

Addressing the challenges of integrating town planning and public health in post 1994 South Africa

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ABSTRACT

In South Africa, the challenge of integrating public health concerns with town planning is linked to pre-1994 fragmentation of human settlements. The fragmentation of urban settlements in South Africa has resulted in the disjuncture between public health care and town planning considerations. Town planning originated during the turn of the last century as a result of poor public health created by filthy slums and poorly planned industrial areas because public health and urban planning were not administered together. On the one hand, public health took a mainly biomedical focus on individual genetics, biology and behavior in relation to how clinics could affect them on a biological approach to epidemiology and evidence. On the other hand, urban planning in many developing countries such as South Africa was hijacked by fragmentation of land use planning. It was expected that with the advent of democracy in South Africa in 1994, the gap between public health and urban planning would be narrowed but the current disparity between residential locations show that the problems has not decreased because of the general failure of the two fields to plan together. The paper reviews the South African situation through a desktop study to trace the evolution of the challenges in the integration of public health and town planning in South Africa by highlighting some of the challenges facing practitioners in both fields and suggests integration from eco-social theory and environmental justice under the new urbanism, smart growth and sustainable planning.

Keywords: Public health challenges, urban planning, evolution of the disconnect.

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INTRODUCTION

In 2014 Urban planning without considering health issues pose a threat to health of susceptible poor urban dwellers because public health officers are often not consulted during the preparation of town planning schemes. Consequently, there is disparity between rich and poor neighborhoods with respect to basic service delivery such as pipe-borne water supply, waste water treatment works and solid waste collection are not debated with respect to health concerns in South Africa (Ataguba, 2010). The assumption has been that town planning matters and the provision of basic services in urban neighborhoods including public health facilities should be debated with the contribution of public health care practitioners in South Africa (Republic of South Africa, 1995). Today, only a few people talk about the disparity in health facilities between the poor and the affluent neighborhood. The disjuncture between urban planning and public

health is a recent phenomenon because during the 20th century that there was the recognition that the design of city forms, amenities and utilities impacted on the health of residents (Snow, 1855). As a result of this, urban planning was recognized within the public health realm as enhancing public health.

The problem is that, during the second half of the 20th century this recognition disintegrated and each of the disciplines; public health and urban planning parted ways (Bournet and Takahashi, 2011). The dichotomy between public health and urban planning emerged from uncoordinated planning between the two professions with regard to residential densities, slums and shacks development as well as inadequate health and social service infrastructure, poor public open spaces etc (Frank and Karage, 2008). These were associated with the inability to promote physical exercise, overweight, poor

mental health obesity etc (World Health Organization Centre for Health Development, 2011; Giles-Corti et al., 2010). Recent body of research and enquiries emphasize the importance of urban planning and design for buildings that should be efficient, green, resilient and sustainable to enable planning to play the role of making the impact of urbanization on health to be beneficial to urban dwellers (National Heart Foundation of Australia, 2009; Krieqer, 2001).

In the past, public health and urban planning shared common objectives because they were aimed at improving the well-being of urban dwellers by focusing on managing complex social systems and relying on community-based participatory methods. Urban planning often focus on geographical models of analysis of human needs and interaction in a spatial environment while public health uses mainly biomedical model to examine normal and abnormal functioning of the human being. The collaboration between public health and urban planning dates back to 1854 when a British Physician John Snow used geographic mapping of the outbreak of cholera in London (Tout, 1934). By 1972, the two disciplines were so intertwined that the American Public Health Association were between urban designed, that is, housing experts and architects (Glasser, 2002). Other connections between the two were in 1960 when Jan Jacobs requested for a community design that provided safe and convenient options for walking, biking etc. Similarly, the Healthy Cities Movement which started in Europe in the 1980's included about 1000 cities that highlighted the importance of health in addition to the provision of medical care (Dannenberg et al., 2006).

In South Africa, the core component of re-engineering primary health care was well captured in the National Development Plan vision 2030 where emphasis should be on a population-based health and health outcomes irrespective of whether the approach has a spatial planning bias or not. Since 1994 urban planning in South Africa has undergone several transformations including a new strategy for community-based services provision through primary health care workers. This falls in line with the Integrated Development Plans (IDP) in South Africa where all municipalities are required to encourage public participation in accordance with the Municipal Structures Act of (2000). Considering that the previous regime created privileges for a minority few, the disparity between a privileged few and the poor is said to be linked to planning legislations, that is, the inclusion of town planning clauses in the 1919 Public Health Act and the 1920 Housing Act which were aimed at providing services to a privileged minority while the majority were marginalized in terms of access to basic services (Boon, 1980).

By 1994, the newly democratic South African Government inherited huge service backlogs with respect to access to electricity, water supply and sanitation (Busari and Jackson, 2006). According to a World Health Organization (WHO) report in 2010, access to sanitation

has been slower but it improved from 71% in 1990 to 75% in 2000 to 79% in 2010, that is, an estimated 15 million people gained access during the period. It was estimated in 2010 that 4 million people used shared sanitation facilities, while 3 million used the bucket system and 4 million practiced open defecation (Natal Provincial Administration, Tugela Basin, 1952). As a result of this, cases of diarrhea were reported in children under the age of five (WHO/UNICEF, 2010). It is because of the problems related to health issues in urban areas that this paper presents the origin of the disjuncture between urban planning and health considerations to raise awareness and to discuss areas of commonalities between the two disciplines in the foreseeable future.

Purpose of the study

The paper highlight the challenges of integrating post 1994 South Africa's public health care and urban planning by exploring the evolution of the disconnection between the two disciplines and the consequences thereof. In view of this the objectives of the research are outlined as follows:

Objectives of the study

- i) Explore the challenges of addressing the integration of urban planning and public health care in post 1994 South Africa by looking at the participation of health officers, town planners and engineers in in projects that requires even participation from the three.
- ii) Explore and describe the evolution of the disconnection between public health care and urban planning. The description of the evolution of the connection or disconnect aimed at putting the analysis in historical context.
- iii) Discuss the obstacles and areas of integration between public health care and urban planning in post 1994 South Africa. The obstacles to an integrated approach from the professions was to be able unpack why and how the tow professions do work together.
- iv) Explore and suggestion an eco-social epidemiology and environmental equity and GIS method of integration. The recommendation was necessary to begin to sensitize the two professions into integration on projects that requires the participation of both public health officers and town planners.

METHODOLOGY

In order to show how town planning is connected or disconnected to public health in post 1994 South Africa, and to demonstrate the relationship between the two professions, the paper uses South Africa to undertake a desktop survey of documents from 1994 to 2014 from Spatial Development Framework (SDFs), Integrated Development Plans (IDPs) and Comprehensive Infrastructure Plans

(CIPs). The analysis traces the disconnect between public health and town planning in post 1994 South Africa back to the disjuncture between urban planning and public health in the middle 1980s. Literature on the origin of urban planning was assessed to show how town planning emerged as a result of the challenges of public health during the turn of the 19th century to put the discussion in the context. This was followed by extracting and analyzing relevant information on the evolution of town planning and the eventual divorce between public health and urban planning in the mid 1960's when town planning was recognized as a separate field of profession to show the paradigm shift from physical to integrated planning.

The analysis demonstrated the connection between the evolution of public health and urban planning in the context of pre-1994 system of urban planning where the minority were provided with basic services such as water, sanitation, good roads etc., while majority of the population had little such services. The analysis used the example of pre-1994 era to explain how it encouraged a deliberate disjuncture between spatial planning and public health in South Africa. Several articles were analyzed to deduce the disconnection between public health and town planning in post 1994 South Africa as having deep rooted connection to fragmented planning practices and suggestions were made to ensure an environmental justice approach to bring public health care practitioners and urban planners to work together to bring the two professions closer as it was the practice before 1952 (Department of Water Affairs, 2001).

DISCUSSION: EVOLUTION OF THE CONNECTION BETWEEN PUBLIC HEALTH AND TOWN PLANNING

Outlined in the discussions are the analysis on the evolution of the connection and disconnections between public health and town planning.

The connection between public health and town planning

The connection between town planning and public health came about as a result of the 19th century rapid urbanization and industrialisation in Europe and the effort to reduce the effect of infectious diseases like cholera and typhoid due to poor housing conditions and inadequate land use planning (Melosi, 1999). Sanitary reports did not explain why there were sporadic outbreaks of infectious diseases. Planners explained it from a spatial point of view by postulating that lack of planned urban space (land use zoning and urban density allocation) could be responsible for the occurrence of epidemics (Chartwick, 1842). Further explanation to the disconnection between public health and planning is that improvement in urban infrastructure and laboratory investigation of microbes and intervention via immunization by the medical personnel do not conform to town planning norms and standards (Krieger, 1999).

In France, Haussmann's model of land zoning influenced redevelopment in Paris hence, the building of Boulevards like Champs-Élysées, Boulevard Richard-Lenoir, Beaumarchais etc. The model of land use re-

zoning focused on functionality and hierarchy of uses by separating residential from commercial and industrial areas, etc. Haussmann placed strict restrictions on land use regulation where contacts between different groups of people were determined by zoning according to economic attainment (Duhl, 1986).

During the mid-20th century research findings on the connection between diseases and town planning was largely ignored because social health issues related to lifestyle like smoking, dieting and exercises were considered a luxury. Furthermore, in the 1960's, town planning which was just emerging as a recognized discipline, promoted physical, economic and social components of planning above health issues (Keeble, 1969). Economic models were used in planning new towns and planning authorities were established to provide planning guide in such areas. In South Africa, planning regulations were introduced in 1910 as part of the emerging fragmented framework of urban governance. The creation of Black Areas Act., of 1956, gave rise to segregated urban planning where some areas had more services than others (The City of New York, 2010).

Considerations for human health effects on cadastral plans was brought about as a result of the introduction of Environment Impact Statement (EIS) in South Africa in 1970 when the National Environmental Policy Act of 1970 was established for analyzing ecological and human effects of cadastral plans involving programmes policies and projects (Bullard and Johnson, 2000). The introduction of the Environmental Impact Assessment (EIA) led to a gathering of organization, government department, academics, professionals and members of the general public with a view to incorporate the principles of EIA into guidelines for use by professional planners (Corburn, 2003).

As a result of this, risk assessment was promoted as part of the EIA process to include specific concerns for human health. However, the biomedical model of diseases which was related to the issues of mortality in morbidity to molecular level, pathogens due to individual lifestyles, hereditary diseases or genetics was completely enshrined as the dominant epidemiology. It is however, important to note that the biomedical model was geared towards explaining molecular-level pathogens instead of explaining the spread of diseases among the population as a spatial incidence or distribution at a societal level (Sugger and Susan, 1996).

In the built environment of South Africa, a procedure for the incorporation of Integrated Environment Management (IEM) was introduced and published in 1992. The purpose was to reconcile conflict of interest and concerns like the dichotomy between public health and planning by minimizing the negative impacts to enhance the positive aspects of planning. One of the pillars was the understanding of the term "environment" to include physical, biology, social, economics, etc (Department of

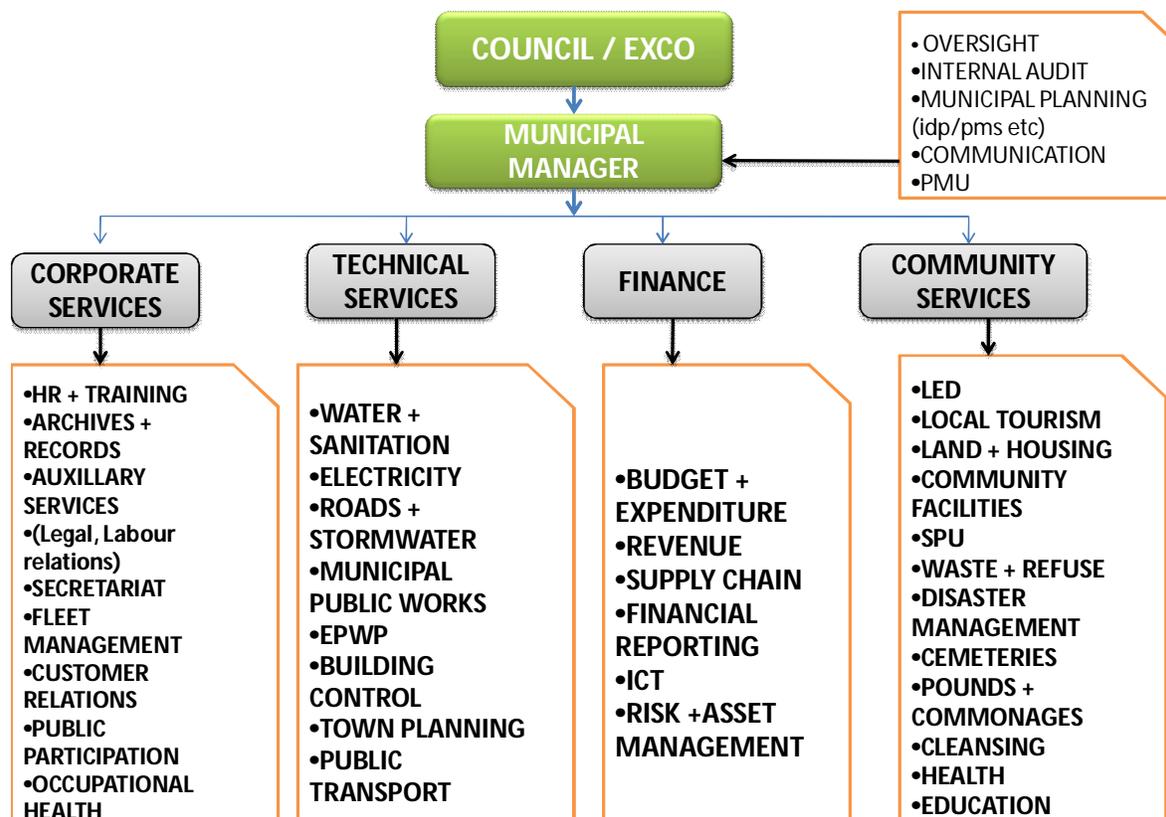


Figure 1. Organizational arrangements in municipalities in South Africa.

Environmental Affairs, 1992). As the practice of EIA became more relevant to projects and programs, the practice of EIA and risk assessments became specialized and this led to town planning becoming more and more disconnected from public health (Duhl and Kochtitzky, 2002).

Obstacles to the integration of public health and urban planning post 1994

From the discussion in the preceding paragraphs, it was demonstrated that public health and planning became disconnected from their original purpose of a healthy environment and from engaging in a collaborative manner on issues pertaining to health and the urban population. In the 1960, the principles and practice of town and country planning attempted to integrate the concept of physical planning with environmental issues to address public health but it was considered too physical and too much of the built environment was brought to bear (Petersen, 1996).

From Figure 1, it can be seen that public health appears under corporate services and not under technical nor community services in the organogram. This shows that their participation in matters related to

health issues are limited to administrative matters and not technical ones. For example this was corroborated with the assessment of the participation of public health officers as compared to other professionals like town planners and engineers in projects listed in Integrated Development Plan (IDP) during the 2013 verification of compliance with IDP participation process in district municipalities in Limpopo Province. Table 1 shows the number of occupational health officers as compared to town planners and engineers.

From Table 1, we can deduce that public health officers participated mainly in IDP representative forums. For example for solid waste land field projects in all district municipalities, only 3 public health officers participated in the processes of implementation of the projects as compared to 15 and 17 engineers and town planners, respectively. Similarly for waste water treatment projects where it is expected that more public health officers would participate in their numbers, only 3 compared to 15 and 13 engineers and town planners participated respectively.

Integrating spatial planning with public health

The obstacle to the integration of public health and

Table 1. Participation of public health officers in planning projects in 2014 compared to others in Limpopo Province District Municipalities in South Africa.

District municipalities	Projects and participation of professionals								
	Integrated Development Plan			Solid waste Landfill projects			Waste water treatment		
	Health officers	Engineers	Town planners	Health officers	Engineers	Town planners	Health officers	Engineers	Town planners
Vhembe	1	3	4	-	3	4	1	4	2
Mopani	1	5	4	1	3	3	-	3	2
Sekhukhune	1	2	3	-	2	3	-	2	3
Waterberg	2	4	3	-	3	3	-	2	3
Capricorn	2	5	3	2	4	4	2	4	3
Total	7	19	17	3	15	17	3	15	13

Source: Limpopo Department of Cooperative Governance, Human Settlement and Traditional Affairs Annual Report 2014.

spatial planning was related to the inability to link the effects of spatial planning and urban development projects to health risk. The definition of town planning to produce development control, forward planning with regard to health should be the ultimate outcome. For example, town planners and public health care practitioners have not been able to bring to a common understanding new ways of unpacking the effect of physical planning on the health of the community and the facilities they planned to provide (Israel et al., 1998). It is assumed that the guidelines and framework for the application of the National Environmental Management Agency (NEMA) policies would address problems emanating from development activities like heavy infrastructure developments: roads construction, extraction of coal for energy production, transportation and inputs for agricultural production, should be able to use the EIA to ensure good public health (Flynn, 1996). It is pertinent to note that although the application of the EIA is assumed to control the impacts of development, sometimes it does not go into details of looking at the discharge of heavy metals from vehicles on roads surfaces which sometimes contaminates rivers downstream if not well

managed. The EIA framework policies and guidelines are applied in South Africa but the cumulative impact and exposure to hazardous substances on less privileged urban communities can cause multiple negative effects that are sometimes irreversible (Waller and Gotway, 2004).

One school of thought is of the opinion that to address the dichotomy, planners should understand that although the weight and role of politics is heavy, the planning profession should try and integrate the ideals of public health as it was during the turn of the 19th century because planning is a multidisciplinary subject.

Contribution of urban planning to public health

We indicated at the beginning of this paper that during the 19th and early 20th centuries the synergies between urban planning and public health was born out of concerns for public health. This was evident in three areas for example the creation of the green area concept in urban areas to promote healthy physical activities such as

social integration, better mental health, prevention of infectious diseases through the provision of community infrastructure like proper sewage systems, good drinking water, protection of residents from hazardous industrial waste via land use planning and zoning ordinances. One example of such was the Limpopo - Transvaal (Planning and Township Ordinance No. 15 of 1986 and the repealed Development Facilitation Act of 1995).

Public health and urban planning may again reconnect with the implementation of the Spatial Planning and Land use Management Act. (SPLUMA) (Department of Rural Development and Traditional Affairs, 2013). However, since 1994, shared concerns between planners and public health officers have been on the need for proper considerations for the creation of green areas to improve air quality and access to recreational activities.

Recent thoughts have been the contribution of public health awareness campaign and emphasis on knowledge of urban planning. It is expected that community designers such as engineers and land use architects should integrate the principles of public health and spatial planning in the future.

In order to address the disparities between well serviced urban neighborhoods and those with little or no basic services such as health care facilities, water, sanitation and electricity it is important to re-connect the two disciplines through integrated spatial planning. It is expected that the current legislation on spatial planning, that is, Spatial Planning and Land Use Management Act, 2013, will address the lack of synergy between spatial planning and public health. In a Statistics South Africa report in 2011, the level of poverty in South Africa dropped between 2006 and 2011 to 20.2% for extreme poverty to 45.5% for moderate poverty (Statistics South Africa, Poverty Report, 2013). The report further shows that 10.2 million South Africans lived in extreme poverty in 2011 while 23 million lived in moderate poverty. The development goal report on South Africa showed that 60% of government spending was on social wages, that is, the provision of basic services (water, electricity and sanitation to households). In addition to this, the report indicated that there has been a doubling in per capita health spending over the period from 2006 to 2011. With urban poverty still high in South Africa, an integrated urban planning and public health care should promote socio-economic positions and other social determinants of health in lowly serviced urban areas (Geronimus, 2000). This means that deliberate choices have to be made to increase attention to the ethical principles of planning practice.

Addressing basic services disparities between urban communities

According to Hoehner in 2003, the fundamental cause of disparities in public health in urban neighborhoods in South Africa was as a result of the fragmentation of space (Hoehner et al., 2003). Since 1994 and the subsequent creation of local government through the Municipal Structure Act 1996, in South Africa saw an increase in the provision of basic services such as water, electricity and sanitation to less privileged urban areas. However, 15% of South Africans still do not have access to basic services (Gaumans, 1997). Private urban developers still favor investment in modern property development and access to goods roads, pipe-borne water supply and good roads in areas where they can make profit. Some of the townships lack such services moreover, unemployment is high (Local Government Structures, 1998). Majority of the residents in such areas face the risk of inadequate environmental health problems and consequently they are exposed to environmental hazards that sometime contribute to poor health at the residential level (Kawachi, 1999; Villanuava et al., 2012).

During the planning for the FIFA World Cup in South Africa, attempts were made to increase collaboration between professional practitioners in urban planning and

health care because World Health Organization requirements (Sexton and Adgate, 1999). The implementation of SPLUMA in July 2015 entails a closer corporation to bridge the gap between the practitioners of both disciplines (Ritsatakis, 2009). Pushed by economic challenges, public health and city planning are converging again due to climate change and green technology factors (WHO Regional Office for Europe, 2003). Similarly, the World Health Organizations Health City Movement initiated in 1988 emphasized that attention should be geared towards fixing health inequalities, participatory governance and the health consideration of urban dwellers (Waller and Gotway, 2004). The principles of the movement targeted the dysfunctional qualities of urban spatial patterns of development which to underline the New Urbanism and Smart Growth movement that supports urban forms in the context of public health benefits (Kickbush, 2003).

The concept of new urbanism within the natural sciences could be the panacea for public health and urban planning to work together. The argument is that the concept of reconnecting planning and public health will require the use of experts' models that should not compartmentalize: public health and planning as it has been in the past. This is because the science of public health and the built environment are becoming more and more integrated through the implementation of the EIA (Rosen, 1993).

Integration through eco-social epidemiology and environmental equity

The integration of planning and public health requires a fair treatment and involvement of all people irrespective of specializations because urban development projects are multidisciplinary in nature. Social epidemiology provides an interdisciplinary, multilevel perspective for understanding the health disparities of populations in urban areas. In addition to this, environmental justice can bring out the planning elements that provide the framework for ensuring a participatory process for urban development projects (Krieger, 2001).

It is important to note that eco-social epidemiology stresses a multidisciplinary perspective. It examines the bases of biology, sociological, psychological and economy that influences the distribution of people in places while considering early the potential occurrence of multiple pathogenic exposures that may contribute to long term disadvantages. This is because eco-social epidemiology recognizes that the provision of basic infrastructure and services to all sectors of the urban population impacts on the quality of the health of individuals (Tsources, 1990).

In reconnecting planning and public health, other models are required to unpack how human biology affects or do not affect the physical, social, economic and

psychosocial environment in which we work, and play in an urban environment. The argument is that the connection between public health and planning requires more than bringing in “biology” to social analysis. This is because the connection should provide a framework for multidisciplinary approach in which health plays a sustainable role at multiple levels including private developers and the public realm of planning (Department for Communities and Local Government, 2012).

It is expected that a multidisciplinary approach will enable environmental justice to, confront the decision making obstacles facing the re-grouping of planning and public health. This means that the two professions have the democratic right, time to work in a built environment that is safe, healthy and free of threatening diseases. In addition to this, environmental justice emphasis corrective justice in the context that polluters should be held responsible to pay, compensate or repair damage done to the environment (Israel et al., 1998). Therefore, defining a new role for public health and planning will require redistribution of economic growth, a role which the national government can digest as an essential ingredient for planning and public health in a democratic society. The problem is that national government policies in South Africa often make efforts in creating an urban economic platform that sometimes leads to spatial health disparities. On the contrary, the National Development Plan of South Africa is expected to guide and promote the revitalization of derelict urban areas with the aim of addressing fragmented and discriminative development programmes in order for planning and public health to properly re-integrate.

In view of this the provision of safe and healthy places to live, work and play is more likely to succeed if urban planning and public health practitioners learn to work together. This means that in the long-term the responsibilities lies with the instruments of integration in which public health and urban planning can play a positive role. This is because South Africa’s 2012 National Planning Policy for improving public health care requires that local authorities take into consideration among others the issues summarized (Diez Roux, 2001):

- i) Public health practitioners should recognize the important of addressing the threats to public health in the context of a spatial or land use planning,
- ii) Urban planners and public health practitioners should use the Geographic Information System (GIS) as a tool for integration and spatial analysis,
- iii) Planning should increasingly engage in the public health arena by participating in health programs, board meetings and incorporation of public health design oriented and land use planning, and
- iv) Public health professional should participate in the town planning field including land use zoning decisions as well as serving on the boards of integrated development planning.

Best practice: Integrating public health and urban planning

The integration of public health and urban planning has been successful in a number of countries. For example in France, under a legislation call “Plan de occupation du sol Article L. 123-1 et son alinea 2 du Code de l’Urbanism 1990” was instrumental in define a niche for the integration of public health and urban planning by requiring relevant professional bodies and departments to comment on precinct plans after preparation by either a private developer or municipal town planners. The department of public health at the provincial and municipal level is obliged to send comments in writing within the period the plan is allowed for public and professional comments. By so doing Public health officers can make inputs on matters pertaining to town planning at the implementation level (Huet, 1998).

In the United Kingdom, the integration of public health and urban started during the industrial revolution because of insalubrity in the living conditions of urban dwellers, the outbreak of cholera and very poor sanitary conditions. This led to Ebenezer Howard proposing a green zone around the city of London. As a result of this, during the 1950s public health and urban planning were harmoniously connected until in the in the 1960s when the two professions were separated and planning became a standalone profession. In an article by Lehmann in 2010, on the integration of the two professions, he indicated that although two public health may no longer be merged into one profession, public health practitioners in the United kingdom have contribute to town planning matters by participating in urban planning debates most especially on wastes disposal standards (Lehmann, 2012).

The integration of public health and urban planning in South Africa is supposed to be achieved through planning legislations such as the Municipal Systems Act, The Municipal Structures Act, The Spatial development framework (SDFs), Comprehensive Infrastructure Plans (CIPs), Precinct plans to mention just a few. For example the CIP is the planning instrument that is supposed to bring to both public health officers and town planners in South Africa to deliberate on matters relating waste management. There has been some successes in municipalities particularly Cape Town. This is because the Municipal Health Service (MHS) embraced its legal mandate and developed programmes according to the legislations prescribed to address environmental health risk in the municipality and associated waste. The MHS developed a systematic risk management approach and scandalized monitoring tools, systems and routines which optimized the use of resources and alleviate waste challenges at the municipal level. The objective of linking health to the environment was to ensure a safe and healthy environment and to prevent urban dwellers from getting into health problems due to preventable actions.

The linkage between metropolitan and health officers and town planners was enabled with the Environmental health (reg. 968 of 2009 which clarifies the domain of inputs by health officers in terms of waste management. Although there are pockets of health related problems in Cape Town, it is regarded as one of the towns that have been able to integrate the health concerns in spatial planning most especially from the sustainable environmental planning.

Policy recommendations to connect public health and urban planning

The WHO's position has been that connecting urban planning and public health is a long-term project which may take many years. The focus should be on which policy and process and not direct integration of urban planning and public health care. This is because the integration should be policy based and research from environmental health practices. This is because providing a livable and clean environment is what can reconnect the two professions. For example the process of reconnecting public health with urban planning in South Africa should be via environmental justice where planning and public health requires the articulation of an explicit conceptual policy framework in the context of environmental Justice. On the contrary there are those who argue that the movement to integrated public health and planning within a healthy city should engage sufficiently the social and political buy-in (Cater et al., 2003). Terms such as community participation, inter-sectoral working and healthy public policy without critically looking at greater local control which can lead to greater equity are questioned. There is also the argument that the integration of public health and urban planning is debated on the premises of healthy cities movement, hence, the need to attempt to achieve a radical institutional change within existing planning approaches at the local government level. This explains why Agenbag in 2014 indicated that waste management may be the best way to bring public health management and town planning together. For example policies relating to landfill sites conditions, illegal (indiscriminate) waste dumping sites impinges poorly on the environment hence the need for local authorities in South Africa to consider the participation of public health practitioners in matters relating to sanitation via environmental waste management policies (Agenbag, 2014).

CONCLUSION

The paper discussed the relationship between public health and urban planning in post 1994 South Africa, first from the global evolution of the obstacles of integrating the product or outcomes of the two disciplines. From the

point of view that each discipline seemed to have drifted away from each other despite the fact that urban planning as a discipline emerged from public health concerns. It was demonstrated that in pre-1994 South Africa, the fragmentation of the urban space marginalized majority of the population who did not have basic services. The legacy of apartheid over several decades cannot be rectified within 20 years. The question that was raised is whether it is possible to reconnect public health and urban planning in South Africa in the 21st century. It was demonstrated that the possibility of re-connecting the two disciplines lies in the context of environmental justice through the use of continuous provision of basic services such as water, sanitation and electricity to disadvantage urban communities. Such approach should be able to address the imbalance between the poor and the rich in urban areas. It was however, suggested that in South Africa, this could be achieved through an interdisciplinary approaches that incorporates various levels of health perspectives and urban planning in the context of eco-social epidemiology, to attain the principle of advancing environmental justice to integrate urban planning and public health. This suggestion was followed by a critical look at the approach. It was demonstrated that this may not be possible without a framework for a multidisciplinary research to provide an evidence-based data before embarking on the integration of public health and urban planning. The paper recommends an integrated and multidisciplinary approach to spatial planning wherein public health care issues are debated and decisions taken with respect to urban planning and development projects.

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