CAN
CLIMATE ACTION NETWORK
Tanzania

Position Paper

Local community participation in energy sector, a catalyst towards renewable energy breakthrough to sustainable development in Tanzania

Summary

Tanzania is endowed with a large potential of renewable energy (RE) resources such as natural gas, hydro-power, geothermal, biogas, wind and solar power that once efficiently and effectively tapped could contribute to increase energy access and usability for socio economic development in Tanzania. However, its contribution into the national energy supply is currently limited.

Effective engagement of local communities is a key requirement for addressing equity needs and ensuring sustainability of the energy project outcomes. Evidence from some of the initiatives in the country and from abroad show that community participation (CP) aid broad energy investment and enables design of tailor-made community energy solutions. The government of Tanzania (GoT) acknowledges the role of CP in RE sector and seeks to promote this through a number of legal frameworks including several national and international energy access frameworks such as Sustainable energy for all (SE4ALL) and Sustainable development goals (SDGs) that Tanzania has subscribed to. However, CP in Tanzania remains limited due to a number of factors including low level of awareness among local communities, and inappropriate coordination and regulatory frameworks. Inadequate community participation (CP) in the RE sector continue to impede growth and utilization of clean, affordable and reliable energy resources to foster sustainable development in Tanzania.

Energy needs and priorities arising from village and ward level formal planning meetings need to be considered while planning for energy supply in the country. Enhancing CP in RE resources investments enlarge windows for local people employment opportunity, access to relevant energy information and improved standard of life accelerated from productive use of cost effective, reliable and clean energy. There is a need for strengthening local and national specific policies and long-term strategies that emphasize on the CP in the RE investments in the country. A strategic involvement of local government authorities (LGAs) (e.g. through establishment of the position of district energy officer or Energy Engineer) would go a long away through linking local community's energy demands and priorities to Tanzania Electricity supply company (TANESCO) and Rural Electrification Authority (REA) should be given a special consideration.

Increasing local community energy political ownership requires joint efforts from different energy stakeholders. The joint efforts by the government decision makers, communities, Research institutions, developmental partners, NGOs, CSOs, private sector such as small and medium enterprises (SMEs) and other related actors are important to aid CP for increasing use of modern energy in the country.

Developing energy strategies and policies that favor efficient and effective CP in various renewable energy investments at both local and national level will greatly increase local communities' political ownership of modern energy systems and thus fostering sustainable development in Tanzania.

Institutionalizing energy at the LGA level by creating a position of energy officer at the LGA level in order to identify local energy needs and facilitate interaction with local communities during energy design and planning sessions

Background

About 578 million people in Africa have limited access to electricity and thus limited access to sustainable energy for socioeconomic development activities including clean cooking (IEA, 2020) Unfortunately, the use of carbon emitting energy types has resulted in a myriad of challenges including diseases and deaths. According to WHO, 2018, different parts of the world especially parts of Latin America, Asia and Africa faces four million premature deaths due to indoor air pollution resulting from non-clean energy uses.

In Tanzania, biomass especially charcoal and firewood accounts for 89.7% of all energy sources used for cooking and heating (NBS/REA, 2020). The remaining 10.3% of energy comes from natural gas, hydro-power and liquefied fuels with very few emerging use of Renewable Energy (RE) sources from wind, solar and geothermal power (Bishoge et al., 2020). Electricity supplied by the Tanzania Electricity Supply Company (TANESCO) is largely from natural gas (57.2%) and hydropower (36.6%) while liquefied fuels and biomass only contributes 5.67% and 0.67% respectively. According to Tanzania power supply master plan 2020 update, Tanzania has set a target to increase the share of RE into the total power generation by 5% by 2044. This target is in line with Tanzania's SEA4All action plan. According to the Energy Access and Use Situation Survey II in Tanzania mainland (2020); 78.4% of Tanzania mainland households (HH) have access[1] to electricity but only 37.7% HH are connected[2] to electricity. Only 24.5% of the rural HH where 66.2 % of the country population resides are connected to electricity. Out of all HH connected to electricity, only 3% uses it for cooking and 36.3% uses it for lighting. Limited access and connectivity to electricity, low level of awareness and high costs for alternative energy sources in Tanzania, is attributed to such low levels of usage. Fortunately, there are emerging uses of solar power plants especially in remote, islands, and rural areas that are far from the national grid. These emerging power plants which are mainly owned by Faith based Organizations (FBOs) and private sectors, is mainly used for lighting residential houses and some for powering Small and Medium scaled Enterprises (SMEs) (Odarno et al., 2017).

The Energy Access and Use Situation Survey II in Tanzania mainland (2020), reports that 76.6 % of supplied electricity is used for lighting while the remaining 23.4% is used for domestic and productive or commercial purposes. Moreover, anecdotal evidences show urban using electricity for commercial and productive purposes while rural areas are highly using electricity for lighting. Increased use of electricity has created enabling environment for industrialization and socioeconomic transformation in some communities. However, this scenario indicates the existing low usage of clean and affordable energy for domestic and productive livelihood activities that in return poses danger to socio-ecological systems.

To address this challenge, interventions focusing on establishing a just RE Policy, plans, strategies and guidelines that capacitate local communities for productive use of RE and access to RE information need to be relevant. Direct community participation on RE investments will play a great role towards increasing access to clean, affordable and

[1] Population having a reliable access to modern cooking, communication, lighting facilities and /or living within 600 metres from a distribution transformer. It also includes access to productive energy such as mechanical power which supports value adding activities and /or income generation.
[2] Is an electric pole in the village and an electric build in the house. In this survey, household connected to electricity referred to the household whose source of electricity was either TANESCO/REA or local entity.

reliable energy. Such type of energy sources can be easily tapped and supplied to rural, remote and island areas where a large population of Tanzania lives.

In realization of the consequences resulted from non-clean cooking practices and other uses of unsustainable energy sources that contributes to environmental pollution. Tanzania like other countries elsewhere is implementing a number of initiatives with a view of elevating the use of clean, reliable and affordable energy. These include the vision 2030 (SDG7), Sustainable energy for all (SEforALL) initiatives and other related. Despite of these initiatives low CP in renewable energy sector continues to contribute to a lower RE investment in the country. Therefore, it is important to deliberately enhance actions to increase community participation through fostering capacity building programs, enforcing legislations calling for CP and better policies and or guidelines that promote CP while transitioning to green energy economy.

Local Communities and their Role on Renewable Energy in Tanzania

Socio economic development activities in different parts of the world are linked to the effective utilization of energy (Momodu, 2017). Traditionally, large populations have depended on the use of fossil fuel for driving economic growth. However, its massive reliance on fossil fuel has resulted into pressing challenges including price fluctuations, insecure energy supply, greenhouse gas emission leading to climate change and environmental pollution (Kwakwa et al., 2018). In most cases, countries with weaker economy and especially those located in the sub´-Sharan Africa are the most affected. To address these challenges, renewable energies have been recommended and to ensure sustainable energy for the people investing in RE resources and programs requires full community inclusion and participation (Akinwale & Adepoju, 2019).

In Tanzania, CP in development programs including the emerging renewable energy programs and projects is still at infant stages. Community participation is a key step to increasing political ownership of clean, reliable and affordable energy and thus, inadequate involvement and participation of local communities continue impairing quick take-off towards utilization of sustainable energy in the country (Bishoge et al., 2020). It is important to take into consideration that, for a wider CP into adoption of RE and acceleration of local political ownership of these sustainable energy, there is need to (i) increase access to information concerning RE resources (ii) increase awareness on the RE technologies and related RE coordination and regulatory frameworks, (iii)acknowledge the contribution of RE in improving people's life standards as well as (iv) appreciate space for employment opportunities to the communities. Under these scenarios, communities will take effective part in investing into potentials along renewable energies in Tanzania and therefore tap for various opportunities including employment and trading for renewable energy products.

On the other hand, Communities will steer for the behavioral change along with sustainable economic growth and protecting the environment. It is thus, of paramount note to the government to ensure an enabling environment for increased knowledge, undertaking an overall awareness on RE technologies for enhancing local political ownership of sustainable energy in Tanzania.

While implementing Green and Inclusive Energy (GIE) program, Climate Action Network (CAN) Tanzania together with Hivos - a Netherlands non-profit organization, influenced localization of sustainable energy ownership strategies and practices in Bagamoyo district, Tanzania. The program utilized the bottom - up planning approach which emphasize government planning and budgets to emerge from local community

member priorities. Under normal circumstances this approach is not effectively practiced for ensuring local communities energy demands are given priorities (CAN Tanzania, 2020). Under the GIE program, the Bagamoyo district council (BDC) developed 2020 – 2025 renewable energy strategic plan which focuses to strengthen and enhance CP in realizing sustainable energy demand and utilization in the district. The strategic plan, call for a continuous awareness raising to local communities on issues pertaining renewable energy potentials, technologies and employment opportunities. It further enriches local community advocacy initiatives for better coordination and regulatory frameworks in different districts and to the central government at large.

It is thus important for the government to strengthen the existing bottom - up planning approach through LGAs, and ensure that sustainable energy priorities from local community members become the key contributing to annual national budgeting and planning.

The current practice is inadequately considering local communities' development priorities which in turn pose challenges including lack of ownership, implementation and achievement of various development initiatives including sustainable energy programs in the country (CAN Tanzania, 2020).

Initiatives taken by the government and other stakeholders for enhancing renewable energy in Tanzania

Tanzania recognizes the role of RE in achieving industrialized economy as targeted in the development vision 2025 (URT, 1999). Similarly, The National five years' development plan 2016/17 to 2020/2021 (NFYDP II) largely realizes the contribution of clean, reliable and affordable energy sources in boosting key economic development sectors such as agriculture, tourism and mining. The NFYDP II emphasizes development sectors to largely ensure CP in various developmental projects and programs that intend to improve the energy sector in the country. It is important to ensure that National five years development plan phase III under development prioritizes continuation of efforts that promote advancement of green energy systems in the country. In line with these plans, Tanzania through its national development vision 2025, National Climate Change Strategy 2012 (under review), National Adaptation Program of Action (NAPA 2007) (under review), National Climate Change Communication Strategy 2012 - 2017, Environmental policy 1997 (under review), National Power System Master Plan Update 2020 and Tanzania Electricity Supply Industry Reform Strategy and Roadmap 2014-2025 emphasize on continuing mobilizing resources, joint initiatives and CP towards enlargement of modern energy resources for socioeconomic transformation.

The National Energy Policy (NEP), 2015 regulates all energy related matters in Tanzania. It stipulates energy sources, coordination frameworks and overall management in the country. In addition, the NEP 2015 realizes the contribution and need to improve modern energy supply to attain sustainable development in Tanzania. Unfortunately, important strategies, policies and long-term plan commitments remain uncoordinated and thus contributing to sluggish progress towards RE advancement in Tanzania. The absence of a long-term renewable energy strategy that could push to achieve the NEP 2015 commitments and other commitments made under various sectoral strategies, policies and long-term plans is also another concern to address. On the other hand, the National long-term strategy and implementation plan could provide time frame aligning to key milestones such as involving different stakeholders including local community

participation, enhancing local political energy ownership and investment so as to boost the quick take-off in access and utilization of renewable energy resources in the country.

Moreover, Tanzania has ratified pertinent regional and global frameworks that promote effective inclusion and participation of local communities in the use of clean and affordable energy to achieve sustainable development. Such frameworks include the East Africa vision 2050, the Africa we want 2063 and the Global vision 2030. According to the East Africa Vision 2050, countries are required to ensure effective participation of all people and sectors while investing in RE programs. Similarly, Vision 2030, the Africa we want 2063, requires African governments to take actions on supplying modern reliable, clean and affordable energy foal all. These plans are to be realized only if the process in investing is participatory and prioritize all genders in these countries.

Notwithstanding all these policies, visions, coordination frameworks and various initiatives in Tanzania, clean, reliable and affordable energy access and utilization have not been adequately achieved to significantly contribute on attaining industrialized economy as reflected in the vision 2025. Bishoge et al., (2020) reported that several studies explored various barriers limiting sustainable energy adoption and use in Tanzania. These include limited political will, poor mobilization, inadequate proper renewable energy strategies and policies, limited participation of LGAs and poor coordination among the energy sector and stakeholders in the country have continued to impede investment and progress on Sustainable energy utilization in Tanzania.

Recommended policy actions

Based on the foregoing analysis, it is important to see that the government in collaboration with various stakeholders provides a room for widening the enabling environment that fosters renewable energy investment, adoption and use of such sustainable energy in Tanzania. In this quest, the focus should be placed on the following consideration:

i. Development of Renewable Energy-specific policy or long-term renewable energy strategy, which will aid the commitments under the NEP, 2015. Setting clear strategies will enhance easy mobilization of RE resources and partnership as well as ensuring investment security in the sector.

ii. There is a need to ensure an effective national bottom - up planning approach for inclusive and effective CP socio-economic and social cultural differences. This will increase the sense of ownership and political engagement into development programs and initiatives including the use of sustainable energy in the country.

iii. To achieve local communities' political will and ownership of the agenda on sustainable energy, an increased information access to renewable energy technologies and investment should not be an option to debate for. More resources, technical experts and technology investment need to be articulated to raise people's awareness, and that these people are in identifying energy demands, investment and gaining employment opportunities.

iv. Institutionalize energy at the LGA level by creating a position of energy officer at the LGA level in order to identify local needs and facilitate interaction with local communities during energy design and planning sessions

v. Introduce RE training in the education curriculum for Vocational education training authorities (VETA) as a way of providing relevant experts and qualification for wider adoption and use of RE by local communities

vi. Live up to the vision and mission of the SE4ALL by 2030

vii. Activate the Ministry's monitoring and evaluation framework and provide relevant training to ensure that RE investments (For example, community-based RE projects) are monitored and documented appropriately.

Conclusion

This position paper intends to create an understanding among policy and decision makers across levels and scales to integrate and ensure local communities' participation in the energy sector as an input towards Sustainable Development in Tanzania. It aims at suggesting/ recommending possible ways/ mechanisms that ensure mainstreaming/ integration of energy related issues during annual budget planning and development of Districts Development Plans. Specifically, the paper envisages enabling the local community in the planning, adoption, use, investment, governance and at different stages of Renewable Energy value chains including knots on demand and supply. It is thus foreseen that the recommendations contained in will be useful and will contribute to the Renewable Energy discourse in the country and the world at large. The relevant government officials especially decision makers are encouraged to navigate through and see how best to operationalize the recommendations.

Further information

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Further reading

Akinwale, Y. O., & Adepoju, A. O. (2019). Factors influencing willingness to adopt renewable energy technologies among micro and small enterprises in lagos state nigeria. *International Journal of Sustainable Energy Planning and Management*, *19*, 69–82. https://doi.org/10.5278/ijsepm.2019.19.7

Bishoge, O. K., Kombe, G. G., & Mvile, B. N. (2020). Community participation in the renewable energy sector in Tanzania. International Journal of Sustainable Energy Planning and Management, 28, 121–134. https://doi.org/10.5278/ijsepm.4477

Bishoge, O. K., Zhang, L., & Mushi, W. G. (2018). clean technologies The Potential Renewable Energy for Sustainable Development in Tanzania: A Review. 70–88. https://doi.org/10.3390/cleantechnol1010006

Couture, T. D. (2019). Beyond Fire: How to achieve electric Cooking. 462(part II), 1–9.

IEA, W. E. O.-2020. (n.d.). *WEO2020-Electricity access database*.

Kwakwa, P. A., Adu, G., & Osei-Fosu, A. K. (2018). A time series analysis of fossil fuel consumption in Sub-Saharan Africa: Evidence from Ghana, Kenya and South Africa. International Journal of Sustainable Energy Planning and Management, 17, 31–44. https://doi.org/10.5278/ijsepm.2018.17.4

Momodu, A. S. (2017). Energy use: Electricity system in West Africa and climate change impact. International Journal of Sustainable Energy Planning and Management, 14, 21–38. https://doi.org/10.5278/ijsepm.2017.14.3

NBS/REA. (2020). Energy Access and Use Situation Survey II in Tanzania Mainland 2019/20. REA. http://rea.go.tz/NewsCenter/TabId/130/ArtMID/639/ArticleID/2177/ENERGY-ACCESS-AND-USE-SITUATION-SURVEY-IN-TANZANIA-MAINLAND-—-APRIL-2020.aspx

Odarno, L., Sawe, E., Swai, M., Katyega, M. J. J., & Lee, A. (2017). Accelerating Mini-Grid Deployment in Sub-Saharan Africa: Lessons from Tanzania. 102. https://wriorg.s3.amazonaws.com/s3fs-public/accelerating-mini-grid-deployment-sub-saharan-africa_1.pdf

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