



PUBLIC RESOURCES MANAGEMENT AND SUSTAINABLE DEVELOPMENT IN KENYA

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ABSTRACT

Since the establishing of sustainable development as a predominant and significant idea, there has been numerous studies and literature on the imprecision and ambiguousness of its interpretation and applicability. The intricacy of sustainable development is also debated in light of global conventions and accord. Discharge of sustainable dimensions and strategies to regional and national affairs are also examined and yield an understanding of how preliminary objectives may thrive. With finite empirical confirmation of environmental evolution and public resources preservation, sustainable common resources utilization is reliant on the broad miscellany of policy-based indicator sets in existent national and forty seven county governments of the East African nation of Kenya. The paper is tailored towards considering the theoretical method of evaluating sustainable development based on policy indicators and to appraise this with indicators most frequently used in prevailing governance.

Keywords: Sustainable Development, Indicators, Public Resources.

INTRODUCTION

Public resources management (PRM) is the practice of using common resources in the most efficient and economical manner. These resources comprise financial, human, equipment, natural resources, infrastructure, goods and services. A country's fiscal policy plays a focal role in curtailing poverty. If nations are to attain millennium development goals (MDG), they require flexible fiscal policies directed towards job creation and real uplifting of citizens' livelihoods. In the 1990s, a pre-occupation with short term micro-economic stability of fiscal solvency constrained the capability of developing nations to embrace counter cyclical policies and promote development. Fiscal sustainability and efficiency are essential but a nation that confines its self to collecting taxes effectively and keeping its expenditure low may not make relevant investments to moderate poverty. Building hospitals and schools, training doctors and teachers, providing accessibility to clean water and Sanitation, providing security and transportation and so on, are practices essential in a nation if they are to realize the MDGs and these will require substantial public funding. MDGs are the universal time-limited and measured targets for accosting acute poverty and its diverse dimensions like income, diseases, hunger, lack of enough shelter and segregation, while encouraging equality in gender, education and sustainability of environment.

Massive public spending is often regarded as having a negative effect on private investment as the prevailing interest rates raise thus making it strenuous for firms to borrow and therefore limiting their access to debt financing avenues. But in countries increasingly short of the necessary services and good infrastructure, public spending helps to foster private investment. Properly structured public investment programs can boost the productivity of labor and capital. For example when a government invests in constructing a road from a rural province to the capital, it reduces the cost of conducting business for firms and entrepreneurs who use the road. Foreign aid is only part of the panacea to such initiatives. Nations have an obligation of mobilizing domestic resources through sensible borrowing. This will equip developing nations with more power of macro-economic stability, poverty decrease and job creation. The Kenyan government has made meticulous endeavors to decentralize development outlining over the prior decade. However it's the ratification of the constitution of Kenya 2010 (Gok, 2010), that has placed public finance management (PFM) at the heart of policy reforms geared at assuring fiscal efficiency and discipline in the usage of public finances for the improvement of citizens' lives. These reforms are heralded in through (GoK, 2012). The Act strives to promote accountability, transparency and public input in the administration of public finances, promote equality and equity at county and national levels, guarantee prudent and trustworthy use of public resources, and ensure reliable financial management with comprehensive reporting among others.

Recently, sustainable development (SD) has surfaced as the contemporary development watchword. SD is growth that maintains the obligations of the present, without compromising the capability of tomorrow's generations to attain their inherent wants. In its extensive sense, this normalizing abstraction has been broadly embraced and endorsed by numerous governments, corporates and organizations worldwide (Krause, Gladwin, 1995) SD is about pinpointing better ways of handling issues for the present and future. SD presents an approach for making superior decisions on the pertinent affairs that affect all our lives. SD is upholding a frail balance between the human exigency to improve lifestyles and the sensation of satisfaction on one hand and safeguarding natural resources and ecosystems on which existent and coming generations hinge. SD has been diversely conceived in relation to vision articulation (Lee, 2000), moral improvement (Hettinger, 1994), value interchange (Clark, 1997), social arrangement (Deneulin et al, 2010) or transformative procedure (Viederman, 1994) for an unforeseen future.

SD is an association between vital human economic systems and broader dynamics but usually slow-changing ecological systems in which mortal life can exist continuously and human traditions can develop conditionally. These effects of human undertaking remain within bounds in order not to spoil the diversity, intricacy and scope of the environmental life support structure (Costanza et al, 1818). A continuous society is one that can persevere over generations, far-sighted enough, robust, and wise not to damage its sociable and physical patterns of support (Meadows et al, 1992). SD is an economic position where the claims put upon the environment by the people and trade can be met without lessening the capacity of the environment to support future generations. The vision of life sustaining earth is crucial; devotion to the achievement of a noble, equitable and peaceful existence is significant. A sustainable Kenya requires an economy that impartially presents opportunities for satisfactory

livelihoods and a healthy, safe and high standard of life for present and upcoming generations. A country ought to secure its environment, physical resource base, functions and capability of natural systems on which all generations are dependent.

Sustainability is a mutual practice that advances and pursues a conception of public that values and makes intelligent use of all its public resources. Endurance aims at ensuring that current generations obtain a high scale of economic security and can realize social equality and popular participation in management of their populace while maintaining the honesty of the ecological systems upon which all life and production rely on and while assuming obligation to future generations to equip them with their vision affirming that they have the wisdom and intellect to use what is provided in a convenient manner (Viederman, 1994).

Sustainability embraces four critical dimensions, namely social, institutional, environmental and economic fields aimed at perfect collaboration.

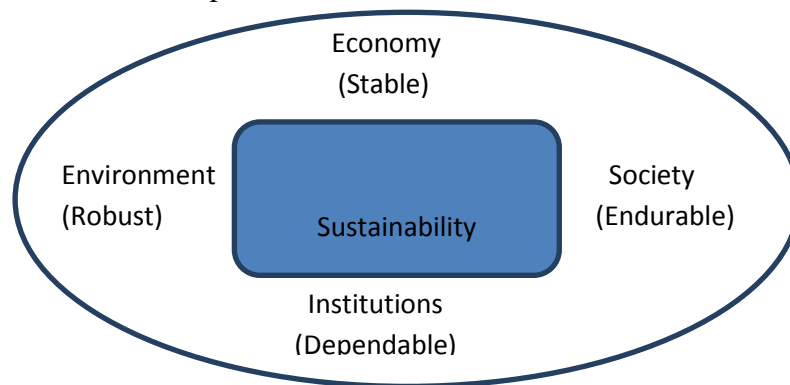


Fig. 1: Dimensions of Sustainability

To originate literature review for this study, I searched via the internet, perused relevant manuals and reading materials. Since the focus is on all generations, I scrutinized materials across all ages. The literature emphasizes the wise management of public resources and sustainability of all livelihoods through human capital and valuable assets for meaningful and lasting development.

STATEMENT OF THE PROBLEM

PRM has been a cardinal issue for researchers over the years. The economy and eternal wealth are decidedly dependent on the utilization of unrenovable and renewable resources, though some factors like human knowledge and labor are to some magnitude recent. Before the green movement, of the 80s the debate on the association between natural resource deficiency and long-run economic growth emerged. Green movement is a prominent movement urging optimum produce and use of environmentally unhazardous consumer goods. Previously, the economy considered environmental services as free goods without physical boundaries. Afterwards the (Meadows et al, 1972) foretold that raw materials will run out in a little while. (United Nations Environment Programme, 1992), ‘In order to realize SD, environmental conservation and fiscal balance shall comprise a crucial portion of development method and cannot be deliberated in solitude’. Thus, PRM cannot be discussed without considering social, economic, institutional and environmental perspectives jointly. The principle cause of degradation of the universal environment is the unsustainable form of

consumption against production commonly in developing countries like Kenya which is a matter of serious interest, perpetuating poverty and regional disparity. Highly sensitive measures of sustainability of public resources have to be exerted for posterity. Nevertheless, the evaluation of resource productiveness requires the development of profound and reliable indicators. Those indicators have to provide good facts on the main issues and problems, their magnitude, causes and the success of the measures. Nevertheless, the measurability of SD requires reliable indicators reflecting a broader field of impacts on society and on the environment. In order to organize the broader field of PRM, the issue on how to make prudent use of natural capital the fundamental aim of PRM. It's equally important to distinguish amid the basic principles of resource use, methods to calculate and evaluate resource use and the measures to steer PRM.

The conception of dematerialization upholds for de-linking between material use and economic growth during economic progress (Welfens, 2000). The strategy is a means to reduce the material needs and consumption of resources without compromising the global welfare progress by enhancing know-how services and knowledge. Dematerialization will occur if the intensity of use declines at a higher rate than the rate of income growth. If at a certain point in time, the rate of economic growth overtakes the decline in the intensity of use, the economy begins to re-materialize again. In varied emerging nations, there are limited studies on PRM and SD. Public resources are key impetus for SD and all-inclusive growth of an economy. Given this synopsis and since PRM and SD are inter-dependent, a meaningful insight into PRM and SD in Kenya is essential for prosperity of all later generations. The intents of the research are;

- Methodical analysis of the precedence by national SD through use of indicators,
- Systematized comparison of the usage of SD indicators among county governments with priorities and indicators used at national government;
- Detection of progression in the utilization of indicators by county governments.

LITERATURE REVIEW

The term SD is used interchangeably with environmentally comprehensive development (Schoenherr, 2011). The interpretation is distinguished with sustainability being implied ecological viability and apprehension of SD as a process of refinement that has PRM as part of its objectives. SD is at times elucidated as sustainable progress, change or barely successful improvement taken precisely. SD would solely imply development that is continuous indefinitely or for the utter duration of concern. Development is a means of positively guided change. Depending on the rationale of the process, development is assumed to be compatible with growth in material utilization. SD would be sustaining the advancement in the material consumption presumably forever. But that idea challenges the general acknowledgement that eventual bounds to consumption of resources exist (Langhelle, 2000). Neoclassical scholars define the target of development as expansion in social welfare. They then continue to evaluate social welfare in relation to economic yield, and explain the growth in economic yield does not forever imply growth in physical output of materials and public resources (Pezzey *et al*, 2005). For economic development to be really sustainable, it

necessitates tailoring the model and implementation of plans to the requirements and capabilities of citizens who are presumed to benefit from them (Pogutz, 2007).

The theory of sustainability was introduced in the setting of inexhaustible resources such as fisheries or forests and has hence been settled upon as an extensive motto by the ecological undertaking (Lélé, 1998). Numerous protagonists of sustainability take it to signify the presence of ecological circumstances entailed to aid human life at a definite level of prosperity across sequent generations. The main contribution of the ecological development debate is the appreciation that in regard to these ecological conditions, there are communal conditions that impact on environmental viability. (Treaty, 2003) argues that social sustainability is the ability to conserve desired social values, institutions, traditions and cultures. A battle eliminating human society would be a symbol of social unsustainability and in return may cause ecological or social vices. SD is comprehended as a design of societal transformation as an extension to traditional development aims. Trade-off may at times have to be exercised between the magnitude to and rate at which environmental sustainability is attained against other objectives like economic sustainability and securing of cardinal needs.

In unindustrialized nations like Kenya, swift population blooming exerts plenty of constraint on public resources like water, forests, land, buildings, equipment, electricity, energy, and solid waste techniques. The subsistence of most Kenyans relies on rainfall for small scale farming, an activity that is highly defenseless to the impacts of climate change. Food scarcity is related with the dispute and shifting of households, growing pressure on grazing resources, water and skyrocketing food cost (UNDP, 2013).

If a sustainable system of development is to be practiced, then demand and supply structures must be basically transformed (Sejenovich et al, 2000). UNEP's idea of SD embodies;

- The view that people-centered exploits are necessary,
- Assistance for the poorest since they are left with no alternative apart from devastating their environment,
- The salient issues of health control, sustainable technology, food, self-sufficiency, shelter and clean water,
- Cost effective growth using ultramodern economic ethics, self-reliant growth within natural resources limits.
- (Varad, 2011) argued that SD seeks to respond to; preservation of environmental integrity, satisfaction of the fundamental human needs, amalgamation of conservation, steady economic progression and attainment of fairness and social justice.

Provision of social life-reliance and cultural assortment, World Commission on Environment and Development (WCED, n.d.), crucial objectives for SD are;

- Reconstructing international economics association,
- Renewing growth,
- Modernizing technology and controlling risk,
- Transforming the quality of development,
- Meeting basic requirements for jobs, water, energy, sanitation and food,
- Consolidating economics and environment in making managerial decisions,
- Preserving and intensifying the resource foundation,
- Guaranteeing sustainable proportion of population,
- Shaping development to be more involving,

There is a growing concurrence that numerous environmental challenges in developing nations originate from the lack of growth, that is from the endeavor to overcome radical conditions of poverty (Bartelmus, 1994), that ecological degradation disadvantages those reliant directly on the natural environment for continuity and contrary development must be economically wide-ranging if it is to be perpetual (Suhrke, 1993). Therefore economic development and ecological quality are co-dependent and in the long-run mutually strengthening (Timberlake, 1984). Insufficient technical know-how and managerial expertise, public resources management, pricing and funding policies (Ahmad et al, 1989) have been the vital ideas addressed and the remedies propose have been techno-economic type. This approach is echoed in policy making decisions like good resource pricing, modelling for efficiency, managing public resources and building management competence (Repetto et al, 2008).

Prudent PRM entails;

- Sound targets and goals well defined and bolster the style in which resources are distributed and directed towards attaining main results.
- Resource apportionment and administration are linked throughout the entire service distribution chain. Consistent resources allocation delivers high quality results.
- Resources should be utilized flexibly. Unspent resources ought to be redeployed to other priority areas.
- Complete costs data on accrual basis should be obtained and used to fast track and appraise performance. Information on usage of resources can guide prospective investment.
- Shortfalls in resources quality should be determined suitably to allow for timely curative measures.
- Demonstrable effect should be felt to boost public confidence.
- Adopting a strategic style to PRM by planning and monitoring to address crucial service delivery precedence and resources required to fulfill them.
- There should be enough room for innovation on sustainability approaches.
- Better focused leadership is paramount to ensure that dependable PRM exist.
- Integrated accounting and management information systems bolstered by professional and competent staff is critical.

SD success is explained in a nutshell; Kenya's energy outline is portrayed by a dominance of conventional biomass energy to cater for the energy requirements of the rural families and a huge dependency on foreign petroleum for the modernized economic sector wants. Due to this, the nation encounters challenges associated with inappropriate use of traditional models of biomass and vulnerability to high and erratic oil import charges. In 2008, Kenya adopted a feed-in tariff founded on the recognition that renewable energy sources inclusive of wind, solar, biogas, community waste energy and small-hydro have aptitude for employment and income generation besides contributing to the provision and variation of electricity production sources.

SD design pursues to lower pessimistic influence on the environment, health, security, food, agriculture, employment and infrastructure. The basic goals of sustainability are to diminish consuming of non-renewable resources, minimize waste, devise healthy and industrious

environments, optimize resources potential, protect and preserve public resources, enhance quality and maximize operational and perpetuation actions.

Transforming climate designs emanating from the universal CO₂ emissions are since yielding harmful effects on the Kenyan environment, economy and society. Economic segments such as tourism, agriculture are enduring serious losses from unsure whether formats with immediate repercussions on the wellness of the citizens. Health threats are being aggravated by the impacts of increasing temperatures on the prevalence of certain diseases like malaria and TB. Access to energy, water and primary conditions of human growth is severely threatened by the continuous exhaustion of ecosystems as well as the influence of drastic weather on distribution infrastructure.

Kenya is aggressively executing strategies and actions to react to the present and forecasted climate adaptations. For instance the national climate change action plan 2013-2017 (GoK, 2013) and national adaptation and mitigation action plans (Muiti, n.d.), were initiated. Climate change acclimation is pivotal for the attainment of long run human growth in Kenya (Brief, 2013).

Governments interested with lasting sustainability don't need to regulate growth in economic productivity as long as balance in aggregate natural resources utilization occur (Mensah et al, 2004). The basic argument of SD is that poverty is chiefly responsible for environmental deterioration, thus eliminating poverty through perfect administration of public resources is immensely instrumental for ecological endurance. (Brown et al, 1996) explains that sustainability means the existence and usage of infrastructure like transportation and communication, services like education, health and good administration. Structural adjustment policies like downward adjustment of exchange rates for developing nations maintains the terms of trade for better economic prosperity and sustainability. Free trade is critical for promoting SD as trade impediments are removed. Maintaining growth in agricultural production by using chemical fertilizers and pesticides is important as it increases yields high enough to sustain life.

MATERIALS AND METHODOLOGY

This is an explanatory and analytical research. Explanatory research describes and clarifies present conditions and associations and assesses prevailing status of occurrence. As appertains to the essence of our subject, relevant data was gathered through associated articles, literature and other related sources. This information was precisely selected from accessible materials. The research embodied the national government and the 47 county governments of Kenya. Specific challenges comprised detecting whether a government policy strategy linked to the economy, environment, society or institutions was really a SD strategy and whether a set of indicators precisely measured SD. The size of indicator categories also differed considerably between counties and some counties had both a 'headset' set and wider 'core' set of indicators. The reported figure of indicators in a given county might have underestimated reality. All these reservations made relative analysis based on the study tough. Determining the most universal indicator among counties was challenging owing to the various techniques in which an indicator of a specific issue can be addressed.

Table 1: Most usual SD indicator themes in policy- grounded sets

Rank	Themes	Number of indicator sets found
1	Agricultural production	18
2	Exports	17
3	External Debt	17
4	Education	17
5	Public Health	17
6	Tourism	17
7	Information Communication and Technology	16
8	Unemployment	16
9	Inflation Rate	16
10	Poverty Level	15
11	HIV/AIDS	15
12	Malaria and TB	15
13	Land	15
14	Basel	15
15	Research and Development Expenditure	15
16	Roads	14
17	UNFCCC (United Nations Framework Convention on Climate Change)	14
18	UNCBD (United Nations Convention on Biological Biodiversity)	14
19	UNCCD (United Nations Convention to Combat Desertification)	14

Themes appearing in 20 or more indicator sets.

Considering similar counties as in table 1 above, 21 particular indicators were observed to be frequent to 20 or more national indicators sets as shown in Table 2. The indicators were determined in terms of their extensive similarity and not certainly by the details of their expression.

Table 2: Most usual SD indicators in policy-grounded sets

Rank	Extensive Indicators	Number of indicator sets found
1	CO2 Emissions	16
2	Education Expenses	15
3	Foreign Direct Investment	15
4	Access to sanitation	15
5	Illiteracy	14
6	Sustainable Development Strategies	14
7	Employment rate	14
8	Fertility	14
9	Maternal Mortality	13
10	Child Mortality	13
11	Savings and Investment	13
12	Access to water	13
13	Deforestation	13
14	Soil Degradation	12
15	Balance of payment	12
16	Income Distribution	12
17	Population Growth	12
18	Per capita GDP	12
19	Terms of Trade	12
20	Biodiversity	12
21	Air Pollution	11

Based on indicators where 20 or more counties have preferred them.

The experience of the 47 counties of Kenya is expressed below to provide a more encyclopedic sense of the procedures which policy supported SD indicators have been advanced. Kenya's pursuit for SD is tracked and put in outlook since attainment of independence in 1963 with special emphasis from 1992 to date which is the period of study. Kenya's economic, environmental, social and institutional development accomplishment made in the last 53 years and specifically for duration between 1992 and now is outlined as well as difficulties facing development.

(Kenya, 1965), signaled the dawn of Kenya's SD. More pertinent strategies that have been unveiled integrate the poverty reduction strategy paper (Levinsohn, 2003), Kenya's development plan vision 2030 (Oparanya, 2012) and economic recovery strategy for wealth and employment creation (Government of Kenya, 2003). The new constitution of Kenya (Gok, 2010) and pertinent amendments that have been included over the years strengthen the policy and legitimate basis of SD in Kenya. The four pillars of SD are embodied in the fundamental rights secured by the constitution which shaped the framework for fairness in Kenya. The development of the economic recovery strategy (ERS) in 2003 was mainly to guide the fresh government which was elected in 2002 about economic strategies for the upcoming five years. The productive areas in that view are tourism, agriculture, trade and industry.

Subsequent to the conclusion of the (ERS), Kenya's development program is now based on the Kenyan vision 2030 which strives at generating universally competitive and successful country with a pleasant standard of living by 2030. Environmental management and coordination Act (EMCA, 2012) was enacted to yield a perfect legal and regulatory infrastructure for the management of the ambient and for events related with social and economic pedestal. Kenya is a subscriber to the convention of biological diversity (United Nations, 1992), one of the upshot of the UN conference on environment and development assembled in Rio de Janeiro in 1992. The National Environment Management Authority (Environment & Authority, 2010), a supervisory body of the Ministry of environment and mineral resources manages environmental order in Kenya. The main challenges of meeting SD and MDGs have been summarized by Kenyan government as;

- The 2007/2008 post-election violence and the fresh fuel and food crisis;
- The autonomy of resources for financing MDGs associated practices is spotted as the main limitation in Kenya;
- Disparaging international trade activities continue to alter benefits made by developing countries like Kenya.

The indicators have been reviewed and published periodically. It was decided that frequent reporting should include all the indicators, rather than just the headline sets. The strengths of SD policy indicators (PIs) are;

- PI associate directly with national policy guidelines for SD, making them extremely relevant to accepted goals.
- PIs are frequently selected through straight interaction with partners, ensuring a consultation for the indicators when reported.
- PIs are easily comprehended intuitively and are open to fresh matters as they arise.

The weaknesses of SD PIs are;

- They are not subject to any succinct theoretical framework,
- The link to SD is at times tough to justify,
- PIs often embody a huge number of features in one set, thus making it tough to realize whether development is appropriate or not,
- It can be uneven over time as fresh policy matters emerge.

Notable trends in SD indicate as follows;

- Poverty has been curtailed but is still common in most counties despite success in past decade. Out of a population of 44 million, 45.9% (20,196,000) survive in utter poverty, about 79% (34,760,000) of the aggregate population dwelling in rural areas,
- Access to free fundamental education has improved convincingly in all counties. Kenya's trends in education are inspiring with significant rise in primary admission with time and the decrease in gender dispersity in school attending,
- Fertility rates have declined in few counties. Fertility levels mostly decline across time primarily with rising income and literacy. The current fertility rate is 4 per woman,
- Health infrastructure and labor force is still wanting,
- Most citizens do not have meaningful access to present-day energy due to serious poverty. Wood fuel and biomass accounting for 68% of absolute energy consumption furnishes the essential energy for rural populace, informal sector and urban poor. Electricity, petroleum and others account for 9%, 22% and 1% respectively,
- Kenya's positive gross domestic product (GDP) growth level mean was 1.27% from 2005 to 2006, observing the leading rate of 3.80 in the opening quarter of 2010. This was supported by advancement in macro-economic administration in several counties and compelling global market for vital Kenyan export products and upholding swelling export costs largely for coffee, Wheat, refined petroleum, tea and horticultural products,
- Roads are still underdeveloped to meet the growing road use demand. Small population density in northern counties of Kenya like Garissa, Lodwar, Wajir, Isiolo, Mandera, Marsabit, Samburu, Turkana, Wajir and West Pokot convert into immense per capita cost of road systems. Along with the span of road networks, bad quality of roads as a result of general poor maintenance is a cyclical setback in Kenya,
- Use of information and communication Technologies (ICT) is still considerably low but advancing fast with the introduction of ICT in schools.
- Exports have gradually increased with Kenya's major business associate being China, Malaysia, India, Japan, USA, Tanzania, Zambia, Netherlands and Uganda,
- The challenge of lethal diseases like Malaria, TB, Acquired Immune Deficiency Syndrome (AIDS) still prevail. HIV pervasiveness dropped from 7.2% to 5.6% and the incidence density rate reduced from 0.7 to 0.4%. The decline of the epidemic is due to the betterment in association to medical and home based care, roll-out and frequent sensitization on antiretroviral therapy, and more emphasis in the launching of male circumcision schemes.
- Lack of availability of safe drinking water throughout Kenya is 59% and hygiene is at 32%. This is the leading cause of diarrhea which is second to pneumonia in children deaths under the age of five years,

- Tourism ranks high in service exports in several counties of Kenya. It displays the swift growth rate of services exports for sizeable number of counties. The further growth of tourism sector will offer improved source of employment. It can influence favorable spill-over impacts in form of enhanced infrastructure, communications, technology and expertise,
- The intensity of financial power remains weak. However external sources of borrowing are critically important in financing development projects in Kenya,
- Financial markets have experienced substantial deepening notably from 2000. Moreover the capital market is still undeveloped with no active derivative market,
- Food productivity has not kept momentum with quick population growth over the previous decade. This is so due to over reliance on rainfall for agriculture, declining soil fertility as a result of low levels of soil organic matter, lower usage of improved seeds and fertilizers, comparative disintegration of land holdings, lower degree of mechanization and constrained means of access to credit for farmers,
- Domestic savings and investments are performing below par. The savings is between 13-14% of gross domestic product (GDP) much less than her contemporaries like Uganda and Tanzania who have crossed the 20% level. Low savings are the principal factor for noticed low investment rate,
- Rainfall uncertainty highly impacts on many counties that are hugely dependent on rainfall for irrigation. Policy designers have urged farmers to collaborate with meteorological departments to be able to anticipate when rains are due so as to align their planting seasons appropriately and continuously harness rain water for use during dry weather,
- Kenya's beautiful and varied biological heritage is at high risk in many counties due to destruction of ecosystems through exploitation, planting of foreign species, pollution and deforestation,
- Satisfactory attainment of MDG remains a grave challenge. Hunger in most families with people living below the poverty line at 46%, high infant mortality rate of about 74 deaths for every 1000 children under the age of 5 years due to low immunization rate of 68% to deadly diseases like measles. Primary school enrolment stands at 90% thanks to the free primary education initiative, but the 10% who miss out impact negatively to development. Limited access to water in some counties especially in northern parts of Kenya due to recurring drought and lack of enough water conservation and irrigation mechanisms,
- Emigration of skillful professionals in health and education sectors remains widespread. This is basically aggravated by the urge for education and employments prospects.

CONCLUSION

This study has undertaken to draw the finest from the theoretical efforts of researchers and the useful work of policy architects and statisticians. The study was tailored towards reflecting on the conceptual style of measuring SD founded on policy indicators and to assess this with indicators frequently embraced in existing national government and respective county governments' indicator sets. This was an original task and hence it's trusted that this article will be regarded as a useful contribution to an already overcrowded discussion. The study can be appreciated as an accomplishment from numerous standpoints. Principally over the progress of more than one year of consultations with stakeholders, there was enormous understanding of the duty each had to play. The study has led to the suggestion of a practical

set of SD indicators that might aid as the footing of county governments SD comparisons. This will intensify inter-county coherence. The framework assumes an integrated perspective of SD that proposes the need to guarantee both present well-being and potential for long-run prosperity.

An emphasis on future basis of well-being is crucial to existing policy based indicator sets. The comparative dearth of indicators for present well-being from most regular policy based indicators, signals the depth of opinions that exist with respect to the basis of current well-being. While there are numerous individual indicators of present well-being, in policy-based sets they are differing enough as such they do not differ predominantly among common indicators. Such field is to be anticipated as social researchers have not yet recognized a globally held perspective of what ascertain current well-being. If all the 47 county governments of Kenya work towards collating the set of indicators, much could be acquired in terms of inter- county comparisons and culminating into ultimate national government progress regarding well-being in lifelong. Further research can be conducted on the computation of economic wealth and the suitable physical indicators for describing and evaluating social life.

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REFERENCES

- [1] Ahmad et al. Environmental accounting for sustainable development, 1989. Retrieved from http://cataleg.uab.cat/record=b1192322~S1*cat
- [2] Bartelmus P. Towards a framework for indicators of sustainable development.pdf. United Nations Department for Economics and Social Information and Policy Analysis New York, 1994. Retrieved from <http://millenniumindicators.un.org/unsd/environment/wp7.pdf>
- [3] Brief I. Population , Climate Change , and Sustainable Development in Kenya, 2011–2014.
- [4] Brown et. al. Participation, social capital, and intersectoral problem solving: African and Asian cases. World Development, 1996. [http://doi.org/10.1016/0305-750X\(96\)00053-8](http://doi.org/10.1016/0305-750X(96)00053-8)
- [5] Clark J. The State, Popular Participation and the Voluntary Sector. NGOs, States and Donors: Too Close for Comfort? 1997; 23(4): 593–601.
- [6] Costanza et. al. Recommendations for Ecological Economics. Ecological Economics, 1818. 1Đ20. <http://doi.org/10.1055/s-0029-1214156>
- [7] Deneulin et. al. The capability approach and the politics of a social conception of wellbeing. European Journal of Social Theory 2010; 13(4): 501–519. <http://doi.org/10.1177/1368431010382762>
- [8] EMCA. Laws of Kenya Environmental Management and Cordination Act, 2012.
- [9] Environment N, Authority M. National Environment Management Authority (NEMA)

STRATEGIC PLAN 2005 – 2010 Abridged Version, (March 2005), 2010.

[10] Gok. Laws of Kenya 2010; 191.

[11] GoK. PFM 2012 Act, 2012.

[12] GoK. National Climate Change Action Plan 2013; 2013 -2017.

[13] Government of Kenya. Economic Recovery Strategy for Wealth and Employment Creation, 2003; 2003-2007, (June 2003), 91. Retrieved from siteresources.worldbank.org/KENYAEXTN/Resources/ERS.pdf

[14] Hettinger N. Valuing Predation in Rolston's Environmental Ethics: Bambi Lovers versus Tree Huggers. *Environmental Ethics* 1994; 16(1989): 3–20.

[15] Kenya R. Sessional Paper no. 10 1965: On African Socialism and its Application to Planning in Kenya 1965; 56.

[16] Krause, Gladwin T. Shifting Paradigms for Sustainable for Implications Development : and Theory Management. *Academy of Management* 1995; 20(4): 874–907.

[17] Langhelle O. Why ecological modernization and sustainable development should not be conflated. *Journal of Environmental Policy & Planning* 2000; 2: 303–322. <http://doi.org/10.1080/714038563>

[18] Lee RM. Doing research on sensitive topics, 2000.

[19] Lele S. Resilience, sustainability environmentalism. *Environment and Development Economics* 1998; 3(2): 221–262. <http://doi.org/10.1017/S1355770X98260128>

[20] Levinsohn J. G-24 Discussion Paper Series The World Bank 's Poverty Reduction Strategy Paper Approach: Good Marketing or Good Policy? New York 2003; (21). <http://doi.org/10.1111/j.1467-7679.2009.00443.x>

[21] Meadows et. al. Limits-to-Growth-digital-scan-version.pdf, 1972.

[22] Meadows et. al. Beyond the limits to growth. *Dancing Toward The Future* 1992; 32: 1–6. <http://doi.org/10.1007/978-4-431-54559-0>

[23] Mensah et. al. Sustainable resource use and Sustainable development: a contradiction?! *Desarrollo de Base : Revista de La Fundación Interamericana* 2004; 15(3): 1–22. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/12320277>

[24] Muiti A. National Adaptation and Mitigation Action Plans.

[25] Oparanya A. The Kenya Vision 2012; 1–14.

[26] Pezzey et. al. Chapter 6 Sustainability and its Economic Interpretations by John C.V. Pezzey and Michael A. Toman, 2005; 1–21.

[27] Pogutz S. Sustainable Development, Corporate Sustainability, and Corporate Social Responsibility: The Need for an Integrative Framework. *Ecosystems*, 2007.

[28] Repetto et. al. The Climate Crisis and the Adaptation Myth. *Change* 2008; (13): 1–24. Retrieved from <http://environment.yale.edu/pubs/publication-series>

- [29] Schoenherr T. The role of environmental management in sustainable business development: A multi-country investigation. *International Journal of Production Economics*, 2011. <http://doi.org/10.1016/j.ijpe.2011.04.009>
- [30] Sejenovich et. al. 10. Development, Equity and Climate Change in Latin America. *Development, Sustainability and Equity. Proceedings of the Second IPCC Expert Meeting on DES. Havana, Cuba 23-25 February 2000, (February), 2010; 177–197.* Retrieved from <http://193.194.138.236/pdf/supporting-material/des-2nd-ipcc-expert-meeting.pdf#page=177> <http://wmo2.insomnation.com/sites/default/files/documents/pdf/supporting-material/des-2nd-ipcc-expert-meeting.pdf#page=177>
- [31] Suhrke A. *Pressure points: Environmental Degradation, Migration and Conflict. Peace and Conflict* 1993; 1–43.
- [32] Timberlake. *Guarding Africa’s renewable resources*, 1984.
- [33] *Treaty. Development That Meets the Need of the Present Without Compromising the Ability of Future Generations To Meet Their Own Needs* 2003; 1–11.
- [34] UNDP. *Kenya National Human Development Report*, 2013. <http://doi.org/10.1017/CBO9781107415324.004>
- [35] United Nations. *Convention on biological diversity. Diversity* 1992; 30. Retrieved from <http://www.cbd.int/doc/legal/cbd-en.pdf>
- [36] United Nations Environment Programme. *Rio Declaration - Rio Declaration on Environment and Development - United Nations Environment Programme (UNEP)*, 1992.. Retrieved from <http://www.unep.org/Documents.multilingual/Default.asp?DocumentID=78&ArticleID=1163>
- [37] Varad. *Microsoft Word - 2011-05-11 GSP Note - Equity in Context of Sustainable Development - INDIA* 2011; 2: 1–13.
- [38] Viederman. *The Sustainable Enterprise Paradigm Shift-Industrial Environmental Performance Metrics Challenges and Opportunities -The National Academies Press*, 1994.
- [39] WCED. *Report of the World Commission on Environment and Development Our Common Future - A 42 427 Annex - UN Documents Gathering a body of global agreements.*
- [40] Welfens MJ. *Helmut Schütz Maria J. Welfens* 2000; 103.

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