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Sustainability Matters in National Development Visions—Evidence from Saudi Arabia’s Vision for 2030

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Abstract: Sustainability advocates for a universally shared common vision of progress towards a society that is just, safe and sustainable for humanity. Beyond environmental protection, the concept recognizes the urgent need to improve life quality through strategies that build socio-economic growth and address a wide range of cross cutting issues. While consensus abound that a more sustainable society serves everyone, opinions on what sustainability means and how it can be achieved are diverse. The Kingdom of Saudi Arabia (KSA), through the 2030 Vision and the 2020 National Transformation Program (NTP) outlines an agenda for a more balanced growth and socio-economic development. The extent to which the vision systematically aligns with sustainability principles, however, remains unexplored. This research is a maiden attempt to investigate how much sustainability substance is in the 2030 Vision and the NTP of Saudi Arabia. The Sustainable Society Index (SSI) has been employed to examine the 2030 Vision and the NTP to understand the Kingdom’s commitment to building resilient, inclusive and sustainable societies. The vision and NTP texts were matched against five broad measures and 22 sub-measures of the SSI to identity the points of convergence. While both the 2030 Vision and the NTP align with the SSI measures in some respect, the goals and objectives are, at best, a reflection of the needs, aspirations and context of Saudi Arabia. The paper concludes that the success of the 2030 Vision rests on the active involvement and empowerment of relevant stakeholders at all levels as well as the development of comprehensive assessment mechanisms based on which to measure progress towards sustainability.

Keywords: sustainability; Saudi Arabia; vision 2030; sustainable society index; National Transformation Program

1. Introduction

Sustainability is a catchphrase around which international and national development discourses continue to grow. The concept has found its way into many phrases across a variety of disciplines and contexts [1–3]. Some commonly used terms include “sustainable development” [4,5], “urban sustainability” [6–9], “sustainable society” [10,11], “economic sustainability” [12,13], “social sustainability” [14,15], “ecological sustainability” [16], and “sustainable growth” [17]. Each use has its own flavor, highlighting on one or another aspect of the concept. These wide-ranging contextual applications of the concept make a universal definition of sustainability a challenge. Notwithstanding, it is generally interpreted to connote positive biophysical and socio-economic changes that meet the needs of all people without undermining the natural systems upon which life depends or foreclosing the opportunities available to posterity [4,15,18–20]. Despite global progress in many spheres of

life, the world today, continues to suffer immense challenges to sustainable development. In the low-income countries, most people continue to battle with poverty and deprivation; inequality is also on the rise, with ever-increasing disparity of opportunity, wealth and power [21]. With the adoption of the Millennium Development Goals (MDGs) fifteen years ago, significant strides have been made in several areas. Nonetheless, the achievements have been, at best, uneven, especially between regions and countries and within countries. The Sustainable Development Goals (SDGs), also referred to as the Global Goals, are an ambitious set of goals directed at complementing and reinforcing the achievements chalked under the MDGs.

It addresses some of the systemic barriers to sustainable development, represents a recommitment to the realization of all the off-track MDGs and provides a more focused and scaled-up assistance to countries in special needs. While the benefits of a global effort for sustainable development are obvious, pursuing strategic and coordinated actions for sustainability at the international, national and even local levels is riddled with challenges. It competes with many deeply entrenched values: forces the reconciliation of the goal of economic growth with social and environmental sustainability; and emphasizes the benefits of policy coherence through greater coordination and decentralization. At the national level, countries are understood to face specific challenges in the pursuit of sustainable development. Consequently, one of the most important parts of the SDGs lies in the fact that countries are allowed the sovereignty over all their wealth, natural resources and economic activities [21], and have the flexibility in the implementation of the different goals and targets in a way that is consistent with the rights and obligations of States under international law.

Saudi Arabia, the focus of this paper, faces many development challenges including high rates of unemployment, an expanding population, rapid urbanization and sprawling cities, large immigrant influx and inadequate arable land, food and water [22]. The Saudi government, in efforts to put the country on the path to sustainable economic growth and development has developed the Vision 2030 and the 2020 National Transformation Program (NTP). Together, these strategic plans set far-reaching goals and objectives to transform the country to one that is sustainable, diverse and at the center of international trade [23,24]. The extent to which the vision systematically aligns with sustainability principles, however, remains unexplored. This research is a maiden attempt to investigate the extent to which both the vision and NTP texts reflect important measures and principles of sustainability. The Sustainable Society Index (SSI), developed by the Sustainable Society Foundation, is employed to assess the sensitivity of the Vision 2030 and the NTP of Saudi Arabia to sustainability. The choice of SSI as an assessment framework was motivated by the fact that it blends a range of social, economic and environmental factors, all of which are important in the multi-dimensional interpretation of the concept of sustainability. It has since 2006 undergone methodological refinement resulting in the development of a set of measures that are both statistically and conceptually sound [25,26]. It has also been variously employed as a benchmarking instrument for national level sustainability assessment [27–29].

2. Understanding Sustainability

The notion of what sustainability stands for is laden with myriad interpretations, varying considerably across many disciplines, stakeholders and different categories of people [18,30–32]. It thus provokes many different approaches and responses [18]. For many, the fundamental idea of sustainability is the need to protect the environment from degradation and depletion [16,33,34]. One popular area of debate in this regard has been the contention between weak and strong sustainability. Proponents of weak sustainability such as Solow [35] and Daly and Cobb [36] hold the view that natural and man-made capital are essentially substitutable, giving way for the former to be used up provided it is converted into manufactured capital of equal value. In contrast, strong sustainability argues that certain aspects of the natural environment including among others, the ozone layer, the water cycle and photosynthesis are unique [37], hence scarcely interchangeable. Despite the criticality of the weak-vs.-strong sustainability contention, it fails to acknowledge the fact that sustainability entails more than environmental issues.

Beyond the environment, the term embodies integrating, understanding and acting on the complex interconnections that exist between the environment, economy, and society [10]. It is not a balancing act or playing of one issue off the other, but realizing the interdependent, systemic nature of these pillars. Rather than limiting sustainability to the environment, the term has evolved to include not only the environment, but also, positive social and economic gains. Black [38] defines social sustainability as the extent to which social identities, values, relationships and institutions can continue into the future. Gilbert et al. [39] also contend that social sustainability emphasizes the need for societal cohesion and the ability to work together towards shared goals. Consequently, individual needs such as health and well-being, education, housing, and cultural expression should be met. Sachs [40] (p. 27) takes the definition to a different level by suggesting that strong social sustainability encompasses “the basic values of equity and democracy”, the latter meant as the effective appropriation of all human rights—political, economic, social, civil and cultural—by all people. On the topic of economic sustainability, Markandya and Pearse [41] are of the view that sustainability could be redefined to emphasize current resource use that does not reduce real incomes in the future or disproportionately burden future generations. In other words, the conditions necessary for equal access to the resource base should be met for posterity.

These three pillars—environmental, social and economic—are key areas powerful in advancing understanding on the concept of sustainability. Thinking deeply in terms of these pillars of sustainability requires seeing the world, country or society as a collection of interconnected systems—systems thinking. The largest of the systems is obviously the environment, representing the biosphere we live in, and has two main systems: social and economic. Understanding the overall system this way makes it clear that environmental sustainability has the greatest priority. This is particularly so because the lower the carrying capacity of the environment, the lower the common good delivered by the social system and the less output the economic system can produce. The integrative nature of sustainability has been echoed in global and national development agendas.

On the implementation of national sustainable development strategies, the United Nations [21] and the Organization for Economic Co-operation and Development (OECD) [42] maintain that there is no specific entry point based on which the concept of sustainability should be interpreted. In the latter, member countries have the flexibility to chart their own courses in ways that reflect their own history, culture, socio-economic priorities as well as prevailing institutional and political structures. The challenges faced by different countries reflect ecological, geographical and climatic factors which are diverse and translate into highly differentiated priorities, opportunities and constraints. This explains why the interpretation of sustainability is so diverse.

The assessment of the sustainability substance of the Vision 2030 is done through the lenses of environmental, social and economic sustainability. The Sustainable Society Index (SSI), developed by Van de Kerk and Manuel [10] breaks down the indicators for measuring sustainability into five broad categories of personal development, clean environment, well-balanced society, sustainable use of resources and sustainable world with a total of 22 sub-measures. The rationale for each specific measure of sustainability is presented in Table 1. These sustainable society indicators (see Figure 1) are employed to measure the sustainability substance of the 2030 Vision and the 2020 NTP.

Table 1. Sustainable Society Index (SSI) Measures of sustainability and rationale.

Indicator	Rationale
Healthy Life	Condition for development of each individual in a healthy way
Sufficient Food	Condition for the development of an individual
Sufficient to Drink	Condition for the development of an individual
Safe Sanitation	Condition for the prevention and spreading of diseases that would severely hamper a person's development
Education Opportunities	Condition for a full and balanced development of children

Table 1. Cont.

Indicator	Rationale
Gender Equality	Condition for a full and balanced development of individuals and society at large
Air Quality	Condition for human and environmental health
Surface Water Quality	Condition for human and environmental health
Land Quality	Condition for production of crops, livestock and timber
Good Governance	Condition for development of all people in freedom within the framework of (international) rules and laws
Unemployment	Access to the labor market is a condition for well-being for all people
Population Growth	Limitation of population pressure on earth is a condition for sustainability
Income Distribution	Fair distribution of prosperity is a condition for sustainability
Public Debt	Measure of a country's ability to make independent decisions with respect to budget allocation
Waste Recycling	Measure of sustainable use of raw materials in order to prevent depletion of resources
Use of Renewable Water Resources	Measure of sustainable use of water resources in order to prevent depletion of resources
Consumption of Renewable Energy	Measure of sustainable use of energy resources in order to prevent depletion of resources
Forest Area	Preservation of forest area is a condition for sustainability
Preservation of Biodiversity	Condition for perpetuating the function of nature, in all its aspects
Emission of Greenhouse Gases	Measure of main contribution to climate change, causing unsustainable effects
Ecological Footprint	Measure of people's (un)sustainable usage of the earth's resources
International Cooperation	Measure of a country's willingness to take up its responsibility for the world at large with respect to sustainability

Source: Adapted from Van de Kerk and Manuel [10].

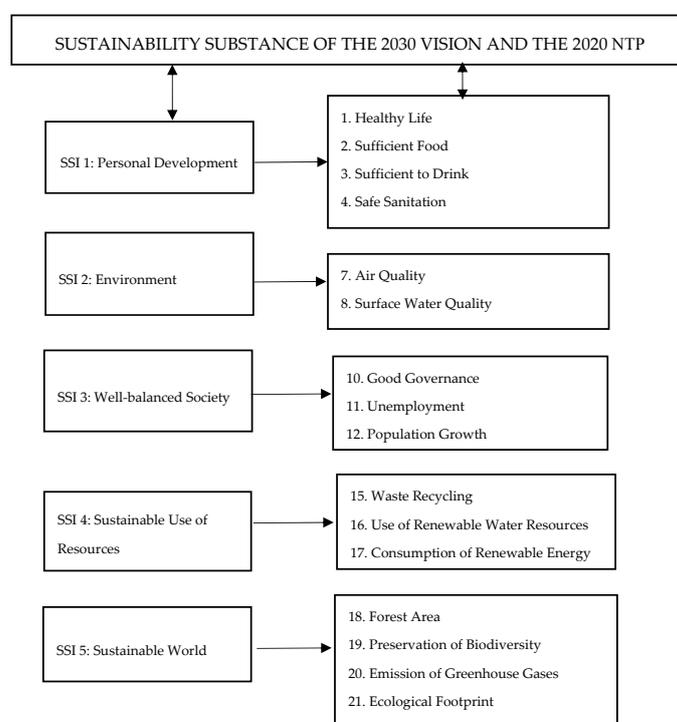


Figure 1. Sustainable Society Index (SSI). Source: Adapted and modified from Van de Kerk and Manuel [10] and United Nations (UN) [21].

3. The Vision 2030 and Transformation Program of Saudi Arabia

While oil is the backbone of the Saudi economy, the government considers the country's real wealth to lie in the ambition of the human resources and the potentials of the younger generation. It seeks through Vision 2030 to aspire for a strong, thriving and stable economy that provides limitless opportunities for all, empowers the private sector through improved opportunities for partnerships, drives healthier employment for the citizens and ensures long-term prosperity for all. The strategic vision of Saudi Arabia is organized into three main pillars: a vibrant society, a thriving economy and an ambitious nation. As depicted in Table 2, each of these thematic areas is further divided into several goals and objectives expected to be achieved by the end of 2030. Through these pillars, the country aims to become a global powerhouse for investment and aspires to capitalize on its investment capabilities to stimulate economic growth and diversify revenues.

Table 2. The Saudi Vision, Themes and Targets.

Theme	Objectives/Targets
A vibrant Society	<ul style="list-style-type: none"> To increase KSA's capacity to welcome Umrah visitors (pilgrims) from 8 million to 30 million every year; To more than double the number of Saudi heritage sites registered with UNESCO; To have three Saudi cities be recognized in the top-ranked 100 cities in the world; To increase household spending on cultural and entertainment activities inside the Kingdom from the current level of 2.9% to 6%; To increase the ratio of individuals exercising at least once a week from 13% of population to 40%; To raise our position from 26 to 10 in the Social Capital Index; To increase the average life expectancy from 74 years to 80 years.
A thriving Economy	<ul style="list-style-type: none"> To lower the rate of unemployment from 11.6% to 7%; To increase SME contribution to GDP from 20% to 35%; To increase women's participation in the workforce from 22% to 30%; To move from our current position as the 19th largest economy in the world into the top 15; To increase the localization of oil and gas sectors from 40% to 75%; To increase the Public Investment Fund's assets, from SAR 600 billion to over 7 trillion; To rise from our current position of 25 to the top 10 countries on the Global Competitiveness Index; To increase foreign direct investment from 3.8% to the international level of 5.7% of GDP; To increase the private sector's contribution from 40% to 65% of GDP; To raise our global ranking in the Logistics Performance Index from 49 to 25 and ensure the Kingdom is a regional leader; To raise the share of non-oil exports in non-oil GDP from 16% to 50%.
An ambitious Nation	<ul style="list-style-type: none"> To increase non-oil government revenue from SAR 163 billion to SAR 1 Trillion; To raise our ranking in the Government Effectiveness Index, from 80 to 20; To raise our ranking on the E-Government Survey Index from our current position of 36 to be among the top five nations; To increase household savings from 6% to 10% of total household income; To raise the non-profit sector's contribution to GDP from less than 1% to 5%; To rally one million volunteers per year (compared to 11,000 now).

KSA: Kingdom of Saudi Arabia; MSE: medium sized enterprise. SAR: Saudi Arabian RiyalSource: Authors' Construct, December 2016.

3.1. Key Themes of the Saudi National Strategic Vision

3.1.1. A Vibrant Society

Under this theme, the Saudi government considers it a priority to strengthen, preserve and highlight the country's unique cultural and historical heritage for generations. Towards this end, the country is commitment to building cultural museums and increasing the number of Saudi heritage sites registered with the United Nations Educational, Scientific and Cultural Organization (UNESCO). Investments in entertainment possibilities and cultural venues would also be pursued, with the number of people exercising at least once weekly expected to rise from 13% to 40% and household cultural and entertainment expenditure projected to increase from 3% to 6% by 2030 [23].

The effect of crime on the society has received wide scholarship in the literature [43–45] and thus represents an important priority in the Vision 2030. Crime is a burden on the economy, creates uncertainty and inefficiency [43], discourages domestic and foreign investments, reduces competitiveness among firms [44] and impacts factor accumulation [45]. To maintain its position

as one of the countries with the safest cities in the world, boasting of crime rates less than 0.8 per 100,000 people and far below the international average of 7.6 per 100,000 people [46], the government is committed to providing support for ongoing efforts to fight drug use, improve road safety and reduce accidents. These efforts are necessary to ensure that three Saudi cities emerge among the world's top 100 livable cities. There will be a boost in efforts to provide quality services including electricity, water, public transportation and road infrastructure in order to meet the ever-increasing needs of the major cities. Public places, open and landscaped areas would also be enhanced through significant recreational investments.

The national strategic vision sees the preservation of the environment and natural resources as a human and moral obligation. Consequently, there will be investments in efficient waste management, the establishment of comprehensive recycling projects, and efforts to reduce desertification and various forms of pollution. Optimum use of water resources would be promoted through reduced consumption and the utilization of treated and renewable water. Islands, natural reserves and beaches would be protected and rehabilitated to make them open to everyone. In terms of housing, home ownership among Saudi's is expected to increase from 47% to 52% by 2020 [46]. Given the mounting housing crisis and the high number of new entrants into the housing market, this would be a great stride but requires the introduction and modification of laws and regulations that boost private sector confidence to actively participate in the building of housing and the provision of adequate financing, mortgage solutions and ownership schemes.

The social welfare system would also be modernized to make it more empowering, efficient and just. Subsidies for fuel, water, food, and electricity will be redirected to those in need and the less privileged citizens. In the area of health care, there would be better utilization and optimization of the hospital and health care centers through among others, improvement in the quality of therapeutic and preventive health care services and capacity building for medical professionals.

3.1.2. A Thriving Economy

Evidence suggests that countries with diversified economic structure are more robust to exogenous shocks. During the 2008/2009 global economic recession, economies with more diversified structure of exports weathered better international trade shocks. In regions with higher export concentration ratio such as Middle East and Africa, the loss in export revenues in 2009 amounted to about 30% [47]. With oil prices unlikely to show substantial growth going forward [48,49], the need for economic diversification in Saudi Arabia has become necessary. Callen et al. [50] contend that greater diversification would reduce vulnerability to volatility and uncertainty in the global oil market, increase productivity and sustainable growth, help increase private sector employment, and establish the non-oil economy that will be needed in the future when revenues from oil begin to decline. The need to create an economy that is diversified, resilient and sustainable is a key priority of the 2030 vision. Other important sectors to develop beyond oil and gas include manufacturing, defense, tourism, mining and technology. The government is also determined to raise the share of non-oil exports in non-oil GDP from 16% to 50%, localize the oil and gas sectors from 40% to 75%, increase the assets of the Public Investment Fund to over Saudi Arabian Riyal (SAR) 7 trillion relative to SAR 600 billion at present. This is expected to consequently position the country among the top 15 countries in the world in terms of economic growth [23]. Further, the comparative advantages of the country's different regions will be assessed and developed into special production zones such as logistics, industrial, tourism and financial zones. If well distributed, these special zones are expected to reduce the current regional growth and development disparities.

There will be efforts to localize the renewable energy and industrial equipment sectors, grow the tourism and leisure industry, increase investments in the digital economy, and provide incentives for explorations in the mining sector. Towards this end, long-term partnerships for knowledge transfers and trade with several countries around the world would be pursued. The national strategic vision is also committed to building a stronger workforce through significant investments in the education and

training of the younger generations—men and women. The country also recognizes the small and medium sized enterprises (SMEs) as important catalysts of economic development as they contribute to exports, create jobs, and support innovation. By the end of 2030, unemployment rate is expected to drop from 11.6% to 7% and women participation in the workforce is expected to increase to 30% relative to 22% at present [23]. Laws and regulations would be made flexible in order to grow interests in SME entrepreneurship, privatization and investments in new industries. By the end of 2030, the country is expected to be among the top 10 countries in the world on the Global Competitiveness Index, increase foreign direct investment from 3.8% to 5.7% of GDP and increase the contribution of private sector to GDP to 65% relative to 40% at present [46]. There have been massive investments in the construction of transportation infrastructure including ports, roads, railways and airports to facilitate the smooth flow of people, goods, capital and to strengthen economic integration and interconnectivity among the GCC countries and beyond.

3.1.3. An Ambitious Nation

Corruption, and the lack of transparent and accountable governance are major obstacles to economic development, requiring attention in national development agenda [51–54]. Here, the need for high standard of transparency, accountability and zero tolerance for corruption at all levels of government is highlighted. Communication channels among government agencies on one hand and citizens and the private sector on the other hand would be deepened to encourage active participation in governance activities. By improving administrative efficiency and effectiveness, the government also aims to increase non-oil government revenue from SAR 163 billion to SAR 1 trillion, raise the country's rank in the government effectiveness index from 80 to 20 and improve its current position on the e-government survey index from 36 in 2014 to 5 by 2030 [46]. Radical spending controls and comprehensive regulations that improve the efficiency of spending in the public sector and reduce waste will also be vigorously pursued.

Human capital development within the public sector is also a priority. Under the King Salman Program for Human Capital Development, about 500,000 employees are expected to be trained and equipped with the right skills through distance learning. This is to raise the productivity of government sector employees through the implementation of proper performance management standards and the provision of training for professional training as well as knowledge sharing. The Saudi government also values the importance of not-for-profit organizations in providing social aid locally, regionally and internationally. The resilience and impacts of these organizations will be improved through supportive regulations that encourage endowments to sustainably fund the sector. By strengthening these institutions, they would be able to play an enhanced role in important sectors of the economy such as health care, housing, education, research and socio-cultural programs. The table below is a summary of the vision's thematic areas and their respective goals and targets.

An important component of the vision is the National Transformation Program (NTP) 2020, a five-year roadmap of ministry-specific objectives and yearly initiatives based on which to monitor and measure achievements of the national strategic vision. The Saudi government through the NTP seeks several targets including the creation of jobs, private sector empowerment and strengthening through public-private partnerships, local content maximization and digital infrastructure development. To ensure sustainability and maximize impact, several enablers have been employed including the need to enhance transparency, the building of strong governance and institutional system and an enhanced collaboration between specialized support units.

4. Discussion

The results of the review suggest that there are several commitments in both the Vision 2030 and the national transformation program of the KSA government to re-position the country on the path to sustainability. A reasonable number of the strategic objectives fall within the broad sustainable society index of personal development, clean environment, well-balanced society, sustainable use of resources

and sustainable world (see Table 3). In the sections below, the texts of both the vision and the NTP have been discussed within the context of the SSI and its 22 sub-indicators.

Table 3. A comparison of the 2030 Vision of Saudi Arabia and the SSI.

Sustainable Society Indicators (SSI)	2030 Vision and 2020 NTP
Personal Development	To increase women's participation in the workforce from 22% to 30%
Healthy Life	To increase the ratio of individuals exercising at least once a week from 13% of population to 40%
Sufficient Food	To raise the position of KSA from 26 to 10 in the Social Capital Index
Sufficient to Drink	To increase the average life expectancy from 74 years to 80 years
Safe Sanitation	* Improve integration and continuity in services provision by developing the primary care
Education Opportunities	* Improve public health services with focus on obesity and smoking
Gender Equality	* Optimize the use of renewable water resources for agricultural purposes
Clean Environment	* To develop sustainable highly efficient production systems for plants, livestock and fishery and increase the value added of these target products to contribute to the diversification of the Kingdom production base
Air Quality	* Provide education services for all student levels
Surface Water Quality	* Provide a healthy local environment
Land Quality	* Continuously enhance quality of life by providing cities with public facilities and infrastructure of high quality and efficiency
Well-balanced Society	To lower the rate of unemployment from 11.6% to 7%
Good Governance	To increase SME contribution to GDP from 20% to 35%
Unemployment	To rise from our current position of 25 to the top 10 countries on the Global Competitiveness Index
Population Growth	To increase foreign direct investment from 3.8% to the international level of 5.7% of GDP
Income Distribution	To increase the private sector's contribution from 40% to 65% of GDP
Public Debt	To raise our global ranking in the Logistics Performance Index from 49 to 25 and ensure the Kingdom is a regional leader
	To raise the share of non-oil exports in non-oil GDP from 16% to 50%
	To move from our current position as the 19th largest economy in the world into the top 15
	To increase the localization of oil and gas sectors from 40% to 75%
	To increase the Public Investment Fund's assets, from SAR 600 billion to over 7 trillion
	To increase non-oil government revenue from SAR 163 billion to SAR 1 Trillion
	To raise our ranking in the Government Effectiveness Index, from 80 to 20
	To raise our ranking on the E-Government Survey Index from our current position of 36 to be among the top five nations
	To increase household savings from 6% to 10% of total household income
	To raise the non-profit sector's contribution to GDP from less than 1% to 5%
	To rally one million volunteers per year (compared to 11,000 now)
	* Sustainable and balanced urban development and improvement of the level of quality of life in cities and regions of the Kingdom
	* Boost satisfaction level of population, private sector, and governmental agencies in their participation in the planning process
	* To improve in the population growth rate in small- and medium-sized cities compared to the population growth rate in major cities
	* To create job opportunities in small and medium enterprises
Sustainable Use of Resources	To increase our capacity to welcome Umrah visitors from 8 million to 30 million every year
Waste Recycling	To have three Saudi cities recognized in the top-ranked 100 cities in the world
Use of Renewable Water Resources	To increase household spending on cultural and entertainment activities inside the Kingdom from the current level of 2.9% to 6%
Consumption of Renewable Energy	* Provide a healthy local environment
	* Continuously enhance quality of life by providing cities with public facilities and infrastructure of high quality and efficiency
	* Contribute to ensuring sustainable food security for the Kingdom
	* Optimize the use of renewable water resources for agricultural purposes
	* Preserve, protect, and develop the environment
	* Rehabilitation of agriculture terraces and application of rain water collection technologies in the south-western area of the Kingdom
	* Enable atomic energy to contribute to the national energy mix in accordance with local requirements and international obligations
Sustainable World	
Forest Area	
Preservation of Biodiversity	To more than double the number of Saudi heritage sites registered with UNESCO
Emission of Greenhouse Gases	* Preservation of vegetation of pastures and forests
Ecological Footprint	
International Cooperation	

* Relevant National Transformation Program (NTP) strategic objectives. Source: Author's Construct, November 2016.

4.1. SSI 1: Personal Development

This sustainability indicator emphasizes specific measures such as the promotion of healthy life, sufficient availability of food, prevention of the spread of diseases through improved sanitation, adequate educational opportunities for children and gender equality. From the first theme of the strategic vision, it becomes clear that improving the quality of health of the citizens is of critical importance to the KSA government within the time frame of the strategic vision. The Ministry of Health has identified several strategic objectives to be achieved by 2020 including commitment to improve the quality of preventive and therapeutic healthcare services and attract significant health sector investments by both local and international investors. Another way to improve the quality of life among the citizens is in the area of regenerative health. By this, the Ministry seeks to improve public health services with focus on obesity and smoking. The Sports Authority seeks to also increase the ratio of individuals exercising at least once a week from 13 to 40 percent by 2030. In efforts to bridge the gender inequality gap in terms of access to employment, the participation of women in the workforce is expected to increase by 8 percent relative to the baseline figure of 22 percent. While no specific mention is made to poverty and hunger reduction in the strategic vision, the Ministry of Environment, Water and Agriculture has a strategic objective of ensuring sustainable food security for Saudi Arabia through the efficient use of renewable water resources to increase agricultural productivity and develop effective production systems for plants, livestock and fisheries. To meet the future needs of the labor market, the Ministry of Education also commits to improving teaching curricular and expanding educational opportunities for all, irrespective of gender, social status or circumstance.

4.2. SSI 2: Clean Environment

Three main sets of sustainability measures fall under the SSI 2: air quality, surface water quality and land quality. The emphasis here is that, the quality of air, surface water and land quality are important conditions for human well-being, environmental health and the production of crops, livestock and timber. While no mention of sustainable management of water and sanitation is found in the vision, there is a general plan for achieving environmental sustainability by increasing waste management efficiency, building comprehensive recycling projects and reducing all forms of pollution, domestic and industrial. The only mention of water in the NTP is in the strategic objective 4 of the Ministry of Environment, Water and Agriculture. This objective calls for the optimization of renewable water resources for agricultural purposes. Improving the livability of Saudi cities also appears to be a key priority of the Ministry of Municipal and Rural Affairs (MOMRA) and one of the important indicators for measuring achievement in this regard is citizens' satisfaction of the cleanliness of cities in the country. By 2020, the ministry targets about 70% satisfaction rate relative to the baseline figure of 40%. Similarly, the percentage of waste treatment and recycling is expected to increase from 15% to 40% by the same timeframe.

4.3. SSI 3: Well-Balanced Society

There are five main measures of a well-balanced society and they include good governance, unemployment, population growth, income distribution and public debt. People should have the opportunity to grow in freedom and within the framework of the rules and laws; there should be unrestricted access to job opportunities; population growth should be managed; fair distribution of the wealth of the country is a condition for sustainability; and a country should be in the position to make independent budget allocation decisions. In term of public participation at all levels of government, MOMRA seeks to ensure that there is maximum participation of the population, private sectors and various agencies of government in the planning process. While high rate of population growth in the major cities of KSA is a matter of increasing concern, rural and medium-sized cities have relatively lower rates of growth. Over the short-term, the priority of MOMRA is to improve population growth in the latter by 25%. Towards improving employment opportunities, over 450,000 jobs are expected to

be created in the non-governmental sector as well as in several other sectors of the economy by the end of 2020. This is directly in support of the vision's goal to reduce the rate of unemployment from 11.6% to 7% by the end of 2030. In addition to the creation of more job opportunities, the government of KSA is committed to continuous modernization of the social welfare system and seeks to ensure it is more empowering, efficient and just. In the national transformation program, the government has approved several initiatives to be achieved by the end of 2020 including the social services provisions to persons with disabilities, orphans and juveniles; the development of alternative sources of social services fund to complement the zakat (charity) fund; and the development of a comprehensive national strategy for people with disability. The Ministry of Health, Ministry of Education, and the private sector are expected to play important roles in this regard. At the heart of the vision is the commitment to efficient spending, greater economic security and balanced finances. To achieve this, all sectors of the economy are required to ensure maximum transparency and good governance in their endeavors.

4.4. SSI 4: Sustainable Use of Resources

This social sustainability index consists of three sub-indicators: waste recycling, efficient use of renewable water resources and renewable energy consumption. One of the important emphases of the first pillar of vision 2030 is the moral responsibility to optimize the use of water resources and promote the sustainable consumption of renewable water resources. To improve the livability of Saudi cities, MOMRA considers a healthy local urban environment as a priority and committed to the development of efficient municipal waste management systems. The NTP outlines several parameters based on which this would be measured including the percentage reduction in the incidences of disease and food poisoning, percentage of waste recycled and treated, population satisfaction index with pest-free environment, cleanliness of cities and food safety. The Royal Commission for the cities of Jubail and Yanbu also undertakes to safeguard the environment and natural resources through a reduction in recyclable industrial waste. The Ministry of Environment, Water and Agriculture also has a set of initiatives to reduce food waste and promote sustainability. It would pursue a national program of food waste reduction, and embark on a strategic program for food reserve and storage through early warning system and timely information for agricultural markets. The ministry is also committed to the development and application of technologies to collect rainwater to boost agricultural activities in Saudi Arabia's agricultural regions. As highlighted in SSI 2, the sector of the economy where the government seeks to optimize the use of renewable water resources is the agricultural sector. Progress would be measured based on the agricultural water usage relative to the total renewable water resources available. The most important goal of the national vision is to substantially reduce reliance on oil and to turn to renewable energy sources to provide for the energy needs of the country. At the center of this ambitious goal are the Ministry of Energy, Industry and Mineral Resources and the King Abdullah City for Atomic and Renewable Energy (KACARE). The second pillar of the vision emphasizes the importance of renewable energy in weaning the country out of perpetual dependence on oil. The Ministry of Energy, Industry and Mineral Resources therefore has a strategic objective of "Saudizing" the renewable energy sector. KACARE also has a strategic objective of enabling renewables such as atomic energy to contribute to the national energy mix of KSA. The vision also acknowledges the potential of Saudi Arabia to generate sufficient energy from solar and wind and targets a total of 9.5 gigawatts of renewable energy over the plan period.

4.5. SSI 5: Sustainable World

This SSI consists of five pillars" forest area preservation, biodiversity protection, reduced emission of greenhouse gases, ecological footprint and international cooperation. This index emphasizes efforts to protect the environmental resources of a country including forest and biodiversity preservation, mitigation of greenhouse gases emission, sustainable use of the earth's resources and the willingness of a country to avail itself to international efforts to promote environmental sustainability. Achieving environmental sustainability is one of the important components of the first pillar of the national

strategic vision. While no explicit mention is made to forest and biodiversity resources protection in the vision, there is an explicit commitment to safeguard the environment and natural resources. The ninth strategic objective of the Ministry of Environment, Water and Agriculture focuses on the preservation of vegetation and forest. The key indicator for measuring achievement is the percentage of forest land area rehabilitated annually out of the country's total forest area. As opposed to current situation where only 0.06% of the total forest area has been rehabilitated, a total of 60,000 hectares of land (0.11%) is expected to be rehabilitated by the end of 2020.

Saudi Arabia is at the center of international discussions on greenhouse gas emission, ecological footprint and international co-operation for environmental sustainability and the fight against climate change. Not only is the country a global leader in fossil fuel production and export but also, it is one of the countries with the highest consumption of oil, placing 11th on the global ranking [55–58]. It thus, occupies an important position in climate change debates. While no explicit mention of strategies is made in the vision nor the national transformation program, it could be implied from the country's goal to diversify the economy, reduce dependence on oil and plans to explore other renewable energy sources such as solar and wind that, it is somewhat pro-greenhouse gases reduction. The commitment of the country to this agenda is explicit in its recent statement "to achieve mitigation co-benefits ambitions of up to 130 million tons of carbon dioxide equivalent avoided by 2030 annually through contributions to economic diversification and adaptation" [59,60].

5. Conclusions

This paper set out to examine the sustainability substance of the Vision 2030 of Saudi Arabia within the context of the Sustainable Society Index (SSI). From the discussion, it is clear that sustainability is an enormously broad concept spanning the environmental, economic and social aspects of society. These are reasonably reflected in the SSI measures, making it a suitable benchmark for the assessment of the sustainability substance of the Saudi Vision 2030 and the 2020 NTP. While Vision 2030 aligns with some of the SSI indices, it could be inferred from the discussion that the goals and objectives have been articulated to reflect the needs, aspirations and context of KSA. In part, this confirms the positions of both the UN and OECD that national strategic visions should be country-led and nationally-owned and should not emerge from external pressures.

Measures of personal development (SSI 1) emphasize several aspects of human development including hunger reduction, social protection for the poor, good health, educational opportunities and gender equality. In the Vision 2030, these represent key priorities of the Saudi government towards which the contributions of several ministries and authorities are needed. In SSI 2, the importance of strategies to promote clean environment and sustainable water and sanitation management are emphasized. While measures for pollution reduction and efficient domestic and industrial waste management have been well-articulated in both the vision and the NTP, no clear mention of strategies for sustainable water management has been made. Measures of well-balanced society (SSI 3) reflect the need for policies to ensure fair distribution of national wealth, promote good governance, reduce unemployment, and manage population growth and public debt. Strategies to improve opportunities for employment and ensure a balanced population growth across different cities are some of the key priorities of MOMRA. The efforts to make the social welfare systems more empowering, just and efficient will also undoubtedly help reduce inequalities among different socio-economic groups. Similarly, the determination to ensure maximum transparency, accountability and good governance at all levels of government also potentially has positive impacts on government spending, balanced finances and economic security.

The thrust of SSI 4 is the need to ensure optimal and sustainable use of resources. The most important priority of KSA in this regard is to reduce reliance on oil and explore renewable energy sources to cater for the energy needs of its citizens. The Ministry of Environment, Water and Agriculture and KA-CARE have key roles to play in this area. In addition, efficient municipal and industrial waste management is emphasized in the strategic objectives of both MOMRA and the Royal Commission for

Jubail and Yanbu. There are also initiatives by the Ministry of Environment, Water and Agriculture to cut down on food waste, develop technologies for rainwater harvesting for agriculture while also promoting sustainability. The fifth SSI calls for a sustainable world—a world that is committed to the preservation and protection of biodiversity and forestry resources, reduction in ecological footprint and Greenhouse Gas (GHG) emissions and international partnerships for sustainability. Key strategies to achieve the goals are evident in the strategic objectives of the Ministry of Environment, Water and Agriculture that has explicit commitments to preserve substantial vegetation and forests areas by the end of the NTP time-frame. While Saudi Arabia has over the years received criticisms for apathy towards international efforts to address the challenges of climate change, the recent move to achieve yearly mitigation co-benefits ambitions of about 130 million tons is a step in the right direction. More international co-operation by the KSA government is however necessary if significant strides are to be made towards climate change mitigation.

Both the Vision 2030 and the NTP are important blueprints towards which Saudi Arabia's growth up to 2030 is geared. The achievements of the individual goals and strategic objectives however, critically rest on effective implementation and governance mechanisms. The comprehensive governance model developed by the Council of Economic and Development Affairs is a step in the right direction to co-ordinate efforts and ensure effective monitoring of progress towards the 2030 goals and strategic objectives. The escalation mechanisms are also particularly important to the successful implementation of the vision. At various levels of government, these mechanisms aim to address potential issues that could act as obstacles to the implementation of programs and to activate the accountability roles of all relevant stakeholders. To ensure the active participation of several agencies such as the ministries, authorities, the private sector, civil society, external institutions and other stakeholders, the development of clear, detailed and integrated assessment mechanisms, follow-up, evaluation and feedback cannot be over-emphasized. These are key in ensuring a sense of responsibility and ownership of the national strategic vision. Again, the concept of sustainability requires a balance among environmental, economic and social objectives. At all levels of the implementation of programs and interventions, a clear understanding of potential synergies among these goals is critical to achieving balanced and sustainable growth. Where it is hard for a mutually supportive integration of environmental, social and economic objectives, hard choices ought to be made through participatory and transparent negotiations with relevant stakeholders.

This paper is an attempt to examine the content of the Vision 2030 of Saudi Arabia to establish its sensitivity to the goals of sustainability. The extent of achievement of the strategic goals however strongly rests with the scope of implementation of key strategic objectives, programs and interventions. A crucial step to confirm the achievement of sustainability in Vision 2030 is to carry out comprehensive and periodic assessments of how well the key performance indicators in the 2020 National Transformation Program have been achieved based on the baseline information and targets. To ensure a balance in the achievement of environmental, social and economic goals, sustainability assessment of national visions should be a common practice. While the SSI has been considered appropriate elsewhere and in our current paper on Saudi Arabia to be a suitable assessment framework, researchers working on different societal contexts and settings might see different approaches to be more relevant. The choice of sustainability assessment approach should not be rigid. Rather, the appropriateness of a methodology should be informed by the extent to which a given framework reflects the local contexts of the countries in question. Depending on the settings and parameters one is examining, some methodologies might be more suitable than others.

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