THE GRADUATE INSTITUTE | GENEVA
INSTITUT DE HAUTES ETUDES
INTERNATIONALES ET DU DÉVELOPPEMENT
GRADUATE INSTITUTE OF INTERNATIONAL
AND DEVELOPMENT STUDIES

UNIVERSITÉ
DE GENÈVE

Cluster Development Policy rooted in the Collective Efficiency Approach: An Effective Poverty Alleviation Tool in the Indian Handloom Sector?

Case studies: the Varanasi and Chanderi Handloom Clusters (2007-08)

Clarisse Beddig
clarisse.beddig@gmail.com
m +41 79 240 77 14
November 2008

Acknowledgments

My interest in India and 15 years entrepreneurial background in textiles and fashion, notably on the luxury segment, seem a posteriori to have "naturally" resulted in this research on the Indian handloom sector. The communicative interest in regional development and Small and Medium Enterprises (SMEs) of my thesis Director, Professor Philippe Régnier, and the circumstances that made the Integrated Handloom Cluster Development Programme (IHCDP) happen simultaneously to my academic course were however essential factors in shaping my investigations and multidisciplinary approach; to this added the incredible richness of Indian weaves, a world heritage that without any doubt deserves to survive passing times and macro-economic adjustments; and the extreme poverty of the majority of weavers, while their tacit knowledge, and the unique heritage that they carry forward are certainly valuable assets in the contemporary global economy. I thank all who supported and encouraged my investigations, more particularly: Professor Philippe Régnier, who introduced me to Shri Dinesh Awasthi, Director of the Ahmedabad Entrepreneurship Development Institute of India (EDII), who in turn offered me this great opportunity to collaborate on the IHCDP; the EDII cluster development team, namely Manoj Mishra, the programme Director, Shailendra Jarika, Om Prakash, and Tarun Bedi; Shri Shankersinh Vaghela, the Minister of Textiles, and Shri B.K. Sinha, the Development Commissioner for Handlooms, who both were kind enough to make themselves available for a meeting and for sharing their experiences of and views for the sector; Shri S. P. Singh, ex-Deputy Director of the Varanasi Weavers' Centre; Shri Himadri Ghosh, ex-chairperson education of the Ahmedabad National Institute of Design and ex-principal at the National Institute of Fashion Technology, today managing his own design studio, and Meghshyam Gurjar, Faculty at the Banasthali University in Rajasthan, both passionate handloom experts, with whom I spent long hours discussing the craft state and future, and who are today involved in Julaha, the association aiming at alleviating poverty and reviving handloom which was formed in the course of research; Shahid Ansari, Amresh Kushwaha and Shahid Junaïd, all three Varanasi master weavers producing exquisite fabrics, and the Varanasi and Chanderi weavers with whom I interacted on an ongoing basis during my field work. I am also particularly grateful to Ismail Koshen for his valuable editing advice and to Laurence Cuny for her review and useful suggestions.

Content

List of Abbreviations

ADB	Asian Development Bank
ASCENT	Asian Centre for Entrepreneurial Initiatives
BDS	Business Development Services
BVS	Bunkar Vikas Sansthan (a Chanderi weavers' association)
BHU	Banaras Hindu University
BHVS	Banaras Hathkargha Vikas Sangh (a Varanasi producers' company)
CAD	Computer Aided Design
CBHIS	Community Based Health Insurance Schemes
CDA	Cluster Development Agent
CDE	Cluster Development Executives
CDF	Cluster Development Foundation
CDP	Cluster Development Programme
CDCG	Cluster Development Cooperative Group
CFC	Common Facility Centre
CLRI	Central Leather Research Institute
DoH	Directorate of Handloom
DRDA	District Rural Development Agency
EDII	Entrepreneurship Development Institute of India
IHCDP	Integrated Handloom Cluster Development Programme
IT	Internet Technology
KVIC	Khadi and Village Industries Commission
MSR	Mode of Social Regulation
NABARD	National Agriculture Bank for Rural Development
NHDC	National Handloom Development Corporation
NLDP	National Leather Development Programme
NGO	Non Governmental Organisation
MSME	Micro, Small and Medium Enterprise
MPHSVN	Maddhya Pradesh Hastha Shilpa Vikas Nigam
RBI	Reserve Bank of India
R & D	Research & Development
Rs.	Indian Rupees
SIDBI	Small Industries Development Bank of India
SBI	State Bank of India
SHG	Self Help Group
SMEs	Small & Medium Entreprises
SMOI	Silk Mark Organisation of India
TAC	ToeHold Artisans Cooperative
UNIDO	United Nations Industrial Development Organization
WSC	Weavers Services Centre
BHU	Benares Hindu University

Table 3.1 Varanasi Action Plan – Year I-III

The indicative exchange rate retained in the study is of Rs. 1'000.00= $ 21.953

About the Author

Clarisse Beddig holds a Degree in Economics and an interdisciplinary Master's Degree in Asian studies (2009), University of Geneva and Graduate Institute of International and Development Studies, Geneva, Switzerland. She has an entrepreneurial background of more than 15 years in the textile industry, and her expertise encompasses as much the management of small and medium enterprises and private sector development as product development, marketing, trade facilitation and export promotion. She was involved as product development, marketing and export management consultant and trainer in an Indian cluster development programme in handloom during her recent studies, and is today Trustee Director of Julaha (www.julaha.org), a non-profit organisation targeting poverty in handloom by reviving the craft. She also continues to contribute to the dialogue on cluster development for poverty alleviation and her research interests include notably learning and capacity development, labour issues, power and social change and participatory governance.

Introduction

Poverty[1] remains wide spread in India and a crucial issue in the contemporary globalization era during which inequalities between nations and between citizens of a same nation are increasing, in developing as in developed countries (ILO, 2008)[2]. Social stability is viewed as supportive to economic growth, and poverty can only be a threat for its continued existence, making the definition of pro-poor policy a priority. Indian poor are in great majority workers of the informal economy with a subsistence level of income, and they are also often the majority stakeholders of Indian clusters, in other words, sectoral agglomerations of firms, which are a common form of production organisation in the country. The concept of cluster in regional science does not limit itself to firms, it also encompasses their environment, namely, local institutions and culture; and by broadening the scope of a "purely" economic analysis of cluster trajectories to include social elements and localized specificities, sometimes rooted far back in history, a realistic multidisciplinary evaluation could be envisaged.

This study attempts to assess the accuracy of cluster development policy aiming at sustainable poverty alleviation as actually deployed in the Indian handloom sector. A review of the cluster concept, from its inception to the main contemporary regional science perspectives concerned with agglomerations of enterprises begins the research, to continue with an introduction to the main school of thoughts interested in the role of knowledge and learning, an asset and a capability essential to innovation, the driver of contemporary economic growth. An investigation of what innovation means and of the limits to innovation and learning follows. A tentative classification of clusters and policy considerations conclude this first section. Indian clusters are then explored. The contribution to the Indian economy of Small and Medium Enterprises (SMEs), which are in great majority operating in clusters, is firstly highlighted. The trajectories of the Agra footwear cluster and an Orissa silver filigree cluster are then considered with a particular attention to the labour question, poverty being primarily a labour issue. The investigation of the Tiruppur knitwear cluster follows; its evolution shows that a demand-led growth does not necessarily result in a development on a high road to growth, a path supposing innovation and increased productivity (Pyke *et* al., 1990). The effectiveness of 'collective efficiency', the competitive advantage resulting from the combination of the externalities linked to proximity and joint action (Schmitz, 1999), is then discussed in the light of the experiences of an Uttar Pradesh saddlery cluster and Tamil Nadu leather clusters. The

---

[1] A common method used to measure poverty is based on incomes or consumption levels. A person is considered poor if his or her income or consumption level falls below some minimum level necessary to meet basic needs. This minimum level is usually called the "poverty line". What is necessary to satisfy basic needs varies across time and societies. Therefore, poverty lines vary in time and place, and each country uses lines which appear appropriate to its level of development, societal norms and values. The World Bank fixed the international poverty line at $ 1 a day in 2004, based on a 1993 cost-of-living data, the best available at the time, the amount was revised in 2008 to $ 1.25 a day in 2005 prices, a review which showed that 400 million more people lived below the poverty line in 2005 than earlier thought, cf. http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTPOVERTY/0,,contentMDK:20153855~menuPK:373757~pagePK:148956~piPK:216618~theSitePK:336992,00.html, and also http://econ.worldbank.org/WBSITE/EXTERNAL/EXTDEC/EXTRESEARCH/0,,contentMDK:21882162~pagePK:64165401~piPK:64165026~theSitePK:469382,00.html

[2] The designations "developed" and "developing" countries is intended for analytical convenience and do not necessarily express a judgement about the stage reached by a particular country or area in the development process.

studies of two Cluster Development Programmes (CDPs) involving artisans conclude this introduction to Indian clusters; the former was deployed in the Jaipur block printed textiles cluster, under the aegis of UNIDO, and the latter was conducted in the Athani footwear cluster, in Karnataka, by an association of state, private sector and non-profit organisations, including a government educational institution. Indian handloom clusters are the focus of the third section. The sector is first apprehended from a macro, meso[3] and micro perspective to continue with an introduction to the Integrated Handloom Cluster Development Programme (IHCDP) actually implemented by the Entrepreneurship Development Institute of India (EDII) under mandate of the Office of the Development Commissioner for Handlooms in twenty clusters. The Varanasi and Chanderi handloom clusters, which are among the twenty localities benefiting from the scheme, were chosen for the case studies, Varanasi being the pilot cluster of the programme, and Chanderi, one of the Indian clusters where the UNIDO cluster development methodology was previously deployed. The features and trajectories of both localities are first reviewed, to then explore respective institutional intervention. A discussion of outcomes and of possible alternative approaches and measures that might prove supportive of further policy definition concludes each cluster review. An overall evaluation of the opted cluster development methodology and of its impact on poverty, as well as a summary of the suggested policy innovations, conclude the section.

[3] 'On the meso-level, state and social agents negotiate concepts of political backing and promote the formation of social structures', cf. http://tiss.zdv.uni-tuebingen.de/webroot/sp/barrios/themeB1b.html

1. The Conceptual Framework

The success of some Italian industrial districts[4] during the global recessionary trend of the 1970s and 1980s, when large firms aligned on the post war Fordist model and producing similar goods found it difficult to live up to fast evolving and increasingly customized demand, arouse a strong interest of the research community. Agglomerations of enterprises and their potential to succeed in a highly competitive environment became a regular research topic of economic geography and social sciences, encompassing issues such as industrial clustering, learning and innovation. Theory suggests that the role of location in competition should diminish with the liberalization of markets, reality differs: the contemporary economy is dominated by sectoral agglomerations of enterprises, in other words, by clusters, with each having its specific added value. Hollywood and Mumbai are examples of the film industry; Tiruppur and Varanasi examples of the Indian textile sector, and Silicon Valley and Bangalore illustrate best such production organisation in the Internet Technology (IT) industry. Local specificities become more pronounced in a globalized economy and spatial dimension is today affirming itself as an indispensable reading key of the economic phenomenon.

1.1 From Marshall's Industrial Districts to the Cluster Concept

The definition of firms' agglomerations varies depending on approach. Alfred Marshall highlighted the externalities linked to proximity in the 1920s - externalities as unpaid outside the market side effects of the activity of one economic agent on other agents in the industry, and used the concept of industrial district to support his investigations, industrial district as a 'large number of small businesses of a similar kind in the same locality' (Marshall, 1920: 277). He stated that proximity most notable advantages are a pool of qualified workers, the local availability of inputs and knowledge spillovers. The achievements of the Italian industrial districts led Giacomo Becattini (1979), to draw on similarities between Great Britain regions specialized in textile and metallurgy studied by Marshall and these successful Italian areas. Becattini referred to the Marshallian industrial district as 'a concrete case of localized division of labour, which is neither diluted in a general market, neither concentrated on one or a small number of enterprises'. Localization means here something different from an accidental concentration in a same locality of production processes that would have been attracted by pre-existing localization factors. Rather, the enterprises take root in the territory, and this outcome cannot be understood independently from its historical development. This localized social and productive 'thickening' is held together by 'a complex and tangled web of external economies and diseconomies, of joint and associated costs, of historical and cultural vestiges, which envelops both inter-firm and interpersonal relationships' (Becattini, 1989: 132). The process of territorial construction of industry is dynamic and intrinsically a

[4] Notably neo-artisan districts specialized in labour intensive activities, such as high added value fabrics and footwear, in which less developed countries are supposed to have a comparative advantage because of their cheap labour. The firms constitutive of these districts are of small and medium sizes, and relatively homogeneous. The districts are located in small scale agriculture areas and industrialized relatively late, and a common set of cultural and social values creates a collective identity that drives their success. Broad based associations are present, which provide favourable credit facilities, market linkages and industry specific training (Asheim, 1994; Best, 1990; Brusco, 1992; Knorringa, 2005; Ottati 1994; Rabelotti, 1995; Schmitz & Musyck, 1994).

phenomenon of imbalance resulting from the constant discovery of new productive and market opportunities, from the creation and accumulation of knowledge, and from the combination of resources. The dynamic of productive activities develops in a territory and this territory participates in the viability of productive activities. The division of labour is not set once for all and there is no stable relation between the localization of the firms and the organisation of the industry (Lecocq, 2007). The Neo-Marshallian industrial district model was an alternative proposal to the Fordist approach advocating mass production and grounded on a Taylorist organisation of labour and the concept set out the basis of most subsequent cluster studies. Theorists attributed the success of such localized production systems to various correlated factors, notably a high degree of vertical division of labour among enterprises, an adequate blend of competitive and cooperative behaviours, flexibility in the use of qualified manpower, a diffuse capacity of innovation, and the presence and role of institutions and associations.

1.2 The Flexible Specialization Model

The success of the Italian districts was not only due to falling demand in period of recession, but also to a shift in the nature of demand that underscored the need for customization and small lots of products, suggesting new opportunities for SMEs and a reduction of interest in mass production, a market dominated by transnational companies (Menkveld and Thurik, 1999; Roper, 1997). This change in demand led Piore and Sabel to identify *flexibility* and *specialization* as alternatives to the Fordist model (1984; Piore, 1990), features which are characteristic of small enterprises. The *flexible specialization mode*l is based on flexible automation, differentiated products and small batch production, relying on dense networks of enterprises, combining competition and collaboration. Clusters are viewed as models of flexible specialization, where efficiency in production and organisational adaptability can be enhanced by economies of scale and scope in regional and sectoral settings. In this model, labour is considered as a flexible factor of production contributing to the overall performance of production, flexibility refers to the ability of multi-skilled workers to shift across jobs as and when production requires. Experiences with clusters in western economies, where employment is regulated and workers are usually represented by work councils and unions, resulted in the betterment of the workers remuneration and working conditions. Under such specific circumstance, it is believed that the *flexible specialization model* improves labour conditions and increases employment with the development of new commercial opportunities. Successful clusters were associated with trust relationships between employers and workers, the latter sorted new problems and issues, and constantly learned new skills. In this framework, labour is ‘a resource to be developed and invested in, not a cost to be minimized’ (Holmström, 1993). There has been some interest of the research community shown in how far such models are applicable or adaptable to developing countries (Cadène and Holmström, 1998). All these studies deal with the importance of labour in the process of industrial restructuring and the flexible specialization model was generally experimented at the detriment of labour in these countries, notably in regions with surplus labour. The increase in production was not met through innovation and a higher productivity, in other words, through a high road to growth, but through increased labour time by the use of family labour and downward pressures on earnings. While increasing the vulnerability of the workers, this low road to growth strategy, low in the extent that firms opt for cost reductions, notably in labour,

discourages innovation and the adoption of new techniques, which could positively impact labour productivity and the level of remuneration (Kurian, 2005). These researches highlight the danger of enterprises capitalizing on the availability of cheap manpower, and underline the crucial role that regulation and unions may play in protecting labour.

1.3 Clusters and Competitiveness

Competitiveness studies started to focus on geography in the early 1990s, when Michael Porter introduced the importance of proximity and clusters for competitiveness, and stated the primary role of the region or the city, which become a source of competitive advantage and unique environment for competing in the industry (Porter, 1990; 1998). Proximity facilitates the diffusion of information about new organizational and production processes and product innovations, and lowers transactional costs, and enduring competitive advantage in a global market increasingly lies in local features, that distant competitors cannot match. For Porter, clusters are geographic and sectoral concentrations of interconnected firms and institutions, including suppliers of specialized inputs and infrastructure, and also encompass governmental agencies and other institutions, such as universities, trade associations and vocational training providers. They also extend laterally to manufacturers of complementary products and service providers, and to companies related by skills, technologies or inputs. Clusters influence competition by increasing local productivity, by driving the pace and direction of innovation, and by stimulating the formation of new businesses. A few decades ago, input costs were the main driver of competitive advantage, and locations with a special endowment, such as a natural harbour or cheap labour, generally enjoyed a decisive and lasting comparative advantage. In the contemporary economy, competition is much more dynamic and competitive advantage rests increasingly on making a more productive use of resources, which requires continuous innovation. Clusters are an alternative organisation of the value chain, promoting both competition and cooperation; without competition, a cluster will fail. Much of the cooperation is vertical, involving companies in related industries and local institutions, and coexistence of competition and cooperation is possible, because they occur in differing dimensions and among different players (Porter, 1998). Clusters highlight that not only what happens inside enterprises matters, but also what happens outside them; the business environment is crucial, and its features are determinant elements of competition sophistication. High quality physical infrastructure will maximize the efficiency of logistics, well-educated personnel will positively impact the productivity of services and a court system that resolves disputes fairly and rapidly will facilitate operations. A cluster allows each member firm to benefit as if it had a greater scale, or as if it had joined formally with others, without the sacrifice of its flexibility. Social and cultural aspects were less emphasized in Porter’s approach; he nonetheless underlined the facilitated access to information flows in clusters, resulting from sustained personal relationships and community ties fostering trust.

1.4 The GREMI Innovative Milieu

The GREMI[5] approach stresses the dynamic nature of clusters and their capacity to generate change, and favours the idea that regional growth can be best analysed in terms of the innovative forces contained in the rich texture of the local economic and social milieu. The terms "innovative milieu" ('Le milieu innovateur') was used to define the concept; the milieu regroups in a coherent whole a production system, a culture and actors. It is understood to encompass elements of the political and economic environment, including local governmental and non-governmental organisations and private sector service providers, and also social constructs that condition behaviour, including business behaviour, within the cluster. The coherence between actors lies in their common approach to situations, problems and opportunities (Crevoisier *et* al., 1989: 11). Maillat (1990), a leading GREMI figure, defined the milieu as material and non-material elements, a system 'organised around a territorial production system, a local labour market and a scientific system (training systems, research institutes, production and accumulation of regions' knowledge)', material elements which 'are re-enforced by non-material elements, most particularly by the technical culture', which requires proximity to be shared, acquired and renewed. The innovative environment of the milieu is tied to the presence of processes of collective learning and of reduction of dynamic uncertainty elements (Camagni, 1991). Camagni defined this same "innovative milieu" as the 'set, or complex network, of mainly informal social relationships on a limited geographic area… which enhances the local innovation capability through synergetic and collective learning processes'. SMEs are the focus of the approach and the main assumption is that these cannot be apprehended without taking into consideration their environment, in other words, their milieu. An "innovative milieu" may be considered as an incubator for innovative enterprises on a given territory, and an innovative behaviour is influenced as much by local and regional factors than national specificities.

The notions of coherence and process are fundamental in this approach. The processes of communication, sustained interactions and apprenticeship develop a shared vision of the world in the long run. This common perspective can be defined as a coherent system of representations, underlining the cognitive dimension of the milieu. This paradigm faced criticism as being rather abstract and vague, and was reviewed by the GREMI; new elements were integrated, originating from evolutionary economy, network theory and from the respective spatiality of both concepts. Networks contribute towards the functioning of the milieu; from an evolutionary perspective, functions aiming at coping with uncertainty are introduced, which can be formalized as follows:

- The *Research function*, the milieu is a collective information broker, ceaselessly scrutinizing the environment, notably in the technological domain, and offering structured information;

[5] Groupe de Recherche Européen sur les Milieux Innovateurs (GREMI), a network of geographers and economists that was formed in 1986 to study the new regionalism in places such as Silicon Valley, the south Parisian Cité Scientifique and the Third Italy neo-artisan clusters, cf. http://www.unine.ch/irer/Gremi/presentation.htm

- The *Selection Function*, decision processes and management styles of the enterprises constitute the basis of this function;

- The *Signal Function*, the milieu stands for a signal that indicates the development and needs of the outside world, the function also develops the group awareness of the stakeholders;

- The *Transcoding Function*, the milieu learns from the outside world and extra-cluster information is codified according to needs, in order to become accessible to the cluster stakeholders, this flow of information is generally supportive of enhanced performance;

- The *Transformation Function*, the milieu helps to internalize external forces and resources, and sets up structures, notably organizational, to reduce their complexity;

- The *Control Function*, the milieu defines and coordinates collectively management styles and decision processes, and serves as a social monitor.

These functions are assumed to be taken on by local enterprises and institutions, and partially by universities and institutes, and they enable the cohesion of the local "innovative milieu".

1.5 The Learning Region

The national territory can and continues to be a crucial entity in some circumstances within the globalization process, it becomes nonetheless increasingly evident that there is no a priori reason to privilege this spatial scale, regional and locality-based learning and knowledge production systems can be of equal or greater significance (Hudson, 2005: 61). The deep spatial embeddedness of some clusters provides an opening for more general notions of the significance of territorially based knowledge for competitiveness and growth. The concept of the 'learning firm' is thus transposed in the concept of the 'learning region' (Camagni, 1991), meaning that the success of a region is intrinsically the result of territorially defined assets, derived from exclusive and often tacit knowledge, and cognitive assets. Tacit knowledge is sticky by definition and embodied in people, it requires face-to-face contact and direct interactions to be diffused, and it cannot be dissociated from the collective work practices from where it originates; know-how thus cannot be divorced from its social and territorial context. Knowledge is a concrete social phenomenon, and production of knowledge and the pattern of social life are reflexively intertwined (Scott, 2000: 34). Learning involves more than transactions of information between markets and hierarchies, shared language and culture as well as the national regulatory framework shape trajectories of innovation and learning. Clusters are viewed as spaces where social relations are entangled with productive ones, a social embeddedness that is believed to create an environment favourable for knowledge spillovers and that promotes at the same time a process of social monitoring among the collectivity (Becattini, 1990). Knowledge spillovers are seen as leaks of knowledge which diffuse in the economic system and are "in the air" (Marshall, 1920); knowledge, which is inherently a private good, becomes thus public and freely available (Arrow, 1962). Geographically bounded spaces are seen as highly conducive to knowledge spillovers, because they allow tacit knowledge to be transferred easily. Given that one of the major features of

developing countries clusters is their weak technological base, knowledge spillovers are crucial to their upgrading and ultimately to their development (McCormick, 1999). In clusters characterized by a vertical division of labour, it is most likely that buyer-producer linkages are established, that promote informal interaction and incremental learning. Knowledge areas accessed will nonetheless depend on the readiness of the buyer to see his supplier/s upgrade in domains that he considers as his core competences. Incremental learning is also believed to occur in horizontal relations between proximate competing firms, between which unintended leaks of knowledge may happen (Bellandi, 1989; Giuliani, 2005).

The learning region approach highlights the importance of spatial proximity in collective learning processes, and emphasizes the crucial role of regional institutional structures, it also concludes of the permeability of the boundaries between economy, state and civil society. Innovation and knowledge creation are perceived as interactive processes shaped by institutional routines and social conventions. The state fulfils a distinctive role as arbitrator and facilitator of relations between autonomous organisations, as well as pursuing its more traditional functions of specialized services provider and defining the legal framework. This model falls between the concepts of the liberal and interventionist states (Offe, 1975). The concept, originally developed to analyse the specificities of the Danish case, can thus be linked to the concept of the 'learning state' and a mode of regulation positioned between market and hierarchy, through which an enabling state seeks to create the conditions for a dialogic approach to conflict resolution and policy formation in general (Hudson, 2005). This approach rests on discursive, moral and political imperatives rather than on legal sanctions and formal contracts: focus is on shared values, understandings and meanings, specifically locally embedded tacit knowledge and the institutional structure through which it is produced; these emphases are apprehended in notions such as 'institutional thickness' (Amin and Thrift, 1994) or 'social capital'. The region is a key element in the 'supply architecture' for learning and innovation. Territorial knowledge production nevertheless does not exclude firm learning, enterprises seek to combine codified information and tacit knowledge into 'firm specific knowledge' (Camagni, 1991).

1.6 The Collective Efficiency Approach

During the 1990s, cluster development became a topic of interest for an increasing number of developing countries which saw in clustering a strategy to overcome growth constraints of small informal firms (Schmitz, 1995; Humphrey and Schmitz, 1996; Van Dijk and Rabelotti, 1997). The concept of 'collective efficiency', proposed by Schmitz and defined as 'the competitive advantage derived from local external economies and joint action', acting as a catalyst for growth, became then popular. According to this author, 'clustering opens up efficiency gains that individual enterprises can rarely attain' (Schmitz, 1999), and it enables investments that isolated firms cannot consider. With the 'collective efficiency' theory, the high road to growth was made accessible with the fostering of horizontal and vertical cooperation between local firms and institutional bodies, focusing on the intra-cluster productive and cooperative networks. The approach apprehended a cluster as: 'A sectoral and geographical concentration of enterprises. Whether specialization and cooperation develop is considered a matter for empirical research and not subsumed to the definition' (Humphrey and Schmitz, 1996: 1863). The 'collective efficiency' literature emphasizes the importance of local

level governance - governance defined as the coordination of economic activities through non-market relationships, and the role of incremental upgrading through interactions between firms, and between firms and institutions. With the furthering of economic integration and in order to remain competitive, enterprises, by extension clusters, have to upgrade, in other words, they either have to increase the skill content of their activities and/or move into market niches with entry barriers, which are therefore relatively isolated from competitive pressures. The collective efficiency approach sees the resources for upgrading as originating from the locality; the competitive challenge is met through improved organisation and efforts within the cluster. The proposition is that development and prompt diffusion of knowledge within the cluster are not solely the result of incidental synergies, but are fostered by networks of public and private actors. Competition remains the essence of commerce, and trust, reciprocity and mutualism are the cluster success formula (Humphrey and Schmitz, 1998).

1.7 Clusters and Knowledge Systems

Interactions are constitutive of upgrading; Neo-Marshallian approaches have long emphasized the endogenous potential of knowledge generation in clusters. Several contributions have investigated the processes by which the integration of extra- and intra-cluster knowledge occurs (e.g. Schmitz, 2004; Giulani *et* al.: 2005), and some authors have highlighted that the propensity of enterprises to establish knowledge linkages with other clustered firms is associated with the extent of similarity in their knowledge bases (Rogers, 1993), leading the firms to play differing roles within a cluster knowledge system. If knowledge bases should be too dissimilar, firms appear unable to absorb each other's knowledge. The 'cognitive positions' of the firms will differ function of the knowledge accumulated over time, transferable to others, and of their capacity to decode and absorb externally sourced knowledge, suggesting that knowledge diffusion in a cluster is uneven. Some enterprises may transfer more knowledge than they receive, acting as *net knowledge sources*, others may be more likely to absorb more knowledge than they diffuse and are *net absorbers*. Some firms may have such a low knowledge base that they find themselves excluded from the cluster knowledge system. Dense knowledge networks should be associated with enterprises with strong knowledge bases, and dynamic clusters, and fragmented and highly disconnected knowledge systems linked to the predominance of firms with weak knowledge bases, characteristic of incipient or static clusters (Giulani, 2005: 277).

Further studies view industrial districts as Neo-Marshallian nodes in global networks or value chains. The perspective suggests the importance of extra-cluster links, notably of the export orientation of the cluster (Humphrey, and Schmitz, 2002), and led some scholars to consider the dynamic of a cluster as depending on its absorptive capacity (Cohen and Levinthal, 1990), in other words, its capacity to absorb, diffuse and creatively exploit knowledge acquired outside of the cluster (Giuliani, 2005). This absorption capacity entails two related aspects: the formation of linkages with extra-sources of knowledge, and the structural specificities of the intra-cluster knowledge system, or, in other words, of the flows of knowledge linking the clustered firms. The firm is at the centre of this approach and the cluster absorptive capacity is function of the capacity of the firms to establish intra- and extra-cluster linkages, and of the knowledge bases of the firms. It is however not understood as the mere sum of the firm capabilities, and 'a cluster absorptive capacity influences and is influenced by the efforts

undertaken by clustered firms to accumulate new knowledge (Cohen and Levinthal, 1990:131)'. The firm knowledge base is considered as the result of a process of cumulative learning which is inherently complex, imperfect and path-dependent; complex, because, in Giulani's words (2005), 'learning and innovation are not linear processes…, imperfect because of the uncertain nature of technical change and of the agents' bounded rationality, … and path-dependent because previous technological achievements influence future ones', notably via their knowledge specificity, the development of particular infrastructures and the emergence of various increasing returns (Dosi, 1997). The heterogeneity of the firms' knowledge bases shapes the structure of the intra-cluster knowledge system, and also affects the cluster capacity to absorb extra-cluster knowledge. Comparison between empirical cases shows a positive correlation between the firms' knowledge bases, the cluster absorptive capacity and its potential for dynamic growth. Static clusters tend to be characterized by basic absorptive capacity, their knowledge bases are very weak, and interactions between enterprises are fragmented and limited, and extra-cluster linkages are almost nonexistent. These static clusters, mostly present in developing countries and constituted of informal firms, are unable to attract new resources, and their growth capability appears limited. The absence of interactions with local institutions and of any technological and productive linkages between leading firms and small informal sector enterprises with weak knowledge bases are among the reasons that limit the informal sector upgrading. Dynamic clusters tend to show a more open knowledge system and participate in the creation of knowledge with active intra- and extra-cluster knowledge linkages, and also by investing in in-house R&D. Dimensions of the absorptive capacity of a cluster appear related to its growth trajectory, suggesting that policy emphasis should be on the determinants of enhanced absorptive capacity, notably of those firms that have no or very limited linkages. The implications which this framework may have is that, if the capacity of a cluster to grow depends ultimately on firm level specificities, cluster development policies should be oriented towards strengthening the knowledge bases of the firms rather than towards the cluster as a collective entity (Giuliani, 2005).

The firms that are relevant for the openness of a cluster can be either cluster outsiders, notably multinational corporations or smaller foreign firms, or insiders; the former being attracted by the resource base of the cluster, the latter trying to tap into the outside knowledge. Among the clustered actors attempting to tap into the outside knowledge, the literature emphasizes the role of the leading firms, which are typically large, technologically advanced and regarded as the cluster engines of development; these firms channel the extra-cluster information into the cluster knowledge system and they will plausibly be the cluster enterprises with the strongest knowledge bases. These technological gatekeepers, firstly defined as such by Gambardella (1993), are often difficult to identify, in the absence of institutionalized role, and as their position often results from highly informal interactions within and outside the cluster. They are nonetheless vital connection nodes between intra- and extra-cluster knowledge systems, and, therefore, may positively impact on the cluster absorptive capacity. Further research also concluded that they may also opt for not transferring the acquired extra-cluster knowledge to the other clustered firms (Giulani, 2005).

1.8 Global Value Chains & Upgrading Perspectives

Upgrading and value chains can be of different types (Humphrey and Schmitz, 2002)[6]. Value chains can be coordinated through arm-length relationships, meaning that buyers and suppliers do not enter in close relationships and that the goods produced are relatively standard, or through hierarchical governance, in which the lead firm takes direct ownership of some operations in the chain. In between, there are two other important types of coordination: networks, that bring together partners with complementary assets and in which firms cooperate in a relative information intensive mode, often dividing essential value chain competences between them; and there is quasi hierarchy, in which there is asymmetry of power in favour of one party. In quasi hierarchy relationships, a few firms exercise a high degree of control over other firms in the chain, usually specifying the features of the product to be manufactured, and sometimes also the processes to be followed and the control mechanisms to be enforced. A large majority of producers in developing countries find themselves in asymmetrical relationships with their buyers and this inequality transforms relationships and upgrading strategies, producers enjoy considerable advantages in some type of upgrading, but encounter barriers in others. Both the 'collective efficiency' and the global value chain approaches emphasize the crucial importance of upgrading to face increasing competition, as well as the role played by governance in upgrading. However the two approaches consider governance operating at quite distinct loci, with different implications for learning within chains and upgrading opportunities for developing countries firms. In the literature on global value chains, knowledge required for upgrading flows through the chain. Local producers, which may be clustered or not, learn from global buyers about how to improve their production processes, attain consistent and high quality, and increase their speed of response, while the 'collective efficiency' approach focuses on the intra-cluster knowledge system.

The global value chain approach appears de facto also valid within vast emerging nations such as India or China, where quasi-hierarchy is a frequent coordination mode between domestic enterprises. Powerful lead firms undertake the functional integration and coordination of nationally dispersed activities; by exercising this governance, they play a crucial role in determining the upgrading opportunities of producers, and, by extension, clusters. The geographical dispersion of the production and distribution systems as envisaged by the global value chain approach means that firms, or clusters, specialize in a narrow range of functions. More particularly, firms in developing countries or in underdeveloped regions may be specialized in labour intensive production activities with low added value and income, and excluded from product development, marketing and branding where the high added value is. The process of acquiring new functions and capabilities in these latter activities is critical for upgrading. East Asian garments producers have successfully followed this path, they moved from assembling garments made of imported inputs to increasing local production and sourcing, and continued their upgrading with the design of garments for brand names, to conclude with the sales of their own branded merchandise on a global scale. In other value chains, notably the footwear industry, global buyers appear to discourage, even obstruct

[6] A particular emphasis was put on Humphrey and Schmitz' value chain analysis, as coordination modes impact upgrading perspectives of firms involved in global value chains as of enterprises involved in value chains limited to a national territory.

upgrading to higher added value activities. The acquisition of such know-how would encroach on the buyers' core competences and plausibly result in a halt of collaboration, meaning sometimes the full loss of income, a risk that can with difficulty be confronted by any entrepreneur. Suppliers become tied into relationships preventing them from functional upgrading, and often also from diversifying their client base, leaving them dependent on one or a few powerful buyers.

The influence of external powers varies function of the chain organisation and with the type of upgrading considered, which may be classified in three main types: *process upgrading* which involves a more efficient transformation of inputs in outputs by reorganizing the production system or adopting superior technology; *product upgrading*, supposing the move to more sophisticated product lines, with increased unit values; and *functional upgrading*, which means the acquisition of new functions or qualifications to increase the overall skill content of activities, and which may also mean the abandon of existing ones. Another type of upgrading is *inter-sectoral upgrading* with the move into new productive activities. Different forms of chain governance have varying upgrading implications. Involvement in quasi-hierarchical relationships offers very favourable conditions for production processes upgrading, but hinders functional upgrading in more remunerative activities of the value chain. Participation in networks reduces the speed of production upgrading, but is more favourable to functional upgrading. Chains characterized by networks offer the best conditions for upgrading, but are rare in developing countries, where firms have generally insufficient knowledge and skills to satisfy the full value chain requirements.

Several reasons motivate the choice of quasi-hierarchy as coordination mode in value chains. In labour intensive activities, such as garment production, buyers are outsourcing as a means of reducing manufacturing costs. New suppliers are requested to comply with standards unknown to them that generally do not (yet) apply in their market, and may need active management from their buyers, including specifications and enforcement of parameters related to product design and production processes. The supplier's poor knowledge base and dependence on the buyer result in a quasi-hierarchical relationship. The increasing concentration of the retail sector is another factor at the origin of such a hierarchy within a value chain. Retailers play an important role in product development and branding, and competition based on product differentiation and innovation leads to customized, complex interactions and asymmetric relationships between buyers and suppliers. The increasing focus on safety, labour and environmental standards, also results in the emergence of credence goods, of which the features cannot be easily verified at the point of production; these products require greater monitoring to guarantee the presence of the claimed characteristics and convince customers, and are particularly prevalent in segments of the food industry and increasingly in the retail market. This normative pressure is not only coming from consumers and non-governmental organisations, but also from governments, and it is most likely to lead to the close monitoring and supervision of production and management processes which characterize quasi-hierarchical relationships. Task complexity increases with product customization and cannot be obtained readily from intermediaries and alternative suppliers. The emergence of low inventory supply systems and the trend to reduce time to market intensify pressure and coordination needs. Where the risk of suppliers' failure in meeting requirements is low, coordination is likely to take the network form, where the risk of failure is high, quasi-hierarchical relationships will develop. Chain governance is nonetheless

dynamic and constraints to functional upgrading may be temporary. Power is relational, and the exercise of power by one firm depends on the powerlessness of the other enterprises in the chain. Suppliers may explore new avenues and acquire new skills, leading to changes in power balance. Quasi-hierarchy is also costly for the lead firm as the level of transactions is high, and leads to inflexibility because of transaction specific investments. However a prerequisite for upgrading is the strategic intent of the firms involved. Without investments in equipment, organisational innovations and people, no upgrading of any kind is conceivable. The East Asian experience in the textile sector shows such intent: firms, including SMEs, invested in the required capabilities. The emphasis on inter-firm relationships in the cluster debate and regional science highlights the concern with what goes on inside the firm. Where strategic intent exists, various ways to escape quasi-hierarchical relationships can be envisaged: to use the knowledge acquired in these relations to supply new markets with possibly less uneven collaboration terms. The organisational set up for satisfying the requirements of the quasi-hierarchy chain lead firm may constrain such a strategy. Manufacturing to tight specifications generally builds up narrow and highly sophisticated capabilities, and developing new market linkages may require additional competences, which will need to be acquired by the producer. Another option for upgrading is to move into activities which the chain lead firms are willing to relinquish. Which form the new relationships may take and how far upgrading may be effective will depend on the type of buyer and investment capabilities. Buyers considering sourcing as their core competence are unlikely to leave the management of their supply chain to their suppliers, to the contrary, lead firms with marketing and branding as core competences are less likely to retain this role. A reasonable assumption is that greater the leap in upgrading, the less likely the existing knowledge bases and linkages suffice. Firms must then rely to a greater extent on local and national sources of innovation.

1.9 Innovation and Localized Development

Upgrading in process and in product respectively means the launch of new processes, new for the enterprise and/or for the market, or the reorganisation of existing ones; and of new products, which may be existing ones that were re-invented or re-designed, or fully new ones; upgrading is thus innovating. Innovation is increasingly viewed as fueling economic growth and as a determinant factor in the process of value and wealth creation; it is said to be the materialization of creativity, it means novelty, uncertainty and risk, and it requires a stimulating environment, in which the probability of a chaotic situation is low, to transform in productive capacity without threatening the survival of the enterprise (Saint-Pierre and Mathieu, 2007: 61). Empirical researches stated that innovations are mostly happening because of social needs and that they may take place under varied social conditions provided that suitable organisational forms exist locally, and that communication is fluid, knowledge is diffused and skills are present.

1.9.1 *The Spatiality of Innovation*

Space appears far from neutral in the innovation process, as stated by Alfred Marshall (1920: 225): ‘when an industry has thus chosen a locality for itself, it is likely to stay there long: so great are the advantages which people following the same skilled trade get from near neighbourhood to one another. The mysteries of the trade become no mysteries; but are as it

were in the air, and children learn many improvements in machinery, in processes, and the general organisation of the business have their merits promptly discussed: if one man starts a new idea, it is taken up by others and combined with suggestions of their own; and thus it becomes the source of further ideas'. Developing on Marshall's observations, several studies have highlighted the existence of a relationship between spatial clustering, knowledge spillovers, learning and innovation capacity. Innovation is intrinsically linked to knowledge and learning, the creation of knowledge is integral to the competitive dynamic of the economy; much of this dynamic rests in the capacity of the firms to create new commodities and new ways of producing them. Analysis of innovation in order to identify success or failure factors must then not only include the enterprises' resources, but also, their organisational development, their strategy, their working methods and their behaviours, notably their interactions with other economic agents (Olson *et* al., 2001). Innovation is a collective process that involves the synthesis of different types of knowledge, and there is a crucial difference between information, which is codifiable and thus can be traded and transmitted, and tacit knowledge in the form of know-how and skills that cannot be so codified and diffused. In line with this statement, Landry and Amara (2002, 18) concluded that 'innovation not only depends on the use of tangible factors such as financial resources and advanced technologies, but increasingly depends on the firm use of intangible factors.' Intangible factors pertain to the way of mobilizing knowledge associated as much with factors internal as external to the enterprises. Internal intangible factors include the intellectual capital of the enterprises, in particularly the characteristics of the working force, R&D activities, the technological capital and other contextual elements; external factors comprise the knowledge bases of the clustered enterprises and the intensity of use of external knowledge linkages.

1.9.2 *Measures of Innovation*

The most common measures of innovation are: the R&D budget for product development, the possession of patents or registered trademarks, the rate of new product introduction, new for the firm or new for the market. The two first measures listed are inadequate for SMEs; and patenting also appears an inadequate mode of protecting intellectual property in developing countries, where such valuation and administration of knowledge remains generally unknown, and innovations are kept secret in the family realm. SMEs do not always measure formally the funds invested in R&D activities, unless there is a fiscal incentive, and their R&D processes are also often diffuse and unorganised. SMEs' innovations are also often not patentable, or entrepreneurs are reluctant to patent them for various reasons. Administrative requirements often do not suit their reality and the obligation to reveal certain strategic information can place them in a situation of vulnerability relatively to more resourceful competitors. Formal R&D activities may not be a condition for innovation in structures of reduced size. On the other hand, R&D can be useful as much for product development as for maintaining or increasing the skills to absorb and exploit external knowledge. R&D activities do not only aim at producing innovation, but can also be oriented towards the imitation of a new technology or process, and its diffusion in the enterprise. Research has shown that R&D personal contributes to the enterprise creativity, stimulates external interactions and increases the use of rich sources of information, which are crucial in a context of uncertainty (Saint-Pierre and Matthieu, 2007).

1.9.3 *Micro, Small and Medium Enterprises Innovation & its Financing*

Innovation requires financial resources that generally remain inaccessible to SMEs and even more so to micro-enterprises (micro-enterprise innovation in the extent that the introduction of proved technologies is also considered as such), which constitute the bulk of economic agents in developing countries and are essentially the fact of the poor. Financial institutions are often unable to determine the risk level of small size enterprises' innovation, or they only partially understand its development process. Banks prove also rarely interested in the credits of generally low amounts requested by such firms. Other causes to the absence of conventional financial services to small and micro-entrepreneurs in developing countries are that geographically dispersed credits, without real guarantees, are not profitable for banks submitted to immediate return constraints and to prudential ratios. Micro-credit is an alternative to conventional banking for financing small and micro-enterprises upgrading in developing countries and the group is the basic unit of the approach. Through micro-credit, actors without resources, excluded from conventional circuits, can access the funds necessary for their upgrading[7] (Mayoukou, 2007; Servet, 2007). Advantages of micro-finance relatively to the conventional lending system are, on one hand, the decrease in transactional costs, on the other, its higher adaptation to the reality of the poor, from a cultural and psychological perspective, and from an economic point of view. Inertias, organisational rigidities, lack of resources and of education remain nonetheless obstacles to the prompt diffusion of this relatively new financial product among the poor (Mayoukou, 2007: 336). A partnership may also be considered for accessing the financing needed for innovation; the majority of developing countries' enterprises being family run, the family members remain generally reluctant to such foreign interference. The only attraction for such a power dilution is access to technology and know-how transfers at the best possible conditions in order to strengthen competitiveness and enter export markets (Régnier, 2007). If an enterprise succeeds in accessing venture capital, it will find itself confronted to a "partner" shareholder, the relation thus created, between the SME and the venture capital company, implies ad hoc innovations in the commercial, financial, technical and managerial fields (Eloundou, 2007: 273). Larger firms remain nonetheless more prone to develop partnerships, since they are generally more sensible to the advantages that these can provide (Tether, 2002).

---

[7] Micro-credit is one of the solidarity finance instruments designed during these three last decades, notably by Muhammad Yunus and the bank that he created in 1983 in Bangladesh, an endeavour for which he received a Nobel Prize in 2006. The solidarity dimension makes reference to the social integration enabled by proximity saving and credit. This solidarity is simultaneously horizontal and vertical, respectively between members, and between members and financial institutions. Support is an integral part of solidarity finance, and it enables to reduce the default risk of actors involved in micro-activities, since only a trust and proximity relation may sometimes spur on to reimbursement. Micro-credit particularity resides in its small amount relatively to the credit that an enterprise may seek from a bank. The World Bank refers to a ceiling of 30 percent of the GNP per capita, which in India is approximately equivalent to $ 780 (based on a CIA GNP per capita 2007 estimate: $2,600, cf. https://www.cia.gov/library/publications/the-world-factbook/geos/in.html#Econ) (Lelart, 2002). Micro-credit aims at the poor and may be sought for any purpose, it is nonetheless generally sought for revenue generating activities; it is, in this perspective, a poverty alleviation tool. Moreover, micro-credit is granted without guarantee, the only guarantee is the group. The group members commit themselves mutually to reimburse the credit, if one of them fails to keep his commitment. This guarantee substitutes to collaterals which the conventional banking system usually requests. A dynamic incentive for reimbursement is to increase progressively the amount of credit, if the first amounts made available were timely reimbursed (Mayoukou, 2007: 331).

1.9.4 *Obstacles to Innovation*

Innovation leading to the best profit is evidently not necessarily the one that aims at maximizing social satisfaction. Enterprises have innovation opportunities and needs that do not necessarily correspond to social necessities; firms first serve their own objectives and only indirectly those of society, and rationality at the micro-economic level does not necessarily match macro-economic considerations (Gern, 2007). The increasing linkages between, on the one hand, governmental agencies and research institutes, and, on the other hand, industry, lead society to take an active part in the enterprises innovation activities and risks. This interference may result in the non-convergence between the opportunity to undertake and social values, and is a source of counter-power: civil society organises itself and protests take place. Dialectic emerges between innovators and representatives of the social reactions, which may develop in a fair risk assessment, but, if politicized, can also result in the neglect of promising innovations, or open the door to hazardous endeavours. Social pressure is not the only factor that might hinder innovation: if finance is available, this doesn't mean that producing firms have the financial resources and consumers the revenues that would enable the use of potential profitable innovations. The path of innovation is not unidirectional, and structure of revenues and social hierarchies matter. Innovation can also be constrained by the higher returns of proved methods and products, it becomes above all reality when existing production processes and technologies are obsolete, and it happens more easily in new geographical spaces than in regions more engaged in earlier production modes, as younger firms appear keener to have the required characteristics of adaptability, efficiency and flexibility, which have a propensity to soften with the strengthening of market position (Saint-Pierre and Mathieu, 2007). The stability of the institutional environment is currently perceived as a prerequisite for progress in entrepreneurship and local innovation. Institutions appear supportive to plan coordination optimization, they reduce the risk of a cumulative instability of interactions and of an increasing volatility of individual actions[8] (Lachmann, 1986; Lecocq, 2007: 52). Institutional intervention seems nonetheless to impact negatively the propensity to innovate, which is best stimulated in a context where agents remain free of their choices and strategies (Gern, 2007). The growing damages of economic activity on the environment also result in an increasingly constraining relation between ethic and innovation. Global warming suggests that economic agents will increasingly be forced to integrate the limited availability of natural resources in their production processes, but what may effectively appear as a priori constraining is certainly also the source as much of innovation in processes and products, as of innovative policy.

[8] Enterprises, engaged in production and innovation, are facing difficulties with coordination and temporal problems of activities and resources management. Coordination is a discovery process, a progressive process of knowledge acquisition; the heterogeneity of economic agents, the divergence of their anticipations and their differences in interpretation hinder a mechanical relation between coordination and knowledge. In a context of uncertainty or even of ignorance, the compatibility of plans is necessarily fragile and unstable. Coordination is no more linked with balance, but becomes an issue of controlling successive imbalances in order to maintain a minimal framework in which the economic agents can realize their investments and productive projects, cf. Lecocq, 2007.

1.10 Institutional Lock-in & the Questioning of Learning and Collective Efficiency

Many clusters appear unable to adapt their development strategy because the institutional bases of the region reflect the past dominance of now declining firms and sectors. This possible 'institutional lock-in' (Grabher, 1993) highlights that 'institutional thickness' is insufficient for successful regional economic adaptation and innovation, as it may constrain rather than facilitate processes of collective learning and change. The emphasis on knowledge and learning, and their institutional bases, may lead to a neglect of other institutional factors that underlie regional competitiveness. 'Learning firms' within a region may be successful economically and the institutional structures of a 'learning region' may both be produced by and facilitate the reproduction of 'learning firms', this nonetheless does not equate to an egalitarian socio-economic regional development. The greatest competitive advantage is conferred by tacit knowledge, and successful firms and regions should guard it jealously. If, however, firms learn via producing and protecting such knowledge, and if regions learn the same way, uneven development within regions and their social groups is unavoidable (Hudson, 1999). Social inequalities are persistent features of the historical geography of capitalist production[9], and modes of development appear constrained by the continued existence of the structural logic inherent to the contemporary organisation of the economy. Growth, and hence development, is driven by competition and search for profits, it must therefore remain uneven – socially and regionally, it can be based on less rather than more divisive guide lines. Social structure cannot be ignored in the production and diffusion of knowledge. Learning and knowledge production are insufficient for guaranteeing equality and cohesion, and they are crucial issues about who controls knowledge production and learning, which suggests the need for the development of institutions to enable firms and sectors to evolve successfully, in other words, to support their performance while ensuring sustainable and redistributive growth. Firms have a wide panel of possible approaches to production, equally, there are a variety of forms of development models, nationally and regionally, indicating that there is room for the definition of regional development strategies. The wide body of work on clustering and regional growth mechanisms can only be supportive of developmental policy, and offers the scope for innovative strategies; it also highlights the need for developing adaptive programmes able to integrate local socio-economic factors handicapping or hindering performance.

1.11 Classifications of Clusters & Policy Options

Clusters differ from one another depending upon their location, their history of emergence, the nature and organisation of their production, and their markets. A broad distinction may be set between clusters on a high or low road to growth, respectively between clusters where commercial dynamism is promoted through investments in efficiency enhancement and innovation, or clusters where firms adopt strategies based on cost reductions, notably in labour, resulting in the stagnation of productivity and growth. The high road to growth is current in developed countries, where the national regulatory framework and certain formal regulation, often devised at the cluster level, prevent from unfair business practices. Low road

[9] Successful regional economies in the 19th century, notably the British industrial coal districts, were certainly learning regions, including learning firms, they were also deeply socially divided ones, cf. Hudson, 1999

strategies prevail in developing countries, some clusters show a combination of the high and low roads to growth, but none is on an entirely high road. Schmitz and Nadvi (1999) propose a distinction between incipient and mature clusters, the former are characterized by an early stage of industrial development, usually located in rural areas, producing for the local market with simple technologies and skills, the latter are often more advanced in terms of technology and skills, they often export, and are thus vulnerable to global competitive pressures. Clusters may also be defined function of their dynamism, as seen in the discussion about knowledge systems, agglomerations of firms with weak knowledge bases and low dynamism may thus be qualified as static, in opposition to dynamic clusters, where the level of interactions and knowledge flows is high and growth occurs (Giuliani, 2005).

A South American study of clusters (Altenburg and Meyer-Stamer, 1999) identified specific policy for three types of clusters: survival clusters, regrouping micro and small enterprises, more advanced clusters of mass production producers and transnational companies' clusters and their suppliers. According to the study, survival clusters deserve government attention because of their employment creation potential; other authors believe that they provide a source for entrepreneurship and growth. Emphasis on the development of networks is a priority for these clusters, and the identification of common issues and of the means to solve them collectively may provide a basis for local cooperation and facilitate the emergence of new productive interactions. Policy for more mature clusters should aim at promoting innovation and technological upgrading. These more mature clusters have generally a higher number of associations representing the interests of the different stakeholders; this feature nonetheless does not mean that government action is superfluous, as the often increasing differentiation between stakeholders going with growth generally results in a higher rate of conflicts (Schmitz and Nadvi, 1999). The state role should then be the one of a mediator and facilitator, a conclusion implying strategic focus on local governance.

1.12 Policy Considerations

Most regional studies conclude that cluster development policy need to be customized to local socio-economic settings to be effective, the performance of clusters being function of the specific features of the localities where these live, in other words, of their embeddedness in the locality. Spatiality of a cluster has a strong reference to the level of regional developments that determines the cluster accessibility to social and economic infrastructure. The dynamism and the performance of a cluster, thus its potential to upgrade and innovate, appears closely related to the level of development of the region where it is located, suggesting that policy intervention for cluster promotion must be envisaged in the broader context of regional development. The macro-policy environment may influence the cluster directly and indirectly. Governmental investments in infrastructure and the promotion of social sectors such as health and education, and the regular provision of electricity may have far reaching impact upon cluster development paths and their functioning. The high level of poverty prevailing in small and micro informal structures of the developing world makes clusters of such enterprises the focus of poverty alleviation policy, this propensity also means to have to deal with their reluctance or inability to pay taxes, and to conform to labour and environmental standards, which may undermine other crucial concerns about pertinent strategies for reducing poverty through increased employment and development, and improved governance. Governance is

central to the generation, transfer and diffusion of knowledge, and it has been particularly stressed as a source of competitiveness by regional science, market dynamics being perceived as insufficient to achieve growth along the high road. The problems at the origin of poverty are often complex and the results as much of economic factors, than of social and politic determinants, meaning that cluster development agents and business development services (BDS) *per se* will be unlikely to reduce regional poverty or structural backwardness (Brown and Cord, 2000). A sectoral or sub-sectoral and limited intervention appears thus insufficient for tackling regional structural constraints; the pro-poor impact of such policy will nonetheless depend on the number of poor involved in a clustered activity relatively to the total population of a locality or region. Certain fiscal measures and financial incentives such as excise tax exemption, low interests rates, financial support for investments in fixed assets and the provision of cheap land can certainly be supportive of entrepreneurship and regional economic development. Of particular relevance is the provision of micro-finance to micro and small enterprises on flexible terms. The role of the national and regional states is central in identifying the right catalysts and fiscal instruments which will support a cluster growth. Policy and decision makers have to opt for an optimal degree of state intervention, as well as for where to locate these powers to provide the most favourable environment for integrating in the global economy while ensuring an inclusive growth that lasts.

2. Indian Clusters and Cluster Development Policy

This section about Indian clusters and cluster development policy begins with macro-economic and policy considerations, to continue with an introduction to India SMEs, which represent the core of manufacturing employment and essentially operate in clusters. The features and trajectories of five localities representative of the Indian context are then explored, with a particular focus on the labour issue. The Agra Footwear cluster and an Orissa Filigree cluster are first investigated; these regroup artisans and highlight the divide between traders and producers which may be observed in a large majority of Indian artisan clusters. The study of the Tiruppur knitwear cluster follows and reveals that a demand-led growth does not suffice for ensuring a high road to growth. The role of 'collective efficiency' in shaping the trajectories of the Tamil Nadu Palar Valley leather clusters and an Uttar Pradesh saddlery cluster is then briefly investigated. Their experiences confirm that the advantages which may result from the combination of local externalities and joint action remain generally skewed in favour of already leading firms in the Indian context. The investigation of two CDPs concludes the section; the former was deployed in the Jaipur block printed textiles cluster from 1997 to 2001, under the aegis of UNIDO, and is designed around the building up of social capital, and, subsidiarily, capability building and access to credit; and the latter was implemented from 1998 to 2003 in the Athani footwear cluster in Karnataka by a group of different BDS providers and government institutions, and is based on an approach labeled Group Enterprise, which posits the artisans as the leaders of change.

2.1 Policy, Macro Data, SMEs & Clusters

.

By liberalizing its economy in 1991 and by adhering to the World Trade Organization (WTO) and free-market rules in 1995, India opted for a liberal trade system contrasting strongly with the socialist option rooted in Gandhian ideology that prevailed since 1947, in which protectionist and anti-concentration measures, as subsidies were the rule. Anti-concentration measures aimed at preventing the concentration of capital and power; the policy led to the proliferation of SMEs in all industrial sectors, as illustrated by their high growth in number: organised sector units multiplied eight fold from 1973-74 to 2000-01, reaching then 3.37 million. The value of production in current prices has increased from about Rs. 72 billion (approx. $ 1.6 billion at current exchange rate) to 6'455 billion during the same period (approx. $ 142 billion) (Government of India, 1997). Small enterprises constitute the backbone of industry and the lifeline of the Indian process of industrialization and development, with 80 per cent of manufacturing employment in 2000-01 and a contribution to the gross manufacturing turnover of over 40 per cent and to total exports of 35 percent. According to a 2004 Asian Development Bank (ADB) publication, industrial SMEs are 12 million in India, including informal units, and their production represents 95 percent of the total manufacturing output. A remarkable aspect of this sustained growth is that the capital productivity of the sector has generally been superior to that of large firms, this at least during the 1980s and 1990s decades. The recent achievements of SMEs prove nonetheless less probing, as domestic large and medium industries have commenced sourcing their inputs through cheaper imports (Viswanath, 2008). A large proportion of Indian SMEs operate in clusters, and a 2007 account indicates 400 industrial SMEs and 6000 rural and artisan based clusters (UNIDO, CSF Evaluation: 20). Case studies reflect their functional dynamics at a relatively low level of technology and capital, and at a

high level of labour intensity, and they are hence relatively open, that is that the markets in which they operate may be entered at rather low costs by outsiders (Bagchi, 1999). Indian clusters may exist since a few decades or several centuries, and may cater to the local, regional, national and international markets. The country represents a large segmented domestic market for products differentiated by quality and price, resulting in clusters characterized by a considerable diversity of products and quality standards. Handicraft products, including handloom goods, have historically thrived in clusters by serving mainly the local and regional markets, and high added value products were generally manufactured under the patronage of local elites. The progressive elimination of protectionist measures and subsidies, and the growing competition from imports, posed new challenges to Micro, Small and Medium Enterprises (MSMEs), and necessitated a full restructuring of the institutional set up towards enabling their upgrading. The need for product customization and the importance of quality and of other global standards, notably environmental and fair trade norms, were assessed by policy makers. Developmental strategies were adapted, and keep evolving with the implementation of numerous projects throughout the country under the aegis of government and/or international agencies, and NGOs. Organisations deploying CDPs were estimated to be 35 in 2007 (UNIDO). Clusters – not considered as such by previous policy - are required to develop networking with service providers, such as designers, merchandising and marketing consultancy firms, as well as financial institutions, in order to increase their dynamism and performance. Emphasis for achieving a competitive edge is on the building of social capital and upgrading skills, processes and quality (Das, 2005).

2.2 Indian Clusters and Informality

Clusters in India often draw their sustenance through informal functioning. The Factory Act submits enterprises of the organised sector to various obligations and permits unionization of workers. Operating in the informal economy, a possible strategy up to ten workers, or twenty if production is carried without the aid of power[10], allows avoiding the law and its obligations, and ensures flexibility in workforce and remuneration according to demand and priorities. A primary feature of informality is the non-existence of contract, and informal sector units also often do not hold accounts, and when records are kept, they do not necessarily reflect the reality. Capital requirements of informal units are generally matched through internal sources, suggesting that these are able to generate surplus, and the human capital generated by the informal economy is substantial, notably through traditional apprenticeship (Unni and Ranni, 2003). Informal activity consists primarily of unregulated but productive activity, generally viewed as a survival activity of the very poor. Self-employed workers constitute a major portion of the informal sector, and their earnings as benefits are inferior to those of the organised economy. Their contribution to the economy is often underestimated, because of the difficulties of assessing what constitutes productive work and how to measure production (Sudarshan and Unni, 2003). Empirical studies stressed the high degree of informality that also prevails in labour arrangements within the organised sector (Unni and Ranni, 2003), where the lowest wages are often below the legal minimum (Das, 2003). There is in fact a heterogeneous informal labour market on its own; and informality may be embedded in the production sphere,

[10] <http://labour.delhigovt.nic.in/act/html_ifa/page1&2.html>, http://www.smallindustryindia.com/ssiindia/lframe.htm and also <http://www.vakilno1.com/bareacts/factoriesact/factoriesact.htm>

in the flouting of fiscal and/or environmental regulations, in the markets and networks, and it results in accrued net profits for the firm owners or job givers. It manifests in the form of invisible work, meaning a large number of irregular workers, including children, unsafe and unhealthy working conditions and precarious terms of employment. Increasing casualisation of the workforce, especially in micro- and small enterprises, renders certain sections of workers, the young, old, handicapped, sick, illiterate, migrant and women, vulnerable even when clusters are experiencing a dynamic growth. The non-labour aspects of informality may be found in copying trademarks, brand names and designs, the non-payment of excise duty, compromising on the quality of inputs and unscrupulous firm practices. Since informal employment is outside the regulatory framework, it is assumed that informal units do not pay taxes or contribute in any way to the resources of the state. Research however highlights that informal enterprises pay fees to continue their activities, 67 percent of these taxes were collected illegally in Ahmedabad during the year 1995-1996 (Unni and Ranni, 2003). Informal practice often holds the key for understanding the dynamic of an Indian cluster as of local innovation. A revision of the Factory Act is an option for a change in entrepreneurial behaviour. The scope of reform is nonetheless limited by the high opposition that would possibly raise such a modification of the law, considering its potential of ending the relatively high economic rents resulting from the actual environment; and it would also not suffice for ensuring enforcement, as suggests current general practice. A concomitant review of the overall judicial system that would enable effective enforcement appears to be a prerequisite, such an institutional re-vamping requires time, and alternatives need to be deployed in the meantime.

An alternative to legal reform is to integrate the informal economy into the overall development process, as successfully attempted by the Self Employed Women's Association (SEWA) and Basix[11], at a later stage. The objective of SEWA, an Indian NGO formed in 1972, is to provide full employment and job security to women active in the informal sector. In line with SEWA's mission, Basix started operations in 1996, with the aim to promote a large number of sustainable livelihoods for the rural poor and women, through the provision of financial services and technical assistance. Emphasis shifted from development strategies based mainly on economic growth, to strategies focusing on employment creation and poverty reduction. The Indian government financial means were up to recently too weak for the provision of a social security coverage based on citizenship, a common formula in Europe. In order to palliate to this absence of state, SEWA, Basix and other less known organisations, launched micro-insurance[12] schemes, currently named Community Based Health Insurance Schemes (CBHIS), intended to the workers of informal units involved in their programmes, this generally in partnership with private sector specialists such as, notably, AVIVA, ICICI Lombard (World Health Organization, undated). Strong of the success of this innovative approach, the Indian government introduced a health insurance scheme intended to the workers of the informal sector late 2007, with the proposal to bear a majority percentage of the premium, an initiative which was already taken late 2005 in the handloom sector after previous unsuccessful attempts (Ministry of Textiles, 2001; 2006). Access to the schemes, as to other benefits, remains an issue

[11] cf. http://www.sewa.org/ , and also http://www.basixindia.com/

[12] Spontaneous subscriptions to micro-insurance policies covering risks such as death, accident, natural calamities and loss of goods can be observed, as well as the regular settlement of premiums. This recent insurance trend gives the poor the opportunity to increase his autonomy relatively to the previously prevailing traditional vote-catching relations, where economic and social considerations were closely intertwined; a development suggesting that the social and economic spheres will in the future increasingly diverge, cf. Baumann, 2007

for the poor, considering their generally low educational background and limited access to information; and local NGOs with reduced means have often insufficient human capital for the provision of effective support, and interactions with foreign counterparts are constrained by language and local specificities, which developmental models struggle to integrate. A new social phenomenon however supports this relatively recent insurance trend: the development of networks linking rural residents and urbanites; these networks are deeply embedded in a social nexus and generally based on caste[13] or religion, and they serve as social security in difficult times and are often crucial for obtaining employment or financial support (Jacobson, 2004).

2.3 Joint Action for Meeting the Globalization Challenge

Indian clusters must today align on international standards in costs and quality, and on environmental and ethical norms, such as fair employment and remuneration, and the non-employment of children. These constraints suggest a greater need for joint action between firms, and the most appropriate means for increasing interactions appear to be through regional associative structures, as notably highlighted by the Third Italy clusters, and the surgical instruments cluster of Sialkot in Pakistan (Nadvi, 1999), and the Palar Valley leather clusters in India (Kennedy, 1999; 2005), which will be briefly investigated under the title "Collective Efficiency in Tamil Nadu Leather Clusters & an Uttar Pradesh Saddlery Cluster". Clustered SMEs may opt for networking in order to make the most of the advantages that may result from the combination of the externalities linked to proximity and joint action, in other words, from 'collective efficiency'. While collective action at the network level may be perceived as well functioning, there is still a need to cooperate at the cluster level for accessing specific facilities such as basic infrastructure, fiscal concessions, the promotion of the locality brand image, and the state, at the national and regional levels, becomes here a business facilitator (Das, 2005). Clustering and such a business supportive ethos are however tempered by the high level of informality of the economy, and cluster responses to globalization vary within cluster and between clusters, all studies however agree on the fact that enterprises of which the interactions increase have a performance superior to the ones that remain isolated (Schmitz and Nadvi, 1999). Some studies also stated of the emergence of medium firms in the development process, which started to play a dominant role; their newly acquired position resulted in an increasing differentiation of the cluster stakeholders and appeared to be a source of conflicts (Knorringa, 1996; Schmitz, 1999). In India, joint action seems to generally remain confined to those with a shared community, caste, group or class identity, rather than to involve members of different communities, and clustering seems to only benefit the already leading segments of clusters (Smyth, 1992).

[13] According to the original Vedic myth, the social organ is the body of the first man, *Purusha*, of whom the body was divided into four *Varnas* or functional social categories. The Varna *Brahman* is born from *Purusha*'s mouth, and has the duty to study the Vedas, the founding texts of Vedism and Hinduism, and to make sacrifices for the two inferior Varnas in exchange of offerings. The Varna *Kshatriya* is born from the arms of *Purusha*, and has the duty to fight the enemy and to protect the other Varnas. The Varna *Vaishya* is born from the thighs of *Purusha*, and he cultivates and grows cattle for sacrificial purposes. The Varna *Shudra*, born from the feet of *Purusha*, has the duty to serve the other Varnas.

2.4 Artisan Clusters on the Low Road to Growth: the Agra Footwear Cluster & an Orissa Silver Filigree Cluster

Cultural embeddedness in India appears not to necessarily be a binding factor, but can also be the cause for a deeply devastating chasm through a regional industry, as shown by the Agra footwear cluster (Knorringa, 2005). The competitiveness of the cluster relies on the availability of cheap and abundant skilled labour, and also on its strategic location in the domestic market, ensuring facilitated access to country wide distribution networks. Inputs and machinery are available locally as well as services such as packaging, insurance and transport facilities. With regard to distribution, numerous agents are active and 225 wholesalers and retailers were identified in one specific area of the city. The industry, likewise many craft based clusters in south Asia, is characterized by a caste-based chasm between the artisan community that manufactures the products and a traders community that sells them. Footwear artisans occupy a sensibly lower social position than traders, this essentially because of the inherent feature of their work, which is to handle leather, a highly polluting material in Hindu orthodoxy. The artisan caste position blocks productive interactions with the traders and inhibits cooperation between artisans and marketing professionals, which is essential for functional upgrading and a development on a high road to growth, such as the adoption of a premium craft strategy. Ingrained cultural embeddedness acts here against enhanced performance. The study observes that over four fifths of footwear workers, that is 50’000 of a total of 60’000, manufacture low quality product under sweat shop rules. The leading firms minimize the cost of labour, a strategy proper to the low road to growth. The study highlights a strong heterogeneity of enterprises, to the difference of the Third Italy industrial districts, and a clear correlation between the type of unit and the market channel supplied. Head of households and home based artisans deal directly with commission agents and wholesalers. Small and medium workshops, managed by white collar entrepreneurs, work on order for larger commission agents and wholesalers. More modern set ups deal with large domestic firms, which may serve the national market and/or export to nearby Asian markets or farther destinations. Entrepreneurs are generally operating in one market channel, within which they may alternate transactions with different agents. The exception are a few leading enterprises led by local entrepreneurial families, which have integrated production facilities and also subcontract part of their production to smaller units and home-based artisans. The production of these firms covers the main market segments; they often have their own brand/s and also produce for others, and have relatives involved in the leather trade. Direct export units often offer better employment conditions, notably a higher degree of employment regularity. The large number of home-based producers has relatively low output and turnover, while the corresponding data is sensibly higher for modern manufacturing units. To continue on the actual low road would possibly lead to a further deterioration of the artisan employment conditions and downward pressures on an already meager remuneration, the challenge being to compete with mass and industrially produced shoes.

A comparable situation was stated in an Orissa silver filigree cluster (Chandra Kar, 2005), which suffers from the absence of adequate incentives to the artisan-producers. Working conditions and earnings are pitiable; artisans are in debt and barely manage an existence for their families, leading them to abandon the profession or to migrate to other states in search of employment. Despite jewellery’s high contribution to export and promotional efforts of the central government, notably through the Gems and Jewellery Export Promotion Council of

India, the Orissa cluster recent evolution highlights the apathy of the regional state and the lack of vision to revive the craft, despite its exclusive features and thus comparative advantage. The under-utilization of the artisan skills and of the potential that represent upmarket niches suggests that a shift to a higher added value production and the adoption of a premium handicraft strategy is feasible. Artisans would need to demonstrate adaptability, and fashion and quality consciousness, and build up their organisational, marketing and management skills. Surplus labour would still remain an issue, and policies to ease this surplus would have to be simultaneously implemented. So far such shift in strategy didn't materialize mainly because of caste based antagonisms, the obsolescence of technology and an unstable political setting.

Investments and strategic intent of the lead firms and institutional actors, crucial for securing upgrading, appear absent from both artisan clusters. For a shift in entrepreneurial behaviour, pertinent policy intervention appears crucial. Knorringa, author of the Agra footwear cluster study, sets the priorities for the national and regional governments as: first, the marketing of the locality premium artisan production at country wide scale; second, the strengthening of the cluster associations, as such organisations have proved highly supportive to growth, if functioning on the Italian model, that is if providing credit at favourable conditions, if supporting marketing, and if productive training are set up; third, the capability building of the artisans, through these latter associations and/or other structures, such as governmental agencies, NGOs or BDS providers; fourth, an institutional innovation that would enable to overcome the vivid chasm between traders and producers, which appears to be the major handicap to trust building and increased 'collective efficiency'. For Chandra Kar and in the context of the Orissa silver filigree cluster, upgrading would need interventions on various fronts, and he suggests a particular emphasis on the promotion of joint action, the definition of product standards, the obtaining of a Geographical Indication (GI)[14], the provision of credit, market access support and the artisan capability building, so that the overall activities of the value chain are taken on by the producers' community. In such circumstances, the role of the state should be more than that of a mere facilitator, but 'one which intervenes in a substantive manner to "collaborate" with the local artisan entrepreneurs'. The enforcement of law, associated to an environment conducive to business, also remains an area of intervention, which would need to be apprehended for ensuring the sustainability of outcomes.

2.5 Demand-led growth and the Labour Issue: the Tiruppur Cotton Knitwear Cluster

Labour and flexibility have been central to Vijayasbaskar's study of the Tiruppur cotton knitwear cluster (2005), acknowledged for its success on the export front. The cluster is a major concentration of cotton knitwear producers since the 1930s, and served essentially the domestic market with innerwear until the early 1980s, when export demand started to boom. Foreign demand originated essentially from Western markets, and rested on cheap basic t-shirts. The major change was the seasonality of demand, as demand for cotton products in the West peaks

[14] The Geographical Indication is a concept similar to the European "Appellation d'Origine Protégée" (AOP) or " "Indication Géographique Protégée" (IGP), designating, respectively, the naming of a food product of which the manufacturing, the processing and the preparation takes place in a determined geographical area with a recognized and stated know-how, and the naming of a product of which the link with the locality occurs in at least one of these stages; further more the product benefits from enhanced reputation, cf. http://www.ipindia.nic.in/ipr/gi/geo_ind.htm and http://ec.europa.eu/agriculture/qual/en/pdopgi_en.htm

during the summer months to be almost nonexistent during the winter period, a schedule meaning that most of the firms are only operational for six to eight months per year. Products diversified in the 1990s; t-shirts were still the cluster dominant product, but no more basic products, differentiation became the trend, and t-shirts started to be printed and embroidered, and dyeing quality improved. Producers also started to manufacture sports-, women and children wear, and these items constituted an increasing proportion of the cluster output. The global market for knitwear can be classified in three main segments: use and throw; casual wear and designer wear. Use and throw refers to the most standardized goods that cater to the low end segment; casual wear to relatively more elaborated designs influenced by fashion trends, thus less standard products; and designer wear is the premium segment characterized by customization and high quality. The Tiruppur cluster has been active on the first segment during the 1980s to then develop its activities on the second segment; the proportion of each segment relatively to total output was estimated to be respectively of 40 and 60 percent in 1996. The markets to which the cluster caters have increasingly become volatile over the years, western market summers are changing temporality due to climate change, and cotton sourcing becomes increasingly challenging for manufacturers with inflation and re-allocation of land for other uses, notably for biofuels. Seasonal fashion trends of export markets remain also generally unknown to producers, causing uncertainty. The comparative advantage of the Tiruppur cluster is its ability to produce small quantities of sophisticated products, starting with 25 units, as well as large orders up to 100’000 units, this at lower cost and time compared to competing Asian clusters. Some firms cater only to the domestic market, others also export directly, yet others only subcontract for lead firms, active in the domestic and/or export markets. Among the subcontractors, some undertake the complete production process, others limit their operations to stitching, the core step of the value chain. Stitching constitutes nearly four fifth of a garment production time, and pace and consistency in quality are crucial for competitiveness. Numerous units also operate in ancillary activities, such as bleaching, dyeing, printing, calendaring and embroidery.

Workers appear to have relatively low qualifications and no formal training. Before the export boom, labour was essentially sourced locally, with the rapid development of the cluster, it started to be increasingly sourced from farther regions. Employment of women and children became more common, these were already part of the workforce before the 1980s, and exports increased their incidence. Employment grew in existing functions and new roles were created, notably in ancillary activities and white collar functions. Migrant workers, and women and children are usually employed in ancillary occupations, while the “traditional” local labour remains active in stitching. The increasing need to liaise with banks, agents, buyers and state agencies resulted in the settling in of educated and mostly male white-collars. Workers are recruited informally and this either through labour contractors or directly by the hiring firms. Recruiting through contractors enables the firms to adapt workforce and thus production capacity as per market requirements. The practice was already prevailing in the 1970s and became dominant with the development of exports. Numerical flexibility and the lowering of production costs, notably of labour, appear as the main drivers of the lead firms’ strategy to compete, cooperation with foreign markets de facto increasingly led to the casualisation of the workforce. The process was facilitated by a captive local labour market without employment alternatives, and also by the increasing seasonality of demand, which made temporary migration current.

Remuneration for stitching when domestic demand prevailed was predominantly time-rated; payment on a piece-rate basis became the prevailing remuneration mode in the 1970s with the entry of merchant capital, a process which intensified in the 1980s with the growth of exports. Time-rated remuneration was again adopted by certain lead firms in the 1990s, with increasing focus on quality, the reversal remains nevertheless incomplete. Most workers in the ancillary units are paid on a time-rate basis and, interestingly, all the firms that cater to the domestic market pay today on a piece-rate basis. Labour in the sector has been highly unionized in the past, starting plausibly in the 1950s, and collective wage bargaining did prevail, this strength eroded with export growth. A factor at the origin of this erosion is likely to be the piece-rate remuneration system that dominated during the first years of the export boom. Since there were consistent variations from one order to the other, it appeared impossible to the cluster stakeholders to agree on a standard wage rate[15]. The growing proportion of women and children in the workforce also prevented unions from sustaining their bargaining power, leading to labour's weakening vis-à-vis capital. With the intensification of time pressure, the increasing division of labour among firms, the seasonality of the industry, and the entry of unskilled workers in the profession, the skilling process of the workers diminished relatively to the pre-export period, when work intensity was lesser and division of labour less rigid. Under these earlier conditions, most workers ended up as capable of undertaking multiple tasks and vertical mobility was current. Patronage of workers by entrepreneurs was then possible and associations of workers outside the caste networks for the setting up of a unit were current. Relations between entrepreneurs and workers became impersonalized with the casualisation of labour. Initial investment also increased over the years, due to the high prices of now imported machinery, and a sustained inflation in land prices with the cluster growth, factors that rendered workers' start-ups almost impossible. Only to those with land and pertinent caste networks are such avenues accessible at present; caste facilitates transactions among a community and also excludes those who are not part of it, meaning that the new situation may increase the marginalization of the poor by blocking upgrading perspectives. The introduction of new technologies and processes created a need for new skills, and impacted the mode of acquisition of existing skills and reduced the workers' vertical mobility. Vijayasbaskar's findings highlight that the working conditions of the workers improved during the first years of export growth and then deteriorated with the rising differentiation in products. Aiming at high end segments impacted positively on quality standards and thus on product and processes upgrading, the employment of migrant workers and the neglect of the labour issue however led to a low road to growth. Further segmentation restricted the scope for functional upgrading and increases in labour productivity, calling for a newer role of the state and unions.

2.6 Collective Efficiency in Tamil Nadu Leather Clusters & an Uttar Pradesh Saddlery Cluster

Looking at sociological factors and at the development of the leather clusters of the Palar Valley in Tamil Nadu (Kennedy, 1999; 2005), a high degree of cooperation between firms prevails, as shown by intense subcontracting among firms and the participation in collective

[15] In the majority of countries, remuneration of a subcontractor is determined by a price per minute (which is multiplied by three in the case of sampling) and an agreed production time per piece; accordingly, a solution in the present case could have been to decide on a price per minute and a minute range per type of garment.

institutional arrangements such as associations and common effluent plants. The lead firms also appear to have developed multiple extra-cluster linkages at the domestic and international levels, notably through their cooperation in the main local association. This supra-structure gives them access to information on markets and progress in technology, and enables them to express their needs to policy makers. Because of the polluting aspect of leather work for Hindu orthodoxy, a majority of the clusters' stakeholders are Muslims, and cooperation is enhanced by common religious believes and overlapping professional, personal and kinship relationships which reinforce each other. The success of the Muslim community is however a factor of communal tension between Hindus and Muslims in the valley, making overall regional progress fragile.

Cooperation and trust are characteristic of an almost exclusively export oriented saddlery cluster of Uttar Pradesh (Dwidedi and Varman, 2005) and play important roles at practically all stages of the value chain. Vertical interactions are numerous and horizontal ties are also present, these links span across community, caste and class, and develop only once the transacting parties have interacted sufficiently and have become accustomed to each other. A high degree of interdependence prevails, and cooperation is clearly based on the collective awareness of the need of reciprocal support to best serve the market and support the cluster performance. The effective use of the advantages linked to proximity nevertheless does not hinder a low road to growth for what pertains to the remuneration of labour, which again proves to be low, if not abysmally low.

2.7 Lessons Learned

Overall innovative trends, continuous quality improvement and good working conditions which characterize clusters of western economies, notably the industrial districts of the Third Italy, have not been identified in these studies of Indian clusters, highlighting the need for specific cluster development policy. The chances of an Indian cluster to follow a high road to growth appear minimal, social structure, the informality of activities and surplus labour hinder this development. The integrating role of local institutions appears less prominent than in developed countries, to the contrary, they seem to reproduce and often strengthen inequalities (Knorringa, 2005). Because of the often extreme differences in bargaining power between cluster stakeholders, benefits from 'collective efficiency' remain generally skewed in favour of lead firms (Smyth, 1992), and intense price competition combined with sweat shop working conditions are the most likely to prevail. This appears to apply to craft based Indian clusters as well as to less historically rooted clusters built on self-employment survival strategies in urban areas (Alam, 1994; Cawthorne, 1995; Knorringa, 2005), which de facto generally consist in artisans and farmers having migrated to cities in the search of employment.

2.8 Cluster Development Policy: Indian Experiences

In the late 1980s early 1990s, some international development agencies, notably UNIDO, started inducing pro-activity among and within clusters. This was attempted notably in India, Latin America, South-East Asia and China, among the developing nations, and in Denmark, Norway, the USA, and other industrialized countries. The UNIDO CDP in India, which was

initiated in the mid-1990s, is the first concerted initiative to induce dynamism in clusters through targeted collective action of selected groups of firms and service providers along with the involvement and also creation, if needed, of various, and mostly local and regional, associations. A Cluster Development Agent (CDA) represents the programme implementing agency and builds upon his/her neutral status to win the trust of the cluster stakeholders, who currently perceive each other only as competitors (Sarkar, 2005). The objective is to shift groups of enterprises to a framework of cooperation while competing. After relatively successful deployment of the UNIDO methodology, the Indian government opted to use it in the small scale industries, and handicraft and handloom sectors, and much of the Indian cluster development policy promoted in the 1990s and beyond emphasizes 'collective efficiency', and the role of associations and institutions (Das, 2005).

2.8.1 *Handicrafts and the Collective Efficiency Approach: The Hand Block Printed Textiles of Jaipur*

With development and changes in consumers' behaviours, traditional handicraft markets have given way to the high end segment of the domestic market and export niches. Artisans, unaware of the macro economic changes, continued to supply their local market this either directly or through traders, resulting in sometimes drastically falling returns. The issue was addressed by a UNIDO development programme in a block printed fabrics cluster in Jaipur, Rajasthan, from 1997 to 2001. The intervention was shaped by a demand-led perspective, and multilateral trust building, joint action and balancing of activities were among the implementation tools of the chosen strategy (Sarkar, 2005)[16].

Jaipur printers experimented declining earnings and working conditions as from the early 1950s, because of evolving market conditions and a major change in the acquisition mode of the fabric needed for printing. Demand started to progressively shift to cheap factory made printed fabrics and to a bulk purchase system. The process resulted in the impossibility for the majority of printers to pursue their earlier practice of small quantity buying, and fabric supply concentrated in the hands of a few, who succeeded in capitalizing during the previous relatively prosperous period of the craft. This transition phase paved the way to a new type of investors, technically knowledgeable or/and considerably literate, particularly prompt to acquire the needed expertise. These entrepreneurs ventured in marketing the printed fabrics in their own high end and often urban outlets or in those of others, and in developing exports. They have full control over production without ownership, and appear to provide better earnings to the printers. A suggestion for explaining this higher level of remuneration is the emphasis on quality and timely delivery, requiring higher qualifications, and plausibly also a compensation for keeping the secrecy of design. Indeed, the products developed by this category of traders have higher design content and are marketed as a utility art form, of which the uniqueness is promoted; a confidentiality requirement and a financial compensation for meeting it appears hence highly plausible. However and in the case of exports, many of these traders remained

[16] Interestingly the author named the reviewed cluster development programme the Cluster Development Approach, by choosing such a generic wording for defining the local UNIDO intervention, he assumed de facto that cluster development policy may only be designed around the building up of 'social capital', and 'collective efficiency', and supposedly as outlined by UNIDO, a questionable perspective, as will be highlighted with more in depth analysis of the Indian context.

dependent on their clients for the designs that could sell and to that extent their development as the cluster progress remained constrained. A few large firms also own and monitor the entire production process, and all stakeholders involved are wage earners or only dedicated to that unit, a system that maximizes the use of human capital. Competition is almost nonexistent with such organisation of production, which remains rare. By the mid 1990s, the cluster had reached a stage where it required a serious rethinking for further and sustainable growth. The major issues identified for intervention were:

- Market intelligence and development;
- Working capital support;
- Infrastructure support;
- Institutional support;
- The creation and strengthening of implementation vehicles.

The UNIDO intervention in the Jaipur block printed fabrics cluster can be broadly summarized in five steps[17]:

1. *The promotion of multi-lateral trust*: the creation of multi-lateral functional trust was the priority before initiating any activity, multi-lateral functional trust as full trust among all participants in an activity for information sharing related to that activity, a process led by the CDA. The creation of the desirable level of trust required the organisation of various activities among stakeholders, elementary activities such as joint meetings and the set up of workshops, to meso-level activities like grouping for credit purpose and joint export delegations, to high risk activities such as the creation of a handicraft village. The more complex the activity, higher the level of trust among stakeholders has to be.

2. *The promotion of local interest groups*: existing associations were identified and new associative structures created, if necessary, in order to best promote the business needs of the different local interest groups. These organisations were mostly operating in the areas of opinion and confidence building to best promote interactions with support institutions.

3. *The role of micro-vehicle-networks*: the implementation of diverse business activities, notably the development of market and credit linkages - was spearheaded by formal networks, such as Self-Help Groups (SHGs)[18] or informal networks of groups of

[17] This classification is greatly inspired by Sarkar's proposition, order was nonetheless reviewed, and an element was suppressed, namely the balancing of interventions, to be integrated elsewhere in the text.

[18] The first SHGs were formed in the mid-eighties and they are today several hundred thousands, estimated to regroup nearly 4.5 million members. In order to set up a SHG, a group of twenty people maximum must first decide to regularly spare a certain amount; the fund thus created then serves to satisfy the credit needs of the group members, or can also be deposited in a bank. It is only once the group has demonstrated its organizational capability during several lending cycles and its capability to spare that it becomes eligible for a bank credit, sometimes through the intermediary of an NGO. Lending conditions to the SHG members are then determined by the group itself and interest rates may vary from 12 to 60%. This mode of credit has several advantages relatively to the Grameen Bank model: group members have a greater autonomy, as it is not about duplicating a given model, and empowerment is sensibly enhanced, as participating partners are involved, and not simply clients. The fact that the sine qua non condition for a SHG formation is sparing nonetheless means that the most

enterprises under the banner of a macro-interest association.

4. *Start off with the weak point and expand to other areas*: an underachieving cluster has always a set of critical weaknesses which are crucial from a developmental perspective. For the Jaipur cluster, it appeared to be essentially marketing, the activities in the cluster thus started with marketing related training and intensified with the progress of intervention. As the cluster started maturing, capability building in other areas, such as credit, technical changes, the creation of infrastructure, and so on, also got initiated. The stakeholders are supposed to contribute to all activities.

5. *Macro economic impact*: this step stated the macro outcomes of the programme, which appeared holistic in nature and spoke for the creation or revival of associations, for the formation of linkages with institutions and also for firm level results.

Three broad categories of support activities were implemented, defined according to their foreseen duration: short, medium and long run activities. Short run activities require less than seven days to be planned and completed, medium run activities between one to three months, and long run activities more than six months. Categories differ according to cluster specificities, and activities may also vary in duration during their life time, an activity initially envisaged as medium run may evolve to short run with routine, the contrary evolution, from short to medium run, may also occur, due to re-assessment of needs or low efficiency. Short, medium and long run activities are not exclusive and may overlap, and the balancing of the number of interventions for the different interest groups is crucial, so as to ensure synergies in the development of activities and between stakeholders. Monitoring is carried out simultaneously to implementation. The UNIDO programme was planned with an ideal sequencing of activities as follows:

- *Year 1*: trust building activities and activities supporting the definition of the action plan;

- *Year 2*: the incidence of trust building activities is relatively low and action plan definition intensifies, while medium and long run activities slowly pick up, their implementation speed will depend on the already created trust capital;

- *Year 3*: Medium and long run activities pick up;

- *Year 4*: Medium and long run activities intensify.

If progress does not occur as planned, this decoded activity pattern may help to assess *a posteriori* the cluster maturity. The more year 1 interactions are fruitful and support trust building - a function of the stakeholders mindsets and their openness to change, earlier short

---

distressed populations can with difficulty access this mode of financing, which is not the case for the Grameen model, based on an initial credit. The SHG formula sensibly reduces management costs relatively to an external control, as required by the Grameen option. With the SHG model, the bank becomes a wholeseller in credit, which each group then cedes in a retail mode to its members. The SHGs fragility nonetheless resides in what makes their difference: their autonomy. With the Grameen model, the bank is the fundamental of the system and ensures its continued existence, with the SHG approach, the survival of the group only depends on its goodwill, cf. Servet, 2007.

run activities will be initiated and the action plan drawn up accurately. Higher the maturity of the cluster or its capacity to mature, higher the probability of falling percentages of trust building activities and activities related to action plan definition, and corollary of rising percentages of medium and long run activities in the overall activity framework. In the Jaipur cluster, the level of short run activities appeared incidentally still relatively high in year 3, a trend that will persist in year 4, medium run activities picked up in year 2, but decreased in year 3, without substantial setting in of long run activities. This evolution suggests that the cluster reached a limited maturity during the four years programme and would need further support for sustainable development, confirming thus the UN agency view that artisan clusters should be supported for a minimum duration of 5 years, if not more, depending on local context (UNIDO, 2002). The low initial level of trust and cooperation are suggested as the main factors at the origin of the cluster trajectory.

2.8.2 *Handicrafts and the Group Enterprise Approach: The Footwear Cluster of Athani*

A very different perspective for cluster development, named "Group Enterprise" (Chatrapathy, 2005) and involving a private business services provider, was experimented in Athani, Karnataka. Athani is a small town of 35'000 inhabitants and a cluster that produces hand made leather *chappals*[19]. 800 families are active in the craft, these are at the bottom of the caste system, and hence social and economic hierarchy. The entire family participates in the production process and a clear division prevails between men and women. While men cut the raw material and prepare the bottom soles, and market the *chappals*, women craft the inner soles and decorative uppers, and grade. Women contribution was rarely acknowledged in the past as men were leading interactions outside home, where production usually takes place. The activity flourished up to the 1970s, with a broad domestic distribution and sales in Europe, and demand progressively vanished in the subsequent decades. The decline resulted as much from quality issues as from shortage of raw material (the reason for this unavailability was not detailed in the study), which led to intense competition among traders as artisans; the latter saw their annual workload decrease to hundred days per year, while already meager daily earnings remained constant or decreased. Credit from traders became routine and made the artisans fully dependent, a situation which forced many families to give up the craft.

The Khadi and Village Industries Commission (KVIC) initiated governmental interventions in Athani in 1968, with the opening of a training-cum-production centre, which imparted technical know-how, working capital and marketing facilities to the artisans. The initiative was a success with a sensible increase in new designs and products, and was duplicated in Nipanni, a nearby small town of the Belgaum district. The Karnataka state government started to support actively the industry as of 1976 by promoting the Karnataka Leather Industries Development Corporation Ltd (LIDKAR), which focused on increasing the demand for *chappals* through marketing. The Corporation opened 29 outlets in the state and entered into cooperation with a governmental marketing agency of Assam, in order to also cover the northern region. It succeeded in providing employment to 10'000 leather artisans in the Karnataka district of Belgaum alone. The state government facilitated the process by providing house-cum-worksheds to workers at subsidized and interest free loans. Quality remained insufficient to

[19] *Chappals* are Indian sandals, made of leather or of other material, usually with a loop strap over the big toe.

meet export requirements which led to extended support through the Central Leather Research Institute (CLRI) and the District Industries Centre (DIC) as from 1997. The CLRI concluded that the provision of technical inputs alone would not suffice to enhance the artisans' performance, training in marketing and changes in their mindsets, notably in their depreciative perception of their work and of themselves, were other prerequisites for success. In the light of this assessment, the organisation set up training programmes in entrepreneurship aiming at transforming the artisans into entrepreneurs in January 1999, this in collaboration with the Asian Centre for Entrepreneurial initiatives (ASCENT), a Bangalore based NGO, and the National Leather Development Programme. The initiative was named Project EnterPrice, it involved 600 artisans and put a specific emphasis on women empowerment. Its volunteers conducted a baseline survey and interacted with artisans, governmental and developmental agencies, and also with community leaders through the Rotary Club. Before initiating its first workshop, ASCENT conducted entrepreneurship awareness camps for women while interacting regularly with their families in order to build up trust. In the process, SHGs were created regrouping 15 to 20 women, who started to regularly save a certain amount in order to benefit from their savings in the form of loans at a later stage. Training aiming at building up awareness in costing, pricing, standardization of products as in the importance of quality standards and timely delivery were conducted. A Common Facility Centre (CFC) was set up to ensure that market requirements were met, and a few women were also trained in design and trained others. Brand building became then the priority; the groups promptly understood the implications of the concept, which led to the creation of the ToeHold brand. The ToeHold Artisans Cooperative (TAC) was registered as a trust in October 1998, regrouping SHGs and ASCENT representatives, and members of the Rotary Club, with the aim to act as the apex marketing agency and develop sales in foreign markets. Once a buyer places an order with TAC, the order is submitted to the eleven SHGs that are registered with the Corporation, and these SHGs, representing 150 families, bid competitively for it. On acceptation of the quotation, which takes into account quoted price, capabilities, as much as equity and developmental concerns, the SHGs member execute the order individually or together as agreed. The *chappals* are then submitted to a two-level quality control and delivered to TAC, which remunerates the artisans through the SHGs. At the end of the financial year 40 percent of the net profits are redistributed to the artisans, 20 percent to the SHGs and 40 percent remain with TAC to finance productive and social investments considered as necessary for enhancing the cluster competitiveness and the artisans' well-being.

Between 1998 and 2003, over 60 percent of the artisans obtained electricity and about 10 percent accessed a telephone line. Cooperation with the Rotary Club resulted in health camps, improved sanitation, educational initiatives, vocational training for shoe making and the promotion of computer literacy. A more speaking example of ToeHold success is the case of Balabai Kamble, who managed to get her husband released from bonded labour with the payment of a Rs. 13'400 ($ 295) debt. Considering Toehold efficiency in operation, the organisation was considering the application for the ISO 9002 certification at the end of the programme. The new generation had also formed its own SHGs. Earning per pair of *chappals* are from Rs. 50 to 60 ($ 1.10-1.32), with additional profits settled at the end of the year ranging from Rs. 15 to 25 ($ 0.33-0.55) per pair. Previous prevailing earnings are not detailed and the average production time per pair as yearly average production by artisan are omitted from the analysis, the information would have been supportive for assessing the poverty alleviation impact of the programme in terms of revenue.

Both cluster development programmes provide a glimpse of the generalities and particularities that make Indian cluster development policy. Emphases as outcomes vary, and interpretations and interventions in western economies appear with difficulty applicable to the Indian reality. Cluster development experiences in India as lessons learned are many, and they provide an important material for the definition of innovative policy, notably aiming at artisan clusters, in dire need of support. Both development experiences, as the majority of authors interested in the issue of poverty in India, demonstrate however a consensus on the fact that the priorities for sustainable poverty alleviation are the building up of the producers' capability and of social capital; increased market access and extra-cluster linkages; institutional re-vamping, including facilitated access to credit and changes in regulation while designing mechanisms for ensuring enforcement, and infrastructural development. This majority view suggests that policy innovation should be designed around these areas of action and that novelty will essentially reside in implementation mode and prioritisation.

3. Indian Handloom Clusters

A brief history of handloom sets the background of this section on Indian handloom clusters. The sectoral policy implemented since the country Independence and its outcomes are then investigated to continue with the evolution and organisation of the sector, and a description of the production process. A comparison of four Orissa handloom clusters follows; the analysis confirms that local specificities are determinant elements of cluster trajectories, and also the need for differentiated policy function of the local socio-economic environment. The IHCDP, implemented since 2006 by the EDII in twenty handloom clusters located in all India, under mandate of the Development Commissioner for Handlooms, is the next topic. Its main objectives and the foreseen strategy for reaching them are first explored to continue with the studies of the Varanasi and Chanderi clusters, which both benefit from the governmental scheme. The former locality is the pilot cluster of the programme, with the objective to replicate achievements on a broader scale, and the latter has the particularity to have already benefited from substantial institutional intervention before the launch of the IHCDP, notably a three year UNIDO CDP. The characteristics and trajectories of both localities are first highlighted; local institutional intervention is then explored to continue with a discussion of the methodology deployed and of measures which could possibly serve a more prompt development and sustainable poverty alleviation. An overall evaluation of the CDPs investigated and their pro-poor impact conclude the section, with a particular emphasis on the role of institutions and local governance in generating and diffusing knowledge, and shaping cluster trajectories.

Primary sources for both cluster studies and the IHCDP intermediary evaluation originate from the EDII working documents, including the UNIDO Chanderi diagnostic and the programme evaluation, which was conducted by Basix, and from field work for a period of four months, during which the author's collaboration in product development was initiated and interviews were conducted with representatives of the IHCDP and of NGOs and government agencies, as well as with beneficiaries and other cluster stakeholders. Regular contacts with the EDII programme Director were initiated before the first field visit, and were continued on an ongoing basis from then on. Sustained interactions developed with the Varanasi CDA during the course of research, while contacts with the Chanderi agent proved sensibly more sporadic. An NGO aiming at reviving handloom and at alleviating poverty was *in fine* formed by the author, with the involvement of Indian handloom experts[20], a development which greatly supported investigations.

[20] Namely, Shri Himadri Ghosh, ex-chair person of the National Institute of Design (NID, Ahmedabad) and head of the Khadi cell, now active as craft and design expert for his own venture as for NGOs, institutions and private sector enterprises, and Meghshyam and Sharmila Gurjar, respectively weaving and dyeing specialists, and both professors at the Banasthali University, Rajasthan, and currently involved in handloom development projects.

3.1 A brief History of Indian Handloom

Up to the early 20th century, handloom was under the patronage of the elite in cities and complemented agriculture in rural areas, notably during the rainy season. The craft became then instrumental to resist British imports in the 1920s under the leadership of Mahatma Gandhi and a regular topic of the Independence movement. Handloom has carried forward an age old heritage, and has evolved with specific regional features that are identifiable through the distinctive styles and techniques used. The traditional apprenticeship practice and the protectionist policy enforced up to the liberalization of the Indian economy in 1991 are the main factors at the origin of the survival of this unique know-how up to the contemporary globalization era.

3.2 The Handloom Sector: Policy and Macro-economic Aggregates

At the time of India's Independence, handloom was as much a high added value for the elite, as a product of mass consumption, a notable consequence of Mahatma Gandhi's Swadeshi movement. Programmes to support the sector were set up as of 1953 (Asian Development Bank, 1990), these aimed at facilitating access to raw material and credit, and at marketing production, notably on export markets. The cooperative societies were viewed as the support structures for making these benefits available to the weavers. Training to enhance production techniques and innovation capability were also organised. At the macro economic level, restrictions on imports and a differentiated tax system favouring hand made production were introduced, as well as the reservation of the production of certain items for the sector. Supply of raw material remained insufficient and of irregular quality, and was often misappropriated by the power loom sector. Financing essentially benefited the already leading firms, and seldom reached the cooperative societies and small structures, unable to provide the requested guarantees and transparency in accounts. Productivity of the sector increased marginally in spite of the existence of technologies positively impacting outcome, irregular power supply remains the main obstacle to their use. The measures aiming at supporting exports appeared inadequate for their sustainable growth: all large factories set up during the 1960s, when export demand boomed, closed down in the late 1970s, early 1980s (Cable, Weston, and Jain, 1986), unable to adapt to declining demand, they often split into smaller informal units, an option which provided the flexibility to do so, with reductions in workforce and in remuneration at convenience and without bearing any responsibility for the workers. The tax system which should have advantaged handloom was diverted in favour of power loom and the reservation of production was poorly enforced. Cooperative structures were initially considered by the political leadership as a way for the artisans to escape the putting-out system, in which traders supply all inputs to the weavers and get the finished product against payment, and which easily leads to abuse by the former; they failed in great majority in reaching this aim. The low level of education of the artisans and the frequent membership and also leadership of master weavers and traders, who kept the governmental benefits accessed for their personal use, instead of redistributing them to those to whom they were intended, doomed the cooperatives to fail. The lack of competences of state employees, corruption and the absence of political will appear to have been the main causes of the relative policy unsuccess during the four decades after India's Independence. The high contribution of textiles to the economy and the absence of private investments led to the setting-up of an independent ministry in 1989, including the Offices of

the Development Commissioners for Handlooms and for Handicrafts. The role of the Ministry of Textiles is to define sectoral development policy and the promotion of exports, and cluster development is the policy option which was chosen by the Development Commissioner for Handlooms to revive the sector. Governmental interventions since 2004 appear more incisive, as suggested by the constantly increasing benefits and schemes, including the IHCDP. Schemes proposing financial support are nevertheless not real disbursement in the first place, they have to be requested by the potential beneficiaries to be so, and have remained relatively unused (Varsha, 2007). The inefficiency of state agencies, the lack of education of the potential beneficiaries, the generally insufficient human capital of local NGOs and the limits to support posed by language and local specificities in the context of interactions with foreign counterparts are the main factors hindering effectiveness.

According to government data, the handloom sector provided direct employment to more than 6.5 million artisans in 2005 and contributed for nearly 13 percent to Indian textile production this same year, all manufacturing modes included. The latter aggregate in turn contributed for 14 percent to Indian industrial production, for 4 percent to the Gross National Product (GNP) and for 16 percent to exports revenues (Ministry of Textiles, 2006). Handloom remains much present in rural areas where it still complements agriculture and the craft prevents migration to already overpopulated urban centres, a specificity which makes its sustainability crucial. The sector is characterized by a high degree of informality, corollary by a low level of unionization, as well as by the prevalence of the putting-out system and piece-rate remuneration. With the progressive elimination of state support and protectionist measures, the intensification of competition from power loom and the adoption of low roads to growth by leading sector stakeholders, the weavers are facing increasing difficulties to meet their everyday needs, and the majority lives today in extreme poverty with a daily remuneration of 2 USD, if not less, and has no employment alternatives.

3.3 The Evolution of the Handloom Sector

Handloom has originally thrived in clusters in specific parts of villages or cities, and is a low caste occupation. Traditionally, the weavers, as all craftsmen, were an essential part of the local economy and producing mostly utility products for the local market and occasionally exquisite items on request of the local elite. The flora and fauna, and decorative motifs influenced by Persian art and Buddhist iconography constitute the main traditional design inspiration sources, and remain prevalent in contemporary handloom. Designs and colours are often signifiers of social and marital status, or have a religious meaning. When industrialization and mechanization started to provide for utilities, the traditional market progressively disappeared to be gradually replaced by urban and export markets. With the distance from demand, the producers lost track of the market intelligence that they previously integrated in their designs, and existing forward linkages didn't succeed in assessing evolving market needs. Quality issues added to the loss of market knowledge and the competition of power loom resulted in declining demand for handloom products. The adoption of western style outfits by a growing middle class accelerated the trend. In order to remain price competitive relatively to machine made production, which has a much higher productivity and hence price advantage, traders or master weavers increasingly opted for cheap inputs and reductions in labour costs and processing times, to the detriment of quality and of the weavers' working and living conditions. Power

loom designs were also copied by handloom, leading to the erosion of the traditional heritage. Handloom failed to match the new market requirements and to upgrade. Competition between deprived and often starving community members became current, weakening the traditional solidarity which could be observed among members of a same caste or religious community before the changes in market conditions. Steady reduction in earnings and loss of dignity resulted in the migration of weavers – both professionally and geographically, and also, in last recourse, in the sale of their blood or suicide. Such prospects, which can notably be observed in Varanasi and in some Madhya Pradesh localities, led to the disinterest of the younger generation in continuing the traditional occupation, causing sometimes the definite loss of a particular technique with the death of some weavers with unmatched expertise. The craft got exposed to significant loss of millenary valuable techniques, and to social instability. With 6.5 million people directly involved in the sector, the stakes are high and the task appears substantial.

Significant resources have been channeled to reverse this declining trend; the measures proved inadequate, notably because of their relative inflexibility and supply driven orientation, and, on the other hand, of the delegation of implementation to the support structures rather than to the weakest interest group, the weavers. Inputs were provided subsidised or for free, which induced a 'debilitating dependency and a cynicism over quality and value' (Gibson, 1999: 4). Policy needed to be reviewed in light of the low level of achievements on the poverty alleviation front, and involve the artisans as the leaders of change. The priority is to transform weavers into entrepreneurs (which they de facto are), as experienced by the Athani footwear cluster, or, if not full entrepreneurs bearing all business risks, at least active cluster stakeholders and actors of their craft, aware of the features of competition and demand, and of the advances in technology and product. Marketing is crucial for commercial success and it has been largely neglected by governmental policy; this gradually changes, emphasis of actual measures remains nevertheless insufficient and the mode of training appears inadequate for supporting competitiveness and sustainable development, as will be highlighted by the studies of the Varanasi and Chanderi clusters. CDPs should ideally revolve around positioning handloom on niche markets based on a strategy promoting product uniqueness, high quality and best client servicing. Autonomy in design must be acquired, keeping with traditions as much as with market trends, a balance of which the adequate formula has not yet been found. Time and quality awareness are other assets that need to be built up to match global standards, which are increasingly also the ones of the upper segments of the domestic market. Rethinking is in process and the issue is to find the miracle strategy that would enable the move towards a demand-led and sustainable development of the handloom sector with an optimum allocation of resources, and efficient redistribution mechanisms.

3.4 The Organisation of the Handloom Sector

The putting-out system, viewed as a "pre-capitalistic" organisation of production and that prevails in Indian handloom clusters, is intrinsically linked to informality. The system is characterized by the provision by the trader of all inputs necessary for production to the job-worker, the former will then get the end-product as specified and at a given date against payment from the latter, the amount will have been commonly agreed at the start of production, on the basis of a sample or without, depending on product specificities and the weaver's

knowledge[21]. From the traders' perspective, the main reasons motivating the continued existence of the system are the minimization of costs and flexibility that it enables, notably and respectively through the use of the artisans' cottages, reduced labour costs, and employment as termination of employment at convenience and without bearing any formal responsibility. The system is also perceived as advantageous by the weavers, who often prefer to work at rather than outside home, it nevertheless exposes them to dependency from and abuse by the traders, notably in rural areas, where these operate in small number and have quasi monopolistic positions. A clear division of labour characterizes the prevailing putting-out system and it enables the trader or master weaver (Biswas, 2005: 83) to primarily focus on marketing and on arranging the provision of inputs and regular work for the weavers. The trader is the main medium of knowledge diffusion and technological innovation among the weavers, and he may play a leading role in upgrading, as in perpetuating stagnation or decline. Significant improvements in production processes have been witnessed in clusters where traders demonstrated of the strategic intent to support innovation and the skill building of the weavers.

Weaving is a traditional occupation involving all family members, and the art is transmitted from one generation to another, generally from father to son, since early times. Apprenticeship may last more than eight years; this traditional learning mode enabled the richness and endurance of traditions up to today, and provides an elastic supply of skilled labour with little formation costs. A household includes generally one skilled weaver and an apprentice, who may be the son of the former or a close relative. Apprenticeship starts around the age of ten, early débuts which are one of the causes of the weavers' children early school drop outs, poverty is another reason. Most currently men set up the loom and weave, and women take on ancillary activities such as preparing the yarn, and finishing the products. Women are not directly employed but work as part of a family unit. The use of family labour, assimilated to invisible labour, has a depressive effect on wages; the more family members are involved in the activity, the lower effective wage. Family labour provides little incentive for technical innovations and increases in labour productivity. Because of their low level of education and limited access to information, weavers are generally unaware of the existence and role of trade unions, and not knowledgeable about governmental legislation on working conditions and wages[22]. Traders and master weavers are generally influential members of their community, and involved in the politics of the region, and have remained unchallenged in their way of operating up to present times. They are not responsible for any liabilities associated with the weavers producing for them and appear in great majority not ready to give up the economic rents resulting from their actual position at the head of the sectoral hierarchy (Biswas, 2005).

All Indian handloom clusters face the competition of power loom fabrics, produced nationally, notably in Surat, Gujarat, or imported, essentially from China. The adjustments of clusters to this competitive pressure vary: some clusters decline, unable to innovate in process as much as in product, others introduce product innovation, and still others initiate both types of innovation. Product innovation in handloom may consist in new designs, and also innovative blends of fibers and weaving modes; process innovation may reside in the introduction of

[21] A similar putting-out system exists in developed countries, notably in garment manufacturing; the difference relatively to developing countries essentially lies in the formal aspect of activities.

[22] About wages, see http://labour.nic.in/annrep/files2k1/lab5.pdf and http://labour.nic.in/wagecell/welcome.html, http://www.vakilno1.com/bareacts/minimumwagesact/minimumwagesact.htm

jacquard accessories (which necessarily also means product innovation) or of other technical innovations, such as gears at the end of the loom beam that facilitate weaving and increase productivity, a mechanism currently named "take-up and let-off motion"[23]; and it also pertains to ancillary activities, essentially yarn processing and dyeing. Yarn is acquired through local merchants, often in quasi monopolistic situation, or directly in producing regions. India is the second world producer of cotton and silk, after China. Despite large areas under cultivation, Indian productivity remains comparatively low, and output is insufficient to satisfy domestic demand (Ministry of Textiles, undated); a fourth of domestic silk needs were matched by Chinese imports in 2005[24]. The quality of Indian production is also an issue; regularity in quality of Chinese silk is superior, and imports from China also diversified these last decades, notably with the adopting of Indian qualities by Chinese producers, such as the Mugga and Tassar silks. Improvements in yarn productivity and quality become increasingly pressing, notably with the higher quality standards that start to become the norm for the upper segments of the domestic market. Dyeing is also an issue; dyers often compromise on dye quality and quantity, essentially because of their high prices and bulk buying conditions, and they also disrespect dyeing time and water temperature, resulting in end products of low quality that run. This deficient practice is current at the pan Indian level and a major handicap for commercial success. Dyes were essentially of natural origins up to the late 19th century, and their compositions often kept secret. Indigo is the most reputed exception, it became a prevalent export product during the colonial era, until the discovery of chemical dyes in the West in 1856. Chemicals dominate today the market; progress in the use of natural dyes may nonetheless be observed with growing environmental concern.

The professions involved in the handloom sector, with a varying weighting of the different stakeholders, are: traders, master weavers, card makers, dyers, weavers, BDS providers, including governmental agencies and NGOs, and enterprises active in related activities, notably yarn and dye suppliers. The use of marketing agencies is residual, and marketing functions are generally nonexistent in enterprises.

Four categories of workers directly involved in weaving may generally be identified:

Master weavers: they work for one or several traders and employ weavers working in their cottages on a piece rate basis; they may also directly trade, and have a weaving background or not. They supply the yarns and designs, and monitor production, to then deliver the end-products to traders, which may be serving domestic or foreign markets, or both.

Weavers paid on a piece-rate: they weave according to the designs and yarns provided to them by the often single trader or master weaver for whom they work. They are home-based and may own one or a few looms, or these may have been installed by the trader or master weaver.

[23] E-mail exchange with Shri Himadri Ghosh, August 2008

[24] Chinese mulberry raw silk or yarn imports are actually submitted to an anti-dumping duty, consisting of the differential between a price of $ 27.98 per kilo and the landed price. The rate was agreed in 2003 for five years and the measure should be continued in 2009, cf. http://economictimes.indiatimes.com/Garments__Textiles/Extension_of_anti-dumping_duty_on__Chinese_silk_yarn_fabric_sought/articleshow/3220311.cms

Daily wage earning weavers: they usually learned the craft at home, and weave for one or several master weavers outside of their homes and are paid on a daily basis.

Independent weavers: they decide of all product specificities and acquire the inputs to then manufacture and market the weaves; these are a residual percentage of the weaving workforce, generally of less than 5 percent.

Weavers' earnings vary according to the skill content of their production, which may be categorized in three types: high or intricate, intermediary and low. Kolis, belonging to a North Indian weavers' caste and Muslim communities are perceived among the most vulnerable by handloom professionals.

3.5 The Production Process

Weaving is commonly done in the artisan home and in a room partially or fully reserved to this end. This organisation is considered as an advantage by the weavers relatively to the other employment opportunities available to them on the unqualified work market and outside of their homes, such as rickshaw driver or construction worker. Focus of studies generally limits itself to the remuneration of labour, while returns on fixed assets are silenced; if the latter are factored in, the average remuneration for weaving decreases of 25 to 35 percent. The prevailing organisation of production appears far from optimum in respect of productivity, the rooms being often small and the families large. Irregular and insufficient power supply is also an issue: the structures of many urban houses make it impossible to weave without power, and, if weaving is feasible, weavers are forced to stop activity with daylight or power failure. Leaking during the rainy season, because of deficient roofing, is another factor which may force the weavers to stop activity; heavy rains, of which the frequency intensifies with climate change, may also render production and transportation difficult, if not impossible.

The handloom value chain starts with design, consisting of the definition of the motif, colours and fibres. Design may be a copy of an existing pattern, or a new motif realized by a designer of the locality or residing outside of the cluster, notably in metros. A *muhallah* or "traditional" designer generally undergoes a training which starts around the age of 10 years and lasts up to 8 years. A design takes one day to be produced and a designer sells in average 75 designs per year for an average price of Rs. 300 (approx. $ 6.6). His clientele usually consists of 10 to 15 traders or/and master weavers. Motif intricacy may vary from plain to intricate; the weaver's skills as remuneration will vary accordingly. Once the design chosen, a paper duplicate in real size is realized, currently named graph, which will serve as basis for designing the jacquard cards and defining the loom drafting requirements. The trader or master weaver generally provides the design and related specifications and the yarn to the job-weaver; the extent of the weaver input will depend on the human capital accessible through him, as he might be closely related to one or several designers, as dyers, and also on the trader willingness to use the weaver's network. Motifs were previously essentially sourced among the weaving community and it seems that during the two last decades the provision of the design by traders or master weavers became increasingly prevalent, relying on their own contacts, essentially family members or close relatives, or on designers foreign to their locality of operations and,

supposedly, of residence. These options all lead to an increasing loss of market intelligence by the weavers and *muhallah* designers, and reduce their upgrading scope.

The yarn generally needs to be processed before use; preparation may include de-gumming, spinning, bleaching, dyeing and reeling (bobbin filling), depending on yarn specificities on delivery. The warp yarn is in general not de-gummed to the contrary of the weft yarn; de-gumming results in a 25 percent increase in price. Dyeing is often done in rudimentary conditions, notably in rural areas, and azo-dyes are used, containing heavy metals and particularly harming water resources. If necessary and simultaneously to the yarn preparation, jacquard cards are produced; a design may require the production of a few hundred cards up to a few thousands, according to intricacy and size, and average daily production is of 200 units, sold two rupees each for a net profit of one rupee per card. Daily earnings are thus of Rs 200.00 ($ 4.39), and usually paid cash, conditions which make card makers far better off than weavers. After dyeing and once the cards ready, the drafting of the loom starts, which is relatively difficult and time consuming with high design intricacy, in which case, two people may sometimes be needed during ten to fifteen days; with simple designs, two to five days suffice. Weaving is the core operation, it may be realized by one or two weavers, according to design intricacy and fabric width, and an apprentice may also assist. In fly-shuttle looms, the shuttle is thrown manually from one side to the other, a method suitable for simple weaves and designs. The weaver sets the shuttle in motion by putting a jerk to the cord attached to the picker; the shuttle is then stopped without rebound at the other side of the warp to start again the process. While one hand sets the shuttle in motion, the other manipulates the batten and the weaver simultaneously presses his legs on the treadles to control the heddles; the simultaneity and precision of operations require confirmed skills and expertise. A shuttle slip means that it has to be reset, it also results in yarn losses and overlapping weft shoots, causing quality reduction. Unequal pressure through the batten may result in fabric density variations, also inducing inferior quality (Biswas, 2005: 86). Sophisticated designs may be woven with the help of needles or jacquard accessories, which mechanically select heddles controlled by perforated cards of which the holes represent the design. Finishing concludes the production process and may include waxing and pressing; the fabric may also need *bhutti* cutting that is the cutting of the threads linking the motifs on the wrong side of the fabric, depending on local specificities. The weaving of a plain sari of 6.4 meters, the usual yardage, may take less than a week, the production of a sophisticated product up to a few months. Embroidery, for which demand is increasing, may also be a finishing option. Plain fabric may be bleached, dyed, printed and/or embroidered.

Poverty, a still relatively high illiteracy rate and the lack of organisation have made the majority of weavers particularly vulnerable to many forms of exploitation. Because of their ignorance of the changes in market conditions, weavers do not see the necessity to adjust, and, if they would, they would have neither the knowledge nor the skills to do so. Artisans and their families come from very disadvantaged circumstances, where they experience discrimination based on caste, taking the form of low wages, indebtedness to traders, which may be transferred from one generation to the other, and working in difficult and often unhealthy conditions. No interest is generally taken on credit and advances, but they lead to the weavers' full loss of bargaining power and independence. Traders also have a propensity to review remuneration downward on receipt of merchandise. They nonetheless also serve as social security in difficult times and in absence of a state run system, a reality which also enables them to keep the

weavers' remuneration low when demand is sustained. Because of surplus labour, any market conditions improvement are unlikely to result in a sensible increase in the weavers' earnings, and the availability of a cheap and elastic labour supply as well as the nonexistence of labour organisations provide little incentives for the traders and master weavers to introduce labour savings techniques of production. As in industrialized countries, important dynamics for increasing productivity have to come either from government measures and incentives, or from trade unions or workers' organisations which pressurize for increased wages and benefits (Kurian, 2005; Biswas, 2005).

3.6 Conditions and Progress of four Indian Handloom Clusters

Despite the exploitation potential inherent to the putting-out system, certain handloom clusters developed fair relations between weavers and traders or master weavers, based on mutual trust and faith, and formed through recurrent transactions over a long period of time. In one of the most successful West Bengal clusters surveyed by Biswas (2005) in 1991-92, namely, the Fulia cluster, of which the production is characterized by the use of all yarn types, namely silk, cotton and manmade fibres, innovations were first introduced by the local cooperatives in the 1970s, and subsequently adopted by the traders. The initial credit to the artisans served at the acquisition of improved looms to be installed in the artisan cottages. Once the looms installed, the traders provided the designs and yarns to the artisan; trust ensured required quality and timely delivery, and also reduced transaction costs. Innovation in process and product occurred; productivity and the earnings of the weavers increased, and some weavers even acquired designing skills during the upgrading process. The same innovation mix was stated in Bishnupur, another West Bengal cluster working on the putting-out mode and specialized in silk products, outcomes proved nonetheless less probing. In nearby Islampur, where the putting-out mode also prevails, but the core production is plain silk fabric, the dyeing process was improved, and printing was introduced and set up in nearby facilities to be taken on by non-weavers. These local innovations supported the marketability of production and expanded output, but without improvements in weaving technology and in the weavers' earnings. The study of the Nabadwip handloom cluster, in which capitalist producers dominated, owning factories of 30 to 40 looms, showed that these failed to innovate and to invest in developing their market, which resulted in the decline of the cluster. The submission to the Factory Act and to the payment of taxes as to other obligations constraining flexibility, to which the informal sector escapes, may partly explain the poor performance of the Nabadwip cluster, another explanatory factor is that the entrepreneurs preferred to channel the surplus outside the activity instead of re-investing in it. 60 percent of the looms were identified idle in the cluster. Despite the decline in the industry, the producers continued to enjoy high margin; their level of earnings could only be made possible with the hiring of unskilled weavers and the payment of particularly low wages.

Among the four clusters surveyed, earnings per weaver appeared to be the highest and the traders margins the lowest in Fulvia. A proposed explanation for this leading position is the greater diversification and shorter product life of local production. Differing patterns of technological development may also explain the differences in earnings. Improvements in Islampur only pertained to dyeing and printing, and not to weaving, the earnings of the weavers consequently did not improve. Local traders also asked the weavers to deposit Rs. 2'000

($ 43.9) as security for the provision of silk; an amount that then became part of the traders' working capital. The Islampur and Nabadwip weavers had abysmally low earnings per day; respectively of Rs. 15.25 ($ 0.34) and Rs. 20.90 ($ 0.46)[25]; interestingly, the margins of the traders appeared to be the highest in these last two localities among the four clusters studied.

In all successful clusters, the traders financed the investments needed for upgrading and advanced the necessary working capital. This nevertheless occurred only once the cooperatives had given the initial stimulus with the introduction of new technology. The role of the local state in stimulating the development of the Fulia and Bishnupur clusters has been essential. Innovation in these clusters resulted essentially from governmental interventions in the 1970s and 1980s, when new looms were introduced through the cooperatives, along with short-term training programmes to operate them, and to upgrade the weavers' designing skills. Loans and subsidies to install new implements complemented these measures, and the weavers could only find it advantageous to acquire new qualifications raising their employment opportunities and earnings. The cooperatives failed to capitalize on their initiatives, notably because of a sporadic yarn supply and hence irregular work for the weavers; the traders did, and used the skills made available and invested further, which resulted in the regularisation of the weavers' work and corollarily in an increase in their remuneration. The strategic move of the traders was also supported by the already relatively developed market for the product, the outcome of previous government efforts in marketing the cooperatives' production, notably through advertising and the opening of emporia in metros. Both clusters show that the putting-out system may support innovation and cluster upgrading while alleviating poverty under certain circumstances. New processes or products were absent of other West Bengal clusters surveyed, where this same putting-out system prevailed, but strategic intent was missing.

3.7 The Integrated Handloom Cluster Development Programme (IHCDP) [26]

The IHCDP executive agency, the EDII, is responsible for supporting the development of twenty Indian handloom clusters, and for coordinating the programme activities, and their monitoring and evaluation, this under the aegis of the Office of the Commissioner for Handlooms. The official definition of cluster in the programme context is a large concentration of weavers, producing high added value products with a confirmed niche market potential.

The IHCDP has five declared objectives:

- To support in a holistic manner the sustainable development of handloom clusters;

- To facilitate cooperation between weavers and yarn suppliers as well as BDS providers (the state becomes here a business facilitator, as advocated by regional science);

- To ensure the building up of adequate infrastructure and services (which may mean inter-sectoral upgrading for some weavers);

[25] Biswas assumed the presence of two weavers per family to obtain these daily amounts.
[26] Cf. http://edi-handlooms.org/index.asp?id=M1

- To provide an environment conducive to participation and reinforcing the weavers' autonomy;

- To encourage the convergence of governmental subsidies and schemes, in order to optimize the use of resources.

The programme was initially envisaged for a three year duration, which was extended to five years during the second year of implementation, a first additional year to evaluate the clusters' specific needs and elaborate action plans, and another to step out while ensuring the take over of activities by BDS providers. Different approaches were privileged for the satisfaction of objectives and defined as follows: the capability building approach, focusing on skills upgrading; the market approach, supposing demand led measures, such as information dissemination, the definition of marketing strategies, including meetings with buyers, advertising campaigns, and so on; a technological perspective, emphasizing improvements in looms and in dyeing process; and an institutional development approach, in other words, a particular emphasis on the formation of associations for facilitating the provision of yarn, access to credit and market, and social interventions.

The clusters involved in the scheme had to regroup a minimum of 5000 looms; in line with the official definition, the other main criteria for their selection were the exclusive features of their production, their niche market potential and their ability to survive in a highly competitive environment. CDAs were named for each cluster with the task to analyze its strengths and weaknesses, and elaborate the action plan specific to their respective locality in close collaboration with the cluster stakeholders, by specifying activities envisaged and expected results. The action plan is then reviewed on a yearly basis according to previous year achievements, with, ideally, an increasing participation of local sectoral associations. Once the action plans approved, comes implementation, which also lies with the CDAs. Emphasis is on the promotion of institutional and backward and forward linkages, support to the formation of governance structures and on other elements in line with the approaches retained.

Local authorities are planned to contribute to the IHCDP by ensuring the free or subsidized provision of land for the building of needed facilities, notably dyeing and CFCs. They are also requested to guarantee legal status to the associations that will emerge during implementation, and to ensure the convergence of state and central support measures in order to maximize the use of resources.

3.8 The Varanasi (Uttar Pradesh) and Chanderi (Madhya Pradesh) Handloom Clusters

Emphasis in these studies of the Varanasi and Chanderi handloom clusters is on the local organisation of the craft, most particularly on firm relations, and on the local institutional arrangements, with the perspective of evaluating, first, their relative contribution to the clusters' structure and performance, and their role in the poverty prevailing among the weavers, and, second, in what extent these local factors contribute or hinder growth and poverty alleviation, and how, in the latter case, these handicaps to performance and inclusive growth could be overcome. Before considering these dimensions, location, size, composition, production and evolution of both clusters are reviewed.

3.8.1. The Varanasi Handloom Cluster[27]

Varanasi is one of India's most renowned holy and ancient places, and is also one of the highest weavers' concentrations of the country. Weaving is a local tradition since 1500 to 2000 BC, and is mentioned in Vedic and Buddhist literature. Cotton weave seems to have dominated up to the 14th century, when silk was introduced and became prevalent in local production. Early 19th century British authors recount the richness and the commercial importance of the local craftsmanship, and also that the most delicate Varanasi silks were then adorning the halls of St. James and Versailles. The city is located south of Uttar Pradesh, one of the poorest and most populated Indian states, with a population estimated between 140 and 170 million; it is also a state where the illiteracy rate is relatively high and communal tensions are frequent, as illustrated by the incidents in the locality and nearby Ayodhya[28].

The Varanasi Cluster Stakeholders

The Varanasi cluster comprises around 100'000 weavers according to governmental data, of which only 40 percent are active (other sources indicate between 125'000 and 250'000 weavers in the city and its surroundings, with a total district population of 3.15 million in 2001, of which 1.4 million lived in Varanasi, cf. Ahmad, 2007). Weaving is locally a male centered occupation and the weavers' population is estimated to have tripled during the last 34 years. According to governmental data, 59 percent of the weavers are literate. 70 percent of the Varanasi district weavers are urban and located in specific areas of the city, with each *muhallah* having its specialty, if not each family, from low to high end production. 90 percent of the urban weavers are Muslims, compared to 30 percent in the villages, where the 70 other percent

[27] This section is notably based on: the 2005 EDII Diagnostic Study of the Varanasi Handloom Silk Cluster, conducted through desk research, intensive dialogue with 30 stakeholders and structured interviews (cf. http://edi-handlooms.org/DiagnosisStudy.asp?id=R1); an annual progress report written at the end of the programme first year, 2006-07; and a comprehensive proposal written at the end of the second year of implementation, 2007-08; as interviews conducted by the author and her experience of the cluster.

[28] A railway station and a Hindu Temple were the main targets of 2006 terrorist attacks in Varanasi, supposedly led by Pakistan groups with the view to build up communal tensions. A Mosque was destroyed in Ayodha by Hindu militants in 1992, these wanted to build a Hindu temple in its place, to mark what they believe to be the birthplace of Lord Ram, the Hindu warrior king. In February 2002, one of the Hindu groups involved in the violent 1992 demonstration called hundreds of volunteers to the site to begin the construction of the temple, http://news.indiamart.com/news-analysis/varanasi-blasts-new--11866.html and http://news.bbc.co.uk/onthisday/hi/dates/stories/december/6/newsid_3712000/3712777.stm

are essentially low caste Hindus. 95 percent of the weavers are job workers and the putting-out system prevails. About 500 traders and master weavers, locally named Sattiwalas, Grihastas and Gaddedars, rule the sector. Sattiwalas are brokers between weavers and traders, and they usually work on a 3 percent commission and are not engaged in the craft. Grihastas buy from weavers or master weavers and sell to Gaddedars, assuming the risk of transaction. Gaddedars are large traders, who may employ weavers on a wage or piece-rate basis and limit their activities to wholesale, or who may also be active in retail operations, often by owning outlets, locally and/or in metros; they are generally also involved in yarn business. Designers are estimated to be between 100 and 300, and dyers between 300 and 500. Card makers and BDS providers, including governmental agencies and NGOs, are the other cluster stakeholders. The number of cooperatives has increased since 1998, to reach 385 structures in 2006. The functioning of the majority of cooperatives turned out to be deficient at the start of the IHCDP: schemes and benefits generally remained with the lead members, who often proved to be traders, yarn supply was irregular and inconsistent in quality, and functional divorce between marketing and financing, on one hand, and weaving, on the other hand, was generally complete. The cooperatives had become a means for traders to avail government incentives instead of promoting the weavers' empowerment.

The impact of social structure on the sector organisation appears to be particularly strong, and the chasm between traders and weavers which characterizes artisan clusters particularly vivid. The confinement of joint action to those with a shared community finds confirmation in the locality, where the level of interactions between Hindus and Muslims is remarkably low. The poor of the different religious communities appear nonetheless more prone to interact than leading cluster stakeholders.

Labour and the Remuneration Issue

The weavers' remuneration encountered a slump of 30 to 40 percent these last fifteen years, corollary to the decrease in demand for hand woven fabrics, notably for saris, the cluster core production. If a weaver was earning 100 rupees ten years ago, he is today getting 60 rupees, equivalent to 1.3 USD, excluding inflation (which is actually reaching its highest rate since 13 years). Credit facilities to the weavers are nonexistent, and the poorest are generally unaware of governmental benefits because of their low level of education and reduced access to information; their only possible access to finance appears to be the traders. A cash advance by the trader is current at the start of working relations and the amount currently equals 50 percent of a weaver annual earnings. Debts may also be carried forward from father to son, and traders currently review remuneration downwards at the time of delivery, giving as reason the weakness of demand, and issue post-dated cheques for payment, forcing the weavers to use intermediaries working on commission. These methods encounter a high tolerance from the authorities, plausibly because of the traders' incidental social security provider role. Traders appear particularly secretive about their earnings, and the evolution of their revenues during these last fifteen years is unknown. The weavers' high unemployment and their abysmally low level of remuneration however suggest that decline in demand has been matched by reductions in labour costs and in the workforce, while the traders' profits remained constant or even increased. Traders control production, distribution, access to credit and often also the cooperative structures and related schemes and benefits. This concentration of power has

gradually led to a form of soft exploitation, and to a low road to growth harming productivity and the cluster upgrading perspectives.

The Varanasi Production and its Market

Silk and zari, a yarn with a metallic finish, are the main fibres used in Varanasi and the locality is particularly reputed for the intricacy of its craft and designs. The most common zari used is a polyester yarn with a golden, silver or cupper finish, produced in Gujarat; the yarn may also be silk, cotton or any other fibre, finished with a synthetic metallic finish or with real gold, silver or cupper. The silk is Indian or Chinese, the former suits better the production of heavy fabrics, the latter of light ones, such as organza; consumption of Chinese silk is estimated at 50 to 65 percent of total local consumption. Four companies rule the Varanasi yarn supply, and the wealthiest traders often directly source from producing regions, notably Karnataka. Most used deniers[29] are 16-18, 20-22 and 24-26, and yarn consumption per meter starts at 35 grams. Yarn is always used dyed in the locality and the average quantity given for dyeing is 1 to 2 kilos, which is extremely small. Because of the high prices of quality dyes and the prevailing bulk quantity buying conditions, dyes used are often produced locally and of low quality, and temperatures as waiting times recommended, essential for satisfying quality standards, are generally not followed. The cluster experience in natural dyes is limited and water pollution by azo-dyes not tackled. Saris represent more than 90 percent of the cluster output; the average life of a sari design was earlier of 2 years, it is today of 6 months, an evolution highlighting the contemporary need for product innovation. Buddhist brocades are another traditional product of the locality, aiming at satisfying the demand of nearby Nepal and Tibet, and of the worldwide Buddhist community[30]. The recent political instability experienced by both countries negatively impacted demand, adding to the already declining trend in domestic demand for saris. Scarves and stoles, as running fabrics for the production of garments and interior decoration items, suiting better export market needs, are a residual percentage of the cluster production, and only 2 to 3 percent of the latter are exported. According to governmental data, the annual output of the cluster if first sales are considered is estimated to be between 250 and 300 crores[31], equivalent respectively to almost 55 and 66 million USD. No local outlet promotes efficiently Varanasi handloom production. The absence of such a structure was highlighted by tourists having visited the locality; these didn't suspect the diversity of the craft at the time of their visit, and proved astounded at the view of its richness once accessed in their home country.

Export orders appear to be of high quantities, suggesting the use of power loom for their production. The production on power loom of handloom orders was already en vogue in the 1970s at the pan-Indian level and caused sensible damage to the craft, notably on the export front. Western market customs became then increasingly vigilant and started to stop the imports of goods of which the production mode could not be identified, hand woven items being usually free from import taxes to the contrary of machine made fabric (Cable, Weston, and Jain, 1986). Varanasi traders and master weavers indifferently use both modes of production, handloom and power loom, function of loom availability, power supply and delivery deadlines,

[29] Deniers define the yarn thickness, higher the figure, thicker or heavier the yarn.
[30] Brocades are religious fabrics designed to be used in ceremonies as mural ornaments or integrated in garments.
[31] One crore is equivalent to 10 million.

this to the detriment of the reputation of handloom and the weavers remuneration, most particularly if the latter should produce a power loom order using handlooms in case of prolonged power failure[32]. In such circumstances, the artisans find themselves constrained to an impossible alignment of their productivity on power loom performance, causing unsustainable downward pressures on their earnings. Silk appears difficult to work with on power loom and became increasingly mixed with polyester these last decades; the mix has the advantage to reduce costs, considering the lower price of the synthetic fibre, and was progressively adopted by the traders, and consequently by the weavers. Because of similar cost considerations, artificial silk, in other words, acetate or viscose, also increasingly replaced silk. The changes in composition lowered the value of the cluster production and facilitated copying by power loom; they also led to the marketing of viscose and polyester products as silk ones, an unfair commercial practice which was also adopted by governmental agencies, and which, as the earlier mentioned sales of power loom fabrics as handloom produced, could only harm the sector. Growth on the low end segment, on which Varanasi production was previously not present, incurred, with South India as main sales destination. In addition to the traders' low road strategy, poverty led the weavers to increasingly favour the production of low added value items, requiring less time for production and hence increasing cash flow, an outcome suiting better their every day needs. Likewise the changes in fibres, this development facilitated copying by power loom and added to the other elements at the origin of the declining market share of Varanasi handloom. Another factor rendering intricate weave work less in demand and perceived as a threat for the sector by local stakeholders is the domestic trend for embroidery, which is supposed to offer more scope for customization and exclusivity, and higher margins.

The Institutional Set-up

The Directorate of Handloom (DoH), the Weavers Service Centre (WSC) and the Indian Institute of Handloom Technology are the local sectoral government agencies. The DoH registers cooperatives and monitors their activities, and is also responsible for managing the schemes and benefits intended for the weavers. The WSC role, as defined in its charter[33], is to support the development of the sector, and the structure proposes an exhaustive panel of services, including technical and marketing support, and training in dyeing. It also comprises a design centre which sells its creations to traders and master weavers. The WSC also occasionally serves as designer and commercial agent for the weavers, assuming thus the traders' role. The centre develops samples, submits them to potential buyers, takes the orders and gives the latter for production to local weavers; financial conditions related to these transactions are unknown. Interactions of the Centre with the weavers, whom it should primarily serve, proved rare at the start of the IHCDP. The fact that its services must be paid for, making them out of reach for the poor, is plausibly one of the reasons for failure; another cause is the low level of trust prevailing between the agency and the weavers. The WSC appears to have developed close relationships with powerful local entrepreneurs, employing generally more than 500 weavers. These are often influential members of one or the other governmental boards, notably the Central Silk Board and the All India Handloom Board, as of their community, and their contributions to the craft are generally acknowledged by national awards. Because of these relations with dominant traders,

[32] Power failures in Varanasi may last up to three days, suggesting that the switch from power loom to handloom is current practice.

[33] Cf. http://handlooms.nic.in/HL_Citizen_Charter_WSC_Varanasi.pdf

who, if their lack of strategic intent is considered, appear to be among the causes for the sector decline and the weavers often pitiable working and living conditions, the WSC scope of action for increasing the capability and autonomy of the weavers, and thus for alleviating poverty, is limited in the short run. A new WSC head officer was recruited in 2008, suggesting that the need for a change in management was also felt by higher instances. An additional factor handicapping interactions is that the weavers are the focus of numerous academic researches, notably on poverty, and the object of charitable endeavours, and seldom has any durable benefit reached them, causing the a priori discredit of further research and support. The Varanasi Indian Institute of Handloom Technology and the reputed Banaras Hindu University (BHU) are local higher educational institutions which might both be supportive of the cluster upgrading. The Institute has de facto no linkages with the local industry, despite that its statutes stipulate a reservation of 20 percent of its seats to the weavers' children; the evolution and the actual state of Varanasi handloom may reasonably be assumed to be at the origin of its ineffectiveness for attracting the younger generation. No synergies between these institutions and the weavers were envisaged by the IHCDP.

The district Industry Centre, the Joint Director of Industries and the District Rural Development Agency (DRDA) are the other agencies present in the locality; the first two structures are not involved in handloom, given the existence of the WSC and DoH, and the DRDA has not started promoting any weavers' SHGs or any other endeavour which might prove supportive of the cluster development. The Reserve Bank of India (RBI) guidelines stipulate clearly handloom as a distinct sector, resulting in the exclusion of the craft from the credit scope of conventional banking institutions, including the Small Industries Development Bank of India (SIDBI) and the Union Bank of India, the lead financial institution; the latter simply ignores the sector in its format for reporting credit targets and performance. The National Agriculture Bank for Rural Development (NABARD) appears to be the only local institution indirectly supportive of the craft, although in an extent which appears largely insufficient considering the cluster needs: it recently granted a credit to a women SHG engaged in silk cocoon buying and reeling. Considering the short duration of activity, it appears premature to assess results. Power loom classification as small industry however ensures handloom access to financing, and the blurred limits between the two sectors make it impossible to ascertain credit to the craft. The institutional set-up suggests little customization to the local socio-economic environment, and also insufficient involvement of the district administration and local credit institutions for a change in conditions that would result in sustainable poverty alleviation.

A Stakeholders' Perspective

The main causes to the actual situation of the craft advanced by the local stakeholders are: inflation in raw material prices; the competition of machine made fabrics, produced in India and imported, notably from China; the progressive elimination of previous support measures; the reduction in demand for handloom products, notably for saris, and the lack of adequate financing. Protectionism, in the form of increased import duties, is the strategy suggested for responding to the new market conditions; investments and upgrading are not considered. According to interviews with a representative group of 88 weavers, the combination traders-government is mainly responsible for their plight (36 weavers), government comes second (31 weavers), then the traders alone (4 weavers), a fifteen percent of the weavers interviewed did not know (14 weavers), two abstained to comment and one weaver invoked destiny. One of

them mentioned the perspective of exhibiting in trade fairs in metros; this while keeping anonymity, scared by a possible traders' retaliation. The behaviour suggests the existing chasm between producers and traders and the low prevailing level of trust, and also that the progress of the cluster will be slow. As for designers, of whom a group was also interviewed, they advocated government intervention in marketing, and one of them suggested training in design for improving the sector future.

The IHCDP in Varanasi

According to the Varanasi diagnostic, the main comparative advantages of the cluster are the intricacy of its production, its skilled workforce and the availability of all backward linkages. Other assets are: the history and heritage of the locality, which make it a privileged pilgrimage and tourist destination, and which also support the Varanasi brand equity (Varanasi handloom silk sari) and thus local production; and the good connectivity of the cluster to major commercial centres. The presence of a particularly active traders association is also mentioned as an advantage. The weaknesses of the cluster are surplus labour and the nonexistence of professional alternatives for the weavers, the absence of product diversification, the dilution of the Varanasi brand equity through the traders' unfair commercial practices and the weavers production of cheaper fabrics in order to increase cash flow, the poor quality of dyeing, insufficient financing and deficient infrastructure. Additional handicaps listed are the informality of the sector, the high prices of local production because of the use of silk (the fact that these may also result from design intricacy is not pointed out), the related dry-cleaning constraint, and also the irregularity in demand. Opportunities mentioned are brand building, product diversification, increased linkages in the domestic market, exports, reductions in custom duties on yarn, design and product patenting, and the registration of a Varanasi GI; these possible developments are opposed to threats, consisting in the competition from other clusters, declining demand for saris and increasing demand for value added products, meaning here embroidery work. An increase in demand for cheap power loom products is also mentioned, a statement supposing competing on the low end segment.

Considering the large size of the cluster and the sometimes conflicting interests of the different stakeholders, the growing market share of power loom, the absence of handloom dedicated traders and the lack of professional alternatives, the diagnostic posed the setting up of an umbrella structure and its autonomy in the conduct of affairs as sine qua non conditions for the cluster upgrading. The platform should promote marketing and technological initiatives, and improve the functioning of existing agencies. The focus is on inculcating the habit of collaboration, and the structure was viewed as an essential support to interactions and dialog between cluster stakeholders. Major investments should not be envisaged before its existence and functioning are ensured, and its formation was thus posed as a priority of year I of the local programme; the main reason for this stance being that stakeholders should not perceive the programme as government owned in order to avoid individual benefit seeking. The initial action plan also encompassed: the establishment of a Handloom Alone Alliance, regrouping traders working with handloom only, with the view to restore the Varanasi brand equity; the capability building of the weavers as the formation of an association that would represent their interests; and the integration of large buyers in the value chain, if the umbrella platform should appear slow to materialize.

Among the actions proposed for the platform are: the launch of a promotional campaign (of which the traders are ready to bear 25 percent); improvements in dyeing techniques with the intervention of a pole of experts and the setting-up of dyeing units financed by public-private partnerships or by private capital, but then subsidized, and this for a minimum duration of two years and a maximum of three; and support in product development and marketing to small traders and master weavers. Creativity should be market oriented, and a methodology for setting trends that would become prevalent at the pan-Indian level should be developed (a proposition which goes against the GI certification to which the locality should also aspire). Training in design should aim essentially at local designers, weavers as traders should however also be introduced to design mechanisms. Product innovation, which power loom should not be able to copy, is advocated. Participation in trade fairs is also envisaged, and the suppression of the dry-cleaning constraint. With regards to the Handloom Alone Association, the organisation should aim at increasing cooperation and supporting the definition of local and sectoral development measures. Actions suggested are to ensure access to yarn and the enforcement of the Handloom Product Reservation Act[34], which reserves the production of eleven products to handloom only, including saris, in line with previous policy. This last proposal may prove supportive of the sector development, effectiveness will nevertheless depend on political will, as proved by the poor outcomes of previous similar measures. Other foreseen areas of action are the ban of the production of certain motifs by the power loom sector, the explicit specification of the hand made feature, and the organisation of an awareness campaign in order to enable consumers to differentiate handloom from power loom. The diagnostic also mentions the need for more in depth studies of the sector and the necessity to review the cooperative model for the effectiveness of policy. Local associations are foreseen to be the drivers of the overall development process, and ensuring their sustainable functioning appears de facto the programme priority. The visit of a dynamic cluster is suggested for a better understanding of the role that joint action and associations may play in the development process. The involvement of BDS providers is also emphasized, and the formation of private sector companies delivering such services encouraged, if existing structures should not match needs. Interactions between cluster stakeholders and BDS suppliers should intensify with the view of creating the latter full ownership of the cluster development. Competition should be quality based in order to support the cluster competitiveness. The weavers' capability building should also be an area of initiatives, considering their inability to access credit and inputs, and to market their production. Surprisingly, the document concludes that intervention at their level cannot be the fact of the IHCDP, and should be taken on by NGOs, without going into further details. Large buyers should be involved, if the platform should not be operational after a year and the disorganised aspect of the cluster persists. Such firms may accelerate upgrading by bringing in technology, sales and financial resources; it is also mentioned that their contribution may lead to a situation of oligopoly. Other arguments put forward against the participation of such large structures are the high quantities that these generally order, supposing a certain degree of standardization, and their usual request of subsidies to operate in such an environment. A database covering the units involved in the programme is projected, in order to assess impact and serve as basis for the definition of further policy.

[34]The Handloom Reservation Act was enacted in 1985 and implemented as of 1993. Under this Act, 22 textile items were reserved for the exclusive production of handlooms. The Mira Seth Committee recommended the reduction of the number of items reserved from 22 to 11 in 1995. The Act was never implemented effectively up to date.

Action plan for the first three first years of the Varanasi programme was set as follows[35]:

Table 3.1

Sno	Activity	Project period		
		Year I	Year II	Year III
1.	Trust Building Activities	√	√	√
2.	Awareness Seminar	√	√	√
3.	Domestic and Export Marketing	√	√	√
4.	Strengthening Backward-Forward Linkages	√	√	√
5.	Facilitating Consortium Driven Initiative		√	√
6.	Strengthening BDS-Enterprise Linkages	√	√	√
7.	Organizing Buyer-Seller Meet	√	√	√
8.	Providing Diversification Opportunities	√	√	√
9.	Capacity Building and Networking	√	√	√
10.	Strengthening Local Associations	√	√	√
11.	Enterprise Upgradation Programme	√	√	
12.	Developing Frequently Asked Questions	√	√	√
13.	Cluster Visit	√		√
14.	Organizing Workshops and Seminars	√	√	√
15.	Brand Building	√	√	√
16.	Intervention in the Areas of Occupational Health	√		√
17.	Personnel Counseling	√	√	√
18.	Advertisement, Selection, Recruitment and Training of BDS Providers	√	√	√
19.	Implementation in the Units	√	√	√
20.	Design Development	√	√	
21.	Establishment of Common Facility Center		√	√

Article I.

Article II. Analysis and planning for years IV & V will be carried out in due time, in order to accurately decide upon priorities.

Implementation: 2006-2008

The EDII office is located in the WSC premises, and the programme is implemented in close collaboration with the centre. Two EDII representatives were initially active in Varanasi: a CDA and a cluster Officer; and 5'000 weavers of three cluster pockets, namely Ramnagar, Lohta and Kotwa, were involved in the programme. First interventions consisted in awareness camps in order to introduce the stakeholders to the cluster concept and to the potential

[35]The table originates from the comprehensive Varanasi cluster development proposal written during the second year of the IHCDP.

advantages to which such an organisation of production may lead. Focus of the CDA during the first year was essentially on trust building and the formation of weavers' SHGs, in order to enhance collective efficiency and facilitate access to credit and market; while the cluster Officer concentrated on the cluster mapping, in other words, on defining the socio-economic profile of the cluster pockets and of the weavers involved in the programme, with the purpose to identify the poverty nodes. Poverty nodes are concentrations of poor which may arise because of the position in the value chain and/or because of social, religious or ethnic status, and which are currently identified through a value chain analysis, the position in the chain determining the level of poverty. Considering the low level of trust among cluster stakeholders with which the programme started, the CDA efforts appeared substantial during the first year and resulted in the formation of 44 SHGs, without notable increase in vertical relations; an outcome which proved insufficient for the setting up of the planned umbrella platform. The visit of a dye producer was set up, which did not result in any sensible process improvement, and training in export management was also provided without tangible outcomes. According to the CDA, the latter initiative proved premature, considering the insufficient quality of local production for satisfying global standards. Five yarn depots were established with the support of the National Handloom Development Corporation (NHDC), in order to facilitate yarn supply at mill gate prices; offer consists in silk, cotton and viscose. Meetings with large buyers were also organised during the programme first year, straying hence away from the action plan, plausibly with the perspective of accelerating trust building. Sales were achieved for an amount of Rs. 400'000 ($ 8'780), with the support of the designer named for the locality.

The first year activities consisted essentially in the cluster mapping, in the definition of the action scope according to the socio-economic context, and in the building up of social capital. At the start of the second year, support mechanisms did not satisfy much the weavers training and credit needs, and efforts intensified as outlined in the action plan. The local team was progressively increased; and specialists in the technical and marketing domains, and in "social capital building", meaning endowed with the capability to lead the weavers to form new associative structures, notably SHGs, were recruited. A consultant with cluster development expertise was named to support the cluster progress on a per need basis and the recruitment of training experts was also foreseen, according to requirements; these experts should be locals and trained on a continuous basis by the implementing agency, with the view to transform them in BDS providers at term. A new designer was also hired for the locality, considering the poor achievements of the first involved, who proved to work essentially from Delhi, leaving the interactions with the weavers to the WSC. Training in entrepreneurship was integrated in the programme with the aim to improve quality and productivity; another declared objective of the training is that the entrepreneurs overcome their reluctance to share commercial information. Visits of enterprises by experts and BDS providers were planned, in order to investigate their marketing, export, packaging, health and safety, manufacturing and quality monitoring practices and evaluate their weaknesses, to continue with their individual counseling according to needs. Monitoring of follow-up was envisaged as the documentation of achievements, in order to facilitate duplication. Trust and cluster awareness building initiatives were continued during the second year, and the building up of the SHGs office bearers' capabilities was initiated, with the involvement of institutions and private sector entrepreneurs. Contacts with banks were taken to obtain credit and interactions resulted in loans totaling Rs. 120'000 ($ 2'634) on the basis of the spared capital of 6 SHGs involving in average 12 members each. Further credit was approved with the satisfaction of the first loans' conditions. Two existing

dyeing houses were upgraded, and training in dyeing was provided. Certain master weavers were supported in their tie up with new prospects and the handloom mark scheme[36] was launched in the locality, with the declared purpose to benefit to the grass root weavers. As for design and product development, 35 new designs and products were developed, and regular design support was imparted. More than 4'000 weavers accessed insurance schemes specific to the sector through ICICI Lombard, the insurance wing of the ICICI bank. At the end of the second year, the CDP had resulted in a monthly increase of Rs. 600 ($ 13.20) in the earnings of 500 weavers, equaling to Rs. 20 ($ 0.44) per day, improved access to yarn was advanced as the main factor at the origin of this improvement. Cumulated turnover of the yarn banks was then of Rs 250'000 ($ 5'488).

Under the impulse of institutional intervention, a producer company was formed early 2008, the Banaras Hathkargha Vikas Sangh (BHVS), regrouping eleven master weavers, operating cooperatives or private structures, and SHGs. Producers companies[37] have been thought in replacement of the cooperative societies and operate under a legal framework similar to the one prevailing in the private sector[38], while keeping features of the cooperative model. Planned activities cover the complete value chain and experiences in other clusters, notably in Athani, and also in the Chanderi cluster of which the study follows, suggest that such structures may be particularly effective in alleviating poverty, notably through the creation of employment, if sufficient financing is made available and pertinent capability building, notably in entrepreneurship, is organised. The BHVS was involved in all IHCDP activities since its formation in January 2008; sales took off, the sustainability of growth remains nonetheless to

[36] The Textiles Committee, set up in 1963 with the aim to promote quality in Indian textiles, introduced the Handloom mark in 2006, in order to guarantee production mode and put an end to the unfair practice of selling power loom made goods as handloom produced. The initiative followed the 2005 introduction of the Silk Mark Scheme, with the purpose to support the marketing of 100 percent silk goods. The Handloom Mark Scheme is operational throughout the country, and entitlement for participation is against the payment of a registration fee. Individual weavers, apex and primary handloom co-operative societies, development corporations, master weavers, retailers and exporters may participate in it. Each label is bar coded and its initial price was fixed at 1.25 Rs, which was reduced to 85 paise within three months and to 60 paise in March 2007. The registered users are entitled for the purchasing of labels as per their assessed production or sales capacity. Enforcement is ensured through periodic audit by officials and random market verification, and the duty for manufacturers to supply a certificate confirming the mode of production to exporters, along with the products and other requested documents. In case the mark should be misused, the delivery of labels would immediately be stopped and legal action against the person or entity involved initiated. No statutorily clause under any legal provision makes the handloom and silk certifications compulsory, notably in the case of exports, and this nonexistence questions a priori the effectiveness of the measures. Besides this element, effectiveness will depend on the degree of enforcement and ultimately on political will, and this plausibly at the state level, as highlighted by the data pertaining to the Handloom Mark Scheme. Tamil Nadu shows the highest participation rate in the scheme, totaling more than 70 percent of overall registrations, while the other states are far behind, suggesting that policy is differently enforced function of state, and that effectiveness ultimately depends on state authorities, cf. http://www.textilescommittee.gov.in/handloomms.htm & http://www.indiatogether.org/2006/sep/eco-handloom.htm

[37] Members have to be at least ten producers, or two producers associations, or a mix of both. Only primary product producers can be members of a producers' company; according to official definition, these are producers involved in activities related to the primary product, in the present case, handloom. The range of activities undertaken by a producers' company - as stipulated by law, are the production, the supply, the marketing, the selling and the export of the primary product, and also investments in capital and in the related training.

[38] Formalized by the *Company Act* of 1956, cf. http://www.vakilno1.com/bareacts/companiesact/companiesacts.htm

be confirmed, considering the short life span of the structure. Relations with the SIDBI were initiated for accessing credit; financing remained inaccessible for handloom specific activities, a credit perspective of Rs. 40'000 ($ 878) was nonetheless mentioned for training in IT. No solid business plan supported the initiative, suggesting that involvement with the IHCDP was perceived as sufficiently convincing for success, a perspective that proved hors propos. The bank position evolved with further contacts, leading to its sponsoring of a Mumbai fair visit by the BHVS. According to the action plan, a CFC remains to be set up, the Varanasi GI would need to be registered and brand ambassadors recruited. Meetings between the Varanasi stakeholders and the representatives of successful clusters should also be organised, in order to strengthen the understanding of the cluster concept and of the advantages that may result from clustering. Initiatives aiming at facilitating access to credit and market, and at building up awareness about the programme are planned to be continued on a regular basis. The comprehensive cluster development proposal, written at the end of the second year of operations, foresees to reach 75'000 weavers spread over 17 cluster pockets, a sensibly more ambitious objective than the 5000 weavers and three pockets initially considered, and which appears more able to result in a sensible and sustainable impact on poverty. The document assumes that the weavers' remuneration will increase of Rs. 4'500 ($ 109) per year during the programme implementation, and that employment will grow by a rate of 3000 new full time jobs yearly as from the third year of intervention. In order to maximize the use of resources, the linking with other governmental schemes, covering the full scope of operations as social issues, is advocated: skill building of the weavers through training by the WSC; marketing through the cooperatives apex bodies and the DoH; health issues through the DoH with the support of ICICI Lombard; access to raw material, through the NHDC; integrated and comprehensive support through the Ministry of Textiles and with a DoH implementation; and brand building with the Handloom and Silk Marks, through respectively the Textile Committee, the EDII, the Silk Mark Organisation of India (SMOI) and the Central Silk Board.

Monitoring of the IHCDP incurred in an informal way during the first year of operations, which essentially consisted in the cluster mapping and in the definition of the action scope according to the socio-economic context. Once action plans set, all CDAs, who were re-baptized Cluster Development Executices (CDEs) in the course of programme, have to report progress relatively to plan[39] on a monthly basis to the Development Commissioner for Handlooms. A Cluster Development Cooperative Group (CDCG), regrouping traders and master weavers of the clusters involved, was formed in 2007 to serve as consultative forum for the implementing agency. The CDCG meets regularly in order to discuss the clusters' progress and common issues. However, no formal reporting mechanism was introduced to support information flows and policy definition.

[39] This information was communicated to the author by the first Varanasi CDA, in function up to mid 2008.

An Intermediary Evaluation: Local Approach and Modus Operandi

Before any intermediary evaluation of the Varanasi IHCDP, it appears pertinent to mention that one of the prime objectives of intervention, according to the local EDII representatives, not explicitly mentioned in official documents, is poverty alleviation. Transparency prevails in other sectors where CDPs are implemented, notably under the aegis of the Ministry of Small Scale Industries; the aim was silenced in handloom, plausibly because of the sector organisation: direct intervention would encroach on the traders "core competences" and be a source of conflict, which the government understandably wants to avoid. The situation should evolve with the weavers' empowerment and the traders' change in mindset, two highly desirable outcomes for sustainable growth and poverty alleviation, as will be highlighted with further investigations. In the meantime, governmental ambivalence renders policy making complex and achievements probably slower to materialize than could be.

a. Training

Objectives of the programme first year have essentially been organisational with the perspective to build up interactions and trust, and set up the foreseen associations of stakeholders, while ensuring the emergence of leadership within these organisations. If the Varanasi programme is reviewed in light of the approaches retained, it appears that local strategy focuses essentially on institutional development, on marketing initiatives, including new linkages with domestic buyers and involving essentially small traders and master weavers, on training in design and on the upgrading of the dyeing process. The weavers' training sums up to dyeing and design workshops, and the diagnostic suggests the delegation of training in the other needed areas to NGOs; a stance which proves to be motivated by the social security provider role that the traders play in the absence of a state run system[40]. The empowerment of the weavers is critical for sustainable poverty alleviation, and the involvement of NGOs or other specialized agencies at an early stage of intervention in order to develop their skills in a holistic manner would probably have been supportive of a more prompt progress. Humphrey and Schmitz (2002) propositions for escaping value chains coordinated along a quasi-hierarchy mode suggest that the objective of the weavers' training should be that their community masters all steps of the value chain, so that they may escape exploitative working relations, if these should be. The attainment of such an end would mean the functional and also inter-sectoral upgrading of some weavers, and would hence ease labour surplus and plausibly result in increased earnings for the weavers. Coordination costs may be high, various means may however be used to reduce them and prevent opportunism, including the creation of mutual dependence, and the benefits from regular transactions and risk sharing. It must be reminded in this context that the hiring of external agencies for training and other services appears generally more cost effective and responsive compared to in house units (Humphrey and Schmitz: 2002).

Traders and master weavers are the foreseen beneficiaries of the planned marketing activities. By opting so, the programme implicitly positioned them as the leaders of change. Traders have proved instrumental in diffusing innovation and supporting upgrading in certain clusters, notably the earlier studied Fulia cluster, while such strategic intent was crucially missing in

[40] Information communicated by the local programme representatives.

others[41]. In these latter localities, a low road to growth was opted, and benefits remained skewed in favour of already leading stakeholders and the statu quo continued for the artisans or their situation even worsened. Considering the strength of social structure in Varanasi and the cluster trajectory during these last 15 years, it may be reasonably assumed that the cluster belongs to this last category of localities, and that a change of the traders' mindset in favour of improved working conditions for the weavers is not likely to occur in the short run. A fair trade training, which would build up their awareness in ethical issues, while proving the commercial solidity of the option[42], notably in export markets, appears as a possible initiative for initiating change at their level. Such training was not included in the programme. Relationships between traders and governmental agencies appear to hinder a state owned approach of the issue, suggesting that it would probably be best apprehended with the involvement of a specialized agency, as proposed for the weavers' capability building. The same is true for the environmental question in the context of dyeing, which only became a topic of interest at the end of the first year, but remained overlooked in planning, while the limited availability of natural resources suggests that it should also be prioritized for sustainable development. Traders generally employ a relatively high number of weavers and changes in their modus operandi would possibly lead to sensible improvements in the weavers' employment and living conditions. Field experience suggests that the only way to initiate behavioural change of powerful and generally reluctant stakeholders is with orders and valuable inputs, notably in the technical domain and marketing; and a way of involving them indirectly in the poverty alleviation effort could consist in the collection of a percentage on the turnover generated by them thanks to the programme that would then be imputed to needed social interventions at the weavers' level, this with the traders' agreement. Such an approach would presuppose effectiveness in marketing and sales and thus the availability of the needed qualifications among the personnel of the structure involved. It may be reasonably assumed that the necessary business skills are more common among private sector enterprises than among government agencies and NGOs, suggesting that the counterpart organisation for sales and marketing activities should ideally be a private sector agent. Profits drive such structure, it appears thus necessary to ensure its adherence to the government mission, in the present case, sustainable poverty alleviation, which may mean reductions in margins comparatively to the returns that could have been obtained by remaining "socially irresponsible". The setting-up of such an organisation on a public-private partnership basis by involving sales and marketing professionals might prove to be one of the options that would enable to best conciliate the state interests with those of private sector agents. Orders also prove to be a probing stimulus for

[41] Among the six handloom clusters reviewed in this research, two seem to have developed along a road to growth that may be qualified as high, these are the Fulia and Bishnupur localities, while the four others, including the Varanasi and Chanderi clusters opted for low roads to growth, suggesting that the latter strategy prevails among Indian handloom clusters.

[42] "Fair Trade sales in Europe have been growing at an average 20% per year since 2000. The annual net retail value of Fair Trade products sold in Europe now exceeds EUR 660 million. This is more than double the figure five years ago," noted the Fairtrade Labelling Organizations (FLO) International in 2005. Fair trade labelling initiatives were under way in 15 European countries at this time, while fair trade producers were organised into some 3,000 grass-roots organizations, with umbrella structures present in over 50 developing countries. Apart from coffee, bananas and some other fruits and vegetables, fair trade producers also include handicrafts. Europe represents most of the fair trade market (60–70%). The trade importing organizations say 26% of their sales come from Africa, 40% from Asia and 34% from Latin America. Fair trade sales still represented less than 0.1% of all goods traded internationally in 2005, according to the United States-based Fair Trade Federation, cf. http://www.tradeforum.org/news/fullstory.php/aid/1031/Fair_Trade_.html

change among the weavers, as these might give them the opportunity to access improved working conditions, notably earnings and upgrading perspectives, and the proposed structure could certainly also serve the distribution of their production. An increased focus on sales, and corollarily on marketing, and this at all levels of the cluster hierarchy, might greatly support achievements, and should plausibly be prioritized for facilitating changes in other areas. A condition that also appears mandatory for ensuring redistribution and avoiding conflicts of interests is that the organisation keeps control of the sales that it will have generated, a follow-up that would be best conducted by an extra-cluster structure.

Training in entrepreneurship was integrated in the programme; focus nonetheless suggests that it is essentially intended to traders and master weavers, and not to weavers. Considering the EDII expertise, the weavers' meager knowledge capital and their de facto micro-entrepreneur status, the set up of a training in entrepreneurship, in line with the initiative of GroupEntreprise in the Athani cluster, could pertinently be designed to support their empowerment and the cluster progress. The individualised approach opted for supporting the enterprises in the context of the planned training in entrepreneurship seems moreover inaccurate, notably from a cost perspective. The different segments of the Varanasi cluster hierarchy appear to share the same weaknesses and thus needs, a situation which possibly prevails at the pan-Indian level: weavers need support in all domains, except fair trade, and traders need training in the latter as in product development, marketing and environmental friendly practice; a conclusion speaking again for a network approach as outlined earlier. Commercial practice and the legal framework, which authorizes informality, and thus the inexistence of accounts and officially of taxes, also suggest that the objective to lead the traders and master weavers to share their commercial information will be doomed to fail. It would probably be more pertinent and cost effective to focus on designing redistributive measures involving these and aiming at improving the conditions of the weavers working for them, as priorly suggested. The traders' and master weavers' training in entrepreneurship would then also be an opportunity for introducing the defined measures in the course of upgrading.

b. Product development and the Design Issue

As for training in product development and design, the perspectives of building up horizontal interactions appear limited considering the sector design input, which may be highly valuable. Exclusivity of design appears a solid comparative advantage in handloom, as in the textile industry in general. Copy is current practice and the best way to prevent it is to keep novelty secret, considering the ineffectiveness of legal protection for Intellectual Property (IP) in handloom at this stage of development. A strategy adopted by some of the leading Varanasi trading firms to avoid copying is not to sell locally, but only to buyers external to the cluster, notably in metros. Design is generally integrated in enterprises operating in industries for which it constitutes a decisive comparative advantage, the strategy is often not exclusive and external designers may be employed at the same time. The prevalence of such an organisation suggests its pertinence for Varanasi and other clusters with similar characteristics and also that training in product development and design would be the most effective within networks of stakeholders with similar knowledge bases, and not at the cluster level. The confidentiality requirement stimulates de facto product innovation, and hence product diversification and competitiveness. However, a prerequisite for sustainable poverty alleviation on which the

major authors in the domains of clustering and developing countries seem to agree is a higher training intensity at the poor level.

Earlier governmental interventions in design have favoured sporadic short term training and a top down static approach, with designers external to the cluster giving precise instructions about the goods to be produced, in line with the traders' practice. Such training appeared to be also the EDII option in 2007; it can with difficulty lead to an increased autonomy in design, as proved by previous experiences where similar methods were implemented. Regular and dynamic training for a minimum duration of 6 months to small groups of predisposed stakeholders appears as an alternative that may ensure the sustainability of results; the option would also better match the earlier mentioned confidentiality requirement[43]. Such training in design could also be considered for the traders and master weavers, considering their low rate of product innovation[44]; and the mode suggested would plausibly also be pertinent for the other capability building activities envisaged for the weavers, considering their poor level of qualifications in activities of the value chain other than weaving. Regional science highlights the productive role that educational institutions may play in the development process, and the involvement of the Indian Handloom Institute of Technology and of the BHU could certainly be supportive of training, the former institution in the area of weaving and the latter in marketing. Contacts with these institutions were taken[45] with the proposal to have teams of students train the weavers, starting with a specific formation to the trainers, in order to facilitate interactions with the weaving community. Two deans were approached, one expressed interest in the initiative, further interactions did not occur, but appear pertinent. The weavers' often low self-esteem and lack of confidence suggest that training will be the most effective if set up in their premises, as they will possibly show more receptive in a context which is theirs, notably if compared to lectures outside their homes, which prove generally inadequate, if the educational background should come down to the traditional apprenticeship without institutionalized schooling.

c. Marketing & Sales

The IHCDP appears to envisage the presence of Varanasi handloom production on all market segments, with a predilection for the mid and low range segments, as suggests the proposal of suppressing the dry cleaning constraint, which de facto means the adoption of man made yarns in replacement of more expensive natural fibres. This positioning seems inaccurate considering the high added value of the local heritage. The traditional Varanasi production uses noble yarns and know-how of exception, suggesting that the high end segment is the one on which the cluster should operate and which would value existing skills and tacit knowledge. This strategy would leave the inferior market segments to power loom and may appear as the option with the most productive and sustainable outcomes, as highlighted by the industrialisation experiences of western countries. The evolution of crafts in these markets shows that products manufactured locally and according to often centuries-old traditions and by hand, have become

[43] According to the local EDII representative, a method similar to the one suggested was adopted by the implementing agency during the year 2007-08.

[44] The poor product innovation capability of the traders, which was also stated in the Jaipur hand block printed textiles cluster, seems to have become an issue in India during the 20th century.

[45] The contacts were taken by the author in the context of the NGO established in the course of research.

luxury products on the global market with their rarefaction during the industrialisation process. The high-end segment seems also more resilient to recessionary trends, as shown by brands such as Louis Vuitton and Gucci, or also Chanel, which integrated the crafts necessary for its continued existence, notably the French embroiderer Lesage, also known for its use of Indian craftsmanship. With such a high end positioning and taking into consideration handloom unmatched comparative advantage relatively to machine made production, that is the sector ability to manufacture small customized quantities, domestic sales and exports are likely to encounter sustained growth.

Embroidery work is commonly perceived as a threat for handloom, notably for intricate weaves. Nothing opposes to the embellishment of rare weaves with embroideries and the potential on this niche market appears substantial. It could be observed, notably in Ramnagar and in certain *Muhallas* of Varanasi, that a family often weaves and embroiders, and the development of increased synergies between both activities appears as a strategy to investigate, it would also ease surplus labour among the weaving community. The high number of embroiderers is *de facto* already the result of the high level of unemployment among the weavers, who migrated to an activity perceived as offering more promising perspectives.

Cooperation and competition are said to occur in different dimensions (of which the limits may be blurred). Porter suggested cooperation in the development of new markets, while competing in finding new buyers in the identified market/s. On high end market niches, on which Varanasi handloom should be positioned, buyers are relatively few and the scope for finding new clients is thus limited, and cluster stakeholders will plausibly find themselves involved with the same buyers at term. In such conditions and for sustainable growth, competition needs to be based on products, so that buyers put in consistent and increasing orders of differentiated items sold by different vendors, a conclusion highlighting the need for diversification and confidentiality, as the earlier cited limits to common training and cooperation in product development and design.

The handloom and silk marks were initiated with the view to protect the hand made feature and natural yarn authenticity against industrial production and manmade fibres, and ultimately support marketing and the sector (and not to specifically benefit to the grass root weavers, an outcome that would only become a reality if adequate measures and incentives are introduced). Control mechanisms were adopted for preventing abusive usage, while no statutorily clause makes them compulsory to all producers, questioning a priori the effectiveness of the measures. Fair trade and eco-friendly marks could be suitable options for apprehending the labour and environmental questions, most particularly in the context of exports, the sine qua non condition for effectiveness would nonetheless remain that all traders comply with the decided measures.

Powerful buyers were involved during the first year of the Varanasi programme, plausibly with the perspective of accelerating trust building. Meetings were set up, the positioning of the majority of prospects proved inaccurate, in order that they invest in Varanasi handloom; prices appeared as the main handicap to sales. One company reacted positively, already involved in the Chanderi cluster. A specific offer was developed upon its request with the support of the WSC and the EDII designer; the work was not billed, as is the custom in the majority of markets. Once the order put in, the weavers found themselves in the impossibility to start production in the absence of yarn, and of financing to buy some. The WSC served as financier. Considering the well known difficulties of the weavers to access credit, it would have been

opportune to negotiate payment conditions which would have enabled to cover input costs. In addition to these first commercial malfunctioning, the merchandise remained unpaid once delivered. New buyers were involved since 2007 and are allowed to return the merchandise if unsold after three months, making the weavers bear all investment and production risks. In the majority of markets, buyers take on the risk of their acquisitions and unsold merchandise is liquidated with an often consistent rebate. Commercial methods and sales conditions appear to work against the programme objectives, confirming the earlier assumed insufficient business qualifications of government representatives and speaking for the involvement of private sector professionals knowledgeable about marketing and sales; however, if these practices should prevail in the domestic market, developing exports in countries, where sales conditions for generating the cash flow needed for production may be negotiated, should then be prioritized.

d. Social Structure

Despite the numerous elements that confirm the dominant role of social structure in the Varanasi weavers' precariousness, its role in the continued existence of extreme poverty was not investigated in the documents pertaining to the cluster. Approach even suggests the belief in a trickle-down effect, while previous development projects in artisan clusters with similar characteristics have demonstrated the inaccuracy of such a perspective on account of social structure. Women empowerment was also not considered at this stage, possibly because of the high orthodoxy prevailing in Varanasi, which may notably stated through the relatively high enforcement of *Pardah*, women seclusion, among all religious communities; another possible reason for this a priori neglect of the women cause is that discrimination in the handloom sector indifferently affects men and women because of their caste belonging.

e. The Power Issue

The irregular and insufficient provision of power was not tackled by the programme, while its apprehension, notably through renewable energy, would certainly serve quality and productivity improvements, as well as social purposes; and it would also limit, if not eliminate, the need for power loom producers to use handloom for producing their orders in the case of prolonged power failure; a forced practice which can only put downwards pressure on the weavers' already abysmally low wages.

3.8.2 The Chanderi Handloom Cluster[46]

Chanderi, located in the central Indian state of Madhya Pradesh, is a small town of 30'000 inhabitants, home to slightly more than 3'650 looms and of which 60 percent of the population depend on weaving. The sheerness of local handloom was already mentioned by the locality aristocracy as of the 11th century. Three fabrics made the local offer at the start of the 20th century: a 100 percent silk using a particularly fine yarn of 13/15 or 16/18 deniers; a cotton

[46] Considering that information regarding the cluster progress since early 2007 sums up to financial figures, focus of this Chanderi cluster study is essentially on the UNIDO programme aiming at alleviating poverty which took place in the locality from 2003 to 2006, and subsidiarily on the local IHCDP.

fabric, finished with an onion extract, commonly named the Chanderi cotton and a blend of the two fibers. It is at this time that the use of Zari for the motifs became popular, under the impulse of the royal family of Scindia, who also opened a training centre in the locality. A specificity of Chanderi is the needle weaving of the motifs on the loom, with one or more weft threads, and the traditional heritage which makes that the local weavers are particularly skilled in working with thin yarn, giving them a definite comparative advantage over other Indian clusters, notably Varanasi.

The Chanderi Cluster Stakeholders

Chanderi traders generally employ from 200 to 250 weavers, they are fairly innovative in design and secretive about their activities and commercial choices, an attitude in line with the one stated in Varanasi. They appear to have become rich during times of sustained demand, and reinvested part of their profits in handloom, notably in dobby looms and jacquard accessories, and channeled the remainder in other activities, while the weavers' living and working conditions worsened with the increase in workload and inflation, and without employment alternative. Women are estimated to constitute 25 percent of the Chanderi weaving workforce, a percentage which reduced since the 1940s[47], and their empowerment was a priority area of state intervention since 1999. Women of poor families, who previously were indirectly employed and constituted the large majority of the local invisible labour, were approached in order to form SHGs. The initiative resulted in the existence of ten SHGs at the start of the UNIDO programme in 2003. The Chanderi weavers' children schooling is often cut short and education perfected at home, so that apprenticeship on the loom may start. The young generation appears willing to take over the traditional family occupation, to the contrary of the Varanasi youth. This readiness may be explained by the positive performance of the cluster this last decade, notably under the impulse of institutional intervention, contrasting with the Varanasi cluster decline.

Three religious communities are present in Chanderi: Muslims, Hindus and Jains, and trade is controlled by Jains and Maheswaris, a Hindu merchant caste. Weaving is done half by Muslims and half by Hindus. The Muslims (Ansaris) constitute 34 percent of the cluster households, and Brahmans and low caste Kolis total up respectively 10 and 13 percent. The other castes active in the profession are the Khuswas, Mongias and Barars, and the Jains represent 12 percent of the households. The Ansaris have the best reputation among the weavers; they generally work more and consequently earn more, are more disciplined and invest their profits in the profession. 70 percent of the weavers in extreme poverty are nonetheless Muslims. The Chanderi cluster confirms the caste based antagonism between producers and traders which characterizes Indian artisan clusters, the poor prove however more prone to interact without considerations of religious adherence, as in Varanasi.

[47] No satisfactory explanation could be accessed for this decrease; an assumption which would need to be confirmed is that religious orthodoxy increased since the country independence.

The Chanderi Production: Evolution and Features

Fabric didn't change much up to the late 1970s, except that yarn became thicker, which reduced weaving time, and natural finishing was abandoned, to the detriment of the richness of local production. Traders proved unable to innovate and to keep with the changes in demand, and traditions also eroded. State support intensified as from then, the production of the cluster, which consisted essentially in saris, diversified, and integrated furnishing fabrics and stoles. Chanderi weaves are not intended for local consumers, and more than 90 percent are sold in the domestic market excluding Chanderi, and the remainder is exported. The silk supplied locally is Indian, Chinese and South Korean, and is usually acquired greige and dyed locally. In spite that the local government stated in 1926 the suitability of local climate for sericulture, no initiative was taken to develop the industry. 80 percent of the cotton is acquired already dyed in South India, mainly in Coimbatore, and in Jaipur, Rajasthan, and the remainder 20 percent are dyed locally. Zari, likewise in Varanasi, comes from Gujarat. Dyeing remains of poor quality, despite the setting-up of a dyeing facility in the still existing but state run local training centre in 2002. The facility failed to arouse the interest of the weavers, as the Computer Aided Design (CDA) software which was acquired in 2000. State intervention since 1999 resulted in product innovation, notably in the weaving of designs in coloured cotton yarn, and in the adoption of geometrical shapes and new yarn blends. Training however did not result in sustainable product innovation capacity, suggesting again its inadequacy; it was conducted on a sporadic and static mode, privileging a top-down approach and giving no scope of initiative to the weaver, as could be stated in Varanasi in 2007. Government agencies also initiated the participation in domestic fairs; the initiative was monopolized by master weavers and traders with the early buying of exhibition space to re-sell it at a later stage and at an inflated price.

Social Capital and Support Structures

Local state run support structures are the already mentioned training centre and a small office of the Maddhya Pradesh Hastha Shilpa Vikas Nigam (MPHSVN), a state owned handicraft promotion council. The training centre failed to receive the weavers' interest and involvement, and outcomes suggest that modus operandi would need to be reviewed for effectiveness. BDS providers are present in the locality, productive interactions between these and specific handloom structures proved rare in 2003. In addition to the ten SHGs mentioned earlier, the Chanderi Silk Club was the only handloom specific association active in the locality at this time. The association regroups traders and aims at supporting handloom trade, notably exports, it also lobbies at governmental level for intervening in areas of which the enhancement would be supportive of the craft development, notably investments in infrastructure. The study of the locality revealed substantial government support, pertaining at all activities of the value chain, except credit, which comes down to credit through the cooperatives. Numerous cooperatives are listed, operating 1'100 looms and representing 30 percent of the operating looms; their functioning proved generally similar to the one stated in Varanasi in 2005, and the credit and other benefits that these should have made available to the weavers remained inaccessible to the latter.

The 2003 Chanderi Cluster Diagnostic[48]

The strengths of the cluster are its rich traditions, offering a confirmed source of added value and diversification, and the history of the locality, which is listed as national heritage, a fact supporting brand equity and tourism. The keenness of the local youth to take on the craft is also mentioned. Lack of water is a crucial issue and the first weakness mentioned by the diagnostic. Other weaknesses listed are: the poor connectivity of the locality, which is only accessible by road, with the nearest train station at 38 kilometers; the weak position in which the weavers are; the absence of social security; the deficient dyeing process, and the absence of credit and of linkages with export markets. From a developmental perspective, several aspects are to investigate: equity and growth; marketing and product development; and the role of institutions and capability building. From an equity and growth outlook, it appears that the cluster production and the number of looms increased sensibly during the preceding decade, traders built on state intervention, as occurred in the Fulia and Bishnupur clusters, but without that the growth benefited the poor. They also bypassed intermediaries and inflated their margins. Vertical interactions and knowledge flows between traders and producers as between institutional structures and weavers proved insubstantial in 2003, and the weavers were in great majority fully dependent on the traders and disconnected from the market. Caste structure and religion appeared to be the main determinants of the composition of the workforce and power structures legitimized by religion the primary cause of poverty, a fact which was confirmed by the value chain analysis.

The diagnostic highlights the still large scope for product diversification of the cluster and its potential on high end niches of the domestic and export markets. Accordingly, the weavers should be trained to best satisfy such a positioning, supposing the production of small batches of high end customized products. The promotion of the training centre among the weavers is advocated as well as its financing by a private-public partnership and its supervision by the private sector with the view to disseminate improved technology and production processes, notably in dyeing, and to build up the weavers' capabilities. Technological progress may also be achieved on the looms, considering that 90 percent are pit looms[49], with no jacquard accessories and/or other existing technical means to support product diversification and productivity. The limited availability of water should also be apprehended, considering that it may impact at term the quality of dyeing (the fact that it may also endanger humans is not mentioned). Building up the traders' awareness in fair trade is another suggested area of action. There is also a need to improve the linkages with and between the different institutions specific or related to the sector, notably the DoH, the MPHSVN, the Central Silk Board, and to optimize the use of the different schemes and benefits accessible through them. Approaching the SIDBI and the State Bank of Indore, and the development of a credit model specific to the weavers are suggested to overcome the absence of financing. The training of BDS providers, in order that productive relations between these and the community exclusively dedicated to

[48] The 2003 Chanderi diagnostic, written under the aegis of the Madhya Pradesh Government and UNIDO, and which served as basis for the local UNIDO CDP aiming at poverty alleviation, constitute the main source for this section, cf. http://www.msmefoundation.org/folder/Diagnostic/88.pdf

[49] The pit loom replaced the horizontal ground loom that required the weaver to lean over to accomplish his task, which made the occupation a very uncomfortable exercise. The pit loom was so named because the loom was placed over a pit dug into the ground, the weaver could thus sit comfortably on the edge of the pit with legs dangling in the hole and be on the same plane as the loom.

handloom intensify, should also be initiated and the use of the GI provisions is recommended to support local brand equity. The development of market linkages, with a particular focus on exports, is emphasized, and Internet should be considered to reach this end. In all initiatives, the weavers, most particularly women and the younger generation, should be the focus of action. Training of the traders in fair trade is also advocated. The objective is to improve the cluster competitiveness by developing synergies between cluster stakeholders. The promotion of cooperation is the motto and the prime advice is to consider the cluster as an organic whole for success. The involvement of a strong private sector organisation as an umbrella structure is suggested in conclusion, in the absence of effective leadership at the cluster level, in order to spearhead the development of synergies and apprehend infrastructural and meso-level issues.

The UNIDO Cluster Development Programme: 2003-2006

The cluster problems are well known since long and previous interventions have not succeeded in solving them. Emphasis of the UNIDO three year programme, which explicitly aimed at alleviating poverty, was consequently on the development of sustainable solutions by consolidating existing assets, while putting BDS providers in relation with the cluster. The strategy is to increase competitiveness through collective efficiency, by forming or developing local institutions, networks, associations and SHGs, as the weavers' capabilities. Sixty SHGs of an average of ten weavers were formed during the initial phase of the programme, these were asked to regularly spare a certain amount collectively agreed, in order to constitute a capital for their future activities and emergencies. Under the impulse of these first achievements and in the need of a structure which would manage activities and deal with common issues in production, marketing, credit and management as well as social concerns, some of these SHGs formed an association on their own initiative: the Bunkar Vikas Sansthan (BVS), which initially regrouped seven groups of weavers. The BVS was split in two sub-committees respectively in charge of marketing and of production; the latter allocates work among the weavers and is responsible for the weavers' remuneration, and the former deals with marketing issues, of which the details were not defined upfront, because of the perceived complexity of the matter. One person per group is in charge of accounting, which pertains to the financial operations related to inputs and to the weavers' remuneration; he/she is remunerated 3 percent of the group total turnover. The association premises include an office, a meeting room and stocking areas, where quality control also takes place. UNIDO efforts in capability building aimed essentially at the BVS members and pertained to dyeing, design, quality and technology improvements, and marketing. The raw material provision and dyeing issues were apprehended with the creation of a yarn bank and a dyeing centre. As for process upgrading, a warping technology was considered without that it materialized, and 21 Tara looms[50] subsidized by the government were to be installed at the end of the programme. Visits of different localities and enterprises were set up in order to get the weavers, including women weavers, accustomed to marketing practice and to the other activities listed. These initiatives enabled the building up of the weavers' confidence, a process which accelerated with their new role in the BVS. Some weavers also participated in a foreign fair and in domestic trade shows. Product diversification

[50] Tara looms were developed with governmental support and have take-up and let-off mechanisms, as a fly wheel and a steel frame for increased productivity, cf. http://www.dainet.org/livelihoods/taraloom.htm

continued and resulted in the development of curtains, bed and table covers, and running fabric for garments. Women were involved at all steps of the projects and are represented in the management committees of all local associations. Writing classes were specifically and successfully set up for them; another initiative has been the recruitment of a woman doctor as none was active in the locality. This particular emphasis on women empowerment resulted in the formation of their own association: *Hamari Duniya*.

The BVS obtained 0.15 million rupees ($3'300) from UNIDO for training, a half million rupees ($11'000) from the Madhya Pradesh government, and other financial support without compensation. The presence of the UN agency greatly helped to access this financing; access to credit without support remains nonetheless difficult. Intervention also resulted in the formation of the Chanderi Development Foundation (CDF), the initially foreseen umbrella structure of the cluster, which regroups weavers, including women weavers, master weavers and traders. The organisation aims at supporting handloom at the meso-level and was viewed by UNIDO as important for confronting developmental issues pertaining as much to infrastructure as to education and health. Social actions were not included in the CDF agenda during the UNIDO programme as initially foreseen, and the poverty alleviation impact of the organisation appeared marginal at the end of intervention. The CDF is at the origin of Chanderi's GI, which was obtained in 2005 thanks to the local needle work and sheerness of production. The *Silk Club*, which regroups only traders, was the structure initially envisaged to serve as the cluster umbrella organisation. The involvement of its members in the programme proved negligible, they participated in a foreign fair and also in a trip to Varanasi, which introduced them to new techniques and designs; according to them, they should also have been introduced to major domestic buyers by the UN agency, as was done for the BVS, they are nonetheless not ready to communicate their own contacts.

An Evaluation of the UNIDO Programme: the Framework for the Local IHCDP

An evaluation of the UNIDO programme was conducted by the Indian NGO Basix at the end of intervention, upon the request of the UN agency, and served as basis of intervention for the local IHCDP. Basix was also asked to continue the efforts for making credit accessible to the weavers, with the creation of a micro-finance institution, its area of expertise, while the IHCDP would concentrate on other areas where support still proved necessary for sustainable development. The main points and recommendations of Basix evaluation are summarized below, and further initiatives since the UN agency departure investigated.

The BVS appeared to be the local organisation with the highest poverty alleviation impact at the end of the UNIDO programme, and not the CDF. The weavers' association regrouped 130 members, of whom the remuneration increased in average of 15 to 20 percent during the three year programme, notably thanks to the regularisation of their work, which previously encountered sensible seasonal variations. This positive achievement was nonetheless fragile, as it depended on one major buyer and the weavers' capabilities proved insufficient for developing sales and ensuring an autonomous and sustainable growth. Further support and functional upgrading, notably training in team work, product development, production management, marketing and in finance and accounting, and the acquisition of leadership skills by some members of the association were considered prerequisites to reach these ends. The UNIDO programme essentially benefited the BVS members, and the cluster stakeholders who

were not members of the association persisted in their deficient dyeing practice at the end of intervention. Dyeing quality remained insufficient at the cluster level, despite the programme and earlier institutional efforts to offset the weakness. The evaluation suggestions are to invest in quality testing in the context of the dyeing facility and to make the latter accessible to the weavers not members of the BVS and also to traders, at conditions that remained to be defined. The use of the training centre dyeing structure is also advocated, and natural dyes should be experimented. The necessity of high quality management for an optimum functioning of the yarn bank and dyeing centre is highlighted. As for the traders, the knowledge that these accessed on the occasion of their participation in a foreign fair and in a trip to Varanasi appeared not to have served much their capability building, the BVS members proved sensibly more receptive and open to change, but unable to transform the knowledge accessed in sustainable productive activity. Capability building in this context would probably best be advanced with orders and adequate follow-up support, suggesting the need for renewed participation in domestic and foreign fairs.

The high end buyers working with the BVS were previously unknown to the cluster, and their involvement was considered by Basix as an initiative which greatly helped to link the BVS with the market. Products diversified under their impulse, and weavers also get accustomed to trends and product cycles. The knowledge acquired proved however insufficient for sustainable development at the end of intervention, and the activities of the marketing sub-committee remained to be defined and launched. The objective in 2006, at the end of the UNIDO programme was to increase the BVS turnover of 10 percent up to 2010 relatively to the 8 million Rupees (approx. $ 175’625) estimate for the year 2006-07 – it was of 3.6 million Rupees ($ 79’030) in 2005-06. Such an increase would result in the improvement in the living conditions of 1’000 families, and indirectly of 2’500 households. The strategy suggested for achieving this growth is to build on the BVS assets and to facilitate the association access to micro-finance instruments. New textures should be experimented and shops opened in metros, with the involvement of the Silk Club, of which the additional areas of action remained to be defined. For what pertains to marketing, the involvement of reputed artisans is proposed, the objective being the creation of a catalogue. A joint marketing strategy involving Chanderi, Kota and Maheshwar, two nearby localities, is mentioned without going into more detail. The BVS should also start to focus on social issues, among them, access to medical care for all and children education; efforts in adult education should also be continued, and the construction of a school is suggested. The traders’ awareness building in fair trade, which was suggested at the start of the UNIDO programme, did not materialize during implementation and was omitted from the evaluation. The GI certification obtained by the CDF in 2005 did not mean much at the departure of the UN agency, as, if support should leave the locality, neither the traders, nor the weavers were ready to assume the administrative duties related to its enforcement. Its increasing use and a promotional campaign for building up the consumers’ awareness of it are recommended; to guarantee its enforcement, the media coverage of a case is suggested. Meetings with local authorities should also be envisaged in order to improve access by road. The association viewed for these two last activities is the CDF; another suggested area of intervention is the abolition of the taxes internal to Madhya Pradesh, handicapping the flows of goods. The involvement of specialized agencies which could effectively support institutional initiative and the cluster development is advocated for the maximization of outcome.

Into Perspective

a. The BVS

The BVS is the organisation with the highest poverty alleviation impact; interestingly, the association has a commercial purpose to the difference of the CDF which acts on meso-level issues, an assessment underlining the importance of commerce in the development process and the role that such associations may play. The association achievements should nonetheless be put into perspective: capabilities, notably in the areas where the high added value is, namely, product development, marketing and branding, remained insufficient at the end of intervention, and the association proved still dependent on support for autonomous development. Management and accounting were added to the earlier UNIDO training scope, as the instilling of leadership skills for predisposed members of the association. Two Basix consultants, and one IHCDP representative were present in Chanderi early 2007; and the almost unique client of the association has set up a local office since then, suggesting that the enterprise is the strong private sector organisation foreseen as the cluster umbrella structure by the diagnostic, in the absence of effective leadership. In spite of the a priori relevance of the strategy, the BVS turnover decreased since 2006, no further market linkages developed and no new members joined the association. The BVS remained unable to satisfy export requirements in 2008, as per the CDE responsible for the locality. This *statu quo* in the weavers' empowerment suggests the need to review approach and/or training methodology for sustainable poverty alleviation and the inadequacy of support since the end of the UN agency programme.

b. Process and Product Innovation, and Infrastructural Progress

The adoption of jacquard tools, as used in Varanasi, seems one of the process innovation privileged by local stakeholders. The choice seems questionable, as it may lead to the erosion of the traditional needle work which constitutes the peculiarity of local handloom, and thus to a meaningless GI, suggesting that the technology should certainly be carefully thought through before being adopted. As for the GI, the Tea Board experience with the Darjeeling tea shows that important investments and human resources need to be pooled for effectiveness (Narashima, 2006; Srivastava, 2005); the latter remains also constrained by differing national regulations in the case of exports and supra-national regulation would need to be harmonized, suggesting that the Chanderi GI is pointless as such. The propositions to revive the Chanderi cotton and to start local silk production were not followed up by UNIDO, neither by Basix or the IHCDP. The Chanderi cotton is certainly an asset on which it should be capitalized, as the onion finishing which was previously used, which could plausibly also be suitable for other fabrics. Such initiatives would pertinently support local brand equity and the cluster development. The yarn provision issue was solved with the setting up of a yarn bank, while initiating local production would enable the regularization of supply, enhance price management, reduce surplus labour and transport costs as pollution; advantages which can only support the cluster performance.

The building up of the BVS members' quality awareness led to the formation of a team dedicated to quality control. The operation is conducted while sitting on the ground and this organisation appears sub-optimal, the best means for controlling fabric quality being a lighted table on which the fabric is put in order to spot defects with the help of the increased fabric

transparency resulting from lighting. Such a table requires power, a feature that appears an obstacle to its use, as power supply in Chanderi, as at the pan-Indian level, is deficient. This infrastructural issue was omitted from all local action plans while its apprehension, notably with the use of renewable energy, would positively impact quality and productivity, and also plausibly serve social ends, as already highlighted. A crucial weakness of the Chanderi cluster was not tackled by any development programme up to today: the lack of water. A dyeing centre was set up, without the mention of a clean water technology, and natural alternatives to the use of azo-dyes were only considered at the evaluation stage, this with minimal emphasis, as in Varanasi. It would be opportune to apprehend the issue with the building up of the stakeholders' awareness and investments in the needed technology and inputs, as with the cooperation of technical institutes. Natural dyeing processes being longer and the fixing of colours of inferior durability, research in the field appears moreover a propos. Envisaged improvements in infrastructure are limited to the development of the road network; a railway liaison could appear a pertinent complement or alternative, if sustainable development is the objective.

3.9 An Overall Cluster Development Policy Evaluation

3.9.1 Approach and Modus Operandi

The IHCDP appears to have been organised around the four approaches constitutive of the Chanderi UNIDO intervention, namely, the capability building, the market, the technological and the institutional approaches. Emphasis is de facto on institutional development, with a particular focus on trust building and collective efficiency and, subsidiarily, on capability building, more specifically in technical areas, in line with the cluster development methodology elaborated by the UN agency (UNIDO, 2007). The UNIDO programme resulted in the creation of 60 SHGs and two novel associations were formed, the CDF and BVS, the latter on the weavers' initiative only. The skill level of the weavers members of the BVS, who proved to be the main beneficiaries of the UNIDO intervention, was insufficient at the end of the programme, and support needed to be continued in the same domains as previously, as in new ones. The NGO Basix was then involved and the IHCDP launched. Basix was firstly asked to evaluate the impact of the three year UN intervention, to then continue with the creation of a micro-finance institution. The UNIDO strategy greatly influenced the IHCDP, without that field experience served to perfect the latter approach and resulted in the early involvement of specialized agencies. As mentioned in the Varanasi cluster study, such an approach would probably support a more prompt attainment of objectives, and its strategic advantage appears substantial, if the limited time frames of programmes and the sometimes extreme poverty of the weavers are considered. The building up of the traders' awareness in fair trade and social issues was neglected by both institutional endeavours, while mentioned in the Chanderi diagnostic. As already highlighted and considering what seems to be prevailing relations between traders and weavers in Indian handloom clusters, such initiative would plausibly be supportive of sustainable poverty alleviation.

Both clusters are characterized by the chasm between producers and traders which can be observed in a majority of artisan clusters. The Chanderi diagnostic mentions the importance of caste structure in the composition of the workforce and highlights that power structures

legitimized by religion are the primary cause of poverty. This statement was omitted from the Varanasi document, despite that it is also fully pertinent for this latter locality, where local orthodoxy appears de facto particularly strong, if not stronger than in Chanderi. This omission suggests that the executive and government agencies heading the IHCDP either have integrated this essential parameter of social reality or that they are not ready to confront it. Considering the inexistence of action directly supportive of poverty alleviation at the traders and master weavers level (demand led growth having proved insufficient for this end), and also the silenced poverty alleviation aim of the IHCDP, the latter assumption appears the most plausible. As highlighted in the Varanasi cluster study, a high number of weavers work for traders and master weavers, and a change in the latter modus operandi by tackling upfront behaviours that hinder a high road to growth would possibly magnify the poverty alleviation impact of initiatives.

The Chanderi traders' behaviour when it comes to sharing commercial data confirms the limits posed by the features inherent to certain activities of the value chain to 'collective efficiency' at the cluster level, namely product development, marketing and sales. Institutional approach seems not only to neglect the confidentiality requirement of the profession and the related concept of Intellectual Property (IP), but also the commercial reality of goodwill, which relates to a company brand equity and its clientele, and which may be a highly valuable asset. Interventions persist in aiming to improve horizontal and vertical interactions covering all dimensions of activity, and linking all communities and hierarchical segments of a cluster, in line with the UNIDO view to consider clusters as organic wholes, while it would plausibly be more productive to focus on networks for the just detailed activities, notably because of goodwill and of the confidentiality requirement, and this with differentiated support according to the knowledge capital of the stakeholders involved, as suggested under the Varanasi section. Institutional approach substantiates the misreading of commercial reality already stated and the need for the involvement of business professionals in the different areas where weaknesses persist.

3.9.2 Marketing and Sales

Marketing and sales efforts in both clusters consist essentially in the participation in domestic fairs and linkages limited to a reduced number of large Indian buyers with a relatively important leverage power. The impact of such structures appears greatly questionable in the light of the Chanderi experience. Production for the only major buyer of the BVS involved 100 weavers in March 2007, orders consisted essentially in one colour fabric aimed at manufacturing garments; the quality was then currently produced for this client and among the only type of fabric which he was buying, a reality which can with difficulty serve the continued existence of the traditional heritage, and the weavers' remuneration. The youth producing these orders, often recently trained on the loom, demonstrates a confirmed readiness to learn, time and money are missing. 6 days a week are busy on the loom for 10 hours per day and a remuneration of 25 Rs. (0.55$) per meter of fabric, resulting in daily earnings ranging from 50 to 60 Rs (1.1-1.32$). These amounts lead to conclude that the collaboration with this almost only client, who thus finds himself in a quasi monopolistic position, resulted in an increase in employment and in the regularization of the latter, without absolute increase in remuneration and improvements in the weavers' working and living conditions, this while serving the erosion of the traditional heritage, in spite of governmental emphasis on its uniqueness and revival.

This still insufficient capability of the weavers highlights the need for functional upgrading and diversifying clientele, so that the weaving communities may master the full value chain and access buyers who not only create employment, but also ensure a level of remuneration making effective functioning (Sen, 1985, 1999) a reality. No solid vision on the export front was worked out in both localities at this stage despite the declared will of all programmes considered to develop sales in foreign markets and the confirmed positive impact of such a strategy on performance (Humphrey, and Nadvi, 1999). Their incipient state and the inflation in transport costs may explain this choice; export markets potential is nevertheless substantial – as highlighted by the recruitments of master weavers by Chinese entrepreneurs - and the exploitation of this sales channel would deserve greater attention. Launching exports by linking the weavers with small foreign enterprises, often more flexible for what concerns delivery schedule than larger structures, would plausibly result in a more prompt upgrading, and also less uneven collaboration terms. The setting up of marketing and sales agencies located in the countries or regions of destination appears to be a pertinent commercial organisation to support this development, as highlighted by the Athani cluster experience; the option would maximize export performance, proximity being positively correlated to performance (Saint-Pierre, and Mathieu, 2007). Volatility of demand is often opposed to export growth, this appears true with mass production and the mid range market, however, the argument appears less valid on the more resilient high end segment, on which Varanasi and Chanderi handloom should be positioned.

The use of Internet by export structures for supporting sales is current and the sales channel seems to be favoured by developmental programmes. Research has however highlighted that the technology is not a mean to realize sales in the textile trade (Didelon, 2004), texture being difficult to assess on a screen. The touch remains essential for placing orders, and sales are achieved essentially through meetings, which should thus be prioritized.

3.9.3 Product Development and the Design Issue

Innovation in design is almost absent from contemporary handloom, traditional motifs are woven, or contemporary designs are copied, either from existing handloom products or from power loom fabrics; designs may also be simply realized according to client specifications. Adaptation of products to foreign and contemporary tastes means the dilution of the design capital and traditions that today make the richness of the craft. The most successful products in the early 1980s were those of which the designs had only been slightly altered and of which the colours had been adapted to better match the specific requirements of the destination markets (Cable, Weston and Jain, 1986). Assuming that this conclusion remains true in present times, training in product development should ideally aim at perpetuating traditions while maintaining an adequate degree of innovation. A constraint that deserves thought which governmental agencies and other organisations seem not to have started yet. The transfer of foreign training models was privileged up to today, and has proved inadequate for finding the right balance between tradition and modernity. The traditional learning mode successfully carried forward an incredibly rich heritage. The statement suggests that illiteracy might not be an obstacle to the weavers' and designers' sustainable upgrading in product development, and that learning by doing, supported by material requiring the usage of sight and speech, the primary vehicles of knowledge and know-how acquisition in this system, might be the most adequate option for the maximization of outcome. The recruitment of experimented retired weavers for the training of

the younger generation could be an option for ensuring the continued existence of the richness of the craft. Interestingly, entrepreneurship of the early 20th century seems to have been sensibly more dynamic from a product innovation perspective than actual handloom entrepreneurs, if its patronage of the profession and notably initiative such as the Chanderi training centre are considered. Western firms using skills of exception have a strategy in line with the then local aristocracy: they often integrated a training centre for artisans, in order to perfect the knowledge and know-how of the latter with sometimes centuries-old techniques, while developing a contemporary offer distributed globally.

3.9.4 Institutions and Local Governance

The presence of governmental agencies was perceived as an advantage by all programmes, independently of ownership. Governmental agencies are an advantage for developmental projects aiming at sustainable poverty alleviation as long as they participate in the creation of an environment conducive to an inclusive growth that lasts. The study of both clusters highlights the deficient functioning of the cooperatives, and indirectly of the DoH, and the WSC confirms that government agencies may de facto be as much a handicap as an advantage for sustainable poverty alleviation. The latter structure functioning also stresses that local 'soft' or non-state institutions may exert a significant influence (Peck, 2000)[51]. Institutions prove generally slow to adapt to changes in economic structure, as they may be rooted far back in social history, and there is no a priori reason to believe that their *modus operandi* will change in the short run, if no innovative mechanisms to support the process are introduced. A change in management, as decided for the WSC, may certainly support the desirable evolution, it is nonetheless not much plausible that such a measure decisively impacts local tacit norms and the way sometimes generation long relationships between cluster stakeholders are conducted. Regulationists consider institutional forms as the unpredictable outcomes of social struggles and political interventions, abounding with rule-changing behavioural adjustments, the full effects and implications of which can only be evaluated *ex post*. The process by which modes of social regulation are formed is irreducible neither to 'functionalist' responses to the needs of capital, nor to conscious action of state employees. Institutions play an important role in normalizing and regularizing specific trajectories of development, but no defined set of institutions can however guarantee a sustainable redistributive growth *a priori*.

Research however concluded that a systematic and centralized approach to institutional change proves generally ineffective, and that regional factors are of more significance (Peck, 2000), and also that regional and local institutions are fundamental for regional growth and regeneration. Amin and Thrift (1995) consider that it is not only desirable, but also feasible to develop locally based, bottom-up and progressive economic governance, building on the associative, networking, and learning capabilities of local economies, sustained by a thickening of the institutions, albeit within a broad macroeconomic and political framework. Such associative strategies are nevertheless contingent on either a vibrant private economy or a secure public economy, or both, and their deployment is unlikely to significantly counter existing patterns of spatially uneven development. The concern is to explore configurations of

[51] Regulationists emphasize that Modes of Social Regulation (MSR) should not be reduced to institutions, but also embrace 'softer' forms, such as consumption norms, societal expectations, economic habits and conventions, and cultural practices, which together make the social context for the accumulation process.

local capabilities and macro-level supportive frameworks that permit a plurality of local level strategies to be developed. The objective should be to involve the regional and local powers, with the view to create an intermediate governance structure capable of establishing an enabling environment for development and sustainable poverty alleviation (Bianchi, 1996: 204) that can be applied on a broader scale. The IHCDP requests local authorities to guarantee legal entity to the associations that will emerge during intervention, to provide the land for building the necessary facilities or to partially subsidize its acquisition, and to ensure the convergence of regional and central support measures in order to maximize the use of resources. Support measures and schemes have proved relatively unsuccessful in the past, notably because of the weavers' poor education and limited access to information, and the lack of political will. A great majority of schemes' requests have to be first submitted to the state authorities for agreement on its financial participation, as per the funding pattern designed by the central government. The role of state governments is thus crucial for the effectiveness of policy. State governments do what they are told to do, according to a Varanasi stakeholder, it would be pertinent to build on this predisposition by involving them pro-actively in the definition of the right instruments that would ensure the weavers' access to the schemes, and support entrepreneurship and regional economic development. This broader scope of participation could include: the provision of human resources for supporting capability building, notably by promoting the involvement of the private sector and interactions between local educational institutions and the weaving community; and also the facilitation of the setting-up of marketing and sales structures through public-private partnerships, or direct or indirect subsidies, among others, as previously mentioned.

The role of the elites in the institutional enframing of regional economies is of paramount importance. Comparative international research has highlighted that the existence of a 'close' and 'hegemonic' growth coalition that brings together public and private elites plays a determining role in generating and maintaining localized competitiveness (Judge *et* al., 1995). Economic growth as decline is 'carried by the economic, political, and cultural elites' and 'it is social power that creates growth' (Swyngedouw, 2000). Persistent socio-economic decline and failure to regenerate highlight either the absence of innovative elites or a dominance of traditional elites that attempt to hang on eroding positions of power. Local elites may be defined as 'more or less loose groups of self-interested economic agents and institutions that are actively inserted in the local economy; their mission as "locality marketers" is to maintain or attract activities that benefit themselves' (Swyngedouw, 2000). They are both catalysts and market makers; they command considerable political and economic power and exercise a notable influence on policy formulation, regulatory procedures, planning, and even appointments to key positions. The underlying rationality is that the collective promotion of the city or region and forms of co-operation benefit individual agents (Papadopoulos, 1996; Stone, 1993). The Varanasi handloom elite may be reasonably perceived as a traditional elite that hangs on its economic rents, to the detriment of innovation and competitiveness, and it appears closely linked to the sector political elite. These relationships are with difficulty compatible with the objective to alleviate the poverty of the weavers, considering that the latter – among others, make the wealth of the handloom elite. Leading handloom merchants prove de facto to be a key element of local governance, and plausibly at a larger geographical scale, and would need to be involved in the programme for the sustainability of results. Both elites want handloom to grow, the difference of perspectives resides in the redistribution of part of the returns or not. The proposal should then be to support the growth of the handloom elite

activities, while ensuring a partial redistribution of returns to the weavers with adequate policy instruments and the agreement of this elite, which should not be an issue considering the foreseen increase in turnover.

3.9.5 Poverty, Labour, and the Remuneration and Social Security Issues

Poverty is about workers and thus about labour, leading to conclude that the prerequisites for sustainable poverty alleviation are the definition and implementation of pro-labour measures. Such measures in more advanced countries currently consist in: a legal framework which protects labour from abusive practice, notably stipulating employment conditions and minimum remuneration, and which permits unions and other worker associations; a social security system, which may be fully state owned or partly, in which case, firms will contribute for part of the benefits; and the capability building of the unemployed, currently named pro-work measures. The high level of informality in the Indian handloom sector and the weavers' poor educational background and limited access to information hinder the effectiveness of law at this stage of development. The Minimum Wages Act was promulgated to guarantee a minimum remuneration to the unskilled workers of scheduled employments in the unorganised sector (including a house rent allowance). These scheduled activities vary function of the governmental level considered, they are 45 at the central level, notably agriculture, mining, and construction and maintenance works, whereas they may be more than 1200 at the state level. An amendment of the Act in order to include handloom (and, by extension, other crafts, and all workers of the informal economy), appears to be a first step to consider for ensuring a level of remuneration which would ensure the satisfaction of the weavers' basic needs and an acceptable level of functioning. Such an amendment would nonetheless not make much sense as is, as there is no statutorily clause making the Act compulsory, and states discretionarily adapt the categories of scheduled employments and minimum wages. The Central Government adopted the concept of national floor minimum wage for scheduled employments in 1996 and fixed it at Rs. 35.00 per day, it is of Rs. 80.00 ($ 1.76) since September 2007[52] and should shortly be increased to Rs. 100.00 ($ 2.2), and efforts intensify in order to make the Act effective for all workers of the informal economy. The topic was recently prioritized, as the informal sector keeps growing relatively to the organised economy, the strategy to compete of organised sector firms operating under the Factory Act being to increase their participation in the informal economy. This same informality is the most common argument put forward for the impossibility to envisage a comprehensive state run social security system that would also be accessible to the weavers and to the other workers of the unorganised economy. Further analysis suggests that social structure and the implementation costs of a welfare system in which citizenship would be the criteria for benefits are the main handicaps to its introduction. Micro-credit and micro-insurance are the alternatives available for the informal sector weavers to overcome the risk of employment loss, sickness and disability, and the access to such instruments should thus be prioritized. Micro-credit nonetheless does not make much sense if it

[52] The Central Advisory Board of the government Wage Cell met in February and July 2008, and considered to amend the act with the inclusion of an additional category of scheduled employment defined as "Employment not mentioned above", cf. http://labour.nic.in/wagecell/Minutes220208.pdf, and also Menon, S. (Sep 2008), *Centre to revise national minimum wage level*, New Delhi, on line: http://labour.nic.in/wagecell/welcome.html, www.business-standard.com/india/storypage.php?autono=333146, and also *Minimum Wages in India*, http://www.paycheck.in/main/officialminimumwages

is not for marketing, diversifying clientele and growing sales, and ultimately for developing, but to indirectly subsidies firms in quasi-monopolistic situation, of which the involvement appears unable to lead to sustainable poverty alleviation and to the effective functioning of the weavers, a situation which the Chanderi cluster illustrates. Pro-work measures consisting in the building up of the capabilities of the unemployed and enabling productive activity are attempted through localized developmental endeavours, notably through programmes such as the IHCDP and the UNIDO Chanderi CDP, and their impact on poverty is the next focus.

3. 10 The Pro-poor Impact of Cluster Development Policy Rooted in the Collective Efficiency Approach

The Chanderi CDP resulted in an increase in employment and in remuneration thanks to the regularization of employment, while the level of daily earnings remained constant relatively to the pre-intervention period. The creation of employment is certainly a commendable attainment considering the high level of unemployment in the sector, and also in other industries. It nevertheless does not suffice for increasing remuneration at a level that would enable sustainable poverty alleviation and effective functioning, and for enhanced productivity and competitiveness. Earnings remain abysmally low while the re-sell margins of some of the buyers involved are known to be comparatively very high; the redistribution of returns appears still to be an issue. Local developmental experiences show that the poverty alleviation impact of institutional intervention focusing on the building up of social capital, as implemented, is not sustainable, highlighting the need for elaborating on the model. Research in economic geography has stressed the crucial role of knowledge acquisition to upgrade and avoid entropic death and negative lock-in (Grabbher, 1993) and the importance of governance for the generation and diffusion of knowledge, market dynamics being considered insufficient to achieve competitiveness along the high road to growth. The evolution of the BVS suggests the insufficiency or inaccuracy of knowledge flows with the retained cluster development methodology. As highlighted by the learning region perspective, knowledge is a concrete social phenomenon, and production of knowledge and the pattern of social life are reflexively intertwined (Scott, 2000). The caste system *de facto* inhibits knowledge flows between weavers and traders in what seems to be a majority of Indian handloom clusters, and thus the weavers' functional upgrading. The cluster success formula, positing trust, reciprocity and mutualism as the foundation of collective efficiency, is thus unrealizable in the sector at this stage of development. Considering the strength of orthodoxy, notably in rural areas, and the need for adapting policy function of the local socio-economic context for effectiveness, programmes appear to be forced to integrate social reality in the short run while attempting to bypass it as much as local context permits and creating the conditions for its desirable evolution.

The role of institutions may be reasonably assumed to define how things should be done and how learning should take place, while the economic structure affects what is done and therefore what is learnt (Lundvall and Masken, 2000). Institutions appear instrumental in managing knowledge flows, and their role in enabling the weavers' access to the knowledge and skills needed for upgrading is crucial. Traders are the prime medium for accessing knowledge in the prevailing putting-out system, subsidiarily, the state. The focus of policy should consequently be on determining BDS providers that would substitute to the traders in the role of knowledge providers. Traders market and sell products, training and support in marketing and sales to the

weavers should thus be prioritized, while pursuing social capital building and training in technical areas. Conflicts might arise because of the changes in balance of power that will occur in the course of upgrading, and the state role as mediator appears to be of prime importance, emphasis should however be on preventing these tensions to materialize by infusing the needed strategic intent to the handloom elite and by involving it in the poverty alleviation effort. The important task is to bring into being an ensemble of social practices, relations, and way of thinking that will allow clustered firms to co-operate and compete with success (Shoenberger, 2000: 325), while ensuring an inclusive growth.

3.11 Possible Policy Innovations for Sustainable Poverty Alleviation ?

Envisaged alternatives to the methodology of CDPs rooted in the 'collective efficiency' approach as actually deployed or additional measures that would plausibly support a development on a high road to growth and sustainable poverty alleviation in handloom may be summarized as follows:

- A more sustained involvement of the local and regional governments, and consequently of local and regional institutions, notably educational;

- the involvement of qualified non-governmental agencies for the provision of training and services early during programmes, if governmental intervention should appear inappropriate or insufficient, because of the lack of competences or funding, or of socio-economic factors making direct action at the weavers' level problematic;

- a high-end positioning, and the development of synergies between handloom and embroidery, if the latter activity should also be present in the cluster considered;

- the setting-up of marketing and sales structures through public-private partnerships, involving the central or/and state governments, and/or indirect subsidies, notably rebates in taxes and facilitated access to credit;

- the development of sales and exports at all level of the cluster hierarchy;

- the launch of fair trade and environmental marks, and the amendment of the handloom and silk marks, in order to make them compulsory for all producers;

- capability building organised around networks of economic agents with similar knowledge bases and differentiated training according to the networks' knowledge capital, while developing cluster level associative structures for meso-level issues;

- dynamic and regular training for a minimum duration of six months, with a higher intensity at the poor level;

- the weavers' capability building, notably in entrepreneurship, a term that includes training in management, marketing and sales, so that the weaving communities master all steps of the value chain;

- the simultaneous building up of the traders' awareness in fair trade and environmental issues as well as their training in product development and design, and in marketing, this by non-governmental specialized services providers, while involving them in the poverty alleviation effort through sales;

- the apprehension of the power issue with the use of renewable energy, and of the clean water question in the context of dyeing with investments in the needed technology.

Caste facilitates transactions among a community and also excludes those who are not part of it, meaning that the suggested network approach, which would probably come on top of social hierarchy, may increase the marginalization of the poor. Relationships should nonetheless evolve with the weavers' empowerment and the adjustments of the traders to changing norms with the globalization process. To fully satisfy the objective of poverty alleviation, a concomitant evolution of society, indirectly of the entrepreneur perspectives and of the micro-economic sphere as well as of the macro-economic environment, is a *sine qua non* condition. Generational change should ease the process (Asian Demographics, 2003; Bernoud, 2004), although the increasing communalism which may be observed in India, which seems to be correlated to its degree of integration in the global economy, may prove a major handicap for a more redistributive society.

Conclusion

Clusters make up a new way of apprehending location and question conventional wisdom about how enterprises should be configured and interact, and about how central and regional governments can promote economic growth, and how institutions such as universities and research centres can contribute to competitiveness (Porter, 1998). By clustering and exploiting the advantages linked to proximity, the SMEs problem of limited resources can be tackled with increased collaboration between enterprises, and between institutions and enterprises. Costs and risks can be shared, and co-operation facilitates access to information, markets and extra-cluster linkages, and thus knowledge flows, which are essential for upgrading and economic development. Power and control are divided among independent firms that collaborate voluntarily in order to develop competitive advantages and aim for greater efficiency and profitability. Competition is at the network and cluster levels, where enterprises collaborate in differing dimensions to attain an increased and mutual profitability at which an independent structure could not aspire by itself. With the possible comparative advantage made accessible through the combination of the externalities linked to proximity and joint action, namely through 'collective efficiency', a high road to growth, privileging innovation and increased productivity, becomes attainable. While the collective efficiency approach focuses essentially on what happens inside clusters, the absorptive capacity and global value chain perspectives stress the importance of knowledge systems and extra-cluster linkages for upgrading. The greater the leap in upgrading, the less likely the existing knowledge bases and linkages suffice, and enterprises, by extension clusters, must then rely to a greater extent on local and national sources of innovation for acquiring the knowledge and skills needed. The firm is at the centre of the two latter approaches, and outlook suggests that policy should be oriented towards strengthening firms' knowledge bases, most particularly of the firms that are excluded from a cluster knowledge system, rather than towards clusters as collective entities, the knowledge capital of a cluster and its absorptive capacity being positively correlated to its performance. The role of tacit knowledge in supporting localized development must not be neglected; untradable knowledge gives a decisive comparative advantage, suggesting that firms and governments alike should focus on the remaining localized capabilities, the ones which have not yet become ubiquitous, equally available to enterprises regardless of their location (Maskell *et* al. 1998). Governance, at the local and regional as well as national and global levels in the context of nationally and internationally dispersed value chains, is also fundamental in shaping cluster trajectories. The state role, nationally and regionally, should be one of a mediator and business facilitator, notably through the promotion of innovation, local entrepreneurship and joint action, and to continue its more traditional functions of specialized services provider and defining the legal framework.

Different regional and national contexts offer diverse opportunities for organizing markets and taking advantage of proximity; the firms' interaction modes, the organisation of the financial markets and institutional arrangements, the education and health systems, the legal framework, physical infrastructure, all matter. Policy rooted in Ghandian and socialist ideology has been determinant in shaping India's industrial development since Independence, and its deployment resulted in the proliferation of SMEs and micro-enterprises, which in great majority operate in clusters. Empirical data reveals their dynamics at a relatively high level of labour input and low level of capital intensity, and barriers to enter the markets on which they operate are thus relatively low. They may exist since decades or centuries, and cater to the local, regional,

national and/or international markets, and are characterized by a substantial diversity of products and quality standards, and also by a high level of informality, which appears to be a crucial element for understanding their trajectories. Two other decisive factors for comprehending the evolution of Indian clusters, more specifically of artisan clusters and of clusters built on self-employment survival strategies in urban areas, are social structure, which remains organised around caste and function, and which hinders vertical interactions between artisan producers and traders, as the craftsmen vertical mobility; and surplus labour, which makes any increase in employment unlikely to result in an increase in remuneration. These specificities highlight the need for innovative state intervention and the designing of cluster development policy aiming at poverty alleviation integrating these contextual elements. Policy makers have assessed the requirements of further economic integration. Cluster development programmes were conducted since the late 1980s, and co-operation with UNIDO started in the early 1990s to intensify with the country growth. Common endeavours consisted initially essentially in supporting the setting up of facilities and in the provision of technical support, and focus progressively moved towards building up social capital through joint action during the decade. Relatively successful experiences led different ministries and other developmental organisations to deploy the cluster development methodology designed by the UN agency on a broader scale, notably in the handloom sector.

Handloom is a traditional activity, which has carried forward a richness and a know-how unequalled on the global market. Weavers are estimated to be 6.5 million, of which a large majority lives in extreme poverty with less than 2 USD a day, and weaving is conducted at home and in family, and is frequent in rural areas, where it complements agriculture. The sustainability of the craft is crucial for preventing migration to already overpopulated urban areas, and for social stability. The sector is characterized by a high degree of informality and by the putting-out system, in which traders or master weavers supply all inputs to the weavers and get the end product against payment. Traders also serve as financiers and social security providers, in the absence of credit and of an institutionalized social security system, a situation leading to the weavers' full loss of bargaining power and often complete dependence from the generally single trader for whom they work. Competition of power loom fabrics, imported or produced in India, is advanced as the main cause for the decrease in demand for hand woven products and the weavers' precariousness. A more in depth analysis of the sector suggests that the inadequacy of policy and the absence of political will and of strategic intent of the handloom elite are the main factors at the origin of the craft's decline and the weavers' endemic poverty, it also highlights the crucial role of informal practice and social structure in the continued existence of the status quo, if not the worsening of the weavers' working and living conditions. Informality induces the traders and organised sector enterprises to opt for low roads to growth, built around reductions in labour costs, a strategy supported by religious orthodoxy; and social structure inhibits the knowledge flows between traders and weavers that are essential for the latter upgrading. Previous support measures proved relatively unsuccessful in supporting the weavers' empowerment, notably because of the delegation of implementation to support structures, the lack of political will and corruption; actual policy, notably the IHCDP, with its focus on clustering and 'collective efficiency', and its central government management, seems more able to confront the challenges posed by the liberalisation of the economy. Empirical evidence nonetheless suggests that the instruments retained are inadequate for sustainable poverty alleviation: policy persists in considering clusters as organic wholes, while

social and also commercial reality, which requires confidentiality and the building up of valuable goodwill, speaks against such a view.

Social constructs, often rooted far back in history, limit the scope of cluster development initiatives in the Indian context, and the full benefits of concepts such as ‘collective efficiency’ and the learning region in their practice. The proposition for sustainable poverty alleviation in handloom is to confront social reality with the designing of policy integrating the main contextual element hindering productive vertical interactions and knowledge flows to the weavers, namely, social structure. The perspective suggests that cluster development policy should focus on networks of cluster stakeholders with similar knowledge bases and provide differentiated support function of position in the value chain and thus cluster hierarchy, while building social capital and cluster level associative structures for apprehending meso-level issues, such as health, education and physical infrastructure development. Local governance and formal and ‘soft ’ institutions are crucial for shaping cluster trajectories, and changes in their actual modus operandi, which appears to reproduce, if not to strengthen inequalities, would need to be conducted concomitantly for the effectiveness of policy. Joint action between national, regional and local government agencies, and between the political leadership and the handloom elite as well as between the public and private sectors, more particularly between formal institutions and successful entrepreneurs and specialized agencies, including NGOs should also be promoted for optimizing outcomes. Research has shown that regulation and soft institutions, which notably shape relations between traders and weavers, and between these and the state, are slow to change. The provision of knowledge, a facilitated access to credit and the securing of social security benefits appear to be the dimensions of developmental action of which the intensification would probably lead to the most tangible and sustainable impact on the weavers’ level of poverty in the short run, and they should thus be prioritized. The social security and access to credit issues have found responses in micro-finance instruments, and progress should be continued. The weavers’ capability building in entrepreneurship and in the areas where the high value is and in the functions which would enable them to escape exploitative working conditions if these should be, remains insufficient, if not nonexistent, and should be the focus of further cluster development policy for ensuring the sustainability of results. Strong political leadership and commitment remain however the prime prerequisites for policy success.

References

1. The Conceptual Framework

ALTENBURG, T., MEYER-STAMER, J. (1999), 'How to Promote Clusters: Policy Experiences from Latin America', in *World Development*, 27 (9): 1693-713

AMIN, A., THRIFT, N. (1994) *Globalization, Institutions and Regional Development in Europe*, Oxford: Oxford University Press

ARROW, K. J. (1962), 'Economic Welfare and the Allocation of Resources for Invention', in *The Rate and Direction of Inventive Activity*, ed. R.R. Nelson, Princeton University Press, pp. 609-26

ASHEIM, B.T. (1994), 'Industrial Districts, Inter-firm Co-operation and Endogenous Technological Development: The Experience of Developed Countries', UNCTAD-GATE, *Technological Dynamism in Industrial Districuts: An Alternative Approach to Industrialization in Developing Countries?*, UNCTAD, New York, Geneva

BECATTINI, G. (1979), 'Dal settore industriale al distretto industriale. Alcune considerazioni sull'unita di indagine dell'economia industriale', in *Rivista di Economia e Politica Industriale*, 1: 7-21

BECATTINI, G. (1989), 'Sectors and/or Districts: Some remarks on the Conceptual Foundations of Industrial Economics', in *Small Firm and Industrial Districts in Italy*, eds. E: Goodman and J. Bamford, pp. 123-135

BECATTINI, G. (1990), 'The Marshallian Industrial District as a Socio-economic Notion', in *Industrial Districts and Inter-firm Co-operation in Italy*, eds. F: Pyke, G. Becattini and W. Sengenberger, International Institute of Labour Studies, pp. 37-51

BELLANDI, M. (1989), 'Capacita innovativa diffusa e sistemi locali di imprese', in *Modelli Locali di Sviluppo*, ed. G. Becattini, Bologna: Il Mulino, pp. 149-172

BEST, M. H. (1990), *The New Competition: Institutions of Industrial Restructuring*, Polity Press, Cambridge

BROWN, W., McCord M. J., 2000, *Summary of Discussions: USAID MBP Virtual Conference in Microinsurance*, Oct. 9-27, 2000, Microenterprise Best Practices (MBP) Project, on line: http://www.microfinancegateway.org/content/article/detail/2710

BRUSCO, S. (1982), 'The Emilian Model: Productive Decentralization and Social Integration', in *Cambridge Journal of Economics*, 6: 167-184

BRUSCO, S. (1992), 'Small Firms and the Provision of Real Services', in *Industrial Districts and Local Economic Regeneration*, eds. F. Pyke and W. Sengenberger, International Institutes for Labour Studies, Geneva: 177-196

CADÈNE, P. and HOLMSTRÖM, M. (eds.) (1998), *Decentralized Production in India: Industrial Districts, Flexible Specialization, and Employment*, Sage Publications, New Delhi

CAMAGNI, R. (1991), *Innovation Networks: Spatial perspectives*, Belhaven Press, London and New York

COHEN, W.M., and LEVINTHAL, D.A. (1990), 'Absorptive Capacity – a New Perspective on Learning and Innovation', in *Administrative Science Quarterly*, 35: 128-152

CREVOISIER, O., FRAGOMICHELAKIS, M., HAINARD, F. and MAILLAT D. (1989), *Know-How, Innovation and Regional Development*, Cambridge: IRER-ISSP

DOSSI, G. (1997), 'Opportunities, Incentives and the Collective Patterns of Technological Change', in *Economic Journal*, 107: 1530-1547

ELOUNDOU, G.C.E. (2007), 'Analyses de l'Impact d'un Financement par Capital-Risque sur la contrôlabilité de la PME', in *Entrepreneuriat et Innovation*, L'Harmattan, Paris, pp. 273-288

GAMBARDELLA, A. (1993), 'Innovazioni tecnologiche e accumulazione delle conoscenze : quale modello per le piccole e medie imprese negli anni '90'', in *Piccola Empresa/Small Business*, 2: 73-89

GERN, J.-P. (2007), 'Perspectives actuelles de l'innovation à la lumière de l'expérience historique', in *Entrepreneuriat et Innovation*, L'Harmattan, Paris, pp. 23-40

GIULANI, E. (2005), 'Cluster Absorptive Capacity: Why do some Clusters forge ahead and other lag behind?', in *European Urban and regional Studies*, 12 (3): 269-288

GIULANI, E., Rabelotti, R. and Van Dick, M.P. (2005), *Clusters Facing Competition: The Importance of External Linkages*, Ashgate, Aldershot

GRABHER, G. (1993), 'The Weakness of Strong Ties: the Lock-in of Regional Development in the Ruhr Area', in *The Embedded Firm: on the Socio-economics of Industrial Networks*, ed. G. Grabher, Routledge, London, pp.255-277

HOLSTRÖM, M. (1993), 'Flexible Specialisation in India?', in *Economic and Political Weekly*, 28 (35) (AUG 28, 1993), pp. M82-M86

HUDSON, R. (1999), 'The Learning Economy, the Learning Firm and the Learning Region: a sympathetic critique of the limits to learning', in *European Urban and Regional Studies*, 6 (1): 59-72

HUMPHREY, J., SCHMITZ H. (1996), 'The Triple C Approach to Local Industrial Policy' in *World Development*, 24 (12): 1859-877

HUMPHREY, J., SCHMITZ H. (1998), 'Trust and Inter-Firm Relations in Developing and Transition Economies', in *Journal of Developmen Studies*, 34 (4): 32-61

HUMPHREY, J., SCHMITZ H. (2002), 'How does Insertion in Global Value Chains Affect Upgrading in Industrial Clusters?', in *Regional Studies*, 36: 1017-27

INTERNATIONAL LABOUR OFFICE (ILO), Report, Oct. 2008, *World of Work Report 2008*, accessible on line: http://www.ilo.org/public/english/bureau/inst/download/world08.pdf

KNORRINGA, P. (2005), 'An Indian Model and an Indian Reality: Searching a way out of deteriorating Sweatshop Conditions', in *Indian Industrial Clusters*, ed. Das, K., Ashgate, Hants, pp.21-37

KNORRINGA, P. (1999), 'Agra: an Old Cluster Facing the New Competition", in *World Development*, 27 (9): 1587-1604

KURIAN, R. (2005) 'Industrial clusters and Labour in Rural Areas: The Brick Kiln Industry in Tree States', in *Indian Industrial Clusters*, ed. Das, K., Ashgate, Hants, pp. 55-68

LACHMANN, L. (1986), *The Market as an Economic Process*, Basic Blackwell, Oxford, New York

LANDRY, R., NABIL, A. (2002). "Étude sur l'innovation dans les entreprises manufacturières du Saguenay-Lac-Saint-Jean,", on line: http://rqsi.ulaval.ca/fr/pdf/publication14.pdf

LECOCQ, B. (2007), 'Processus de découverte et district industriel: une perspective autrichienne', in *Entrepreneuriat et Innovation*, L'Harmattan, Paris, pp.41-58

LELART, M. (2002), 'L'évolution de la finance informelle et ses conséquences sur l'évolution des systèmes financiers', in *Mondes en Développement*, 119(3): 9-20

MAILLAT, D. (1990), 'SMEs, Innovation and territorial Development', in *Spatial Context of Technological Development*, eds. R. Cappelin and P. Nijkamp, Aldershot, Avebury: pp.331-51

MARSHALL, A. (1920), *Principles of Economics*, London, Macmillan and Co., Ltd.,
Library of Economics and Liberty [Online] available from http://econlib.org/library/Marshall/marP.html

MC CORMICK, D. (1999), 'African Enterprise Clusters and Industrialization: Theory and Reality', in *World Development*, 27(9): 1531-51

MENKVELD, A. J., THURIK, R. (1999), 'Firm Size and Efficiency in Innovation', in *Small Business Economics*, ed. Springer Netherlands, 12 (1): 97-101

OFFE, C. (1975), 'The Theory of the Capitalist State and the Problem of Policy Formation', in *Stress and Contradiction in Modern Capitalism*, eds. L.N. lindberg, R. Alford, C. Crouch, and C. Offe, Lexington, Lexington Books, Toronto, pp. 125-44

OLSON, E. M., WALKER Jr. O. C., RUEKERT R. W., BONNERD J. M. (2001), 'Patterns of cooperation during new product development among marketing, operations and R&D: Implications for project performance', in *Journal of Product Innovation Management*, 18 (4): 258-271

OTTATI, G. D. (1994); 'Trust, Interlinking, Transactions and Credit in the Industrial District', in *Cambridge Journal of Economics*, 18(6): 529-546

PIORE, M. J. (1990), 'Work, Labor and Action: Work Experience in a System of Flexible Production', in *Transforming Organizations*, eds. T. A. Kochan and M. Useem, Oxford University Press, Oxford, pp.307-336

PIORE, M. J., AND SABEL, C. (1984), *The Second Industrial Divide: Possibilities for Prosperity*, Basic Books, New York

PORTER, M. E (1990), *The Competitive Advantage of Nations*, Basingstoke, Macmillan, London

PORTER, M. E. (1998), 'Clusters and New Economics of Competition', in *Harvard Business Review*, Nov.-Dec. 1998: 77-90

PORTER, M. E. (2003), 'The Economic Performance of regions", in Regional Studies, 37 (6&7): 549-78

PYKE, F., BECATTINI G. and SENGENBERGER, W. (1990), *Industrial Districts and Local Economic Regeneration*, International Labour Studies, Geneva

RABELOTTI, R. (1995), 'Is there an Industrial District Model? Footwear Districts in Italy and Mexico Compared', in *World Development*, 23 (1)

REGNIER, P. (2007), 'Mondialisation des Liens entre firmes et PME locales: les champs d'invesigation et la crise asiatique?', in *Entrepreneuriat et Innovation*, Paris: L'Harmattan, pp. 171-184

ROPER, S. (1997), *R&D and Innovation Scale Diseconomies: New Evidence from German, Irish and UK Manufacturing*, NIERC Working Papers 30, Economic Research Institute of North Ireland

ROGERS, E.M. (1993), *Diffusion of Innovations*, The Free Press, New York

SAINT-PIERRE, J., MATHIEU, Cl. (2007), 'Le rôle de l'entrepreneur et de l'environnement interne sur l'innovation de produits dans les PME', in *Entrepreneuriat et Innovation*, Paris: L'Harmattan, pp.61-76

SCHMITZ, H. (1989), *Flexible Specialization: a New Paradigm* of *Small-Scale. Industrialisation*, Discussion Paper, 261, Institute of Development Studies, University of Sussex

SCHMITZ, H. (1995), 'Collective efficiency: Growth Path for Small-scale Industry', in *Journal of Development Studies*, 31: 529-566

SCHMITZ, H. (1999), 'From Ascribed to Earned Trust in Exporting Clusters', in *Journal of International Economics*, 48: 139-150

SCHMITZ, H. (ed.) (2004), *Local enterprises in the Global Economy: Issues of governance and Upgrading*, Edward Elgar, Cheltenham

SCHMITZ, H, NADVI, K. (1999), 'Clustering and Industrialisation: Introduction', in *World Development*, 27 (9), pp. 1503-1514

SCHMITZ, H., MUSYCK, B. (1994), 'Industrial Districts in Europe: Policy for Developing Countries?', in *World Development*, 22 (6): 889-910

SCOTT, J., A. (2000), 'Economic Geography: the Great Half-Century', in *The Oxford handbook of economic geography*, ed. Gordon L. Clark, Maryann P. Feldman, and Meric S. Gertler, with the assistance of Kate Williams, Oxford University Press, Oxford, pp. 18-47

SERVET J.-M. (2007), 'Innovations indiennes en matière de microfinance', in *Entrepreneuriat et Innovation*, Paris: L'Harmattan, pp. 355-370

TETHER, B. S.(2002), 'Who co-operates for innovation, and why: An empirical analysis', in *Research policy*, 31 (6): 947-67

VAN DIJK, M.P., RABELOTTI, R. (eds.) (1997), *Enterprise Clusters and Networks in Developing Countries*, Frank Cass, London

2. Indian Clusters and Cluster Development Policy

ALAM, G. (1994), 'Industrial Districts and Technological Change: A Study of the Garment Industry in Delhi', in *Technological Dynamism in Industrial Districts: An Alternative Approach to Industrialisation in Developing Countries?*, UNCTAD-GATE, UNCTAD, New York, Geneva

ASIAN DEVELOPMENT BANK (2004), *Technical assistance to India for preparing Small- and Medium Enterprise Finance Sector Development Project*, TAR:IND36345

BAGCHI, A.K. (ed.) (1999), 'Indian Economic Organizations in a Comparative Perspective', in *Economy and Organisation: Indian Institutions under Neoliberal Regime*, Sage Publications, New Delhi

BAUMANN, E. (2007), 'La Solidarité Autrement', in *Entrepreneuriat et Innovation*, Paris: L'Harmattan, pp. 371-392

CAWTHORNE, P. (1995), 'Of Networks and Markets: The Rise of a South Indian Town: the Example of Tirrupur's Cotton Knitwear Industry', *World Development*, 23 (1): 43-56

CHATRAPATHY, M. M. (2005), 'Transforming artisans into Entrepreneurs through group Entreprises: The Footwear Cluster of Athani', in *Indian Industrial Clusters*, ed. Das K., Ashgate, Hants, pp. 199-206

DAS, K. (2003), 'Income and Employment in Informal Manufacturing', in *Informal economy Centrestage*, eds. Jhabvala, R., Sudarshan M. R., Unni, J., Sage Publications India Pvt Ltd, New Delhi, pp. 62-103

DAS, K. (2005), 'Industrial Clustering in India: Local Dynamics and the Global Debate', in *Indian Industrial Clusters*, ed. Das, K., Ashgate, Hants, pp. 1-20

GOVERNMENT OF INDIA (1997), *Report of the Expert Committee on Small Enterprises* (Chairman: Abid Hussain), Ministry of Industry, New Delhi

JACOBSON, D. (2004), *India Indian Society and Ways of Living, Organization of Social Life in India*, cf. http://www.askasia.org/teachers/essays/essay.php?no=106

HALBFASS, W. (1988), *India and Europe, An Essay in Understanding*, State University of New York, New York,

KENNEDY, L. (1999), 'Cooperating for survival: Tannery Pollution and Joint Action in the Palar Valley (India)', in *World Development*, Vol. 27 (9): 1673-1691

KENNEDY, L. (2005), 'Variation on the Classical Model: Forms of Cooperation in Leather Clusters of Palar Valley, Tamil Nadu', in *Indian Industrial Clusters*, ed. Das, K., Ashgate, Hants, pp. 103-121

KNORRINGA, P. (1996), *Economics of Collaboration: Indian Shoemaker between Market and Hierarchy*, Sage, New Delhi, London

KNORRINGA, P. (1999), 'Agra: an Old Cluster Facing the New Competition', in *World Development*, 27 (9): 1587-1604

KNORRINGA, P. (2005), 'An Italian Model and an Indian Reality: Searching for a Way-Out of Deteriorating Sweatshop Conditions', in *Indian Industrial Cluster*, ed. Das, K., Ashgate, Hants, pp. 21-36

MINISTRY OF TEXTILES (2001), *Annual Report 2000-2001*, on line: http://texmin.nic.in/annualrep/ar01_con.htm

MINISTRY OF TEXTILES (2006), *Annual Report 2005-2006*, on line: http://texmin.nic.in/annualrep/ar06_con.htm

NADVI, K. (1999), 'Collective Efficiency and Collective failure: the Response of the Sialkot Surgical Instrument Cluster to Global Quality Pressures', in *World Development*, 27 (9): 1605-1626

SARKAR, T. (2005), 'Handicrafts and the 'Cluster Development Approach': The Hand Block Printed Textiles Cluster of Jaipur', in *Indian Industrial Clusters*, ed. Das, K., Ashgate, Hants, pp. 171-197

SCHMITZ, H. (1999), 'Global Competition and Local Cooperation: Success and Failure in the Sinos Valley, Brazil', in *World Development*, 27 (9), pp. 1627-1650

SCHMITZ, H, NADVI, K. (1999), 'Clustering and Industrialisation: Introduction', *World Development*, 27 (9), pp. 1503-1514

SERVET, J.-M. (2007), 'Innovations indiennes en matière de microfinance', in *Entrepreneuriat et Innovation*, L'Harmattan, Paris, pp. 355-370

SMYTH, I. (1992), 'Collective Efficiency and Selective Benefits: The Growth of the Rattan Industry of Tegalwangi (Indonesia)', in *IDS Bulletin (Special Issue on Flexible Specialisation: A New View on Small Industry)*, 23 (3)

SUDARSHAN, R. M., UNNI, J. (2003) "Measuring the Informal Economy" in *Informal economy Centrestage*, eds. R. Jhabvala, M. R. Sudarshan, J. Unni, Sage Publications India Pvt Ltd, New Delhi, pp. 19-38

UNNI, J., RANNI, U. (2003), 'Employment and Income in the Informal Economy: a Micro-Perspective', in *Informal economy Centrestage*, eds. R. Jhabvala, M. R. Sudarshan, J. Unni, Sage Publications India Pvt Ltd, New Delhi, pp. 39-61

VISWANATH (2008) *Small Scale industry contribution to manufacturing falls 10%: ASSOCHAM*, consulted on line http://machinist.in/index.php?option=com_content&task=view&id=1542&Itemid=2

WORLD HEALTH ORGANISATION, undated, *Health Insurance in India: Current Scenario*, cf. http://www.searo.who.int/linkfiles/social_health_insurance_an2.pdf

UNIDO, Report, 2002, *Cluster and Network Development, Monitoring and Evaluation Issues*, Vienna

UNIDO, Report, 2007 *Country Service Framework, Independent Evaluation India*

3. Indian Handloom

AHMAD, N. (2007), *Globalization and the Indigenous Artisan Economy: A Case Study of the Varanasi Silk Sari Industry*, accessible on:
http://www.aiacaonline.org/pdf/Globalization%20and%20the%20Indigenous%20Artisan%20Economy%20-%20Case%20Study%20of%20Varanasi%20Weaving%20Cluster.pdf, and
http://www.censusindia.gov.in/Dist_File/datasheet-0967.pdf

AMIN, A., and THRIFT, N. (1995), 'Institutional issues for the European Regions: from markets and plans to socioeconomics and powers of association', in *Economy and Society*, 24: 41-66

ASIAN DEMOGRAPHICS LTD., July 2003, *Age Profile of India 2003 and 2033*

BERNOUD Nathalie, *"India Shining Youth": Les valeurs de la jeunesse de l'upper middle class à Delhi*, memoir, DEA d'Analyse Comparative des Aires Politiques, Mention Asie, Institut d'Etudes Politiques, Paris, 2004

BIANCHI, P. (1996), 'New approaches to industrial policy at the local level', in *Local and regional response to global pressure: The case of Italy and its industrial districts*, eds. F. Cossentino, F. Pyke, W. Sengenberger, International Institutes for Labour Studies, Geneva: 195-206

BISWAS, K., P. (2005), 'Organizational Forms, Technological Change and Income generation: Handloom and Conch Shell Product Clusters in West Bengal', in *Indian Handloom Clusters*, ed. Das, K., Ashgate, Hants, pp. 81-102

CABLE V., WESTON A., JAIN L.C. (1986), *The Commerce of Culture, experience of Indian Handicrafts*, ed. Indian Council for International Economic Relations, New Delhi

DANA, L., and SPENCE, M. (2007), 'L'innovation managériale dans une économie mondialisée', in *Entrepreneuriat et Innovation*, L'Harmattan, Paris, pp. 117-132

DIDELON, C. (2004), *Une nouvelle route de la soie? L'utilisation des moyens de communication dans les entreprises des filières de la soie en Inde*, Paris VII, thesis

GRABHER, G. (ed.) (1993), *The Embedded Firm: on the socioeconomics of Industrial Networks*, London and New York, Routledge

GIBSON, A. (1993), 'The Development of Markets for Business Development Services: Where we are and How to Go Further', CDASED, ILO

JUDGE, D., STOKER, G., AND WOLMAN, H. (eds.) (1995), *Theories of Urban Politics*, London: Sage

KURIAN, R. (2005), 'Industrial clusters and Labour in Rural Areas: The Brick Kiln Industry in Three States', in *Indian Industrial Clusters*, ed. Das, K., Ashgate, Hants, pp. 55-68

LUNDVALL, B. Å., and MASKEN P. (2000): 'Nation States and Economic Development' in *The Oxford handbook of economic geography*, eds. Clark, G. L., Feldman, M. P., and Meric S. G., with the assistance of Williams K., Oxford University Press, Oxford, pp. 353-373

MASKELL, P., ESKELINEN, H., HANNIBALSSON, I., MAMBERG, A. and VATNE, E. (1998), *Competitiveness, Localised Learning and Regional Development: Specialisation and Prosperity in Small Open Economies*, Routledge, London

MENON, S. (Sep 2008), *Centre to revise national minimum wage level*, New Delhi, on line: www.business-standard.com/india/storypage.php?autono=333146

MINISTRY OF TEXTILES, Government of India, (2006), *Annual Report 2005-2006*, on line: http://texmin.nic.in/annualrep/ar06_con.htm

MINISTRY OF TEXTILES, Government of India, undated, *Sericiculture Industry*, http://texmin.nic.in/Silk%20Industry.pdf
NARASIMHA D., R. (2006), *Darjeeling tea's lessons for handlooms*, accessed on Aug. 26, 2007, http://www.indiatogether.org/cgi-bin/tools/pfriend.cgi

PAPADOPOULOS, A. (1996), *Urban Regimes and Strategies – Building Europe's Central Executive District in Brussels*, Chicago: University of Chicago

PECK, J. (2000), 'Doing Regulation', in *The Oxford handbook of economic geography*, eds. Clark, G. L., Feldman, M. P., and Meric S. G., with the assistance of Williams K., Oxford University Press, Oxford, pp. 61-82

SEN, A. K. (1985), *Commodities and Capabilities*, Elsevier Science Publishers, Oxford

SEN, A. K. (1999), *Development as Freedom*, Oxford University Press, Oxford

SHOENBERGER, E. (2000), 'The management of time and space', in *The Oxford handbook of economic geography*, eds. Clark, G. L., Feldman, M. P., and Meric S. G., with the assistance of Williams K., Oxford Universtiy Press, Oxford, pp. 317-349

SCOTT, J., A. (2000), 'Economic Geography: the Great Half-Century', in *The Oxford handbook of economic geography*, eds. Clark, G. L., Feldman, M. P., and Meric S. G., with the assistance of Williams K., Oxford Universtiy Press, Oxford, pp. 18-47

STONE, (1993), C.N. (1993), 'Urban Regimes and the capacity to govern: a political economy approach', in *Journal of Urban Affairs*, 15:1-28

SRIVASTAVA S.C. (2005), 'Protecting the Geographical Indication for Darjeeling Tea', in *Managing the Challenges of WTO participation, 45 Case Studies*, eds. P. Gallagher, P. Low and A. L. Stoler, World Trade Organization and Cambridge University Press, on line: http://www.wto.org/english/res_e/booksp_e/casestudies_e/case16_e.htm

SWYNGEDOUW, E. (2000), 'Elite Power, Global Forces, and the Political economy of Glocal Development', in *The Oxford handbook of economic geography*, eds. Clark, G. L., Feldman, M. P., and Meric S. G., with the assistance of Williams K., Oxford University Press, Oxford, pp. 541-558

WELANKAR, V., "Textile Ministry funds for welfare schemes go unutilized", in *The Nation*, 29 May 2007