International Standards and Developing Jordan's Urban Environment

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September 2016

1. Foreword

Quality of life is a very old phrase. Aristotle (384–322 BC) wrote about "*The Good Life*" and "*Living Well*" and how public policy can nurture it. James Seth (1860–1925) wrote in 1889 in "*The Evolution of Morality*" about a moral end to which mankind can aspire: "*We must not regard the mere quantity, but also the quality of the 'life' which forms the moral end.*" Mayers wrote that "*a community quality of life is constructed of the shared characteristics residents experience in places (for example, air, water quality, traffic, or recreational opportunities), and the subjective evaluation residents make of these conditions*".

The concept of quality of life has been discussed by so many thinkers, but still its definition is controversial and multidimensional, including both wealth and well-being, and it varies from one person to another depending on many factors such as the level of education, income, culture, health, etc. The most common indicators for the measurement of quality of life are health and education.

Quality of life may mean different things to Ahmad a performer in Amman, Ali a baker in Irbid, Mohammad a shopkeeper in Zarqa, Khaled a doctor in Aqaba. It must be a function of all aspects of existence plus any other need that might be essential from their point of view.

2. Sustainable development

Ibn Khaldoun's (1332–1406) writing clearly implies *sustainable growth* as a limit to continuous development, divide of principles of justice, equity, culture, and socio-political interests. This, in turn, reduces the strain on natural resources and obsession with profit making. Mahatma Gandhi (1869–1948) says that "*what we are doing to the forests of the world is but a mirror reflection of what we are doing to ourselves and to one another*". In 1987, the Brundtland Commission brought the concept of ''*sustainable development*'' squarely into context by describing sustainability as ''*meeting the needs of the present without compromising the ability of future generations to meet their own needs*'' (Our Common Future), emphasizing that

sustainable development should ensure that environmental, social and economic quality are considered and sustained for an unforeseeable future.

3. Healthy cities

According to the WHO Healthy Cities Project, the following list shows the key features for a healthy city:

- A clean, safe, high-quality environment (including adequate and affordable housing) and a stable ecosystem.

- A strong, mutually supportive, and non-exploitative community.

- Much public participation in, and control over, the decisions affecting life, health, and well-being.

- The provision of basic needs (food, water, shelter, etc.) for all people.

- Access to a wide range of experiences and resources, with the possibility of multiple contacts, interaction, and communication.

- Adverse, vital and innovative economy.

- Encouragement for connections with the past, with the varied cultural and biological heritage, and with other groups and individuals.

- A city design that is compatible with and enhances the preceding features of behavior.

- An optimum level of appropriate public health and care services accessible to all.

- A high health status (both a high positive health status and a low disease status).

4. Urbanization

Globally, urban areas are home to around half the world's population and generate around 80 per cent of global Gross Domestic Product (GDP). They are responsible for around 70 per cent of global energy consumption and energy-related greenhouse gas emissions. The United Nations Population Fund (UNFPA) predicts that by 2030, five billion of the world's population will be living in urban areas. Much of this urbanization (both voluntary and refugee) will unfold in developing countries, bringing potentially cataclysmic social, economic and environmental upheavals.

5. Jordan – figures and facts

Jordan is very limited in natural resources. With an average consumption of water of 90 l per capita per day, Jordan is the second most water-stressed country in the world. It is classified as arid with an annual rainfall of less than 200 mm over 90 per cent of the land, and it imports more than 97 per cent of its energy.

Jordan is located in the middle of a crucial spot in the Middle East. Due to the current critical political circumstances, Jordan hosted hundreds of thousands of Iraqis and Palestinians, displaced by the Gulf Wars of 1991 and 2003–2011, and is now facing a Syrian refugee crisis of considerable proportions. Jordan's population has increased by nearly 87 per cent over a decade, with the number of residents in the capital more than doubling. The last report released by the Department of Statistics (DoS) on the National Population and Housing Census, carried out by the Department in late 2015, showed that Jordan's population in 2004 was 5.1 million and increased by 4.4 million to reach 9.5 million in 2015. The largest increase in population was in 2011 because of the rise of refugees to Jordan. Now, the non-Jordanians who reside in Jordan are around 2.9 million, representing 30.6 per cent of the overall population. Of the total non-Jordanian population, 1.265 million are Syrians. Over 80 per cent of these refugees live in the urban areas of Jordan's border governorates and in the capital Amman rather than in camps. The presence of refugees in urban areas makes it more likely that they will compete, or at least be seen as a competing, with locals for resources and opportunities. This will directly influence the quality of life of the inhabitants and causes major challenges to the sustainable existence of such urban areas. The impact of the population increase in Jordan puts a lot of demand on infrastructure, resulting in the degradation of natural resources and high costs of delivery services.

Two-thirds of Syrian families in urban areas are living below the absolute poverty line. Many are struggling, more are now in debt, and their aid grants are never enough to fully cover their living costs. This puts a huge strain on Jordan.

Municipalities lack sufficient capacity and funding to deliver and maintain essential services for the tens of thousands of new residents, the arrival of whom has created the need to build new roads, expand the electricity infrastructure and collect much more waste. The quality and availability of education and healthcare have declined as overburdened facilities have struggled to cope with the significant increase in numbers of students and patients.

Jordan's unemployment rate has increased from 14.5 per cent in 2011 to 22.1 per cent in 2014, leading to a defect in morals and behavior values and this requires additional efforts to sustain security and fight to overcome this behavior and its negative results.

It does not look like refugees will be able to return to Syria any time soon, no matter how hard life in Jordan becomes. The majority of Syrian refugees are likely to stay in Jordan until Syria is on the path to recovery from war.

After all this, is there any hope for Jordan? How will Jordan maintain its sustainability of resources and quality of life? How can International Standards help develop Jordan's urban environment?

6. **Examples of initiatives and programs in Jordan to develop urban environments**

1- Jordan's Green Buildings Guide, issued in 2103 by the Ministry of Public Works and Housing (MPWH) in cooperation with all concerned entities, including the Jordan Standards and Metrology Organization (JSMO). Appling this guide to buildings in Jordan will give them financial incentives and tax exemptions. The guide has six main topics: energy efficiency; water efficiency; indoor air quality; sustainable sites; materials and resources; and green buildings management.

2- A technical committee in JSMO was created to issue and publish Jordanian standards regarding environmentally friendly construction products.

3- "Jordan 2025", the ten-year blueprint for economic and social development, charts a path for the future and determines the integrated economic and social framework that will govern the economic and social policies based on providing opportunities for all.

4- An initiative "Toward Green AMMAN 2020" is being held by a group of private-sector architectural engineers, who are working in cooperation with the public and private sectors to raise awareness of the importance of green buildings and spaces and to make them socially responsible for greening the urban areas in Jordan.

7. The need for standards

Maslow's (1908–1970) hierarchy of needs is represented as a pyramid with the most important and most basic needs at the bottom. Physiological needs are physical requirements for human survival, i.e. air, water, food, etc. Once a person's physical needs are relatively satisfied, their safety needs take precedence. In the absence of physical safety due to war, natural disaster, family violence, etc., or in the absence of economic safety due to economic crisis and unemployment, the individual faces too many difficulties and will feel the lack of his importance. Hence the importance of governments to maintain his needs.

Figure 1- Maslow's hierarchy of needs
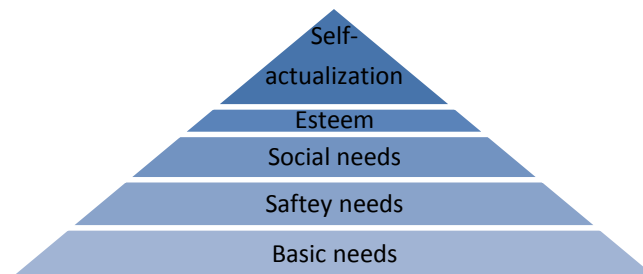
When the term "need" is used, the first thing that comes to mind is "requirement" and this is where "standards" come in. So in general, if we want to protect individual needs, we have to have standardized requirements for the environment that surrounds us. This includes education, health, safety, transportation, resources, food, governance, security, etc.

Also, with all the above-mentioned problems facing urban areas in Jordan, we desperately need a unified method to assess our current situation, plan for the future, and then pick the best solution for our problems based on a standardized solution for measuring our progress in order to get to

our goal. And the best way to do so is not by reinventing the wheel, but by learning from the best global practices and by adopting global-based International Standards.

According to Maslow's hierarchy of needs, ISO standards can generally be divided into two main groups: basic needs (physiological needs) and safety needs, as shown in the Figure 2.

Figure 2- ISO standards and Maslow's hierarchy of needs
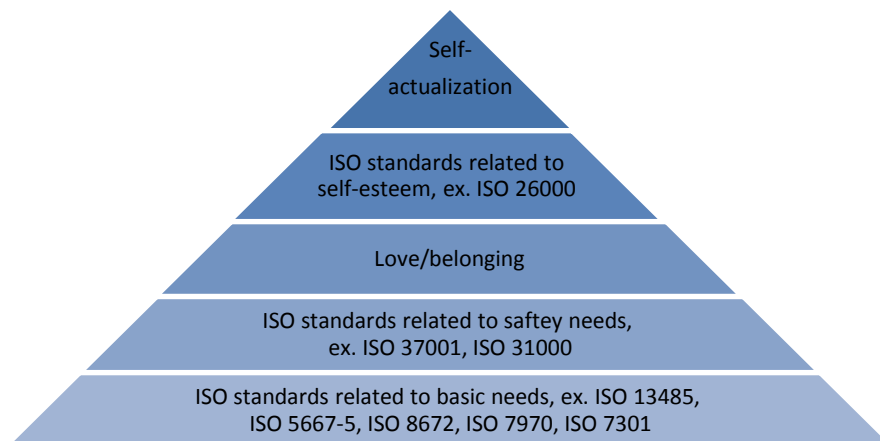
8. ISO standards and Jordan

Jordan is committed to making its cities healthy, green, sustainable and well-governed, and to improve citizens' quality of life, now and for the next generations.

Adopting International Standards guarantees the fulfillment of the above-mentioned commitment. The Jordan Standards and Metrology Organization (JSMO) made it its first priority to adopt International Standards as Jordanian Standards; JSMO has adopted 747 ISO standards as Jordanian Standards and JSMO is a P-member in 21 ISO technical committees and an O-member in seven technical committees. Below are some examples of how Jordan's national strategy for urban areas and ISO standards are compatible.

8.1 Healthy cities

The basic need for quality of life is to have clean and safe water to drink, clean air to breathe and a proper system for disposal of waste.

8.1.1 Water. Cities must regularly monitor the quality of water delivered. ISO has published standards on the quality of water under the scope of ISO/TC 147, *Water quality*, and ISO/TC 282, *Water reuse*.

8.1.2 Air. Cleaning and monitoring city air is essential to Jordan. ISO, through ISO/TC 146, has published many standards regarding air quality (for example, indoor air quality, emissions of stationary sources, etc.).

8.1.3 Waste. As mentioned previously, due to the rapid increase in Jordan's population, the amount of waste has increased significantly. The management and disposal of this waste is a major challenge to our cities. ISO has tackled this issue through its series of environmental management standards developed by ISO/TC 207, *Environmental management*, and has recently established technical committees ISO/TC 297, *Waste management, recycling and road operation service*, and ISO/TC 305, *Sustainable non-sewered sanitation systems*.

8.2 Green and sustainable cities

Jordan has realized the importance of having green spaces and quiet places for improving the quality of life in urban environments.

8.2.1 Green buildings, areas and mobility. Becoming a green city will reflect on individual health and happiness. ISO has published many standards related to this subject through ISO technical committees ISO/TC 163, *Thermal performance and energy use in the built environment*, ISO/TC 205, *Building environment design*, ISO/TC 207, *Environmental management*, ISO/TC 204, *Intelligent transport systems*, and ISO/TC 268, *Sustainable cities and communities*. ISO has also published a set of indicators for city services and quality of life in ISO 37120, and has many other ISO standards in progress (for examples, ISO/AWI 21566, *Sustainable development in communities – Descriptive framework for cities and communities*, ISO/PRF 37101, *Sustainable development in communities – Management system for sustainable development – Requirements with guidance for use*, etc.).

8.2.2 Quiet places. Noise is the No 1 reason for stress in cities. Transportation, construction and manufacturing are the main reasons for the increase of noise in cities. ISO has published standards to control and measure the noise through its technical committee ISO/TC 43, *Acoustics*.

8.2.3 Sustainability. Jordan encourages the use of green buildings to achieve the ultimate goal of sustainability.

8.2.3.1 Sustainability of land. Sustainability of land is maintained by having the right balance between the need for urban and rural lands without affecting the quality of the soil, which is covered by ISO/TC 190, *Soil quality*.

8.2.3.2 Sustainability of resources. The increased demand on resources must be monitored and controlled. ISO has developed a wide range of standards on all types of natural resources to encourage and control their use, through its technical committees ISO/TC 255, *Biogas*, ISO/TC 180, *Solar energy*, ISO/TC 238, *Solid biofuels*, and ISO/TC 282, *Water reuse*. And ISO/TC 207, *Environmental management*, with standards such as ISO 14046, *Environmental management – Water footprint – Principles, requirements and guidelines*, will help encourage the reduction of water usage.

8.2.3.3 Sustainability of energy. Controlling the use of energy will lead to energy sustainability. ISO has studied and published a wide range of energy management standards though ISO/TC 242, *Energy management*, and ISO/TC 257, *Evaluation of energy savings*, and has recently established ISO/TC 301 to work on energy management and energy saving.

8.2.3.4 Climate change. Fighting climate change through cities will also bring benefits beyond city borders. ISO has published standards to achieve this goal though ISO/TC 207, *Environmental management* (such as ISO 14064-1, *Greenhouse gases – Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals*, and ISO 14067, *Greenhouse gases – Carbon footprint of products – Requirements and guidelines for quantification and communication*, etc.) and ISO/TC 242, *Energy management* (such as ISO 50001, *Energy management systems – Requirements with guidance for use*).

8.3 Good governance and management

The commitment of leadership in improving the quality of life for individuals is essential to achieving this goal and will help to ensure the sustainability and monitoring of the systems we create.

ISO has published many valuable standards dealing with this matter through its technical committees ISO/TC 207, *Environmental management* (such as ISO 14001, *Environmental management systems – Requirements with guidance for use*), ISO/TC 242, *Energy management* (such as ISO 50001, *Energy management systems – Requirements with guidance for use*), and ISO/TC 176, *Quality management and quality assurance* (such as ISO 9001, *Quality management systems – Requirements*).

Where social responsibility also has a vital role in the synergy efforts of government and community, ISO has published ISO 26000, *Guidance on social responsibility*. ISO also tries to solve any defect in morals and behavior values in communities that might occur due to the increase in demand and the inability of governments to meet these demands, through establishing new technical committees such as ISO/PC 277, *Sustainable procurement*, and ISO/PC 278, *Anti-bribery management systems*.

9. Recommendations

- International Standards are now the key solution to the problems regarding urban environment, in developing countries in general and in Jordan in particular.

- A gap analysis for International Standards should be done to standardize and cover all aspects of urban environment. For example, there should be more focus on a green economy, green building products, green infrastructure systems, and cleaner production.

- The interaction between individuals, businesses and services (whether public or private) in Jordan's urban areas is facing big pressure now due to the limited resources and the rapid increase in population. Such challenges can be minimized through:

- Maintaining existing natural resources and finding solutions to stop the resources depletion by moving toward sustainable infrastructure and sustainable management and governance.

- Improving the quality of life of individuals.

- Moving toward the environmentally friendly industries, services and businesses.

- Encouraging cities' good governance and accountability.

- Improving the services of infrastructure and moving toward a *smart cities* concept.

- Increasing the concept of social responsibility in individuals and organizations.

- Eliminating the technical barriers to trade.

- Engaging the private sector in decision making.

- Achieving the security of individuals, the security of energy and the security of information.

10. Conclusion

So, while quality of life may mean different things to Ahmad a performer in Amman, Ali a baker in Irbid, Mohammad a shopkeeper in Zarqa, Khaled a doctor in Aqaba, ISO standards help to keep them all in a good quality of life by unifying and establishing the minimum requirements for their lives, each in his place.

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