Home Industrial Sites: Spaces of Hope or Spaces of Despair?

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Abstract

Most debates about the informal sector occur within specific disciplines, but they all happen in space that is the domain of spatial planning. This article provides a penetrative analysis into what transpires in home industries, places where numerous informal manufacturing activities take place. The article is based on a longitudinal-single case study of a site known as the Complex in one residential area of Harare, Zimbabwe. Within this case study, data were gathered using observation and photography, semi-structured interviews, questionnaire survey and documentary review. Qualitative, quantitative and spatial data were analysed using sentimental analysis, R Language and QGIS, respectively. The research revealed that the Complex has grown beyond its set boundary, depicting a successful cluster. However, in development control terms, growth beyond set boundaries is regarded as a violation of urban legislation. Also noted is the presence of strong social capital that bonds manufacturers together. Nevertheless, most manufacturers raised complaints about intermediary activities by touts that disturb the smooth flow of their daily business. The concept of home industries supports the New Urban Agenda in many ways. It is recommended that urban legislation and regulation be revised to incorporate contextual realities because the laws governing home industries in Zimbabwe were enacted at least two decades ago and do not fully reflect the changing socio-economic environment. Furthermore, planning authorities must devise strategies for re-designing home industries with view of decongesting them.

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INTRODUCTION

Issues surrounding urban informality have been on the academic table for at least 50 years now, taking different twists and turns (Hart, 1973; Despres, 1988; Zinyama et al., 1993; Ademola, 2012; Gallien *et al.,* 2021). Some of the debates on the informal sector revolve around its characteristics, size, nature of registration, tax evasive tendencies, employment creation, spatial location and contribution to fiscus (Keen & Kanbur, 2015; Kenton, 2020; Makochekanwa, 2020). The backbone of the informality debate is its spatial location, because everything happens in space.

The topical issue in development space is the New Urban Agenda (NUA) enshrined in Habitat III (2017). The agenda recognises the role of the informal sector in creating inclusive spaces and generating employment. It encourages national governments to nurture latent entrepreneurship and harness "…local economies and take note of the contribution of the informal economy…" to socio-economic development (Habitat III, 2017: 7). The five pillars of the NUA [(1) national urban policies; (2) urban legislation and regulations; (3) urban planning and design; (4) local economy and municipal finance; and (5) local implementation] are all anchored on where informality takes place. The novel quest by national governments to boost municipal finance by levying the informal sector mirrors the five pillars of the NUA. The success of the initiative to tax the informal sector depends on the full understanding of the nitty-gritties of the sector, including their spatial location and their intensity in space. For example, Zimbabwe's principal urban planning legislation and regulation is known as the Regional, Town and Country Planning Act (RTCPA) [Chapter 29: 12] Section 13(1)(b) provides that:

> …before altering or replacing any master plan or local plan (a local planning authority shall) undertake, if it thinks fit, a fresh study of the planning area or any part thereof…

Applying this provision to the subject of urban informality, it is sensible to undertake fresh research of a planning area to determine the magnitude of informality (in this case) and consider redeveloping the area to accommodate the growing population. Complete, reliable and up-to-date data from a fresh study can be used to influence urban policy and practice, and shape urban redesign.

Kenton (2020) clarified some issues regarding home industries. In this endeavour, Kenton characterised home industries using types of business housed in home industries, property rights, perception of ordinary people about such places, and their growth strides. However, it is argued that these characteristics differ from place to place because of differences in urban legislation and regulation (Bertolini, 2006). The main concern of the present study is to use evidence from urban Zimbabwe to further clarify the myths and realities in home industries. Some sections of literature argued that home industries are targeted mostly as places where various vices are brewed (Ademola, 2012; Masaririmbi, 2013; Keen & Kanbur, 2015). Is this view correct? As such, this article seeks to answer the following questions: Can something meaningful really come out of home industries? How do players in these industries configure their activities? What are the employment prospects in home industries? What sought of tools are used for manufacturing? How skilful are the people who work in these spaces? What are some of their operational characteristics? How are they governed?

The next section characterises home industries. This is tailed by a discussion of the design and approach adopted for this study. Then, answers to the research questions are given followed by a discussion of the home industries concept through the lens of the NUA. This discussion is skewed towards this agenda because the current urban development thrust is geared towards the realisation of the NUA. This guided discussion paves the way for drawing up conclusions and suggesting policy options.

CHARACTERISING HOME INDUSTRIES

Also known as cottage industries, home industries have been defined by Kenton (2020) as small-scale, decentralised manufacturing businesses often operated out of a home, rather than a purpose-built facility. Informed by the Cluster Theory (CT), Kuah (2002) has added that

cottage industries are a mere concentration of competing and complementing firms in a given topographical space. Kenton (2020) also noted that cottage industries often focus on the production of labour-intensive goods but face a significant disadvantage when competing with factory-based manufacturers that mass-produce. Small businesses are found mainly in small-scale industrial clusters because of the miniature investment required to start and the number of people employed. Majumdar and Borbora (2012) used the case of Assam in India to explain the agglomeration of small-scale manufacturing firms. To this effect, Assam has been termed mini-India because it attracts huge volumes of manufacturing activity and a huge population migrates there in pursuit of employment. Clustering of small manufacturing firms is widespread in many countries, including, but not restricted to, India, Peru, Brazil, Mexico, Palestine, Kenya, Nigeria, South Africa, Ghana, Senegal and Mexico (Sverrisson, 2006; Muponda, 2012).

Various sources have collectively described competitive lead of clusters, cluster initiative, cluster location, and trade as the four building chunks of cottage industries (Krugman, 1991; Porter, 1998; Kuah, 2002). Concerning the competitive lead of clusters, Bean-Mellinger (2021) argued that home industries may remain small, but they still compete with larger-scale companies for resources, like labour and markets. In selected cases, they complement large industries through sub-contracting arrangements. Cluster initiative has a bias towards innovativeness that cushion most players in home industries. They can take and process very small, tailor-made orders that cannot be easily processed by large manufacturers that excel in mass production (Straits Research, 2020). Just like a tree swaying in wind, they are flexible to bend without breaking and that gives them a strong footing in the manufacturing space. In terms of trade, cottage industries trade between themselves and can trade with large corporates. The definition of Gazaland, a home industrial site in Harare, Zimbabwe, partly sheds light on the characteristics of cottage industries (Muponda, 2012). It was defined as,

> …a conglomeration of small businesses involved in a plethora of activities, such as sheet metal fabrication, light engineering, motor vehicle maintenance and repairs, spray painting and panel beating, among others in the retail business, like the supply of vehicle spare parts and general merchandising (Muponda, 2012: 2).

This character of Gazaland is a true testimony that small-scale businesses in cottage industries succeed through and with others. They support each other through the provision of raw materials and markets.

Despite their ability to compete with large corporates, cottage industries lack the capital and financial systems to support higher levels of production. Kenton (2020) lamented that home industries employ labour methods that are heavily reliant on hand tools. Thus, even though they may employ a large portion of the population, they may not produce a proportional amount of output. Home industries are commonly perceived as zones of infractions and all imaginable vices, such as theft, cheating, corruption, bribery and exploitation (Kamete, 2004). Local Planning Authorities (LPA) often have headaches because players in home industries break numerous operative rules and regulations regarding property, labour, tax, planning, public health and environmental sanitation (Mazongonda, 2019). As such, home industries face frequent crackdowns from the LPA. In June 2021, the Harare City Council demolished illegal structures in home industries. Government sanctioned local authorities to demolish illegal business structures dotted around their jurisdictions, noting that they have become 'havens of illicit deals, and tax and rates evasion'(Vinga, 2021).In the face of these challenges, they still manage to attract customers because they are relatively cheap, and they provide scarce and essential commodities. To smoothen their operations, home industries also need licenses, registrations and must comply with tax obligations (Keen & Kanbur, 2015).

RESEARCH METHODOLOGY

This section provides details relating to the study design, methods and tools used to collect and analyse data. This study was designed as a longitudinal-single case study of the Complex in Glen View, Harare, Zimbabwe. This study was longitudinal because it was carried out over an extended period from November 2012 to July 2019 and it was single focusing on one case only, aimed at revealing peculiar issues. Geographically, the Complex is 15 kilometres to the south-west of Harare's Central Business District (CBD). It was purposively chosen because it is one of those cottage industries that attract large volumes of varied activity in Harare (Mazongonda, 2019).

To gather primary data, observation and photography, semi-structured interviews with selected informants, and a questionnaire surveys were used. The observations were two-fold: unstructured and unsystematic for at least two years, November 2012 to January 2015; and structured and systematic from April 2015 to July 2019. For the unstructured observation, notes during our interaction with manufacturers as customers' notes were taken. Having realised some peculiar stories to tell about the Complex, the approach was changed to be more structured and observation of manufacturers was made with informed consent. During this phase, an observation checklist was designed in line with study objectives. To help remember instrumental cases, and subsequently tell stories, the photography technique was used to aid observations. To get deeper insights on operational data, unstructured discussions were held with influential operators throughout the entirety of the study. The exact number of unstructured discussions could not be established because they were more of normal conversations that people have when they interact (in this case, interaction with them started as customers, and then as researchers).

The unstructured discussions helped the researchers to identify eight influential players who then took part in semi-structured interviews as key informants. The culmination of qualitative data gathered ignited interest to gather spatial and quantitative data to enrich our understanding of operations in home industries. So, a three-day cross-sectional survey that was rolled out in February 2017 was designed. Among other details, the survey was aimed at collecting data relating to the skills of players in the sector, their intensity and interaction in space, tools they use and market access. A digital questionnaire with offline capability and the ability to capture the spatial location of manufacturers was administered to 211 operators by 10 enumerators. The enumerators moved from one row to another and administered the questionnaire to manufacturers who were available at the time of the survey.

Secondary data were gathered using literature review and documentary analysis. The literature review was used as the main evoker of experiences in home industries. Key word search was used to gather relevant literature from accessible textbooks, journals, online, and newspaper articles. Then,

documentary analysis was used to review statutory acts and statutory instruments that provide for the informal sector and home industries in Zimbabwe. Specifically, sections on master and local plans, and development control in the RTCPA [Chapter 29: 12] were reviewed, and sections on user groups in the Statutory Instrument 216 (SI 216) of 1994 were reviewed to better understand what is legally provided for regarding cottage industries.

Qualitative data were analysed using sentimental analysis through an examination of conversations we had with different players and relating key findings with what was observed over time. The sentimental analysis gave rise to the generation of themes. Data captured using observation and photography helped in remembering instrumental cases, and subsequently told stories. The intersemiotic relationship (picture-text relationship) of such instrumental cases was reported through narration. The examination of findings was partly enabled by the use of vital qualitative communication skills, like interpreting experiences (conversation analysis) from stories narrated by participants. Behavioural trends were also grouped into themes. Then, data gathered during the questionnaire survey was first cleaned using python scripts to remove unusable responses.

It was then analysed using SPATSTAT, an R Language-based software, to determine measures of average, and underlying relationships. Some of the relationships analysed using chi-square tests include whether products produced depend on tool ownership and whether the type of tool one uses depends on the toolkit the manufacturer has. Spatial (locational) data were analysed using Quantum Geographic Information Systems (QGIS) to establish the intensity and interaction of manufacturers in home industries. In this case, intensity refers to the concentration of manufacturers in space, and interaction describes the way they relate and interact in working environs. The next section presents synthesised results that answer research questions set ahead of the study.

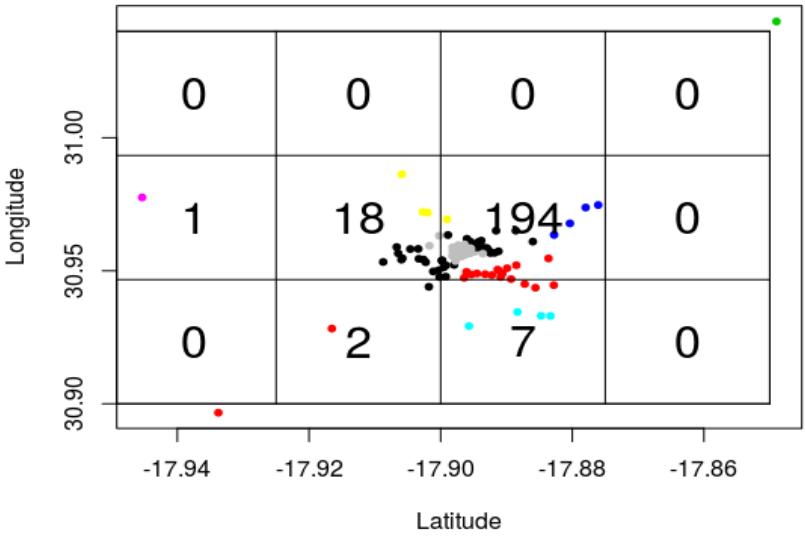
CONTEXTUAL REALITIES IN HOME INDUSTRIES: CASE OF THE COMPLEX, HARARE, ZIMBABWE

This section presents findings on the state of affairs in cottage industries using the case of the Complex, Harare, Zimbabwe. These findings clarify

some myths and realities on what has been documented about home industries.

CONFIGURATION OF ACTIVITIES IN SPACE

This section sets the tone for the discussion on findings by providing evidence on clustering of manufacturers in the Complex. Mapping narration on conglomeration is important in providing a rough visual imprint on the interaction and intensity of manufacturers in space. Figure 1 shows clusters of manufacturers with quadrant counts. The clusters were established using *k*-means clustering. These clusters are devoid of study site boundaries.



Note:

- Colours are made use of to signify different clusters;
- Quadrant count shows the total number of manufacturers per quadrant regardless of the cluster they reside; and
- Observations outside the quadrants represent outliers.

Figure 1: *Clusters of Manufacturers within Study Sites* (Survey, 2017)

K-means clustering of the Complex generated 12 quadrants where seven have no manufacturers and one has the greatest concentration of manufacturers. Quadrants with very few manufacturers explain the existence of outliers. That is, manufacturers working outside designated boundaries. Figure 1 suggests that manufacturers conglomerate into clusters according to the type of manufacturing activity. Different colours clearly show the existence of spatial patterns. Clusters with similar colour, but in different locations, indicate that similar activities are undertaken in various clusters, signifying the existence of camps in manufacturing. This observed reality augments existing literature on specialisation between home industries by providing evidence on specialisation and clusters within home industries (Brand, 1986; Kamete, 2010; Muponda; 2012; Masarirambi, 2013). Furthermore, the presence of clusters is explained by spatial covariates weaving and knitting manufacturers together. Some of the observed and reported covariates include tool sharing, knowledge sharing and the presence of social bonds cementing relationships. Further supporting evidence of clusters with small neighbouring distances, is a graph on expected (theoretical) and observed (practical) locations, and the minimum and maximum distances between manufacturers. Figure 2 shows the outcome of the pattern test for the Complex.s

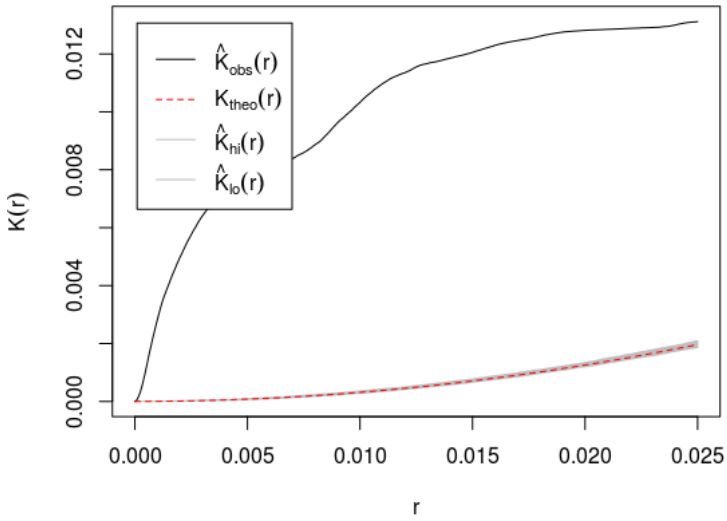


Figure 2: *Results of Pattern Test for the Complex* (Survey, 2017)

Expected pattern (K_{theo}) that was generated from the observed locations (K_{obs}) was juxtaposed with least and most distances (K_{lo} and $K_{hi,}$respectively) between manufacturers. From the pattern, it can be assumed that there remains a slim deviation from the expected distance between adjacent manufacturers, implying that their working sites are very near to each other. This indicates that manufacturers in the Complex spatially rely on each other.

EMPLOYMENT CREATION

There is overwhelming evidence that home industries in Harare result in more geographically concentrated benefits to the neighbourhoods they are located in. Table 1 is a summative descriptor of the total number and percentage of manufacturers residing within and outside neighbourhoods of the Complex home industry.

Table 1: *Summative Descriptor of Locale-Site Relationship* (Survey, 2017)

	Within the Neighbourhood		Outside the Neighbourhood		Grand Total	
	Absolute	Percentage	Absolute	Percentage	Absolute	Percentage
Complex	124	58.8%	87	41.2%	211	100%

A larger percentage (58.8%) of manufacturers working in the Complex reside within the neighbourhoods of their home industries. This percentage is regarded as substantial because the remaining percentages of manufacturers working in home industries are spread across the spatial extent of Harare. It can, therefore, be assumed that footprints of home industries span across the spatial extent of Harare, with more geographically concentrated effects within their locale. Some manufacturers indicated that they come from Glen Norah, Hopely, Highfield, Kuwadzana and Budiriro low-income residential suburbs in Harare. Some even come from as far as Epworth, a peri-urban area, and Chitungwiza, a neighbouring city. This reported reality signifies that the Complex creates employment for the Harare populace. In backing this finding, Majumdar and Borbora (2012) also discovered that people migrate to Assam (an industrial cluster in India) in pursuit of employment.

TYPE OF PREMISES AND PROPERTY RIGHTS

Spatial covariates, explained in this article, are a function of premises used by manufacturers in their day-to-day operations. The general observed reality is that manufacturers work from sidewalks, public spaces and within designated properties. This sub-section is structured to describe and explain the nature of operations within these premises. In the context of this study, a sidewalk is used to describe space at the side of a road for use by pedestrians. In planning circles, such spaces are widely known as servitudes or road reserves. Servitudes are used by utility companies, such as the Zimbabwe Electricity Supply Authority (ZESA) and Telone to line up power and telephone lines, respectively. Where such spaces are used as road reserves, they are meant for the future expansion of carriageways. Contrary to these desired uses, manufacturers are using sidewalks as working sites. Three major challenges result from the occupation of sidewalks. First, they inconvenience pedestrians who are, in turn, forced to use carriageways. Second, they put pedestrians at risk of being hit by vehicular traffic when they use carriageways instead of sidewalks. Third, congestion is inevitable because vehicular traffic is forced to slow down as a precautionary measure to avoid hitting pedestrians.

Most manufacturers, (90%), operate from designated properties as shown in Table 2. Designated sites include built-up and non-built-up spaces provided in layout plans of home industries as manufacturing spaces. Manufacturers acquire these spaces using different strategies leading to varying property rights. Political links, subletting, own property and cooperative ownership are the forms of property rights experienced by manufacturers.

Table 2: *Type of Premises used by Manufacturers* (Survey, 2017)

Relationship	**Complex (N=211)**	
	Absolute	**Percentage**
Sidewalks and Public Spaces	21	10%
Within Designated Properties	190	90%

Interpreting Table 2, there are very few cases of manufacturers working in sidewalks and public spaces. The 10% group that works in undesignated spaces are subject to development control enforcement (such instrumental cases are discussed in detail in forthcoming sections of this article).

Concerning property rights, small-scale informal traders in the Complex are all in rented space. Not one of them owns immovable property in the Complex. They rent from governing party(ZANU−PF) officials, council or from colleagues (subletting).

Of the players who mentioned the governing partyas the landlord, it was noted that terms of operation are defined by representatives of the governing party. One home furniture manufacturer mentioned that:

> I remit rentals to the chairman, the party chairman. If you renege to pay, you are not given notice, you are just chased out of here. Some of my peers were chased because they failed to pay their monthly rent to the chairman.

The rights on the use of land in relation to subletting have problems, like overcrowding, that reduces productivity. Some stands house more than five manufacturers, and this normally presents serious challenges in operation and handling clients. For guaranteed security of tenure, one must swear allegiance to the governing party because stand distribution is on party lines. A politicised environment is always not conducive for business as this may scare away clients hence affecting the viability of establishment in the respective politicised sites. For those from other political parties or a political, it paints a picture of marginalisation and treatment as outcasts.

TYPE OF TOOLS USED FOR MANUFACTURING

A total of 211 manufacturers participated in the sample survey. The Chi-square independence of association test was used to ascertain whether the nature of products (products that are an end in themselves or those that can be used as inputs in other processes) produced in the Complex is

dependent on the availability of full toolkits. A chi-square calculated value of 2.5432 was compared with a chi-square prescribed value of 3.180 (see Table 3). The outcomes suggest that the nature of products does not rely on whether an operator has a full toolkit or not. It can, therefore, be assumed that even operators without full toolkits can successfully produce goods that serve as an end in themselves. This is a true testimony of spatial interdependence as manufacturers share tools to successfully manufacture goods of different types, finished and semi-finished. Manufacturers in a similar line of trade use similar tools. As such, it is easy for them to share tools in their adjacent locations.

Table 3: *Results on Analysis of Data on Tool Ownership* (Survey, 2017)

	Do you own a full toolkit?		Nature and Type of Tools			Products	
	Yes	No	Combination	Hand tools	Power tools	End products	Input to other processes
Complex	147 (69.7%)	64 (30.3%)	89 (42.2%)	107 (50.7%)	15 (7.1%)	196 (92.9%)	15 (7.1%)
Pearson's Chi-squared test *(with Yates' continuity correction)* data: location vs toolkit X-squared = 7.4227, df = 2, p-value = 0.02444			Pearson's Chi-squared test data: type of tools vs toolkit X-squared = 1.1693, df = 2, p-value = 0.5573			Pearson's Chi-squared test *(with Yates' continuity correction)* data: Type of products vs tool Kit X-squared = 2.5432, df = 1, p-value = 0.1108	

Interestingly, 30.3% of manufacturers operate without full toolkits. This percentage is significant because it is approximately half of those with full toolkits, yet they produce both finished and semi-finished goods. Most of the manufacturers narrated that their manufacturing processes are job-based, that is, they manufacture as per order (just in time) and only stock a few products for display. This enables easy sharing of tools and

optimises their usage since one manufacturer does not use a full toolkit at the same time. In the long run, sharing of tools reduces capital expenditure on individual manufacturers, and thereby dropping the price of production. At the same time, this promotes interaction and networking since manufacturers are interdependent.

Regardless of whether operators own full toolkits, an investigation into the sort of tools used in manufacturing was conducted. Of the manufacturers 42.2% use a combination of power and hand tools, whereas 50.7% and the rest use hand tools and power tools only, respectively. In an inquisitive attempt to know the association between tool ownership and type of tools used, and whether tool ownership depends on cluster location within a home industry, data were collated, analysed and briefed in Table 3. These relationships are instrumental in explaining the level of spatial interdependence among the manufacturers.

Furthermore, the results shown in Table 3 suggest that manufacturers rely on each other's tools to produce either finished or semi-finished goods. So, in both instances, there is clear evidence of spatial dependence, irrespective of the variance in its nature. Concerning the sort of tools that manufacturers use, a larger percentage (50.7%) make use of a combination of hand and power tools, followed by 42.2% and the rest who use hand only and power only tools, respectively. A test on whether the type of tools used depends on whether one owns a full toolkit gave a chi-square value of 1.1693 that fell below a prescribed chi-square value of 2.920 at 0.05 level of significance and 2 degrees of freedom. This reveals that the type of tools used hinges on whether one owns a full toolkit. Half (50.7%) of the manufacturers in the Complex use a combination of power and hand tools since most products require the use of combined tools when manufacturing. Due to undercapitalisation, 42.2% of the manufacturers cannot afford to buy power tools so they use hand tools only.

ELEMENTS OF SOCIAL CAPITAL AND SKILLS OF OPERATORS

The formation and sustenance of clusters within home industries feed strong social links between manufacturers. This keeps working relations strong and reinforced. It is easy for one to join existing operators through identifying contacts and connections first. Sentimental analysis of narrations by different manufacturers revealed that it is easy for them to operate as a group since their relationship engagement is beyond a working relationship. These social links stretch to after work as a huge number of the manufacturers and non-manufacturers who provide ancillary services to manufacturers dwell in the neighbourhood surrounding the business area. Their families (wives, children and parents in some instances) are also bonded by good social relations. Common forms of social ties noted at the Complex include family, friendship and neighbourhood ties.

Marketers of different supplies (spare parts, accessories, raw materials, and food) penetrate the Complex through these social ties. Customers willing to purchase commodities or services from third parties are mentioned as suppliers in the manufacturers' social network. Politically, to a certain extent, operators in home industries have the same political ideology. These people have the same socio-economic background. Thus, political parties try to infiltrate these areas through established social interactions as the informal operators have a unity of purpose. Mazongonda and Chirisa (2017) explained that manufacturers in cottage industries cling to the idea *'injure one, injure all'*.

The identified social ties provide the basis for manufacturers to train each other using the 'on-the-job-training' arrangement. New furniture manufacturers penetrate the Complex through seasoned manufacturers who informally train them. However, when one is undergoing training, they only get meagre wages that are job-based. It was revealed that training is a free service, and in return, trainees provide a source of cheap labour to seasoned manufacturers. These mentorship services also exist between seasoned manufacturers. Specialist manufacturers consult each other on areas that need adept knowledge and skill; they guide each other to fulfil specific troublesome tasks.

OPERATIONAL ELEMENTS AND INTERMEDIARY ACTIVITIES

Approaching the Complex from any direction, one is welcomed by touts who offer intermediary activities. The Complex has only one access gate. Touts nicknamed '*Magombiro*' in this area, team up and contest amongst themselves to escort customers into the Complex (see Plate 1).

Plate 1a Plate 1b

Plate 1: '*Magombiro*' in Action at the Point of Entry into the Complex (Fieldwork, 2017)

This escort service is forced upon both the customers and manufacturers because *'Magombiro'* use self-acquired power to provide this service. No transaction is initiated and concluded without intermediary service. One disturbed manufacturer lamented that '*Magombiro'* do all the negotiations on their behalf and apportion themselves a percentage of sales before giving manufacturers their sales revenue. '*Magombiro'* use physical force to do this and they even physically fight for customers. In most cases, touts team up in small groups of up to five and convince customers from different ends. At times, if the business is very low, members of different teams clash and fight for customers. One tout indicated that touting is a difficult job since they offer a forced service to both customers and manufacturers.

Most manufacturers indicated that it would be much appreciated if the government removed all touts since they disturb the smooth flow of business operations. Plate 1a shows touts discussing some issues, but all being directed to the guy wearing a hat. From the look of things, the tout wearing a hat gear is assuming leadership of this group. In Plate 1b, a tout wearing a red cap is jogging towards a customer to escort that customer into the Complex. A group of other touts in the background are all waiting for customers coming from one end. It is the order of the day at the Complex that customers are prohibited from accessing the Complex by these touts without an escort.

GOVERNANCE OF HOME INDUSTRIES

Ultimately, the Complex has grown beyond its boundary fence. This is evidenced by manufacturers dotted around this site. For those outside the set boundary, some work from open spaces, some in front and backyards of residential stands surrounding the Complex. From an economic viewpoint, such a development deargues that growth of successful clusters (Kuah, 2002; Mazongonda & Chirisa, 2018). From the viewpoint of planning, such developments are subject to development control enforcement (Mazongonda & Muromo, 2011). Figure 3 is a visual aid showing the growth of the Complex beyond its boundaries.

Figure 3: *Manufacturers Dotted around the Complex* (Survey, 2017 on Google Earth Extract)

The boundary fence of the Complex is shown by the polygon in blue. Any manufacturing activity outside that polygon denotes uncontrolled growth. SI 216 of 1994 provides only for manufacturing activities within home industries in residential areas according to Use Groups 4, 5 and 6. Use Group 4 provides for service industries that do not employ more than 10 people and Use Group5 provides for warehousing and general industrial use that do not injure amenity of a residential area and Use Group 6 provides for storage and special industrial use that do not pollute the environment.

It must be highlighted that SI 216 of 1994 provides only for manufacturing activities where these activities are less likely to injure amenities of an area due to the production of noise, fumes, smoke, wastewater or dust. It must be observed that all pins outside the sampling window in Figure 3, mathematically represent outliers, but they serve as indicators of successful clusters. These outliers also indicate the magnitude to that zoning laws are being contravened. Some manufacturers are at work in the residential area as evidenced by their working places that are amid blocks of residential stands. Evidence of clustering explains the intra-interaction of manufacturers in home industries. For example, the Complex is in a residential area of Glen View. This implies that

manufacturing undertakings in residential areas, but outside the boundaries of home industries, are *'ultra vires'*. This calls for enforcement by the LPA to contain such developments because people are expected to comply with the law.

DISCUSSION

Evidence from the Complex home industry has revealed some myths and realities about cottage industries documented in informality literature. The concept of cottage industries is in sync with the main tenets of the NUA, though there is a need for alignment in some cases. The NUA recognises the role of the informal sector in creating inclusive spaces and generating employment. However, this must be done in the context of economic, social and environmental sustainability.

The first finding on the configuration of manufacturers in space speaks to the urban planning and design pillar of the NUA. Compact and mixed designs advocated for by the NUA reduce time and cost of travel from one activity to another, at the same time promoting efficiency and effectiveness in service delivery. In this case, the concept of home industries allows the incorporation of industrial activities in residential areas. This promotes local employment creation since manufacturers working in the Complex come from residential areas within walking distances. Evidence revealed by the second finding on employment creation has shown that a larger percentage (58.8%) of manufacturers working in the Complex are from neighbourhoods surrounding it.

In pursuance of sustainable urban designs, there is a need for flexible, inclusive and just urban legislation and regulations. Interestingly, in Zimbabwe, SI 216 of 1994 provides for inclusive manufacturing spaces within residential areas through Use Groups 4, 5 and 6. The Complex organically grew following the continuous downturn of the Zimbabwean economy until 2005, the eve of the historical Operation Restore Order (*Operation Murambatsvina*) that razed down all the illegal structures. Having realised the contribution of the Complex to the socio-economic development of the nation, the Ministry of Small and Medium-Scale Enterprises, in line with SI 216 of 1994, formalised the site and then constructed factory shells. The Complex was then assimilated into the

Harare Master Plan. However, due to the passage of time, between 1994 and now, a lot has changed. So, the legal parameters governing the establishment and management of home industries must be revised to align with current realities. For example, space for manufacturing in the Complex can no longer accommodate the current number of manufacturers as evidenced by growth beyond set boundaries. Over concentration in space poses public health threats and overloads the already stretched reticulation systems.

One of the current debates regarding urban informality is the proposal to levy the sector (see ActionAid, 2018; Makochekanwa, 2020; Mooij *et al.,* 2020; Gallien *et al.,* 2021). The proposal to tax the informal sector is in line with the fourth pillar of the NUA on the local economy and municipal finance. The creation of cottage industries enables organised concentration of informal players, thereby providing a platform for ease of collection of revenue from them. This implies that local economies (both formal and informal) contribute to municipal finances towards the development and provision of services within the locale. The study also revealed the income leakages due to *'Magombiro'* forcefully collecting money from manufacturers. If properly managed and removed from the system, the municipalities can collect decent revenue from manufacturers and improve their municipal finances.

To successfully operationalise the tax collection initiative, Joshi, Prichard and Heady (2014: 1326) have suggested the "…need for research into the conditions under those potential benefits are most likely to be realised". One of the identified conditions is carrying out fresh studies to improve the understanding the nitty-gritties of the informal sector (RTCPA, Chapter 29: 12). Results of the current study partly serve that purpose because they give an accurate location of manufacturers in the studied home industry. Such studies partly enable the implementation and revision of operational master and local plans as advocated for by the fifth pillar of the NUA. For example, accurate maps of the current spatial distribution of informal manufacturers can be overlaid on operative master and local plans to determine the level of contravention and make a knowledgeable decision and subsequently inform action. The use of

concentration maps (see Figure 3) to show the intensity of informal activities, serves as an indicator to revenue authorities regarding the places they are likely to collect more revenue.

CONCLUSION AND RECOMMENDATIONS

Research findings on home industries in urban Zimbabwe using the Complex as a case has brought to light numerous invisible threads that knit and weave together informal manufacturers. It has been revealed, that the Complex has outgrown its boundary fence and manufacturers are now working in undesignated sites. In economic circles, this observed reality denotes successful clusters, whereas, in planning circles, it denotes illegality and is subject to development control enforcement. Within their working sites, manufacturers portray some operational orderliness based on the types of products they manufacture. The LPA can capitalise on this order to bring about spatial orderliness and easily manage their operations. Cottage industries promote local employment creation because a significant percentage of the workforce working in the Complex is from surrounding neighbourhoods. Furthermore, cottage industries do not only have geographically concentrated impacts, but they employ people from other neighbourhoods in Harare and from adjacent urban centres, such as Chitungwiza and Epworth. Most operators interacted with do not own full tool kits and lack some skills. As such, they use social capital to share tools, acquire knowledge and achieve desired goals. Interestingly, the concept of home industries is in sync with the NUA and could help Zimbabwe align with its objectives. Current policies, legislations and designs must be amended for alignment with the NUA. This will help Harare and other cities in Zimbabwe realise the goal of sustainable cities.

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