

# 2 FOOD [IN]SECURITY

## A global issue

Due to the increasing alarm surrounding the increase of food prices and regional shortages based on the decline of resources, the issue of food waste and its notable contribution to food insecurity has been brought to attention (Joubert 2012:92). The significant increase in the price of food, which is contributing to the reduction of food secure environments, is a result of the increasing drought and the substantial food wastage, throughout the food system.

As Carolyn Steel points out in *Hungry City*, even the middle-income bracket is on the receiving end of an efficient but extremely fragile food supply chain and are being affected by the price increase. This is not only a national issue but also a global one. The global food crisis has been creeping steadily towards the centre of the world's attention since a confluence of events that pushed 2008's food prices to levels that triggered riots in many cities around the world (Joubert 2012: 92). The effects of El Nino and the constant waste of produce have only magnified this crisis.

A sustainable community food system is a collaborative network that integrates sustainable food production, processing, storage, distribution, preparation, consumption and waste management in order to enhance the environmental, economic and social health of a particular place (asi.ucdavis.edu). Each of these processes has a specific role in the contribution of food environments and the sustainability thereof.



Figure 53 : Wasted resources infographic (Author 2016)

## food security and sovereignty

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The United Nations Food and Agriculture Organisation's (FAO) definition of food security is when *all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy lifestyle* (Food and Agriculture Organisation (FAO) 2002).

Food sovereignty is the expanded definition of food security, which encompasses the importance of accessibility. The right to food should, at the very least, include *an available, adequate, dependable and sustainable food supply and an assured ability to acquire*

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*nutritious and culturally accepted foods through normal food distribution channels* (Riches 1999:203).

National food security is largely about the commercial farmers and what they manage to harvest each year as well as how much is imported and exported and whether or not we get food aid or not. This however, happens within the global context. The nation's farmers are impacted by natural fluctuations in regional weather, soil degradation, government land reform policy, price of oil, local market forces etc (Joubert 2012:6).

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At a community level, food security focuses on access to food. According to Labadarios (2009), it refers to a situation where the people in a community can get hold of a *safe, culturally acceptable, nutritionally adequate diet through a sustainable food system that maximises community self-reliance and social justice* (Joubert 2012:6).

A community's degree of food security has as much to do with whether it is located close enough to shops and informal traders, as it has to do with whether people have enough money to buy the food once they are standing in the checkout queue (Joubert 2012:6).

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## WASTE[D RESOURCES] finite reserves

The considerable increase in waste across the spectrum has largely contributed to the increase in price thus decreasing accessibility resulting in the overall decline in food security. Wastage in terms of the food system is not limited to food waste but includes resources and human capital that contribute to each of the processes throughout the system.

In terms of wasted resources

- The nutrients used for the soil to grow produce
  - Scarce water to grow the crops
  - Labour and equipment used to plough fertilise and sow the produce
  - Diesel used to harvest the crop,
  - Energy spent on processing and transporting ship the food,
  - The ever-shrinking atmospheric space used to soak up all the greenhouse gas emissions.
- (Joubert 2012: 94)

Many of the previously mentioned are finite resources, such as oil reserves, potassium for fertilising, and it uses environmental systems – water generation, waste sinks, the carbon mopped up by the atmosphere, all of which are not necessarily taken into the cost calculation (Joubert 2012:94).

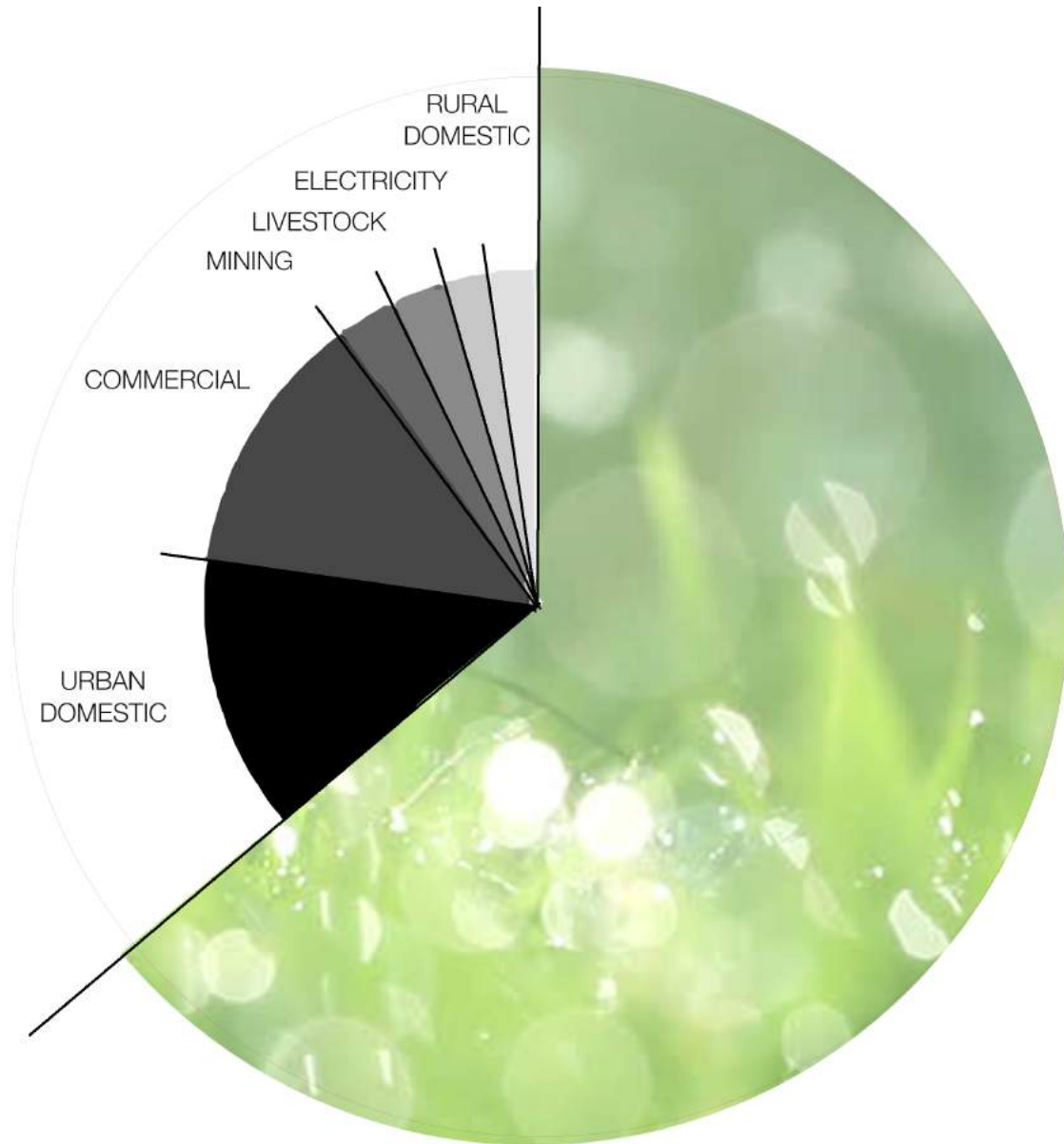


Figure 54 : Waste[d resources] statistic graphically represented (Author 2016)

# 63%

## IRRIGATION

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South Africa is one of the world's most water-scarce countries and is characterised by exceptionally variable rainfall, over time and geographically (Goldblatt 2010:10). The current drought being faced, in an already water-scarce country, is not only affecting households but is having a significant impact on the farmers trying to produce for the country (Essa 2015:1).

Water availability is the single most important factor that limits agricultural production in South Africa (Goldblatt 2010:10). Only 12% of the country is suitable for 'rain-fed' crop production which in itself is already a big challenge of farming (Goldblatt 2010:10). Without sufficient access to water, many farms are struggling to provide adequate agricultural conditions in order to sustain their produce.

The substantial decrease of these conditions that has led to drought emergencies being declared in most

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According to OCHA: Office for the Coordination of Humanitarian Affairs (2016), South African provinces and a decline in food security and sovereignty is a direct result of the El Nino weather phenomenon. There are predictions that suggest climate change will bring more infrequent, yet more intense, rainfall thus lessening the county's arable land and intensifying agricultural unpredictability (Goldblatt 2010:10).

*El Nino is the name given to a weather pattern associated with a continual period of warming in the central and eastern tropical Pacific, which can trigger climate extremes in parts of the world. This naturally occurring phenomenon that occurs every two to seven years (Aljazeera 2016), has resulted in the southern parts of Africa being more dry than usual, with South Africa experiencing its lowest rainfall in over fifty years (Mashego 2016).*

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*This intense drought has already had a significant impact on harvests and food security throughout southern Africa as farming regions are experiencing large delays in planting due to the extremely dry agricultural conditions that hinder early crop development and pasture re-growth.*

Irrigation is already of particular concern as it is already the largest use of water in South Africa (Goldblatt 2010:11) as seen in figure... The total water loss as a result of food waste in South Africa is equivalent to 22% total water use for crop production (Oelofse 2013: 4). Water thus becomes the most important factor to consider within the dissertation in terms of food production, as it is a significant limiting factor and runs in strong correlation to food waste. This highlights the need to find alternative solutions and a method through which water usage is more effective and sustainable.

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# 64%

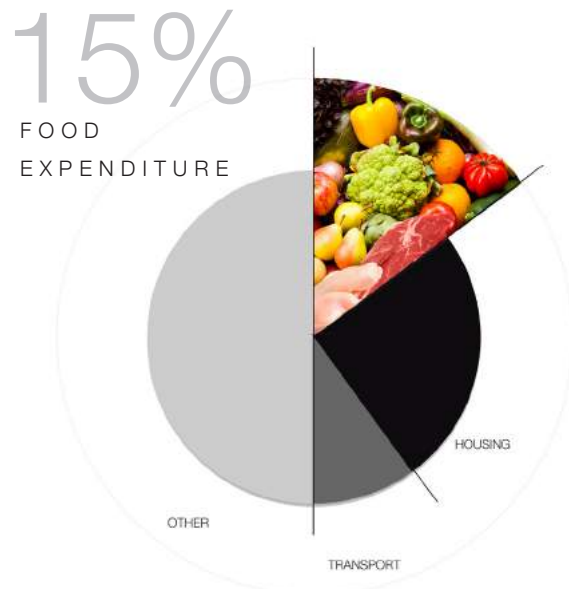
## FOOD WASTE SOUTH AFRICA

Of all the food produced globally each year, 1.3 billion tonnes, approximately two thirds, of it does not make it into someone's stomach. This occurs in the context of a world where 1 billion people are still undernourished, and who could be fed with just a fraction of the food that rich countries throw away, according to Stuart (2009). Food waste, however, is not limited to retail and consumption, 30-50% of food produced is wasted before reaching consumers (Oelofse 2013:2).



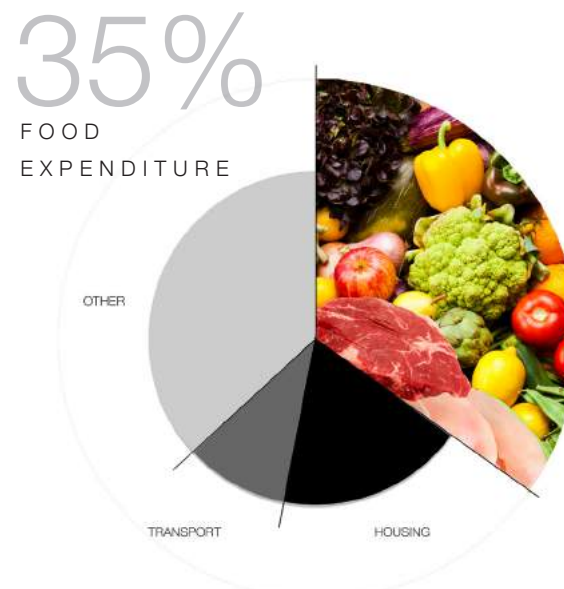
Figure 55 : Food waste in South Africa graphically represented (Author 2016)





**Figure 56** : Families in South Africa\_overall average budget expenditure (Author 2016)

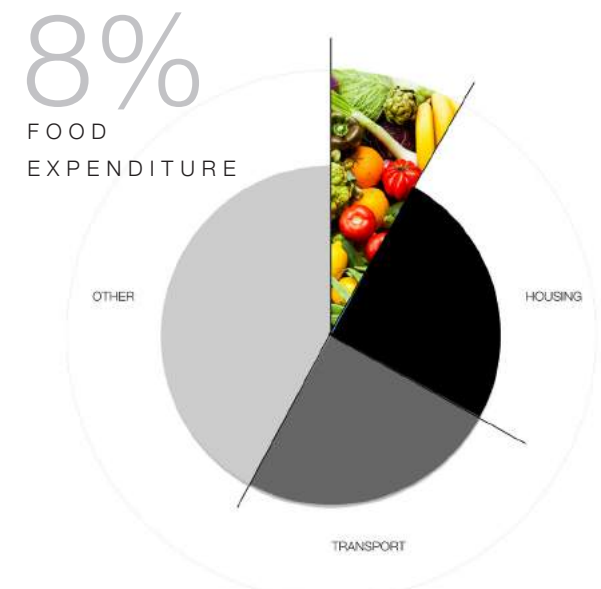
Food is handled at all stages throughout the food process, from being cleaned, sorted, graded, packed and unpacked, loaded and unloaded, put into the store and taken out again (Aragrande & Argenti 2001). The farther the food travels and the more it is handled, the greater the decline in freshness and the loss of nutrients thus amounting to a larger percentage of food waste (White 2011:23). Not only is the handling of the produce costing more in terms of food wastage but also the different processes



**Figure 57** : Families in South Africa: Poorest 10% of Population budget expenditure (Author 2016)

in between the farmer and the consumer increase the cost due to a greater number of parties being involved.

Although a large percentage of South Africans reside in the informal sector, food security is not limited to lower income groups, who spend approximately 35% of their income on food, but is also having a profound effect on those in the middle-upper class (Pereira 2014:9). More than 60% of South Africa's



**Figure 58** : Families in South Africa: Richest 10% of Population budget expenditure (Author 2016)

population live in urban areas and with the rural population increasingly relying on purchasing their food, the role of formal and informal food retailers in providing ease of access to food is becoming progressively recognised.

Supermarkets have been able to expand into lower income areas by beating the cost and quality of small retailers and local wholesalers in most of their product offerings (Pereira 2014:9).

The FAO (2011) study, conducted by the Swedish Institute and Biotechnology, divides discarded food into two categories.

- **Food Loss:** All the food that goes into bin between farmer and retailer – essentially at production, processing, storage, distribution and preparation
- **Food Waste:** Everything lost between retailer and consumer. (Joubert 2012:92)
- **Food Wastage:** encompasses both food loss and food waste (Bond et al., 2013)



Figure 59 : European food production and waste (Author 2016)

For every European or North American, about 900kg is produced per person per year. Of that 900kg, 280-300kg is lost as food waste (Joubert 2012:93).



Figure 60 : Sub-Saharan Africa food production and waste (Author 2016)

In sub-Saharan Africa, 460kg of food is produced per person per year and of that 120kg per person is wasted (Joubert 2012:93).

In developing countries, unlike developed countries where most food is wasted to the dinner plate, 40% of the total food wastage is lost as food waste (during harvesting, post-harvest, production and transportation) (Joubert 2012:93).



Figure 61 : Developing countries: food loss vs food waste (Author 2016)

Waste is reduced in developing countries as a poorer consumer who will buy only what they need (unlike wealthier consumers who tend to buy much more than they need) and less food goes to waste.

It is estimated that only 6kg of food gets wasted per capita in sub-Saharan Africa per annum (Joubert 2012:93).

*If we can reduce food loss and wastage, we won't need to produce so much more.  
A lot of food is lost between the farmers' field and the dinner table – in food storage,  
transport, food processing, retail ... and in our kitchens (Goldblatt 2010: 4).*





## the idaho plate method

The Idaho Plate Method works in regards to portion control whereby the determinant is how much each of the major food groups should occupy on an individuals plate. The figure on the right (...) shows the portions of food groups for lunch and dinner. One quarter of the plate should be starch, another quarter protein and half the plate should be vegetables. The plate should be paired with a side portion of fruit and milk or yoghurt (Brown 2001).

Although the Idaho plate method was designed for diabetics, it has immense value in showing the importance of the various food groups in any healthy diet (Cox 2011).

Vegetables, being the largest portion, are a necessity for good nutrition. It is the access thereof that vital for all individuals, especially those in lower income communities where fruit and vegetables are the hardest to come by due to lack of resources (local informants page 39).



Figure 62 : The Idaho Plate Method graphically represented (Author 2016)

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## conclusion

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Due to the reduced production, availability and as a result of the drought, food prices have risen dramatically across Southern Africa (Aljazeera 2016). Poorer households will bear most of the brunt due to a third of their income going to food, more than three times the proportion that wealthier families spend (Jansen van Vuuren 2015:1). This is expected to intensify social tension in a country where one in four South Africans are unemployed and protests regularly erupt across townships because of the absence of adequate services provided by the government, such as water and sanitation (Jansen van Vuuren 2015:1). However, the concern not only lies with the consumers as smallholders rely on their crops to feed their own families as well on the income generated to support their livelihoods (Aljazeera 2016).

Both food security and food sovereignty should be equally present in the lives of every citizen, as stated in Chapter Two, section 27, in the Bill of Rights (Constitution of the Republic of South Africa 1996:11), everyone has the right to have access to sufficient food and water. This right, however, has been hindered by the lack of resources available and has a significant impact on both the rich and the especially the poor (Essa 2015:1). A further contributor is waste. Waste, in this instance, does not only refer to food wastage but also human capital and already scarce resources, such as water. The biggest hurdle to a food secure environment in poor communities is access to food, rather than if there is enough food (Joubert 2012:184). Thus the only way to combat food insecurity is to ensure equal social and economic access to a food system which limits the wastage of food that prevents individuals maintaining a sufficient (and healthy) diet, such as suggested in the Idaho Plate Method.

**The overall intention of this dissertation is to address sustainable food security through the optimisation of the food systems by reducing waste and empowering local production.**

# ARCHITECTURAL ISSUE

## isolation of food system processes

Food is supplied to any urban area through a variety of food supply and distribution systems (FSDSs). FSDSs are complex systems whereby a series of functions such as production, handling, storage, transport, processing, packaging, wholesaling and retailing are integrated with one another to enable food needs to be met within the cities. These functions are performed by different agents within the food system and include food producers, importers, transporters, wholesalers, retailers, processors, shopkeepers, street vendors, service providers, packaging suppliers and public institutions. In addition to these agents there is also a private association of traders, shopkeepers and consumers (Van der Merwe 2011:2).

Traditionally, the production, retail and consumption of food produce were central and integrated into the public realm. These days, however, food spaces are generally designed as segregated domains, which do not allow for any connection to the urban context in an organic manner (Mand & Cilliers 2010:1). There has been a detrimental impact on the vitality of public spaces due to designs such as shopping malls, which incorporate food spaces as exclusive privatised enclaves.

The various processes being separated by highways largely contribute to the isolation between the systems. Due to food centred activities being pushed to the edge, food has to be transported into the urban centre. Production happens out of town and distribution centres sit on major arterial roads. Here the food is stored but still needs to be packed up and transported yet again to retailers.



Figure 63 : Large scale food delivery as an isolating factor (Author 2016)

The constant need for transport due to removed food centred environments and the seclusion of the processes within the system has enabled spatial and economic transformations that reinforce unsustainable and unconvivial approaches to urban development that fit a car-dependent, low-density, mono-functional land use pattern (Parham 2005).



## supermarkets & malls

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*Keeping our cities well nourished and adequately fed is not just about producing more food – it is about making sure everyone has regular and reliable access to good, wholesome food, and that these are the foods that they choose when they do have access.*

\_(Joubert 2012:181)

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In ancient times, trading and shopping activities took place in open public spaces. These open spaces included other urban and public functions and activities of the city.

Centuries later shopping takes place in an enclosed mall which separates urbanity and shopping activities from one another. These malls are fully enclosed, environmentally controlled consumption driven spaces which have re-interpreted the urban fabric to simulate a city image and a street like atmosphere indoors. Within the closed off centre, a new city like typology is created where people eat, shop and entertain.

Existing shopping malls are opening that integrate with the urban fabric. *De-malling* is a regeneration trend where malls are not only seen as a building issue but also an urban one that needs to be addressed (Kocalili 2010:5).

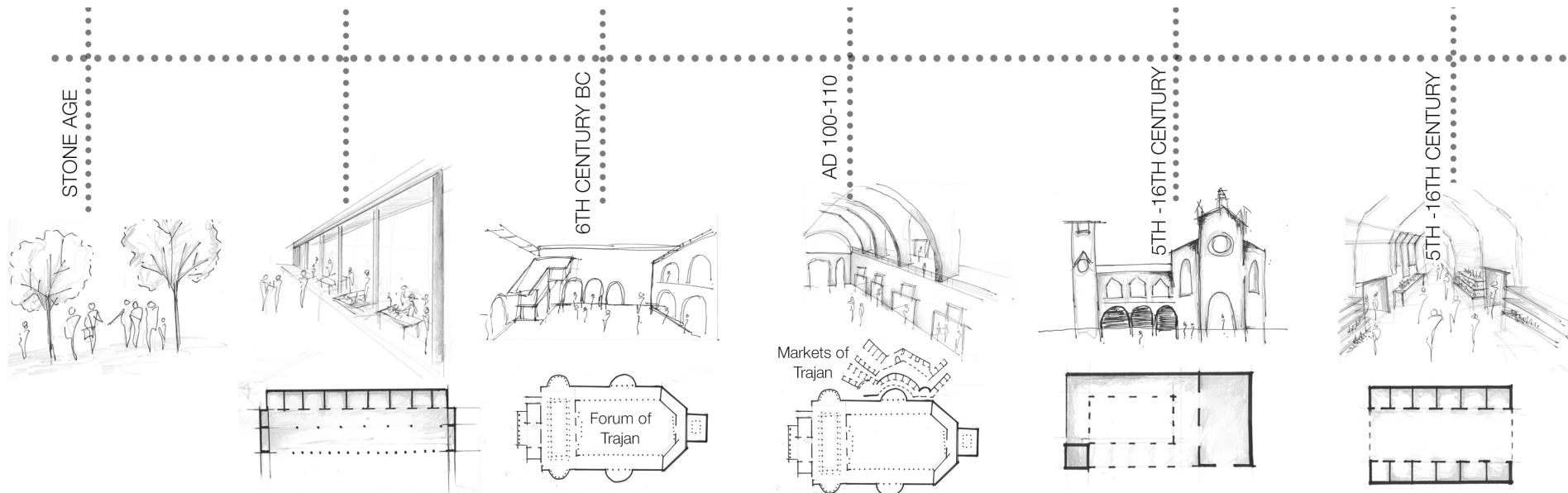
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Shopping malls, supermarkets and informal food hawkers occurs mainly in middle-income areas. Supermarkets dominate high-income areas and hawkers continue to dominate low-income areas (Crush & Frayne 2010:2).

The growing power and reach of shopping malls and supermarkets globally have, however, had significant negative impacts on food availability for the urban poor. By encouraging greater dependence on larger retail outlets many local markets and smaller shops, aimed at the low-income consumers, have been eradicated due to being unable to compete (Crush & Frayne 2010:7).

Mall designs offers no interactive edges to the public realm. It is surrounded by car parks and highways and offers no incentive for visitors to arrive by foot, creating a desolate environment along the streets surrounding the perimeter of the mall with a few planters in attempt to soften the monotonous facades (McMorrough 2001:195). Enclosed shopping malls separate shopping space from the city visually, physically and socially (Kocalili 2010:16).





#### PRE-HISTORIC

Communication was done through trade.

Earliest record of trading took place in gathering spaces (Coleman 2007:19).

#### STONE AGE

Exchange of flint and obsidian. This trading allowed for urbanisation progress in the Neo-lithic ages. The obsidian trade grew so much that the whole city became a market place in function (Jacobs 1969).

#### GREEK AGORA

Open 'place of assembly'.

Located on the crossings of main roads of the city and surrounded by public buildings.

Most important function of the space: daily communication as well as informal and formal assembly (Mumford 1961).

Merchants spread their wares under the colonnades of the Stoa, which was purposely designated for their activity (Kocaili 2010:25).

Genesis of modern urban space (Rubenstein 1992:2).

#### FORUM

Market place of an ancient Roman city.

Similar to the Greek Agora, major cities of the Roman period formed open spaces as centre of the civic life.

Forum was a rectangular courtyard surrounded by shops, located on the axis between the basilica and capitol.

Shops were temporary. Shopping took place in both the buildings and the forum space (Coleman 2007:19)

Forum Holitorium: vegetable, herbs and oil market (Kocaili 2010:28).

#### TRAJAN'S MARKET

*First collection of defined shops.*

Important milestone in evolution of shopping places.

A new image for urban design was created through revolutionary complex of vaulted spaces for commercial and social purposes.

First example of shops being undercover and arranged on more than one level (Coleman 2007:20).

#### MEDIEVAL MARKET HALL AND TOWN HALL

Europe

The heart of trading and business activity of the city.

Located along market square in the centre of town.

First floor was used for administration. The ground floor remained open between columns and was used as an extension to the market. The stores were temporary. After a while the ground floor was arranged into a group of small shops.

The beginning of defined shop spaces which led to shop lined streets (Coleman 2007:21).

#### EASTERN BAZAAR

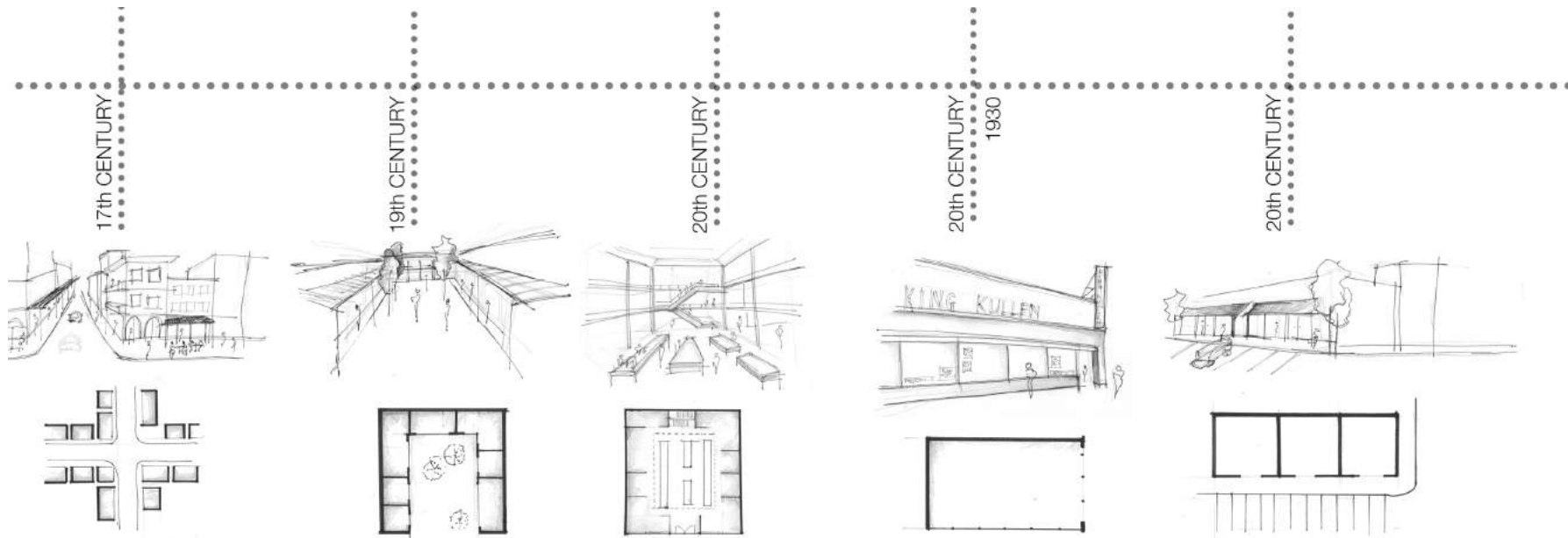
*First generation of planned buildings.*

Europe markets generally arranged shops to face outwards onto the squares and streets.

Eastern bazaar's generally look inward with the shops facing into a covered street or interior space (Coleman 2007:25).

*Beginning of control from exterior conditions.*

Grand Bazaar of Istanbul.



**SHOPPING STREET**  
Europe

Market places spacially insufficient for evolving trade (Koolhaas 2001:30).

Ground floors transformed into shops (Beddington 1991:2). The central streets lined with shops, pubs and coffee shops. (Coleman 2007:26).

Important to the evolution of arcades (Coleman 2007:26).

Separation of the vehicular and pedestrian traffic. A more comfortable and safe concept of shopping preceding present shopping malls (Rubenstein 1992:14).

**19th century**

The market structure was based on open courtyards surrounded by arcade lined stalls and shops.

**ARCADE**  
Milestone in the evolution of shopping. First European building planned to accommodate a variety of shops (Coleman 2007:30).

**INDUSTRIAL REVOLUTION**  
Technical inventions lead to the highlight of vertical movement in public (Kocaili 2010:29).

**MID 20th CENTURY**

Shopping centre department stores become inward looking boxes (Coleman 2007:38-39).

Chain stores become more popular than department stores (Coleman 2009:39).

**SUPERMARKET**

1930 first supermarket. New York (Kocaili 2010:64).

Due to new road systems, food system industrialisation (processing, packaging, networks and warehouses) and the development of refrigeration supermarkets grow in success.

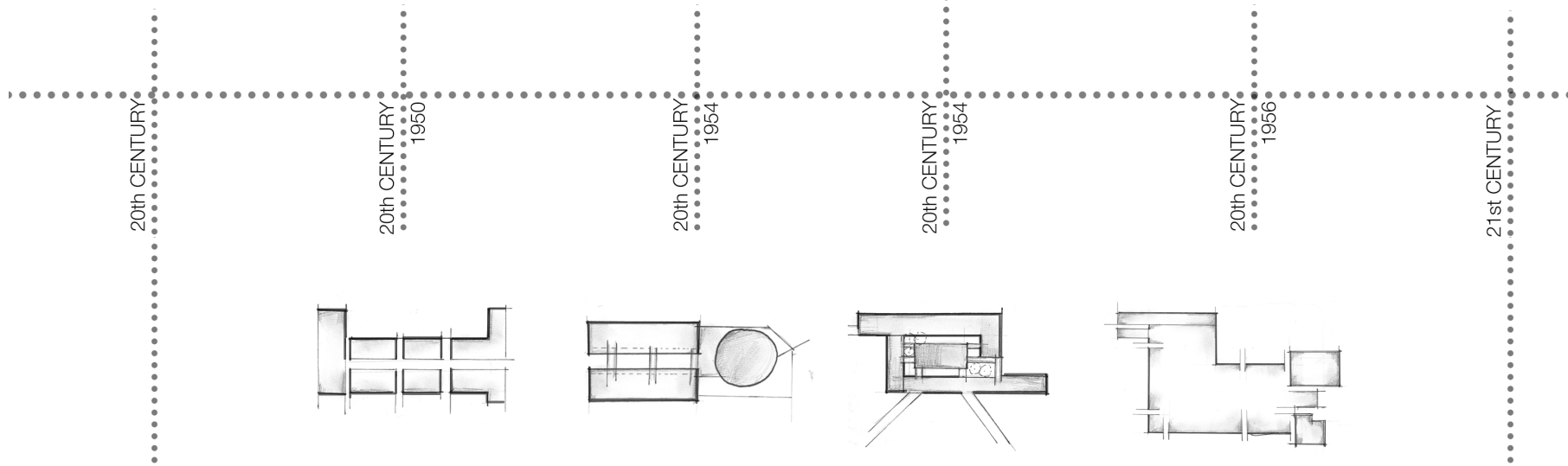
Convenient access to highways. Free parking. (Coleman 2007:40)

**STRIP MALL**

Car friendly. Collection of several stores located in the same building that share a common parking lot.

Sitting on major intersections with fewer stores. Open market plan (Kocaili 2010:67).





SHOPPING MALL

Mid 20th Century (USA)  
Increased population and urbanities seeing to escape urban conditions (Coleman 2007:42)

Evolution in environmental engineering. Advanced lighting, airconditioning and ventilation facilitated development of enclosed malls (Beddington 1991:3)

OPEN AIR SUBURBAN SHOPPING MALL

1950  
First open air mall. Shops arranged either side of long linear pedestrianised walkway (Coleman 2007:42).

SHOPPING MALL

1954  
Morris Ketchum Shopper's world (Koolhaas 2001:34). Dumbbell Plan.

Department store anchors are connected by an outdoor pedestrian mall.

SHOPPING MALL

1954  
Victor Gruen Northland Shopping Centre

Cluster of shops around a central department store. 3x pedestrianised streets.

SHOPPING MALL

1956  
Southdale

First fully enclosed and environmentally controlled shopping mall (Koolhaas 2001:34)

Southdale expanded the role of a mall as a social and community centre. Many events could be held and thus new forms of civic life (Crawford 2002:25).

Recent focus is turned towards town centre development.

Open and covered street spaces are trendy.

Urban public space quality of shopping places is becoming more important.

Environmental awareness has increased in social pressure to ensure facilities are more sustainable.

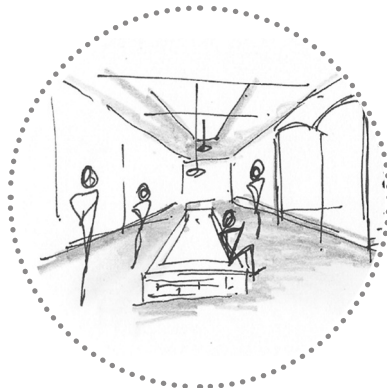


Figure 65 : Sketch of the interior of a typical shopping mall (Author 2016)



Figure 66 : Trading at the Asiatic Bazaar (Author 2016)

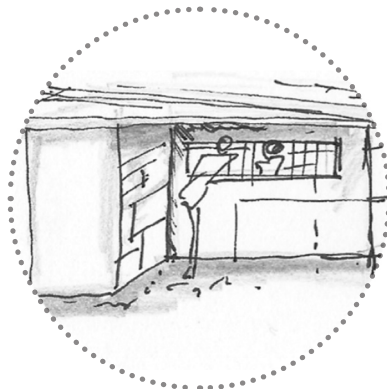


Figure 67 : Informal retail in Plastic View (Author 2016)

## woodlands boulevard

Through the development analysis of shopping malls, Woodlands Boulevard in this instance and much like many other centres, is a fully enclosed and environmentally controlled shopping mall. It makes no attempt in engaging with the surrounding context and existing patterns of the area. The area is clearly zoned with very little diversity and amalgamation between the different zones. The mall and its enclosed nature speaks to the language of the gated communities and thus contributes to the overall loss of urban public space.

The zoning seen is a manifestation of Modernist principles, which proposed a segmented and sterile city where dining and shopping were hidden in interior spaces and agricultural production occurred in distant locations (Franck 2005:10). In recent years, a revival of food-centered spaces in cities around the world has tried to re-establish a sustainable connection between food and urban space (Mand & Cilliers 2012:1).

Within the mall, the once preferred internalised food courts have now made way for cafes and restaurant clusters scattered throughout the mall to offer the customer more variety and increase diversity (Coleman 2006: 304). This, however, still does not address the issues of the lack of urban integration and has yet to encourage lingering social interactions due to the fast pace consumerist nature of the mall.

## formal vs informal

In South Africa, the small businesses that are central to growth and employment opportunities are threatened by the shopping malls. Since the end of the 1990s property developers built shopping malls closer to townships and informal settlements, which began to exploit the market and energy potential surrounding informal trade (Kohler 2010). The dynamics of informal trade have since been altered and although the formal centres are situated conveniently; they lack the energy exchange and social interaction surrounding informal trade.

Similar to Parham, Steel (2009: 110) believes that although some food-centred urban spaces or marketplaces are nostalgic or superficial, they generate authentic life. When food creates and shapes spaces within a city, the spaces develop a quality that transcends the predictable shop and restaurant chains that form the support of commercial functions.

It is important to note that although the modernist approach has been taken up in terms of food, the success of farmers' markets around the world indicates that people have not lost their appetite for encounters with food in the city. At the same time it acts as a manifestation of our overwhelming disconnection with food (Steel 2009:111) since visiting a weekly fresh produce market is no longer a routine but an activity that only occurs on special occasions.

## Joburg Market

Joburg Market, formally known as Johannesburg Fresh Produce Market, is a central destination for producers, shopkeepers, informal traders and many others who form part of the average 10 000 people who come together daily.

Large farm trucks offload produce at speed while deals are being made between produce agents and vehicles. Cars, bakkies, vans and taxi's are filled with all sorts of produce ranging from potatoes, bananas, onions, chillies, lettuces, cabbages, apples and tomatoes. There are a few who will just leave with a box of two.

The market is supplied by approximately 5000 farmers, making it the largest fresh produce market in the world in terms of volume. The Tshwane Fresh Produce Market, at half the size, is the country's second-biggest (Sherry 2012).

The substantial support that this market receives shows the value of affordable and accessible fresh produce to a variety of individuals.

The market has regenerated the area due to the constant influx of activity and vibrant nature of traders negotiating throughout the space. This demonstrates, that infrastructure is not necessary to allow for a successful producer-consumer relationship.



Figure 68 : Tshwane Fresh Produce Market (Tshwane)



Figure 70 : Interior of Woodlands Boulevard (LP Architects)



Figure 69 : Exterior of Joburg Market (Sherry 2012)

In comparison, the interior of a mall does not promote engagement between producer and consumer. As illustrated above, the space lacks the energy created by social interaction and negotiation.

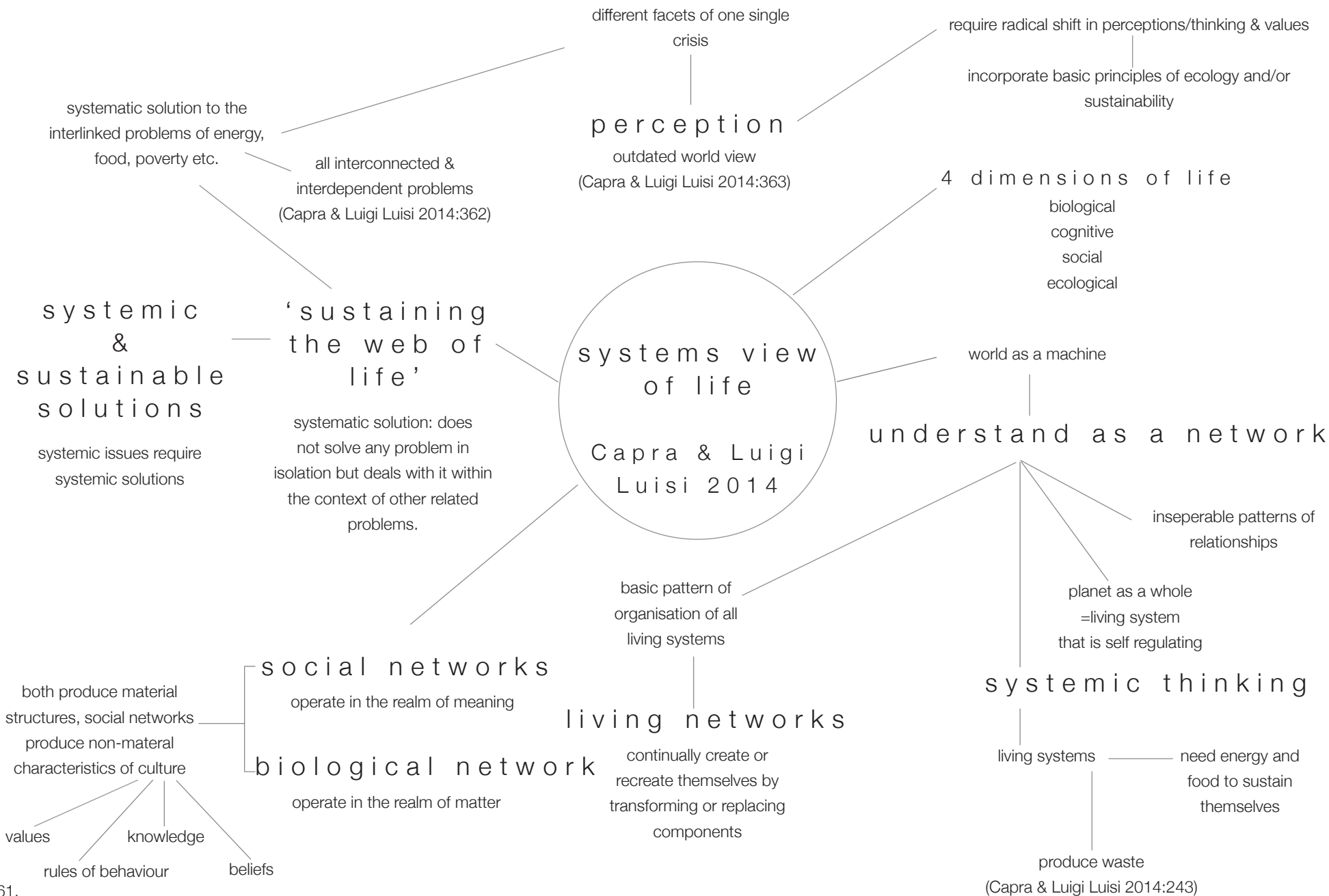
Informal trading opportunities (figure 70) surround the Joburg market adding to the social and economic aspect of the site as they provide for a different income bracket.

## development interpretation

In ancient market places, shopping environments were defined as public space and urban areas that did not only serve for trade but were important for communication and participation. As seen through the analysis, throughout the ages markets progressively advanced into more formal and enclosed spaces, supermarkets and malls, in order to increase environmental control. Although the enclosed spaces can host a variety of functions, they do not contribute to external conditions and have thus led to the decrease in quality of urban spaces (Kocaili 2010:155).

Therefore, there is a need for a physical urban regeneration and interpretation of a shopping centre that successfully accommodates social and economic activity through the basis of sustainable and environmental awareness (Kocaili 2010:152). It is essential to develop and merge a new typology of shopping centres into the urban fabric that provides the space and opportunities for participation in modern community life that the ancient Greek Agora, the Medieval Market Place and Town Squares provided for communities in the past (Kocaili 2010:5).

Informal settlements, such as Plastic View, have a positive impact on the community in regards to public space due to social and environmental interaction surrounding trade. This is a good base to start development for an improved trading hub.



61. Figure 71 : Graphical representation of the systems view of life (Capra & Luigi Luisi 2014) (Author 2016)



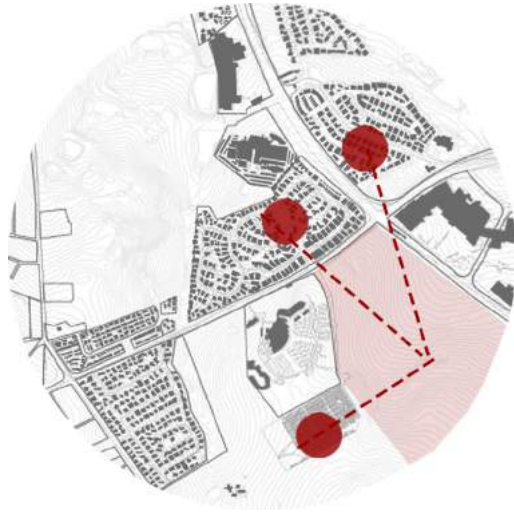


Figure 72 : Drawing in energy and resources from gated communities (Author 2016)

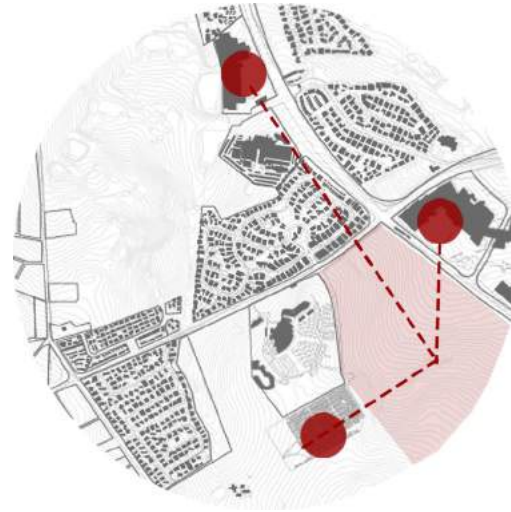


Figure 73 :Drawing in energy from enclosed malls, shopping centres and informal trade from Plastic View onto proposed site (Author 2016)

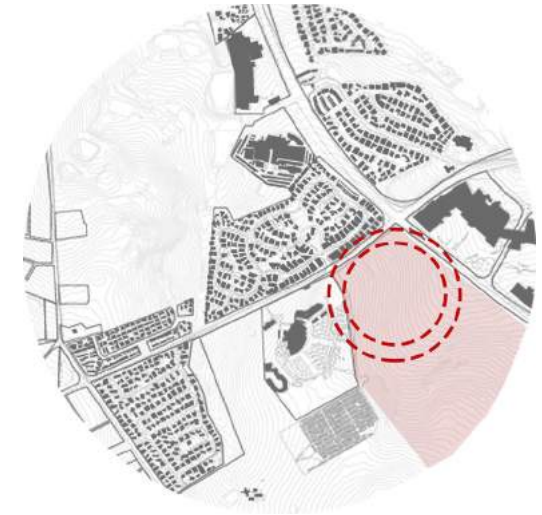


Figure 74 :Amalgamation of energy and resources onto the new site to create an integrated community (Author 2016)

## ARCHITECTURAL INTENTION a systemic approach

*Caballero, Epidemiologic Reviews in 2007 writes:  
The built environment represents the working and living conditions collectively created by societies and is a key determinant of opportunities and restriction to food consumption and physical activity.*

(Joubert 2012:184)

Capra and Luigi Luisi (2014) describe the importance of an ecological world view, that it is important to see parts as integrated wholes and not to isolate them from the overall issues at hand. With a systems view in mind, essential properties of a system are properties of a whole that none of the parts have.

The properties of a whole stem from relationships and interactions between the various parts and are destroyed when the system as a whole is broken down, theoretically or physically, into isolated elements (Capra & Luigi Luisi 2014:65).

The intention is thus to use an architectural intervention by means of a systemic approach, whereby each system of the food process holds essential properties of the whole food network. A systemic solution entails that no problem can be solved within isolation but deals with the issue within the context of other interrelated problems (Capra & Luigi Luisi 2014)

The systemic approach will highlight the importance of localised food-centred urban spaces as a large part of the food network and thus enable the generation of an accessible, economical and socially sustainable response to the way in which the food system integrates with the city.