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The Transformation of the Informal Sector in Penang/Malaysia

The Case of Small-scale Metal-working Enterprises

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Introduction

Since the early 70s the informal sector has been the subject of ongoing discussions among scientists, policymakers, aid donors and advisers concerned with small-scale enterprises in developing countries. At the beginning of the academic discussion the main concern of informal sector research was its possible economic contribution to national economies. But later, especially during times of recession and structural transformation which several developing countries were facing, a reappraisal of development strategies took place. More evidence was given to questions of the potential role that small-scale enterprises could play in the future, e.g. in terms of job creation and income generation, especially for the urban and rural poor (see Levitsky 1989; Lubell 1991).

This study on small-scale enterprises (SSEs) is based on findings from 15 months field research in Georgetown on Penang Island, Malaysia, conducted in 1988/89 into the informal metal small-scale enterprise sector¹. The aim of the research was to investigate the informal metal machine-shop sector under contemporary conditions of structural transformation and the challenge of modernization.

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It was assumed that further integration into the world market of national economies in Southeast Asia would have an impact on 'backyard economic activities', as they are often called. The main assumption was that the spread of capitalistic market production would contribute to a further differentiation process and might help to diversify activities at the low level of entrepreneurship.

According to the data collected there are at present about 85 machine-shop enterprises and 250 basic iron workshops on Penang Island. After intense field observation, 50 small enterprises were selected for further research and interviews in Georgetown/Penang. The criteria for selection were:

- that they were 'small', having less than 20 employees,
- they belonged to the more advanced metal manufacturing sector
- had tool machinery (e.g. lathe turning and milling machines)
- were situated on Penang Island.

Since the focus was on the urban small-scale metal-working sector of this particular kind (i.e. so-called machine or machinery workshops and engineering enterprises), blacksmith-type basic iron works (bars & grill works), welding workshops, as well as (real) foundries and metal fabrication works (steel mills) were excluded.

Penang Island is one of the most developed districts in Malaysia. The change-over and process of conversion from small artisan-type to machine workshop production in the economically more advanced countries of Europe (see Neufeld 1984) can be compared to a certain degree with today's situation among the SSE in Penang.

The historic harbour, entrepôt and trading-centre Penang has turned into a centre of commerce and foreign industry, but the SSE sector in general has survived with large numbers of enterprises organized along Chinese ethno-business lines. The destruction of the SSE sector through export-orientated industrialization is still going on. Penang's integration into the wordl-market has contributed not only to the emergence of modern small-scale industry, but also to a differentiation process within the SSE themselves. The creation of new market-orientated SSEs is accompanied by the threat to the traditional, more human-orientated and family integrated SSEs.

The coexistence of small enterprises organized in a traditional and a modern way has created special subcontract linkages between small- and large-scale industries. According to various statistical sources (see Chew Kong Huat 1977; World Bank 1982; Chee Peng Lim 1986), over 80% of all enterprises in Georgetown are SSEs, acting as a local 'backbone' of economic development.

As a more analytical classification, the 'informal secotr' consists of various small-scale units engaged in production or distribution of goods and services (see Sethuranam 1981; Turham et al 1990). The importance and the positive role of the informal sector and SSEs is stressed in many publications. It is believed that it

- provides additional income for low income groups
- creates (additional) employment opportunities
- supports big industries on a subcontract or ancillary basis
- employ more workers per unit of capital than bigger industrial units,
- help to increase total savings,
- serve as a 'training ground' for informal skill acquisition (see Levitsky 1989).

Penang's machine-shop enterprises are at present in an intermediate position between the traditional basic metal enterprises using predominantly 'low techniques' (such as artisan-like basic iron works) and the more advanced engineering enterprises (such as small-scale engineering tool and die precision works).

The formation of the SSE metal sector and the transition from 'foundry' to machine workshops

The small metal machine-shops in Malaysia are the off-spring of the foundry sector. The term 'foundry', commonly used for almost any kind of small-scale metal-working enterprise in Penang, is misleading because most of these so-called 'foundries' are no longer involved in casting activities. Historically, the genesis and development of the small-scale metal-working industry in Malaysia is based on the (casting) foundries set up in the early 1920s, when tin-mining and plantation industries were developing an increasing demand for casting products and spare parts. In the beginning, these simply equipped backyard foundries produced cast iron spare parts and components. They also provided welding services and machine repairs. Later they changed into machine workshops, and in some cases converted to modern engineering enterprises with advanced technology (see Ng Ban Lian 1986).

The emergence of metal machine-shop SSEs in Georgetown has taken place in three interrelated steps:

- firstly, as a result of the demand of tin mining, plantation and fishing for repair and spare part replacement;
- secondly, as a result of requirements for new housing estates; and
- thirdly, as a result of the growing demand for industrial subcontracting work.

This development still continues within the machine-shop sector. During the last five years there was a mushrooming of new precision engineering workshops in connection with the local Free Trade Zone (FTZ), Bayan Lepas, and the Prai Industrial Estate in Butterworth (mainland Malaysia). Because of informal sub-contracting and ancillary work for the FTZ, Penang's modern SSE sector is better off and more advanced than SSEs in other parts of the country.

Historically, the origin of new metal SSEs in Malaysia has no roots in the local (rural) traditional Malay artisan field, but is connected with the Chinese immigrants. They transferred the knowledge of iron working as part of their Chinese socio-cultural heritage from their home country to Malaysia. Today, all machine enterprises on the island are run by Chinese - the oldest family-type SSEs for three generations: Of these

- the first generation of overseas Chinese SSE entrepreneurs had migrated from China (at the end of the last century, or during the early years of this century), started traditional (metal) enterprises in Penang in the 20s (type 'a');
- the second generation, born in Malaysia, established their enterprises shortly before or after World War II. Most of them are medium-scale enterprises in the process of modernization (type 'b'); while
- the third generation is now running the machine-shop SSEs and has also established modern SSEs (type 'c').

Despite various government incentives the Malay (*bumiputra*) community do not play any significant role in metal SSE entrepreneurship in the country. 'Informal elements' within the SSE Sector

SSE enterprises operate at least in part within the formal economy as the following chart illustrates:







Although most of the SSEs in Penang are formally registered and have a postal address, they are still informally managed and organized in terms of operation patterns. Metal SSE manufacturing is integrated into a formal market economy of subcontract exchange, but still conducted by informal, personal producer-customer relations.

Informality within the SSE field can be illustrated by the following facts: there are no written working contracts or other legal agreements between entrepreneur and customer. Even workers are employed without contract and get paid on a simple agreement basis. The entrepreneur - client/customer relations are a matter of informal networks; they meet on the basis of personal relationships or recommendations by friends. In general, savings and working capital are low, day-to-day informal pooling of (financial) resources is common. Most of them have no access to formal credit sources (banks and other financial institutions).

The technical equipment used and the product alignments are often of poor quality and badly maintained. The whole workshop set-up and environment is determined more by permanent 'trouble shooting' (i.e. break down of machinery, lack of tools) than by efficient utilization of manpower, material and time. Within the SSE sector, a low degree of organization in guilds is the order of the day. The existing organizations for metal SSEs in Penang (e.g. the North Malaya Foundry Owners Association or the Penang State Engineering Industries Association) have a poor performance record and do not play an active role for small entrepreneurs. As self-made men they depend fully on their own resources. The uncertain state of production is linked to the fact that the workshop premises are often situated on squatter land (no land title or legal status) and that valued business registration (licences) is absent. A high percentage of enterprises are run without or with insufficient licences. This makes it easier for 'mafia-like' organized gangsters and syndicates (triads) to demand so-called 'protection fees', and so bribery and corruption take place.

Management is done from one day to the next with less or even no formal bookkeeping, accounting and calculation; only informal step-bystep planning is done. The SSE sector can thus be seen as a forum for basic informal skill adaptation and training on the job. Hardly any formally skilled persons are employed within the sector. Despite high competition among SSEs, the exchange of information and ideas for mutual benefit among small entrepreneurs depends on social integration and membership of one of the various voluntary associations. Special metal-orientated guild associations play only a limited role in this regard. Combined working activities only take place within a hierarchy of subcontract work for FTZ companies.

Metal machine-shop SSEs are run not only by the urban poor. In general, SSE owners are already in a better economic position despite negative characteristics, like exploitative relationships, lack of rights and high risks of debt and financial constraint.

Typology of metal SSEs

A hierarchical differentiation process can be observed. The SSE sector in Penang is subdivided in many ways in terms of size, technical standard and economic performance; from tiny 'one-man' enterprises, machine workshops with some full-time workers up to factory-type engineering enterprises with more than 20 workers. Cast-iron foundries, basic iron works (welding workshops) and machine-shop enterprises with tooling machinery (e.g. lathe, milling, grinding etc. machines) are to be found. Focusing on the metal machine-shop sector only it is possible to sub-

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divide the existing units in terms of their technical performance into three groups:

- type 'a': old pre- and early post-war technical standard from early 1920 to the late 1950s
- type 'b': medium technical standard from early 1960 to the late 1980s
- type 'c': modern precision engineering standard from the late 1980s onwards.

In Penang SSEs exist in all three categories: on the level of past foundation (type 'a'), on a medium level (type 'b') and as (modern) newcomers (type 'c') with the following distribution among reference groups

Workers	1-5				6-10				11-15				16-20			
SSE Type	a	b	c	Σ	a	b	c	Σ	a	b	C	Σ	a	b	c	Σ
Age of SSE		arid	ana			1120	10.30	ter						nak	TERNE Land	
pre. 1951	5	2	-	7	3	3	-	6	-	-	-	-	-	-	-	-
1951- 79	5	2	-	7	-	4	-	4	-	-	-	-	1	3	-	4
1980- 88	3	4	-	7	-	2	5	7	-	2	4	6	-	1	1	2
Total	13	8	-	21	3	9	5	17	-	2	4	6	1	4	1	6

 Table:
 Year of business foundation by type and size of enterprise

Source: own data survey 1989

Only men work in metal enterprises. In the following the existing metal machine-shop SSEs in Penang/Malaysia are described in more detail according to the above mentioned types.

Type 'a': traditional enterprises

In this category, mainly one-man operated or family-based enterprises with two to five workers are predominant. Field investigation has shown that not more than 20 enterprises of this kind still exist in Penang. The workshop premises are usually inside a colonial shophouse with a narrow interior and poor lighting conditions. These machine workshops of old pre-war technical standard (some are still using transmission belt power) are likely to vanish, because they are operating uneconomically. In oldfashioned style the work is conducted on a day to day basis, influenced to a large degree by chance work and characterized by a low technology level. The whole decision-making process regarding working operations is organized according to day-to-day events. Organized management methods and long-term forward planning for the economic utilization of resources are hardly found.

Limited technical opportunities and financial resources being a constant constraint in the running of their enterprise, these SSE entrepreneurs have been forced to develop special techniques of improvisation and interconnected appropriate life as well as work styles. Recycling of materials and appropriate use of limited resources is common. As an example of ethnic business and inter-ethnic relationships in Penang the metal trade is in the hands of the Chinese community while Indian Chettiars hold the monopoly in second hand scrap metal supply.

In general, the small machine-workshop entrepreneurs have insufficient (single) orders. They modify and repair various types of machinery and spare parts, especially small boat engines. The workshop lack illumination and fresh air circulation. A lot of work is carried out on the floor where tools and iron bars are generally kept. Book-keeping, technical drawings and written paperwork is almost absent. The way these tiny workshops carry out their work is closely related to artisan practice with strong personal employer-employee ties rather than to small firm production or even industrial manufacturing. The less formal, social working climate within these SSEs can be regarded as a strategy of managerial indulgence aimed at building up worker morale and promoting a harmonious atmosphere within the enterprises. This is a new response by the entrepreneurs to prevent their workers opting for work in a big modern company within the FTZ zone which can offer higher salaries and other extra allowances.

With direct personal link to customers and suppliers, the SSEs are incorporated into their neighborhood with long-established social relations and membership in social associations within the traditional Chinese community life (see Thong Tin Sin 1987). Long-established customer relations and personal networks enable these people to survive and to find their economic niche in several ways. Without assistance from family members or distant relatives and support by ethnic solidarity, most of these enterprises would already have had to close down. Future development prospects and perspectives are difficult to estimate. It is likely that these small firms will become victims of modern development.

Type 'b': enterprises in the process of modernization

About 40 enterprises are to be found in this category of post-war technical standard machine workshops, at an intermediate level between old and modern technical standards. Like type 'a' these machine-shops are mostly based in shophouses. The workshop management has often changed from 'family-owned' to 'partnership' workshops with mostly two proprietors. Customer and client contacts have expanded to cover the surrounding city area. They receive orders from SSEs nearby with less technological skills or limited production capacity. In addition certain enterprises have already specialized by manufacturing their own particular products and even trading them. As a niche production on a small scale they have a more reliable and steady base of income. They manufacture, for example, small food processing machines for hawkers and street vendors, carry out reconditioning work (such as reboring cylinders or crank shaft grinding) or they produce machines and equipment for goldsmiths. The machinery and techniques used are mostly less than 10 years old. Future development prospects for these enterprises are not too negative. The question seems to be whether this category of SSE can improve its performance so as to become a modern precision enterprise like category 'c' below, or whether it will remain small with an insecure basis of daily work requirement. Perhaps some may have to close down like most type 'a' enterprises.

Type 'c': young and modern precision engineering machine workshops

These modern SSEs are mostly less than five years old. By 1991 there were approximately 25 workshops of this kind on the island. Their history began after the first FTZ companies had moved to Penang in 1972. The

modern SSEs are mostly spin-offs from a semi-conductor factory. These factories had to train their own qualified machinists and toolmakers by an inhouse apprenticeship scheme. The unintentional side-effect of these schemes was that after the trainees had received working experience within the multinational plant quite a number of them left their employers to start a small (modern) precision engineering workshop of their own. In order to be their own boss they are now catering for their former employer companies as subcontractors (see Wright 1990).

After setting up their business around the FTZ, they now depend fully on the multinational FTZ companies and have to work as ancillary sweatshops for electronic and semi-conductor industries, fulfilling orders (i.e. fixtures, groundplates, fitting blocks, devices etc.) without background knowledge and on an insecure subcontract basis. To get FTZ orders the individual SSE entrepreneur has to visit the factories and to apply personally on a day-to-day basis. The ability to communicate in English is a basic precondition. Along with their FTZ contacts these SSEs could benefit from world-market integration and upgrade their working techniques and machinery, which is mostly quite new. Some of these tooling machines are equipped with digital read-out systems. Recently the first workshops installed computer-numeric-controlled (CNC) machine centres, which they could not afford or utilize before.

The workshops are mostly established on modern air-conditioned, purpose-built premises. The workshop interior is organized according to production needs. Machines are arranged in rows with sufficient workspace in between. Tools are properly displayed. In contrast to traditional entrepreneurs, the owners of newly established modern machine-shops are not very likely to join voluntary associations. Situated outside town, they are individualistically orientated towards FTZ business and have less social contacts to the caring community that is 'Chinatown'. They are not integrated and organized inside the informal systems of reciprocity and neighbourhood associations. This might turn out to be a mistake in times of recession because they will not be able to rely on these bonds any more. In the near future these modern SSEs may become small-scale industries (SSIs) but will remain directly dependent on economic fluctuations in the international market.

Policy and project issues

During recent years the SSE sector in Peninsular Malaysia has shown a high growth rate per annum. Like the national economies of the four newly industrialized countries (NICs) Hong Kong, South Korea, Singapore and Taiwan, (the so-called four little tigers) which are showing high growth rates related to close world market integration, the small-scale enterprise sector in Penang/Malaysia could benefit locally from the existence of multinational companies and FTZs within the country. Despite the often assumed negative impact of multinationals on sustainable domestic industrial growth in developing countries, e.g. as being (in)directly responsible for eliminating small production units belonging to the informal sector - the Penang case is an impressive example of how SSEs can also benefit from multinationals and upgrade and formalize their existence. The emergence of multinationals in Malavsia has therefore created a dichotomous situation for SSEs: Some are forced to close down because they are not able to cope with the overall changing situation of tougher competition and consumer demands. SSEs of type 'a'. especially, are fighting a losing battle against the lack of financial resources, of sufficient (modern) machinery, of qualified workers and sufficient orders. This workshop category is dying with its owners. Other machine-shops, however, seem to be able not only to survive but also to increase or transform their performance.

According to my research findings, inside the informal sector elements of economic dynamics can be activated to transform or create small enterprises. Therefore, to stimulate further growth in the SSE sector, negative attitudes should be withdrawn (e.g. hindrance through licensing) and proper government incentives provided. In addition, specially tailored credit schemes should be introduced to provide start-up or modernization capital, as well as training courses to cope with technical or management problems and to overcome capital and skill deficits. Acess to cheap workshop premises should be made available to all small entrepreneurs who need them. The microentrepreneurs interviewed would appreciate problem-solving assistance which could accelerate the growth potential of their enterprises and foster their future ability to overcome the barriers mentioned earlier.

In contrast to mainstream modernization efforts which often lead to rationalization accompanied by unemployment, modernization in Penang's SSE sector can be regarded as an additional source of job creation and new, small business foundation. The existence of a modern FTZ in Penang has created an informal-formal interrelationship with a two way flow of workforce: on the one hand some of the SSE employees trained on the job will be absorbed by the booming FTZ factories where work seems to be more attractive because of higher income opportunities, a modern factory environment and additional allowances. This could lead to a shortage of informally skilled, self-trained labour for SSEs. But on the other hand there is a growing tendency for former FTZ employees (i.e. type 'c' SSEs) to set up their own business.

The existing Industrial Training Institute (ITI) in Butterworth does not cater for the demands of small entrepreneurs. For this reason, potential small entrepreneurs in Penang are forced either to take part in an FTZ inhouse apprenticehsip scheme or to work in a modern FTZ company for a while so as to acquire modern manufacturing skills. At the moment, this is the usual way within the small business sector for the self-creation of new enterprises and the self-formation of entrepreneurs of type 'c'.

A plan of action for development assistance for small and medium industries from a coordinating body like a small industry development authority (SIDA) should take this into account. It should provide training facilities and technical assistance for the SSE sector also in order to integrate persons from SSEs of low technical standard. FTZ-educated and trained workforce is already stimulating the local SSE sector through new business creation and the informal transfer of technology. They should be supported in developing new production-based opportunities to proliferate existing economic changes in the SSE sector. This is advisable in order to overcome the potential risk of saturation of the market for SSE products and services and to enable them to become more independent from FTZ resources, should FTZ companies reduce their SSE subcontracting work or move away. But not only modern workshops should be regarded under this aspect; many more SSEs would like to join their ranks and should therefore not be neglected by integrated development projects which could help numerous individuals to realize their 'entrepreneurial dreams'.

SSEs also benefit from business contacts with FTZ companies on a subcontract or ancillary basis. In general, only the technically more advanced modern SSEs (type 'c') are able to receive work orders from FTZ firms. Through quite sophisticated vertical exchange within the SSE sector itself, less developed SSEs can also participate in catering for FTZ orders. The work requirements for a certain order which a modern SSE might get from an FTZ company can be directly subdivided on a sub-

subcontracting basis within the small workshop sector. In this way less advanced workshops (type 'b' or 'a') take part in more highly paid FTZ orders by providing cheaper additional services to better equipped SSEs (comparative cost advantage) and benefit from their contracts or contacts. Because of this wide informal subcontract network, the technical standard of Penang's machine workshops as a whole, their product alignment ability and their actual economic business potential are better than in other parts of the country including the Ipoh or Kuala Lumpur region.

Conclusion

This review of Penang's microenterprises in transition has shown that they can be classified in three types ('a', 'b', 'c') on three different levels of production (basic iron works, machine workshops and modern precision engineering enterprises). As indicated, there are structural differences and hierarchical orders between SSEs. That is why the SSE field in Malaysia must still be regarded as a non-homogeneous socio-economic sector ranging form traditionally organized SSEs to modern small industrial enterprises, dependent on large FTZ companies.

The small-scale enterprise sector itself includes a wide range of activities, products and services and could continue to play an important role within the national economy, especially if appropriate assistance and suitable socio-economic integration is provided (see IDRC 1988; FES/ISIS 1990). Metal SSEs in Penang are often part of the informal sector, but some of the former poor backyard SSEs have advanced to be the informal subcontractors of the modern FTZ zone. The SSE sector of non-wage, off-farm labour with high informal organization patterns persists with a growing tendency to develop higher technical standards but on a more dependent level. A transformation process from backyard SSEs to SSIs in light industrial estates is taking place with several socio-economic differentiations. So far this has led to the genesis of a young group of modern SSEs on a lower middle class level.

The evaluation of 50 questionnaires indicates that because of their overall insecure economic situation (e.g. lack of financial resources, obsolete technical standards, no official help) these SSE owners have a low class, petit bourgeois self-confidence ideology and mentality; they fear to lose and they hope to increase their business at the same time. Politically, these entrepreneurs have remained unorganized so far. As a concluding recommendation for planners and development consultants, the small or microenterprise sector should not be neglected but carefully integrated into future development strategies. Besides the micro-economic advantages of SSEs, namely providing private consumers as well as industries with basic and cheaper locally needed products and services by using local resources, the social elements of existing networks, personal relations and neighbourhood exchange within this SSE sector should also be recognized. Otherwise the informal SSE sector would lose its ability to create further self-employment opportuniteis, additional income-generating activities and the ability to cope with the various challenges of modernization.

The survey also indicates that despite numerous governmental small industry development organizations (SIDOs) no special assistance has been given to Penang's SSE sector. Nevertheless, even without official support quite a number of small Chinese businessmen in Georgetown have been able to continue to exist due to their own creativity and innovation efforts. To increase the potential role of local SSEs on the labour market and as complementary subcontract opportunities for big industries, the present SSE activities should be positively recognized by development policy authorities. Future field investigation will show whether the Penang case can be regarded as exemplary for other smallscale enterprise development and promotion. However, one fundamental premise of a free-enterprise economic system will remain, namely that all small businesses have to face serious competition.

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