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Achieving the SDGs in Ethiopia:
It is all about sound policy choices and commitment to their implementation

Background

As of January 1, 2016, Sustainable Development Goals (SDGs) replaced the Millennium Development Goals (MDGs). The UN General Assembly endorsed the set of 17 Sustainable Development Goals (SDGs) and 169 targets on 25 September 2015[i]. The next phase would be for countries to embark on implementation of the goals. This, among other things, would require contextualization of the goals, targets and indicators to national realities. Ethiopia has already embraced the SDGs and indications are that the Growth and Transformation Plan (GTP) II will integrate the goals fully. It has gained significant experience in terms of integrating MDGs into its successive medium term national development plans, which makes it easier for the country to do the same for SDGs. However, the complexity, scope, requirements for monitoring and review, and the required means of implementation of SDGs means that the country should do more than what it did for MDGs, starting from planning and implementation to monitoring and evaluation, to increase the likelihood of achievement.

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Two issues are critical for making progress on any development agenda: the availability of resources and efficient allocation of resources. The effectiveness of both factors depend on the policy environment (political commitment) which drives them, as right mix of policies and strategies—whether they are for expanding the availability of resources or allocating the resources efficiently—determine success. I will look at the implication of SDGs for Ethiopia, considering the two issues, viz., availability and allocation of resources.

Resource availability

Though availability of resources doesn't necessarily result in the achievement of a particular objective, it is the minimum condition that should be in place for

realization of a grand goal such as that of SDGs. One criticism against SDGs is that they are expensive to implement and available resources are not adequate. However, this is not a valid argument. At global level, it is estimated that achievement of SDGs would cost around $10 trillion per year. Available evidences show that every year, savings from private and public sources are estimated at $22 trillion globally.

The problem, however, is that resources are unequally distributed among countries and within countries. Some have more than what they need; others have only a fraction of what they need. If the SDGs are truly global, resource should not be a problem. The problem that the global community need to contend with is therefore inequality in the distribution of wealth and not with resource availability as such.

Because of historical circumstances, it is often easy to equate resource requirement for SDGs with Official Development Assistance (ODA) and about securing funding from donor countries. However, the circumstances have changed. The global financial and economic realities that surfaced following the 2008 crisis has shown that such approach to funding is not adequate. The fact that most of the rich countries were not able to fulfill the ODA requirement of 0.7% of their Gross National Income (GNI) does also show that developing countries can't rely on this source of funding to achieve the SDGs. The fact that SDGs are also universal in nature would also mean that the implementation of SDGs (at least globally) is more than ODA.

What else can be done to generate additional resources?

How likely is it to mobilize these resources? In addition to the usual ODA, the Addis Ababa Action Agenda (AAAA) also provides opportunities that developing countries can exploit to achieve SDGs. In the long-term, dependable source of funding should come from the countries themselves.

This means it should ultimately be about speeding economic growth so as to enhance domestic resource mobilization. In this regard, the AAAA considers the following factors as essential for the achievement of the SDGs, promoting science, technology and innovation; capacity building; attracting foreign direct investment (FDI); benefiting from global trade and preventing illicit financial flows; and strengthening domestic resource mobilization.

Existing realities in Ethiopia does not seem to suggest that required resources could be mobilized from domestic resources. The level of tax-to-GDP ratio is only 12.9 percent of Ethiopia—a figure which is lower than Sub-Saharan Africa average. One may wonder why this ratio has not moved much despite the high rate of GDP growth (about 11 percent during the last ten years). Answer could be found in the lower pace of structural transformation. Agriculture constitutes about 40% of GDP but the tax from agriculture out of total GDP is negligible. So, the ability of Ethiopia to generate more tax-revenue rests with either taxing agriculture (which is unlikely due to the dominance of the sector by small holders), or transforming the composition of agricultural sector (from smallholder farming to large commercial agriculture) or working more towards industrialization. The low pace of structural transformation will limit the level of resources that can be mobilized locally.

One area where the country should work on is avoiding leakages. Corruption—whether grand or petty—might be one of the factors for low level of revenue mobilization. Illicit financial flows (IFF), partly an indication of corrupt practices, also weaken the capacity of the country to implement SDGs by diverting resources. According to a report on Report of the High Level Panel on Illicit Financial Flows from Africa[ii], IFF from Ethiopia from 1970—2008 amounts to $16.5 billion (which is about 0.4 billion per year on average). The same source estimates that IFF in Ethiopia amounts to 6 percent of GDP. With increased business activity and complex electronic transactions, the flow could go above the average.

Foreign Direct Investment (FDI) is another element emphasized in AAAA. Enhanced FDI not only increases employment opportunities, but it also creates an opportunity for expanding innovation through enhanced knowledge transfer. Increased FDI however requires sound environment for businesses. Evidences in this regard does not support Ethiopia.

According to the 2016 Doing Business in Ethiopia Report, Ethiopia ranks 146 out of 189 countries, lower than Rwanda (ranked 62nd, Kenya (ranked 108th), Uganda (ranked 122nd) and lower than Sub-Saharan Africa average . Ethiopia should do more to attract FDI; but, what really promotes FDI? Countries, including Ethiopia, have attempted to lure FDI, among other things, through tax incentives. However, there are questions regarding the effectiveness of such measure. Tax incentives are important but it should be selective. If the environment is right and there is strong possibility of making profit, the private sector will invest whether there are tax incentives or not. Incentives are, however, important when market is inefficient in allocation of resources. Government may provide tax incentives to firms involved in research and development, where there are significant positive externalities. Such is the practice, even in Organization for Economic Cooperation and Development (OECD) countries where governments provide tax-incentives for promoting science, technology and innovation. Fostering the culture of competition is important if the country is to benefit from the various opportunities presented by various trade agreements, such as US's Africa Growth Opportunity Act (AGOA) and EU's Everything-but-Arms (EBAs) initiative.

Other opportunities for enhancing resource mobilization could also be explored. Such mechanisms include developing financial market and opening up the financial sector to competition (domestic as well as foreign). This seems to be a no-go area in the short term, but which will surely contribute to the capacity of the country to generate more resources.

Some of the policy stances that the country adopted could promote private sector development and also constrain the capacity of the country to generate the required resources.

Efficient allocation of resources

As indicated above, availability of resources is only part of the equation. Allocation of these resources is the other remaining part, as right mix of policies and strategies is important to maximize efficiency. 'Right mix' might not be so obvious, as such decisions are both economic as well as political in nature.

It is what comes through the process of learning by doing—from own experience as well as experience of other countries. Achieving 'right mix' is a function of proper planning and implementation, and learning from them through sound evaluation. It is about allowing genuine participation, ensuring transparency, instituting the culture of learning from practice (i.e., evaluation), accepting failures and instituting accountability. The question is to what extent the policy environment is conducive, not only for enhancing availability of resources, but also for promoting their efficient utilization and to realize such ambitious agenda as that of Agenda 2030.

Proper planning

Proper planning is expected to achieve efficient allocation of resources, as it is the process through which SDGs find their way into the national development plan. The 'right mix' determines the extent to which the SDGs are contextualized at national levels. Contextualization is done through the normal procedures (processes) of planning, implementation, monitoring and evaluation of development plans. It is the process through which SDGs are localized and translated into national realities. Adopting a goal or a target is not enough.

It is important to ensure that the target are ambitious and within the spirit of the context in which they specified in Agenda 2030. It involves analysis of existing policies and strategies and revising or changing them. It may also entail putting new policies and strategies in place, if proper policies are not in place. Understanding the administrative arrangement is essential for proper planning and contextualization of the goals to local realities.

By signing to Agenda 2030, Ethiopia has fully endorsed the SDGs and indicated that it has fully mapped them with the second Growth and Transformation Plan (GTP II). However, mapping the SDGs with the elements in the plan does not mean that SDGs are integrated into the national development plan. The SDGs framework among others require that involvement of various stakeholders in planning, monitoring and review be institutionalized, with all having equal voice.

The involvement of stakeholders in the process of integrating SDGs into GTP II is however weak, as it was limited to stakeholders consultation. Though it is a legitimate step, according to what is called the *Arnstein's ladder*[iv] , this is mere tokenism and does not fully empower citizens. This reduces the level of national ownership.

Resource use could be optimized through the adoption of integrated approach to planning. SDGs and their targets are interlinked, which means that the usual compartmentalized (silo) approach to sectoral planning is not going to yield optimal result. The extent to which achievement in one sector affects achievement in another sector should be analyzed and resource allocation should be done accordingly. This is methodologically demanding but it is important if SDGs are to be achieved. Despite Ethiopia's long culture of development planning, this has not been the case.

Implementation, monitoring and evaluation

This is about converting the plan to reality. One of the principles involving successful implementation of Agenda 2030 is national ownership. Government leadership is critical but that doesn't equate with national ownership. Achieving the SDGs at national level is not the responsibility of government alone. The civil society organizations and the private sector players are equally responsible though their roles are different. A true national ownership requires involvement of all stakeholders at all cycles—planning, implementation, monitoring and evaluation. It is about genuine partnership.

Rights mix of policies require a system of learning from practice. Commitment to learning is a good indicator of commitment to implementation of policy choices. For this, sound evaluation and openness/willingness to learn is essential. However, experiences so far does not support this. Culture of learning is weak. Implementation of strategies/ projects is often started and abandoned without sufficient assessment. Sometimes, lessons from implementation of polices and strategies may show evidences that entail accountability. When such is the case, accepting failures and moving on would be economical in the long-run, even if it runs contrary to long-established views. Dogmatic approaches to development policies and strategies runs counter to the spirit of learning. Instead, pragmatic approach is what is required for successful implementation SDGs. In this regard, building the culture of evaluation is a step forward.

Learning also requires the availability of quality data in a timely manner and with sufficient level of disaggregation. The SDGs require disaggregation of data by different categories such as sex, region, ethnic groups, and many others so as to monitor the realization of the principle of leaving no one behind.

Though Ethiopia has relatively well developed system for data collection, challenges remain in terms of timeliness and level of disaggregation. The source and use of data for analysis have also been contentious issues in Ethiopia. Analysis based on sources outside of official government sources were often rejected by officials—particularly when the messages contradict what government sources say.

Such approach, however, cannot be justified as it defeats the whole point of transparency, and by doing that weaken accountability. What should determine the acceptability of data sources should be the soundness and methodological rigor involved in its collection rather than who produced it.

Developing a culture of accountability ensures efficient utilization of resources. Effective civic engagement is particularly useful when it comes to ensuring accountability. Legal environment for civic engagement need to be conducive to do that. Capacity of civil society to engage in such issues needs to be strengthened as well.

Summary

As shown above, in addition to resource issues, there are many factors that constraint the achievement of SDGs. The process that allocates these resource efficiently—the planning process—and effective implementation, and M&E system are the other elements.

As the 2030 Agenda for Sustainable Development shows, the processes involving the contextualization and implementation should be people-centered, inclusive, participatory, and transparent. This shows the centrality of the application of good governance principles, namely, participation, transparency and accountability. These are important for the country to achieve the SDGs.

Notes

[1] UN (2015). "Transforming Our World: the 2030 Agenda for Sustainable Development". Resolution adopted by the General Assembly on 25 September 2015.

[1] AU/UNECA (2015) Illicit Financial Flows: Report of the High Level Panel on Illicit Financial Flows from Africa;

[1] World Bank (2016). Doing Business 2016, Measuring Regulatory Capacity and Efficiency: Ethiopia

[1] Arnstein, Sherry R.(1969) 'A Ladder Of Citizen Participation', Journal of the American Planning Association, 35: 4, 216 — 224. Available from: *http://dx.doi.org/10.1080/01944366908977225*; Accessed 19/11/2015

Good Governance and Democracy Building:
Why they matter so much for Ethiopia?

Good governance is everything; it is so wide that sometimes it is even difficult to distinguish between development and good governance. It touches virtually all aspects of public life – from institutions that set the rules of the game for economic and political interactions, to decision-making structures that determine priorities among public problems and allocate resources, to organizations that oversee/regulate implementation of policies and programmes, to human resources that deliver goods and services to citizens.

Good governance is probably an abused term; it reflects an evolution in thinking, and it may mean different things to different people, based on convenience and particular ideology. Accordingly to "universal definitions", good governance is considered as a policy and practice that promote and ensures accountable, responsive and open government where public authority and power are derived from the people, and where government is answerable to the people. In the literature, good governance describes a situation where citizens individually and collectively actively participate in and control over their own affairs (democracy in practice).

The question is: are particular conditions of good governance prerequisites for a steady growth and development or are they consequences themselves? The discussion between development researchers, academicians and practitioners on the nexus between development/economic growth and governance is far from being concluded.

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Issues of good governance are intimately inter-related with successful development, and this has become a widely accepted contemporary development thinking. Simply put, at the end of the spectrum is good leadership - what counts the most in the end is the quality of governance – the nature, ability and effectiveness of the state. "What are mainly needed to raise Africa from poverty to prosperity are improvements in governance, which will reduce the risks of investment and encourage the return of flight capital" (Wood, 2002).

However, improving capabilities and effectiveness of governance in Ethiopia, and broadly in Africa is a daunting task. Political culture in many African countries is still characterized by authoritarianism, elite rule and patronage. Despite visible improvements in recent times, overall, there is a serious lack of checks and balance that led to the concentration of power in the executive branch, sometimes in the hands of a handful of powerful groups or strong political figures. African countries are not yet characterized by strong national institutions, broad-based policy consensus (the lack of the latter being one of the sources for violent political confrontations) and a stable socio-political environment, which are all prerequisites for a steady growth and sustainable development. In the worst case scenario, the failure of governance can spill-over into open conflicts (African Capacity Building Foundation, 2011), and failure of sates to provide even the most basic security and public services. Ethiopia is not any different in this respect. Generally, there is a limited understanding of democratic values within the society and institutions; social norms and institutions still sustain restrictive political lives, constructive engagement and dialogue continues to be in deficient, and opportunities for a competitive political process remain limited.

With regard to building and nurturing democracy, there appears to be no consensus on a single model. Liberal democracy, the kind of democracy people in the western world enjoy, may be considered unrealistic for impoverished nations of Africa, with little or no democratic cultures. In few other countries (Ethiopia included), revolutionary democracy and its developmental state ideology have emerged, with all their limitations, as alternatives to liberal democracy. Providing a comparative analysis of the two variants is beyond the scope and objective of this short article. The fact of the matter is, any effective democracy – Liberal or Revolutionary, West or East, North or South, must, like it or not, to take into account **the good governance factor.** Some of these factors actually represent core functions of any effective government, such as ensuring effective checks and balances (it would enable different branches of the state to protect their autonomy);ensuring transparency and accountability at all levels (there must be functioning mechanisms and systems where decision-makers will be held accountable for their actions - most importantly accountability of public authorities to the electorate); ensuring the rule of law (it is a basis for social equity and investor confidence); controlling corruption and administrative malpractices (they can undermine investment, and eventually erode development gains); ensuring safety and security (it is the most basic human right and a core function of any state); and accountable, efficient, transparent and responsive public service delivery.

Put it differently, there seems to exist a wide consensus among development researchers and practitioners that steady and accelerated development requires a 'minimum governance condition' that is "good enough" to ensure the existence of minimal conditions of improved governance that are necessary to enable further political, social and economic advancements. However, good governance entails a value judgment, and one wonders what this "good enough governance" constitutes. The concept of 'good enough governance' implies the existence of the minimal conditions of governance necessary to allow social, political and economic developments to occur in a participatory and sustainable manner (Grindle S.; 2007).

There is a long list of things that need to be fixed to achieve good governance, sometimes with competing priorities. In fact, demanding good governance may even be seen by some as a "luxury", given the multiple challenges ahead of us on one side, and the resource limitations on the other. The prevailing view is that, for Ethiopia, this is not a matter of choice. This notion of development first, and then good governance/democracy is simply irrelevant at best, misguiding at the worst.

In the final analysis, development is about improving the quality of life of citizens. And, Ethiopians deserve a much delayed decent and dignified life, which can only happen by ensuring a governance system that is inclusive, accountable, transparent and result-oriented. If the country is to materialize its ambition of becoming a lower-middle income country by 2025, then this is high time for the country and the government quickly and appropriately act. The question we need to raise and answer is: what should be the sequence of activities given the long list of things to do, and what are the best ways to move towards improving governance in the context of Ethiopia? True; Ethiopia cannot afford to have a weak government. Laissez-faire polices may have worked fairly perfectly in other contexts in the past, but in the current context, one thing that African countries need more than anything else is, perhaps strong and visionary governments that are committed to development and good governance.

However, a strong government or a developmental state does not need to be in control of everything; rather, it should allow other actors to play their respective roles. The more the governance is inclusive and participatory, the more legitimate it would be. It goes without saying that a degree of internal political stability would be required for the policies to bear fruit and sustained. Yet, this should not be used as an excuse for not actively pursuing truly pluralist political processes or even to downplay public dissatisfaction. In the final analysis, if states fail to accommodate rising public expectations, then, they themselves are bound to fall; this is what history tells us.

Ethiopia's ranking on government effectiveness/ public sector governance continued to improve. The government has made significant strides over the past several years in reforming the civil service (and continues to do so). The country also continues to score well on the assessment of public financial management, with systems that are generally considered robust by PEFA (a World Bank assessment tool).

However, there seems to be a lot of unfinished business – the good governance agenda is lingering quite for sometimes now. The Ethiopian civil service is yet to extract itself from favoritism, inefficiency and self-serving attitudes. The environment has to be further relaxed for a vibrant media to grow and for civil society to play its legitimate role. Compared to some other countries in the Africa region, Ethiopia is considered still relatively low on corruption incidences when it comes to grand corruption. The country has put in place the necessary polices and infrastructures to combat corruption. Yet, corruption appears to rise in recent times, and questions remain as to how robust and effective these systems and structures have been. More needs to be done on how best to tackle rent-seeking and effectively prevent corruption, and in a sustainable manner. Equally important is the need to ensuring the rule of law and efficiency and predictability of the judicial system.

Governance is a two-way process: demand side and supply side. The supply side is a central factor in explaining Ethiopia's difficulties, but equally important is the demand side. Consistent with the assumption that sustainable development is predicated only on stable and peaceful conditions, actively engaging in and facilitating conditions for dialogue, supporting peace-making efforts and tackling the fundamental causes of dissent and conflicts are also considered to be essential elements.

In political terms, the political history and traditions in our society that have given rise to a 'zero–sum politics' to resolving differences and attaining and maintaining political power should pave way to **constructive engagement and dialogue, accommodation and 'rule by consensus.'**

Efforts in the area of economic governance will need to focus on accelerating structural transformation of the economy and public sector reform agenda that are supported by robust public policies and strategies – with specific emphasis on making the civil service more effective, accountable and responsive, and more generally on increasing transparency and accountability of the state and its institutions.

How robust public policies look like? They are policies that enjoy broad national consensus by incorporating views, perspectives and aspirations of all national actors, and not just a set of government priorities and goals (no matter how the policies could sound attractive). This implies, among other things, greater role for the private sector, and eliminating unnecessary government controls.

There is also a dire need to create a conducive investment climate by ensuring effective enforcement of contracts and other legal provisions. GoE has put in place various trade and credit policy incentives particularly for selected investments such as manufacturing. Yet, the country's overall ranking in the World Bank's Ease of Doing Business Index remains low (107 out of 183 countries). The tax and urban land administration would have to go through major reforms; deliberate effort has to be made also to nurture the culture of ethical business practices that include, among other things, corporate social responsibility.

Who are the "drivers of change" in all this? And what needs to happen for the Ethiopian governance situation to improve? First, we need to stop externalizing our problems and assume our respective duties and responsibilities. Those holding public positions and the government as an institution have to challenge themselves and come up with sustainable strategies and assume responsibility for their behaviors and actions. Civic engagement is another element. After all, nation building is a collective effort and every actor in the society has/should have a role to play, and as part of this endeavour, genuine citizen engagement has to be promoted.

Last, but not least, there is a need to address the leadership factor - there should be a commitment and determination on the part of the top political leadership to create the conditions for an inclusive and participatory policy making process.

There is a widely held view that national leadership, whether it is based on a "collective leadership" or on a "Great Man Theory", is critical in realizing transformation. Experience of other countries suggest that the key success to accelerated and sustainable development very much depends on effective political leadership. In the world of today, Africa's development depends, more than anything else, on a visionary and effective political leadership.

In the Ethiopian context, this would require: a clear vision and goal; ability and flexibility to manage emerging changes; a commitment to foster inclusive policy/governance processes; and ability to mobilize popular support around a shared vision.

In the Ethiopian context too, it goes without saying that national leadership is instrumental in providing a broad-based public policy and accelerating development. In practice, this would require:

- Readiness to learn from other's experiences;
- Openness to consider alternative policy options;
- Deep understanding of economic and political issues;
- Genuine commitment to reforms; and
- Ability and commitment to garner coalition - to create a national platform, and the courage to actually forge effective alliance with other development actors;

Equally important is **existence of empowered/ strong national institutions**. *Empowered and strong national institutions constitute a set of principles such as: professional autonomy, integrity and credibility. The call for an independent and professional bureaucracy, for instance, implies for* **a civil service that is free from political corruption and nepotism but rather governed, first of all, by merit and professionalism**.

These objectives will not be achieved only by wishful thinking or slogans; long-term and systematic reform measures have to be taken to instil meritocracy in the civil service, to further strengthen oversight and accountability/democratic institutions, and to ensure integrity and predictability of the judicial system. Election is one form of democracy, but not a panacea. Electoral democracy has been challenged particularly in Africa. It has worked well in relatively homogenous societies (in terms of wealth, cultures, ethnicity, etc.) but, in heterogeneous settings, elections could actually lead to heightened tensions, even violent conflicts.

In fact, elections in Africa so far have largely failed to achieve an inclusive democratic transition; to the contrary, they become sources of marginalization and political polarization, eventually leading to violent conflicts. It may also give the dominant group (s) the legitimacy to impose their terms and conditions, and so concrete measures need to be taken to promote a truly competitive political process.

Having good policies, laws and strategies is one thing; ensuring their universal and effective implementation and enforcement (and in good faith), is another. Of course, putting in place the right policies and strategies is an important aspect of the equation, but not enough in its own right. A critical obstacle to good governance by extension to sustainable development in Ethiopia is not so much about the lack of policies or laws; rather it is very often the lack of genuine commitment or leadership or capacity or a combinations of all these to enforce the policies and laws. When governance reforms fail or are short of delivering the desired results, then governments tend to resort to rhetoric or remain complacent. The point is, if the rule of law, transparency, accountability, human rights are to prevail, then public officials and political cadres find no incentive for these to happen because these would deny them the opportunity to maximize unearned/unjustified personal and group benefits, mostly at the expense of the state and the general public as a whole.

Despite some noticeable progress in this respect, issues linger in many aspects. All our institutions have to navigate through diversity challenges.

In a nut-shell, it boils down to some three areas:

1. Creating a critical mass of capable civil servant that is committed to reforms;
2. Making sure that there is as much wider consensus as possible on the way forward and ownership of the transformation agenda;

Informed decision-making at all levels. Furthermore, ensuring constructive political dialogue, free access to public information, creating conditions for a vibrant media to grow are all central to consolidating democratic transition. Without further reforms, Ethiopia's fledgling democracy remains vulnerable and fragile, and the stakes are great.

There is a widely held view that consolidating democracy is a gradual process that requires not only local ownership and leadership, but also a continued engagement and investment by government and international development partners. Investments in capacity building and democratic consolidation by international development partners should increasingly focus on country-owned changes and processes, with greater chance of stakeholder ownership of the proposed interventions and successes. Efforts should also be directed to aid those institutions, organizations and processes with considerable spill-over effects to other areas, while at the same time ensuring that donor interventions do not lead to capacity vicious cycles, thus undermining the development of sustainable public capacity.

Deepening community based natural resources management: An engine for green economy in the high lands of Ethiopia

A green economy defined as one that results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities. The Government of Ethiopia development path should maintain, enhance and, where necessary, rebuild natural capital as a critical economic asset and as a source of public benefits, especially for poor people whose livelihoods and security depend on nature.

Community Based Natural Resource Management (CBNRM) has evolved over the last two decades in response to the limitations of previous top down resource management approaches that were based primarily on a pure technical approach to natural resources management.

CBNRM is generally viewed as a mechanism to address both environmental and socio-economic goals and to balance the exploitation and conservation of valued ecosystem components. It seeks to encourage better resource management outcomes with the full participation of communities and resource users in decision making activities, and the incorporation of local institutions, customary practices, and knowledge systems in management, regulatory and enforcement processes.

Ethiopia envisions to achieve middle-income status by 2025 while developing a green economy. Following the conventional development path would, among other adverse effects, result in sharp increase in greenhouse gas (GHG) emissions and unsuitable use of natural resources. To this effect, Climate Resilient Green Economy Strategy Developed.

The two major reasons for developing CRGE strategy is to avoid over exploitation of natural resources such as forest and crop lands and ensure their long term economic contributions.

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Another reason is to ensure inclusive benefits of growth, especially to improve the resilience of poorer communities that are more vulnerable to the impacts of climate change.

Hence, for the realization of the CRGE strategy there is a need to manage natural resources and benefit the local communities boldly acknowledged by the strategy. Therefore I can comfortably conclude that in the presence of huge natural resources degradation and absence of community ownership and participation, attaining the country's CRGE vision is not possible. Well managed and adequately protected natural resources help mitigate and adapt climate change impacts by both reducing emission levels while increasing carbon uptake and storage. Inadequate natural resources management has led to degradation and therefore a decline in various ecosystem services whilst reducing the ability of ecosystems to regulate our climate.

Sound risk management to increase livelihood resilience and maintain ecosystem services is an important component of a cost effective approach to help people adapt to climate change, especially the most vulnerable groups, which include women and children .

If this is the case, it is absolutely important to review the status of the natural resource degradation and the Community Based Natural Resource Management in Ethiopia as an optimal approach to reverse the land degradation problem and attain the CRGE vision of the country and thus build green economy in the country.

Land degradation in Ethiopia is especially severe in the highlands where the average soil loss from farmland is estimated to be 100 tons/hectare/year. Environmental degradation in Ethiopia is in the form of land degradation and water resources degradation as well as loss of biodiversity.

The scale of the problem, however, dramatically increased due to the increase in deforestation, overgrazing, over cultivation, inappropriate farming practices, and increasing human population. Removing vegetative cover on steep slopes (slopes ranging between 15 and 50 percent) for agricultural expansion, firewood and other wood requirements as well as for grazing space has paved the way to massive soil erosion.

"Overall,vegetation resources in Ethiopia are mined rather than managed and their degradation has reached a critical stage". Almost 75% of Ethiopian highlands are known to have been so degraded that their future use depends on the application of conservation measures. Soil erosion in Ethiopia is attributable to a combined effect of the rugged configuration of the landscape and the torrential rains, deforestation, cultivation of steep slopes and centuries of mismanagement.

The massive deforestation and the resultant shortage of fuel wood led to the use of dung and agricultural residue as fuel. These sources of energy are estimated to provide 58% of total energy needs of Ethiopia. Use of dung and crop residue as fuel reduces the amount of organic matter in the land. It leads to a progressive deterioration in soil structure, infiltration capacity, moisture storage and fertility, resulting in a massive decrease of productivity. Some 80% of the crop losses due to land degradation result from breaches in the nutrient cycle.

The pressing environmental problems in the low land areas which differs from the highlands is a continuing or accelerating course of rangelands degradation. Deterioration in the quantity, quality and persistence of native pastures, generally associated with a diminution of plant cover, but also with invasion by shrubs of low pastoral value; frequently unpalatable and of little economic value or practical use.

Structural changes in the plant cover, notably the loss of shrubs and trees, is partly through browsing, but also through gathering of fuelwood and clearing and burning for agriculture. This increases the exposure of the soil surface to accelerated water and wind erosion, removal of fertile top soils, loss of nutrient and seed stores, and may eventually lead to the exposure of barren, hard-setting sub soils which resist re-vegetation.

The range rehabilitation in this case becomes critical or impossible, with a definitive loss of many plant species, which could be of great value in the future, changes in soil surface conditions, notably com pactionthrough trampling by livestock, leads to deterioration in soil - plant - water relationships and reduced germination rate, particularly of the palatable species. Additional processes of sand drift siltation, leads to further destruction of the vegetation and deterioration of surface and shallow groundwater supplies.

The Environmental Policy of Ethiopia (1997) declares empowerment of local communities of men and women to enjoy equal rights and equal access to information on environmental management so that they can organize themselves on equal terms to effectively care and use their soil, water, vegetation, and biodiversity resources. They would then remain robust and maintain a robust environment to face the vagaries of a changing climate. Thus the CBNRM best practices in Ethiopia and elsewhere substantiate my argument of CBNRM as an engine to realize the green economy in Ethiopia. My argument will not by any means overlook the gaps and challenges this approach in the country.

A good example of the CBNRM is the Humbo Afforestation/ Reforestation Clean Development Mechanism (CDM) project managed by organized local communities located in Southern Nations Nationalities and Peoples Regional States in Welaita Zone, Humbo Woreda.

The project initiated with the objective of sequestrating of carbon from bio-diverse native forest through restoration of degraded forest and also contribute to alleviation of poverty through sale of Certified Emission Reduction, forest & non forest benefits.

The project validated and registered in 2009 has a target of sequestering 880 295 tone CO2 in 30 years crediting period with the name Humbo Ethiopia Assisted Natural Regeneration Project (http://cdm.unfccc.int/Projects/DB/JACO1245724331.7/view). To date, 89,000t CO2 equivalent sequestered as a result of 2728 ha of barren land restored covered with vegetation and water shade well managed by organized local communities.

Further detail information about the project and other form of CBNRM-Farmers Managed Natural Resources (FMNR) in Africa can be obtained from the link. The other best example of the Community Based Natural Resources Management in Ethiopia is the Bale Mountains which is one of the major forest blocks in Ethiopia, covering over 700,000 ha of forested landscape.

In 2000, the GIZ, in collaboration with the Oromia National Regional State, started Integrated Forest management, which is one of the Participatory Forest Management (PFM) approaches. The project organized community based forest management association called WAJIB, a short name which stands for Forest Dwellers Association in the local Oromiffa language. At the beginning, around 19 WAJIBs were established till 2003, to manage around 7,500 ha of forest.

WAJIB adopted strategies that are based on regulating access, reducing pressure by excluding non-members, and making trees profitable through sustainable use. WAJIB was successful and brought impacts on the rural livelihoods, forest conservation and management, and institutionalization forest management at local level.

The success of Community Based Organisations (CBOs) like WAJIB/ PFM was quickly recognized by the regional government, which has mainstreamed PFM as one of the sustainable forest management approach.

Currently, all forests in the whole Bale Mountains are under PFM arrangement involving many CBOs. They have strong bargaining and negotiation capacity, since they are well organized and instituitionalized at a higher level. Several local forest management associations like WAJIB are organized and have formed Forest Management Cooperatives, and the cooperatives together have formed cooperative union, with thousands of members.

The success of CBOs in Bale has attracted the attention of government and development partners. Given the strengths and success of such community based organizations for sustainable forest management, the government adopted PFM arrangement as an approach for Reduction of Emission from Deforestation and Degradation (REDD+) program intervention. REDD is one of the focus areas in the CRGE strategy with over 50% of the country's mitigation potential. The local CBOs in Bale Mountains are currently working closely with the regional government and development to implement Bale REDD+ project on the whole forested-landscape, especially on over260, 000 ha of REDD+ project area.

Irrespective of the above briefly discussed contribution of the Community Based Natural Resource Management to enhance the green economy in Ethiopia, the required enabling environment to scale up this approach at the national level not yet developed. The CRGE strategy does not explicitly mention the approach as means of implementation of the strategy. There are lot of CBNRM projects and programs under implementation in the country without properly documenting and analyzing their contributions for the attainment of the country's vision to achieve middle-income status by 2025 while developing a green economy.

For example the total CBOs supported by Small Grant Program of GEF/ UNDP Ethiopia since the beginning are 194. Moreover, with the support of UNDP-Ethiopia 141 green enterprises, the other name CBNRM, have been established in different parts of the country.

The CBNRM approach is not fully recognized and its enforcement isn't backed by the local authorities. There is no conducive environment for the CBNRM organizations to access fund from Micro Finance Institutions after the closure of projects and programs.

Therefore, for deepening and scaling up CBNRM approach as an engine for green economy the following measures should be taken:

- Embark nationwide inventory of CBNRM in the country and assess their contributions for Green Economy. This assessment will include among others : challenges, constraints and sustainability of CBNRM;
- Issue national level legislation which recognize and enforce CBNRM as an approach to enhance green economy in the country;
- Create enabling environment for the CBNRM to access fund from Micro Finance Institutions;
- Assess, evaluate the traditional knowledge of the local communities on natural resource management for enhancing CBNRM;
- The monitoring reporting and verification system for the CRGE strategy implementation need to take into account the activities of CBNRM; and
- Conduct the institutional context analysis for effective implementation CBNRM to avoid duplication of effort and clarify the roles and responsibilities of key government institutions and other stake holders;

Why Strong Data Management System is Important to the Green Economy and Sustainable Development?

The path to Green Economy and Sustainable Development Goals (SDGs) are exceedingly mingled concepts. The international community has realized the importance of green economy in achieving the SDGs. There is no doubt that green economy can significantly contribute to higher global GDP growth, whereby reducing poverty levels, improve, sustained growth, social cohesion, and employment without compromising the ability of ecosystems to function. According to United Nationd Environment Program (UNEP) research, an investment 2 % to green economic sectors will produce a higher global GDP, compared to business-as-usual scenario – within only 10 years. No wonder the last few years have seen serious debate on mainstreaming green economy into national development strategies and programmes. There is enough evidence that transitioning to a green economy has sound economic and social justification. For example, under green economy investments scenarios, the national real GDP in Kenya is projected to exceed a business-as –usual model by approximately 12 % by 2030, while in the energy sector in Senegal, the investments in expanding solar and wind capacity is projected to create up to 30,000 jobs by 2035[14].

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The SDGs are focusing on addressing the three interlinked global development concerns: the economic, social and environment which are within the limits of our earth's natural resources. Among the three, environment is the golden thread that connects the first two development concerns, the economic and the social aspect of the sustainable development by ensuring the green economy development path. Without considering sustainable environmental management including soil, forest, air and water, and its related marine and overall ecosystem, one cannot think of economic development that positively impacts the social development. Most debates and analysis on sustainable development goals indicate greater balance between the social, environmental and economic dimensions.

[14] *Building Inclusive Green Economies in Africa Report, UNEP*

The on-going debate on green economy, among others, has been focusing on improvement of data management system which is vital in measuring the extent to which countries are performing towards achieving the green economy targets, contribute to sustainable development and poverty eradication. Following green economy development path based on appropriate data management system that supports various reporting requirements, is no longer an option but a must. Availability of quality data and its management will indeed play a key role in providing long lasting solutions to deal with global developmental challenges in a sustainable manner.

Just recently, a number of countries are developing and implementing national greenhouse gas (GHG) emissions reduction goals, low-emissions development strategies, and nationally appropriate mitigation actions aimed at mitigating GHG emissions. However, monitoring and evaluating the effectiveness of these activities require countries to put in place appropriate systems for measuring GHG emissions and tracking performance toward emissions reduction objectives. Despite these efforts, lack of quality data continues to hamper the measuring of GHG in a number of countries. Ethiopia, just like any other developing countries strongly need to improve its data management system in order to effectively track the implementation of green economy activities and programmes in support of sustainable development goals.

Despite the growing international interest in following green economy development path, a number of African countries including Ethiopia, continue to face huge challenges in the data management system. For instance, in the forest sector, Ethiopia's major focus is sustainable development strategy and it plans to improve management of forest resources. In order to evaluate these policies, Ethiopia plans to set up a system, and build capacity, for forest monitoring.

However, according to the desk research by World Research Institute's Measurement and Performance Tracking project, Ethiopia continues to face technical capacity challenges such as:

1. Setting up a consistent data collection and analysis that will enable detection of forest change over time;
2. Standardizing methods for consistent data collection and analysis by sub-national entities; and
3. Establishing a data management system that allows integration of forest management, use of access to information by agencies involved in forest management. A good example to justify the need for strong data management system in Ethiopia.

Ethiopia is among the countries that took initiatives on climate change and related agenda and dialogues at a global level. The country has also set a target to be a middle income country by retaining the current (2010 base year), 150 Mt CO2e Million metric tonnes of carbon dioxide equivalent by 2025[15]. Nevertheless, according to the CRGE monitoring and evaluation system manual[16], among the identified barriers information deficits stated as key challenge to the widespread implementation of climate resilient and low carbon development practices. The manual further showed data and information management gap of the CRGE registry which is created as a clearinghouse for information on CRGE activities. The CRGE registry is underutilized and does not include the most up to date information on CRGE activities. However, if utilised properly the CRGE registry could become a tool for managing data and information on M&E activities, and to promote transparency and accountability to donors and citizens. The supply of information on the site needs improvement (e.g., more up-to-date, disaggregated performance data visualized in various formats). Increasing the demand by Ethiopians for accessing information on the CRGE registry is also important and can only be created and sustained with targeted communications and improved data management system.

[15] *CRGE strategy 2011*

[16] *Eyzaguirre, J., Boardley, S., and Taye, A. 2015. International Review of the Ethiopia's* CRGE Facility M&E System. CRGE Facility M&E System Manual. Prepared by ESSA Technologies Ltd

Moreover, the country is also among few developing nations to submit the Intended Nationally Determined Contributions (INDCs) to the United Nations Conventions on Climate Change (UNFCCC) which entails mitigations actions as well as adaption measures that will be implemented to combat the changing climate. However, most countries including Ethiopia have not yet officially submitted their 2nd National Communication (NC)[17] to the UNFCCC, by now they should have reached on the 3rd communication and started working on the 4th one. Just like other countries, Ethiopia's, slow response to the UNFCCC reporting requirement is a clear testimony of weak data and information management system regardless of the advanced robust policies and strategies on green economy that are in places.

Measuring, Reporting and Verification (MRV) system set by the UNFCCC is a mechanism to help countries to measure, report and verify their performance related to the Greenhouse Gases (GHG) emissions which shall be customized by the respective countries context towards their achievements to the targets developed by themselves. There is no doubt that realization of these ambitious targets will require substantive efforts in building a sound data management systems in the developing countries, which at the moment is lacking. In order to set quality MRV system, well established and integrated data management system that set concrete baseline at sectoral and sub-sectoral level should be the first and fundamental step, which is hardly available in many developing countries including Ethiopia. According to UNEP, the international community and national governments face significant challenge to develop their baselines and measure impacts of their green economy strategies and policies.

In supporting the existing challenges on data on green economy, the UNEP has identified three gaps in measuring the effects of a transition towards a green economy: Firstly, there is a scarcity of data and indicators that capture the economic transformation in terms of investments, outputs and jobs in environmental sectors (renewable energy technologies, public transport, waste management and recycling, etc.). There is increasing attention to investment in community, especially in the areas of environmental finance and impact that may provide for innovative partnerships in this area.

Second, while there are many existing indicators related to sustainable development, they appear to play a secondary role in policy-making relative to key economic indicators such as GDP. A key challenge is to understand better the constraints to taking a more integrated approach, which may require further elaborating how changes in different indicators are related to each other.

Third, many developing countries lack the ability to collect and report on proposed, or even standard, indicators and make them widely available. Any new indicators will pose further challenges, requiring not only proof of concept under such circumstances, but also technical assistance and perhaps partnering with developed country agencies.

In support of the work on Data Management System, the High Level Conference on Data Revolution, held on 29th march 2015, in Addis Ababa Ethiopia, identified a number of challenges alongside the data management value chain that needs to be addressed to build new African data ecosystem. In a nut shell, the high level conference identified five key challenges which are common among the member states:

- Data usage and accessibility
- Reliability, accuracy and consistency
- Availablity of data segregated in sector specific isssues,
- Technical and financial capacity, and
- Neutrality and weak governance

[17] *National Communication from developing countries provide information on greenhouse gas (GHG) inventories, measures to mitigate and to facilitate adequate adaptation to climate change, and any other information that the Party considers relevant to the achievement of the objective of the UNFCCC. Developing country Parties are required to submit their first NC within three years of entering the Convention, and every four years thereafter.*

Lessons and past experiences also showed that, Sub-Sharan Africa countries including Ethiopia benefited less than 3%[18] from the international carbon market- Clean Development Mechanism (CDM). The CDM is one of the tools that nurture green economy and sustainable development by integrating market based development mechanism and reduction of GHG emissions through project and programme based cooperation between industrialized and non- industrialized countries. According to the UNFCCC equitable distribution of CDM project activities, poor analysis, unavailable or unreliable public information, lack of up-to-date and reliable database to define the baseline, forecast the GHG emission are the major hurdles for missing the opportunities availed through the CDM and other carbon marketing tools.

This also raised some remaining questions that need to be resolved in order to move on to an agenda for substantive changes such as natural resource stocks, current situations of overall ecosystem conditions and qualities as well as well analyzed predictions and forecasts to conserve the scares resources.

Thus, Ethiopia should embark focusing on capacity building of responsible institutions and investing on their data management system for all development activities particularly for its timely and flagship green development initiatives. Central Statistics Agency (CSA) which is the primarily responsible institution for data collection, analysis as well as coordination with academic and research institutions has a very limited capacity particularly in providing comprehensive information required for the green economy development interventions.

The authority has no leadership as well as technical capacity to provide raw data on different variables and sectors of the green economy for both policy makers and practitioners. Efforts should be made to improve the capacity of all government institutions including CSA through massive technical and financial capacity building activities by; creating coordination mechanisms with relevant institutions and sectors; strengthening the existing data management system supported by current technology such as information communication technologies; and support to build more transparent and neutral data and information sharing mechanisms. Specific capacity building interventions to the CSA shall focus on activities such as

1. Training of officers in new areas including green economy and its data management system;
2. Allocation of adequate resources to activities related to data for the green economy; and
3. Improvement in data management systems

Furthermore, Ethiopia need to set appropriate focus and put efforts to build effective and efficient data and information sharing system that can be used as an input for any development undertakings and as an output for effective, clear and transparent reporting. Data should also be accessible as a tool for individual decisions and for citizens to hold their leaders accountable in their contribution towards the bigger development targets, including those on sustainable development.

Timely and relevant data and information sharing has a greater positive impact to strengthen global partnership through building transparency and accountability. It will create more coherence among the global actors in combating the climate change issues which is a common threat of our time. Quality data is important to make informed decisions in any development interventions as well as to avoid consequences of irreversible environmental damages that costs beyond monitory values. Well defined baselines, specific targets and precise tracking tools should be in place to measure, report and verify the progresses to the nationally target as well as internationally declared strategies and contributions.

[18] *www.cdmpipeline.org*

Investing in the Pillars of Sustainable Green Economy: The Case for Farmers' Varieties and their Wild Relatives

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Ethiopia's population is expected to pass the 100 million mark in the coming years, placing further strain on ensuring food security for Africa's second most populous nation. Climate change is increasing the severity and frequency of droughts and floods that are leaving millions vulnerable.

In recent years, the emphasis has been on meeting this food security needs through introducing improved seeds that promise high yields. The improved varieties have stronger extension and research support than the landraces[1] given the assumptions that their yield is higher and meet the challenges of food insecurity.

However, it is equally important to give attention to farmers' varieties and their wild relatives as stock and potential back-up resources. According to the Russian scientist Nikolai Vavilov[2], crop wild relatives can contribute novel genetic resources to the breeding of more resil¬ient and productive crops due to their potential as gene donors for crop improvement

Domestication of wild plants and animals forms the basis of mankind's battle to survive. Our ancestor's efforts to manipulate genes to produce better bio¬logical products has been a long progression from observation to explanation, from art to science. The wisdom of selecting and maintaining those varieties that can survive the elements and serve as staple food fulfilling current and future needs had been the prime mover of ancient agriculture. This has led to the indigenous, or commonly referred to farmers' varieties (FVs) of crops that have been passed on from one generation to another. The same is true of the their Wild Relatives (wild plant species that are genetically related to cultivated crops) so that every FV and wild species alive today are, in a sense, a volume of living history, its chapters edited at different times through ages by many forces, collectively called development.

[1]*A landrace is a domesticated, locally adapted, traditional variety of a species of animal or plant that has developed over time, through adaptation to its natural and cultural environment of agriculture and pastoralism, and due to isolation from other populations of the species.*
[2]*Vavilov 1926*

Ethiopia is unique in this respect and is one of the eight areas of the world identified as original centres for the domestication of several significant plans (Vavilovian centers[3]) and harbors important gene pools of Crop Wild Relatives for over 197 species of crops. This is largely attributed to the popula¬tion's engagement in crop domestication and hybridization over centuries as well as Ethiopia's favorable geographical and climatic diversity.

It is important to note here that the wild genetic materials of some crops found in Ethiopia are critical for the sustenance of future production not only in the country but also globally. Fortunately, the taxonomic level of many of the crop wild relatives is at subspecies levels allowing for breeding with the domesticated crop relatives. Indeed global and national plant breeders have used domesticated Farmers' Varieties of native and non-native crops from Ethiopia as raw materials to incorporate desired genetic traits into improved varieties. For example, California's US$ 160 million annual barley crop production depends on the yellow dwarf virus resistance gene found in Ethiopian barley. Similarly, the high-lysine[4] gene in sorghum is of Ethiopian origin[5].

Indigenous crop landraces are also mostly diverse and well adapted to local agro-ecological and socio cultural condition which are critically important for the majority of the small holder subsistence farmers who are mostly working in low-inputs.

As I initially highlighted, crop production (food and cash) has recently drawn the attention of researchers to develop high yielding, drought, disease and pest resistant, early maturing, improved variety crops. This process takes quite an arduous effort to identify and register farmers' varieties and their wild relatives as a means to conserve important gene pools.

In fact, if food insecurity and poverty are ever to be exiled from Ethiopia following the green economic development path, for sure, there are many potential solutions. The prominent solution is above all the conservation and sustainable use of agro-biodiversity resources in the country's economic, social and environmental development programmes.

Unfortunately we are observing loss of significant crop genetic resources. This is mainly due to the introduction of new varieties as well as population growth, market development, culture and technological change. Globally, climate change is estimated to reduce agricultural production by 2% every decade, and this will further increase by 14% every decade by 2050[6]. Moreover climate change is leading to reduction in crop yield by 40 million tons of crop yield per year and up to 40 % of the world's land surface will develop unusual climates with new pests and weed (IPCC). Adapting to changing climate condition and meeting the ever growing food demand means that we need to pay special attention to using the gene pool of farmers' varieties and their wild relatives for undertaking researches and breeding.

This is particularly important for Ethiopia, which has witnessed unpredictable weather conditions exposing farming households to a significant production losses over many years. Such events have raised the recognition of the existence of climate resilient and unique crop genetic resources in the country. Farmers' varieties along with the wild relatives that are resistant to diseases and pests reduce the application of pesticides, which otherwise will have a negative consequence on the environment. For example, in 2008, farmer's varieties of Durum Wheat proved its tolerance to the effects of untimely rain (during maturity period) in the areas of Ghimbichu[7] and Ejersa[8]. Furthermore, in 2010, this crop showed it's resistant to pests when Arsi and Bale highlands witnessed a mass infestation of Yellow Rest.

[3] *A vavilovian center is a region of the world first indicated by Nikolai Vavilov to be an original center for the domestication of plants*
[4] *The main role of lysine is collagen formation and tissue repair*
[5] *A Dynamic Farmer –based Approach to the Conser¬vation of African Plant Genetic Resources, GEF pro¬ject document*
[6] *Intergovernmental Panel on Climate Change, 2014*
[7] *One of the woredas in Oromia region part of eastern Showa zone*
[8] *Ejersa is a town in eastern Ethiopia outside the city of Harar*

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Various researches conducted on farmers varieties have shown potentially promising results that call for conservation and their sustainable use. Among others, research findings shown below are good examples,

1. The study conducted by the '*Mainstreaming Agro-biodiversity in to the agricultural System of Ethiopia project*' together with the '*Ethiopian Agricultural Research Institute*' on Teff crop yield in Minjar woreda during 2013, indicated that the mean value of the 12 accession of FVs was 15.33 quintal per hectare which is greater than the productivity of the improved variety Kuncho 14.75qt/ha. This research was replicat¬ed during 2014, in four sites (in Adama, Adigrat, Bologiorgis and Samasenbet) for further veri-fication of the 2013 research work. During this replication research, the mean Teff grain yield value of the landraces varies from 8.25 kg per plot to 11.63 kg per plot and the mean value of the improved variety was 10.63 kg per plot.
2. The participatory research work of the Biodiversity International in 2011, in partnership with Sacuola Superiore Sant'Anna of Italy and the Mekele University evaluated 400 durum wheat farmers' variety samples for draught tolerance. The result was impressive and revealed that 20%, or 11 of the tested farmers variety durum wheat, performed better than the 12 improved varieties. According to this research, there is still potential for further farmers' varieties to adapt to climate change through breeding.
3. A research conducted by the Ethiopian Biodiversity Institute (EBI) on 35 durum wheat farmers' varieties and one improved variety at three different sites on grain productivity, indicated that farmers' variety (8034) has exhibited higher grain yield of 52 quintals per hectare while the improved variety has yielded 47 quintals per hectare. The three sites are Chefedonsa (East Shewa), Haromaya (East Harerghe), and Siyadebere (North Shewa).

The three sample researches mentioned above illustrate that landraces possess a vast wealth of genetic di-versity that are yet to be fully exploited for their contribution as a source of gene pool that provide the required traits.

The investment in improved seeds has largely been divorced from efforts aimed at conserving farmers' varieties. It is important to note that this is a timely call to develop an integrated strategy for conserving farmers' varieties while at the same time producing improved varieties ensuring the complementary co-existence of these two groups.

In this respect farmers and plant breeders can play a significant role in the conservation and sustainable uses of farmer varieties and wild relatives. As they say, let us keep in mind that variation leads the gene archeolo-gist (geneticist), and/or molecular biologist to fol¬low in the making of incredible products from the variation/ diversity of agro-biodiversity resources.

Conserving farmers' varieties and wild relatives on the one hand, and balancing the use of improved varieties on the other, are key complementary approaches towards ensuring sustainable green economy and development. The science is simple, the art of breed¬ing or producing new combinations of genes rests entirely on the genetic raw materials.

Ethiopia's Demographic Conundrum and its implication over national development and stability

The relationship between rapid population growth and the capacity of our earth has been a matter of controversies for a long time and would increasingly continue so in the future. It is sufficient to consider two prominent schools of thought towards rapid population growth; the first school of thought is Malthusian & Neo-Malthusian theory which states that population increases geometrically while service and supply only grows arthritically, therefore population growth should be controlled. On the other hand the Boserupians' thought; Boserup challenged Malthus's conclusion that the size of the human population is limited by the amount of food it can produce. She suggested that food production can, and will, increase to match the needs of the population. Drawing on her knowledge of farming in the developing world, where populations were growing quickly, Boserup argued that the threat of starvation and the challenge of feeding more mouths motivates people to improve their farming methods and invent new technologies in order to produce more food.

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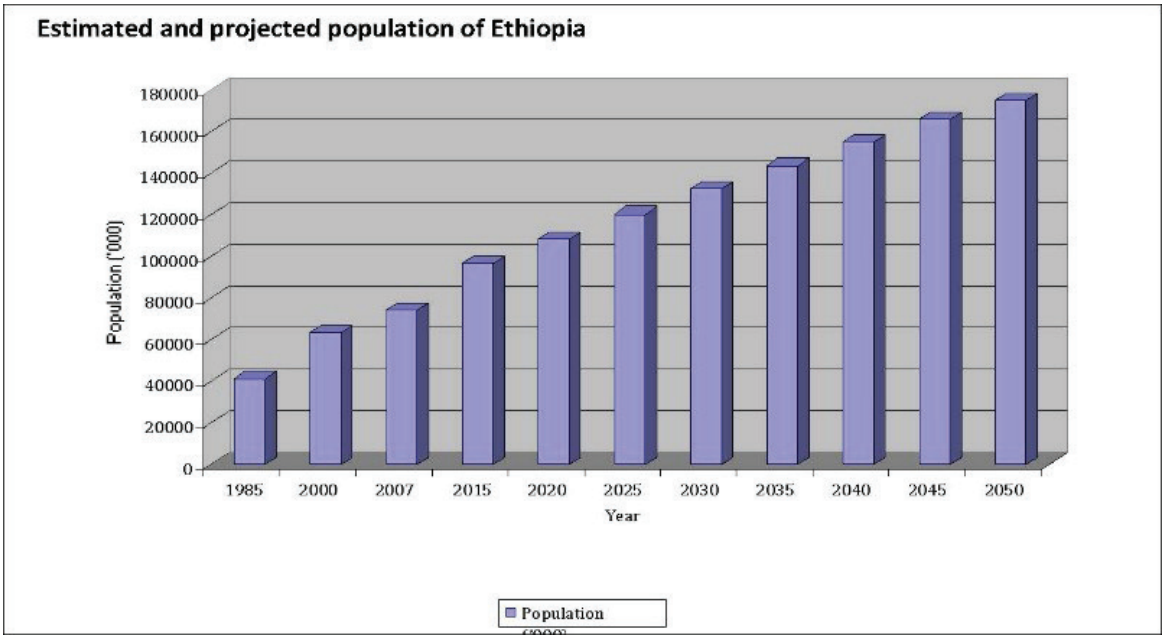
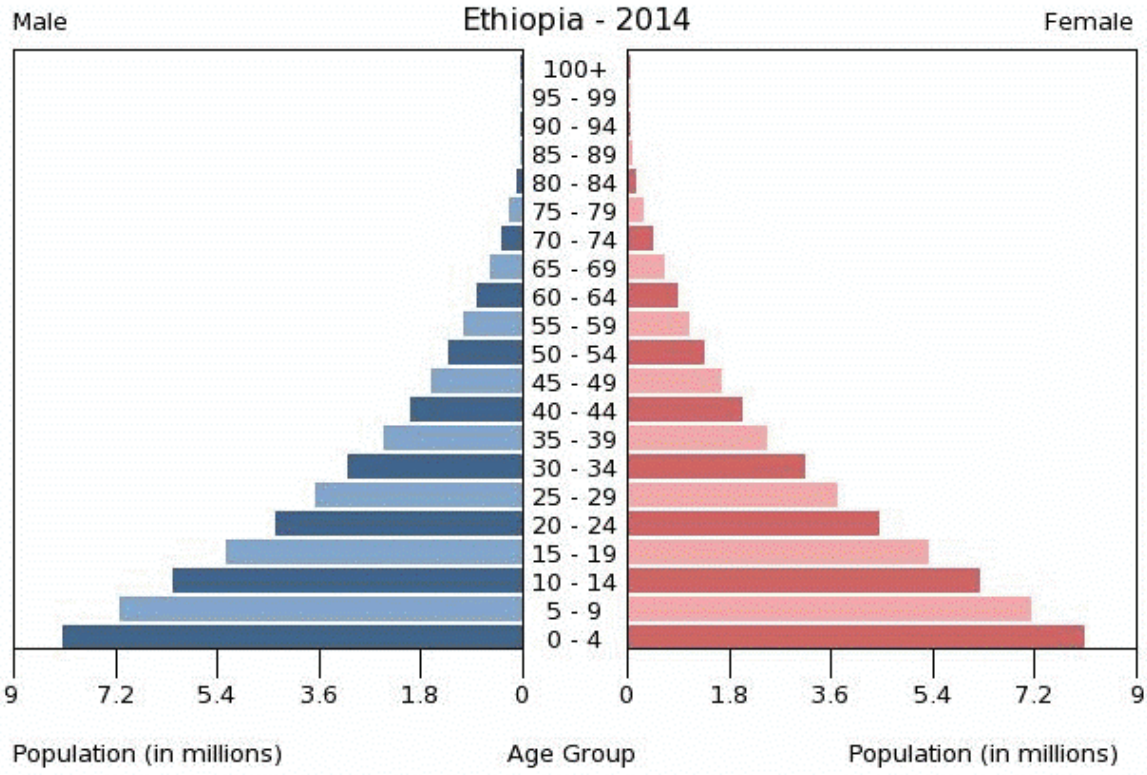
Though it is difficult to conclude that either of the thought is completely correct, there is a common ground which both thoughts touch, that is population growth is an issue for our planet. But, different empirical global data indicates that the last 200 years is very important time at when our planet population drastically increased, for instance since the creation of the world until 1800 our earth total population was only 1 Billion, but the pace of the population growth in only 120 years which is relatively shorter span of time, the world population became 2 billion. To arrive at the third billion then, it took only 35 years and the fourth billion took only 15 years. Accordingly, the 2.5 billion world population in 1950 was raised to 6.2 billion in 2000, which gradually reached 7 billion in 2012 and expected to be 11 billion at the end of the century. The demographic challenge of our globe is exceptionally an issue of concern for the developing world, particularly Africa.





Ethiopia's population trend and age structure,Source CIA world Fact sheet; June 30 2015

As part of Africa, Ethiopia's demographic challenge is the one worth attention and analysis. Ethiopia with a total population of about 99 million is 1.3% of the world's population which ranks number 13th with a population density of 87 people per sq. kilometer according to the worldometer data. Ethiopian urban population is only 18% while the remaining 82% is rural community. If the current pace of Ethiopian population growth rate continues, in 2050, 270 Ethiopians will have to gain a living from each km^2 of arable land, compared to 35 per km^2 in 1950.

As viewed by Malthusians and neo-Malthusians this paper highlights multifaceted challenges of Ethiopian population explosion which has serious implications on the country's current outstanding development performance and is also a cause for several environmental, economic and social negative consequences. Notwithstanding the progresses made by the country in designing population policy and program of actions, the paper emphasizes further actions by bringing different perspectives of population challenge, especially the nexus between population and environment; population and migration; population and employment as well as population and stability. Ethiopian young population structure as depicted above implies there is high demand for education and training, and above all employment opportunity, otherwise young adult population unable to find employment can lead to unrest.

Population and environment: As the population increases, more and more land is deforested and over-farmed. That means increase in agricultural production each year is at the cost of environmental resources. Forest coverage has declined from 40 percent 75 years ago to only under 3-7 % today. As a result, many places previously known for its suitable agricultural production and human residence have now been turned into dry lands and deserts. The poor environmental resources together with poor institutional response capacity exacerbated already existing poverty of the small holder agriculturalists and the pastoralists (Italian Multi-Bi research project ETH/92/PO1, Wilson Center and USAID office of population and health ECSP Report 10).

According to Leonard Berry (a case study commissioned by the World Bank in 2003) deforestation and clearing of wood land is estimated to 62,000 ha every year, and due to land degradation Ethiopia losses 3% of its agricultural GDP every year. The case study also forecasted agricultural loss of $7 billion between 2000-2010.

Ethiopia's dense population has contributed to landlessness, expansion of farm land at the cost of forest and other precious natural resources (including farming on sloppy hills), decline in crop land per capita, land degradation and depletion of water resources due to poor soil water conservation capacity.

The result of time series data indicated that population and cultivated land are steadily increasing over the last two decades although the population growth outpaces (R^2 =0.991) the cultivated land (R^2 =.806), which is almost consistent with Malthusians and Neo-Malthusians argument. In the other expression Ethiopian agricultural growth is low as compared to the population growth and the current relative increase in the agricultural production and productivity involved conversion of large areas of forest, wetland, river valley bottoms and grass lands to crop land.

Therefore agricultural land expansion together with high population growth means accelerating degradation of natural resources hence stagnation of the agricultural productivity itself. Communal land such as forest areas and rangeland resources are rapidly turning into farm lands in the low land areas of the country; which in turn exacerbate already existing challenges related to micro climate; rain fall shortage, frequency of drought, soil erosion and so on.

On the other hand the impact of population pressure in the rural part of Ethiopia brought another social consequence which is rural-urban migration, which in turn became a cause for development and expansion of urban slum areas in the capital and regional towns, which much impact sanitation & hygiene, land use & aesthetical values of the cities/ towns.

Concerns are growing that rural urban migration and urban slum development are becoming development concerns; According to 2007 housing census, 48% of Addis Ababa city residents were immigrant from regional states and the women immigrants outnumbered that of men, most of which are migrating from different parts of the country in search of better job. Another study conducted by UN-HABITAT stated that 'like its other counterparts Addis Ababa suffers from urban decay and emerging slums (UN-HABITAT 2011:5).A report of ministry of Urban development, Housing and construction minster 2014, (page 56) stated that informal settlement challenged government slum reduction program.

Furthermore, the report underlined the environmental and natural resource management related challenges that are highly related with illegal settlement, weak institutional and human capacity, to integrated different development initiatives. Likewise waste excretion from urban slums is also challenging urban management in major cities of the country. The situation mounted complicated social issues, such as issue of illegal settlement, human trafficking & illegal land holding, expansion of petty crimes which also has the potential to gradually develop into instability. This implies the issue of population pressure has multiple negative spill overs unless it is timely addressed in an integrated manner. This interwoven challenges all together exacerbate vulnerability to natural disasters as explained by Blaikie et al.(1994)* which states ' disasters arise from some form of root causes, which mostly are culturally and structurally embedded in societal norms and progression of vulnerabilities such as fragility of physical environment , local economy and weak institutions'.

Population and out migration: The underlying causes for rural-urban migration in Ethiopia could be several, but the critical underlying causes is summarized to the push and pull factors. The push factors include lack of farmland due to complete decline in land holding per capita in most high & mid land parts of the country, poor land fertility to grow sufficient food for family, deterioration of ecosystem, peer pressure of relatively literate groups, especially those who completed secondary education to search for better employment opportunity in urban and peri-urban areas and deterioration of livelihoods due to cyclic drought effects. On the pull side there are plenty of issues such as better social service provision, alternative income generation activities in the urban and peri-urban areas, and relatively better wage rate in the urban areas, (falls in the range of 420-1172 ETB/month for casual laborers Source: My wage.com 2014)and so on.

Out migration is also drastically growing to different parts of the world, most of which is illegal migration through different routes. Prominent illegal migration route in Ethiopia includes through Somali (Puntland and Somali land), Djibouti, Sudan and Yemen to destine in Gulf nations, and through Egypt and Libya to cross to Sicilia and enter European nations and through Kenya to cross to South Africa, and the attempt these migrants do to reach their destination countries is highly unsafe and risky.

According to Geneva global project entitled 'creating safe migration path for women', majority of the migrants are women (about 95% based on MoLSA estimate 2013) who are being pushed by families, community and peers to go abroad to earn better employment and income. As of January 2014, 334,000 Ethiopian migrants had arrived in Yemen alone since 2006, and between July 2012- July 2013 161, 787 Ethiopians migrated through regular channels to Saudi Arabia. According to this report hot spot corridors for out migration are central north, central south east, south and south west, and the corridor in the central north that stretch from Woldiya of Amhara regional state to Addis Ababa is exceptionally high.

What so ever the push or the pull factor is it is very important to critically look into the performance of Ethiopian Population Policy Implementation process and examine its performance in ensuring its vertical and horizontal integration to address unmet need of demographic needs and other social services in harmonized and complementary manner among major social development spheres.

Ethiopia's population policy which is adopted in 1993 has set a goal to harmonize population growth with national development and rational utilization of natural resources, which is also consistent with goals of International Conference on Population and development (ICPD).

Nevertheless, most of the targets set in 1993 NPP except two targets (TFR and CPR) out of eight are not quantifiably stated or sated in objective statement which made the monitoring and evaluation process difficult. Some other areas for which numerical target setting require include: fertility and family planning, infant mortality, child and maternal mortality, adult prevalence of HIV, universal primary education and adult literacy, gender parity and empowerment of women, employment and population distribution and resettlement.

With regard to the policy implementation, though substantial achievement was gained in the areas of enhancing public awareness on family planning and supply of contraceptives, the decline in population growth remained marginal over the years; from 3% in 1990s to 2.4 today. Though total fertility rate (TFR) is reduced from 7.7 in 1990s to 5.4 in 2005 and marginal decline is still there, there is high urban rural differentials in TFR and the challenge is that over 80% of the total population is rural where early marriage and other cultural perceptions challenge the policy implementation process. Major programs in the social sectors development such as the health sector development program (HSDP) and other programs in education, HIV/AIDS, gender and Health sector itself lack integration and harmony in expediting and enforcing population policy. Moreover, there is lack of guidelines on the ground in integrating different programs and enhancing participation of stakeholders mainly due to weak human and institutional capacity with the NPC itself (Country case study, center for global development working group on UNFPA's Leadership transition 2014).

It is relevant to raise critical policy related questions at this juncture, to mention few: Is the attention given to the implementation of national population policy sufficient in terms of institutional arrangement and resource? Is it optimal to initiate and focus on strategies and programs for migration control for existing rural-urban migration and / cross boundary out migration without tackling root causes torealize demographic dividend? Is the existing formal structure for population and development institutionally vibrant to ensure realization of national population objectives?

Are all level coordination mechanism for population policy implementation, monitoring and follow-up fairly functional for scale level achievement? Therefore it is important to look into root causes and underlying causes of population pressure and migration hence put in place substantial and comprehensive strategies and resources in designing and implanting programs in the education, health, agriculture and industrial sectors to coincide sustainable development and population transition in the country.

Population, social service provision and employment: Ethiopia's population is known as young population where the work age population accounts for 79.19 in 2013, according to the World Bank (2013). The implication of such a population structure entails the national economy has to respond to high need for social investment for key sectors such as health, education, infrastructure development and job creation. Though recent economic growth has been strong in Ethiopia, and significant health and demographic changes occurring, one might expect Ethiopia to be poised to accelerate economic growth even further via a demographic dividend.

A closer look at Ethiopia's population projections and age-sex structure, however, reveals that Ethiopia will have to substantially increase its investments in meeting family planning needs to create the age structure needed for a demographic dividend. In Ethiopia today, more than 40 percent of the population is under age 15, and the population pyramid, despite the declines in mortality and fertility, is still dominated by a large base of young people.

According to UNFPA, world population prospect 2010, if Ethiopia continues to make rapid progress in meeting family planning needs and fertility declines by 2030 to women having on average 2.5 children, the country will just approach the age structure conditions that can facilitate accelerated economic growth. Thus, Ethiopia, one of several emerging success stories in terms of health and development, remains more than two decades away from a possible demographic dividend, unless ambitious social and economic objectives detailed in GTP II are aggressively engaged and met. If the country fails to response to drastically increasing demand for educational training, health service and employment the nation might faces complex social consequences such as outmigration and instability.

As far as youth unemployment perspective of Ethiopia's population challenge is concerned, youth labor force constitute a fast growing proportion urban youth unemployment in Ethiopia is fast growing mainly due to the imbalance between the demand and supply sides of the job market. Unless the country focuses on marketable training & skill formulation and stimulating employment opportunities are put forward through investing more amount of resource on education, health and family planning, the challenges continue to grow parallel with the population growth, hence undermine the development trajectories and perpetuate already existing poverty cycle.

This vicious cycle (if continues) exacerbates the effects of Ethiopia's droughts, leading to severe and ever more frequent drought crises. Population pressure in Ethiopia therefore becomes among prominent factors hindering national development in general and an ambition of becoming middle income status by 2025.

Though Ethiopia's national policy has set clear policy direction and has achieved significant results in reducing fertility and mortality rates from where it was before two decades, the institutional structure and systemic capacity of the coordinating body is not yet capacitated to lead the national ambition of ensuring population transition and dividend. The organizational size and dynamics of Ethiopian national population office hasn't achieved strong vertical and horizontal integration with its own hierarchical structure and other relevant ministries respectively. Horizontal coordination is hardly ensured only between education and health sectors, and the 2003 health extension system is the outstanding attributing measure that enhanced fertility & mortality rate and family planning in most parts of the country and the need for these issues still is high in some of the emerging regions.

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[i] *UN (2015). "Transforming Our World: the 2030 Agenda for Sustainable Development". Resolution adopted by the General Assembly on 25 September 2015.*

[ii] *AU/UNECA (2015) Illicit Financial Flows: Report of the High Level Panel on Illicit Financial Flows from Africa;*

[iii] *World Bank (2016). Doing Business 2016, Measuring Regulatory Capacity and Efficiency: Ethiopia*

[iv] *Arnstein, Sherry R.(1969) 'A Ladder Of Citizen Participation', Journal of the American Planning Association, 35: 4, 216 — 224. Available from: http://dx.doi.org/10.1080/01944366908977225; Accessed 19/11/2015*

The coordination mechanism for population development at all level is remained weak with higher degree at the regional and woreda level, which calls for superior attention for institutional and systemic review before current population challenge bulge further social consequences such as rural-urban migration, out migration, environmental degradation and resource based conflict outpace existing development progress. Population challenge as a key policy and program agenda should get high political and resource attention to be considered as issue of mainstreaming into major national policy programs.

Taking into consideration the magnitude of population challenge on the socio-economic development of the country it is vital to look for indigenous solution for national population dividend may me by sharing best practices of Asian tigers who invested much amount of resources on key social development to monitor fertility and creation of job for the youth.

In so doing Ethiopia can narrow existing regional disparities in population growth /fertility rate through addressing unmet family planning and social development needs. It is also important to increase population focused program initiatives which currently are very low as compared to any other development sector in the country. Partnership of non-government actors is highly important and the call for such development partnership should be enhanced by relevant government counterparts.

Last, but not least it is important for Ethiopia to follow a well thought-out and planned human development plan, especially for tertiary education and vocational skill training by aligning the human development with existing and future labor markets.

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