“What can the youth do to safe guard fisheries and aquaculture against climate change?”

1. **Introduction**

The first step in solving a challenge is to identify and accept that there’s a challenge before working on how to solve it. The challenge becomes a problem when we begin looking for ways to solve it without really defining it. The demand for fish is on increase in the last few decades; however the supply is diminishing drastically which brings in the sustainability challenge of the fishing industry. Sustainability is key for the current generation to benefit from fisheries and aquaculture industry without infringing on the benefits the future generation according to Brundtland commission report on sustainability that defined sustainable development as one that meets the needs of the present without compromising the ability of future generations to meet their own needs. For sustainability in fish and aquaculture youth engagement in the sector is paramount as they hold the majority of the population in Africa and they are people to transfer the knowledge and technology to the next generation to come.

However it’s worth noting that Youth involvement in the fisheries and aquaculture has been minimal in the last decades. This could be alluded to a point that nowadays fisheries do not provide sufficient employment opportunities or there are very few incentives for youths to be involved in fisheries and aquaculture industry. This minimal participation of youths has also been because institutional and policy gaps or malfunctioning. It’s with lack of this institutions and lack of policies that have made youths to shy away from getting involved in the industry.

On other hand, impacts of climate change have also hit out on the fisheries and aquaculture industry to extend that water bodies that had abundance of water and fish species have now declined fish production. Currently, natural water bodies are being depleted of their resources due to over exploitation as people of population grows and climatic changes in the catchment basins of the water bodies. An example to this is decline of fishing in Lake Victoria in the recent past. This decline in fishing has then rendered many youth to look elsewhere for jobs thus minimizing their involvement in fisheries and aquaculture.

2. **Context/Nexus**

Low participation of youths in the fisheries and aquaculture has been brought up by a nexus of various factors that have together highlighted the blight of youths and minimized their participation. Among the factors that have contributed to the nexus is population. The majority of the world populations are the young people; in fact in Africa, young people below the age of 30 years accounts to about 70 % of the total continents population according to United Nations World Population Prospects, the 2012 revision. It’s thus obvious that majority of our populations on the continent are you people, and young people like in Kenya where the average age of the population is 18 years. Unfortunately, the systems of governance and democracy in our governments and in the policy institutions have not put in place the mechanism of
tapping into the opinions and desires of this majority population group. Most policy makers are people who are not in this age bracket, so they don’t come up with friendly policies for the youths and even if they come up with them the packaging becomes an issue to reach them. High populations has also increased demand for fish and thus led to overfishing in natural waters which has depleted natural water resources fishing rendering fishing industry unappealing to youth as it has low returns.

Unemployment has become synonymous with developing world nowadays. Many countries are finding it hard to provide jobs for their ever growing populations. This has majorly affected youths majority of who are employable age bracket. The fisheries and aquaculture is not providing enough employment opportunities and even those that have expertise in the field often shift to other profession for better pay. Most of youth are unemployed and they thus are financially poor; even getting a capita to start aquaculture farming it becomes a hindrance to the venture.

On other hand, climate change has had a greater impact on fisheries and aquaculture. “Water is fish and fish is water” you can’t separate water and fish and expect to have alive fish. Apparently climate change is affecting the ecosystem through water as a medium. Prolonged drought, floods and raised water temperatures has all affected the water resources like fish which has led to some species disappearing and appearing of alien species. This is the case in Lake Victoria and Lake Kyoga in which some species like Nile perch, Lates niloticus, and the Nile tilapia, Oreochromis niloticus are decreasing drastically and even disappearing in some regions (Ogutu-Ohwayo 1990). This has had a negative impact on the fishing from natural water bodies which have played a key role in supply of fish as a resource. Climate change impacts have reduced water flows that have affected both fisheries and aquaculture; this has lowered the fishing industry economy and thus becoming unappealing to young people who opt to look into other sectors for employment.

Institutional and policy gaps have been a great contributor to low involvement. Structure wise very few states have clearly laid down institutions that work to encourage youths to be involved in the fisheries and aquaculture. If they exist most of them don’t have enabling policies for youth participation. Institutional capacity building geared towards youth participation if fishing industry is lacking. Those existing one don’t capture the interests of the youth since those making them most at times are senior level government officers who are definitely of old age bracket.

We are living in a digital generation with a lot of data but intuitive capturing of the message to reach out to a specialized group like youth has been lacking. Most are the times we have reports packed in shelves with good facts about how youth should be involved in programs but the message never reaches out to them. Currently the message out there in youth is that fisheries and aquaculture “doesn’t pay well so you can look for jobs elsewhere “, this is the mindset of youth because of being
misinformed through poor marketing of fisheries and aquaculture as unappealing to youth to take part in. It thus goes unsaid; that this too, could be a reason for low participation of youths. All these factors form a nexus of factors that works against youth getting involved in the industry. To come out of this nexus of problems we need strategies, institutions and youth friendly policies that institutionalize youth agendas in the fisheries and aquaculture industry. Hope is not lost, atleast there are have building blocks to begin with.

3. Reinventing the wheel?

Globally, the concept of sustainability was clearly defined in the Report of the World Commission on Environment and Development, “Our Common Future” commonly known as Brundtland commission Report (1987) which defined sustainable development as the one meets the needs of the present without compromising the ability of future generations to meet their own needs. The concept has since been adopted in various organizations and institutions that work with visions sustainability in resource allocations and management. There are already institutions in existence and policies that could be adopted to increase the participation of youth in fisheries and aquaculture.

Among the international institutions that work on the sustainability of natural resources among generations are but limited to: The International Union for Conservation of Nature IUCN, which helps the world find pragmatic solutions to our most pressing environment and development challenges. The IUCN, calls for intergeneration partnership for sustainability through initiating efforts to engage in collaboration that encourages the exchange of ideas and experiences, mutual learning, and meaningful action across generations, geographies and genders.

Under the United Nations Framework Convention on Climate Change, UNFCC, the UN unit dealing with climate change has the youth constituency of the UN Framework Convention on Climate Change (UNFCCC), YOUNGO, which is currently lobbying for the inclusion of a clause on recognizing the principle of intergenerational equity in the upcoming 2015 Climate Agreement. Another convention is the Aarhus convention that came into action in 2001. The convention gives rights to individual; the right to receive environmental information that is held by public authorities, the right to participate in environmental decision-making and the right to review procedures to challenge public decisions that have been made without respecting their aforementioned rights or environmental law in general. This gives mandate to youths from member states to participate in environment policy-making process and even seek legal redress where they feel infringement to their right.

On African continental level, African Union summit 2011, held in Malabo, Equatorial Guinea with theme as, “Youth Empowerment for sustainable development”. In the
summit decisions adopted part (1) reads… that all Member States should advance the youth agenda and adopt policies and mechanisms towards the creation of safe, decent and competitive employment opportunities by accelerating the implementation of the Youth Decade Plan of Action (2009-2018) and the Ouagadougou 2004 Plan of Action on Employment Promotion and Poverty Alleviation. While part (4).To organize on the margins of every June/July Summit training programme for the Youth Volunteers.

This set the continental agenda for youth being mainstreamed into sustainable development. The part (4) of the summit decisions, led to formation of African Union Youth Volunteer Corp (AU-YVC), which is a continental development program that recruits and works with youth volunteers, to work in all 54 countries across the African Union. The AU-YVC Provide opportunities to Young Africans to serve and gain crucial professional experience, soft skills, social competence, international exposure and leadership skills through exchanges in other different countries other than their country. The AU-YVC was operationalized by the African Youth charter in article 11(1) as a blue print of youth engagement in African as well as by the Decision of AU Head of States and Governments in Assembly/AU/Dec.274 (XVI) January 2010, to set up a continental Volunteer initiative.

The African Charter on Democracy, Elections and Governance (ACDEG), created by the African Union (AU) in 2007 and came into operation February 2012, as a roadmap to encourage better governance across the continent. It sets out international standards of good governance and democracy in such areas as rule of law, free and fair elections, and condemning unconstitutional changes of government. In chapter article 2(8) and chapter 4 article 9, calls for promotion of sustainable development and human security of member states. This is another example of an instrument that can be used in operationalizing and engaging youths in Africa.

At a local level, we also have instruments that exist that can be used like in Kenya we have Kenya Fisheries Policy 2005, with objective to: “Create an enabling environment for a vibrant fishing industry based on sustainable resource exploitation providing optimal and sustainable benefits, alleviating poverty, and creating wealth, taking into consideration gender equity.” The policy lays on the concept of sustainability which is a promising for future. An example of programs that has been implemented which can be used to draw experience from is the implementation of economic stimulus program(2009) in which one of the sector was fisheries and aquaculture development which involved construction and stocking of fishponds with fingerlings and provision of aquaculture advisory services by experts who most of the participants were youths. Its thus accepted that we are not inventing the wheels but we have some institutions that we could build on and add more institutions and policies that can help in operationalizing youths involvement in fisheries and aquaculture development and sustainability.

4. Interventions

To enhance youth participation in the fisheries and aquaculture while safe guarding the fisheries and aquaculture against climate change the following interventions needs
to be put in place. First and foremost we need to institutionalize youth engagement into fisheries and aquaculture both at continental level and at national levels. This should be done in spirit of intergenerational partnership for sustainability concept to be realized. This should be by engagement of youth at policy making and at decision making level on issues that related to youth involvement in the fisheries and aquaculture development. This will enhance youth participation since the policies that will come out will be youth friendly since the youths interests will have been catered for in the process making. Institutionalization should involve appointing youths at decision-making organs and at daily running of youth related activities.

Secondly, we need to adopt an open data concept through avoidance of “pdf graveyard”. We are living in a digital generation where we have many data sets being generated each day and many reports that are being produced each day like the this think tank will generate reports. The question we need to ask are the data generated and the “pdf report” produced daily are they solving the real problems? These data sets and pdf reports produced are in forms that cannot be acted upon by a third party to solve the problems people are producing; this is what is called pdf graveyard. An open data means having data that is actionable and getting data into hands of the technologists to come up with applications that can be useful in solving local problems. The Kenya Open Data Initiative is a good case study of innovative use of open data.

Youths are technology gurus today while at the same time they are the people who know the problems youth faces as the saying goes a person who knows where the shoe hurts most is the wearer of the shoe. Thus by enabling an open data concept to youths we combine the data, technology and knowledge of problems which leads to innovations of applications that solves the problems. An example of such concept is the M-Farm in Kenya where Youths combine technology and open data about farm produce prices on market and the problems that farmers faces to find a place and price of selling, this has led to innovation of them M-Farm concept where they collect information and send short messages of daily prices via cell phones to farmers which enables them to make market selling directly. This has gone a step higher in solving local problem by just opening up data. Another example of solving banking problems using technology to locals is the invention of M-Pesa where people can send and receive money via phones. Why not use this concept in fisheries and aquaculture by enabling data to be available in open way that can be acted upon by youths who are technology gurus to give out applications that solve local problems in the fisheries and aquaculture.

2 https://opendata.go.ke/
Thirdly, let’s rejuvenate and reenergize the AU-Youth Volunteer corps program and use it as a platform for sharing experiences and knowledge in fisheries industry. Youths across the continent have knowledge and skills in fisheries and aquaculture why can’t we utilize this already established platform to share experiences across the continent. Youths are willing to engage in such ventures of volunteerships the only hindrance will be facilitation, I therefore recommend that the AU with state parties should facilitate youths in the fishing industry experiences as such platforms exists in other continents like in America they have American corps and in Europe too have exchange programs in higher education institutions. For sharing knowledge we should also encourage university students’ exchanges in the similar field among countries. This will help to bring together the content and foster peace across the continent; in a globalizing world we can’t build walls. The question is, are African youth ready and willing to volunteer?

Lastly, is the current communication reaching out to youth? In communication, packaging of information is a crucial for you to reach out to the intended audience. Young people know what and how they consume information thus they are better placed in coding messages from data that will reach out to youths for consumption. The young people are using and sharing a lot of information on social media today like Facebook, twitter, Skype, wechat, whatap among others. So we can take advantage of this and use the young people to work on fisheries and aquaculture data and come up with messages that can be consumed by the youths. This will improve the communication to youth’s audience and hence foster their participation in fisheries and aquacultures.

5. Future outlook

Implementation of all these measures are put in place among other measures in an integrated manner on fisheries and aquaculture, the future looks bright and we will see more youths getting involved in the industry. Finally, as a way forward we need to form a youth Think tank on fisheries and climate change as an ad-hoc for youth feeding into the main Think tank.