

This work is licensed under a  
Creative Commons Attribution-NonCommercial-  
NoDerivs 3.0 Licence.

To view a copy of the licence please see:  
<http://creativecommons.org/licenses/by-nc-nd/3.0/>

---

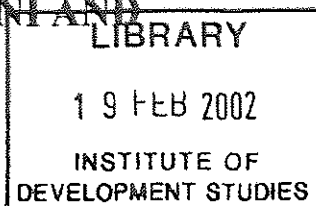
RN= 226604

IDS Library  
University of Sussex  
Falmer, Brighton BN1 9RE, UK

PLEASE RETURN BY

29.5.09

**TAPPING OPPORTUNITIES IN JUA  
KALI ENTERPRISE CLUSTERS  
THE CASE OF ZIWANI AND  
KIGANDAINI**



**IDS Working Paper No. 525**

**By**

**Mary Njeri Kinyanjui  
Institute for Development Studies  
University of Nairobi**

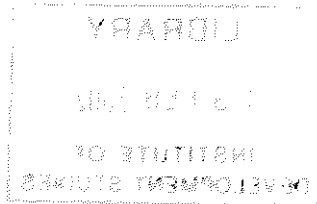
**February, 2000**

IDS



032786

(c) 2000



## IDS Working Paper Number

Views expressed in this paper are those of the author and should not be interpreted as reflecting the view of the Institute for Development Studies of the University of Nairobi

This paper is not for quotation without permission of the author, as specified in the Copyright Act, Cap 130 of the Laws of Kenya.

A report of a project sponsored by ENRECA programme through a collaborative research project between the Institute for Development Studies (IDS), University of Nairobi and the Centre for Development Research (CDR) Copenhagen

## 1.0 INTRODUCTION

This paper reports the findings of a study on how enterprises tap opportunities in clusters in Kenya. The study is based on two clusters namely Ziwani and Kigandaini. Ziwani cluster is located in Nairobi while Kigandaini is situated in Thika. The two clusters contain numerous small enterprises undertaking varied activities. In Ziwani firms engage in vehicle repair and production of vehicle spare parts. Kigandaini firms are involved in production and repair activities.

The paper is divided into seven sections. Section two contains the theory and occurs after this introduction. Section three discusses the methodology while section 4 discusses the firm characteristics. Section five outlines the opportunities in Ziwani and Kigandaini while section 6 discusses tapping opportunities in Ziwani and Kigandaini. Section 7 is the conclusion.

## 2.0 THEORETICAL AND CONCEPTUAL ISSUES

The collective efficiency model contends that clustered firms draw opportunities from the clusters. Collective efficiency is defined as the competitive advantage derived from local external economies and joint action (Schmitz, 1995). The opportunities that firms tap within clusters are external economies and joint action. These opportunities are planned and unplanned or passive and active (Nadvi, 1996). Passive col-

lective efficiency refers to firms tapping opportunities of external economy while active collective efficiency refers to firm collaboration in the clusters.

Clustering provides opportunities for firm development. These opportunities are mainly the external economies that evolve in agglomerated firms. Schmitz (1992) defines firm clusters as geographical and sectoral agglomeration of firms. In clusters collective efficiency and joint action are the main driving forces that facilitate firm growth. Krugman quoted by McCormick (1999) identifies three external economies namely labour market pools, intermediate inputs and technology spill over in clusters. McCormick (1999) added market access to the list of external economies in clusters.

The opportunities identified in Ziwani and Kigandaini clusters belong to both the passive and active collective efficiency domain. They are seedbed, labour pooling, learning processes, specialisation and division of labour and social relations and networks.

Clusters serving as seedbed for new firms is not one of the issues covered in the collective efficiency framework. Weijland (1999) has shown how clusters serve as industrial seedbed in Indonesia. In this study we include clusters as seedbed because most often small firms die between one and three years after their formation. It is argued here that clusters act as seedbed for small firms. Clusters with the right supportive infrastructure nurture small firms and prevent them from early death.

Social relations and networks based on trust are important components of clusters and are critical to a cluster's success (Schmitz and Nadvi 1999). They reduce transaction costs and underlie the conscious pursuit of joint action. According to Brautigam (1997) the success of Nnewis cluster was due to socio-cultural networks of Nnewis' entrepreneurs which reduced transaction costs. A similar observation was made by Weijland (1999) that socio-cultural networks led to the growth of rural Indonesian clusters. There is also increased evidence that the absence of trust based socio-cultural networks hampers growth. Mitullah (1999) notes that upgrading of Kenyan fish clusters was deterred by the socio-cultural divide between Asian and African business communities.

Clusters attract labour pools which are important to firms and workers. Labour pools are concentrations of specialised skills that develop within clusters (McCormick, 1999). According to the collective efficiency model the pooling of specialised skills contributes to firm upgrading and subsequent cluster development.

The cluster is an important environment for learning new ideas and technologies. The learning process occurs between entrepreneurs or between traders and entrepreneurs or customers and entrepreneurs. In the collective efficiency model the learning process is referred to as technology spill over. The learning process contributes to firm development.

Specialisation and division of labour evolves among clustered firms. Firms tend to specialise as division of labour deepens

in clusters. Specialisation is the tendency of firms to perform only one task of a given production process. Division of labour is the tendency to allocate specific tasks to certain firms. Firms that tap opportunities within clusters develop. In defining firm development we borrow from Schumpeter's definition of development. Development by Schumpeter (1934) is defined as the carrying out of new combinations. He goes on to list five cases that he sees as encompassed by the concept. These cases are: introduction of a new good, a new method of production, opening of a new market, conquest of a new source of supply of raw material or a new organisation of industry. It is argued here that firms that will tap opportunities or exploit the external economies in the cluster will experience one or all of the five cases. That is, they will be able to introduce a new good in the market, learn a new method of production, open a new market, conquer a new source of supply of raw material or initiate a new form of organisation of industry.

In particular firms that will take advantage of learning processes within the cluster will be able to introduce a new good or learn new methods of production. Similarly by tapping the opportunity of market access firms will be able to open up a new markets. Further, firms taking advantage of technological spill overs will acquire a new form of industry organisation and learn new methods of production. Firms that will exploit the external economies of intermediate inputs will have conquered new sources of raw material.



### 3.0 RESEARCH METHODOLOGY

#### 3.1 The Study Area

Ziwani and Kigandaini are spatial entities comprising small firms. Ziwani is located in former African quarters off Quarry Road in Nairobi. Kigandaini is situated off Thika-Garissa road on a plot officially belonging to the fire brigade. Kigandaini is a multisectoral cluster while Ziwani is predominantly a one sector cluster. Firms in Kigandaini are engaged in manufacturing, vehicle repair, electrical and glass works. Ziwani cluster is dominated by vehicle repair firms and a few autoparts manufacturing firms. Manufacturing activities have evolved to meet the demands for spare parts by the vehicle repairers.

Auto repair entrepreneurs are involved in a wide range of activities. These are general mechanic, spray painting, wiring, panel beating, design and sign writing, welding and rewinding.

#### 3.2 Data Collection

Data collection for this study was carried out in two phases. The first phase involved carrying out a census of enterprises in Ziwani and Kigandaini. In Ziwani the population of firms was 506 while in Kigandaini the population of firms was 376. The second phase involved the administration of a questionnaire to 115 enterprises in Ziwani and 105 in Kigandaini.

### **3.3 Sampling and Sample Size**

The population of firms in Ziwani and Kigandaini was used as the sampling frame for selecting firms for the survey. The population of firms was stratified into categories based on type of firm activity. The population of firms in Ziwani was stratified into five categories. These were general mechanics, spray painting, panel beating, manufacturing and other. A simple random sample of 20 firms was selected from each category. In the manufacturing sector, only 16 firms were selected. A similar procedure was followed for firms in Kigandaini. Firms were subdivided into categories of auto manufacturers, other manufacturers, general mechanic, wiring, spray painting, other repairing activity and spare parts dealers. A sample of fifteen firms was obtained from each category.

## **4.0 FIRM CHARACTERISTICS**

This section reports the firm characteristics of enterprises in Ziwani and Kigandaini separately.

### ***4.1.1 Age of Vehicle Repair and Manufacturing Firms in Ziwani***

The oldest vehicle repair firm in Ziwani was started in 1936 while the youngest were started in 1994. The oldest manufacturing firms in Ziwani was started in 1960 while the youngest was started in 1996. The mean age of vehicle repair firms in

Ziwani is 15 years. This mean age is twice the usual 6-8 years reported in most small enterprise studies. All the vehicle and manufacturing entrepreneurs in Ziwani have worked continuously in business since start-up.

#### 4.1.2 *Vehicle Repair and Manufacturing Activities in Ziwani*

Vehicle repair firms covered in the survey were engaged in a variety of activities ( see Table 1).

**Table 1: Vehicle Repair Firms in Ziwani**

Vehicle Repair Activity	No.	%
General mechanic	22	22.2
Panel beating	20	20.2
Electrical wiring	19	19.2
Spray painting	18	18.2
Gas welding	7	7.1
Spring repair	2	2.0
Radiator	2	2.0
Electrical welding	2	2.0
Sign writer and design	2	2.0
Greasing services	1	1.0
Engineering fuel works	1	1.0
Body building	1	1.0
Auto rewinding	1	1.0
Mechanical engineering	1	1.0
Total	99	100

Source: Survey

The most important vehicle repair activity in Ziwan is general mechanic, followed by panel beating, electrical wiring and spray painting. Manufacturing firms in Ziwan are involved in a variety of activities with some firms making as many as three products. Table 2 shows the type of manufacturing activities in Ziwan. Dash board covers making is the most dominant manufacturing activity. The next in importance is exhaust pipes and floor mats making followed by metal grill production. Other important activities are silencers, chassis and roof mats making.

**Table 2 Type of Manufacturing Activities in Ziwan**

Type of Activity	No	%
Dash board mats	4	25.0
Exhaust	3	18.8
Grills	2	12.5
Floor mats	2	12.5
Chassis	1	6.3
Silencers	1	6.3
Line boards	1	6.3
Roof mats	1	6.3
General upholstery	1	6.3
Total	16	100

Source : Survey

#### ***4.1.3 Entrepreneur's level of education in Ziwani***

In Ziwani, for example, only 5% of the auto repair entrepreneurs reported having had no formal education while 95% reported having received some formal education at various levels of education including primary, secondary and advanced high school level of education. However, there are variations in the number of years the entrepreneurs spent at each level. Entrepreneurs with primary school level of education spent between two and eight<sup>1</sup> years in primary school.

The mean number of years entrepreneurs in Ziwani spent in primary education was six. Entrepreneurs who completed primary education were 85.7% while those who dropped out at various levels were 14.3%. The maximum number of years an individual spends in Kenyan secondary school is four years. Fifty per cent of entrepreneurs in Ziwani attended secondary school education, and completed the four year secondary schools cycle. Ten per cent did not complete one year. Another 10% completed only one year while 30% completed two years of secondary education.

## 4.2. Firm and Entrepreneurs' Characteristics in Kigandaini

### 4.2.1 Age of Enterprises in Kigandaini

Vehicle repair businesses in Kigandaini were started between 1975 and 1995. These businesses have been in operation since they were started. A substantial number of enterprises (46.7%) reported that Kigandaini was their first location. Most of the other enterprises were founded in upper Jua Kali (Jamhuri Thika) while other businesses were founded in Dandora, Nairobi.

Auto- spare parts businesses in Kigandaini were started between 1979 and 1996. All the businesses reported having been in operation since start up. The oldest manufacturing enterprise in Kigandaini was started in 1972 while the youngest was started in 1993. The mean age of manufacturing enterprises is 9 years.

### 4.2.2 Vehicle Repair Enterprises by Activity in Kigandaini

The largest number of vehicle repair entrepreneurs in Kigandaini were involved in wiring (28.9%) (see Table 3). The next largest category of vehicle repair entrepreneurs were general mechanics (22.2%), followed by welders 17.8%, and panel beating 11.1%. Other vehicle repair activities in Kigandaini include door fitting, radiator services and clip washer services.

#### 4.1.3 *Entrepreneur's level of education in Ziwani*

In Ziwani, for example, only 5% of the auto repair entrepreneurs reported having had no formal education while 95% reported having received some formal education at various levels of education including primary, secondary and advanced high school level of education. However, there are variations in the number of years the entrepreneurs spent at each level. Entrepreneurs with primary school level of education spent between two and eight<sup>1</sup> years in primary school.

The mean number of years entrepreneurs in Ziwani spent in primary education was six. Entrepreneurs who completed primary education were 85.7% while those who dropped out at various levels were 14.3%. The maximum number of years an individual spends in Kenyan secondary school is four years. Fifty per cent of entrepreneurs in Ziwani attended secondary school education, and completed the four year secondary schools cycle. Ten per cent did not complete one year. Another 10% completed only one year while 30% completed two years of secondary education.



## **4.2. Firm and Entrepreneurs' Characteristics in Kigandaini**

### **4.2.1 *Age of Enterprises in Kigandaini***

Vehicle repair businesses in Kigandaini covered in the survey were started between 1975 and 1995. These businesses have been in operation since they were started. A substantial number of enterprises (46.7%) reported that Kigandaini was their first location. Most of the other enterprises were founded in upper Jua Kali (Jamhuri Thika) while other businesses were founded in Dandora, Nairobi.

Auto- spare parts businesses in Kigandaini were started between 1979 and 1996. All the businesses reported having been in operation since start up. The oldest manufacturing enterprise in Kigandaini was started in 1972 while the youngest was started in 1993. The mean age of manufacturing enterprises is 9 years.

### **4.2.2 *Vehicle Repair Enterprises by Activity in Kigandaini***

The largest number of vehicle repair entrepreneurs in Kigandaini were involved in wiring (28.9%) (see Table 3). The next largest category of vehicle repair entrepreneurs were general mechanics (22.2%), followed by welders 17.8%, and panel beating 11.1%. Other vehicle repair activities in Kigandaini include door fitting, radiator services and clip washer services.

**Table 3 Vehicle Repair Activities in Kigandaini**

Vehicle Repair Activity	No.	%
Wring	13	28.9
General mechanic	10	22.2
Welding	8	17.9
Panel beating	5	11.1
Spray painting	3	6.7
Auto rewinding	2	4.4
Radiator services	2	4.4
Door fitting	1	2.2
Clip washer service	1	2.2
Total	45	100

Source: Survey

#### **4.3.1 Manufacturing Activities in Kigandaini**

Thirty manufacturing enterprises were covered in the sample survey in Kigandaini. The enterprises were involved in the production of vehicle parts and household goods, as listed in Table 4.

**Table 4 Type of products in manufacturing enterprises  
in Kigandaini**

Type of Product	No	Kigandaini %
Springs	4	13.3
Tin lamps	4	13.3
Sisal Mattresses	3	10.0
Boils	2	6.6
Tin boxes	2	6.6
Tables	2	6.6
Chairs	1	3.3
Washers	1	3.3
Mops	1	3.3
Metre boards	1	3.3
(Jikos) Cooking Stoves	1	3.3
Cold Chisel	1	3.3
Side Mirrors	1	3.3
Leather goods	1	3.3
Buckles	1	3.3
Wardrobes	1	3.3
Road signs	1	3.3
Strapping clips	1	3.3
Hair clips	1	3.3
Total	30	100

Source: Survey

### ***4.3.2 Auto- Spare Parts Traders in Kigandaini***

The auto-spare enterprises stocked a variety of products. They include bolts, nuts, axles, oils, springs, filters, cut outs, fan belts and clutch covers, silencers, chassis. The vehicle parts shops stock parts for all types of vehicles. The stock is purchased from wholesalers in Thika and Nairobi. Interestingly, some of the auto-spare part dealers are stocking products made in the cluster such as bushes, washers and battery lashes.

### ***4.4.0 Founders' characteristics (Kigandaini)***

#### ***4.4.1 Level of Education***

Manufacturing entrepreneurs in Kigandaini reported having been to school. The number of years entrepreneurs spent in primary education ranged between two and eight years with a mean of six years of primary education.

Vehicle repair entrepreneurs in Kigandaini also reported having some education. Entrepreneurs with primary school level of education spent between one year and eight years of primary education. The mean numbers of years spent in primary school were 6.2. Vehicle repair entrepreneurs with secondary school education spent between 2 years and four years. The mean number of years the entrepreneurs spent in secondary school was 3 years.

#### 4.4.2 *Ethnicity*

Majority of the vehicle repair entrepreneurs in Kigandaini were Kikuyu (93.4%). The rest were Kamba (4.4%) and Luhya (2.2%). Kikuyu entrepreneurs were the majority (73.4%) in manufacturing firms in Kigandaini. They were followed by Kamba entrepreneurs who were 23.3% and Luo entrepreneurs who were 3.3%. Auto-spare entrepreneurs' ethnicity is distributed as follows: Kikuyu (95.2%) and Kamba 4.8%.

### **5.0 OPPORTUNITIES IN ZIWANI AND KIGANDAINI FOR ENTERPRISE DEVELOPMENT**

In this section, a discussion is offered on the opportunities that exist in Ziwani and Kigandaini for enterprise development. These opportunities were discussed in section two of this paper and are seedbed, specialisation and division of labour, trust based relations, labour pool and learning processes.

#### **5.1 Seedbed**

A large proportion of Jua Kali enterprises are located in temporary locations. These locations are unused plots awaiting development, road reserves or playgrounds. In these spaces small enterprises are very vulnerable to relocation by city and urban authorities when time comes for developing the unused plots. However, Ziwani and Kigandaini have been officially designated as sites for Jua Kali enterprises by the Nairobi city council for Ziwani and the Thika municipal council in case of

Kigandaini. This provides businesses located within the clusters with security of tenure. New firms can be located without fear of relocation while older firms have the necessary stability required for firm development. In addition, Ziwani cluster has ready made sheds for business occupation<sup>2</sup>. This minimises start-up or operating costs for businesses. The savings in premises can be used in other areas of business development.

## **5.2 Specialisation and division of labour**

Specialisation and division of labour is a common phenomenon in clusters. Ziwani and Kigandaini clusters are characterised by specialisation and division of labour. Specialisation is defined as the case where a firm undertakes only one repair or manufacturing activity. Kinyanjui (1996) defines specialisation as the case where a firm is involved in one repair activity such as panel beating or the case where a firm manufactures one type of product such as the making of silencers.

Division of labour involves the case where firms allocate different tasks in the production process to different firms in order to improve efficiency. Division of labour in the clusters enhances inter-firm interactions. Specialisation and division of labour serve as the bedrock upon which firm interactions take place in the cluster. Examples of firm interactions are subcontracting and sharing of customers. Subcontracting is fairly intense in the two clusters. In Ziwani 99% of the vehicle

repairers and 93.8% of manufacturers in Ziwani reported subcontracting work. In Kigandaini 86.8% of the vehicle repairers reported subcontracting work while eight manufacturing firms subcontracted work.

### 5.3 Social Relations and networks

Social relations and networks in the clusters enhance joint actions. Various forms of relations emerge in clusters. The most notable of this social relations is the Jua Kali associations which have been formed in the clusters. Although they are more involved in cluster development rather than individual firm development, they play a vital role of ensuring stability which is important for firm development. Social relations are also important in enhancing firm interactions. It is interesting to note that firms in both Ziwani and Kigandaini use social relations in their interactions especially in subcontracting. These social relations are: long time acquaintance, age mates, individuals who went to school together and trustworthy individuals. Other social relation factors are level of experience and neighbouring firms.

### 5.4 Labour pool

Clusters attract skilled labour. The labour pools benefit both workers and firms. According to McCormick (1999) such pools of industry specific skills are evident in many developing country clusters while Nadvi (1997) observes that labour pools serve as an important locational advantage for firms.

## **5.5 Learning processes**

Clusters serve as learning environments for the entrepreneurs. A lot of non formal learning takes place within the clusters. This is achieved through observation and doing. The learning process involves the flow of ideas and technology. According to McCormick (1999) clustering encourages technological spillovers by permitting the rapid flow of technical information between producers operating near one another and also by enhancing information flow between suppliers producers and traders. The flow of information and technological spillovers contribute to innovations within the clusters.

## **6.0 TAPPING OPPORTUNITIES AMONG ENTERPRISES IN ZIWANI AND KIGANDAINI**

The above section has shown the opportunities that exist in a cluster. in the following section we show how firms tap opportunities in the clusters.

### **6.1 Seed bed**

Clusters offer opportunities for firm formation and subsequent firm development. They serve as areas of new firm formation and recipients of migrant firms. For example, 77.6% of firms were founded in Ziwani while 22.4% firms were migrants. In Kigandaini 57.1% of the firms were migrants while 42.9% of the firms were founded in Kigandaini.



Migrant firms in Ziwani originated from diverse locations. They originated from Nyeri, Molo, Limuru, Eldoret, and Nanyuki. Other areas where firms originated from are: Shauri Moyo, Kirinyaga road, Kamukunji, industrial area and Eastleigh. Migrants firms in Kigandaini were from Jamuhuri market. The reasons for firm migration were lack of customers, overcrowding and relocation by city and urban authorities.

Firm formation is an ongoing process in both Ziwani and Kigandaini. In Ziwani, most firms covered in the survey were founded in 1980. Considerable firm formation also took place in 1986 and 1990. The oldest auto repair enterprise in Kigandaini was founded in 1975 while the youngest was founded in 1995. The oldest manufacturing firm in Kigandaini was founded in 1975 while the youngest was founded in 1993. The mean age of businesses in Ziwani is 15 years while the mean age of manufacturing enterprises in Kigandaini is nine years. These mean ages underline the importance of clusters as seedbed for small enterprises.

## **6.2 Labour Pool**

Labour pool is an important component of a cluster. The labour pool in Ziwani and Kigandaini consist of workers, entrepreneurs and trainees. The labour pool is an abundant supply of human capital readily available for employment and benefits the small enterprises. Labour pools in Ziwani and

Kigandaini are for both skilled workers and trainees with trainees being the majority. The trainees receive on job training from practising mechanics for durations ranging between one to three years. After qualifying the trainees seek employment or start their own businesses within the cluster. This leads to multiplication of small businesses within the cluster rather than firm development.

### **6.3 Learning Process and Skill Development**

The entrepreneurs in Ziwani and Kigandaini tap the opportunities of knowledge that freely flows in the clusters. The information flows between all the categories of entrepreneurs and customers. The information is crucial for upgrading firms especially through skill acquisition. The knowledge gained is mainly for skill development. Learning programmes flourish in the two clusters. These learning processes are for entrepreneurs and trainees. Through observation and informal talks, old entrepreneurs learn new skills. Such skills are related to the repair of new cars or mixing of paints before spraying of vehicles. Through the informal talks a lot of information is passed on from one vehicle repairer to another. On-job training is another form of training. Trainees enrol with a practising mechanic where they learn through observation and doing.

The learning processes for individual skill development are largely non-formal. The entrepreneurs continue to learn on the job and by watching others in the cluster perform something new. It is not strange to see a mechanic working on a car surrounded by others who seem to be doing nothing. Understandably, they are observing very closely what is going on. Sometimes, one may pose an important question in a very easy, non-formal way and answers are also given in the same way. But through this, a lot of learning takes place. However, since most of the learning is within clusters, there is a tendency of passing on bad practices of doing things. In the same way, the learning processes create a culture within the cluster which may be difficult to change.

Further evidence suggests that entrepreneurs alert to changing opportunities within the cluster have started more profitable and competitive business than the ones they had before.

In Kigandaini, there are two cases of entrepreneurs who started new businesses to meet demands of changing circumstances within the cluster. These are Mukami and Kanja. Mukami was working as a waitress and Kanja started as metal box fabricator. Today Mukami is a vehicle spare parts dealer while Mr. Kanja makes an assortment of vehicle parts. The cluster provided a learning opportunity for the two firm founders. Mukami ceased to be a waitress to become a leading vehicle spare parts dealer. Mr. Kanja changed from making boxes to making of washers, bushes and springs to meet the needs of the expanding vehicle repair market.

#### **6.4 Specialisation and division of labour**

Small enterprises in Ziwani and Kigandaini tap the opportunity of specialisation and division of labour through subcontracting. This enables them to overcome their skill and equipment deficiencies. Firms tap this opportunity through a series of firm interactions. Firms are able to do so because of the division of labour and specialisation that has evolved within the clusters. Interactions between firms are carried out within the context of competition and collaboration. The interactions are two ways and involve subcontracting work, problem-solving, lending machinery, training of trainees and sharing workers.

Subcontracting between firms is a common feature among firms in Ziwani and Kigandaini. Through subcontracting, firms are able to perform tasks which otherwise would not be performed in small firms. Subcontracting is a common phenomenon of collective efficiency in clusters. Through subcontracting firms are able to accomplish tasks or complete large orders with limited facilities. It is no wonder that 99% of firms in Ziwani reported subcontracting work to other firms.

The reasons for subcontracting work in Ziwani are presented in Table 5. Apparently large orders seems to be the most important factor explaining subcontracting between vehicle repair entrepreneurs in Ziwani. The next circumstances in the line-up is when a particular job requires advanced skills. Other important factors include jobs that cannot be done within the enterprise and the need to save on premises and machinery.

**Table 5: Reasons for Subcontracting in Ziwani**

Condition/Circumstances of Subcontracting	Yes %	No %
Large orders	99	1
Jobs requiring advanced skills	63.9	36.1
Jobs that cannot be done within a firm	29.7	70.3
Saving on premises and machinery	13.4	86.6
Greater efficiency	8.8	91.2
Subcontractors lower charges	5.7	94.3

### 6.5 The Number of Subcontractors Within the Cluster

The number of subcontractors for auto-repair entrepreneurs in Ziwani ranges between one and fifteen with a mean of three subcontractors. The number of subcontractors among auto repair firms in Kigandaini ranges between one and five while those of manufacturing firms in Kigandaini is between one and nine.

Panel beating (24.7%) is the most frequently subcontracted job. Spray painting (19.4%) and wiring jobs (19.4%) are also frequently subcontracted. General mechanic jobs are also frequently subcontracted to other auto repairers. All subcontract work is paid for in cash. The cost of subcontracted jobs in Ziwani ranges between Kshs. 100 to Kshs 25000 with a mean cost of Kshs. 3,545. Entrepreneurs in Ziwani and Kigandaini use social relations in tapping opportunities in the clusters. These social relations are: long time acquaintance, age mates, individuals who went to school together and trustworthy individuals. Other factors that entrepreneurs use in tapping opportunities are level of experience, neighbouring firms.

#### ***6.2.1 Subcontracting activity in manufacturing firms in Kigandaini***

Subcontracting was a less common phenomenon in manufacturing firms in Kigandaini. Only eight firms reported subcontracting work to other firms. The types of work subcontracted was mattress making, mop socket making and metre boards production. The number of subcontracting firms ranged between one firm and nine firms. The pricing of sub-contracted work is based on negotiation, and prices of raw materials. All sub-contracting work is paid for in cash. The reasons given for sub-contracting work are large orders and jobs that cannot be done in the subcontracting firms' enterprise.

Sub-contracting firms are chosen on the basis of friendship, reciprocity and job experience. It also appears that sub-contracting firms do not change subcontractors often.

As part of research, we asked the manufacturing enterprises in Kigandaini reasons for sub-contracting. A hundred percent of the enterprises reported sub-contracting work to other enterprises because of large orders, while 50% reported sub-contracting work because of savings on machinery. Other manufacturing enterprises (63.6%) reported sub-contracting work because of the great efficiency of the sub-contractor. Reasons such as lower wages of the sub-contractors, jobs that cannot be done within the firm, skills were also frequently reported as explanatory factors for sub-contracting.

Manufacturing enterprises in Kigandaini (68.8%) choose sub-contractors on the basis of the duration they have known them while 25% choose subcontractors who have adequate skill and experience. Only 6.3% of the manufacturing entrepreneurs choose sub-contracts on the basis of experience and trust.

## **6.6 Social relations and networks**

Business associations represent multilateral relationships between firms in a cluster. Business associations are increasingly assuming important roles in business development because they serve as a basis for collective action. They perform functions such as lobbying for policy, searching for new markets, training, developing business relations and by assisting weaker

firm members. Entrepreneurs in Ziwani and Kigandaini use business associations to tap opportunities within the clusters. Business associations are pillars for collective efficiency within a cluster. Through joint action firms absorb shocks or changes occurring in the industry. Almost all firms in Ziwani and Kigandaini are members of the local Jua kali association. The associations are based on trust with an objective of improving the cluster.

The association members varied on their use of the association in obtaining information about other businesses. Some 66.6% of the auto repairers obtained information about other businesses frequently from the association while 33.3% of the entrepreneurs did not obtain information about other businesses from the association. Only a small proportion of the auto-repair entrepreneurs (19.6%) made use of the association in seeking legal advice. The rest 80.4% reported having not made use of the association for legal advice.

The association played a major role in providing businesses with security of tenure and also ensured members' discipline. The association was also involved in crime control. The joint actions undertaken by associations in Ziwani and Kigandaini are directed to cluster development rather than individual firm development. The joint actions that relate to overall cluster development include provision of security, skill development, security of tenure, members' discipline and crime control. In Ziwani for example, members paid fees for purchasing the plot to the association, reported crimes and members' indiscipline.



The association has a team of individuals who keep surveillance of the entire cluster. It has also a discipline committee that deals with errant entrepreneurs. It is apparent that the association's strong area is mainly in the maintenance and development of the cluster. It plays some role in human capital development and business development. In order to realise firm development, associations' joint actions need to be focused towards enterprise development, by targeting such issues as licensing, technology development, markets, changes in trade and policies on small enterprises.

## 7.0 CONCLUSION

Clusters have many opportunities that firms could use for development. These opportunities are: seedbed, specialisation and division of labour, social relations and networks, labour pool and learning processes. Although there are numerous opportunities in the cluster, the firms do not make use of them to enhance their development. Failure to utilize opportunities within the cluster is reflected by the low levels of technology, firm size, market size, nature of the firm, level of entrepreneurs' skills and multiplication of small firms in the cluster.

Although clusters provide the businesses with security of tenure, their role as seedbed for firms is somewhat limited. Very few businesses have matured to become large enterprises. Most

of the firms have remained the same size they were at start up. Neither have they adopted new technics of repair or production.

The labour pool which is supposed to consist of skilled workers for the cluster does not do so. Instead it is dominated by trainees. These trainees are trained by practising mechanics who train them on low level skills for short durations. Soon after finishing the course the trainees start their own enterprises which compete with the existing ones. So instead of business development we have multiplication of small businesses in the cluster.

With regard to learning processes, the same old ideas and knowledge circulate within the cluster. This is mainly because the clusters have limited relationships with outsiders such as leading car dealers, training organisations and industrialists. The ideas and knowledge do not contribute to technological upgrading for firm development.

Although subcontracting is widely carried out in the two clusters, it is confined to final product processing and it is mainly prompted by large orders rather than by specialisation and division of labour between the enterprises. This is because production and repair is organised along artisanal lines whereby an individual repairs or produces a product from the beginning to the end. Thus for firm development to take place, there is need for the firm specialisation and division of labour to be deepened especially among manufacturing enterprises.

It is also interesting to note that although Ziwani association is relatively stronger than that of Kigandaini they are both weak and do not undertake joint actions for firm development. The associations main concerns are in cluster development rather than firm development. For the associations to be more efficient in firm development, they need to take issues of markets, technology and policy more seriously rather than confining themselves to infrastructural needs.

The analysis of tapping opportunities in Jua Kali clusters in Kenya has significant implications for policy and institutions involved in small enterprise development. The first implication is with regard to the fact that Jua Kali clusters have opportunities that firms can tap. This means that government could provide the necessary infrastructure for cluster development. The second implication is with regard to the deepening of firm specialisation and division of labour in the cluster. Donor organisation and non governmental organisations could assist clustered enterprises in deepening specialisation and division of labour. The government should also endeavour at improving the overall economy as well as reducing the number of school drop outs. This will ensure that clusters do not become pools for dropouts or those who cannot find employment in agriculture or industry.

## REFERENCES

Brautigam, D. (1997) "Substituting for the State: Institutions and Industrial Development in Eastern Nigeria". **World Development** Vol 25 No.7, pp 1063-1080.

King, K. (1996) **Jua Kali Kenya: Change and Development in an Informal Economy 1970-1995**, Nairobi: East African Education Publishers.

Kinyanjui M. N. (1996) "Ziwani and Kigandaini Jua Kali Enterprise Clusters Geographical Proximity or Collective efficiency"? **IDS Working Paper** No. 508 IDS University of Nairobi.

Kinyanjui M.N.(1992). "Small and Medium Enterprises in Central

Kenya: Structure Role and Location. PHD Thesis, University of Cambridge.

McCormick (1988). "Small Manufacturing Enterprises in Nairobi Golden opportunity or Dead End?" PHD Dissertation Baltimore: The John Hopkins University.

McCormick D. (1998). "Enterprise Clusters in Africa: On the Way to Industrialisation", **Discussion Paper** 295. Institute for Development Studies, University of Nairobi.

McCormick, D (1999) "African Enterprise Clusters and Industrialization: Theory and Reality". **World Development** Vol. 27, No. 9, pp1531-1551

Mitullah, W.V. (1999) Lake Victoria's Nile Perch Fish Cluster: Institutions, Politics and Joint Action **Working Paper** No 87 IDS Sussex

Nadvi, K. (1997). "The Cutting edge, Collective Efficiency and International Competitiveness in Pakistan", **IDS Discussion Paper** No 360, Sussex: Institute of Development Studies

Nadvi, K. (1996) "Small Firm Industrial Districts in Pakistan". Doctoral Thesis Institute of Development Studies, University of Sussex, University of Sussex, Brighton.

Nadvi, K., and Schmitz, H., (1994) "Industrial Clusters in Less Developed Countries: Review of Experience and Research Agenda", **IDS Discussion Paper** No 339 Sussex: Institute of Development Studies

Ngahu C.W. (n.d) "Choice of Technology in Small Scale Enterprises in Kenya". Final Report Presented to International Development Research Centre Nairobi.

Ngau, Peter and Keino, Irene (1996). "The Social Background of Women Entrepreneurs in Nairobi". In Dorothy McCormick and Poul Ove Pedersen, eds. **Small Enterprises: Flexibility and Networking in African Context**. Nairobi: Longhorn Kenya Ltd.

IDS/WP No. 525

Schmitz, H. (1992) "On clustering of small firms" **IDS Bulletin** 23 (3) 64-69.

Schmitz, H (1992). "Collective Efficiency and Increasing Returns": **IDS Working Paper** No. 50 Sussex: Institute of Development Studies.

Schmitz, H. (1989). "Flexible Specialization: A New Paradigm of Small-scale Industrialisation". **IDS Discussion Paper** No.261 Brighton. IDS.

Schumpeter J.A. (1934) **The Theory of Economic Development: An Inquiry into Profits, Capital, Credit, Interest and Business Cycle** New Brunswick: Transaction Publishers.

Sverrisson, Arni (1993). "Evolutionary Technical change and Flexible Mechanization: Entrepreneurship and Industrialisation in Kenya and Zimbabwe". PHD Dissertation Lund University.

Sverrisson, Arni (1992) "Innovation as a Collective Enterprise: A Case Study of Carpenters in Nakuru, Kenya". Research Policy Studies Discussion Paper No. 189 Lund: Research Policy Institute, University of Lund.

Weber, A. (1929) **Theory of the Location of Industries**; Translated by Friedrich, C.J. Chicago: University of Chicago.

Weijland, H. (1999) "Microenterprise clusters in Rural Indonesia: Industrial Seedbed and Policy Target" in *World Development* Vol 27 No 9.

#### End Notes

<sup>1</sup> In the old system the number of years spent in primary school was seven while in the new system the number is 8.

<sup>2</sup> Sheds were under construction in Kigandaini during the period of study.