

Urban Challenges and Planning in the Global South: An Introduction to the Strategic Management Sustainability Framework (SMSF) and Tool (SMST)

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Abstract

Rapid urbanisation is one of the biggest challenges of the Global South. This paper introduces the Strategic Management Sustainability Framework (SMSF) and Tool (SMST), its relevance and applications to challenges of urban planning in the Global South. It aims to show how the SMSF or SMST can be used to meet the challenges of town and city urban planning by building preparedness, resilience and better conditions for liveability and sustainability in these areas. This is done through an expanded PESTLE Analysis-based multi-sectoral SMSF, which has been developed into a computerized Tool (SMST). The two (also referred to as the African PESTLE Analysis (APA)) comprise the same innovation, which is conceptually grounded in the principles/values of the African woman, particularly in villages.

Keywords Cities · Urban · Strategic · Management · Planning · Challenges · Women

1. Today's Global Urbanisation

The world is witnessing an unprecedented rate of urbanisation, never seen before in history. The rate of global urbanisation is not only already very high, but it is rapidly increasing. More than 55% of the world's population is now living in urban areas, projected to reach nearly 68% by 2050 (United Nations, Department of Economic and Social Affairs (DESA), Population Division, 2025). Figures 1 and 2 show the absolute and comparative amounts of the global urban population, respectively. Whilst they are increasingly becoming our homes and hopes, towns and cities are also facing massive issues of how to make them affordable, manageable and even liveable. Therefore, Ministries, municipalities and city planners are faced with the almost insurmountable tasks of pre- and post-development planning and management of urban areas. This introductory and illustrative paper aims to demonstrate how the Strategic Management Sustainability Framework (SMSF) or Tool (SMST) can be employed to comprehensively address the challenges of city and urban planning by building preparedness, resilience and better conditions of liveability and sustainability in urban areas. This is illustrated through an expanded multi-sectoral SMSF/SMST PESTLE³ Analysis, built on the principles/values of the African woman, particularly in the villages (Figures 6 and 7). Our focus here is on the Global South. This term refers to the countries of the world which are considered to have relatively low levels of economic development, and are generally located in the south of the developed industrialised countries. They include countries in Africa, Latin America, and most of Asia – mainly former colonies. In contrast, the less commonly used terminology of the Global North refers to the developed, industrialised, and politically influential nations, mainly located in the Northern Hemisphere. They include Europe, North America and the developed countries in East Asia.

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³ The acronym is explained and applied letter by letter in Section 3.1.

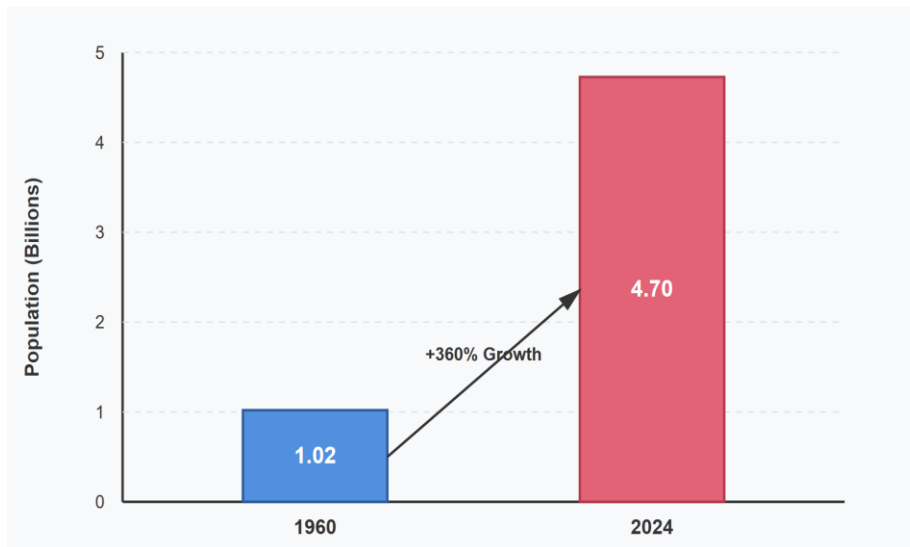


Figure 1. Urban Population worldwide (billions, 1960 & 2024 Compared)

Source: Authors, based on World Bank & UN Data (World Bank Group, 2025; DESA, 2025)

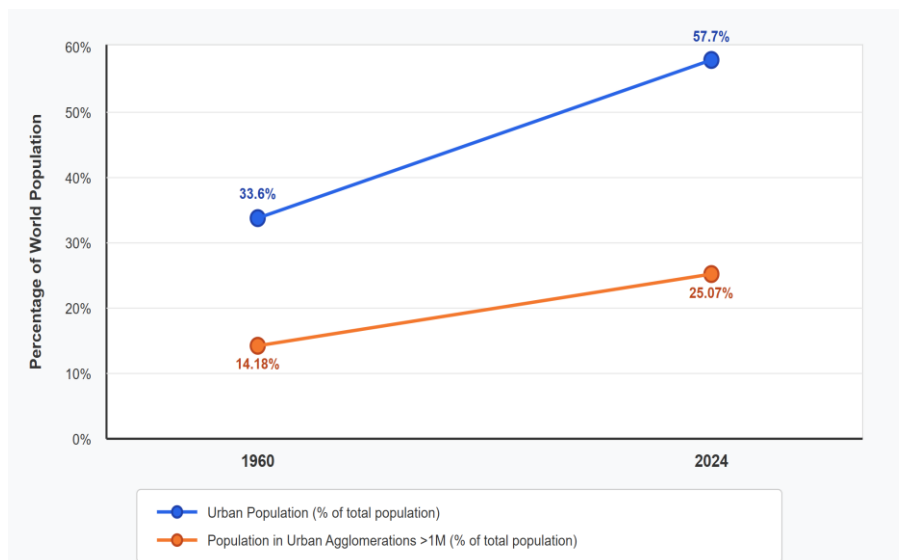


Figure 2. World Urbanisation (1960 & 2024 Compared)

Source: Authors, based on World Bank & UN Data (World Bank Group, 2025; DESA, 2025)

2. Urbanisation in the Global South

As shown in Figures 3 and 4, countries in the Global South have reached and are facing unprecedented growth and levels of urbanisation. From 2020 to 2024, the urban population as a proportion of the total population, in the least developed countries as a whole, ranged from 34.39% to 36.17% (Figure 3). In Latin America and the Caribbean, the most urbanised part of the Global South, this figure ranged from 80.44% to 81.27%. In Sub-Saharan Africa, it ranged from 42.17 to 44.15 from 2020 to 2024. The persistent high growth rates of the urbanised population have remained over 3.50% for all regions, except East Asia and the Pacific, Latin America and the Caribbean, and in 2024 for the Middle East, North Africa, Afghanistan, Pakistan and the least developed countries as a whole. During the period, the lowest annual growth rate (0.71%) was in East Asia and the Pacific in 2024, and the highest (3.67%) was a tie between East Asia and the Pacific and Sub-Saharan Africa from 2020 to 2023.

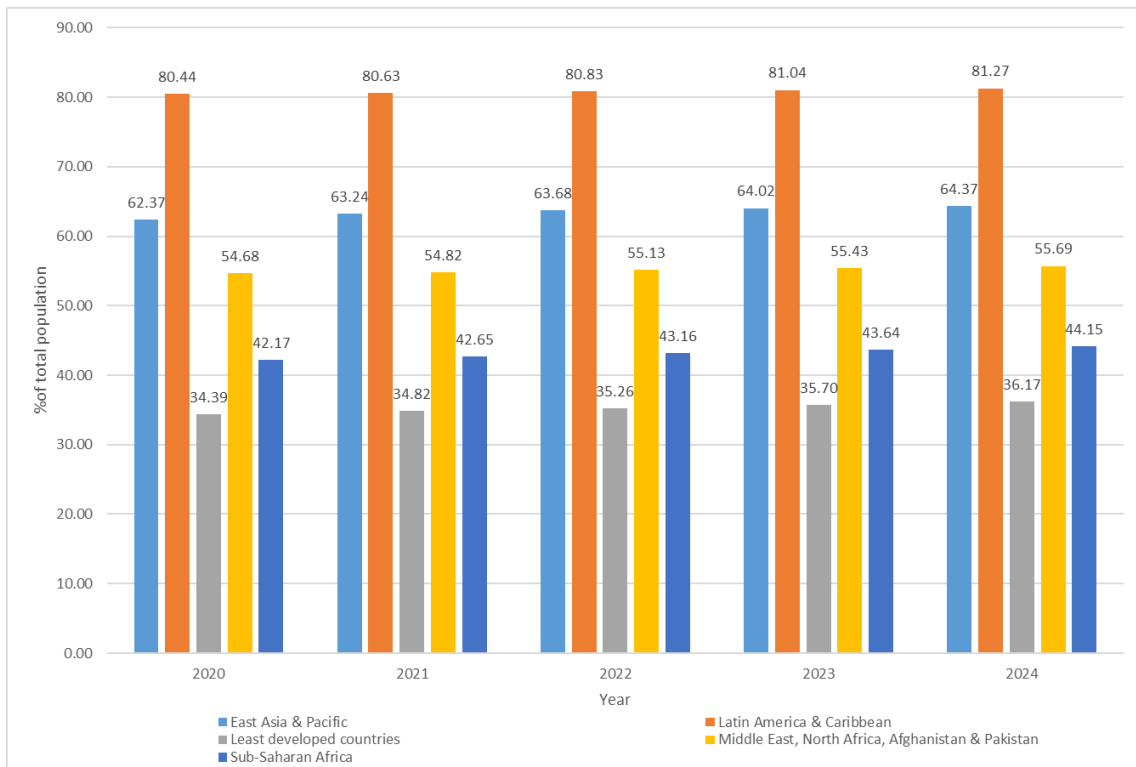


Figure 3. Urban population (% of total population), the Global South 2020 – 2024
 Source: Authors, based on World Bank & UN Data (World Bank Group, 2025; DESA, 2025)

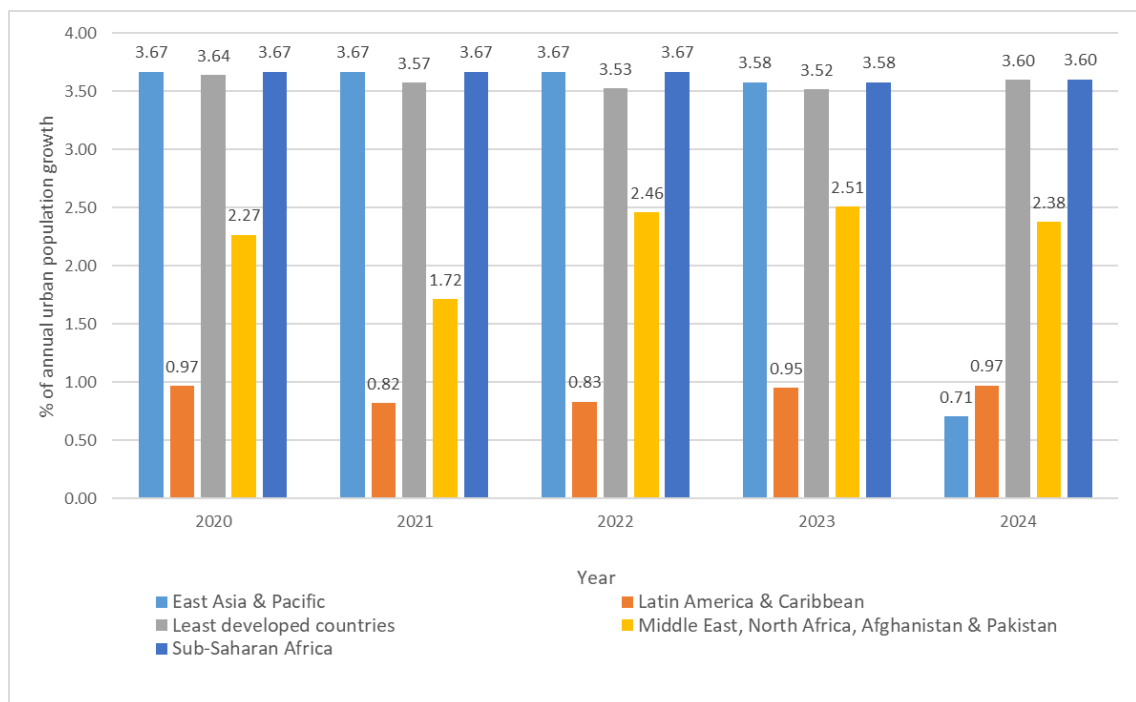


Figure 4. Urban Population Growth (annual %), the Global South 2020 – 2024
 Source: Authors, based on World Bank & UN Data (World Bank Group, 2025; DESA, 2025)

2.1. Consequences of Rapid Urbanisation in the Global South

There are numerous definitions of urbanisation and urban areas. Vlahov and Galea (2002) noted that “Urbanisation refers to change in size, density, and heterogeneity of cities” (p. S1). According to McGranahan and Satterthwaite (2014), “It is generally accepted that urbanisation involves the shift in population from rural to urban settlements. From a demographic perspective, the urbanisation level is best measured by the urban population share, with the urbanisation rate being the rate at which that share is growing” (p. 4). The United States Environmental Protection Agency (EPA, 2025) states that “Urbanisation refers to the concentration of human populations into discrete areas. This concentration leads to the transformation of land for residential, commercial, industrial and transportation purposes. It can include densely populated centres, as well as their adjacent peri-urban or suburban fringes.” Sanyaolu and Sanyaolu (2018) observed it as “the way the population shift from rural to urban areas, “the gradual increase in the proportion of people living in urban areas”, and the ways in which each society adapts to the change” (p. 1). Because of the lack of a universal definition and the existence of multiple definitions, McGranahan and Satterthwaite (2014) describe this situation as “confusing” (p. 4). The United Nations (UN) attempts to overcome the confusion by using nationally reported figures. Nevertheless, the problem remains in part because the countries themselves use very different definitions. Some countries use minimum population thresholds, some adopt population density, infrastructure development, and employment type, whilst some utilise the population of pre-defined cities. The threshold varies tremendously from 200 in Sweden, at least 5,000 in India, 50,000 or more in Japan, and the whole national population in Singapore. Yet, some countries operate outside such population-based official quantitative criteria by using qualitative criteria such as employment type, level of infrastructural development, or officially designated areas.

In the hotchpotch of definitions, urbanisation can be simply described as the growth of cities and towns, which is intertwined with economic and technological advancements. Therefore, although before the Industrial Revolution (1760 to about 1840) cities did exist, they were very much smaller and far apart than in the post-Industrial Revolution period. In fact, according to Britannica Editors (2025), large human settlements did not exist until the Neolithic Period, around 10,000 BCE. Cities with more than 100,000 people emerged only in Classical Antiquity, before the population explosion of the last three centuries. It was reported that less than 3% of the world’s population lived in cities of 20,000 or more. This number had increased to about a quarter of the world’s population by the mid-1960s and to more than half by the early 21st century.

There are numerous consequences of urbanisation. On the negative side, these include: environmental stress (loss of biodiversity, heat islands, air, water and soil pollution, water shortages), social pressures (isolation, noise, inequality, crime, poverty, loss of traditional cultural values), and infrastructure strain (inadequate services, traffic congestion, slums). Rapid urbanisation outpacing job creation and the provision of infrastructure and social services creates slums, which are one of the clearest features of urbanised poverty and one of the most distinguishing differences between the Global South and the Global North (Figure 5). On the other hand, urbanisation enhances planning of services, accessibility to populations, creation of economic hubs, employment opportunities and better organisation. Cities and towns are also centres of new ideas and innovation and indicators of comfort, entertainment, national progress and good governance. Summarising the advantages and disadvantages of urbanisation, Cohen observed that “while cities command an increasingly dominant role in the global economy as centres of both production and consumption, rapid urban growth throughout the developing world is seriously outstripping the capacity of most cities to provide adequate services for their citizens” (2006, p.1). Proper urban planning can mitigate the negative consequences of urbanisation, achieve liveability and facilitate sustainable development.

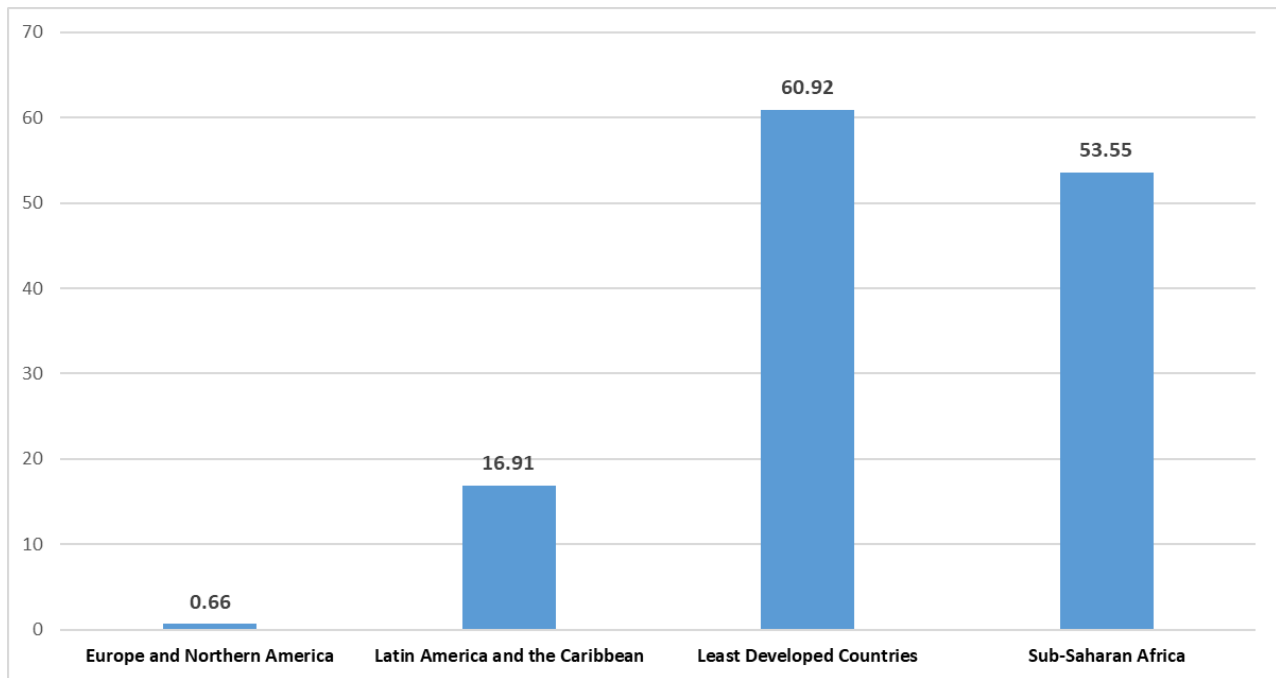


Figure 5. Urban population living in slums (%): The Global South & North 2022

Source: Authors, based on World Bank & UN Data (United Nations Human Settlements Programme, 2025)

3. What Makes a Strategy Effective?

As commonly described, a strategy is a consciously structured course of action that has a clear and targeted goal. Cory (2024) describes the “Strategic Planning Process” as one that “includes the set of activities associated with the continuous analysis, formulation, implementation, measurement, and governance of the strategic plan or of any ongoing, adaptive changes to the plan”. (Boyles, 2022; Cory, 2024; Modreanu et al., 2021; Porter, 1996; Tawse & Tabesh, 2021)

The following constitute the pillars of effective strategies. They are not listed here in any order of importance, although they may have different weights in different circumstances :

1. Tools/Instruments/Resources
2. Principles/Values
3. Knowledge
4. Attitudes.

The SMSF/SMST offers all of the above. The tools/instruments/resources (the means, for short) for addressing the challenges are provided within the framework (SMSF) and computerised application (SMST), which can also be AI-driven to facilitate their applicability. ⁴The knowledge comes from the ability to understand and use the SMSF/SMST to address challenges through the appropriate means, which also enhances the understanding of risks. Finally, *the principles/values are drawn from the situation and experiences of the African woman for the specific purpose of positively influencing attitudes in modern and privileged organisational settings.* Given the importance of the right attitudes in generating the right outcomes, the African woman’s principles/values are used to motivate and send a strong message: “If she can keep on going in her very harsh environment, you should do better in the luxury of your office!”

⁴ The SMSF and SMST refer to the manual (tables or spreadsheets) and computerized versions (advanced app) of the same thing.

THE STRATEGIC MANAGEMENT SUSTAINABILITY FRAMEWORK & TOOL (SMST)



ALSO REFERRED TO AS THE AFRICAN PESTLE ANALYSIS (APA)

Figure 6. From Africa to the World: Village Women in Action with *Pestle* and Mortar
Source: The Authors, guided design.



Figure 7. Pounding your Challenges: African Women, *Pestle* and Mortar
Source: The Authors, guided design.

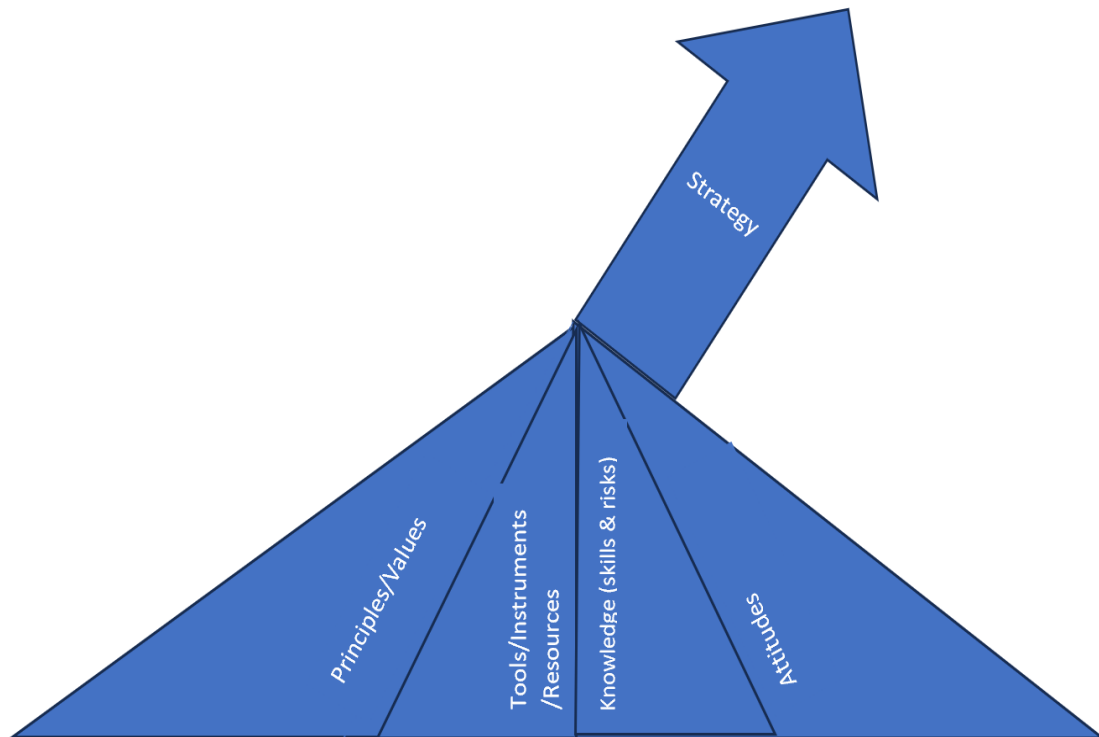


Figure 8. Pillars of an Effective Strategy

Source: The Authors

3.1. What is Sustainability?

Sustainability has become the catchword of the early 21st century, encapsulating durability in business, economic development and social progress. Although it has assumed new dimensions, it is not a new concept. Khan and Sonko (1994) call for the consideration of sustainability in economic and technological development. They provide robust technical evidence for the benefits of this approach. As illustrated in Figure 9, the authors define sustainability as the state or process of “meeting the needs of the present generations, without compromising the ability of the future generations to meet their own needs.” In the realms of business and economic policies and activities, this definition and related common ones emphasise conserving financial, natural and physical resources to ensure their availability not only in the present but for the future too. In summary, sustainability is composed of three pillars: economic, environmental/ecological, and social, which are also known as the “three Ps” - People, Profit, and Planet (Elkington, 1998; Savitz & Weber, 2013; Werbach, 2009, 2010). The economy (including finance), environment and social welfare are all about people first and foremost, their businesses and the planet that they live in. Therefore, for cities and towns (like companies) to become sustainable, planners must strive to eliminate or mitigate the potential negative impacts of all three pillars on people and the environment.

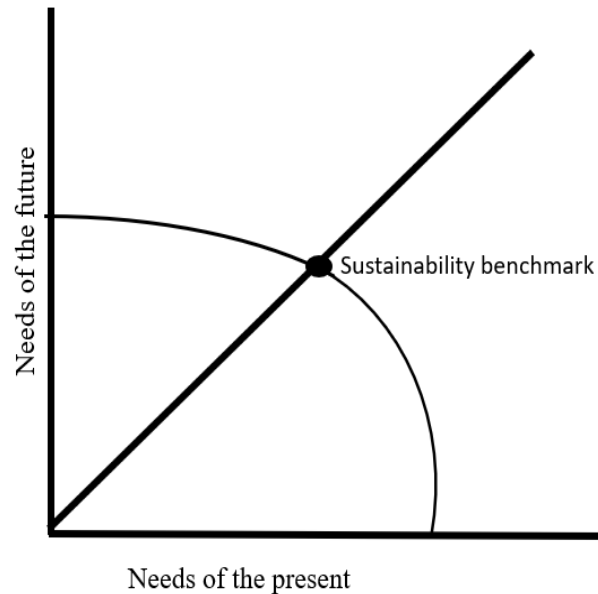


Figure 9. Sustainability

Source: Khan and Sonko, 1994.

4. The SMSF/SMST Analysis in Urban Planning

The Strategic Management Sustainability Framework (SMSF) and Tool (SMST) are designed to enable institutions and companies to identify, structure, target, and address their challenges comprehensively, in six categories, instead of on an ad hoc and/or piecemeal basis. This is done by enabling them to organise the challenges in all the major categories, develop a strategic approach encompassing solutions, roles, targets, measurements, responsibilities and deadlines. This innovative approach to strategic management can enhance the capacities of urban planners to achieve sustainability in towns and cities through the multisectoral framework provided by the SMSF, which we have also developed into a computerised Tool (SMST). This presentation aims to show how the SMSF or SMST can be used to meet the challenges of urban (town and city) planning by creating better conditions for liveability in urban areas, through the ability of planners to identify, organise, and target challenges *categorically*.

The SMSF was first published in a pathbreaking book in 2023. (Sonko & Sonko, 2023) The Framework has been presented to diverse audiences, ranging from international organisations to multinational corporations, to address diverse challenges. The most recent presentations were to the Dubai Electricity and Water Authority (DEWA) (a global leader in utilities) and Perseus Mining (Australia’s third biggest gold explorer, developer and producer). This paper represents the first attempt to apply it to urban planning.

In order to deal with the multiple challenges of urbanisation across the world, we recommend the usage of this innovatively extended and comprehensive applied framework, which is based on SMSF/SMST PESTLE Analysis. The normal PESTLE Analysis is used by some companies in marketing and other activities to analyse and monitor mainly the macro-environmental (external environment) factors that have an impact on the companies. “External factors are trademarks in the macro environment. The elements show they influence the environment but aren’t easily influenced by others”. (Frue, 2017)

Harvard Professor, Francis J. Aguilar (1967), is credited for what has now become the conventional PESTLE Analysis, although the acronym has come a very long way since 1967. In his book, *Scanning the Business Environment*, Aguilar pointed out that “industry is directly and substantially affected by most of the major environmental factors” (e.g., demographic changes, technology, international politics, and so forth) and it is involved in great and continuing changes” (p. 211). He also observed the competition and threats companies pose to each other. Therefore, he came up with the concept of scanning the business environment through macroenvironmental factors, which he analysed in his book in only four main areas at the time –

environmental, technological, political and social (ETPS). The world outside the firm and dealing with it through planning with strategic management were Aguilar's two main objectives in the book. Later, through different authors and usages, ETPS became known as: PEST (Political, Economic, Social and Technological); STEP (Strategic Trend Evaluation Process); STEPE (Social, Technical, Economic, Political, and Ecological); STEEPLE (Social, Technological, Economic, Ethical, Political, Legal, and Ecological); PESTLE; and other variants. (Frue, 2017) It should be noted that the main interest of most of the authors and users was, and still is, business, especially marketing. However, as shown in our example here, this comprehensive framework can be applied to a variety of challenges by a variety of entities in very different settings. This is why we are now proposing its usage to urban planning, after successfully applying it to other organisational settings, such as mining, energy, agribusiness and manufacturing.

What we refer to as the Strategic Management Sustainability Framework (SMSF) and Tool (SMST) (also referred to and known as the "African PESTLE Analysis (APA)" because of the central symbolism of the African woman) are extensions of the conventional PESTLE Analysis, which we have done based on our experiences as Africans growing up in a village.⁵ The conceptual meanings and literal usages of the *pestle* by African women, in African village environments, are utilised, *conceptually*, within the setting of a modern organisation or institution. We demonstrate the effectiveness of the SMSF/SMST in addressing the challenges of urbanisation through practical examples, with Materiality Analysis. In short, we suggest that the SMSF/SMST can be used to help modern urban planners to make our towns and cities more liveable and sustainable, a specific goal of the *United Nations Sustainable Development Goals (UN SDGs)*, illustrated in Figure 10 as the Sixth Goal: *Sustainable Cities and Communities*. The SMSF/SMST is relevant for the pursuit of this Goal through its Sixth and last Category (Environmental). In fact, through this Category and the other five, the SMSF/SMST may be a useful multipronged approach and Tool for targeting other Goals of the SDGs, to varying extents, especially SDG 11 (Figure 10).⁶



Figure 10. United Nations Sustainable Development Goals (SDGs)

Source: United Nations. (2025).

⁵ We are referring to the principal author here.

⁶ In addition to the 17 SDGs, there are 232 indicators. Relevant examples are included in this paper.

We extend the traditional/conventional PESTLE Analysis into the SMSF/SMST PESTLE in the following ways: (see Sonko & Sonko, 2023, chap. 3)

1. Utilising the symbolic and literal meanings of the *pestle* and applying it to the mnemonic and vice versa – thus *pestle for PESTLE* and *PESTLE for pestle*;
2. Explaining the utility of the *pestle* at both organisational and personal levels;
3. Exposing the traditional/historical power of the *pestle* as a pounder, weapon (self-defence), tool for exercise, etc.;
4. Highlighting the joy from the *pestle* in traditional festivities and (in some societies) its role during times of mourning (funerals);
5. Categorising not only the challenges but the *pestles* themselves by pointing out the importance of choosing the appropriate *pestle* for each challenge according to the size of the specific challenge;
6. Emphasising the importance of teamwork as symbolised by the woman, *pestle* and mortar; and
7. Utilising the imagery of the pounding woman and the movement of the *pestle* for key management terms such as coordination and consistency.⁷

Sonko and Sonko (2025) listed 16 features of the SMSF/SMST, including the above extensions. The list clearly demonstrates the advantages that the SMSF/SMST has over the traditional/conventional PESTLE Analysis. These advantages include:

1. SMSF/SMST can do more than just a simple 6-category identification of challenges, by integrating many more steps, as shown in Tables 2-10;
2. Unlike the traditional/conventional PESTLE, it comes with an inspirational story, through metamorphism. This adds a refreshing, pleasant and motivational element to the “dryness” of the traditional PESTLE and the typical strategic management concept;
3. It “provokes” the user’s thought process to think comprehensively about the challenges and go beyond to creatively identify the solutions and the implementation; and
4. It illustrates and emphasises teamwork vividly, through what we refer to as “teamability” (section 6.1.1 below).

Sonko and Sonko (2023) also compared it to what is perhaps the most well-known and commonly used management tool – SWOT (Strengths, Weaknesses, Opportunities, and Threats) Analysis. SWOT Analysis has spread worldwide, mainly because of its simplicity, accessibility and versatility in identifying organisational matters within its four areas of attention. (Alim & Wening, 2021; Chakrabarty, 2024; Hill & Westbrook, 1997) The SMSF/SMST offers a more comprehensive Framework and Tool, through its ability to incorporate the four areas of SWOT, especially Threats and Weaknesses. However, it goes much further by providing a well-laid-out framework for addressing organisational challenges, step by step, measuring, monitoring, assigning responsibilities, setting deadlines, and evaluating performance through Performance Square.

Since June, 2018, the authors have successfully made numerous presentations of this innovative approach in strategic management to political leaders (a former head of state and first lady, ministers and ambassadors), public policy makers, chief executive officers and senior managers from governments, international organisations, multinational corporations and other institutions in Africa, Asia and Europe. Specifically, the SMSF/SMST has been presented at triple A-rated multilateral development finance institutions, a London Stock Exchange-listed group, the biggest training centre in the Middle East, the third largest gold producer in Australia, and one of the biggest international organisations in the world (Sonko & Sonko, 2023, 2025). As mentioned earlier, the SMSF has now been developed into a computerised application (SMST), with a demonstration version available.

5. The Presentations

The presentations to companies and organisations of the SMSF/SMST take the form of engaging PowerPoint presentations. We help them to identify and address their challenges on their own, rather than dictating the

⁷ The movement of the pestle, the timing and speed of each pound demonstrate the importance of coordination and consistency.

solutions to them. During these interactive presentation sessions, it is also shown to staff/participants how the SMSF/SMST PESTLE can be used to address their personal problems, which can affect their personal happiness and, thus, work performance. The metaphor of the woman (the “disadvantaged sex”) is both innovative and pertinent, in and beyond Africa, because of the immense struggles women in the Global South, in particular, go through daily. It has been observed that in developing countries, generally women are the backbones of the economies, contributing about 37% of GDP in low- and middle-income countries. Yet, gender inequalities persist, with women earning 20% less than men, on average, and perform 76% of unpaid care work. (Ortiz-Ospina et al., 2018; World Economic Forum, 2024) For example, studies have shown that despite education and structural transformation, “women in Latin America face a persistent double disadvantage”. (Marchionni et al., 2025, p. 2) In East Asia, Armstrong (2025) noted that “challenges persist across areas including ... freedom from violence and harassment”. (Armstrong, 2025)

However, our focus here is on the African woman, especially the village woman. We define and demonstrate the following values/principles of hers as means of survival in dealing with seemingly insurmountable challenges in harsh and restrictive village environments: 1) Adaptability; 2) Coordination; 3) Confidence; 4) Discipline; 5) Energy; 6) Focus; 7) Patience; 8) Perseverance; and 9) Positivity. *These principles are provided as a backdrop to the presentations in order to influence the attitudes of the audience positively, because of the essence of attitude in performance.* As Cabrera and Estacio (2022) put it:

An attitude is a psychological state of mind. It is the way a person thinks about situations, and it ultimately determines a person's behaviour. In the workplace, employees can have either a positive or negative attitude about specific work tasks, products or services, co-workers, management, or the company as a whole.

Positive attitudes among employees make workdays more enjoyable. Tasks are performed to a higher standard and without complaint.⁸

The relationship between attitudes and performance can be found in the existing literature. The theories of attitudes and performance explore how internal perceptions (values, feelings, beliefs) influence behaviour, actions and even productivity. The main ones include the Theory of Planned Behaviour, which links attitudes to intentions and behaviour; Functionalist Theory, which explains how attitudes serve personal needs; and the Affective, Behavioural and Cognitive (ABC) Theory. The proponents of these theories argue that attitudes can bear significant impacts on performance. Therefore, they suggest that creating attitudes, through measures such as encouraging self-efficacy and increasing job satisfaction, can directly enhance performance (Ajzen, 1985, 1987, 2020; Ajzen & Kruglanski, 2019; Armitage & Conner, 1999; Bandura, 1977; Fishbein & Ajzen, 1975). In this paper, we add that such measures can also improve overall satisfaction with life both at home and in the workplace.

6. The Process

6.1. Preparing the PESTLE

The introduction of the SMSF/SMST PESTLE starts with explaining what a pestle is (Sonko & Sonko, 2023). Literally, a *pestle* is a tool for pounding a substance (food items) in order to crush, refine and turn them into paste or powder to cook or eat directly. Symbolically, it connotes food, parties, good news, joy, strength, sustenance, direction (a “village positioning system” (VPS)) for travellers who are guided by its sound, health, etc. In particular, and of great importance to the modern organisation, including urban planning ministries and departments in the Global South facing critical issues of urbanisation, the *pestle* directly symbolises *teamwork*, because no matter how strong a *pestle* is, it can only do its job in “partnership” with a pounder (the woman) and mortar. Without its partners, the powerful *pestle* is useless in its main “vocation” or task – pounding. With its partners, it becomes robust, overpowering, loud, clear and successful. We refer to the ability to work in and incentivise a team as “*teamability*”, which we describe as follows:

⁸ For more on the links between attitude, behaviour and performance refer to: Haddock et al. (2020), Rajan et al. (2020), and Verplanken and Orbell (2022).

- Doing what requires more than one person to be done by more than one person.
- The ability to develop the attitudes to work with others.
- The willingness to work with more than yourself.
- The belief that someone is almost as good, as good or even better than you in dealing with a challenge.
- To acknowledge and appreciate the contributions of others.
- To motivate teams and make every member of a team feel needed and useful.
- And to reward teams that have succeeded.

From the above symbolism, we can see an extensive metamorphism that is visual, allegorical and powerfully creative. For any reader or user with the ability to transcend normality and descend amongst our cast of intellectually symbolic players, the SMSF/SMST can be both fascinating and motivational.

6.2. The PESTLE Mnemonic

In conventional strategic management, PESTLE is a mnemonic or acronym which stands for: P = POLITICAL; E = ECONOMIC; S = SOCIAL; T = TECHNOLOGICAL; L = LEGAL; and E = ENVIRONMENTAL. Table 1 shows the structure and how the challenges are categorised and listed.

6.3. What are Challenges?

We refer to challenges or problems first and foremost simply as the “A-Z of life”. This means that they exist in all areas and at all times of our lives, from birth to death. They are our daily struggles, which we do not normally seek or desire, but have to deal with due to the lack of any other choice or because of the force of circumstances. Challenges are part of our being and/or environment. Everyone has them, from kings to beggars, babies to grandparents, males and females, organisations and individuals. In unprofessional, undiplomatic, unofficial or layman’s vocabulary, challenges are referred to as, and mean, “problems”, “obstacles” or sometimes “dangers”.⁹ However, not every challenge is a problem or a danger, because some challenges may be voluntarily created to achieve a desired goal that does not pose any problem or danger for us. In professional language, challenges may also refer to threats, weaknesses, opportunities that are difficult to seize, and the tasks required to overcome these threats, weaknesses and difficulties (Eertsema & Bolander Laksov, 2019; Eberhart et al., 2021; Horikoshi, 2023; Joshi, 2017).

6.4. Identification

After understanding what challenges are, the next step is to identify them. There are two main ways of identification: the process of collecting or acquiring information which defines or describes the challenge and helps us perceive it. These ways are:

1. *Exposure*: Directly experiencing or learning about the challenge from first-hand experience. An ache in the head or tooth tells you that you have a headache or toothache, respectively. An exploration company, for instance, looking for gold and finding only subeconomic intercepts for a decade, should know it is time they left and looked for another exploration or prospecting licence. Another example is when a Minister of Urban Planning and his team are driving through an urban slum, and they witness crime and messy streets. They do not need to be told by anyone that there is a need for police stations and proper sewage systems, in line with UN SDG 11, Indicators 11.1 and 11.1.1 and UN SDG 16, Indicator 16.a.¹⁰ Exposure may be incidental, coincidental, spontaneous or heuristic.

⁹ There can be many other terms in layman’s language but the main difference between them and the word “challenge” is that a “challenge” reflects a positive attitude and a readiness to face undesirable situations or difficult objectives. Thus, describing something as a challenge rather than a problem or danger implies that they should be expected in a professional or organizational setting and, therefore, they should or must be addressed.

¹⁰ Indicators: 11.1 By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums; 11.1.1 Proportion of urban population living in slums, informal settlements or inadequate housing; and 16.a. Strengthen relevant national institutions, including through international cooperation, for building capacity at all levels, in particular in developing countries, to prevent violence and combat terrorism and crime.

2. *Explanation:* Indirectly learning about a challenge from a third party. For example, an investor who learns through a consultant that there are no roads in an area where he wants to invest in an iron ore project. Another example is when the Managing Director of a state-owned enterprise is told by his/her accountant that the enterprise is falling short of its profit forecasts and running out of money. Yet another example is when an engineer in an urban planning ministry or department in Mexico City, Nairobi or Johannesburg, explains to his/her boss how sewage systems in an urban suburb should be built.

What we refer to as identification is similar to what Aguilar refers to as “scanning”, which he defines as “exposure to and perception of information”. He identifies four modes of the scanning process: undirected view – general exposure to information without specific reason; conditioned viewing or directed exposure – receiving information without actively searching for a clearly defined type of information; formal search – relatively limited or unstructured search for a specific information or reason; and deliberate search – seeking information with a plan, procedure or methodology, to collect specific information for a specific information or reason. He explained that the type of scanning is determined by the type, value, cost, availability, etc., of the information required, with his focus on strategic information. (Aguilar, 1967)

Challenges in general can be grouped into types or levels of difficulty or seriousness. Thus, some are what we refer to as “child’s play”, meaning they are simple to understand and deal with. Some (the second or medium level) are more than child’s play, but we can live with, or ignore, them. Others (the third and highest level of difficulty or seriousness) are the most urgent or complicated, and we cannot live with them because of the extent of their actual or potential negative impacts. Therefore, they require equally serious efforts to be dealt with. Among this third category or level of difficulty, some challenges can be destructive or even deadly. Examples are natural disasters (Tsunamis, hurricanes, etc.) and pandemics (Coronavirus, Ebola, etc.). Challenges at this level also require extremely high levels of understanding, abilities and resources required to deal with them. In the SMSF/SMST PESTLE Analysis, we explain that the extent of the measure or scale of the reaction to a challenge should be equal to the size of the challenge it is intended to address. If an oversized measure targets an undersized challenge, the measure becomes an overreaction, which can be destructive. On the other hand, if an undersized measure is designed to target an oversized challenge, the measure becomes an ineffective underreaction.

Next, we come to the categorisation and enumeration of challenges according to the PESTLE acronym. Categorisation provides groups, which enables you to put together the challenges from the same sources or that are considered to be similar to each other. Thus, the challenges are grouped together according to their similarities and separated according to their differences. Whatever the case may be, the decision of where to put a challenge depends on how clearly it fits in the definition of any of the six PESTLE categories below or where a decision-maker or team objectively believes it belongs.¹¹ Examples are shown in tabular form in the Materiality Analysis in Table 10.

6.4.1. Political In real-world settings, in this category we list all the political challenges that should or must be dealt with in order to achieve the present and/or future objectives of an organisation, such as a City Planning Department or any other institution in Burkina Faso, Angola or Thailand, for example.

6.4.2. Economic Here we list all the economic challenges that should or must be dealt with in order to achieve the present and/or future objectives of, for instance, a Ministry of Urban Planning in Brazil, Malaysia or Papua New Guinea.

6.4.3. Social Here we list all the social challenges that should or must be dealt with in order to achieve the present and/or future objectives of, for instance, a Municipality.

¹¹ Subjective decision-making is not encouraged in this process because of randomness which can hamper the management process. Therefore, if the decision-maker is not sure where to put a challenge the best thing is to ask for the opinion of his/her team.

6.4.4. Technological Here we list all the technological challenges that should or must be dealt with in order to achieve the present and/or future objectives of, for instance, a Department of Urban Lands in Haiti, Guyana or Myanmar.

6.4.5. Legal Here we list all the legal challenges that should or must be dealt with in order to achieve the present and/or future objectives. For example, a Department of Urban Crime or Urban Social Welfare in Colombia, the Central African Republic or Brazil, for example, in line with UN SDG 16, Indicator 16.a.

6.4.6. Environmental Here we list all the environmental challenges that should or must be dealt with in order to achieve the present and/or future objectives of any institution that is faced with the common environmental challenges, particularly in urban areas.

It can be seen from the above that when the SMSF/SMST is applied to any organisation, it can capture all of the major challenges simultaneously through the categorisation above. Urban Planning Ministries and Departments in the Global South, which aim to build preparedness, resilience and better conditions for liveability in urban areas, are only examples. Generally, the SMSF/SMST is suitable for the needs of any organization which seeks to pursue sustainability through a comprehensive approach.

6.5. Enumeration

Enumeration is the process of assigning numbers to challenges. Like pictures, numbers give greater precision and clarity than words. Unlike words, they are very clear because they are never ambiguous or ambivalent. A word may have a thousand meanings and synonyms, a number always has one meaning and one synonym. By enabling us to construct lists, enumeration provides clarity to challenges by helping us to group them according to specific criteria. The precision of numbers enables greater organisation and targeting. In Table 1 below, zero would mean the organisation/institution has no challenge, and infinity would mean it has endless challenges.

6.6. Identification and Tabulation

The identification of challenges is completed only when the challenges are known, categorised, and enumerated. To provide further clarification, they are now put into one of the simplest but most useful inventions of basic human thinking – tabulation. A table, like a picture, provides clarity through vision by summarising, organising, solidifying and providing precision to numbers, words and images. When challenges are tabulated in the SMSF/SMST PESTLE Analysis, they get closer to a portrait or photograph through structured visual imagery, which facilitates viewing, understanding and analysis. Numbers and tables combined constitute a formidable force in strategic thinking. For our purposes, tables are even more useful because the challenges do not have to be listed in any consecutive order.

Table 1. Listing challenges

POLITICAL	ECONOMIC	SOCIAL	TECHNOLOGICAL	LEGAL	ENVIRONMENTAL
# of challenges can range from 0 to “infinity” depending on the organisation/institution	0 to “infinity”	0 to “infinity”	0 to “infinity”	0 to “infinity”	0 to “infinity”

6.7. The Solutions

Now, we move to the stage of throwing the challenges into the mortar and pounding or crushing them with the *pestle/PESTLE*. In other words, we address the challenges through actions aimed at finding the right solutions which enable the institution to achieve its objectives. Broad examples are given below in the Materiality Analysis example for urban planners to deal with urbanisation. It is important to note that often we fail to successfully address our institutional and personal challenges or problems because we do not approach them

comprehensively. Through comprehensive categorisation, the SMSF/SMSF enables us to avoid such an incomplete or ad hoc approach, so that we do not end up with piecemeal solutions.

6.8. The Quartile Approach

Often, when we are faced with a challenge or a problem, we think that knowing the solution is enough, because it provides the answer we need to deal with the challenge or problem. No, knowing the solution is only part of the journey. First, we need to know what the challenge is, then the solution(s), followed by the action(s) required to execute the solution(s), and finally who is/are responsible – all with clarity. These four areas of activity are equally important and, therefore, we refer to them as constituting the “quartile approach”. (Tables 2-7).

Table 2. Category (Political)

Challenges	Solutions	Actions required	Responsibilities
Challenges are listed in this column: E.g. Unequal access to infrastructure	Solutions are identified here: More infrastructure in less privileged areas	Actions are designed here: Increasing the budget & greater say in decision-making by the less privileged	Responsibilities are assigned here: Ministry of Finance, Ministry of Regional Development, Regional Authority

Table 3. Category (Economic)

Challenges	Solutions	Actions required	Responsibilities
Challenges are listed here: Unemployment	Solutions are identified here: The right jobs in the right places!	Actions are designed here: Creation of labour-intensive industries in high youth unemployment zones	Responsibilities are assigned here: Ministry of Finance, Ministry of the Youth, State-owned enterprises & private industry associations & investors

Table 4. Category (Social)

Challenges	Solutions	Actions required	Responsibilities
Challenges are listed here: E.g. Crime	Solutions are identified here: More security for residents	Actions are designed here: More & well-trained police personnel	Responsibilities are assigned: Ministry of the Interior, Regional Authority

Table 5. Category (Technological)

Challenges	Solutions	Actions required	Responsibilities
Challenges are listed here, e.g., only diesel-powered generators in cities	Solutions are identified here: Renewable energy	Actions are designed here: Enlarge power grids, turning to solar, wind & other renewables & other measures of the Energy Transition	Responsibilities are assigned here: the Ministry of Finance, the Ministry of Energy, and the Ministry of the Environment

Table 6. Category (Legal)

Challenges	Solutions	Actions required	Responsibilities
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Challenges are listed here: E.g. Backlog of pending cases in the judiciary	Solutions are identified here: Efficient filing of cases & timely hearings	Actions are designed here: Better trained police force, enough judges, modernised judiciary	Responsibilities are assigned here: Ministry of Justice, Ministry of the Interior
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Table 7. Category (Environmental)

Challenges	Solutions	Actions required	Responsibilities
Challenges are listed here: e.g., pollution	Solutions are identified here: Set clear targets for clean air, restricting pollution	Actions are designed here: Environmental Impacts Assessments, monitoring & control	Responsibilities are assigned here: Ministry of the Environment, Factories, Environmental Agencies or organisations

7. Performance Square

As we have already shown when tracing its origins, PESTLE Analysis is a flexible tool right from its founding. The SMSF/SMST PESTLE takes full advantage of this by introducing additional scope and concepts. These include what we describe next as the “Performance Square”, four more columns as shown in Table 8 below. The Performance Square may be added to the Quartile Approach tables shown earlier, but then the analysis becomes somewhat cumbersome. Therefore, it is preferable to create the Square separately, as follows:

Table 8. Performance Square

Challenges	Measurements	Targets	Deadlines	Outputs
List challenges in this column	How do you measure them?	What are you aiming to achieve (“milestones”)?	When do you want to achieve them?	What is your ultimate evidence of success?

Measurement is the numeric representation of the challenge, stated with the precision of numbers as already explained. Targets narrow down or define the goals of the actions undertaken. The deadline is the date by which an organisation plans to complete the execution of the solution (s) or actions required to address the challenge (s). Deadlines give urgency to the targets by setting dates by which they must/should be achieved. Output refers to what the organisation can produce to concretely show that the challenge has been addressed.

8. Extensions

As pointed out earlier, two of the main features of the SMSF/SMST PESTLE are its flexibility and thus adaptability. To demonstrate: first, let us take resources (what or how much you have available to finance, fuel or energise your strategies, for example¹²). Resources are an essential requirement in any strategy or planning, generally. In fact, resources are embodied in Chandler (1962)'s influential definition: "Strategy is the determination of the basic long-term goals of an enterprise, and the adoption of courses of action and the allocation of *resources* (emphasis ours) necessary for carrying out these goals" (Chandler, 1962, p. 13).

If one wishes to explicitly show resources as a component of the Quartile approach, this can be done, and the Quartile Approach would now be referred to as the Quintuple or Quintile Approach, as shown in Table 9 below:

¹² Resources, like tools and instruments, may also be referred to simply as the means or instruments (Figure 8).

Table 9. Extended Categorisation with Resources¹³

Challenges	Solutions	Actions required	Resources	Responsibilities
Challenges are listed in this column	Solutions are identified here	Actions are designed here	Available are resources	Responsibilities are assigned here

Furthermore, the SMSF/SMST PESTLE categories can be expanded to include three others – demography, health and security. In the case that demography (which is and can be part of the Social) becomes a distinct category, the SMSF/SMST PESTLE becomes SMSF/SMST PESTLED or SMSF/SMST PESTLE-D (with D = demography). In the case that health becomes a distinct category, the SMSF/SMST PESTLE becomes SMSF/SMST PESTLEH or SMSF/SMST PESTLE-H (with H = health). If security becomes a distinct category, the SMSF/SMST PESTLE becomes the SMSF/SMST PESTLES or PESTLE-S (S = Security). All these categories are essential in providing better services for growing urban populations. Thus, by adding the demography column, more detailed information can be collected on urban settlement and resettlement patterns to match them with urban infrastructural and service needs. When a health column is added, more detailed information can be collected on the health sector in urban areas to know, for example, how many hospitals, clinics and doctors are needed and where. Finally, when a security column is added, more detailed information can be collected on violent hotspots to design security setups accordingly. The expansion of the PESTLE into one or more other categories depends on organisational needs and budgetary considerations.

9. Strategy Paper

After going through the challenges of an organisation with its managers and/or other representatives and completing the process of addressing them through the innovative framework of the SMSF/SMST PESTLE, we end up with an overall output for the organisation. This final output takes the form of a Strategy Paper for implementation, which is distributed to all relevant managers and supervisors. The paper is prepared by the organisation, with our advice if needed, and can be as detailed as the organisation wishes or can do. Our Strategy Paper is similar to, but not identical with, what Cory (2024) refers to as the “Strategic Plan” or “the document that houses the research, milestones, resource allocations, scenarios, and intended game plan of the executive team and board. It typically includes a more formal written summary of a high-level, long-range, adaptable, but targeted roadmap that describes how an organisation intends to simultaneously reduce internal weaknesses and exploit internal competencies to gain and sustain a competitive advantage within a dynamic market” (Cory, 2024). The contents of the Strategy Paper, like its length and detail, depend on the organisation concerned – an urban entity in our case at hand in this paper.

10. Materiality Analysis in Urban Planning

In Table 10, we give six examples of materiality in towns and cities, which can be disaggregated into many more components and fitted into the SMSF/SMST. They are all ranked highly as they are and must be standard priorities in any town or city that can afford them. For a Ministry of Local Government in India, Venezuela or Mauritius, for example, the SMSF/SMST PESTLE Analysis can be done for all the urban areas under it or for specific regions, towns or cities, separately. Materiality Analysis enables us to identify the most important factors affecting the organisation, which form the basis of the challenges or are critical to the existence of the organisation.

¹³ This extended table can be created for each of the six PESTLE categories as done earlier (i.e. Political, Economic, Technological, Legal or Environmental).

Table 10. Urban Materiality Analysis for the SMSF/SMST (Aggregated Common Examples, linked to relevant UN SDGs and Indicators) (Source: The authors.)

Topic	Description	Challenges	Importance (High/Low/medium)	Main SMSF/SMST Category
Health	Identify & address what needs to be done to meet the needs of urban populations through preventative & curative medical services	Creation of adequate curative & preventative services	High	Social/environmental
Wealth	Identify & address what needs to be done to meet the economic needs of urban populations (SDG 11)	How to create industries & jobs (Indicator 11.a.1)*	High	Economic
Crime	Identify & address what needs to be done to meet the safety & security needs of urban populations (SDG 16)	How to build adequate safety & security services (Indicator 16.a)*	High	Social/Legal
The Environment	Identify & address what needs to be done to create clean environments for urban populations	Provision of clean environmental laws & regulations (Indicators 11.6 & 11.7.2)*	High	Environmental
Spirituality	Address what needs to be done to meet the spiritual needs of urban populations	Where to build facilities for worshippers	High	Social
Slums	Identify the various consequences of slums and how to deal with them (SDG 11)*	Reduce the percentage of urban populations in slums (SDG 11, Indicator 11.1.1.)*	High	Social
Leisure	Identify & address what needs to be done to create recreational facilities for urban families	What & where to create outdoor recreational services	High	Social/Environmental

* 11.6: By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management; 11.7.2: Proportion of persons victim of physical or sexual harassment, by sex, age, disability status and place of occurrence, in the previous 12 months; and 11.a.1: Proportion of population living in cities that implement urban and regional development plans integrating population projections and resource needs, by size of city.

11. LIMITATIONS

Urbanisation poses major challenges for policymakers, planners and residents. The major issues are enumerated in this paper. They include crime, governance difficulties, fiscal constraints, environmental stress, and political economy constraints. The SMSF/SMST offers a very promising approach and Tool, which are already being successfully tried and tested, demonstrating that it is structurally comprehensive, procedurally focused and efficient, and substantively relevant in many contexts. Nevertheless, its capacity and effectiveness depend on the ability to understand its processes, develop the positive attitudes symbolised and essential in performance, the availability of resources to back the measures identified for addressing the changes, and the ability of planners and other users to implement inter-agency coordination in the multisectoral implementation process. Furthermore, because of its larger framework and several steps, the conventional PESTLE and SWOT Analysis (both of which have been discussed in this paper) are simpler, cheaper and easier to comprehend.

Further studies may consider focused case studies in the Global South. Such studies may involve a country, region, municipality, city or town. The studies can promote the academic appeal of the SMSF/SMST, in addition to its present practical focus in public and private institutions.

12. CONCLUDING REMARKS

In this introductory and illustrative paper, we have attempted to provide a brief illustrative demonstration of the SMSF/SMST and its potential for applications to urban planning. We have creatively integrated the symbolism of the pounding African village women with the *pestle* into a modern strategic management Framework and Tool, based on an expanded PESTLE Analysis. It has been explained that this symbolism and principles/values are intended to influence attitudes positively to inspire the user sitting in a comfortable office setting rather than a harsh village environment. This is the first time we are showing the relevance of the Framework or Tool to urban planning, one of the modern world's heaviest development loads (biggest challenges). Our practical applications in different actual organisational settings in the past have shed light on the utility of this innovative and comprehensive strategic management approach in the pursuit of comprehensive sustainability goals.

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Declarations

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