitable nature. Informal economy frequently fills up these gaps by meeting those demands. With the rapid process of urbanization, the informal sector workers have emerged as important service providers (Moser 1978). All these help in the reproduction of the labour force much needed for continuous capital accumulation which in turn aids the reproduction of the capitalist system. Moreover, by acting as a readily available source of labour it significantly reduces wage levels in the formal firms. Frequently, formal firms also hire workers off-the-books and not only save on the wage but also the fringe benefits associated with a contract of employment. Finally, the informal economy often forms an important if not the very last link in the continuum of the value chain whereby large formal firms subcontract or outsource a part of their production process to informal homeworkers, service providers, petty artisans and small manufacturers. Hence, the formal sector uses the unorganized informal sector for providing cheap raw materials or intermediate inputs as much as the latter needs the former as a market for its produce. Informal economy is also incorporated in export industries forming an integral part of the global production and marketing chain. The formal sector encourages the growth of this sector to fulfill profitable ends (Henry 1987, Portes and Castells 1989). The formal sector deliberately informalises a part of its production chain to achieve greater flexibility in order to reduce labour costs (both wage and non-wage remuneration), successfully compete with cheap products and forego the possibility of labour unionism.

Three case studies are briefly presented here to reveal the nature of mutual dependence between the two sectors and the pervasiveness of formal subcontracting and outsourcing (and the resultant exploitation). The first one demonstrates the case of the garbage pickers of Cali, Colombia (Birkbeck 1978). The author considers them virtual proletarians

working in a factory as they primarily supply the capital-intensive recycling companies in Cali and elsewhere. Effectively they serve as outsourced workers not directly employed by the firms. Recuperating domestic waste is a demanding task which, if not done manually, would require heavily capital intensive technologies and machineries. Hence neither the large companies nor the municipality engages in waste recuperation which is done solely by the garbage collectors. Though not unskilled, unproductive or un-enterprising, they can not dictate their supply prices which are determined by the industrial consumers. The second example concerns the street traders in the same geographical location (Bromley 1978a). Contrary to the image of a street trader as independent and self-employed, it emerged that 35% of them functioned as commission sellers and dependent workers⁵, a proportion which exhibited an increasing tendency. Commission workers are most commonly found in connection with the soft drink giants (four including Coca-Cola and Canada), newspaper companies and even one large ice-cream manufacturer all of whom use the street traders as outlets for their products. These street traders are tied in an exploitative relation with the bigger firms on whom they depend for their livelihood. Sometimes, the street traders also act as sources of contraband and sub-standard products.⁶ Often informal street traders, vendors and merchants are also tied to a formal firm via a middle man (Portes and Sassen-Koob 1987). Thus many informal workers and producers end up being disguised wage labourers of the formal sector via the system of sub-contracting (Gerry 1987).

The last case examines the petty commodity producers in the city of Dakar in Senegal (Gerry 1978). These producers frequently purchase their equipments, raw materials, intermediate goods (at times imported) from large industrial and commercial enterprises often multinationals. Half of the turnover of these companies is catering the domestic

⁵ Commission sellers are practically small retailers selling products of other manufacturers, wholesalers and retailers to the public in exchange of a commission received on every item sold. Dependent workers have to rely for credit and capital and merchandise on wholesalers (and often money-lenders) but do not work on the basis of commission.

⁶ There are divergent views about whether to include underground or criminal activities as a part of informal economy. It has often been found that some informal activities infringe the border of illegality. Portes A., 1989, distinguishes between criminal and informal activities as the former producing socially illicit goods and the latter producing licit goods but in a manner which is not exactly legal.

consumption market while the other focuses on export-oriented activities. Both these types heavily use products at various stages of production manufactured by the petty commodity producers and make use of casual workers who are informally attached with the enterprises. The latter can be found in the construction industry which through subcontracting employs informal workers working under small Senegalese entrepreneurs. Together, the forward and backward linkages existing between the formal and informal sectors exhibit the mutual dependency. However, the author demonstrates that the system of dependency ultimately favours the capitalist formal sector through skewed price ratios and bourgeois relations of production.

The last three cases manifest the deeply entrenched system of dependence and reciprocal relation between the different strata of the informal economy and their formal counterparts. There exists a sizable theoretical literature on this issue. Following the dependency school, informality is seen as the consequence of uneven capitalist development in peripheral economies. The international expression of inequalities is exemplified in the internal structures of the peripheral countries which within themselves contain core and periphery like situations (as asserted in the last case of Senegalese economy by Gherry, 1978). However, the experience of informality is not limited to underdeveloped countries alone; it is also pervasive in advanced and industrialised economies, a fact evident from empirical studies and illustrated cases. In the city of New York (Sassen 1989), enormous informal enclaves are found to be working in conjunction with formal enterprises in construction, electronics and furniture industries. Though these enclaves have a high incidence of immigrant population, Sassen (1994) establishes that informal economy is not an outcome of their presence (creating backward periphery like situations in the city of New York) but rather are expressions of structural inequality and the economic conditions inherent in advanced capitalism.⁷ In Italy, in the northern region of Emilia-Romagna, informal sector has developed in absence of large-scale immigration (Capecci 1989). The continued persistence of the informal sector in both advanced and developing countries and an analysis of the structural causes of informality suggest that

⁷ This will be taken up in details in the subsequent sections.

the sector is in congruence with the regime of modern capitalism (Portes and Sassen-Koob 1987, Sassen 1994)⁸. Infact, if the informal sector is perceived as it truly is, as a permanent and important aspect of the existing global system of production and exchange, it can be perceived as not an aberration of capitalism, but as one of its consequences. Sanyal (2007) views the informal economy as a product of capitalistic development; it is the ‘internal other of the modern capital’. Even if the informal sector does not embody representative capitalism (seen as formal industrial production), the modes of informal sector production have been transformed by dominant capitalist economic system of production in its favour (Moser 1978). It plays an important role to support the expansion of capitalist accumulation. Thus it can not be seen as traditional or marginal, it is closely knit into the fabric of the modern capitalist economy (Portes and Schauffler 1993, Stark 1989) where informal activities are functional to and marginalized by the same.

2.4 Understanding Informalisation

Drawing on these three approaches on the informal economy, the question of informalisation is taken up in this segment. In the presentation of the three approaches, it is clear that structuralist approach is particularly pertinent in looking at informalisation, since it emphasizes the dynamics of the concept. While the economic-reformist approach reflects one of the first mainstream attempts at conceptualising the informal sector, it does not render itself to an interrogation of the processes at work. However, it has directed and guided policies of many industrial and third world countries motivated by their particular characterisation of the informal sector. The legalist approach is valuable to the extent it stresses on the potential of informal entrepreneurship and sees a movement towards informality as a rational choice for the participants.

2.4.1 An Analysis of Informalisation

⁸ Thus it outrightly rejects the orthodox and Marxist views of the informal sector as an incomplete expression of industrial capitalism and their speculations about the disappearance of the informal economy with industrial expansion.

What must be clarified at the onset is that informalisation as a concept is distinct from the informal sector. While the former is necessarily a process of change, the latter is a segment of economy (integrated and dependent) which may be understood as an outcome of that process. Informalisation as a process implies a movement towards such economic activities which fall outside the formal economy and the formal regulatory environment (Chen 2007) rather than merely contributing to the formation of a definite informal economy. Informalisation is a change in work organization and employment relations in favour of fluidity and deregulation. There have been disagreements among scholars on whether informality refers to a sector of the economy or to the labour force (with all its peculiar features) employed in it (Heintz and Pollin 2003, Portes and Sassen-Koob 1987). Informalisation represents definite capital-labour relations of production and distribution (outside the immediate realm of the regulatory authorities at work) which has definite implications for the labour force engaged in the informal sphere. Understood in connection to existing regulations and institutions, it can be appreciated that the boundaries of informality are in continuous flux. There is a constantly changing dialectic between the informal sector and the rest of the economy (both at the regional and at the world level). The nature of informal activities are not arbitrary but are extremely specific to the context of their origin, their foundation in a particular socio-economic and political environment (Portes A. 1989) which is not independent of the concurrent world trends.

So what is actually meant by informal activities? They are best summarised as work situations in which the separation between capital and labour is incomplete by a lack of contractual relation between the two and hence comprising of a labour force not protected by existing body of regulations (Moser 1978). Adopting from Portes (1989a), informality can refer to firstly a status of labour (non-contractual, temporary, not protected by minimum wage convention and not covered by non-wage benefits associated with contractual employment), secondly to particular conditions of work (unprotected in precarious situations of health and hygiene, open to hazards like fire, other accidents, defying minimum safety requirements, not adhering to rules pertaining to zoning norms) and finally to forms of management of some firms (indulging in unrecorded or

undeclared transactions, tax evasion, fiscal frauds, not completely legal nature of work).

Any process of work restructuring which results in the above situations can be referred to as informalisation. Informalisation has also been linked with feminization of the workforce as women typically can be more easily subjected to such precarious work conditions and are often forced to take up employment of such informal nature.⁹

A part of the workforce indeed engages in informal work in absence of better (understood as formal) livelihood opportunities, as pointed out by the economic-reformist approach. It is further often a lucrative choice over binding legalities of formal mode of production, as shown by the legalists. But confining informality to such restricted (albeit real) cases does not even begin to explain the complex, diverse and widespread occurrence of the phenomenon (as depicted by the proponents of structuralist approach). Informalisation can also be understood as an intended response of the formal economy rather than informal sector being merely an outcome of the survival tactics adopted by the poor. It has deeper connections with the formal economy than simple provision of cheap goods and services, easy access to surplus labour (Heintz and Pollin 2003) and are closely interlinked with activities in the formal sector. A substantial part of the operations of the formal economy undergoes informalisation as strategies of large capitalist firms to successfully

- i. compete with the cheap products of the Third World which following globalization have posed a serious challenge to big and small firms alike.
- ii. maintain and possibly enhance their profit margin through evasion of taxes
- iii. evade minimum wage standards, healthy work environment requirements and other amenities due to labour under existing regulation system
- iv. avoid through labour casualisation, the possibility of labour organization and unions which can call into question labour policies of the management

⁹ The concept of feminization of workforce is not fully tackled in this paper. There exists a host of literature enumerating the cases and conditions in which household relations of production and reproduction along with gendered institutions enforce female participation in the informal sector in large numbers (exhibiting an increasing trend).

- v. adjust to frequently fluctuating shifts in erratic demand patterns in the unstable and uncertain world market by externalizing risks of production.

Here it would be useful to reemphasize some of the aspects clarifying informalisation. It is not typically representative of underdevelopment and hence a feature of developing countries (Sassen 1994) and neither it is a refuge from poverty (Portes and Sassen-Koob 1987). The occurrence of informal activities in industrialised countries has often been attributed to immigration where immigrants acting as a source of cheap labour supply, create a backward periphery like space (characterised by the informal sector) in the advanced country. Looking at the development of the informal economy in New York, Sassen (1989) provides a different insight into informalisation where it is an outcome of the conditions of the economy at large and should be seen as such. The processes of economic restructuring have led to the degeneration of manufacturing industries whose position is usurped by the boom in service industries. The rising income inequality and the inability of some moderately profit making manufactures to compete for expensive commercial spaces in the urban areas (inspite of adequate demand of their products) led to informalisation in a bid to reduce costs of operation. While these firms catered to the low income sectors of the economy, they also produced designer items and provided customized services to the expanding high income work force of the service industries, through proliferated use of informal workers through subcontracting. Through perpetuation of inequality and growing income polarization, informalisation would not diminish but rather increase by the informalising strategies of the formal production system. Also informalisation is merely not a response to growing labour union power and the restrictions it places on profit seeking motives of large firms. Informalisation is limited in highly unionized countries like France, great Britain and West Germany (Portes and Sassen-Koob 1987). Hence informalisation can not be comprehensively explained just by rise of unionism alone. Informalisation is contingent on the prevailing structures of the economy and grows in congruence to its definite needs and requirements.

2.4.2 Two Case Studies

Since it has been highlighted that informalisation is highly contextual, two cases depicting informalisation are illustrated here. The first one is located in Mexico (Beneria 1989) which is a middle-income country with widespread income inequalities. The case in point studies the integration of homeworkers through subcontracting systems of large companies and their role in the wider economic production of domestic goods. Only a small number of homeworkers functioned independent of the subcontracting linkages, the majority indirectly employed by large firms (in plastic, toys, cosmetics, electronics and electrical industries) with usually middlemen responsible for mediating the transactions. The study was conducted by interviewing 67 firms (of different sizes) from different industries over a period of two years (1981 and 1982). There is active participation and penetration of foreign capital in the domestic production; 16.4% of the interviewed firms were multinationals but employed 69% of the remaining firms through subcontracting. The author identifies two processes of subcontracting namely, horizontal subcontracting (where required raw materials and other inputs were not supplied) and vertical subcontracting (where the homeworker was dependent on the inputs supplied). The latter system led to the rise of the 'maquila' and was the predominant form of subcontracting. It was principally found in industries in which the production process can be easily and profitably fragmented. Subcontracting occurred in multiple stages – a large multinational producing electrical appliances send out 70% of its production to medium sized firms. The firm in question then subcontracted 5% of its production to a small sweatshop operating from the basement of the owner and employing homeworkers. In the cosmetic industry another multinational subcontracted work to a small firm (producing plastic containers) which had variable number of workers and used to send out plastic polishing jobs to homeworkers. The main motivation behind such subcontracting practices was admitted to be a reduction in the costs (79% of the respondents replying in affirmative). Other incentives for subcontracting were provided by volatile production cycles where peak periods were tackled using homeworkers who saved the cost of maintaining a workforce in slack seasons by providing access to flexible labour supply. Thus risks associated with production fluctuations were externalised through irregular and

temporary contracts (found in toys, cosmetics and garment industries). Also some firms preferred to specialise in some products rather than investing in the entire production (incurring high fixed costs) from raw materials to finished goods. Yet another reason was to restrict the labour employed to a manageable size such that problems of labour unionism (in firms employing an excess of twenty workers, unionization is required by Mexican law) can be pre-empted. Homeworkers are particularly useful in this regard as working from their individual private households they do not come in contact with the rest of the workforce. Hence indirect use of homeworkers is a form of informalisation where marginal segments of the economy are further exploited. The large firms enjoy monopsony power but there is severe competition among the smaller firms to win the subcontracts, which they do by cutting labour costs. Multinationals like Nike and Gap subcontract much of their production to locally owned factories who make use of homeworkers. Such kinds of subcontracting often end up in inferior working conditions (Ybarra 1989).

The next case traces the growth of informal sector in Spain (specially in the Madrid Electronics Industry) by situating it in the political economic context of the country shaped by contemporary world events (Benton 1989). Spain as a middle income country had credible economic performance riding on the back of industrialization in the 1960s which can be largely contributed to a growth in exports (following a shift from import substitution policies). The oil crisis in the 1970s gave a big jolt to this export led industrialization. Competing for markets in advanced countries became challenging in the face of an upsurge of low cost products from developing nations and highly unpredictable demand patterns in the world market. Meanwhile the domestic scene had been dominated by a long regime of formal production (characterized by low wages) for the majority of the Franco's rule. In the 1960s labour unionism peaked with demands for higher wages. Parallelly with the world crisis, Franco's death in 1975 further crippled the Spanish economy with political uncertainty and plummeting capital investments. Threat of trade unionism increased and labour unions were legalized in the face of widespread strikes. In this condition, the second oil crisis shook the country and government responded by

adopting several harsh anti-inflationary policies. Unemployment soared from 5% in 1976 to almost 22% in 1984. Between 1975 and 1983, wage employment fell by 12.2% (recording the highest decline in European OECD) with industrial salaried jobs diminishing by 19.5%. Coupled with unfavorable global situation, this resulted in a rapid increase in the hiring of casual, irregular or in other words ‘unregulated’ labour. Informality increased in multiple sectors of the economy. Off-the-books labour constituted a 30.9% in agriculture followed by 22.7% in service sector (according to the national survey). Industries also did not lag behind with an incidence of 15.7% informal workers. Given the changing circumstances, older system of formal production (with secure jobs, protected by contractual agreement and enjoying stable wages and sometimes non-wage benefits) ceased to provide a viable alternative and profits had to be safeguarded by severe cost cutting strategies. Latter was made possible by increasing decentralization of production (especially in labour-intensive industries) and fragmentation of the industry which took the form of massive informalisation.

Even in the technologically intensive electronics industry in Madrid similar restructuring towards informalisation took place. 45 small and medium electronic entrepreneurships were surveyed in 1984. Half of them came into existence after 1978 responding to a requirement for subcontracting work. This happened due to a few large firms closing in the event of the crisis and several others managing to survive by rapid downsizing in employment and decentralization in production and management. Professionals and skilled workers previously employed in the big firms opened their own small businesses and started supplying their erstwhile employers. They in turn would also send out parts of their production process to yet smaller subcontractors. Of the 25 subcontracting firms studied in 1985, only one was established before 1970, approximately two-thirds coming into being after 1978. In the initial phases of formation they had mostly relied on family labour, a habit which still continued. Hiring family labour reduces cost and offers greater flexibility. Worker-employer relations were mainly informal and in peak seasons employers took recourse to hiring workers unofficially. While low costs did provide such small firms with a competitive edge, they insisted that the main determinant securing

business was quality control measures. Once their reputation for quality and accuracy is established, they can also afford to choose their clients. Smaller firms are better adjusted to specialize in quality management and flexibility. This observation brings forth the positive and productive aspects of decentralization. Efficient small producers act independently in a multi-layered system of subcontracting and also enjoy the luxury of choosing their clients. Some of these benefits accrue to those working in such firms in terms of less pressure on wages and emergence of a skilled workforce specialized in competent production. This is in direct contrast with the earlier case where workers were marginalized as subcontracting perpetuated exploitation in form of no job security, dependent production relations and substandard wages and working conditions. In the same Spanish context and in the same period of survey (1984 and 1985) in the Valencian region (Ybarra 1989) yielded similar findings. In a sample of 154 companies in shoes, toys and textile industry, the same trend of cost cutting and restructuring were observed. However, in this case, it did not give rise to skill specialization and autonomous producers. Here it tended to rely on traditional methods and cheap unskilled or semi-skilled labour (mainly homeworkers) that was totally dependent on big firms. Subcontracting practices often breached on illegal operations by shifting production underground. The main concern of such entrepreneurs was to conceal the illegal nature of the work which did not leave much scope for innovations and investments. Subcontractors and the workers got trapped in a stagnancy of low-productivity and repetitive work (often hazardous) functioning on the beck and call of large firms. Close to 72% of the working women interviewed verified the unhealthy nature of their work and were suffering from various physical and mental problems due to their work.

This last case demonstrates how informalisation is encouraged by changing world situations which impinge on domestic organization of production and distribution. Ensuing process of economic restructuring by and large transforms the existing relations of production and there emerges novel articulation of productive and reproductive relations in the economy. Then again, the impact on various sections of the same economy is not uniform and is contingent on the unique nature of the industry in question.

In the subsequent section, informalisation is placed in the context of the world economic patterns and crises to be able to locate it in the bigger system of capitalism.

2.5 Capitalism and Informalisation

Informal work is often believed to be the vestiges of early relations of production in vogue before the emergence of capitalism. It subsequently transformed the existing systems into its preferred mode of formal factory lines which dominated the golden age of capitalist production in the post war period. The later drive towards informalisation arose out of a need for flexible production mechanism with decentralised and unregulated production processes. It developed from capital's need of generating profit for continuous surplus appropriation in the event of changing patterns in the world. Informalisation of production system was coupled with informalisation of labour market conditions where older and direct contract between labour and capital was replaced by diffused, indirect agreements, albeit dependent ones. This move towards more flexible job structures and practices with specialised and fragmented units of production and contingent labour was definitely not ad hoc. It was a result of the changing dynamics of the world political economic order. Seen in the light of the varying nature of capitalism, increasing informalisation can be understood as its basic tendency to ensure greater surplus accumulation. Informalisation was engendered by some major changes in the world from the mid 1970s (and still ongoing) and though three distinct causal processes have been identified, it must be stressed now that they were mutually dependent and can not be delineated completely.

2.5.1 Shift away from Fordist structure of production

Fordist production system of vertically integrated organization of production contributed to the industrial growth impetus in the developed nations in the post war era. Fordist rationalization of mass production and mass consumption in industrialization was that of an efficient system of economic growth designed to pull the countries from economic depression of the 1930s (Harvey 1990). Essentially a shift from craft production to

production of standardised items with a worker's loss of control over the final product, it progressed adopting assembly lines where each worker performed a simple repetitive task in production which had minimum skill requirements. This was coupled with an active state engagement in buffering market failures, targeting full employment conditions and constructing suitable welfare policies (following Keynesian reforms). The late 1960s and the 1970s witnessed a collapse of Fordism as rigidities associated with large scale mass production became apparent. The Fordist regime of large factories and formal production system which characterised the capitalism of the erstwhile period met with crisis. What has emerged in its place is a system of Postfordism characterised by flexible specialisation and accumulation.¹⁰

Demand stagnation due to the economic recession of the 1970s, the debt crisis, volatile world markets with increasing competition and declining profits necessitated this transformation as Fordism was no longer yielding sufficient returns to capital (Amin 1994, Lawson and Klak 1990, Rogerson 1994). There was a demand for non-standardised products with better quality, design and shorter shelf-life. Thus the changing organization of production cycles and associated labour processes restructured the capital-labour relation was in favour of flexible (and hence low risk) industrial systems of production facilitated by new sophisticated technology. Thus the former formal sector was deconstructed to adapt to the changing situation induced by the crisis. Large firms were vertically disintegrated and consequently broke up into semi-autonomous smaller units specialising in separate parts of the production process. The industrial sector has also lost its eminence as an employer. There has been a massive shift in the economy in favour of service industries (with increasing adoption of new processes and technologies) for which the Fordist work structure was not relevant and which also contributed to the demolition of the Fordist regime. These service firms were necessarily segmented to be able to use casual and outsourced workers.

¹⁰ The phenomenon of Post-Fordist transition has been explained by three theories namely the Regulation Theory, the Flexible Specialization approach and the Neo-Schumpeterian approach. Detailed discussion of these approaches is not warranted in this paper. Post-Fordism in the context of informalisation is largely understood as a system of flexible specialization as contrasted with the previous one of standardized production.

This process of decentralisation and fragmentation of the production and service provision (both geographically and within firms) led to a casualisation and stratification of labour. The new international division of labour emerged out of the need for productive decentralisation. Simultaneously fixed wage employment was reduced and more flexible systems of subcontracting and outsourcing emerged which made use of unregulated labour in the form of casual, temporary, off-the-books workers (Standing 1989). This was made possible by parallel deregulation of the labour market by the government (after neoliberal policies) which undermined job security. Deregulation led to a blurring of the distinction between formal and informal sector (Ghezzi and Mingione 2003) with informal sector now working for and under formal sector in production and distribution. Full time regular job contracts were a thing of the past and in lieu of which now the formal factories wanted more part time workers, irregular workers and subcontracted workers. Thus 'capital has abandoned reciprocal obligations to labour in employment contract' (Robinson 2004) and a new group of workers emerged who were basically unprotected with no security or job stability, no non-wage benefits, no compensation or insurance against work hazards and accidents. Labour union activism had also taken a backseat due to such deregulation of the labour market. In fact it had been a strategy of subcontracting than an outcome (Gallin 2001). Informalisation was strengthened with the shift of capitalism from Fordist modes of production to a regime of flexible specialization through subcontracting and outsourcing.

2.5.2 Advent of Neoliberal Economic Policies promoting deregulation as an essential feature of economic restructuring

Post war Keynesian theory of development (which dominated the mainstream) was called into question in the event of economic recession caused by the oil crises of the 1970s (with high rates of inflation) and a crisis of welfare state regime(Ghezzi and Mingione 2003). The market rationality of the neoliberal policies which replaced the Keynesian logic of reforms saw corrupt, inefficient state institutions as detrimental to growth of nation states. Inspired from the theory of classical liberalism of individual freedom and

rationality, neoliberals demanded limited government intervention in otherwise efficient functioning markets equipped to fuel economic growth and development. The neoliberal ideology gained immense popularity in international circles and neoliberal policies prescribing less state control (through deregulation and privatization) and more reliance on free markets evolved. Industrially advanced nations adopted these policies willingly. The developing countries were forced to follow suit due to the imposition of structural adjustment programmes (on which debt availability was contingent) by the World Bank and International Monetary Fund (Gerry 1987). Thus worldwide there was steady erosion in the power of the state with huge cutbacks in public sector employment and investment, parallel drive towards privatization, weakening of labour and financial market regulations and sharp decline in government spending. There was an overall economic restructuring promoting government deregulation. Thus job security was eroded and employers could easily sack workers to downsize their labour force (Standing 1989). The logic of markets reigned supreme and firms had to restructure production (towards flexible specialization) which can easily adapt to uncertain world markets (Beneria 2001). This culminated in cost cutting measures and search for more flexible labour options.¹¹ Thus the contraction of the jobs in the public sector was not matched by an expansion of employment avenues by the private sector (which again had ceased to be secure). Unemployment increased and people were pushed into informal sectors in absence of adequate formal employment opportunities. Economic recession also lowered the real wage of the working population and in the face of mounting inflation they had to supplement their income with part time informal jobs. Increase in cash requirement was also because of the nature of economic reforms which either led to direct privatization or withdrawal of subsidy from essential public sector services like health and education (Pearson 2004). Simultaneous removal of barriers to trade opened up the world market where heightened competition in world exports led to the search for low wage options. This kept real wages depressed in

¹¹ There is an obvious limitation in the extent that fixed costs (like infrastructure, overheads) can be decreased in production. The variable costs of production (which include wage employment) can be more easily manipulated and hence the preference for flexible labour force whereby firms can also externalize demand fluctuations (in absence of an active government to safeguard them from the idiosyncrasies of the market).

employment as cost competitiveness in production was of paramount importance. Export led industrialisation and trade liberalization paved the way for globalization, marked by the ascendancy of transnational capital.

2.5.3 Globalization and the hegemony of transnational capitalism

Riding on trade liberalization, globalization has created a single world market where free exchange of capital takes place across borders. This has led to internationalization of production and rise of transnational capitalism. A global competitive market has encouraged multinational companies to fragment their production process, across countries in search of locations for lower production costs and in search of cheap and unregulated labour (Mingione 1983). Thus there has been a reallocation of employment from the core to periphery increasingly bringing in smaller firms and independent contractors in the fold. Also this has meant that apart from an advantaged group of people in core management and higher decision making positions, the increase in employment has been at the expense of informalised labour. This is no less true for developed nations, enjoying high rates of economic growth like the United States over the 1990s (Beneria 2001). The transnational enterprise frequently acts as an organiser of production which others carry out for them (Gallin 2001). Fragmentation of international supply chains places the labour intensive operations in production under subcontractors who may not be situated within the same national border. Apart from a significant diminution of production costs, this facilitates an externalization of risks of production onto the informal worker, who though not a part of the formal production structure is completely dependent on it. Employment becomes uncertain (Beneria 2001) and contingent on the requirements of the multinationals who are not obligated to the labour in any way and follow volatile international market dictates. Thus the informal sector gets integrated in the mainstream of international production, making informalisation a global phenomenon (which has grown in magnitude since globalization). The greater part of the production of companies like General Motors, General Electric, Olivetti, Siemens are undertaken by others and in 1991, Toyota had 36,000 subcontractors. This has been no less hastened by

the technological sophistication in production and the rise of information technology. With the revolution of the internet, bypassing and manipulating formal rules, regulations and institutions have become easier (Light 2004).

Thus it is evident that informal economy will not cease to exist with capitalist industrial development. Informalisation is a consequence of modern capitalism, not a transitory path towards advanced industrialisation. It is not a temporary phenomenon; it is an essential by-product of capitalism where formal production is the hegemonic form of capitalist system which informalises large segments of its production to facilitate the reproduction of the modern capitalistic world order. By recent figures, the informal sector accounts for 33% to 40% of the urban employment in Asia, 60 to 75% in Central America and 60% in Africa (Sanyal 2007). It has penetrated into almost all sections of the economy. Horticultural production (Kenyan flowers, South African fruit and Zambian Flowers and vegetables) in Africa has undergone heavy informalisation and cater to European buyers through export chains (Tallontire et al. 2005). Particularly in the case of South African deciduous fruit sector, globalisation has led to a rise in informalisation through the use of contract labour (Barrientos and Kritzinger 2004). Hence informal sector is not an urban phenomenon. In the next chapter, a particular widespread form of informalisation (that of artisanal mining) in the rural context is studied.

CHAPTER 3: ENVIRONMENT AND ARTISANAL MINING

3.1 Introduction

Historically, concerns for nature and environment have been relegated to the margins of human priorities, but the horrors of pollution, ozone layer depletion, climate change and global warming no longer allow environment to be overridden anymore. Escalating environmental problems have accorded environmental issues unprecedented primacy internationally.¹² This has led to the rise of environmental regulations worldwide which aims at achieving environmental sustainability in all economic and productive processes. But the current increase in informalisation makes it impossible to properly implement environmental regulations. Mounting environmental concerns have been matched by deregulations in the production systems (in the form of informalisation) which place a substantial portion of economic activities outside the domain of any regulations. Hence in the context of informalisation, the exercise of environmental regulations has been rendered futile and ineffective.

To illustrate the above point, the case of artisanal mining is taken up. The mere mention of mining conjures up an image of capital intensive large mining companies digging the earth and extracting vital mineral resources with vast investments in infrastructure. Though these private, profit-oriented, corporate organizations dominate the mining industry, there exists another form of mining which is non-organized, small-scale, labour intensive and performed with the help of simple equipments and near primitive techniques. This section of the mining economy falls largely outside the legal and regulatory framework, in the informal sector. Referred to as artisanal mining, it is more ubiquitous than is commonly believed. In 2007, according to the estimates of Communities and Small-Scale Mining (CASM), there are approximately 20 million people directly engaged in artisanal mining worldwide (CASM website, <http://www.artisanalmining.org/index.cfm>). This expanding sector of the mining industry also affect the livelihoods of another 80-100 million people (Mmsd 2002).

¹² Environmental ills' disregard for national boundaries limit capacity of nation-states to deal with them and makes environmental problems global in nature and distribution.

3.2 Environmental Impact of Gold Artisanal Mining

Artisanal mining is rampant in developing and underdeveloped countries like Brazil, China, India, Indonesia, Peru, Bolivia, Chile, Suriname, Ecuador, Malawi, South Africa, Mali, Tanzania, Mozambique, Kenya, Papua New Guinea and others. Large numbers of artisanal miners in these countries operate informally outside the government's purview. They are alleged to cause severe environmental damages in absence of improved technology and access to capital for investment in cleaner extraction and processing techniques. Artisanal miners operate at a great risk to their health and environment and are subjected to harsh, hazardous work conditions. They form a marginalized section held in low esteem by the rest of the society and often accused of operating illegally. Artisanal miners do not pay taxes, operate in areas on which they have no legal mineral claims, and cause massive alterations to landscapes and environment. To study the environmental implications of artisanal mining, the case of gold mining is investigated as gold is a popular mineral extracted by the artisanal miners almost in all parts of the world. While over one million artisanal miners extract gold in Latin America, including Asia and Africa, the number of artisanal gold miners shoots up to six million (UNIDO website, <http://www.unido.org/en/doc/4571>). 'Gold is believed to be the most important mineral extracted by artisanal and small-scale miners, and the rising price of gold since 2003 has attracted more miners into the sector' (<http://www.artisanalmining.org/index.cfm>). Many artisanal miners produce gold which is amenable to small scale operations and simple extraction and refining techniques. Gold is highly remunerative and yields immediate returns (Hilson 2002). Selling gold is also relatively easy and not susceptible to the instability of governments (Hinton and Veiga 2002).

Gold artisanal mining unleashes huge ramifications on the environment. The methods of gold extraction are predominantly rudimentary without adherence to cleaner production regulations. Functioning in the informal economy, these artisanal miners are beyond the reach of any regulatory framework. Geographically segregated in remote areas, they are miles away from centres of jurisdiction and administration. They are not captured in any

formal system of accounting. Thus they can not be monitored or controlled by the regulatory authorities. But, per unit of the output, the environmental damage caused by artisanal miners is more than large scale modern mining units (Mmsd 2002). Their negative impact on the environment persists even after the mining operations have ceased. The MMSD (2002) lists the possible environmental repercussions generated by small scale mining as pollution from use of mercury and cyanide, deforestation and resulting erosion, ruining the landscape and damage to rivers due to dumping tailings and effluents in rivers aggravating river siltation. The chemical contamination arising from mercury use poses health risk to the miner, people in his/her vicinity and to the atmosphere. Though banned in many countries, mercury is used extensively by artisanal gold miners for amalgamation as it is simple, easily available, inexpensive and allows high recovery of gold. But without proper equipments and technology to recapture and reuse the mercury, huge amounts of mercury (often 50% of the total mercury used) are lost to the atmosphere. Apart from severe damage to the health of the miner and everybody else in the area, mercury released in the atmosphere enters the aquatic ecosystems and consequently the food chain through fishes and other consumable aquatic species. Reckless disposal of solid and liquid waste generated from gold mining into nearby water bodies irreparably alter the hydrology of the water ways. Run-offs from gold processing zones which are close to rivers result in river siltation and affect the water quality. Artisanal miners are also guilty of irreversibly transforming the landscape by clearing the forests which result in vegetation loss, damage of the topsoil and enhanced erosion. They further dig trenches and pits and then abandon the area once all gold has been extracted and move on in search of the next area.¹³ Communities residing in those areas and deriving their livelihood from the land, suffer tremendous socio-economic consequences. Although, here the environmental destruction associated with gold mining is recounted, it is not restricted to gold artisanal miners alone. Given their procedure, tools and techniques and most importantly non-compliance of environmental standards, artisanal miners are responsible for challenging the stability of the environment. The acute

¹³ Most artisanal communities are nomadic by nature and often abandon a previously occupied mining zone.

environmental hazards caused are not contained within select geographical locations and have an impact globally. The legacy of environmental ills perpetuated by gold artisanal mining is long and can continue for pages. The litany is cut short here to focus on the reasons behind such widespread incidence of artisanal mining to identify the systemic forces at work. As highlighted in the previous chapters with respect to informal sector in general, the emergence and persistence of such extensive practices of artisanal mining should be investigated in its connection to and articulation of linkages to the rest of the economy, particularly the formal mining industry, government regulations and institutions and the international policy environment. In the context of Africa, the reasons behind the rampant occurrence of gold artisanal mining are studied in the next section.

3.3 Gold Artisanal Mining in Africa

Despite putting such a burden on the environment, artisanal mining is tolerated because of the immense economic importance of their work and as it provides a livelihood to millions of people who are without alternatives. There is no denying the economic value of their produce which not only earn them their livelihoods but can also contribute to national export revenue and thereby act as an important source of foreign exchange. In 1999, the ILO assessed that artisanal and small scale mining accounts for 15-20% of the world's non-fuel mineral production (Mmsd 2002). Recognizing this, in order to regularize the practices of artisanal mining, governments sought to bring them under regulation through licensing and registration schemes (Hilson 2003,Hilson and Potter 2003). This move was primarily following United Nations seminar at Harare in 1993, where there was a call to incorporate all forms of mining under one legal system. In 1995, in the World Bank 'Roundtable on Artisanal Mining' there was renewed emphasis to convert informal artisanal mining into formal mining operations by providing them opportunities to access legal rights on mineral titles (Fisher 2007). Governments accordingly tried to present incentives to the artisanal miners to formalize their operations through provision of institutional support, financial and technical assistance, and training for health, safety and environmental management. But it is widely acknowledged that

such government efforts have not really met with much success (Mmsd 2002) and there are still large sections of the population in the developing countries who continue to function as informal miners.

In Africa, there are some indigenous communities who have long traditions of informal mining practices. However, the rise in informal artisanal mining is often seen as a poverty driven activity. It is a popular livelihood option in rural areas where other alternatives of earning are close to non-existent (Mmsd 2002). This is related to the ILO's economic-reformist approach to informal economy where participants lacking formal income avenues are compelled to turn to the informal sector to meet their subsistence requirements. The nature of industrial growth which focuses on capital intensive technology does not create enough employment opportunities for the unemployed seeking work. Extending this to understand the typical dynamics of a capitalist system, it can be realised that such capital intensive mechanizations are endogenous to the process of capitalist industrialisation which chooses to maximize returns by adopting labour displacing methods. Hence it is not only the uneducated and the unskilled whom the formal sector do not consider eligible but people with sufficient skills and adequate education who have to resort to mining for survival. In Ghana, graduates, former professionals, seasonal farmers, skilled and semi-skilled labourers and retrenched large-scale mine workers migrate to rural areas to be able to undertake artisanal mining (Hilson and Potter 2005).

Nearing the end of 1995, 36 African countries had taken necessary institutional steps to legalize artisanal mining in an attempt to bring this myriad group of people within the mainstream of mining regulations. The reason why government efforts and subsequent policies have failed to do so can be largely attributed to the complex and often inefficient bureaucratic processes involved with formalisation of small scale mining (Banchirigah 2006). This is in line with the legalist understanding of informal economy where rigidities associated with state legislative procedures dissuade informal workers from participating in them. In trying to obtain a small scale mining license, candidates have to go through cumbersome paperwork in the registration process with requires high

payments and involves prolonged delays. The mining industry-specific legalization procedures have been implemented without sufficient knowledge of the way the miners function, their background and their socio-cultural characteristics (Hilson 2003). Thus, rather than bringing them in the formal sector, these skewed and arbitrary methods of integration have further marginalised the artisanal miners (Fisher 2007). Given the hurdles associated with the process of legalization, several artisanal miners have preferred to operate informally rather than undergo the time-consuming and costly methods required to acquire a mining license. What further acts as an impediment to regularization is that the people who have chosen the legal path of registration have not actually benefited from the licensing schemes. Often on the receipt of a license, the artisanal miners have been allocated an inferior land which has been useless for them. They have also not gained from any of the benefits that are due on formal registration. Overall, the legalization methods have been largely control-oriented and have failed to offer adequate incentives to the miners (Mmsd 2002). In effect, trying to formalize artisanal mineral rights has mostly proved to be counter-productive given the character of the reforms pursued.

Do people simply undertake artisanal mining because it provides an escape from dire poverty and continue in that state because the legalizing policies of the governments have been basically inadequate? The answer is perhaps no. It is also necessary to look at the systemic forces instrumental behind the increase in artisanal mining. Borrowing from the structuralist interpretation of the informal economy, the informalisation should be situated in the broader dynamics of the macro-economic framework of a country which is influenced by international policy environment. The case which is explored in this context is that of Ghana, where the introduction of the structural adjustment policy brought about an unprecedented rise in the incidence of artisanal mining (Hilson and Potter 2005). Following the poor performance of the Ghanaian economy in the late 1970s and the early 1980s, the government embarked on extensive structural adjustment programme (SAP) at the behest of the World Bank and IMF. This is not peculiar to Ghana, as 37 African countries have endorsed various adjustment policies. As a

mandatory requirement of SAP, the state of Ghana ventured to correct market imperfections for fuelling economic growth. This required state withdrawal from large sections of the economy with reduced government spending, weakening of the public sector and removal of price supports in subsidies on food, transport and energy. This created an atmosphere of deregulation and privatization with competitive exchange rates and strategies for attracting foreign investment. In short, an enabling environment was established for the expansion of the current reign of capitalism with deregulation and liberalization as the dominant policy measures. Though such steps stimulated increased production in a number of industries, formal employment was particularly hard hit with steady decrease in public sector employment accompanied with a shrinking private sector employment. Abolition of basic subsidies, introduction of user fees for essential public services and limited access to credit facilities chiefly affected the poor. Large numbers of people migrated to rural areas in the face of loss of decent livelihood options, lured by the prospects of gold mining. The rapid increase in Ghana's artisanal mining sector can be seen as a direct fallout of the lack of other employment opportunities and overall situation of poverty.

The SAP also changed the composition of the mining industry. Before the reform, the government was in possession of 55% of the shares in the large scale mines. Following the launch of SAP, the sector was privatized and liberalized which culminated in an inflow of foreign investment in the mining industry. Parallelly in 1989, the small scale mining was legalized in a bid to bring this unregulated, informal sector within the realm of government jurisdiction.¹⁴ However, due to complicated and expensive bureaucratic procedures, compliance was typically low for the poor and marginalised artisan miners. Thus majority of the artisanal miners had no choice but to operate as *galamsey*¹⁵. With monetary help from the World Bank and the German technical co-operation Organization, GTZ, the government opened seven district support centres to facilitate the registration of the miners and to provide them with the required financial and technical assistance. This

¹⁴ The definite laws enacted for liberalization of the mineral sector and the legalization of small scale mining are not considered here as they are not pertinent to the discussion.

¹⁵ Unregistered and often nomadic artisanal gold miners are locally referred to as *galamsey*. Almost 85% of the artisanal miners are still believed to be operating illegally, without any authorized mineral titles.

institutional support did not bring any advantages to the artisanal miners as it was inefficient and did not measure up against the costs and troubles of securing a license (Hilson and Potter 2003).

What has further aggravated the marginalization of these groups of miners is the obvious preference accorded to large scale mining companies. Undermining the artisanal miners' traditional claims to land and mineral resources in favour of foreign mining companies have further pushed them to illegality (Mmsd 2002). Awarding land concessions to large mineral exploration and excavation companies since the launch of the SAP have made it near impossible for artisanal miners to work undisturbed in their previous areas of operation. Since land with mineral resources is limited, plots under the artisanal miners have been granted to foreign controlled large scale mining companies which have evicted these people away from their lands to the margins. Also taking productive farm land away from peasant communities have contributed to a rise in the number of people forced to take to artisanal mining out of economic necessity (Banchirigah 2006). In numerous cases, there has not been any satisfactory compensation for the displacement caused. Conflicts are abound between the large mining companies and the indigenous population who feel their traditional right to land is violated by the intrusion of the big industrial players. Governments instead of protecting the people had helped the companies to secure control over the land. As an instance, Bogoso, Gold Limited acquired concession from the government for gold-mineralized land in Dumasi in 1990 (Hilson and Potter 2005). Hoping a large corporation would open up job opportunities for the locals the chief had originally agreed to the plan. But the highly mechanized nature of the companies' operations left no room for the employment of the natives. In due course, the community's artisanal miners were ousted from the land that they had occupied for years and the company destroyed cultivable plots and forest areas in Dumasi. They used the police to drive out the artisanal miners who often protested through violent altercations with the forces. What provided a lifetime of livelihood opportunities were snatched away with reckless regard for resettlement and rehabilitation. Such problems are further compounded by unclear property rights where often both groups claim occupancy over

the same piece of land. Artisanal miners also prefer working close to the sites of the large companies in hope of better access to mineral deposits or for re-mining the company's waste (Mmsd 2002). Even operating in such hostile situations, the artisanal miners contribute substantially to the country's earnings from gold. The Ghanaian government collected over 30 million US dollars worth of gold from the artisanal miners (since 1989), since there is no discrimination on the basis of legal status while acquiring gold from mining villages.

The artisanal miners can also be tied with the large companies in relations of subcontracting, as exemplified in the case of South African gold mining (Crush et al. 2001). There has been a sudden upsurge in subcontracting arrangements in the South African gold mining industry since the late 1980s. Powerful mining corporations controlling the gold producing companies dominate the South African context. Subcontracting is adopted to reduce costs, increase production and labour flexibility, avoid problems of labour unionism and finally to bypass protective regulation and legislation. Contrary to previous practices of subcontracting peripheral mining activities like cleaning and maintenance which was in vogue in the 1980s, the new explosion of subcontracting let out core production functions to informal, irregular miners. While they do the same work as the regular miners, they are typically without any benefits. Subcontracting is not only restricted to South Africa. In Tanzania, artisanal miners have supplied a local representative of Swiss-owned mining company through subcontractors (Fisher 2007).

3.4 Artisanal Mining: The Systemic Component

Careful inspection of the above facts reveals some interesting points. While there is indeed some tension and a certain degree of animosity between the large mining enterprisers and the artisanal miners, in the mining industry the two finally complement each other. Artisanal miners operate in areas where there are marginal deposits of gold closer to the surface of the earth. These kinds of gold-mineralized plots are unsuitable for the large companies as such small gold findings do not warrant the heavy investment in

infrastructure and capital intensive techniques. Large mining industry requires reasonable density of gold reserves to earn viable returns against initial expenditure in geo-prospecting, subsequent exploration and finally setting up a sophisticated plant for mining. Artisanal miners work on otherwise unexploitable mineral reserves. They are mobile, require close to no capital for mining and thus can successfully extract gold from ores which are scattered in low density. Large companies lack this mobility and flexibility and hence are unable to mine gold from typically small deposits. Traditionally artisanal miners have also discovered gold deposits which were later worked by the large companies. Hence the mining industry requires the resident artisanal miners. Apart from the case of subcontracting, some other forms of liaison are also formed between the large companies and the artisanal miners. Sometimes companies have granted permission to the latter to re-mine the tailings of the large units under the condition that the produce should only be sold through the large companies (Mutemeri and Peterson 2002). In Ghana, artisanal miners have been also allowed to work on specific areas of the large concessions, like the tailings and small surface deposits (which are unprofitable for extraction by the large companies) with the understanding that all their gold should be sold to the company (Hilson and Potter 2003). Thus the artisanal miners play an important role in the mining sector by mining reserves and tailings which no large company would have engaged in.

Unemployment and landlessness driving people to artisanal mining is no accident but a design of the neoliberal policies which are meant to stimulate capitalist expansion. This group of miners is deliberately created by the disenfranchisement of the people who are finally left with no options but to take up artisanal mining. These people are pushed to a point where they have to take to a dangerous alternative¹⁶ for survival. The purpose of the system of registration is not to benefit the artisanal miners as by its very nature the miners do not stand to gain. It is no coincidence that the bid to legalize the artisanal miners and the foreign investment in mining following liberalization happened simultaneously. The intention of the legalization process is two-fold. Firstly, it is to promote an environment

¹⁶ Artisanal miners are exposed to extreme health perils from poisoning from mercury and other chemicals, silicosis, poorly ventilated work areas, and frequent accidents which are common to artisanal mining.

conducive for foreign investment in mining. Legalization of informal miners can help by providing the government greater control over the miners and their area of operation such that it can grant the big companies concessions for gold mining (Hilson and Potter 2005). Also it creates a group of people who are branded as illegal if they do not conform to the regime of control. Thus they are systematically relegated to a subordinate position where they have to accept the dictates of the system. What finally establishes the façade of the legalization procedure is that the government does not differentiate between registered or unregistered miners when purchasing the gold. If they are willing to register, the artisanal miners are also obliged to present an environmental impact assessment (duly approved by the EPA) of their proposed operations. The role of the EPA is arbitrary and questionable as it neither assumes any responsibility once mining starts and nor does it engage in the legalization procedure (Hilson 2002). Overall, as artisanal miners can easily function and market their produce without registration; they can flout the environmental standards imposed.

The above provides an account of how informalisation is hastened by larger policy measures. People steadily thrown out of the safety net by the removal of government protection have no alternative but to tread the informal route. The indirect macro policy environment stimulated by the implementation of SAP has had serious implications in case of artisanal miners. It has led to a steady rise in their numbers, has further pushed them into illegality and has intensified their segregation from the public domain. The state colluding with the powerful capitalist interests of the large mining companies have excluded from their access to and rights over mineral resources. But both the government and the large companies have profited from their labour. In outright contrast to the proclaimed agenda of integrating the artisanal miners in the mainstream, the national and international policies have triggered further informalisation which has added to the social and economic exclusion already suffered by the artisanal miners.

CHAPTER 4: THE DISCOURSE OF SUSTAINABLE DEVELOPMENT

4.1 Introduction

An examination of how the discourse on sustainable development (SD) deals with the challenges that artisanal mining (as an informal economic activity) poses to environmental sustainability is undertaken here. SD is considered here as it marks the beginning of the recognition and integration of environment into the conventional developmental paradigm. The discourse of SD places nature and environment at the centre of the developmental debate by trying to reconcile the twin goals of economic development and environmental sustainability. The Report of the World Commission on Environment and Development (titled *Our Common Future*), popularly known as the Brundtland Report, provided the most well known definition of SD as 'development which meets the needs of the present without compromising the ability of the future generations to meet their own needs' (Brundtland 1987). To this day, *Our Common Future* represents the milestone in the dominant mainstream ideology on SD. The Earth Summit in Rio in 1992 and the World Summit on Sustainable Development (WSSD) in Johannesburg in 2002 were convened to take the idea on SD further and to review past progress. The rationale of SD is meant to guide the developed nations to adopt an environmentally benign way of life and to ensure that the developing countries do not unleash the same environmental catastrophe which their developed counterparts brought about in their efforts to develop into modern industrialised countries.

4.2 Sustainable Development and the Informal Economy

The Brundtland Report did not specifically tackle the mining industry. Neither did it incorporate the phenomenon of informal sector. In the Brundtland Report, a section has been devoted to 'Industry: Producing More with Less'. The strategies identified for Sustainable Industrial Development are

1. Establish Environmental Goals, Regulations, Incentives and Standards
2. Make more effective use of economic instruments

3. Broaden Environmental Assessment
4. Encourage Action by Industry
5. Increase capacity to deal with Industrial Hazards
6. Strengthen International Efforts to help Developing Countries

(Brundtland 1987)

None of the above listed policies can be applied to the informal sector because the sector is mostly unobserved and outside the realm of government jurisdiction or control. In the Earth Summit, 1992 there is again no acknowledgement of the incidence of informal sector despite its ever expanding activities in the global system. In the recent World Summit in Johannesburg in 2002, the informal sector is credited with a fleeting reference. In the Plan of Implementation of the WSSD (Annex), Chapter II (on Poverty Eradication) has the objective of achieving a significant improvement in the lives of at least 1000 million slum dwellers 2020 (UN 2002). This includes a plan to 'remove unnecessary regulatory and other obstacles for micro-enterprises and the informal sector'. There is no concern about the environmental impacts of the sector and any effort to reform it.

4.3 Sustainable Development and Artisanal Mining

Although, the Brundtland Report and Agenda 21 (action plan for SD designed in the Earth Summit at Rio) did not specifically tackle the issue of mining, it was later recognized that the mining industry imposes massive pressure on the environment in terms of landscape alteration, deforestation, erosion, loss of biodiversity, release of harmful chemicals in the atmosphere and damage to water systems, among others. Hence it is of utmost necessity that the mining practices be along the principles of SD. In the following, the integration of SD practices in mining (with a special emphasis on artisanal mining) is placed under scrutiny.

In 1999, the leading mining and metal companies got together to form the Global Mining Initiative (GMI). The forum of GMI was launched in recognition of the crises faced by the mining industry and to prepare for the WSSD in 2002 (www.globalmining.com). The

GMI was led by the ten companies which make up the Mining and Minerals Working Group of the World Business Council for Sustainable Development (WBCSD): Anglo American, BHP, Billiton, Codelco, Newmont, Noranda, Phelps Dodge, Placer Dome, Rio Tinto and WMC (www.nwma.org). The Mining, Minerals and Sustainable Development (MMSD) project was commissioned by the WBCSD and prepared independently by the International Institute for Environment and Development (IIED) to research how the mining sector can best commit to SD. The final Report of the MMSD project was presented at the WSSD in 2002 as the mining industry's contribution. In the MMSD report, among the key challenges faced by the minerals sector, artisanal and small-scale mining (ASM) was identified as one. In this respect, the CASM is accredited as a holistic multilateral initiative to envision for the artisanal communities a sustainable future with goals like poverty alleviation duly addressed (MMSD 2002). CASM is a multi-donor global programme supported by the World Bank. The SD philosophy of MMSD and CASM is studied here, as pertinent to the case of artisanal mining.

MMSD is mainly informed by the SD understanding of the Brundtland Report which largely constitutes the mainstream discourse on SD. It recognizes mining as a sector with immense growth potential which can positively enhance the infrastructure required for development through job creation, poverty reduction and efficient resource and energy management. It further appreciates that mining activities have significant environmental footprints and in its pursuit of SD principles, distinguishes four important dimensions namely, economic, social, environmental and governance sphere (MMSD 2002). Government is regarded as the service provider and entrusted with the important role of environmental management by setting the standards to be maintained by the industry while backing them up by incentives and sanctions that encourage compliance. For ASM, the MMSD upholds it as an integral aspect of rural livelihoods which however is environmentally disruptive. For sustainable management of the ASM

1. Government needs to develop an appropriate regulatory framework that focuses on both the facilitation and management of ASM.

2. Government should ensure that sufficient financial and regulatory incentives exist for small-scale miners to formalize their activities.
3. Framework should recognize the linkages between large-scale mining and ASM.
4. ASM activities should be incorporated in relevant regional and local development programmes.
5. Policies should also provide the means for dealing with priority problems, such as hazardous working conditions or the use of mercury.

(adopted from MMSD 2002)

There is also much emphasis on building stronger networks for artisanal and small-scale miners (to enable their participation in global policy processes) and diversification of their livelihood options where CASM is entrusted a critical role. CASM aims to transform ASM from a source of conflict and poverty into a catalyst for economic growth and sustainable development. To achieve this goal, CASM embraces strategies in line with the MMSD.

4.4 Applicability for Artisanal Mining and the overall Informal Economy

In this section, international development policy agenda is reviewed on the parameter of its applicability to artisanal mining. Eventually it is extended to the informal economy to evaluate the capacity of the SD discourse to grasp and address the phenomenon of informalisation.

Effective governance and formalization of the ASM sector are considered as prerequisites for successful implementation of SD principles in the sector. The government is assigned the crucial role of providing sufficient incentives to the artisanal miners to enter the domain of regulations. But in reality, formalization and legalization of the ASM have been an instrument for exercising further state power and control over its territories. By regularizing such mining activities, the government designs to create favourable working environment for the large mining corporations and enterprises. More than the artisanal miners, the policies have benefited the large players in mining. The ASM sector has been subjected to manipulation and discrimination on registration. The concessions and

facilities awarded to the big corporations and mining enterprises have led to the disenfranchisement of not only artisanal miners but also of the native communities residing on lands with mineral reserves. By elimination of rival resource claims and intrusive resource management, the government has monopolized ownership over those areas. Then in a bid to effectively form an atmosphere which duly attracts foreign investments in mining, the government has provided huge concessions to large companies for mining. Capital intensive large scale mining was not meant to and did not provide any employment opportunities for the natives of the area. Along with the international policy framework, this has created a group of underprivileged who are forced to take up activities of artisanal mining. While the need for diversification of livelihoods of the artisanal miners are being considered at the international platform, the herald of neo-liberal policies have robbed people of their livelihood and left them without any safety net which was previously provided by the government. At one hand, these people are penalized for illegality and on the other, the government, the mining industry and the entire system of capitalist expansion gain from the fruits of their labour. These inherent contradictions in the policy (to diversify livelihoods for the artisanal miners while simultaneously pushing people to take it up for survival) expose the problems in the international policy agenda.

Similarly, the way the framework of SD treats the informal sector leaves much to be desired. The primary focus of the SD discourse is on the formulations of suitable regulations, incentives and standards which completely bypass the informal economy. While great score is set on the effective use of appropriate economic instruments, a substantial part of the economy escapes regulations through informalisation. By the process of informalisation, a considerable section of the economy steadily moves away from the realm of governance and policies. While the visible end of productive behaviour (as reflected by the formal economy) is adjudged on its sustainability parameters, the imperceptible linkages that it shares with the informal economy are overlooked. In reality, the informalising tendencies of the capitalistic production system conceal its aversion of rules, regulations and standards. Through the mechanism of informalisation, what eludes

scrutiny are the ‘disreputable and less-visible production ends of the established firms’ (Peattie 1987). By its inability of appreciating the phenomenon of informalisation, SD is guilty of not capturing the true production forces and relations that underpin the capitalist mode of accumulation.

At the heart of modern capitalist development is the exploitation of the informal economy which is created by the formal economy to feed its process of profit accumulation. By the deliberate act of informalisation, the formal capitalist system maintains its capacity of surplus generation even in the face of increased competition, fluctuations in market demand, stricter regulations, all of which prey on the profit margins. Functioning as a cushion where the crises and contradictions of capitalism can be absorbed, the informal sector is necessary for the continuous reproduction and expansion of the capitalistic world order. Thus it can be realized that neither an act of increasing regulations on the formal sector nor an effort to formalize the informal sector would correct this situation. Enhancing regulations would be largely futile as it would only work upon the visible, formal end of economic operations and not the complete production process. Several stages in the conversion of raw materials into finished products take place in the informal economy at the behest of the formal. If the structure of regulations are not able to capture these significant parts of the production system then there would continuously be (as there is) an attempt to pass the environmentally unacceptable practices in that space. An endeavour to formalize the informal sector is also unlikely to yield any positive results. As long as there is an inherent structural and systemic tendency for the formation of a sphere which essentially acts as a cover from regulations, informal sector would continue to exist providing that regulations do. This is the underlying reason why informal sector persists even to the present day despite contrary predictions. It has been alleged that transnational corporations shift their production processes to countries where environmental regulations are relatively lenient given that few developing countries can refuse the promises of foreign investment. Almost by the same rationale, capitalist companies informalise parts of their production away from the clutches of regulation under the pretext of productive flexible specialisation.

While the role of formal corporations in the quest of environmental sustainability has been long questioned, the process of informalisation has escaped any attention. Environmental movements campaign against large enterprises to reform their environmentally destructive practices. Labour activists cry hoarse in demanding that big companies adhere to human rights in their treatment of their labour. With increased consumerism, there have emerged consumer bodies and groups which lobby for environmentally friendly products. Regulatory institutions tighten their grip on environmental standards that have become mandatory to follow. On the outside, the corporations pledge to their environmental liability through corporate social responsibility. While such acts have met with much criticism, the informalising steps of the large enterprises go unnoticed.

Appropriately dealing with the informal sector might give rise to an awkward problem for SD proponents if the structural linkages of the sector with the big business concerns are explored. Hence with a merely superficial pledge of caring for the environment especially its crisis in the developing countries (Adams 2001), SD is meant to distract the world from more radical alternatives to environmental sustainability which do not leave important issues of power and equity unquestioned.

CHAPTER 5: CONCLUDING REMARKS

This paper interrogates the changing nature of informalisation of production processes by situating it in the current trend of global capitalism. To this end, it has provoked a fresh insight into the informal economy by addressing its structural linkages with the formal production system. The informal economy is still frequently viewed in isolation and opposition to the capitalist initiatives of economic production of goods and services. In this research, the origins and functions of the informal economy is understood as a systemic requirement of the modern phase of capitalist advancement. Informalisation is not an accident but is designed to serve bigger motives of capitalist expansion and reproduction.

This leads to questions pertaining to environmental sustainability as challenged by the imperatives of economic growth. The quest for economic growth is believed to bring forth one of the inherent contradictions in the capitalist system. The current scholarship on environmental sustainability concedes that irresponsible hunt for economic goals have put immense pressure on the environment. There is now a global consensus that control and regulation of economic processes are essential to arrest further deterioration of the environment. Thus a wide range of stringent regulations has been developed to tackle the problem of environmental degradation.

Given this situation, the set up of the informal sector provides a suitable path for the unabated pursuit of higher economic returns. Adherence to regulations can limit the opportunities of maximum profit and thereby hinder growth. This paper hints at the possibility that the unsustainable character of capitalist production is hidden in the folds of the informal sphere. This claim can be fully substantiated with detailed case studies which demonstrate how the formal economy deliberately informalises certain phases of production to elude regulations. As a result, the burden of environmentally unsustainable production is carried out by the informal economy on the behalf of the formal capitalist sector.

This necessitates a rethinking and reformulation of the current understandings of SD which has failed to incorporate the workings of the informal economy within its purview (as shown in this paper). SD needs to be conceptualised in a fashion that rather than insisting on formalization, it strives to capture the true nature of informalisation. The scope of SD must include the informal sector and address its linkages with the formal economy in its objective of designing an environmentally friendly path of development. Lastly, the current financial crisis in the world is threatening to herald a period of deep rooted recession. It remains to be seen how capitalism responds to this crisis. But there is ample cause for being apprehensive about the environment. This recession might well re-establish economic growth as the sole criterion for progress and development. Targets of economic profitability could force the system to bypass the environmental regulations which are costly to adhere to. But regulations are likely to remain forceful in the face of a strong environmental constituency in global politics. In this event, a plausible outcome might be an acceleration in the process of informalisation whereby regulations could be flouted to maintain the objective of profitability.

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