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Social Innovations Shaping North Africa's Future-Reflection and Synthesis

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Abstract

To better understand the trends shaping the future of the Middle East and North Africa (MENA) region, the Futures Research methodology of Environmental Scanning was deployed. This basically involves scanning both published and unpublished literature to identify key trends. Then a deep dive on the identified trends through further reviews of materials including research papers, news items, blogs etc. and interviews with experts in the area. Data was then analyzed and synthesized to produce trends monitoring reports and policy briefs over the course of one year. The trends synthesized to identify megatrends and potential impacts, as well as potential innovations being used to mitigate key challenges and take advantage of emerging opportunities.

The four key themes/trends identified were: Securing Wheat Availability for North Africa; The Future of Millennials in North Africa; Managing Water Scarcity in North Africa; and Future of North Africa's Slums. While these trends were found to pose serious concerns for the future of the region, there were many innovations and policy options identified that have potential to mitigate the impacts. Public-private partnership was found to be a key way forward in further scaling the innovations identified. Therefore, inclusive business approaches are key to a better future and policies to encourage such practices are needed. Our research also identified important innovations in the area of policy e.g. providing loans and subsidies to urban users so that they can retrofit home appliance to better conserve water. The key message is that the future of the region will depend on understanding key drivers of the future, catalyzing innovations to address future challenges and opportunities, and also mobilizing private sector in more cooperative public-private ventures. Trends and potential innovations identified provide both governments and development partners with points of leverage in shaping a better future for the region.

Keywords: Millennials, North Africa, Arab Spring.

Introduction

The Arab Spring made it clear that the Middle East and North Africa (MENA) is moving to new trajectory that looks tumultuous, given the several challenges spawned by the rapid changes occurring. However, the perturbations we see at the surface may not tell us much about the future of the region. What is needed is delving deeper to grasp what the underlying drivers are, the likely trajectory, and what they mean for the future.

This is not to say that we can predict the future if we only know the drivers, however, we can paint scenarios of the future. More importantly we want to identify potential leverages that can help move to a better future. So part of the futures exercise is understanding how various stakeholders are addressing or taking advantage of challenges and opportunities being spawned. It also involves highlighting potential innovations, the scope for scaling them, and determining the missing innovations needed to direct the future to a more desirable trajectory. This is obviously the mandate of the policy makers (or leaders), where future studies are ultimately aimed at helping policy makers craft better policies to allow innovations to emerge, and to scale human response to challenges and opportunities.

Future methodology provides a window to understanding what is driving change and what leverage we have in shaping the future. This paper uses data gathered from one year of monitoring trends to identify the key drivers and more importantly key innovations that are helping shape the future of the region. Section 2 gives a literature review of futures studies and their application, section 3 discusses the methodologies used, section 4 discusses the results and emerging insights and section 5 concludes.

Overview of Futures Studies and their Applications - A Literature Review

Futurology, Futuristics, Futurism, Strategic foresight and Futures Studies are all terms that are commonly used interchangeably to describe the science of studying the possible, probable and potential futures. The founding father of futures studies is known to many as Herbert George Wells in his 1901 book "Anticipations of the Reaction of Mechanical and Scientific Progress Upon Human Life and Thought: An Experiment in Prophecy" (Wells, 2006), in which he predicted the way the world would be like in 2000.

It was not until the mid-sixties that futures studies developed into an academic discipline, with first generation futurists including Herman Kahn, Bertrand de Jouvene, and Edward Cornish. According to many experts in the field, the term 'futurology' was first introduced by Ossip Flechteim in his 1966 book "History and Futurology" (Flechteim, 1966). The term was later adopted by many, although Finnish Pentti Malaska provided one of the strongest defense for the term, where he acknowledged that futurology describes "what futures knowledge is all about – not only epistemologically, i.e. how to acquire knowledge of the future with different techniques for this or that pragmatic purpose (as done in foresight), but especially ontologically, i.e. what the knowledge of the future may mean, in what sense it is possible (and impossible) to know the future, and in what sense futures knowledge can be accounted as a proper scientific field of inquiry, parallel with the other scientific fields of knowledge (physics, chemistry, biology, sociology, psychology, anthropology, history, humanities, etc.) (Sardar, 2016)"

Foresight can be defined as a systematic, participatory process involving future intelligence gathering and medium-to-long-term vision-building, with the aim of informing present day decisions and mobilizing joint actions. It can hence actively contribute to improving anticipatory intelligence and an increased awareness of knowledge resources and strategic orientations of the actors that participated in the foresight activities (EU, 2002). A broad range of analytical & participatory methods can be employed in futures research, ranging from desktop research, expert

groups, stakeholder involvement to interactive brainstorming processes or broad participatory arrangements.

The importance of foresight stems from the significance of understanding that today's decisions form and shape the societies of tomorrow, and hence looking into the possibility of different futures, provides opportunity of shaping our futures, since it can serve as a useful policy tool to address different societal challenges, and also to raise awareness and create consensus around promising ways to exploit the opportunities and diminish the risks associated with new developments.

Participative, transparent, forward-looking methods are needed when decision-makers are trying to find solutions for the above challenges. Foresight can make a unique strategic contribution to social actors' forward thinking and develop adaptability and readiness for change. The process of foresight involves multiple actors with diversified backgrounds, where participants can include: policy actors, experts from science, companies, managers from SMEs, as well as large and multinational enterprises, citizens, as individuals or NGO-drivers.

Foresight facilitates collective intelligence by allowing the discussion of alternative options, bringing together different communities and stakeholders with their complementary knowledge and experience, and promote a common understanding of issues and sometimes shared visions about the future. It might even go so far as to establishing joint agendas for action. Foresight activities are an important vehicle in prompting broad social debates, based upon expert inputs and mobilizing broad sections of all stakeholders to give collective thought on priorities and actions. Bringing together experts with people from different disciplinary and sectoral backgrounds makes it possible to impact policy-making and even change the perceptions and beliefs of the participants (EU, 2002).

Methodology

A wide range of foresight methodologies can be used in futures research, these include Scenario building, Delphi, Futures Wheel, Technology Road Mapping, Trend Analysis, Cross Impact analysis and many others. However, due to the nature of our research, the futures research methodology of Environmental Scanning was deployed.

Key sources of information used, included published and unpublished (grey literature) research, news items, blogs to identify broad themes. Then a deep dive (more detailed and directed search and analysis) on the identified trends through further reviews of materials (research papers, news items, blogs etc.). Research was supplemented by interviews with experts to get deeper insights

The objective of the scan was to identify key trends and potential impacts and also potential innovations being used to mitigate key challenges and also take advantage of emerging opportunities.

The countries that were monitored and the key data sources are shown in Table (1) below.

Table 1. Key Data Sources Used in the FSF Newsletters

	Newsletter	Key data sources	Key informants interviewed (Yes/No)
1	Securing Wheat Availability: What Prospects for North Africa?	High: Research Papers and Journals (National Academies Press, Oxford Business Group) High: International Reports (FAO, World Bank, UNECA) High: Websites (CIGAR, Agricultural Research Center) Low: Newspapers	Yes: Dr. Hammou Laamrani- Water and Climate Change Expert, League of Arab States
2	The Future of Millennials in North Africa	High: Websites High: Research Papers and Journals High: International Reports (UN Program on Youth, UNESCO, UNDP) Low: Newspapers	Yes: Dr. Nadine Sika- Assistant Professor Department of Political Science, American University in Cairo (AUC)
3	Managing Water Scarcity in North Africa	High: Research Papers and Journals (Science Direct, Bloomberg) High: International Reports (World Bank, UN, IWRA) Medium: Websites	Yes: Dr. Diaa El Din El Quosy- Water Specialist (Egypt) Dr. Mahmoud Al Azzazy - Agricultural Expert (Egypt) Dr. Jauad El Kharraz - Water Specialist (Morocco)
4	Future of North Africa's Slums: "Slums of Hope" or "Slums of Despair"?	High: Research Papers High: International Reports (UN Habitat, WHO) Medium: Websites Medium: Newspapers	Dr. Khaled Abdelhalim – Assistant Professor of Urban Policy- AUC

There was a choice between two approaches; a directed scan versus a general scan. A directed scan focuses on a theme and goes deeply into the issue, while a general scan approach collects a huge amount of data on a range of topics. Both approaches are important. Choosing one implies trade-offs. An in-depth approach allows one to deeply understand drivers and thus one can identify potential leverages to effect the future through policy or otherwise. However, the in-depth approach can miss drivers that are not seen as important now but could become significant in the future, the so-called wildcards or weak signals. A breadth approach can catch many signals but not enough insights. In general, a balance is needed and this is the approach that was adopted.

Every quarter, initial scanning undertaken during the first two months was fairly general, and in the third month a deep dive was done on the trend that was seen as warranting deeper attention. The data was then analyzed and synthesized to produce trends monitoring bulletins.

Bi-annually roundtable discussions took place where experts were invited to discuss the emerging issues from the monitoring exercise and provide new insights. The details of two roundtables are shown in Table (2) below.

Table 2. Two Roundtables Held by FSF During 2015

Roundtable	Representation		Sector
	Expertise	Regions	
Amman, Jordan (May 16 -17, 2015)	Communications, Research and Policy Advise, Lecturer, Professor, Water and Climate Change, Polling.	Kenya, Ghana, South Africa, Libya, Sudan, France, Egypt, Morocco, Tunisia, Jordan	Government Academia International Organizations Private Sector NGOs
Rabat, Morocco (Dec 4 -5, 2015)	Research Analysis, Intelligence and Governance, Policy Advice, Strategic Studies, Water, Academia, Energy, Innovation.	UAE, Morocco, Senegal, Cote d'Ivoire, South Africa, Egypt, France, Ghana, Tunisia, Jordan, Germany	Government Academia International Organizations Private Sector NGOs

Results and Insights (Synthesis)

While there were many trends identified, the four key themes/trends identified as critical to the future of the region and thus warranting a deep dive were: (i) Securing Wheat Availability for North Africa; (ii)The Future of Millennials in North Africa; (iii) Managing Water Security in North Africa; and (iv) Future of North Africa's Slums. These key issues that were captured in the newsletters are summarized below:

Issue 1: Securing Wheat Availability for North Africa (NAH 2015a)

- Moving towards the cultivation of "new wheats" in North Africa, such as millets, sorghum and quinoa, which can grow under dry and harsh conditions with minimal water. They are also a move towards healthier "wheat-free" products that are gaining momentum in the region (WGC, nd).
- High wheat import dependency among NA countries and the high risk vulnerability lead to the emergence of new trends such as stockpiling to secure physical grain availability and to mitigate price volatility. The building of grain storages is still overcrowded by the government sector due to hidden costs, but there are signs that the private sector will start to take a bigger role in this area. Bringing private sector not only improves supply but also allows government and private sector resources to be leveraged through a Public-Private Partnership (PPP).
- Trends to improve logistics that enhance grain transportation from global to local consumers in the region, with a country like Tunisia demonstrating logistic excellence that promote its potential as a future regional wheat import hub (WB and FAO, 2012).
- North African countries have opted for a two pronged approach, as they seek to use off shoring as a way to secure their food supply. They are investing in farm land in neighboring African countries, and at the same time inviting investors to cultivate in their countries. Trends differed among countries, with Egypt opting for both investing in and receiving investment in land, Libya totally depending on offshore investments, Algeria reforming its laws to allow private leasing of agricultural land, and Morocco launching agricultural lands for leasing to foreign countries (GBA, 2008).
- The abundance of land in Sub-Saharan Africa, but its lack of expertise and technological

utility provides huge potential for cooperation between "resource poor and expertise rich" countries of North Africa with "resource rich and expertise poor" countries of SSA in off shoring opportunities.

Issue 2: The Future of Millennials in North Africa (NAH 2015b)

- The millennials use of social media plays a role in undermining the old order, where the facilitation of political organization and mobilization means that these youngsters will have a significant role in shaping political discourse in the years ahead (Ibrahim 2008).
- The potential of millennial use of the internet in a globalized world, and risks for radicalization of this youth by Extremist Islamists.
- The birth of a renewed spirit for social activism among millennials represents signs of the formation of a new society, with growing rates of volunteerism constituting a new significant social force.
- Growing desire among millennials to immigrate to countries with bigger economic prospects, which could mean more remittances, but also a drain of the region's social capital and innovative skills.
- The abundance of entrepreneurial talent and social enterprise among youth in NA indicates a boom in innovative initiatives to the countries' most pressing issues, and a means of creating employment for many of the young populations.
- There is a growing trend for the emergence of global and regional education and innovation hubs, which might reverse brain drain and attract back some of the region's brightest minds.
- Millennials with their tech savviness, their strong networking skills honed by social media and strong entrepreneurial bend are more likely to create their jobs in the future.
- The MENA millennials are slowly creating a new narrative in the region though music, theatre and literature. Music is increasingly being used to protest against autocratic practices in the region.

Issue 3: Managing Water Security in North Africa (NAH 2015c)

Key driving force behind increasing demand for water is the demographic trend of rapid population increase. While demand is rising, the supply of water is also being challenged by decreasing precipitation, and deteriorating water quality.

- Innovative technology has a strong role to play in the water and wastewater industry going forward by increasing water supply. This includes better management of water supply using analytics, recycling, and desalination. There is generally a lack of know-how and institutional "strength", particularly in the area of integrated water resource management (IWRM), and this has limited the success of water resource management initiatives. Some actions can help improve the climate for reform such as promoting education about the multi-sectoral aspects of water management, with a particular focus on the region's water challenges, and investing in data collection and tailoring of that data to the needs of policy makers in various sectors.
- Private financing has become a powerful driver in the increasing construction of desalination plants.
- Some of the innovative options available for the region include involving communities in adopting new strategies, which can increase the acceptance of new water systems, and increasing cooperation and integration with national, regional and international institutions to help develop innovations in irrigation methods employed in North African countries.
- Pricing water in NA might not only be publicly opposed but will also raise questions on the idea of tradability of water. The deteriorating water conditions in NA countries and current

long term strategies of water resource management in the region all show a clear trend of NA countries to price their water resources (particularly irrigation water) in the near future, and possibly gradually on the long term. Improved water pricing is necessary to indicate rising water scarcity and its value, and is expected to force water towards high-value uses, encourage investment and improve water services.

- Agricultural growth is the mainstay of most North African economies and many have a quest to achieve self-sufficiency in food. Engaging in virtual water trade will become a common practice for countries in the region. The prospects of a better utilization of water among the five NA countries if a fair virtual water trade is applied, is extremely promising. The only missing factor is a strong political will, as all other technical, social and economic factors are available.

- Innovation technology labs and platforms are emerging in the region and have started addressing the challenge of water.

Issue 4: Future of North Africa's Slums (NAH 2015d)

- Private responses to the growth of slum areas in NA countries for the rich has been a growing trend of moving out to super-elitist, new peri-urban purpose-built cities, and an increasing number of gated communities who have chosen to quarantine themselves of malfunctioning municipal services and infrastructure. These then become "islands of prosperity in a seas of despair".,

- City planners are at a disconnect with the reality and trends in urban development, so urban informality continues unabated a clear message that the sterile Modernist city is being rejected by the urban dwellers as neither affordable nor the social habitat of choice.

- The debate is increasingly moving towards accepting the permanence of informality and looking for ways in which the marginalized can be involved in decisions affecting their lives and also seeking to improve their access to services.

- Politically, slums can be an important source of votes, therefore political manipulation of slum dwellers in NA is a problem expected to grow in the future. It is clear that slum vote is going to be heavily contested and with proper organization slum dwellers have the opportunity to have a powerful voice that can advocate their interests. This will require civil societies to put more emphasis on organizing slum dwellers and providing them with data and tools for them to engage effectively with the political forces and hold politicians accountable.

- Connectivity is key. Slum dwellers need to be connected to new opportunities and work places. Some innovations that have potential in NA include the establishment of online platforms to connect informal laborers with potential employers.

- Innovation in financing slum improvement programs is key to improving slum conditions in NA. The partnerships set up under these programmes undoubtedly help to re-energies the production of social housing, and structure the private sector.

- Slums attract the most ambitious and the most tenacious of the city's new entrants. Hence, slums team up with energy and enterprise. Despite the many challenges, many people make a living in these slums either as service providers for the formal city or as business operating to endogenously provide for the slums. Most slum dwellers in NA are in low-paying, informal jobs.

- Most of the urban slum areas represent economic clusters in a specific activity, or a range of related economic activities. Slum economies are comprised of slum-based businesses and workers and the complex network of economic actors and institutions that participate in and enable this economic activity. They play a critical role in fulfilling slum dwellers' livelihoods and consumption needs, while also making important contributions to the

growing urban economies. Slums are thus places of opportunities, and once there, fortunes of slum dwellers can be very diverse. Thus even though most slum dwellers work in the informal economy, it is not unusual for them to have incomes that exceed the earnings of formal sector employees.

- Beyond shelter, slums provide means to access jobs and also provide a network of relations that improve resilience of its members. Relocating slums to new satellite towns moves people to locations far away from where their service are needed and more importantly shreds significant social capital that slum dwellers have accumulated as they have created new relationships. The importance of networks, social cohesion and human intimacy should not be underestimated as vital elements of social capital that develop in slums, despite the squalor, extreme lack of privacy and non-existent services.

- Local government and other public-sector bodies should adopt a more supportive role towards the informal sector, either in their own direct work or when contracting to the private sector. While slum economies are already interfacing with the formal city economy through the many services and goods that are exchanged between them more formal arrangements can unleashes better synergies between the two.

- Informal slum economies need to be directly integrated into city planning priorities and become a widely acceptable vision for urban development. For this situation to crystallize, there needs to be a political change in the vision and orientation away from the non-inclusive pursuit of "world class cities" to the realization of the vast potential existing in the current areas. Also, allowing the private sector to lead slum engagement initiatives which puts pressure on urban planners to accommodate and support slum economies.

- Realizing change in the current situation will require effort from slum-based workers and businesses to organize themselves better in a manner that enables them to have a voice in municipal decision making. Shared and open data will be key in fostering cooperation and emerging slum data systems point to an important innovation in giving greater voice and accountability.

- The issue of gentrification was raised as a crucial issue in all slum upgrading and prevention programmes in NA.

- Do-it-yourself (DIY) approaches can tap into local communities' capacity to self-organize. Encouraging data ownership by communities and strengthening coping mechanisms and individual and household incentives align with community actions to implement holistic, sustainable community solutions. Using crowdsourcing and open data, especially mapping data, to inform community design activities can bridge these gaps and empower households and local communities to integrate a wider set of resilience measures into daily lives, budgets, and decision making.

- There is a need to give voice and visibility necessary for women to report their experiences. Slums are inhabited and managed by women, who represent two thirds of the slum population. In general, it is women who face the daily management issues (water, sanitation, health centers) for the latter, all is far, everything is expensive, and everything is inaccessible.

- Opportunities that allow slum upgrading include, among other things, considering cities as engines of sustainable development, to test and promote leaders and strengthen democracy, to boost construction jobs, and ultimately to empower the poor. The poor inhabitants should be at the center of development, which means that governments must not only consult slum households, but empower them to be active agents of change in the formulation of policies, programs and implementation.

Synthesis of Emerging Drivers

The two key drivers of themes are really demographic shifts, rapid population growth coupled with rapid urbanization. Rapid population growth has not only increased demand for food (and thus water) but more importantly also spawned a veritable segment of young people born between mid 1980's and 2000, otherwise referred to as millennials who were starting to change the society in a very significant way with the "Arab Spring" being the calling card. Rapid urbanization has also meant increased demand for water and also rapid shift in diets that has seen wheat demand rise, and as result the region became more and more dependent on very volatile global commodities markets. At the same time lack of economic opportunities has seen the rise of mega-slums in the wake of urbanization and also rise of informal sector as people seek way to make end meet.

This is indeed a potent mix and the Arab Spring revolution that toppled the old order is a testimony to this. It was largely unemployed millennials living in city slums and "bread and freedom" were their rallying cry. This has also not been lost on forces competing to shape the region future and extremists have been quick to reach out and recruit from among this group. On the surface the confluence of these forces means chaos especially in the aftermath of a stillborn revolution as millennials were really too young to take care of the baby they gave birth to. While food insecurity continues to haunt and the region and Egypt has openly mused about bombing the dams Ethiopia is building upstream of the Nile.

However, the future could be very different. Indeed, our synthesis of the trends identified 4 mega trends that have potential to mitigate the impacts.

1. Millennial preparing for the future leadership

The millennials are using the zeal and energy that saw them topple the old order to change their society tapping into their innovative energies and sense of social justice. They are volunteering and are also developing social enterprises and in the process building critical skills in solving problem, leadership and also creating veritable networks that make them ready for leadership.

Promoting social entrepreneurship and volunteerism business models are key to tapping the millennials energy and drive while rethinking planning where the informal and the formal live side by side can build more resilient cities.

2. Rethinking of concept of food security

There is a growing realization that food self-sufficiency is more that growing more food but thinking the issue in broader terms of infrastructure, water use, trade and regional cooperation. Trying to achieve self-sufficiency is not efficient and indeed unaffordable in the long run.

- Countries like Morocco are now shifting toward growing and exporting high value food and that consume little water like olives and import low value food like grains. In essence this is virtual water trade.
- It is also becoming apparent that perhaps a better way to increase security and food supply is countries in NA work together Sub Sahara Africa (SSA) to transfer irrigation know how and in turn get food from the irrigated land under a cooperation framework that guarantees food security for all.
- Diet shift will also need to be part of the solution. For instance, moving back to traditional grains of sorghum and millet can reduce reliance on wheat

3. New Voices, New Space shaping The Society

New voices led by millennial rappers are emerging and challenging society. Rappers are speaking to social injustice; Women rappers are also challenging gender discrimination. Rappers are challenging extremists in a more powerful way than airstrikes can ever. Rappers are raising awareness on the environment and use of Nile water. New spaces are also being created for new voices:

- In Morocco L'abattoir is creating a space where culture is being created.

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Innovation hubs e.g. Tahrir2 in Egypt are springing everywhere proving space for innovative minds to create new solutions to new and even old age challenges. These are spawning technologies and re-framing challenges in new ways that are more promising, for instance, the search for water desalination technologies is now being combined with research on renewable energies, a diffuser technology invented in Tunisia is 40% more efficient than drip technology.

- Of utmost important the cyberspace is creating a new place which the ground zero for the battle for the heart and minds of the millennials. New global Uma is being created here as the diaspora reconnected with the homeland creating new cultures, new voices and new networks.

4. The emergence of the innovative government

As governments struggle with steering the region in this tumultuous period the government is being re-worked with increasingly bold initiative. Some examples include:

- Innovative Public Private Partnership are emerging. The Morocco government has now the first in the work Public Private Partnership (PPP) where it allocates slum families a serviced pilot and encouraging two adjacent families to pair with a developer and develop a four storey house so that each family gets a house for free and the developer keep the two stories. Essentially unlocking private capital to provide free house.
- An appreciation of data driven policy making starting to be seen e.g. the building of a National water Information System so that all stakeholders that impact on water policy are on the same page and thus water policy is coordinated and coherent and thus effective (Minister of Finance more likely to push for needed financial reform if he/she can assess the efficiency of public spending on water)
- Data mining and analytics being deployed to improve efficiency of water system
- Providing loans and subsidies to urban users so that they can retrofit home appliance to better conserve water

Conclusion

The NA region faces a tumultuous future. Old problems are being compounded as urbanization and rapid population growth make food and water security challenges more and more urgent. The region has already faced one of the more profound though unfinished revolution of the new millennium. The older political order is unravelling undermined by tech savvy millennials while a new order is yet to emerge creating deep uncertainty,

However, millennials are proving as resilient n finding solutions as they are in undermining old order. They are driving social innovations to address age challenges and create new opportunities. Government are also becoming more entrepreneurial through institutional innovations, public private partnership was found to represent a key way forward in further scaling the innovations identified. Therefore, inclusive business approaches are key to a better future and policies to encourage such practices are needed. The key message is that the future of the region will depend on understanding key drivers of the future and catalyzing innovations to address future challenges and opportunities and also mobilizing private sector in more cooperative public-private ventures.

Where the North Africa has a fairly different historical trajectory compared to the rest of Africa (sharing more with the Middle East) it is part of Africa. Indeed historically SSA has shaped NA and vice-versa. This is likely to be more so as the futures of the two regions become more intertwined via common challenges especially the youth employment challenge, the urbanization challenge and the climate change challenge.

The shared challenges present a new opportunity for the two region to engage more closely and share expertise and resources.

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