UTAFITI
Journal of the
Faculty of Arts and Social Sciences
University of Dar es Salaam

Vol. 9, Nos. 1 & 2, 2012

Special Issue:
TRANSFORMATION ACROSS DISCIPLINES

FACULTY OF ARTS AND SOCIAL SCIENCES
UNIVERSITY OF DAR ES SALAAM

ORGANIZATION OF SOCIAL SCIENCE RESEARCH IN EASTERN AND SOUTHERN AFRICA
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Editorial

The overriding thought in this special issue of Utafiti is transformation. The Organisation for Social Science Research in Eastern and Southern Africa (OSSREA) Tanzania Chapter decided to share the transformation thoughts across disciplines and topics. This choice was necessitated by the need to re-examine the pace of development and the thinking of researchers around the same. It is no longer interesting, we thought, to see development going on as 'business as usual', so the thinking of young scholars was being tested for transformation consciousness. Accordingly, nine articles were selected for this volume.

Two thirds of the authors in this volume are young except where they are accompanied by their peers as co-authors. Besides, the time and opportunity did not allow the OSSREA Tanzania Chapter to get articles from one clustered subject area. It is our hope that readers will enjoy reading through these articles especially as they try to show the efficiency gaps in their researched areas and the need for transformation so as to be able to cope with the 21st century speed of development within globalisation. The articles are strong in that they take the developing countries context and debate the role of liberalism, reforms and transformation ending up largely rejecting laissez-faire approaches in favour of transformative interventions. They are good for both undergraduates and graduate students alike. I hope that OSSREA has made a contribution to young scholars in particular to publish their dissertation-based research materials.

Three broad areas have been covered. Human security from a micro to a macro perspective has been presented by Angela and Marguerite, Cosmas, Frateline, and Ngomuo and Msoka. The second area is agriculture and rural related concerns presented by Juma, Ngomuo and Msoka, Elliott and Samwel and Nolasco. This area accommodated migration issues, climate change, water scarcity, agricultural transformation and tourism while the third area presented gender by Magdalena, and it was among key issues for Angela and Marguerite, Elliott and colleagues, and Ngomuo and Msoka as the articles show. The articles are both multi- and inter-disciplinary in perspective.

Papers on Security issues underline the continuing insecurity of orphaned children either alone or being trafficked and abused by employers and caretakers due to a gap in effective social protection policy, calling for the identification of stressors and transformational resources. Women as beasts of burden in scarce water areas are still raped and unproductively using 60% of their time to draw water as men, government and civil society look on while possible approaches are available and outlined therein! The elderly in Bukoba are advocated by Frateline looking at their plight in the face of the dwindling economy of banana and coffee after destroying their customary spiritual
practices that also yielded incomes \textit{a priori}. Because the advent of liberalisation has introduced commoditisation of social relations in agriculture without an alternative since land is not yet commoditised, he sees the solution in the provision of social security income to the elderly as well as a better agricultural analysis that is not tied to liberal definitions and that which recognises the contributions of women.

Kamugisha giving security a broader view addresses the peace and security of the Great Lakes Region arguing that security issues are not seriously dealt with and regrets piecemeal reforms. Root causes to threats to human security are discussed as corruption, impunity and exclusivity all pointing to relaxed governance. Democratic processes are called to promote endogenous transformation of social and economic structures so as to fight other related threats such as poverty, HIV spread, and other horizontal inequalities – largely religion, gender, race and ethnicity. Transformational resources are radical institutions that can spread the inspirational momentum for development such as mass media, trade unions, political parties, special groups and law enforcement.

\textbf{The agriculture and rural issues} are presented by Juma, first in acknowledging the contribution of the failed rural economy (as argued by Fratelini) to the growth of urban rental housing. He notes the failure of land and urban settlements development policies to enhance the formal land tenure capability, to meet urban land demand making migrants rely on land purchases from the informal settlement system. This leads to distorted demand and supply of different income level households and construction of rental housing. A government led rental system would have made it better like the current effort by the National Housing Corporation. The urban-rural link in this respect benefits the urban but ways exist that with good thinking it can also benefit the rural through income transfers and investments. The complexities and needs of the rural communities necessitate partnership of stakeholders who are devoted to causing transformation.

Ndesanjo and colleagues presenting climate change note the stand of the people in the Rufiji River delta 200 km south of Dar es Salaam facing the challenges of climate change. Although they have knowledge about climate change they are not adequately involved in the projects aimed at causing change so that they are not happy about their changed livelihoods in Mchungu and Mchinga Mfisini villages. More control by the people of their livelihoods is advised as well as discouraging unsustainable coping strategies that are incompatible with legal and policy frameworks and are hard to finance. Water that has always been scarce is aggravated by climate change but Ngomu and Msoka present a case from Mvomero district, Melela Ward that exhibits lack of creative management and gender insensitivity by leadership in water provision. The article offers adequate analysis of the water resource in the area and provides transformative recommendations for the water sector. There are indications of the urgency of CSOs to respond to such situations since government is too small for this need and has laid down relevant policy guidance.

The above discussion on agricultural/rural transformation has been seriously undertaken by Niboye and Kabote. They pose surprises and complexities of thinking
about transformation of agriculture without knowing and preparing the necessary and adequate conditions in the face of many odds particularly youth rural-urban migration, the rights of women to land and incomes, distorted public investment, low budget allocations, link to sectors and innovation and technology among others. Markets are important but are distorted by global dominance, and home markets by lack of adequate organisation and support.

In what would look like a response to some of the above challenges, Nolasco comes up with tourism for rural livelihoods transformation. The key argument by Nolasco is convincing that the communities that lie adjacent to the national parks can take advantage of tourism related activities instead of fighting with the government and squeezing national parks with agriculture. More advantages are foreseen if capabilities are enhanced to cope with the demanded goods and services as well as finance and organised markets. The task for this transformational challenge is placed in the hands of NGOs and government policies although the communities need also to be sensitised.

Finally, all the articles touch on the way gender is played around in all the topics as seen above but one article by Magdalena specifically addresses the performance of women in higher education as an issue in transformation showing how women transverse the academia that was almost a reserve for men but managed to score among the best 5% -20% in the last fifty years! However, the sabotage that is noted against women in academia is common everywhere in the economy as a gender issue as shown by the articles. Together the articles note the negative gender environments that do not seriously regard women as a transformational resource which needs to be made use of in the next fifty years of African and Tanzanian development in particular. Transformation is not a predictable issue but organised planning and management of resource use coupled with creative approaches can result into fast development leading to transformed outcomes.

Magdalena Ngaiza
Guest Editor and Liaison Officer
Challenges and Coping
Strategies of Orphaned Children in Tanzania

Angela Mathias & Marguerite Daniel

Abstract
Most orphaned children in poor, rural communities sometimes either have no adult who is able to care for them or the adult caregiver is not able to provide adequate care. The aim of this article is to explore the challenges and coping strategies within two possible trajectories for such orphans: either remaining in the rural areas in child-headed households, or migrating to urban areas. Antonovsky’s Salutogenic Model is used as the theoretical framework. The model examines how people use available resources to cope with stressors and improve their well-being. Data were collected from two groups of participants: first, three children heading households in Makete who were involved in three participatory activities and one in-depth interview; and secondly, nine girls who had migrated from rural areas to Dar es Salaam who gave their extended life history narrations. Loss of parents, lack of cash and balancing school attendance with food production and harvesting, were chronic stressors for the children heading households while resources included creative strategies for income generating, and the ability to negotiate with teachers, for example, to arrange time off school for food production activities. For girls who had migrated to urban areas chronic stressors included exploitation and trafficking, long working hours with little or no pay, isolation, sexual harassment and rape. Limited resources included faith-based networks and neighbours, but escape from the exploitative situation frequently involved external help. All the children demonstrated at least one dimension of the Sense of Coherence (SOC), namely meaningfulness. The dimensions of comprehensibility and manageability were lacking in all the children who migrated.

1.0 Introduction
The extended family has long been referred to as the ‘ideal’ care and living arrangement for orphaned children in sub-Saharan Africa. Whilst the extended family continues to play a key role in the care and support of orphaned children, many such households struggle to make ends meet, resulting in children being vulnerable to adult exploitation and without adult support and supervision.

Strategies for the support of orphaned children continue to focus on the role of the family and community in safeguarding the basic needs of vulnerable children. The framework for the protection, care and support of OVC living in a world with HIV and AIDS has been hugely important in setting this agenda. The framework was the
Angela Mathias & Marguerite Daniel

outcome of the first Global Partners’ Forum convened by UNICEF in 2003, in which five key strategies were outlined (UNICEF, UNAIDS, & USAID, 2004:5). These strategies, which have also been adopted by the more recent Joint Learning Initiative on Children and HIV/AIDS (JILICA), focus entirely on the family and community with little attention paid to the children who fall outside this network. Publications continue to stress that programmes should be aimed at providing support for children under the care of an adult, whilst alternative living arrangements such as children living on their own or in institutional care are rarely considered.

Against this background, and in our interest to frame support for children who are not adequately cared for by their extended family, we draw on the Salutogenic Model, to examine the struggles and coping strategies of children who fall outside the ‘ideal’ support network of the family and community and instead follow one of two alternative trajectories: i) orphaned children remaining in the rural area in a child-headed households, or ii) orphaned children being trafficked to urban areas to serve adults.

2.0 Struggles and Coping Strategies

2.1 Orphaned children living in child-headed households

Child-headed households (CHHs) may be defined as households headed by persons who are under 18 years of age (Hosegood et al., 2007:331). Luzze and Ssedyabule (2004) add to this definition, that such households should be recognised by the community as being independent. Luzze & Ssedyabule in a qualitative study of 969 CHHs in one district in Uganda found that orphaned children living in CHHs are poorer than orphaned children with other living arrangements, as well as having lower school attendance and poorer access to social services. Many aid agencies no longer rank those who care for their siblings as ‘children’ once they turn 18, even though no other circumstances have changed (Daniel, 2008). Evans (2010) notes that rigorous application of age definitions does little to support young caregivers in need; she uses the more inclusive term “sibling-headed households” and describes how they often play down their ‘adult’ roles when negotiating assistance from NGOs or government agencies.

2.2 Orphaned children trafficked to stay with adults in urban areas

In many parts of Africa it is customary for children to stay for some time with adults other than their biological parents (usually members of the extended family); for example, a child from a rural area might move to live with a relative in an urban area to access some level of schooling unavailable in the rural area. Such ‘voluntary’ fostering is seen as mutually beneficial as the child gets an education, while the foster caregiver might receive agricultural products from the rural area and get help with household chores from the child (Madhavan, 2004). AIDS has introduced ‘crisis’ fostering where adult relatives feel obliged to take on children whose parents have died. Such fostering lacks the element of reciprocity and is instead “a normative social obligation” (Goody, 1982, cited in Madhavan, 2004:1444). The tradition of child fostering has been linked with child trafficking. According to Koda (2000), under the pretext of taking care of orphans and children from poor families, children are recruited by relatives or non-related adults, particularly from rural areas, for domestic work in the homes of wealthier families. Koda (2000:251) describes a typical domestic
servant in urban centres as “a young girl of between nine and eighteen years of age who may have been brought to her employer by a relative, a friend, a village-mate, or a child who has migrated to the urban area on her own”.

Evans (2005) contends that the tradition of child fostering by members of the extended family may expose orphaned children to exploitation (e.g., as domestic servants) and abuse. Other authors (Blagborough, 2008; Ochanda et al., 2011) confirm that child fostering is a factor in child trafficking. Child fostering turns to trafficking or slavery when the child is deprived of his/her basic rights such as education, health services and basic needs; made completely dependent on the caregiver; and denied the right to choose.

According to UN (2000:2) Article 3 (a) trafficking in persons is defined as:

*The recruitment, transportation, transfer, harbouring or receipt of persons, by means of the threat or use of force or other forms of coercion, of abduction, of fraud, or deception, of the abuse of power or of a position of vulnerability or of the giving or receiving of payments or benefits to achieve the consent of a person having control over another person, for the purpose of exploitation.*

The UN Protocol (2000:3) Subsection (c) based on the definition of a child as: “any person under eighteen years of age”\(^2\) stipulates that “…the recruitment, transportation, transfer, harbouring or receipt of a child for the purpose of exploitation shall be considered “trafficking in person” even if this does not involve any of the means set forth in subparagraph (a) above.

Following the UN Protocol above, in 2008 the Government of Tanzania enacted the Anti-Trafficking in Persons Act. Child trafficking is a very particular form of child labour migration that involves exploitation of the migrant child. According to the UN Protocol (2000), only those cases of migration in which the child (at any point during the migration process) is being recruited, transported, transferred, harboured or received for the purpose of exploitation, can be called trafficking. According to Dottridge (2004), in child trafficking victims are transported and put to the others’ use, usually to make money. In short, trafficking is distinguished from migration by the existence of exploitative intention and acts at any point.

Exploitation of trafficked persons may include physical and mental abuse or confinement, inadequate or non-existent healthcare, poor accommodation and hazardous work, as well as forcing a child or misleading him/her with false promises in the recruitment or transportation processes (ILO-IPEC, 2002). Exploitation also includes child domestic servitude. Anti-Slavery International (1997) cited in Lange (2006:11) defines child servitude as “the complete dependency of a child upon his or her employer for his or her wellbeing and basic necessities and withholding of wages or deferred payment for more than, or a matter of a few weeks.

\(^2\) Article 3.(d) of the UN Protocol
3.0 Salutogenesis

The Theory of Salutogenesis, used here to analyse the coping strategies of orphaned children, focuses on the origins of health rather than the origins of disease as is the case in pathogenesis. Antonovsky (1996) proposes that all human beings are somewhere along a continuum that ranges between the extremes of health and disease, and that Salutogenesis is occupied with what causes people to move towards the health end of the continuum. The Salutogenic Model contains two key concepts: generalised resistance resources (GRRs), and sense of coherence (SOC) (Lindström & Eriksson, 2010:18-19). GRRs are resources which help people to cope successfully when faced with stressors which may be chronic or acute (Antonovsky, 1996). GRRs can be internal or external, material or non-material, for example, money, self-esteem, social relations or beliefs (Lindström & Eriksson, 2010:20). Antonovsky (1996) describes SOC as “a generalised orientation towards the world which perceives it […] as comprehensible, manageable and meaningful;” hence, a strong SOC will promote movement towards health and enable a person to cope with stressors. “[A] strong SOC protects against anxiety … and hopelessness, is strongly associated and positively related to health resources such as optimism, hardiness, control and coping” (Lindström & Eriksson, 2010:32). Figure 1 presents the Salutogenic Model, as constructed by Mittelmark (2010).

![Figure 1: The Salutogenic Model](source: Mittelmark (2010))

Figure 1 shows Mittelmark’s (2010) construction of the Salutogenic Model as described by Antonovsky (1996:15). Life situation comprises culture, social position and many other factors that may generate both stressors and GRRs. These, in turn, shape three kinds of life experiences – consistency, underload-overload balance, and participation in socially valued decision-making – which will all determine the
Challenges and Coping Strategies of Orphaned Children

strength of SOC (Antonovsky, 1996:15). Life experiences reflect the ability to use resources available to deal with stressors in such a way that options for better health improve (Lindström & Eriksson, 2010).

4.0 Tanzanian context

4.1 Demography of orphaned children

Tanzania, despite decades of development assistance, remains one of the poorest countries in the world (ranked 148 out of 169 in the UNDP’s Human Development Index [UNDP, 2010:145]). The Government of Tanzania, based on population estimates, reported that in 2007 there were around 12.9 million people (33.68% of the population) living in poverty in Tanzania (URT, 2009:11). However, other authors suggest that the figure is as high as 50% (Ndulu & Mutalemwa, 2002:3). The poverty levels vary from one region to another, and between rural and urban areas. According to the IMF (2006:4), 87% of the poor in Tanzania live in rural areas, and the absolute number of poor people is likely to increase due to population growth.

HIV prevalence among adults (15 to 49 years) in Tanzania is on a downward trend - 5.6% in 2009 compared with 7.1% in 2001 (UNAIDS, 2010:181). There are some locations, including Makete, where prevalence rates remain high resulting in concurrent high levels of orphaning. Most orphaned children are absorbed by the extended family with grandparents, aunts and uncles providing care for 90% of children without parents in sub-Saharan Africa (UNICEF, 2003a:15). Some orphaned children however are left with no adult to take care of them, and in some cases the adult who is responsible for them is unable to provide adequate care due to poverty or lack of resources. Leach (2008) notes that in Tanzania the main constraint on adequate foster care is poverty, and Mabala (2008) comments that families may see girls as an economic burden and, as a family survival strategy, seek to marry them off early. In such cases, children may live without an adult in a household headed by a child, or they may accept invitations from relatives, neighbours or friends to migrate to urban areas.

Socio-cultural factors can contribute to the vulnerability of children. The socialisation of children, especially girls, to be submissive and obedient leads to children accepting abuse without questioning or seeking help from adults. Rwezaura (2000:327), writing on “the worsening status of the child in contemporary Tanzania”, notes that leading causes include gender discrimination (especially in patrilineal communities) and the fostering of children by urban relatives. Girls usually take on roles of care and domestic labour while boys frequently receive more education than girls.

The Tanzanian Government ratified the Convention on the Rights of the Child (CRC) and the African Charter on Rights and Welfare of the Child (ACRWC) and incorporated the two conventions into the Child Development Policy 1996. In late 2009, it enacted the Law of the Child Act 2009. Furthermore, under the customary and some religious laws, girls, at puberty, are considered mature for undertaking women’s social roles of reproduction and household activities. In some communities girls undergo the tradition of initiation in which they are taught how to handle their husbands and carry out domestic chores such as child rearing. After the initiation, girls may be forced to be
married or asked to take full responsibility of household activities at home or elsewhere. According to Mbonile and Lihawa (1996) forced marriages and domestic work directly or indirectly facilitate migration and/or trafficking.

4.2 Study findings on orphaned children

The findings and analysis, on which this article is based, come from two studies. The first (in Makete) study involved child-headed households, while the second study (in Dar es Salaam) involved trafficked girls. While the objective of the first study was to explore the impact on social cohesion of aid targeting children in poor communities, the second one sought to explore experiences of girls who had been trafficked. Conducting research with vulnerable children raises a number of ethical challenges. Personal topics, especially those related to separation, death and abuse might be associated with pain, shame, guilt, stigma and taboos; hence, all precautions were taken to ensure that the dignity of the respondents was preserved. The second study which was conducted in Dar es Salaam documented the life history of each informant collected over several sessions with special sensitivity towards the informant’s psychosocial wellbeing. Table 1 shows the details of the participants of the study.

<table>
<thead>
<tr>
<th>Pseudonym</th>
<th>Age at interview</th>
<th>Age at parent’s death</th>
<th>Orphan Status</th>
<th>School level #</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orphans heading households</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lucy</td>
<td>13</td>
<td>9</td>
<td>Double</td>
<td>Standard 7</td>
</tr>
<tr>
<td>Joseph</td>
<td>16</td>
<td>9</td>
<td>Double</td>
<td>Standard 7</td>
</tr>
<tr>
<td>Stella</td>
<td>18</td>
<td>10</td>
<td>Double</td>
<td>Dropped out Std. 4</td>
</tr>
<tr>
<td>Trafficked girls</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wema</td>
<td>16</td>
<td>9</td>
<td>Double</td>
<td>Dropped out Std. 3</td>
</tr>
<tr>
<td>Faraja</td>
<td>16</td>
<td>N/A</td>
<td>Double</td>
<td>Standard 7</td>
</tr>
<tr>
<td>Furaha</td>
<td>17</td>
<td>11</td>
<td>Double</td>
<td>Standard 7</td>
</tr>
<tr>
<td>Imani</td>
<td>18</td>
<td>N/A</td>
<td>Paternal</td>
<td>Standard 7</td>
</tr>
<tr>
<td>Subira</td>
<td>16</td>
<td>11</td>
<td>Double</td>
<td>No schooling</td>
</tr>
<tr>
<td>Salama</td>
<td>17</td>
<td>10*</td>
<td>Double</td>
<td>Standard 7</td>
</tr>
<tr>
<td>Nuru</td>
<td>17</td>
<td>10</td>
<td>Maternal</td>
<td>Standard 4</td>
</tr>
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<td>Semeni</td>
<td>17</td>
<td>5</td>
<td>Paternal</td>
<td>Standard 7</td>
</tr>
<tr>
<td>Upendo</td>
<td>14</td>
<td>Before birth</td>
<td>Paternal</td>
<td>Standard 7</td>
</tr>
</tbody>
</table>

Note: * when parents tested positive; # before migration for trafficked girls

4.3 Stressors

All the children referred to in this study were orphans; all of them had experienced the death of a parent and the grief and adversity that accompany such a loss. In addition, all the children in both studies had experienced chronic poverty and food insecurity that worsened after their parents had died. Often lack of income resulted in poor attendance or dropping out of school completely.

Six of the trafficked girls had reached Standard 7, end of primary school, and did not progress further because their relatives were unable or unwilling to pay for their

These girls are deemed to have been trafficked because they all had been deceived and exploited by the people who facilitated their migration or those who had ‘employed’ them.
secondary education. While poverty and food insecurity were among the factors driving them away from the rural areas, the hope that they would be able to continue their education was the strongest factor attracting them to take up offers to migrate.

All three of the children heading households were responsible for another child. Besides managing a household, producing food, earning cash to buy items they could not produce (such as clothing, salt, sugar, oil), and doing their own school work, they were responsible for the wellbeing of a younger child, ensuring needs were met and school attended. Conflict between their numerous roles caused tension that took creative responses to resolve. Apart from some of the other chronic stressors of poverty and food insecurity, there were also other acute stressors connected with income earning strategies such as carrying forestry logs, carrying bricks for builders, making charcoal, and selling fruit bought in from a neighbouring town.

All the trafficked girls had been deceived – they were made to work excessively hard, sometimes up to twenty hours a day. Those who had been promised education did not receive it and several of them were not paid, or were paid only pittance, for the work they did. They also experienced physical abuse such as beatings, and psychological abuse such as insults and false accusations. Psychological abuse was frequently the response when the girls raised the topic of schooling. Many of them were isolated, prevented from making contact with their families, while some were not even allowed to attend church. Six of the girls had been sexually abused, sometimes brutally raped and at the time of the study two had already been infected with HIV.

5.0 Framing the findings within the Salutogenic Model

The Salutogenic Model provides a framework that promotes a better understanding of the coping strategies of children who find themselves without family care. This section uses the framework to examine experiences of the children involved in the study to see how they were able to use the resources available to them to make the best of the difficult circumstances they faced. As the three kinds of life experiences (consistency, underload/overload balance and participation in socially valued decision-making [Antonovsky, 1996:15]) are considered in relation to the components of Sense of Coherence (comprehensibility, manageability and meaningfulness), clear differences emerge between the children heading households and the trafficked girls.

5.1 Consistency and comprehensibility

Consistency occurs when life is structured, predictable and explicable (Antonovsky, 1987:19) i.e. certain challenges can be expected and planned for. All three orphans heading households have remained in the dwelling where they had lived with their parents before they died. Two have continued at the same schools, and all three have continued to work in their same shamba. Producing enough food to meet their needs, earning cash for things that cannot be produced and caring for their young ones are predictable challenges that must be faced on an on-going basis. The trafficked girls however experienced multiple changes in their lives and lack of consistency. Three of

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4 Personal narrations and life histories of the respondents could be obtained from the study report
the girls had several different jobs over the course of a few years, while all the girls had to get used to new homes, new ways of doing things in an urban rather than a rural area and all experienced a range of new challenges. Another breach in consistency occurred when they were faced with actions based on values other than those they had been socialised into.

The girls who were sexually abused and raped found it difficult to believe the men of the household could violate them in this way – as one of them said: “he was a respected man”. Some of the girls told the women who were employing them of the ordeal they were facing, but instead of being supported and protected, they were accused of lying, made to leave the house or faced with silence. Mabala (2008) discusses how hard it is within a patriarchal system which protects men, to punish perpetrators of sexual abuse, particularly when the victim is dependent on the abuser. He explains the silence in response to abuse as families’ attempt to hide the shame and protect their good standing.

Consistency links with the cognitive dimension of Sense of Coherence (SOC), comprehensibility, and the ability to understand the challenges faced. Two of the orphaned children had been heading households for about eight years and had a clear grasp of the challenges confronting them. One of the girls was newer to the responsibilities, but clearly understood why she was living without an adult and caring for her young cousin and what such responsibility entailed. Among the trafficked girls though, there was initially a lack of comprehension. They had been promised further education or good jobs, they had high expectations of a life better than the rural situation they left behind, but they were deceived. Not only were promises of education and employment broken, but they were also exploited and treated inhumanely. The situation was incomprehensible to them. Once they realised they had been deceived, they began to question their employers about the promises of education, for example. The response to such inquiries was often physical or psychological abuse.

5.2 Underload/overload balance and manageability

The underload/overload balance refers to having the resources available to meet the challenges and demands (Antonovsky, 1987:19). Once again there is a clear difference between the experiences of the orphans heading households and the trafficked girls. All the orphans heading households had access to physical or social assets: each had a shamba and a garden for food production; and two had extended families nearby who would help in times of crisis. The trafficked girls, on the other hand, were effectively deprived of most resources; they were a long way from their extended families and friends as they were not allowed to contact them; and they were kept dependent when their employers withheld their wages. When confronted with abuse and exploitation they had few resources to utilise.

Generalised resistance resources (GRRs) do not only help one combat stress, but may also help one avoid it (Antonovsky, 1979 cited in Lindström & Eriksson 2010:19) and often the only option open to the trafficked girls was to run away. In the limited capacity available to them, they also utilised social support; for example, two of the girls involved members of the church in getting away from their exploitative employers.
The underload/overload balance between stressors and resources links with the behavioural dimension of SOC, manageability (Antonovsky, 1987:19). Unlike the trafficked girls who were raped, one girl was able to manage the sexual harassment she was facing from men in her neighbourhood. She could see that despite the numerous demands on her meagre resources, she was better off in her orphanhood than her friends who were married and unable to manage their own lives.

The trafficked girls had expectations to continue schooling, earn money to pay for their own schooling and generally have a better life than they had previously had in the rural areas. In Dar es Salaam they struggled to deal with the exploitation and abuse they experienced, as they were not able to avoid being physically and psychologically abused. In the end, the only way to stop the exploitation was to leave the job and move away from their employer’s home. In most cases they needed help to do this. It is interesting that their advice to other girls in the rural areas was to avoid getting into that situation in the first place, but also to speak out and ask for help; in other words, to draw on social networks, no matter how limited.

5.3 Participation in socially valued decision-making and meaningfulness

All three orphans heading households were able to participate in socially valued decision-making; they were all caring for younger children and had to make decisions for the children’s well-being. They also had to make decisions about food production and earning cash. These are adult roles that were recognised and valued by the community around them. Being responsible for a younger child was both stressful and rewarding. But the trafficked girls were kept dependent, often were not allowed to participate in normal family life and were not even permitted to make decisions about their own wellbeing, for example the violation of their person through rape.

Participation links with the motivational dimension of SOC – meaningfulness. Antonovsky (1987:19) and Lindström et al. (2010) identify this as the most important dimension of SOC, driving one to seek resources to strengthen the other two dimensions. Caring for a younger child motivated all the orphans heading households to persevere in solving problems and seeking the resources to provide for them.

6.0 Conclusion

From the two groups that were studied, it initially seems that children who remained in rural areas without adult care were better off than children who migrated into urban areas. All three children in the rural area had generalised resistance resources (GRRs) in the sense that they had assets that they used to cope with the stressors they faced. Ownership of a shamba enabled them to produce food contributing to their basic needs. Their labour and skills like charcoal making enabled them to earn some cash. They used the resources available to them to cope, although not all children in the rural area have access to a shamba and many may even be dispossessed of the parental home (Rwezaura, 2000). Even those who do have a shamba do not have food all year round. After harvest the food must be stored and some seeds kept for the next planting season. Moreover, there are several basic necessities that cannot be produced on the shamba for example soap and salt.
The trafficked girls had very limited resources while in the exploitative situation, but their desire for education and a better life was a strong enough motivating factor to help them to escape. GRRs also include resources which enable people to avoid stress and in this sense, desire for education was a GRR. This points to an area where policy and practice might assist vulnerable children. Tanzania has adopted Universal Primary Education but ”those left out include a disproportionately high number of poorer and vulnerable children” (Mamdani, Rajani, & Leach, 2008:54). Once the trafficked girls were with KIWOHEDE they all received further education and also training in skills that would help them cope in the future.

Besides identifying resources that help children cope and can be supported by government and aid agencies, the Salutogenic Model also identifies stressors that need to be dealt with. Several of the trafficked girls experienced severe sexual abuse. Mabala (2008:47) claims that adolescent girls are not safe anywhere in Dar es Salaam and he says that most of the girls have not been prepared to deal with sexual harassment. Sexual abuse occurs in rural areas too – two of the girls from the first study had been raped by neighbours. A report by UNICEF (2009) indicates that a third of all girl children in Tanzania have been sexually abused by the time they reach 18 years of age. Although Tanzania has ratified the United Nations Convention on the Rights of the Child (CRC), child protection is an area that still needs strengthening. Another related area that needs to be addressed is the disparity in marriage age which is 15 for girls and 18 for boys, contravening the CRC and contributing to many girls being forced to marry against their will (UNICEF, 2009).

The identification of resources and assets, for example a shamba, that help children living without an adult to cope, can provide a way in for aid agencies to provide effective and appropriate support for children who live beyond the UNICEF ideal. Dimensions that provide motivation and meaningfulness to orphaned children, like the importance of education for the trafficked girls, can guide policy makers in supporting vulnerable children. A focus on assets and what is significant to children provides a means of recognising what support would be most effective, particularly for those orphaned children who fall outside the UNICEF ideal.

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Threats to Human Security in the Great Lakes Region  

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Abstract

Threats to human security in the Great Lakes Region (GLR) are topical issues generating uncompromising heated debates on factors causing threats and the way out. The Great Lakes Region is defined to include Zambia, Burundi, Kenya, Rwanda, Tanzania, Uganda, Congo Republic, Angola, Sudan, Central Africa Republic and the Democratic Republic of Congo. This article touches on unaddressed issues, or issues that have had no solution for a long time. Uncertainty about the root causes of threats and hesitations in the GLR has culminated into societies exhibiting insecure attitude, fear and insecurity among people and within states. Threats to human security in GLR are complex and entail a wide range of antagonistic approaches. One has to take into consideration, first, the great cultural diversity of GLR; second, the reflection of the varying opinions and positions held by different countries and their policy-making apparatus; and thirdly, the question of inclusiveness and leadership.

1.0 Introduction

Human security has been an item on the peace and security agenda of the Great Lakes Region (GLR). While human security in the GLR has evolved largely in the context of post-conflict reconstruction, it is clear that reform of the human security system is not only relevant for such contexts but has broader implications as well for development and democracy.

Non-accountable and poorly governed national institutions leading to threats of human security can have adverse effects on the investment climate, democratisation processes and the sense of security of the general public. Bad governance has been the source of the many human rights abuses and catastrophic conflicts. Changing political and economic circumstances have forced some governments to consider some degree of reform, designed to change the way human security institutions are operated, governed, funded, or related to the people. Some of such reforms have been characterised by piecemeal approaches rather than comprehensive and integrated planning and implementation frameworks. Some have differed very much in their depth and sustainability. They have also largely reflected external design and sponsorship.¹

1.1 Challenges facing the Great Lakes Region (GLR)

The Great Lakes Region, some members being Southern African Development Community (SADC) countries, face some social, development, trade, economic, education, health, diplomatic, defence, security and political challenges. Some of these challenges cannot be tackled effectively by individual members. Animal diseases and organised crime gangs go beyond boundaries. War outcomes also spill from the affected countries to their neighbours thus damaging their socio-economic activities. Even trade is threatened by the existence of different product standards and tariff regimes, weak customs infrastructure and bad roads. The socio-economic, political and security cooperation of the GLR like the aims of SADC are equally wide-ranging, and intended to address the various common challenges (http://en.wikipedia.org/wiki/Southern_African_Development_Community). SADC’s aims, some of which even the GLR are applying, are set out in different sources. The sources include the treaty establishing the organisation (SADC Treaty) and various protocols including other SADC Treaties, such as the Corruption Protocol, Firearms Protocol, OPDS Protocol, Health Protocol and Education Protocol. There are also development and cooperation plans such as the Regional Indicative Strategic Development Plan (RISDP) and the Strategic Indicative Plan of the Organ (SIPO). The list includes also declarations such as those on HIV/AIDS and food security. Not all of the treaties and plans have been harmonised with the more detailed and recent plans such as the RISDP and SIPO.

In some areas, mere coordination of national activities and policies is the aim of cooperation, while in others the member states aim at more far-reaching forms of cooperation. For example, the members largely aim to coordinate their foreign policies, but they aim to harmonise their trade and economic policies with a view to establishing a common market with common regulatory institutions.

However, one has to assess the unavoidable GLR re-assessment of security, the concept of human security and shift the focus or the direction of what an African really wants rather than what the governments and their specialised security bodies are interested in, or perceive as threats to human security in Africa. Sadako Ogata once said that human security was a term that could mean all and nothing; it was as elusive as it was appealing. As the most general observation, Sadaka Ogata observed that human security could be considered as freedom from death, poverty, pain, fear or whatever else makes people feel insecure. In this sense, Sadaka Ogata indicated that almost any matter concerning people’s lives could fall within the scope of human security, rendering it conceptually vague and of little practical use (www.humansecurity-chs.org/finalreport/).

In the GLR, there are such catchwords like economic empowerment at grassroots level, democracy and good governance. To catch up with those catchwords one has to travel beyond the political aspects of executive, legislative and judiciary, hence, looking at the actual practices prevailing in the GLR countries especially in those areas that cause threats among the civil society and the government. One might need to address the root causes of threats to human security before discussing the threats themselves.
1.2 Root causes of threats to human security

The three root causes of threats to human security are corruption, impunity and exclusivity. Corruption is seen as an enemy of justice and a major root cause of threats to human security in the GLR. Where there is no justice there is bound to be threat to human security. From the onset, one has to address the role of civil society and the mechanism to help the leadership in the GLR to root out root causes of threats to human security. Impunity is seen as the behaviour of doing wrong repeatedly, just because there is nobody who could make one account for one’s wrongs. Exclusivity is when the general public is still excluded from the governance system. Any governance is seen as a two-way process between the governed and the governors. When governance is good then it is a contract between the governed and the governors. In a situation where people are virtually not represented in their governance, it is then bad governance regardless of elections and other democratic manoeuvres.

In some GLR countries, constitutional and institutional structures in themselves are not enough to ensure economic empowerment, democracy and good governance. What is needed is active involvement of the civil society in local and national affairs. In 2007, in Washington, D.C., U.S. there was a joint initiative meeting of the Organisation of American States (OAS) and the African Union (AU) entitled Democracy Bridge: Multilateral Regional Efforts for the Promotion and Defence of Democracy in Africa and America. As suggested by its name, the objective of the event was to revise challenges on the consolidation of democracy in Africa and in the Americas, and particularly to analyse the role of the regional political bodies in both continents (the African Union and the OAS) in the promotion and improvement of democracy. The revision of mandates and activities of both multilateral organisations included a comparative analysis of their work on protecting and promoting democracy, paying particular attention to the newly approved African Charter on Democracy, Elections and Governance and the Inter-American Democratic Charter.

Discussions delved on themes including the strengthening of democratic institutions, promotion of democratic values, electoral observation, political dialogue and conflict prevention, protection and promotion of human rights and civil society and multilateral organisations. It was an opportunity to exchange ideas among civil society organisations from Africa and the Americas. The debate and deliberations generated by civil society organisations in these forums were at the centre of the agenda of governance and human rights, and contributed to the achievement of the objectives proposed by the OAS General Assembly and the Summits of the Americas Process.

At the joint initiative in Washington, D.C. it was revealed that strong and dependable economic and democratic governance institutions enable frameworks where the civil society could work together towards a positive common future. From that joint initiative it was believed that strong institutional frameworks in social and economic governance could provide an enabling environment for development. This was due to the fact that these could foresee strategies and implementation roadmaps to meet the challenges of national and regional situations as well as the global economy.

Economic empowerment, democracy and good governance in a democratic society are taken to entail openness, transparency, accountability and compliance with the
rule of law. The civil society has to respect the principles so as to enforce the right to take part in the conduct of public affairs. The collective endeavours of the citizens are the basis of the society. Citizens as individuals or in groups do act voluntarily to improve their communities, hence, the term ‘civil society’. The civil society growth and expanded partnership with the government and private sector help the nations to boost their productivity.

The First Summit of the Great Lakes Region Heads of State and Government took place in Dar es Salaam, Tanzania from 19th to 20th November 2004. This was an international Conference on Peace, Security, Democracy and Development in the Great Lakes Region. The summit came out with the Dar es Salaam Declaration on Peace, Security, Democracy and Development in the Great Lakes Region. The summit was aware of the need to respect democracy and good governance, the fundamental principles enshrined in the UN Charter, and the Constitutive Act of the OAU. These principles included territorial integrity, sovereignty, non-interference and non-aggression, prohibition of any member state from allowing the use of its territory as a base for aggression and subversion against another member state. This underscored the need for effective and sustained political will to jointly seek peaceful solutions and especially to honour the Heads of State and government commitments in a spirit of mutual trust.

The Heads of State and Government committed themselves to promote in their states in the region, policies and strategies based on respect of values, principles and norms of democracy and good governance, as well as observance of human rights. They committed themselves to combat all discriminatory ideologies, policies and practices; develop common policies and programmes in civic education; and promote policies of national unity.

The Dar es Salaam Declaration of the Heads of State and Government of the GLR agreed to seal a Pact on Security, Stability and Development, which materialised into their determination to transform the Great Lakes Region into a space of:

- sustainable peace and security for states and their peoples;
- political and social stability;
- shared growth and development;
- cooperation based on convergent strategies; and
- policies driven by a common destiny.

The Dar es Salaam Declaration recognised accumulated deficits in governance and the failure of the democratisation processes as the main factors or threats to human security.

2.0 Threats to human security in the GLR

2.1 Poverty

Poverty in the GLR can be seen to exhibit more often lack of basic human needs, such as clean water, nutrition, health care, education, clothing and shelter. This is due to the inability to afford them (http://encarta.msn.com/encarta/features/dictionary/DictionaryResults.aspx?). Poverty is the state of being poor, which culminates into the state of not having enough money to take care of basic needs.
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At the same time, poverty can be taken to impinge on the infertility of soil, that is lack of soil fertility or nutrients. This is also referred to as absolute poverty or destitution. Relative poverty is the condition of having fewer resources or less income than others within a society or country, or compared to worldwide averages. Under non-industrialised modes of economic production, widespread poverty had been accepted as inevitable. The total output of goods and services, even if equally distributed, would still have been insufficient to give the entire population a comfortable standard of living by prevailing standards. Such a situation culminates into a threat to human peace. With the economic productivity that resulted from industrialisation however this ceased to be the case in the industrialised countries (Krugman, et al., 2009).

Analysis of social aspects of poverty links conditions of scarcity to aspects of the distribution of resources and power in a society. It recognises that poverty may be a function of the diminished capability of people to live the kind of life they value (Amartya, 1985). The social aspects of poverty may include lack of access to information, education, health care or political power (http://www.journalofpoverty.org/JOPPURP/JOPPURP.HTM). Poverty is also understood as an aspect of unequal social status and inequitable social relationships. It is experienced as social exclusion, dependency and diminished capacity to participate, or to develop meaningful connections with other people (Silver, 1994).

2.1.1 Causes of poverty leading to threats to human security
(a) Scarcity of basic needs
Rise in the cost of living makes poor people less able to afford items. Poor people spend a greater portion of their budget on food than richer people. As a result, poor households and those near the poverty threshold can be particularly vulnerable to increase in food prices. Intensive farming often leads to a vicious cycle of exhaustion of soil fertility and decline of agricultural yields. Overpopulation and lack of access to birth control methods drive poverty; at the same time, poverty causes overpopulation as it gives women little power to control giving birth, or to have educational attainment or a career (http://www.henrygeorge.org/popsup.htm).

(b) Barriers to opportunities
The unwillingness of governments and feudal elites to give full-fledged property rights in land to their tenants is cited as the chief obstacle to development (Fareed, 2008). This lack of economic freedom inhibits entrepreneurship among the poor. New enterprises and foreign investment can be driven away by the results of inefficient institutions, notably corruption, weak rule of law and excessive bureaucratic burdens (Krugman et al., 2009). Lack of financial services as a result of restrictive regulations such as the requirements for banking licenses, makes it hard for even smaller micro savings programmes to reach the poor.
2.1.2 Effects of poverty

(a) Health

Hunger, disease, and little or no education describe a person in poverty. Those living in poverty suffer disproportionately from hunger or even starvation, disease, and lower life expectancy. According to the World Health Organisation, hunger and malnutrition are the gravest threats to the world’s public health, and malnutrition is by far the biggest contributor to child mortality, present in half of all cases (http://www.csmonitor.com/2007/0724/p01s01-wogi.html). Women who have born children into poverty may not be able to nourish them efficiently and provide adequate care in infancy. The children may also suffer from diseases that might have been passed down to them through birth.

(b) Education

Research has found that there is high risk of educational underachievement for children who are from low-income backgrounds than from financially-able families. This is often a process that begins in primary school for some less fortunate children. There is indeed varied explanation as to why students tend to drop out of school. For children with low resources, the risk factors are similar to excuses such as juvenile delinquency rates, higher levels of teenage pregnancy, and the economic dependency upon their low income parent or parents (Huston, 1991).

Society and/or families that submit low levels of investment in the education and development of less fortunate children, end up with less favourable results for the children who see a life of parental employment reduction and low wages. Higher rates of early childbearing with all the connected risks to family, health and well-being are important issues to address since education from pre-school to high school is both identifiably meaningful in one’s life (ibid.).

Poverty often drastically affects children’s success at school. A child’s home activities, preferences, and mannerism must align with the world, and in the cases that they do not, these students are at a disadvantage at school and most importantly the classroom (Solley, 2005). Therefore, it is the case that children who live at or below the poverty level will have far less success educationally than children who live above the poverty line. Poor children have a great deal less healthcare and this ultimately results in frequent absenteeism in the academic year. Additionally, poor children are more likely to suffer from hunger, fatigue, irritability, headaches, ear infections, flu, and colds, (ibid). These illnesses could potentially restrict a child or student’s focus and concentration.

(c) Housing

Slum-dwellers, who make up a third of the world’s urban population, live in poverty no better, if not worse, than rural people, who are the traditional focus of the poverty in the developing world, according to a report by the United Nations. Most of the children living in institutions around the world have a surviving parent or close relative, and they most commonly entered orphanages because of poverty. Experts and child advocates maintain that orphanages are expensive and often harm children’s development by separating them from their families. It is speculated that, flush with
money, orphanages are increasing and pushing for children to join even though demographic data show that even the poorest extended families usually take in children whose parents have died.

2.2 Violent socio-political conflicts
The biggest threat to human security exists in situations of armed conflict due to violent socio-political conflicts brought about by ethnic, religious, socio-economic and a variety of other complex dynamics. It involves victimisation of the civilians and non-combatants. Dag Hammarskjold, the late UN Secretary General together with 15 others and the entire crew died in a mysterious plane crash near Ndola, Zambia on 18th September 1961. Dag Hammarskjold was in his efforts to bring peace to the newly independent Belgian Congo (which at independence in 1960 had assumed the name of the Republic of the Congo) in terms of Article 99 of the UN Charter. The fateful flight to Ndola was to enable him negotiate a peaceful settlement with Moise Tshombe, self-appointed president of the mineral-rich Katanga Province, which had declared its unilateral succession from the rest of the Republic of the Congo.

The UN Country Team (UNCT) in Zambia, in collaboration with the Government of Zambia (GRZ), the Swedish Mission in Zambia and the Mindolo Ecumenical Foundation (MEF), have since 1999 embarked upon the effective operation of the Dag Hammarskjold Living Memorial Initiative (DHLMI), as one of the areas for collaborative programming under the UN Development Assistance Framework (UNDAF). This has a specific objective of strengthening the capacity of Zambia to contribute to regional peace, stability and cooperation and the benefit therefrom.

The Great Lakes Region of Africa is an example of recent conflicts where both combatants and non-combatants have faced the most severe abuses of fundamental human rights. These abuses include genocide, forced displacement, war crimes, arbitrary execution, torture, rape, and sexual exploitation of women and children. Those lucky to escape the direct violence of war were forced to become refugees or internally displaced persons (IDPs) and later killed or maimed by anti-personnel landmines. Also children were trained to kill as soldiers, suffering irreparable physical and psychological trauma.

Such threats deprive people not only of their individual potential, dignity and hope, but also their society’s future. Other effects of violent socio-political conflicts include:

- massive violation of human rights and exclusion and marginalisation policies;
- impunity of crimes of genocide, crimes against humanity, war crimes and disparities between men and women;
- use of violence to serve political purposes and political systems characterised and dominated by the institutionalisation of non-democratic management methods (These include the absence of political diversity and of a consensus on the constitutional principles);
- non-separation of legislative and judicial powers and their control by the executive power; and
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- manipulation of the judicial power and security services by the executive power. (At the end, there appears corruption of power through lack of separation of powers. In some African states there are no clear separation of powers in the legislative, executive and judiciary).

There is lack of domestic legitimisation of some leaders, who have no support from the grassroots. Also other leaders are accountable to invisible actors who are not known to the population. Powerful external actors hijack the economy management and democracy. To eradicate threat of this nature one has to prevent negative interference by the International Community (external power brokers) who should not interfere and choose leaders for a particular country in Africa, or give leverage to certain people to ascend to leadership/power. On the scene are weak and dysfunctional institutions. The institutional set-up is critical, because institutions can better respond to threats than individuals. A functional state needs functional institutions, especially institutions of national unity which are lacking in some African states. Also, one sees the national institutions defending local values such as electoral majority, ethnicity, co-existence and tolerance, land tenure, succession in leadership and so on. Such values can also have continental dimensions; hence, the question of identity is crucial. Conflict-prone states in Africa have a gap in values. National values should have regional and continental dimensions, so that there is a common set of values. For instance, if coup d’etats are not tolerated, then they should not be tolerated across the continent; the same applies to such issues as electoral majority, ethnic tolerance, land tenure, succession in leadership and so on. Citizens should be sensitised to enable them to make good decisions through civic education and economic autonomy.

Moreover, there is also talking around cycles without taking necessary action, that is implementing and monitoring decisions reached. The governance system tolerates impunity whereby people who have committed crimes (warlords) are still in government. When this is the reality, it is difficult to seriously talk about human security, because justice for everybody is supposed to eliminate the culture of impunity. Nobody should be above the law. The culture of collective silence and irresponsibility is manifested by silence on key matters, including serious crimes. Governments fail to condemn killings of democratically elected leaders, and massacre of people in the region; this manifests collective irresponsibility and impunity.

There is governance based on warlords and child soldiers as some governments in Africa draw their legitimacy from the gun. Child soldiers of the past are now adults and have no alternative outlook, other than remain in the ‘trade’ of killing. Also in the run-up to elections (campaigns), political leaders give all sorts of false promises to enable them come to power; there is also false access to power and forceful legitimisation of power. Some states are led by leaders who came to power through the barrel of the gun. Self-appointed leaders organise massacres and killings in their own countries and beyond; they deliberately distort facts to their advantage, and some of them are supported by external powers with strategic interests in the region (invisible interests). Killers of yesterday are leaders of tomorrow. Lastly, there is confusion of voting and elections; that is, voting does not necessarily mean elections. This is evident in Africa, where election rigging is widespread and many election regulations are not practicable, and have only ”paper value”.

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2.3 Economic management and border zones
Border zones continue to constitute threats to human security in the GLR. The most serious threats include cross border attacks by armed groups and bands of cattle rustlers, smuggling, motor vehicle thefts, drug trafficking, flows of small arms and now threats of terror networks. The foregoing has transformed borders into crush points of conflicts because these borders have terrain, forests, and deserts that are difficult to watch over. They constitute ideal sanctuaries on either side of the frontiers. The net effect of this situation has been endemic conflicts that generate not only refugees but also refugee generating conflict. Africa has had to endure genocide, millions lost in post war related deaths, influx of small arms, and cross border pastoralist conflicts and extreme levels of poverty. It is notable that conflicts in the GLR revolve around contestation over the idea of the state (ideologies around which state politics are organised), physical base (population and resources) and institutional framework of the states. States face vulnerabilities and threats despite their endowments in natural resource points, resulting to failure to maximise what Hernando de Soto calls dead capital. This is capital whose existence we may not be aware of, have forgotten or have never unravelled ways of adding value to it for effective use. This ranges from unexploited potential in pastoralist resources to huge eco-tourism, agriculture and human resources prevalent in Africa.

2.4 Globalisation
While social and economic globalisation offers great opportunities, at present their benefits are very unevenly shared, and globalisation costs are unevenly distributed. Globalisation has resulted in vulnerability, and one only needs to look at the African countries currency crisis. When massive financial capital moves instantly and electronically across borders, people lose the foundation of their lives overnight unless a secure social safety net is in place. In the same vein, the digital divide is also widening the already serious gap between the haves and have-nots, worsening poverty in the GLR.

The GLR countries face the threats of the dark side of globalisation, and transnational illegal activity is threatening governance and human security. The globalisation process allows the growth and responsiveness of markets and the free

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Footnote:
1 The concept of dead capital is better captured by de Soto in his narrative of an Indian merchant who travels around the world in search of imaginary treasure only to return home old, sad, and defeated without it. His attempts to get water are constrained by his now silted well. Wearily, he decides to dig a fresh one only to instantly strike a golconda, the world's largest diamond mine. The moral in the story is that African leaders need not wander the world's foreign ministries and international financial institutions seeking their fortune. In the midst of their own regional frontiers, poorest neighbourhoods and shanties, there are acres of diamonds, trillions of dollars, ready to be put to use if only they can unravel the mystery of how assets are transformed into live capital. Accordingly, dead capital exists because we have forgotten about it or have never unraveled ways of converting physical assets into capital such as using a house to borrow money to generate finance for an enterprise. See De Soto (2000:35). The Mystery of Capital: Why Capitalism Triumphs in the West and Fails Everywhere Else, Black Swan. The same can be said of cattle among the pastoralists in the north-eastern and western Kenya and eastern Uganda.
movement of goods, people and capital on a positive note. Others are trafficking in humans (and especially women), and illegal drugs and engage in money laundering. There is also sexual exploitation of children including child pornography and child prostitution. On the list is hi-tech crime involving computer technologies, and terrorism which disrupt society and instil fear. These threats continue to spread and flourish through the Internet and other electronic communication systems, as well as through international criminal networks.

2.5 The environment
Environmental degradation presents both short- and long-term threats to human security in GLR. These threats include first, global warming that is already having a serious impact upon the entire eco-system of the earth, and rising sea levels are already devastating people's lives on small islands. Secondly, desertification and drought are taking away food and land for agriculture. Lastly, there is air pollution ruining the health of the young in many GLR countries.

All of the above result from human activity and it is essential to reassess the institutions and values that are used to manage the delicate eco-system in the interest of sustainability. Individuals and communities have the right to work, live, and raise children, without undermining the ability of future generations to do likewise.

2.6 Socio-economic Inequality
As one of the root causes of economic mismanagement, poverty and inequality become the order of the day. At one time the UN Secretary-General had said that extreme poverty was an affront to our common humanity. Poverty deprives people of their rights to access basic health services and education and they become exposed to insecurity and lack of opportunity; and here, too, complicated socio-economic factors prevent people from getting out of misery. HIV/AIDS is a threat to Africa, and its spread is due to lack of access to healthcare, information and education. This encourages HIV/AIDS to spread and makes it more difficult to address.

The conference entitled Governance in Africa: Consolidating the Institutional Foundations was convened in Addis Ababa from 2nd to 6th March 1998. The overall objective of this meeting was to provide a forum where participants could share views on how best to strengthen state institutions and derive implementable initiatives and to facilitate the consolidation of the institutional framework for good governance in African countries. There were 23 key recommendations made at the end of the Roundtable and Conference in Addis Ababa (See Box 1). The challenge of that meeting was how to ensure people become aware of those recommendations and ensure that governments and the people can discuss them adequately and establish implementation strategies, plans and mechanisms.
1. A consensus needs to be developed on the definition of good governance as a starting point for appropriate strategies for strengthening the institutional foundations of good governance of respective countries in Africa.

2. Institution building is essential to the consolidation of good governance. Although the process must begin with state institutions, the centrality of the state should not exclude other actors. Both the state and civil society actors must be included in the strategies for strengthening good governance.

3. Good governance and sustainable economic development are interrelated. Governments must create an enabling environment for economic growth and development, and this should include: (a) a well-educated and trained workforce; (b) a strong private sector; (c) political stability; (d) the right investment environment with respect to legislation and the infrastructure; and (e) people's involvement in the developmental process.

4. Constitutions must not only reflect the wishes of the people, but also be made through a process of wide consultation with them. It is only through such involvement and/or through education that people can learn and retain respect for the constitution. To familiarise ordinary people with their constitutions, financial resources are needed to translate these constitutions into indigenous languages.

5. Constitutionalism and the rule of law also require a politically aware, tolerant and involved citizenry, one that can ensure the effective functioning and the legitimacy of state institutions. To achieve this goal, financial resources are also needed for nationwide campaigns of education for democracy, including the culture of peace, tolerance and respect for diversity.

6. Governments must make sure that minorities are not excluded from the political process nor discriminated against with respect to access to state resources and services.

7. Training programmes are needed to strengthen the institutional capacity of Parliament and its legislative committees, enabling them to play their checks and balances role effectively, and to enhance the skills of legislators and their technical staff in legislating, investigating wrongful behaviour by public officials and controlling government spending. Strong and well-equipped research units are also needed to provide parliamentarians with adequate, timely and current information necessary for decision-making.

8. Parliamentarians should work in close consultation with their constituencies. This should include regular meetings within their communities to listen to people's concerns and policy recommendations.

9. The independence of the judiciary should be enhanced by its financial autonomy. The judiciary should have its own budget, independently of the executive branch.

10. To ensure the independence of the judiciary, the executive should not have the power to remove judges from office. The most appropriate system of appointment is a three-tier system in which a Judicial Service Commission recommends names of prospective judges to the executive, which submits them for parliamentary approval before appointment.

11. Judges and all the staff in the judiciary need continuous training and good work environment in terms of equipment, logistics and a secure information storage and retrieval system.
12. Institutional development and capacity building in the judiciary is most needed at the lower level, where the credentials, remuneration and working conditions of magistrates must be improved. District and other lower court clerks also need training to enhance their skills.

13. Better linkages are needed between modern courts of law and traditional/customary courts, whose judges must be trained to respect human rights and to abandon arbitrary decisions. The latter courts should be fully integrated into the judicial system to allow people to have access to higher courts when they are not satisfied with the judgements of the traditional/customary courts.

14. Creating a lean, competent and effective public service implies the institutionalisation of meritocracy, the end of impunity, the establishment of anti-corruption mechanisms, greater promotion of professionalism and the enforcement of a rigorous code of ethics. These control measures should be complemented with better salaries and working conditions and this may be easier to attain once ghost or fictitious employees are removed from the payroll.

15. Financial management should be improved in order to enhance accountability in the executive branch of governance. Improved financial management is also essential for combating corruption in the public service.

16. The international community should refrain from recognising military governments established by soldiers who overthrow democratically elected governments.

17. The role of women in governance should be actively promoted at all levels of decision making and in all the institutions of the state, civil society and the private sector. Although constitutions and other legal instruments are now gender sensitive, there is a strong need for policy to implement gender recognition in decision-making bodies.

18. Capacity-building for electoral systems to enhance their ability to organise free, fair and transparent elections is essential for consolidating the institutional foundations of good governance in Africa.

19. Building Parliament and its committees as effective organs of legislative oversight as well as independent regulatory bodies like electoral commissions, the Office of the Auditor General, the Office of the Ombudsman and others also require the kind of financial resources that most African states cannot mobilise on their own. The contribution of the international community is indispensable in this respect.

20. The ruling and opposition parties should stop regarding each other as enemies. Workshops and meetings designed to narrow differences between them and other collaborative mechanisms designed to enhance the national interest should be actively promoted.

21. To enhance the media’s educational role and its contribution to democratic values, training programmes with emphasis on fairness, responsibility and objectivity are needed.

22. Governments should be pro-active in removing obstacles to collaboration with civil society by taking measures to create genuine partnership between state institutions, including the public service, with civil society organisations. Regularly held meetings and consultations between the states, civil society and the private sector should be encouraged for frank and open discussion of all issues of concern to all parties.

23. Mechanisms should be created for measuring the performance of the public service and involving civil society organisations in monitoring this performance and that of other state institutions.

Source: Leadership in Africa – Challenges of the 21st Century
The objectives of Box 1 were to find answers to the following key questions:

- What does ‘governance’ mean (as distinct from government) and what should it look like in practice?
- What skills, knowledge and other capacities are needed for ‘good governance’ – among citizens, civil society organisations, and government institutions at all levels?
- What actions, policies and practices are needed to facilitate the development among citizens and civil society organisations of the capacities needed for effective participation in governance; and the development among the institutions of government of the capacities needed for better governance?
- What processes, systems and structures does ‘good governance’ require?
- How does citizen and civil society’s participation in governance impact upon the meeting of people’s basic needs and the reduction of poverty, marginalisation and discrimination; the health and strength of civil society; and the legitimacy and effectiveness of democratic institutions and processes?

3.0 Combating threats to human security in the GLR

Combating threats to human security in the GLR needs a multidisciplinary and comprehensive approach to welfare issues. Challenges and solutions cannot be addressed in isolation from each other; in fact, they are interconnected, and even sometimes interdependent. For example, AIDS is a severe threat to individuals and communities; at the same time it has impact upon underdevelopment in Africa. If that is the case, poverty, undermines effective education and healthcare that contribute to the spread of AIDS. This is a reminder that threats to Human Security must be approached in an inclusive and holistic manner - not only examining the symptoms or manifestations of human insecurity. One has to seek to produce recommendations that address root causes. To give another example, when power and resources are unequally distributed between groups that are divided by race, religion, or language – the so called ‘horizontal inequalities’ – this becomes a breeding ground for conflict. In demonstrating the inter-linkages between different types of threats to human security, one also sees the linkage between "freedom from want" and "freedom from fear". In addressing the root causes of threats of human security in Africa one will be seeking to address an agenda that includes political, social and economic issues. In this line of argument, even the Dar es Salaam Declaration reflected the will of states to rehabilitate the rule of law and entrench the values and principles of democracy and good governance. This was to be achieved through the transparent and accountable management of public resources; second, through effective functioning of public institutions and participation of all social players in political life and in the development process. This was to be realised through consolidate cooperation, a programme of action and specific memoranda of agreement dictated by the political options and guidelines.

Threats to human security can be controlled in many ways; what is needed is to institute programmes of action seeking to build a strong foundation for an African sphere of peace and political stability. This has to be characterised by the promotion of values, principles and norms of democracy and good governance, the respect for
human rights, as well as cooperation and solidarity between states and their people. Threats to human security can be eradicated by restoring the rule of law in Africa and especially through the restoration of the respect for the constitutional order, peoples’ sovereignty and the separation of executive and legislative powers; and enhancement of the effectiveness of the judiciary, promotion and protection of human rights and the repression of discriminatory ideologies, eradication of war crimes, crimes against humanity and the crime of genocide and the fight against impunity.

The consolidation of the democratisation processes, especially by strengthening capacities of democratic institutions and the development of communication and information has to be done. On the list are also the promotion of political participation and the empowerment of women, the youth and other vulnerable groups. It will also be necessary to manage, in a rational manner, the resources of the region, through the fight against the illegal exploitation of natural resources and corruption; and promote principles of transparency and accountability.

3.1 Strategies to be adopted

To be able to eradicate threats and enhance human security by entrenching the values and principles of good governance and strengthening the democratisation processes in the GLR, the programmes of action have to use an integrated, participatory and multidimensional approach. The strategies have to include developing the GLR capable of strengthening the capacities of public institutions; and stimulating harmonisation of political and legal instruments in order to guarantee the successful fight against impunity of political and economic crimes in the region. This will eventually contribute to the restoration and consolidation of cooperation and solidarity in the GLR. For this purpose, the programmes have to be structured into projects and protocols dealing with the strengthening of leadership capacities and institutional capacities through:

- research and training in the areas of democracy, good governance, human rights, and civic education;
- strengthening of capacities for communication and information systems;
- promotion of frameworks for dialogue and consultation between the various political and social players, in particular, parliamentary institutions, civil society, women, youth, professionals of the media, and so on, in order to promote their effective participation in the democratisation process;
- restoration of peace and political stability;
- promotion of good governance; and
- adoption of effective legal frameworks capable of promoting the fight against impunity, the fight against economic crimes, the repression of crimes of genocide, war crimes and crimes against humanity.

3.2 Issues to be addressed

As far as issues to be addressed are concerned, there are already some economic empowerment and democratic governance activities in some countries in the GLR; what is needed is their consolidation and improvement. The fact is there is no perfect
democracy in the world because democracy is not a destination but a journey towards an ideal; the issues then are how best one could improve on economic empowerment and democratic governance in the GLR to eradicate threats of human security, the timeframe for doing this and the safeguards of economic empowerment and democratic governance. One of the requirements of economic empowerment and democratic governance is the clear definition of the roles and powers of the civil society and of the three traditional branches of the government, namely, legislature, judiciary and the executive. Economic empowerment and democratic governance demand putting to task the power that violates the rules. In line with the argument then the issues to be addressed, among others, are elaborated in the following sections.

3.2.1 Economic and democratic changes and the politics involved

GLR States have to promote popular participation at all levels of society by opening up the political space for women, the youth and other social groups, including the disadvantaged groups, so that through their engagement the GLR civil society can arrive at a national consensus on development priorities and devise appropriate strategies for their economic and social emancipation. One needs to check the extent to which checks and balances are respected in the real functioning of GLR states political institutions and the need to make the legislature more answerable to the electorate than to the wishes of the ruling party. It will be imperative to do away with the personality cult, nepotism, clientelism and the personal rule in the executive branch. Questions can be raised about the appropriateness of power sharing as a principle of democratic governance in a multiparty system and term limits for executive office holders.

The assumptions being made are that:

• stakeholders in Africa are committing themselves to the promotion of stability, gender equity and democratic governance;

• concerted measures and efforts exist at national and continental levels to promote stability and democratic governance within the framework of NEPAD’s peer review mechanisms and other relevant protocols and conventions; and

• developments in the international system are in favour of, and support measures that may be contemplated to promote a development model that is integrated and people centred.

3.2.2 Popular participation, empowerment and people centered development

The priorities that African states have to aim at include the following:

• Mainstreaming gender in social, economic and political spheres;

• Undertaking efforts to remove social cultural barriers that inhibit people centred participatory development; and

• Promoting endogenous transformation of social and economic structures through an integrated programme of rural development for enhancing productivity and social advancement of rural populations in the region.
Assumptions for the priorities listed above are that:

- GLR states recognise the necessity of gender balance in promoting national development;
- religious and community leaders are willing to play a proactive role in changing the mindset of their followers that have been conditioned by custom and traditional values now rendered repugnant in the contemporary world;
- stakeholders recognise that the key to development is within Africa and through collective efforts within the continent as a whole;
- empowerment is recognised as a right that has to be fought for and defended in all its spheres – political, social and economic; and
- special windows for the weak are in place for them to acquire skills and means for effective participation.

3.2.3 Law enforcement Institutions
Law enforcement institutions are supposed to enhance the consolidation of economic empowerment and democratic governance. The question is whether they are obeying and enforcing the existing laws and rules that demonstrate responsive and responsible leadership, hence policy openness and the rule of law. Is the establishment of the Commission for Human Rights and Good Governance an answer to the complaints of the citizens? Civic education in the GLR is far from being satisfactory; therefore, in providing and disseminating civic education the governments could work in partnership with other stakeholders, such as political parties, NGOs, Faith Groups, CBOs and so on.

3.2.4 Role of trade unions
The role of trade unions is critical and unmistakable in economic empowerment and democratic governance. This is due to the economic reforms the GLR countries have embarked upon. The GLR is rapidly shifting economic activities, thus job-creation, from the public to the private sector, including multinational corporations. The trade unions need the capacity and experience to negotiate good working conditions and remuneration with the private sector.

3.2.5 Mass media
The former President of Tanzania H. E. Benjamin Mkapa once said that the print and electronic media are an important component in the consolidation of democracy and democratic governance. A free and objective mass media can act as another institution offering checks and balances against governments and other players in democratic political systems. The mass media has great responsibility which if executed would consolidate democratic governance and spread the inspirational momentum for development.

4.0 Conclusion
There have been attempts to cluster the threats to human security as well as recommendations into broad logical issues of concern. The article could be taken as guidance for further discussion. The article has attempted to define the role of civil
society in addressing the threats to human security; what the civil society entails; how to build the capacity of civil society organisations; key issues in the increasing role of civil society in governance; and civil society and the public service and strengthening the role of civil society organisations in the political transitions.

References


Cosmas A. Kamugisha


Abstract

All social policies can be defined in terms of the mode of exchange they promote. Some policies promote gift-giving as a mode of exchange, while others promote commoditisation as a mode of exchange. The former are referred to as collectivistic policies while the latter are individualistic policies. Specifically, the latter policies are associated with rivalry and excludability, while the former policies are associated with non-rivalry and non-excludability. Against this scheme this study investigated how Tanzania’s social policies adversely affect the social protection for the elderly in rural areas. To this end, the theoretical framework of African Moral Economy is used with a view to shedding light on the plight of the old people as far as their social protection is concerned. Specifically, it is argued that commoditisation of everything which goes parallel with the individualisation of family relations while many traditional institutions still occupy visible indigenous social status poses serious challenges to the elderly in Bukoba rural. It is recommended that such challenges should be effectively addressed at policy level by embarking on heavy investment in agriculture and the transformation of rural social welfare systems with special focus on social protection for the elderly.

Keywords: neo-liberalism, agricultural transformation, welfare, elderly and Bukoba District.

1.0 Introduction

During the 1980s, Tanzania, like many other developing countries adopted neo-liberal policies under Structural Adjustment Programmes (SAPs). These policies advocated for privatisation, liberalisation of the economy, government ceasing to give subsidies to local farmers, large scale private sector driving the economy, as well as permitting a self-regulating free market system (Campbell & Stein, 1992). As a result, these policies had a far-reaching negative impact on the economies of developing countries, especially on the livelihoods of African farmers or peasants in particular (Akram-Lodhi & Kay, 2010; Shivji, 1992; Stiglitz, 2003).

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Haya-Africans in Bukoba district as part of the Tanzanian society were equally affected by this wave of neo-liberal policies imported from the global financial institutions, namely the World Bank, the International Monetary Fund (IMF), the World Trade Organisation and others (Stiglitz, 2003; Ferguson, 2006). Due to this, some scholars have argued that the said policies that were imposed on people also led to the individualisation of family relations and the introduction of new commodity social relations in rural Tanzania (Mwami, 2001).

1.1 Hidden agenda under liberalisation of trade in agricultural products

Literature shows that the largest percentage of world agricultural trade is controlled by a very small number of trans-national corporations based in the developed countries, e.g. USA and EU (WIDE, 2010). For example, in 2002, the world’s Food and Agricultural Organisation (FAO) indicated that only twenty corporations controlled trade in coffee, six corporations controlled trade in wheat and one corporation controlled 98% of global trade in packaged tea (ibid).

Due to this, developed countries especially USA and EU have their own geo-political interests in promoting liberalisation of trade in agricultural products through rules and regulations issued by WTO. As a result, WTO and other Bretton Woods institutions have inadvertently but systematically destroyed and impoverished the poor farmers in developing countries through imposition of neo-liberal policies that have been proven to be disastrous in Africa (Akram-Lodhi & Kay, 2010; Stiglitz, 2003). The ultimate goal of trade liberalisation in agricultural products is often to increase export production at the expense of helping small and medium poor farmers to produce for their livelihoods and trade (WIDE, 2010).

1.2 African moral economy and economic backwardness

Many liberal scholars for ages have been trying to justify neo-liberal policies and have sought to blame the peasants or poor farmers for the failures that these poor people have been experiencing. In this regard, in an attempt to explain why admittedly Africa is the only continent where agricultural transformation and the Green Revolution have not taken place, some scholars like Kimambo, Hyden, Maghimbí & Sugimura (2008) have suggested that the answer lies in what they refer to as the African moral economy. Among Haya-Africans, this type of economic mode has existed since time immemorial. The unit of analysis is the community where people produce for subsistence and there is little surplus for trade that nevertheless is not based on profit maximisation. The economic philosophy of Haya-Africans was based on ensuring both social and economic justices to the members of the community. The Haya elders were and in some places still are valuable assets who oversee the production process for the wellbeing of the society.

\^ Professor Goran Hyden argues that the concept of moral economy originates from various intellectual traditions according to the historical context of the regions in the world. He outlines three origins namely Southeast Asia, industrialised European societies and Africa. The proponents of the concept in Southeast Asia were James Scott & Chayanov, in Europe scholars like Polanyi & Sayer and in Africa, Goran Hyden & Kopytoff.
Agriculture is still an indispensable economic activity in Tanzania, contributing enormously to employment opportunities and provides the lion share of Gross Domestic Product (GDP) as well as acts as a source of foreign earnings. Research shows that 85% of Tanzanians depend on agriculture for their livelihood, and most of these live in rural areas (Nkuba, 2007). The Bukoba people, as the case in point, epitomise what was taken as the prescribed rural living standards with regard to the welfare of the elderly. Bananas are an important food and cash crop for many people in Bukoba District. Bananas are grown in a family land known as “kibanja” in Haya language. The kibanja refers to a household land with a house in the middle. A diversity of crops and trees are grown, including bananas, coffee, beans and several other crops (Ndile et al., 1999). The seasonal crops grown in the kibanja are potatoes, cassava, maize and a variety of fruits and vegetables.

The owner of a kibanja is invariably a male elderly member of the family of a particular clan. The customary law of kinship and clanship in Haya social relations administers this system of land ownership. This mechanism of family land ownership still provides some measure of social safety nets for the elderly in Haya land. The downside of this system is that it perpetuates gender inequality especially in the ownership of clan land, although women in Bukoba, both old and young, play a very important role in agricultural activities. Although they are the main producers of food and cash crops, their contribution and creative role is not appropriately acknowledged and recognised in the community (Swantz, 1985).

To make the situation worse to the main producers in Haya land who happen to be women and at times who are very old, agriculture is increasingly becoming not only unattractive activity to the young ones but also less productive. Research shows that traditional farming methods, loss of soil fertility, pests and decline of banana production in Bukoba, are some of the reasons behind poor performance of the agricultural sector (Tibaijuka, 1984; Mgenzi & Mbwana, 1999; Nkuba, 2007). As a result, the welfare of the elderly is adversely affected. The intervention to transform the agricultural sector into a more productive sector will immensely contribute to the improvement of the wellbeing of these senior citizens.

Accordingly, this article partly attempts to examine the Tanzanian social policy in regard to agricultural transformation and the improvement of the welfare of the elderly in Bukoba District. It attempts to shed some light on the said policy gap in the context of Tanzanian social policy for the elderly and agricultural transformation. To this end, the article is organised in five sections. After this brief introduction, Section 2.0 dwells on the concept of Haya-African moral economy, while Section 3.0 deals with neo-liberalism, agricultural transformation, and the Haya elders. Section 4.0 touches on policy challenges in social protection for the elderly, while the last section presents the conclusion and recommendations.

2.0 Understanding Haya-African Moral Economy

The term “Haya-African Moral Economy” has been coined by the author of this article. It comes from the recent academic debates on African peasants framed within the context of what scholars refer to as African Moral Economy. The essence of this
very important academic discussion is an attempt to try to understand why African peasants are sunk into the cycle of abject poverty, are unable to improve agricultural productivity, and are completely perceived as being in a state of total stagnation in the development path. This is a widely recognised view about African peasants among many social science researchers, aid workers and development experts (Maghimbi, Kimambo & Sugimura, 2011).

The main proponents of the discussion on African moral economy of recent have championed the debates in the form of a comparative analysis between African peasants and peasants in Southeast Asian countries. While the latter in 1980s transformed their agriculture from being a peasantry into a Green Revolution, the former remains stagnant in a cycle of rural poverty. It is argued among researchers and aid workers that stagnation of rural Africa is attributed to the unique characteristics pertaining to African peasants (Sugimura, 2011).

The main contributor to the discussion is Goran Hyden who coined the term “Economy of Affection” to refer to an informal social network of mutual support, communications and human structured interactions based on blood relations, kinship, community, belief system, same cultural heritage, religion and other spiritual affinities (Hyden, 1983:8). Agricultural practices and other socio-economic activities of Haya-Africans fit the descriptions of what Hyden refers to as economy of affection. Due to this type of economic mode, African agriculture is less productive and pursued using rudimentary technology in small household farms. It is argued that farms in Africa are small not because of scarcity of land but partly because land is not properly commoditised in a free market and therefore without full incorporation of peasants into commodity economy, no real progress can be made (ibid). Hyden (1980) outlines the problems facing African agriculture, where he identifies such issues as rain-fed agriculture, small-scale farming, African peasants’ independence from others, African peasants being less integrated into cash economy than peasants elsewhere, and therefore African peasants have unique characteristics, mechanisms and informal institutions that must be understood from a historical perspective.

This view, which claims that peasants in Africa are uncaptured within a capitalist economy, is strongly challenged by other scholars (Maghimbi, Kimambo & Sugimura, 2011). For example, Maghimbi criticises the above view which is based on James Scott’s analysis of peasants in Southeast Asian countries. It is argued that one of the central problems of the moral economy school is that it ignores the evolution of peasant capitalism in Africa (Maghimbi, 2011). Maghimbi claims that the tendency by some moral economists to blame the economy of affection for the plight of African peasants is illusive and leaves many questions unanswered (ibid.).

The above discussion falls within the conventional frame of reference of studying African peasants within the discourse of modernity. This is partly because the underdevelopment of rural Africa has been understood in the context of the dichotomy between tradition and modernity (Sugimura, 2011). Due to this line of thinking, for the past three decades, development efforts in Africa have not only proved futile but also researchers and policy makers have produced unsuccessful
results (ibid). This means that the researchers ought to study African society outside the box whose dimensions are tradition versus modernity. It is therefore argued that researchers and development experts need to recognize that there is a many-to-many relationship between "modernity" and "tradition," which means that qualitatively speaking, there exists many different types of "tradition" just as there are many types of "modernity," depending on the society under consideration (ibid). This is exactly what the author of this article proposes in an attempt to understand the fate of Haya-African peasants and the welfare of the elderly. The Haya-African moral economy can be defined as the type of subsistence economy primarily based on farming. This type of economy is similar to what Hyden (1980) terms, as mentioned earlier, the economy of affection. I would like to argue that the poor performance of this type of economy is not simply because of the uniqueness of African peasants as suggested by some African moral economists (Maghimbi, Kimambo & Sugimura, 2011). As seen in the preceding discussion, the dominant paradigm that has been used to study underdevelopment of rural African societies entails the dichotomy between tradition and modernity (Sugimura, 2011). Due to this, many liberal scholars have produced voluminous literature that attempts to reinforce the conventional stereotype that African peasants are unique, primitive, undeveloped and therefore they need to emulate the modern societies of the west. This mainstream thinking has partly shaped and influenced policy makers in Africa. The Haya-Africans like the majority of other Tanzanians who live in rural areas confront the same tradition-modernity dilemma as imposed on them by policy makers in regard to rural development and agriculture transformation in Tanzania. The fundamental weakness of this dominant paradigm in studying African peasants has been the tendency to concentrate on observable phenomena such as poverty, effectiveness of handouts to African peasants, neo-colonialism, political instability, corruption-ridden governments and other observable indications (Tsuruta, 2011:91). As a result, the paradigm has ignored the non-observable phenomena which take into account the grassroots dynamics of rural societies. These ideas are abstract by nature, and therefore they cannot be studied by observation as it would be the case through a positivist approach. It is along this line that this article addresses that knowledge gap.

2.1 Neo-liberalism and its limitations

It has been argued that before 19th century, human economy had always been embedded in a society (Polanyi, 2001). Polanyi uses the term “embeddedness” to express the idea that “economy” is not independent or autonomous as suggested by a dominant economic theory. This means, economy is inseparable and subordinated to politics, religion and social relations. To clarify further, the conception of the term embeddedness goes beyond the conventional understanding of “markets”, and the notion that market transactions depend on trust, mutual understanding, and legal enforcement of contracts is illusive (Polanyi, 2001).

Stiglitz (2001) is of the opinion that the ongoing global economic crisis and market failure provide not only evidence of limitations of uncontrolled free markets but also
the authenticity of Polanyi’s thesis. He adds that the orthodox of classical economists
namely, Adam Smith, Malthus and David Ricardo is increasingly being challenged.
Along the same lines, the commoditisation of everything which is like a creed of
classical economy is equally challenged. As a result, some scholars have argued that
the plight of old people in Tanzania is a result of commodity social relations imposed on
them. The recent theoretical analysis of Haya society by a western anthropologist,
Brad Weiss, suffers the same shortcomings based on both its ontological and
epistemological grounds. He postulates that Haya people can simply make the world
around them and unmake their world as part of their efforts to understand and
interpret their local cosmological understanding of the universe (Weiss, 1996). This
line of thinking ignores the fundamental aspect of social relations which other
theorists refer to as economic determinism (Morrison, 1995).

Against the above background, Mwami (2001) has attributed the plight of old people
in Bukoba and Tanzania in general to the poor policy framework which draws on
wrong assumptions and false economic philosophy. This fits perfectly with the claim
by Polanyi (2001) who argues that a system of self-regulating markets that demands
subordinating a society to the logic of the market is simply “utopia” and does not exist
in the real world. Such a system poses serious challenges in developing countries
especially African societies whose people live in rural areas and the majority depend
entirely on agriculture for their survival.

Moreover, the system dismantles the social fabric of these societies as it aims at
eradicating traditional institutions and mechanisms in the name of modernity in order
to allow competition, hence new commodity relations. As a result, the vulnerable
social groups especially the needy and old people in particular are subjected to
destitution (Mwami, 2001). The same scenario faces the old people in Haya land
where the vast majority of the people are still strongly attached to their cultural values
and communal sensibility of social life (Rweyemamu, 1990; Byabato, 2010).

The current policy framework in Tanzania is still largely influenced by neo-liberal
policies which some scholars have strongly criticised and discredited. They argue that
neo-liberal policies that were recommended and imposed on African governments
have caused far-reaching impact on the economies of developing countries and are
fundamentally unsound. The specific policy documents that address the welfare of old
people in Tanzania such as the National Population Policy, National Ageing Policy and
National Health Policy are based on individual old persons and not on the
aforementioned communal sensibility of Haya society and Tanzanian society in
general (URT, 2010).

Haya society is still attached to a traditional life style in many villages where people
constantly make attempts to make sense of the world around them, and separation of
the Haya traditional belief system and other socio-economic activities such as
agriculture, hunting, fishing and trading is something that has defied all external
forces (Byabato, 2010). This implies that the illusion of free market and much
influence of Christianity have defied Haya sensibility of communal ideology which is
intrinsically bound to the Haya belief system (Rweyemamu, 1990; Byabato, 2010).
This partly explains why Goran Hyden assumes that African peasants are uncaptured. Haya traditional institutions such as clan, homestead, family and sacred places have survived the wind of globalisation. Some scholars have a similar argument that African religious sensibilities are inseparable with social, political and economic activities (Mbiti, 1969; Kilaini, 1990; Swantz, 1970; Mazrui, 1993; Mudimbe, 1994; Wiredu, 1990, 1992, 1995, 2010).

This idea of inseparability of sacred and profane goes parallel to the limitation of commoditisation of everything in a free market as put forward by Polanyi (2001). Polanyi argues further that to create a fully de-regulating economy requires that human beings and the natural environment be turned into pure commodities. As a result, he adds, this suggests the destruction of both the given society and the natural environment. This provides another proof of the difficulty of having this system function especially in African societies which are inseparable from nature – the home of ancestral spirits.

Polanyi further criticises the proponents and theorists of de-regulating markets. He asserts that forcing human societies to what he refers to as “the edge of a precipice” is fundamentally wrong. The main reason for his assertion is based on human nature. He argues that if the unregulated markets become permeate, they may lead to disintegration of the society and nature. To this end, Polanyi’s theoretical base fits exactly in the examination of contemporary Haya society especially the plight of old people who live mostly in villages. He demonstrates the limitations of commodity relations as he distinguishes two categories of commodities. The first category is known as “real commodities” and second one is known as “fictitious commodities”. The latter includes land, labour and money as fictitious commodities (ibid). These fictitious commodities were not meant in the first place to be sold and bought in the free market. He clarifies that labour is simply the activity of human beings and land is nature, while money is for exchange value, but all these fictitious commodities in contemporary societies must be controlled and shaped by government policies not to be subjected to the logic of markets.

On the contrary, the orthodox of modern economics assumes that these fictitious commodities will behave the same way as the real commodities. Polanyi contends that orthodox is a lie which cannot work as it puts human society at great risk. Another Polanyi’s argument which is in line with the Haya system of thought is the idea of moral principle. Within Haya conceptualisation of human life, nature has limitless value as the home of ancestral spirits (Kibila, 1972; Kilaini, 1990; Rweyemamu, 1990). This marries well with the central idea of moral principle that suggests that it is wrong to treat nature and human beings as products whose price can be entirely determined by the market.

Byabato (2010) is also convinced that the moral obligation of the Haya society to care for the elderly cannot be replaced or reduced to the logic of the market. He further asserts that for ages Haya sensibility has dictated the moral obligation of respect and care for the wellbeing of the old citizens of the society by indigenous institutions such as the family, clan and village, as opposed to the elderly homes in the western sense.
The illusion of free market today, as stressed, has violated the moral principles that have governed human societies for ages; and that history teaches that nature and human life have almost always been recognised as having a sacred dimension.

On the role of state in the economy, it is argued that if a self-regulating market is in place, the state must take control and regulate the market to protect the interests of the workers and the society as a whole. However, if state policies move in the direction of dissembling through placing much reliance on the deregulation of the market, ordinary people are forced to bear higher costs. Workers and their families are made more vulnerable to unemployment, farmers are exposed to greater competition from imports, and both groups are required to get by with reduced entitlements to assistance. To maintain such government-guided policies always takes greater state effort to ensure that the masses that bear the burden are not engaged in disruptive political actions (Polanyi, 2001).

Another author, Stiglitz (2002), argues that rapid transformation destroys old coping mechanisms and old safety nets, while it creates new demands before new coping mechanisms are developed. This truism is a reality in many parts of Kagera region, Bukoba district in particular. In the past, security in the old age was provided through a range of social protection mechanisms based on the extended family and community structures. However, in Tanzania’s situation of generalised insecurity, widespread poverty and rapid social, political and economic change, these traditional mechanisms are becoming increasingly unable to cope. For instance in Bukoba district, many people are forced to continue working well into old age. This reveals a change in social relations because old people had special duties in the past as they grew older and older. But these days, as older people are less and less able to generate income through their labour, old age poverty is becoming an increasingly common phenomenon (URT, 2003).

In short, the ongoing economic crisis which continues to spread across the globe is another evidence of the limitation of neo-liberalism preached to Africans. Many critics of capitalism consider the current economic crisis especially in the western countries as evidence of a dysfunctional system (Amin, 2009). Many western countries have massive debts with unprecedented increase in unemployment. Demonstrators and protesters in big and mega cities of western countries are taking to the streets every day. Among the reasons for that state of affairs is the social and economic injustice caused by western capitalism. Due to this, some western scholars have begun to advocate for an economic system which can create a kind of welfare state in the name of social economy (Amin, 2009). This economic system is similar to the one in many rural African societies which Hyden calls an “economy of affection” or what James Scott terms “moral economy”. One would wonder if the so-called developed and industrialised countries in EU and USA have massive unemployment rates today, what would happen to developing countries in Africa. What would happen if agriculture that employs over 80% of the continent’s population was commercialised and owned by few individuals? Would we have industries and could we access the world market competitively in a globalised world?
It is therefore necessary for agricultural practice in many African societies, Haya-Africans in particular, to be contextualised within the framework of Afro-modernity but without imitating the West or Southeast Asian countries as suggested by many African moral economists (Maghimbi, Kimambo & Sugimura, 2011). As a result, the policy framework of Tanzania needs to foster that line of thinking which is very African by nature and Tanzanian by its cultural practices.

2.2 Statistics on the status of the elderly people

Tables 1 to 4 below with data obtained from the records of various population censuses issued by the Tanzania National Bureau of Statistics, indicate that the elderly (65 years old and above) are on the increase.

Table 1: Number and percentage of old people in Tanzania

<table>
<thead>
<tr>
<th>Years</th>
<th>Number of elderly with over 65 years</th>
<th>% of the total population</th>
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<tr>
<td>1954</td>
<td>125,168</td>
<td>1.7%</td>
</tr>
<tr>
<td>1957</td>
<td>174,187</td>
<td>1.9%</td>
</tr>
<tr>
<td>1967</td>
<td>319,000</td>
<td>2.6%</td>
</tr>
<tr>
<td>1978</td>
<td>717,098</td>
<td>4.1%</td>
</tr>
<tr>
<td>1988</td>
<td>981,839</td>
<td>4.3%</td>
</tr>
<tr>
<td>2002</td>
<td>1,347,085</td>
<td>6%</td>
</tr>
</tbody>
</table>


Table 1 indicates that the number of old people has been on the increase for the past forty eight (48) years; this increase is in line with global ageing statistics (UNFPA, 2010). However, the increase is lower compared to the number of old people in western developed countries and even countries of the emerging economies such as China, India and Brazil.

Table 2: Proportion of older population in selected countries

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>60 yrs</td>
<td>5.7%</td>
<td>5.5%</td>
<td>6.9%</td>
<td>4.3%</td>
<td>23.4%</td>
<td>16.5%</td>
<td>20.4%</td>
<td>22.3%</td>
</tr>
<tr>
<td>65 yrs</td>
<td>3.9%</td>
<td>4.0%</td>
<td>4.7%</td>
<td>2.8%</td>
<td>17.3%</td>
<td>12.7%</td>
<td>15.6%</td>
<td>17.2%</td>
</tr>
</tbody>
</table>


Table 2 indicates that the proportion of the elderly in Tanzania is much lower compared with developed countries that are already facing an ageing population. The industrialised western countries are facing challenges regarding their ageing population and not too long from now the number of old people will be greater than that of their children (UNFPA, 2010). This implies that social security will be over-stretched and will require some adjustment of both social and economic policies. In the developing countries in Africa, Tanzania in particular, the situation is worse; many old people die of preventable deaths due to poor social services such as health care, food and clean water. Deterioration of family and community mutual support is another setback towards improvement of the living standards of the elderly in rural Tanzania.
Table 3: Population by broad age groups, by region (2002)

<table>
<thead>
<tr>
<th>Region</th>
<th>All ages</th>
<th>0-14yrs</th>
<th>15-64yrs</th>
<th>65yrs</th>
<th>0-14yrs</th>
<th>15-64yrs</th>
<th>65yrs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>Kagera</td>
<td>2,028,157</td>
<td>959,411</td>
<td>990,106</td>
<td>78,640</td>
<td>47.3</td>
<td>48.8</td>
<td>3.9</td>
</tr>
<tr>
<td>Mwanza</td>
<td>2,929,644</td>
<td>1,365,915</td>
<td>1,468,890</td>
<td>94,839</td>
<td>46.6</td>
<td>50.1</td>
<td>3.2</td>
</tr>
<tr>
<td>DSM</td>
<td>2,487,288</td>
<td>816,739</td>
<td>1,618,544</td>
<td>52,005</td>
<td>32.8</td>
<td>65.1</td>
<td>2.1</td>
</tr>
<tr>
<td>Mbeya</td>
<td>2,063,328</td>
<td>900,028</td>
<td>1,081,637</td>
<td>81,663</td>
<td>43.6</td>
<td>52.4</td>
<td>4.0</td>
</tr>
<tr>
<td>Mtwara</td>
<td>1,124,481</td>
<td>418,798</td>
<td>642,251</td>
<td>63,432</td>
<td>37.2</td>
<td>57.1</td>
<td>5.6</td>
</tr>
<tr>
<td>K/Njaro</td>
<td>1,376,702</td>
<td>592,759</td>
<td>702,601</td>
<td>81,342</td>
<td>43.1</td>
<td>51.0</td>
<td>5.9</td>
</tr>
<tr>
<td>Mara</td>
<td>1,363,397</td>
<td>656,218</td>
<td>655,468</td>
<td>51,711</td>
<td>48.1</td>
<td>48.1</td>
<td>3.8</td>
</tr>
</tbody>
</table>


Table 3 indicates that over 48.8% of the total population in the study area comprises people with the age group ranging between 15-64 years. Also the table indicates that half of the population in Kagera region is composed of children between 0-14 years old. The population of old people in the study area as of 2002 was only 3.9%. Following this small proportion, it is possible for the government to provide compulsory minimum income to the elderly in the country despite the low level of the economy.


<table>
<thead>
<tr>
<th>Year</th>
<th>Tanzania (%)</th>
<th>Tanzania Mainland (%)</th>
<th>Tanzania Zanzibar (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Rural Urban</td>
<td>Rural Urban</td>
<td>Rural Urban</td>
</tr>
<tr>
<td>1967</td>
<td>93.6 6.4</td>
<td>94.3 5.7</td>
<td>71.4 28.6</td>
</tr>
<tr>
<td>1978</td>
<td>86.2 13.8</td>
<td>86.7 13.3</td>
<td>67.4 32.6</td>
</tr>
<tr>
<td>1988</td>
<td>81.6 18.4</td>
<td>82.0 18.0</td>
<td>68.2 31.8</td>
</tr>
<tr>
<td>2002</td>
<td>76.9 23.1</td>
<td>77.4 22.6</td>
<td>60.4 39.6</td>
</tr>
</tbody>
</table>


Population ageing is a global challenge. A recent UN report indicates that population ageing will continue to grow at unprecedented rate especially in developed countries than developing countries (UNFPA, 2010). The increase will cause both positive and negative impacts on the economies of many countries. As a result, social and economic policies in many countries in the world will require to be revisited. However, the immediate effects of the population growth will mainly hamper the smooth operation of social security systems in developed countries. Such growth will also cause rapid increase in government expenditure on medical care and nursing care of the elderly.

3.0 Neo-liberalism, agricultural transformation and Haya elders

3.1 Two conceptions of agriculture

During the study to which this article relates, it was established that the Haya-Africans have their own conceptual understanding of agriculture which is not reflected in various policies around the issues of agriculture and livelihood in rural Tanzania. It was revealed that for them agriculture has always been supported by the fishing
activities along the shores of Lake Victoria which is known as “Lwelu” in Haya language (Weiss, 1996). This implies that Lake Victoria or “Nyanja y’aLwelu” carries more socio-cultural meaning among Haya, and the elderly in particular. It is widely believed among the Haya that the special god “Mugasha” who is responsible for the lake plays an important role to bless the people and their agricultural activities. This means the traditional definition of agriculture among Haya-Africans is broadly defined as all social-economic activities associated with nature and livelihood that include hunting, fishing, livestock keeping, and tilling the land. All these activities are intrinsically bound and protected by Haya gods known as “Abachwezi”.

This reaffirms a widely known view among scholars of African philosophy and religion who argue that it is difficult to separate the spiritual aspect of life from the secular world among African belief systems (Mbiti, 1967; Kibira, 1974; Kilaini, 1990; Kahakwa, 2010). This implies that everything is tied with a spiritual component which is a fundamental aspect of the socio-cultural world of elderly people in Haya society, like many African societies.

The other conception of agriculture, according to the modern model, is promoted by the government, and ignores the reality of the socio-cultural world both in people’s economic activities and belief systems. This is a result of studying African societies based on the dichotomies such as modernity versus tradition, informal versus formal, developed versus undeveloped, civilised versus uncivilised, and the like. These dichotomies obscure the complexity of African societies in their cultural and historical contexts.

3.2 Haya household size, income and land ownership

The family members that were found in various Bukoba households in all twenty villages that took part in this study were husband, wife, children, family relatives or extended family members such as grandchildren, brothers, sisters, aunts and uncles. Household size was almost the same in different villages. The household size ranged from 1 to 34 persons and the average was 7.5 persons per household. Most family members had left their villages in search of green pastures in towns and cities. The old people, who were left behind, complained of destitution after these young and productive members had migrated to urban areas.

In each village, the number of old people (70 years and above) was very small. It was noted in the field that some old people, mostly widowed, were living with their grandchildren; this added strain to the already very demanding life of the elderly. These old women were forced to continue working in their small household farms

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3 “Mugasha” is the spirit responsible for water bodies such as rivers and lakes. Haya people believe that this spirit controls lakes and rivers and at times causes strong winds and thunderstorms. When fishermen intend to go fishing, they offer sacrifices such as coffee beans, crops or money. After fishing, they bring some fish for this spirit and leave them in front of the house and utter some kind words to thank the spirit. Any villager who happens to pass by the house and finds the fish, he or she takes the fish believing that the spirit has offered them as a gift. This mechanism created the broader definition of agriculture among Haya society.

4 Abachwezi is the name of Haya gods in plural and “Muchwezi” is singular.
known as “ekibanja” (one) or “ebibanja” (many), in Haya language. The Haya household size would normally be determined by the productivity of the ekibanja in this study area; the less productive the ekibanja, the less people could depend on this farm. The younger generation was therefore forced to go out in search of green pastures in towns and cities. Out of the 100 old people involved in this study from 20 villages, 65% were from nuclear households and 35% were from extended family households.

The household farm no longer produces enough food at household level. Due to this, many families are gradually getting used to buying food from village shops. This shift from subsistence economy into money economy in many villages of the study area has created a very big challenge to the elderly.

Moreover, in the study area, it was also found that the education level of the household heads, on average was standard eight. The impact of educational level on household welfare was significant in many villages and it was noted that many families were sending their children to school only after the government had introduced ward secondary schools. Agricultural science or education in all twenty villages was conspicuously missing among village farmers. Worse, many educated people even the retired ones prefer to live in urban areas because of poor performance of agriculture and few opportunities that exist in the rural areas.

There are various ways by which the Haya acquire land; these include inheritance, buying land in a free market, or being given land by the village authority. There is also land without specific owners, i.e. land inherited through the clan, because the Haya customary law prohibits inherited clan land to be sold in the free market without formal consent from all clan members. The Haya ancestors are buried in clan land and therefore the land is sacred to the surviving household members or clan members.

4.0 Policy challenges in social protection for the elderly in Bukoba-Tanzania

It is widely acknowledged that Tanzania like many African countries lack a comprehensive policy about old people (Spitzer, & Mabeyo, 2011). However, Tanzania enacted two important policy documents in 2003, namely the National Social Security Policy of 2003 and the National Old Age Policy of 2003. Both policy documents share a similar general objective which states that every citizen should be protected against social and economic distress resulting either from income poverty or any other contingency.

Nevertheless, the elderly in Tanzania remain marginalised and neglected; hence, they experience social and economic insecurity. The available social protection measures for the elderly are inadequate and cover a small percentage of the old people. The Universal Declaration of Human Rights of 1948 states that social protection is a fundamental right, but also the Constitution of the United Republic of Tanzania guarantees the same basic right in Article 11, Sub-Section One. Yet despite all these policies, the elderly in rural areas, Bukoba district in particular, are not covered by the available formal social security schemes.
5.0 Conclusion and recommendations

5.1 Conclusion

a) Agriculture and the welfare of the elderly in Bukoba rural areas

The Haya-Africans, like many other Africans, do treasure their elderly as the most valuable asset in their society. In the pre-colonial and colonial eras, they used to have traditional governance which was known as chiefdoms. During the reign of chiefdom, the elderly occupied a special position in their society and the governance system created a mechanism and institutions that cared for them (Kibira 1974; Schmidt, 1978; Kilaini, 1990; Rweyemamu, 1990; Katoke, 1997; Kahakwa, 2010).

The dominant Haya-African economic philosophy during the reign of chiefdoms was fundamentally based on communal ideology that guided the concept and practices of free market. However, Haya traditional governance had taken into account the limitations of the free market that had been practised before the new concept of “western free market” was introduced in Bukoba; this had a different economic philosophy based on individualistic tendencies and heavily influenced by neo-liberal policies.

Literature shows that agriculture as the main economic activity in Bukoba like many parts of Tanzania, is as old as the evolution of the Haya society when it started to domesticate both plants and animals. Empirical evidence suggests that agricultural activity in Bukoba district dates back 2500 years ago in the thick forest along the shores of Lake Victoria (Kendall, 1969). Good climatic conditions and heavy annual rainfall were some of the factors that favoured early practice of agriculture in the area. It has been documented that when early missionaries and explorers visited the area, they found indigenous people practising agriculture (Marandu, Heemskerk & Kaiza, 1999). For stance, when the famous early explorers namely Grant and Speke travelled from Bukoba to Masaka Uganda in 1858 and 1862 respectively, they found coffee farms all over Haya-land 5 (Marandu et al., 1999). The socio-cultural significance of coffee within Haya-African philosophy extends beyond social usage, and engulfs spiritual values as well. Traditional priests in Haya-land who are known as “Embandwa” also use coffee in rituals to cleanse and please the gods especially at the sight of a new moon or blessing the twins.

Early European missionaries, especially White Fathers of the Roman Catholic Church, introduced new types of coffee seeds and techniques of farming (Kilaini, 1990; Rweyemamu, 1990; Katoke, 1997; Cory, 1959). During both German and British colonial rule in Kagera, coffee remained the activity of indigenous people and farms remained small (Marandu et al., 1999). The post-independence period (1961 to 1980) recorded no change in policies with regard to coffee production in Kagera. However, after the Arusha Declaration in 1967, there was radical change of policies which fundamentally adopted “Africanisation” in which foreign experts were replaced by African experts.

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5I have coined the term Haya-land to refer to Bukoba area, currently known as Kagera region with seven administrative districts, namely Karagwe, Misenyi, Muleba, Bukoba, Biharamulo, Chato and Ngara.
b) Low level of education and technology for crop and animal husbandry in Bukoba

The disconnect between research institutes, local agricultural experts and the majority of village farmers is one of the reasons behind the apparent low level of agricultural science and its application. Data indicate the Haya-African farmers are somehow conservative and do not observe the required husbandry practices. Some farmers plant late, there is lack of good seeds, application of pesticides is poor, and as a result of all these the harvest is always very little and only enough for subsistence. Throughout Bukoba district, banana plantations are frequently affected by various plant pathogens. Since bananas have multiple functions within the Haya society, their poor state has directly and indirectly affected the livelihood of the people, the elderly in particular. Several interventions have been put in place to control the situation, yet it appears that there is still a lot to do.

Most roads in rural areas are impassable especially during the rainy season. Nevertheless, it was observed that there is some improvement compared to the situation fifty years ago. Transport is available to ferry agricultural products to nearby local markets or towns.

c) Policy considerations

Tanzanian social policy succumbs to failure with respect to improving the welfare of the elderly due to various reasons. One of the reasons, as alluded to earlier, is lack of a comprehensive elderly policy and a universal compulsory social security scheme to provide the minimum income to the elderly in rural areas. This is vital today in Haya society like many other Tanzanian ethnic societies in villages due to the introduction of money economy. It is important to remember, there was no clear policy for the elderly from independence in 1961 up to 2000. It was not until 2003 when the Government of Tanzania enacted the two policies mentioned earlier – the Old Age Policy and Social Security Policy. These policy documents provide a range of public and private measures meant to provide benefits to people at the time of social and economic insecurity especially at old age. However, these policy documents have not changed the situation on the ground because of inadequate financing and fragmented institutional arrangements especially eradicating indigenous institutions and mechanisms which are based on communal sensibilities of mutual help and reciprocity among Haya-Africans.

Another reason is to do with limited coverage by the formal social security scheme that excludes peasants in rural areas. For example, it is estimated that the total population of Tanzania is 40 million people, of whom 70% are in the rural areas solely dependent on modified agriculture (URT, 2006). The total labour force of Tanzania is estimated at 18 million, of which 5.6% is covered by the mandatory formal social security system, while the majority (94%) of the capable workforce is engaged in the informal sector in both rural and urban areas. This workforce is excluded from any kind of social security scheme (URT, 2003).
5.2 Recommendations

Some scholars within the African moral economy debate have suggested that the Government of Tanzanian has to take aggressive policy action drawing from home-grown ideas (Maghimbi, Kimambo & Sugimura, 2011). To clarify further, Maghimbi (2001) argues that if peasant capitalism is to advance in Tanzania, the government must aggressively and heavily invest in capital formation in agriculture. Indeed, heavy investment in agriculture is highly needed than empty political rhetoric of “agriculture first”. Since independence, the allocation to agriculture in the national budget has been less than 10% despite being the only sector that employs over 80% of Tanzanians.

The changes in social relations in the rural areas of Bukoba district have had far-reaching impact on the social and cultural landscape of the area. As a result there is a dilemma among many Haya villagers as the new commodity relations introduced and imposed on the society have undermined the Haya communal ideology – an ideology based on kinships and clanships that are the bedrock of traditional social security. The more serious effect of the destruction of the communal economy and hence individualisation of family relations has caused the unprecedented decline of the material conditions of the elderly people who are increasingly dismembered and subjected to destitution. The findings presented in this article point to the fact that many elderly people are dying from preventable diseases and forced to work despite their old age.

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Frateline Kashaga


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Neo-Liberalism, Agricultural Transformation and the Elderly


Frateline Kashaga


Contribution of Migrants from Agriculture Based Areas To Rental Housing Production in Dar es Salaam

Juma R. Kiduanga¹

Abstract
Agriculture and rural-urban migration are interrelated phenomena that have an important discourse in the urban development of Tanzania. When the two combined, they influence in Dar es Salaam the production of low-income rental housing undertaken by in-migrants with their origin of agriculture predominately areas. The existence of housing in urban economy is associated with various dynamics which are essential to the process of urbanisation of the city. The article discusses such dynamics and is divided into three sections. It starts by dealing with the theoretical considerations of rental housing as an important aspect of urban development influenced by agriculture and rural-urban migration, in section one. Section two focuses on the empirical analysis of the production process of the housing undertaken by the in-migrants in Dar es Salaam, and the functioning of housing empirically in urban development of Dar es Salaam is dealt with in section three.

1.0 Theoretical considerations of rental housing
The theoretical considerations are presented by providing the definition of housing. Scholars of housing have defined the concept of housing differently. Mabogunje et al. (1978) see housing as the total environment within which human families have to live. They advance their argument that housing includes integration of dwelling units plus its environment especially the facilities and services provided on a community basis. The examples of services and facilities emphasised by Mabogunje and others include water, waste disposal, air purity, zoning control and recreational facilities. This definition does not describe in a broader sense what housing performs and the motivation for its existence; these two dynamics determine differently the two types of housing tenures namely the rented and owner-occupied housing. As the rented housing is in urban areas, which was the focus of the study, the theory of urban housing market is relevant for analysing the two dynamics in terms of the framework of supply and demand. The supply side of rented housing is influenced by a bundle of factors that include ‘living’ as the only potential role played by housing. Apart from offering a place where human beings live, all factors of production are involved directly and/or indirectly in the construction and maintenance of housing as well as in the provision of management, marketing, insurance and related services. The factors

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which determine demand include, among others, changes in family income, distribution of income and rate of household formation which in turn depend upon population growth and size of households, household priorities, nature of employment, age and occupation. The factors in the market operate in an interrelated way to influence the rented.

Viewing housing in terms of what it does for people, Bourne (1981) defines it in terms of a number of dimensions. In addition to providing shelter to its occupants, housing also demands the provision of physical services such as water and sewage as well as social services to households. As an economic good and commodity, housing is traded or exchanged in a market in the form of renting to households and acts as an investment good, which returns equity to its owner. It is a basic need, which means that it is provided to everyone just as education, food and in most cases health care. As a package or bundle of services, there is also a view which recognises that occupancy of housing involves also the consumption of neighbourhood services (parks, schools), location (accessibility to jobs and amenities) and the proximity of certain types of neighbours (a social environment). Lastly, as a sector of the economy, housing is a component of fixed capital stock, a means of producing wealth and a tool of governments in regulating economic growth.

Some scholars deny some of the functions performed by housing. They hold the position that housing is not productive but a consumptive capital only. This means that housing as one of the items of social overhead investments, does not generate benefits, which may not be regarded as either a necessary condition for economic growth or in a more positive way as an instrument contributing to economic growth through the generation of indirect benefits. As argued in Klaassen (1987), consumption means spending money now on goods and services that will not through further productive processes induce benefits in the future. Present welfare increases without consequences for the generation of future welfare. Investments on the other hand contribute to the capital stock and are made to increase production (by raising productivity) and therefore raise future welfare.

It is contended that by investing in housing, productivity is increased, hence future production and welfare. Apart from rents, only welfare increases directly, that is by “consuming” the services of their house, the occupants feel better. In this way, it is concluded that housing is a consumptive and not a productive capital. Criticising this view, Burns et al. (1970) maintain that housing is a necessary consumptive good with important aspects, which influence future welfare. They assert that the chain of economic impacts of housing does not end only with the direct consumption of the housing services. By living in better housing, the occupants will perform better in their work and consequently productivity will rise and so future output and income (Klaassen, 1987). The same notion was also expressed by Meyerson et al. (1962) who proclaimed that the importance of housing in the economy could be measured in terms of employment, production, investment or consumer expenditure. This indicates that housing yields social and economic benefits. In terms of economic benefits, housing provides opportunities for employment. In maintenance and repair, housing is part of a nation’s capital formation.
2.0 Production of low-rented housing by in-migrants

2.1 Making decisions

Agriculture and rural-urban migration are interrelated phenomena that have an important discourse in the urban development of Tanzania. When the two are combined they influence, in Dar es Salaam, the production of low-income rental housing undertaken by in-migrants originated from predominantly agricultural areas. The in-migrants design strategies on how to get access to inputs before the process of housing construction starts. Turner quoted in Burgess (1982) argues that no house can be built without land, tools, materials, skilled labour, management and an exchange system. According to Turner, these inputs cannot act to realise housing creation unless they are being influenced by certain essential conditions. Thus, he proceeds with giving the conditions by arguing that an adequate housing solution for low-income groups can only come about by ordering these elements within an autonomous system; and access to them is a function of law and its administration, and these in turn are a function of central authority. The essential characteristic of autonomous systems is user-control and the role of central administration should be limited to ensuring local and personal access to the appropriate technologies, land and credit. In this, the “local forms of these elements are left to the people and the local entrepreneurs that serve them” (Turner quoted in Burgess, 1982:63).

The house owners therefore have to make a decision on how to get access to these components before engaging in the actual housing construction. However, these inputs as shown in housing literature differ in terms of the role they play in housing construction. There are those given highest priority in the process of housing construction because they act as a foundation to housing provision. In other words they are characterised as fundamentals and therefore bring about substantial impact on housing creation.

In the rapid growth of Third World cities including Dar es Salaam, studies have shown that access to land is the primary input and a strategic prerequisite for housing provision (UN-Habitat, 2006). Doebele (1987:110) stresses the role of land in conditioning housing in an urban context as follows:

"Numerous studies have shown that access to land is a critical element in providing upward mobility. It is through the acquisition of a small parcel of land that people established themselves in an urban economy. It is on this parcel that they engage in “brick-by-brick” capitalisation, gradually accumulating the materials for a house, or, in later stages, the addition of a rental unit that not only brings them income, but adds to the housing stock of the city without the use of public funds."

Indeed this is substantial impact on access to land on housing as indicated by numerous studies in Doebele’s report. The role of access to land has also been mentioned by Bienefeld (1975:8) in his report on a study of urban Tanzania as follows:

"Shop keeping and house rental on the other hand are activities whose start requires capital, time and experience and their entry is therefore not usually accomplished until people have struck substantial roots in the urban economy. For landlords, the question of access to land is of special importance; it is here that long-time residents probably have the cleverest and most important advantage."

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For a long period, the various land and human settlements development policies have failed to enhance the formal land procedure capability to meet the urban demand for land. The situation has thus made the in-migrants rely on purchase of land from the informal settlements as the main way to access land for their housing construction. In addition to land acquisition, in-migrants make efforts towards obtaining finance. Next to land acquisition the availability of finance is argued to be important due to a number of reasons. First, it has been argued by Okpala (quoted in UN-Habitat 1996: 2027) that the extent to which housing finance is available, the terms under which it is available, and the proportion of the population that can obtain are major influences not only on housing but also on cities. The second reason why availability of finance is of importance in the housing sector is the fact that it determines the quality and structure of housing as well as influences the pace of completing housing construction. This argument has been supported by a number of researchers in Third World cities.

From a study of transformers in Bangladesh, Ghana and Zimbabwe, Tipple (2000) found that they were considerably delayed in extending their houses while gathering cash or informal loans. Tipple (2000) has pointed out the importance of housing finance as one lubricant which could substantially improve the efficiency and quality of the transformation activity. Finance influences the building process of housing. A study of low-income housing in Indonesian cities by Benjamin et al. (1985) found that most low-income housing was built gradually over months and gradually improved over years because of erratic availability of finance to low-income house owners. The third reason why financial availability is of importance is because it has enabled low-income households to buy building materials and land as well as to hire labour. These inputs together with other inputs such as organisation have been used to construct housing.

Though finance necessary for housing construction was mainly raised by the migrants through wages and salaries in the formal employment sector, substantial proportion of the migrants had a link with rural areas where they were practising small trade, selling agricultural products like rise, maize, cassava millet, fruits, bananas, vegetables and other food crops to raise housing finance. Some migrants were directly engaged in farm activities to raise housing finance (Kiduanga, 2004).

Housing available in Dar es Salaam is of three types, built with variation in concentration of both organic and inorganic forms of materials. The organic material is harvested from rural areas, which is an indication of another dimension of linkage between agriculture and urban housing in the city. The three types of housing obtained in Dar es Salaam with their concentration of the organic materials are detailed in the following sections.

2.1.1 Traditional housing
This is one of the three kinds of housing available in Dar es Salaam and other urban areas of Tanzania, built mainly using traditional materials such as bush poles, grass and mud. The main problem associated with this type is the need for regular
maintenance. The mud walls are easily washed away by rainwater and the thatch leaks badly in heavy rains especially if the grass is rotten. The poles and grass thatch attract termites and other insects. The roof thatch has a durability of 2 to 7 years. The life of the poles may vary between 5 and 15 years depending on their quality and contact with soil (Kiduanga, 2004 quoted in Wells et al., 1998).

As rural houses are integrated into urban areas following expansion of towns, the quality of the houses becomes poor because they do not conform to the standards set by the urban authorities.

2.1.2 Semi-modern housing

This is another kind of housing, which exists in Dar es Salaam and other urban areas of Tanzania. This type is an improvement over the traditional kind of houses. The mud/pole walls of this type of housing are plastered with sand, cement, mortar and the floor is covered with sand and cement. The roof is constructed with wooden planks covered with corrugated iron sheets. This kind of housing is characterised by two important features – both traditional and modern technologies are applied to construct the housing bringing the rural-urban interface; also it contains a mixture of manufactured and traditional materials.

2.1.3 Modern housing

The third kind of housing available in Dar es Salaam is modern housing. There are some changes in material usage when a modern kind of house is being built. The walls and floors are built using inorganic materials and roofs use mixed forms of materials. The materials used to erect the majority of the modern houses in Dar es Salaam and other urban areas are cement, corrugated iron sheets, timber, tiles, sand/cement blocks and burnt bricks. Another characteristic feature of modern housing is that it is more durable than the traditional and semi-modern kinds of housing. Thirkildsen and Moriaty (1973) reported that the life of the block walls is appreciably longer by 50% than that of the traditional housing walls.

Labour force of various kinds ranging from craftsmen to casual labourers is important in housing activity. Evidence shows there is a link between urban housing and agriculture in the form of labour force as migrant labour force from agricultural areas now predominate in housing construction in Dar es Salaam (Kiduanga, 2004). The participation of house owners in the construction is in the form of organisation, supervision, supply of building materials and negotiation of prices with various craftsmen who have skills in housing construction. The reason why the houses are not self-built is because the construction requires a high degree of expertise, which most house owners do not possess. Usually, the payment to craftsmen takes place after the house owners have been satisfied with the quality and quantity of work. The supervision and organisation undertaken by house owners when their houses are being constructed are essential since by doing so they save a lot of money and at the same time minimise the extent of cheating which is common among the majority of craftsmen building urban housing in Tanzania (Kiduanga, 2004).
3.0 Functions of housing

In terms of the uses of housing in as far as the urbanisation process is concerned, a number of forms of linkage existing between the sectors of agriculture and urban housing have been observed. Some of the functions performed by the finished housing to the urban setting are elaborated in the sections that follow.

3.1 Accommodation

The provision of accommodation is one of the main functions performed by urban housing owned by migrant households. In Dar es Salaam there is a large proportion of the population who are tenants, depending on housing for their accommodation needs (Kiduanga, 2004). The trend of tenants in the city relying on housing has been increasing. Data from Tripp (1997) indicate that in the mid-1950s, about 81% of the 5,000 residents surveyed were tenants. In 1989 the proportion of residents who were renters according to a survey done by Kula ba (1989) in areas of low-income groups increased to 83%. The demand for rental accommodation provided by the migrant-households is high, making houses/rooms ever occupied. The increased demand for housing is associated with population growth. Dar es Salaam recorded an increase from 129,000 in 1957 to 4,000,000 people in 2009 with the large part contributed by agriculture-based rural migrants (Rwechungura, 2010). There are two groups of factors influencing renters’ demand for housing. The first group of factors is associated with better households’ needs. Rental accommodation is chosen by households for a number of reasons, some of which are:

- good location of the rented accommodation,
- temporary residence of the households in the town,
- low cost of renting relative to ownership,
- good security offered by renting, and
- preference of households to invest capital in other sectors and not in owner-occupied housing.

The second group of factors influencing households to demand rental accommodation is associated with constraints imposed upon land and housing markets as well as finance, which limit the households to get access to ownership.

3.2 Income generation

Income generating is another important function of housing. It is mobilised by the owners through the renting activity. The rental incomes being charged vary depending on location and quality of the house. The rental income is used to maintain the living standard of the house owners in the city and maintain ties with relatives in the agricultural areas. During periods of wage decline, landlords who are wage earners utilise income generated from renting as a means of coping with the situation of wage decline. Income from renting does not only benefit house owners who are wage earners, it also helps elderly owners who have retired from wage employment and are unable to do any informal economic activity due to their old age. A survey of national urban mobility, employment and income in Tanzania conducted by Bienefeld and Sabot (1972) found that in Dar es Salaam house ownership seems to be strongly related to age (Table 1).
Table 1: Household heads/house ownership in Dar es Salaam by age

<table>
<thead>
<tr>
<th>Age in Years</th>
<th>%</th>
<th>Number Stated</th>
</tr>
</thead>
<tbody>
<tr>
<td>14-19</td>
<td>1.1</td>
<td>186</td>
</tr>
<tr>
<td>20-24</td>
<td>1.8</td>
<td>598</td>
</tr>
<tr>
<td>25-29</td>
<td>6.3</td>
<td>523</td>
</tr>
<tr>
<td>30-34</td>
<td>16.3</td>
<td>349</td>
</tr>
<tr>
<td>35-39</td>
<td>21.7</td>
<td>309</td>
</tr>
<tr>
<td>40-44</td>
<td>28.2</td>
<td>234</td>
</tr>
<tr>
<td>45-49</td>
<td>39.1</td>
<td>169</td>
</tr>
<tr>
<td>50-59</td>
<td>42.0</td>
<td>200</td>
</tr>
<tr>
<td>60 and over</td>
<td>55.8</td>
<td>147</td>
</tr>
</tbody>
</table>

Source: Bienefeld and Sabot (1972:135).

Table 1 shows that from the age of 30 years, house ownership increases rapidly and this steady increase continues right up to the age of over 60 years. As elderly house owners are not able to get engaged in many economic activities due to old age, it is obvious that the elderly practice more renting in order to get income for survival than just owning a home. The income is used to buy food, medicine in times of sickness and also meet other expenses such as paying for transport. Although the elderly are engaged in the activity of renting to get income for their survival, the activity becomes a taxing exercise as it involves a lot of chores, which may be too much for the elderly. For instance, tenants have to be constantly followed up, repairs have to be carried out, payment for utilities like water and electricity has to be made.

The income from renting is also used as a means of protecting various small trades against the risk of collapsing. This was found by van Donge (1992) in a research on social and economic changes, done in Mgeta division of Morogoro region. Van Donge found a teenage landlord from Mgeta having a rented house in Dar es Salaam. He often used income from his house to protect his tomato trade against the risk of collapsing. Many landladies who engage in food business often rely on income accrued from their rented houses to revive their business in periods of collapse.

3.3 Renting

Upon meeting a customer who needs a vacant room to rent, the customer has to be assured of the suitability of the house – whether or not it has electricity and water. Secondly, the landlord/lady gives the customer conditions for tenancy. Modality and punctuality of rent payment are the main conditions of tenancy. Other conditions that tenants might be required to observe include the following:

- One should not frequently entertain many visitors who might need to use the toilet; hence consume a lot of water (which is most of the time scarce).
- Music should not be turned up too loud to disturb the landlord/lady and other tenants.
- Consumption of alcohol in the house is prohibited; this might cause unnecessary noise, quarrels and sometimes fights.
- Bills have to be paid in time, and in full.
- Cleanliness is also of paramount importance.
Juma R. Kiduanga

These conditions are set by the landlord and most of the time without prior consultation with tenants. Failure of tenants to implement these conditions might sour relationship with the owner and might result into evacuation.

There is variation in monthly rent charged per room by landlords in the city; this is mainly dictated by location and quality of housing. Rent in the city has been increasing due to the increase in cost of living, quality and demand for rented houses. The charging of key money (kilemba) before renting out a house/room is common practice in the city. Modes of rent payment as shown in the literature of housing are several, and they include the following:

1) Yearly rent payment in lump sum from the time renting starts; thereafter renters have to pay rent on a monthly basis.
2) Six months rent payment in lump sum from the time renting starts; thereafter renters have to pay rent on a monthly basis.
3) Monthly rent payment either in advance or after housing services have been consumed by tenants.
4) The landlord/lady enters into an agreement with a prospective tenant who finishes the house at his/her own expenses, and then the amount is recovered as subsequent rent.

Each of the four modes of rent payment has got advantages and disadvantages to the landlord and tenant. Advantages of the yearly, six months modes of rent payment, and the mode of rent payment in which the tenant provides advance rent payment for speeding up house construction/improvement are three.

1) Landlords/ladies would be able to accumulate enough financial capital for maintenance or improvement/expansion of their property;
2) Tenants will be able to occupy good quality houses after they have been improved; and
3) There is reduction in the cost of chasing after rent by landlords/ladies.

The modes of payment listed above have also some disadvantages, e.g. the landlord/lady can go broke after misusing the collected rent; this way she/he might start harassing tenants. Secondly, the landlord/lady might lack control of his/her property.

The advantages of monthly rent payment are mainly two. First, regular income is guaranteed to the landlord/lady, at short monthly intervals; and secondly, the landlord/lady commands more power over his/her property. The disadvantages of monthly rent payment are three. First, the landlord/lady may be unable to collect enough financial capital for maintenance or improvement/expansion of property; secondly, the landlord/lady might be tempted to raise rent at short notice; and thirdly, security of tenure is not guaranteed to tenant.

From the point of view of demanding the accumulation of enough financial capital for maintenance or improvement/expansion of landlords/ladies’ property as well as assurance of security of tenure to tenant, it is argued that these could be realised if the
landlord/ladies use the yearly or six months mode of rent payment or the mode of rent payment in which the tenant provides advance rent payment for speeding up house construction/improvement.

Despite such several modes of rent payment with their advantages and disadvantages as shown in the literature, in Dar es Salaam renting market, the modality of rent payment which is common is the 12-month payment in advance which is however contrary to the Rent Restriction Act. The tenants occupying the houses are migrants originating from the rural areas who move to the city as a coping strategy following the collapse of rural economy contributed by a number of factors. These include, according to O’Connor (1988), villagisation and ecological problems. Another researcher, Campbell (quoted by Potts, 1988) has cited World Bank policies as a factor contributing to the fall of Tanzanian rural economy. The collapse of the rural economy has contributed to two things simultaneously in the rural areas: the depletion of rural employment and worsening of life of the majority of rural people. Following these two conditions, some rural people the majority of whom are young, have no alternative except to escape from this misery by moving to Dar es Salaam to look for employment in order to survive.

Due to high demand for rented housing, landlords/ladies do not need to go around seeking tenants. Good behaviour is the main criterion for winning tenancy, and this is interpreted as the ability of renter households to pay rent in time, and comply with regulations or rules of tenancy. Also, the smaller the size of the family, the greater the chances of getting a house/room. The rationale for giving preference to small size renter households is to avoid unnecessary expenses, e.g. toilet expenses, as already mentioned.

References


Climate Change Impact and Adaptive Strategies in The Rufiji Delta, Tanzania

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Abstract
This article investigates the evidence of climate change and adaptive strategies in the Rufiji Delta in Tanzania. It describes local perceptions of climate and its associated changes, examines indicators of climate change, explores the effects of climate change on livelihood activities, and identifies the coping and adaptation strategies by local communities and other parties. Drawing on results generated from a combination of qualitative and quantitative techniques, the study finds that livelihood activities in the area, especially farming and fishing are already affected by climate change exhibited by, among other things, dwindling crop productivity and declining fish catch accompanied by disappearance of certain fish species. Subsequently, the study notes increasing scarcity of basic household necessities especially food and water, associated with the observed frequent dry spells and altered rainfall patterns. Moreover, the impact of sea water rise on settlements, underground aquifers and soils is noted.

Keywords: climate change, livelihood, Rufiji Delta, Tanzania.

1.0 Introduction
Climate⁴ exerts a significant control on the day-to-day economic development of Africa at regional, local and household scales, and particularly in the agricultural and water resources sectors (IPCC, 2007b). The continent is highly vulnerable to the impact of climate change⁵ because of widespread poverty, recurrent droughts, inequitable land distribution, and over-dependence on rain-fed agriculture (IPCC, 2001b). The classical period is 3 decades, as defined by the World Meteorological Organisation (WMO). These quantities are most often surface variables such as temperature, precipitation, and wind. Climate change refers to any change in climate over time, whether due to natural variability or as a result of human activity. This usage differs from that in the United Nations Framework Convention on Climate Change (UNFCCC), which defines "climate change" as a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods (ibid).
2001b). The gradual, yet dramatic disappearance of glaciers on Mount Kilimanjaro, for instance, is a result of global warming (ibid). The ice cap on the mountain has been in a general state of retreat since the end of the little ice age around 1850. This retreat was driven by natural climatic shifts (particularly a decline in regional precipitation), but appears to have accelerated due to the warming observed in the second half of the 20th century. In 1976 the glaciers covered an area of 4.2 km² (Hastenrath & Grieschar, 2001), compared with only 2.6 km² in 2000 (Thompson et al., 2002). Based on measurements taken on the mountain between 2000 and 2001, it is indicated that its glaciers are not only retreating but also rapidly thinning (ibid).

The impact of climate change in Tanzania is not only evident on the slopes of Africa’s highest mountain, but also in its maize fields. Estimates of the effects of climate change on maize yields in Tanzania are available from model runs of the Crop Environment Resource Synthesis Model (CERES-Maize) (Jones & Kings, 1986). In general, simulation results show that maize yields were lower between 1996 and 2002 compared to former years, a result of higher temperatures and, where applicable, decreased rainfall. The average yield decrease over the entire country during that time was 33%, but simulations produced decreases as high as 84% in the central regions of Dodoma and Tabora. Yields in the north-eastern highlands decreased by 22% and in the Lake Victoria region by 17%. The southern highland areas of Mbeya and Songea were estimated to have decreases of 10 to 15%. These results suggest that climate change may significantly influence future maize yields in Tanzania, reducing them in all zones that were studied, relative to baseline levels. These reductions are mainly due to increases in temperature that shorten the length of the growing season and to decreases in rainfall.

The majority of Tanzanians are agrarian and highly dependent on rain-fed agriculture for food production. Although agriculture is the principal economic activity undertaken, fishing, animal husbandry and other supplementing occupations such as trading are also important. Coastal communities are very vulnerable to climate change in Tanzania due to their low economic status, high population density and the ecological nature of coastal areas. Assessment of coastal vulnerability to sea-level rise along coastal Tanzania indicates that mangrove ecosystems, for instance, are the most vulnerable coastal resources. For example, vulnerability assessment of Tanga mangrove forests conducted by Synthesis and Up-scaling of sea-level Rise Vulnerability Assessment Studies (SURVAS) experts indicates that the total area vulnerable to sea-level rises of 0.5m and 1m are 35.2 km² and 70.45 km² respectively. Assessment of Dar es Salaam indicates that an area of about 12 km² will be lost with sea-level rise, threatening structures valued at about TZS 50 billion (US$ 62,500,000) and TZS 86 billion (US$107,500,000) for 0.5m and 1m of sea-level rise, respectively (Mwaipopo, 2000).

Both short- and long-term adaptation strategies in response to regional climate change are beginning to emerge in a region that is rife with challenges (Simms, 2005).

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*Adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities. Various types of adaptation can be distinguished, including anticipatory and reactive adaptation, private and public adaptation, and autonomous and planned adaptation (IPCC, 2001b).*
Given the impact of drought to pastoral and agro-pastoral communities in Tanzania for example, a number of multiple coping mechanisms have been developed. These include keeping diverse species of livestock, movements of species-specific and production-specific livestock herds over large areas, emigration out of the pastoral system until the perturbation passes, economic diversity, and even allocating seasonal and drought-induced nutritional stress among those community members better able to cope with it (Galvin, 1988, 1992; Galvin et al., 1994). Rain-fed agriculturalists diversify with livestock and have close economic ties to pastoralists and markets. These strategies are opportunistic and flexible, and contingent upon existing conditions. Along the Tanzanian coast, leading conservation groups are working with natural resource managers and other stakeholders to integrate climate change adaptation strategies into their management philosophies and plans (Hansen et al., 2003). Initial vulnerability assessment and adaptation planning strategies from Tanzania point to the need for mangrove protection, reforestation with ‘climate-smart species’, integrated land-use and marine planning, and activities to improve resource use technology. Coordinating the testing of adaptation methods in geographically diverse locations within a common habitat type, aims to increase the replicability so that the project results can be transferred to other conservation efforts around the globe (ibid.).

This article provides empirical evidence of the implication of climate change impact on the Rufiji Delta communities of Tanzania. The article primarily investigates the climate change impact and adaptive strategies in Mchungu and Mchinga-Mfisini villages. It has four main objectives. First it attempts to understand local perceptions of climate and its associated changes. Second, it investigates the indicators of climate change in the two villages. Third, it investigates the impact of climate change on livelihood activities. And finally, it explores the coping and adaptation strategies employed by local communities and other parties.

2.0 Mchungu and Mchinga-Mfisini villages

2.1 Climate and Livelihood

Mchungu and Mchinga-Mfisini villages in the Rufiji River Delta (the study site) are located at 7°42′51″S 39°16′49″E, and 7°45′06″S 39°20′27″E respectively, about 200km south of Dar es Salaam (Figure 1). The rainfall pattern in the area is characterised by two rainy periods between November and May, and a dry season from June to October. The heaviest rains are in March/April, and there is a relatively dry period in January and February. Rainfall normally occurs as conventional storms and is therefore uneven in its aerial distribution, particularly during the drier months. The average temperature varies between 24°C during the months of June and July and 28°C during the period from December to February. Values for humidity follow the rainfall pattern, with the highest figures (up to 100%) occurring during the rainy season, and the lowest, falling to a minimum of around 36%, during the dry season (Duvail & Hamerlynck, 2007).

The study area is drained by the Rufiji River which has developed a vast delta, partially covered by some 500km² of mangrove, the largest stand in East Africa (ibid).
livelihood of the local community consists of two main components. The first component comprises livelihood related to primary and secondary productive activities such as agriculture, forestry, fishing and crafts; while the second component consists of transfers and tertiary incomes such as remittances. Fishing is the second major economic activity to farming in Rufiji District. Small-scale fisher folks using rudimentary fishing gear dominate the fishing activities. Fishing is carried out in the River Rufiji, the delta and some inland lakes formed by the flooding of the river. The main outlet for the fish catch is the local market.

In addition to secondary sources, this article is based on fieldwork that was conducted in Mchungu and Mchinga-Mfisini villages within the northern part of the Rufiji Delta in January 2009. In-depth interviews using semi-structured questionnaires were carried out on 20% of the households in each village, thus 52 and 37 households were sampled in Mchungu and Mchinga-Mfisini respectively. These households were selected using a simple random sampling method. In addition, interviews were carried out with key informants, who were selected by a purposive sampling method. Five key informants were drawn from each village for interviews that were guided by an open ended questionnaire. The key informants in Mchungu village were selected according to the nature of the social and administrative set up in the village, in order to ensure collection of sufficient and representative information. The set up comprised of the village government chairperson, two hamlet chairpersons, a primary school teacher, and one elder.
female who was also a member of the Village Environmental Committee (VEC). The composition in Mchinga-Mfisini was slightly different and included the village government chairperson, the hamlet chairperson, the VEC representative, and two elders, from both sexes. The aim of conducting key-informant interviews was to gather knowledge from prominent people in the area because such people tend to have access to resourceful information about the environment of their village. Also, such information was used to triangulate findings from the household surveys.

Furthermore, a total of three focus group discussions (FGD) were conducted – one in Mchungu and two in Mchinga-Mfisini. The FGD in Mchungu consisted of ten males, and the two conducted in Mchinga-Mfisini consisted of eight males and six females respectively. GIS and Remote Sensing were employed using the Thematic Mapper (TM) product from Landsat images dated 1991 and 2008. The two years were deliberately chosen in order to determine any shoreline changes between the two periods. This covered the area between 7°43'44.98"S to 39°19'00.37"E and 7°47'05.10"S to 39°21'22.98"E, which is Salale Ward in Rufiji Delta, Coastal Region. Image printouts were interpreted visually on transparent paper. Through the application of this method, the study determined the extent to which sea-wave erosion had impacted on the shoreline in the study area.

In this study, both quantitative and qualitative data were collected. The quantitative data were initially analysed by assigning numbers to the questionnaires in a chronological manner, followed by the editing of the raw data to check for any errors and inconsistencies. The data were then subjected to descriptive statistical analysis. Statistical outputs were set up to determine percentages, as well as the cross tabulation of variables for causal-effect analysis. Data cleaning to avoid errors in entries in the database was also undertaken. After that the data were summarised into tables, charts and graphs. Finally, they were organised into meaningful categories for interpretation. ArcGIS software was used to analyse the spatial data gathered from the Landsat Thematic Mapper (TM) satellite images of 1991 and 2008, in order to determine the land use/cover change along the shoreline. The satellite images of the study area were digitised, attributed, mapped and interpreted to enable analysis of the shoreline changes between 1991 and 2008. The data were analysed to determine local perceptions of climate and its associated changes; indicators of climate change in the two villages; the impacts of climate change on livelihood activities; and the coping and adaptation strategies employed by local communities and other parties.

2.2 Local community’s perception of climate

Having analysed the data collected, it was noted that the largest percentage of the total respondents in Mchungu village perceived climate in terms of temperature. Another variable significantly noted in the village was deforestation, an aspect locally associated with climate. Ocean currents and rainfall were also associated with climate in Mchinga-Mfisini and Mchungu villages respectively. Furthermore, Mchinga-Mfisini respondents informed that together with ocean currents, other aspects such as drought, and wind speed and direction were also associated with climate (Table 1).
Respondents further admitted that their perception of climate was essentially influenced by the nature of their livelihood, most of which was climate dependent. Most farmers associated climate with rainfall and/or drought. Most respondents who were engaged in fishing for their livelihood perceived climate to be associated with forests, and linked deforestation to climate change. Another climate-related aspect noted by this group was temperature. Around a quarter of the respondents who were involved in trading, the third largest occupation in the region, had similar perception since they also identified forests (deforestation), drought and temperature as climate related aspects.

### 2.3 Climate change indicators

A significant percentage of the respondents (96%) said that the impact of climate change was affecting their daily livelihood. Further inquisition into this aspect revealed that a decrease in rainfall (amount and change of seasons), and associated drought (high temperatures), were the most significant indicators of climate change, as noted by respondents in both Mchungu and Mchinga-Mfisini villages.

Contrary to the impression by Mchinga-Mfisini villagers that the sea-level had risen, a significant percentage of Mchungu villagers said that the sea-level had actually been decreasing in the last 20 to 30 years. They cited alluvial deposition by the Rufiji River as a key reason for this state of affairs. Respondents associated this with poor soil/land use management in the upper course of the river. Table 2 lists some of the indicators of climate change as viewed by respondents from the two villages.

One informant in Mchinga-Mfisini village informed that sea wave erosion began in the 1960s but with quite insignificant impact. The informant further noted that the first decade of sea-level rise was not that critical as erosion and deposition along the shore were balanced; and that from 1990s to date the trend has actually worsened with continuous and advancing coastal erosion. Another respondent reiterated that since 1992, when he migrated to the village, he had (up to the time of the study) witnessed roughly about 300m of village land being inundated by the sea.
Climate Change Impact and Adaptive Strategies In The Rufiji Delta

Table 2: Indicators of climate change according to respondents

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Villages Mchungu (%)</th>
<th>Villages Mchinga-Mfisini (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature increase</td>
<td>14.9</td>
<td>10.1</td>
</tr>
<tr>
<td>Sea-level rise</td>
<td>2</td>
<td>32.1</td>
</tr>
<tr>
<td>Decrease in rainfall</td>
<td>29.7</td>
<td>28.4</td>
</tr>
<tr>
<td>Unpredictable sea tides pattern</td>
<td>2</td>
<td>0.9</td>
</tr>
<tr>
<td>Drought</td>
<td>25</td>
<td>11.9</td>
</tr>
<tr>
<td>Change in rain seasons</td>
<td>15.5</td>
<td>11.9</td>
</tr>
<tr>
<td>Siltation</td>
<td>6.1</td>
<td>0</td>
</tr>
<tr>
<td>Deforestation</td>
<td>0.7</td>
<td>0</td>
</tr>
<tr>
<td>Loss of soil fertility</td>
<td>0.7</td>
<td>0</td>
</tr>
<tr>
<td>Temperature decrease</td>
<td>0.7</td>
<td>0</td>
</tr>
<tr>
<td>Increase in animal/crop diseases</td>
<td>2.7</td>
<td>3.7</td>
</tr>
<tr>
<td>Increase in soil salinity</td>
<td>0</td>
<td>0.9</td>
</tr>
</tbody>
</table>

Source: Survey data, 2009

In relation to sea-level rise it was noted that most of the existing boreholes which had once been used as a source of fresh water had become saline, as a result of intrusion of saltwater into underground aquifers. This intrusion of saltwater has been associated with recent increase in soil salinity that is negatively affecting farming activities in the study area.

Rainfall and temperature data collected over thirty years, between 1978 and 2008, indicate that the amount of rainfall has slightly fallen along the coastal areas of the country. Likewise, the mean annual temperature trend for those 30 years affirms that the average coastal temperature has significantly increased by 1°C (Figures 2 and 3).

Figure 2: Mean annual rainfall record 1978-2008
Source: Tanzania Meteorological Agency, 2009
In addition to rainfall and temperature data, the interpretation of the Landsat Thematic Mapper (TM) images of 1991 and 2008 covering Mchinga-Mfisini village affirm that the erosion observed along the shore was due to sea wash on the shoreline, coupled with high and low tides. The 1991 image depicts that most of the low-lying areas, where the high tide waves could reach, were covered by light bush and grass. In the 2008 image, the same area appears to be bare land mainly covered by sand. Estimation of the total area affected indicates that a total of 2km² of light bush and grass had been eroded between the years 1991 and 2008.

2.4 Climate change impact on livelihood

The determination of livelihood vulnerability to climate change impact focused on such aspects as farming, fishing, trading, navigation and the availability of basic household needs such as food, fresh water and shelter. According to respondents, fishing is one of the areas that were identified to be especially at risk because of the impact of climate change. Such change brought about siltation, overfishing (especially by commercial trawlers) and increased temperature. The net effect was noted in the amount of fish caught, and the size of individual fish.

Apart from fishing, farming was another livelihood activity that was reported to be highly vulnerable to the impact of climate change. Traditionally, as reported by respondents, people had been growing a variety of crops in the Rufiji Delta including rice (which is the most common crop), cassava, cashew nuts, sugarcane, maize, vegetables, fruits, sorghum, sesame, and coconuts. However, most of these crops have been abandoned, with the exception of rice paddy and coconuts; and this has been caused by infiltration of seawater into the farmland. In connection to that, saltwater...
intrusion into farmland (i.e., salinity increase) has been another factor noted by almost a quarter of the total households surveyed. In the same village, one informant gave the following comment:

_In previous years, all these crops were grown in the valley which used to exist in the middle of our village. The valley covered almost twenty hectares; thus villagers could distribute some portions of land amongst themselves for farming, but now the valley has been lost into the sea and very little land is now available for us to grow crops._

Further, about 10% of the respondents in Mchinga-Mfisini village reported that unpredictable rainfall was another factor behind the abandonment of some crops. In Mchungu village this observation was not as significant since only 5% of the 40 households that had abandoned most crops were of the opinion that drought was one of the main factors. Another 5% cited insufficient income to finance farming activities, as another problem which had led to the abandonment of some crops. Regarding coconut plantations, one informant in Mchinga-Mfisini village alleged that the largest portion of coconut fields had been inundated by seawater since the 1990s, leaving behind only a few sands which are also vulnerable to ongoing seawater inundation. Respondents also reported that coconut fruits were being attacked by a certain pest that caused the fruits to shrink and dry up before they matured. They believed that the pest was associated with increased temperature in the area.

Given the changes in climate that were noted during the study, their impact on household livelihood was inevitable in many aspects. One significant aspect was household food insecurity. About 85% of the respondents asserted that their households had experienced food shortage; and this food insecurity had been brought about specifically by low household income levels, drought, change in the pattern of the rainy seasons, floods, increased crop pests, loss of soil fertility, increased soil salinity, and sea-level rise (Table 3).

<table>
<thead>
<tr>
<th>Causes for food insecurity</th>
<th>Mchungu (%)</th>
<th>Mchinga-Mfisini (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insufficient income</td>
<td>40.6</td>
<td>41.2</td>
</tr>
<tr>
<td>Drought</td>
<td>31.2</td>
<td>27.5</td>
</tr>
<tr>
<td>Change of farming seasons</td>
<td>3.1</td>
<td>0</td>
</tr>
<tr>
<td>Loss of soil fertility</td>
<td>4.7</td>
<td>2</td>
</tr>
<tr>
<td>Inadequate food storage</td>
<td>4.7</td>
<td>2</td>
</tr>
<tr>
<td>Increase in crop pests</td>
<td>3.1</td>
<td>0</td>
</tr>
<tr>
<td>Health problems</td>
<td>3.1</td>
<td>0</td>
</tr>
<tr>
<td>Long distance to farm areas</td>
<td>3.1</td>
<td>0</td>
</tr>
<tr>
<td>Floods</td>
<td>6.25</td>
<td>9.8</td>
</tr>
<tr>
<td>Increase in soil salinity</td>
<td>0</td>
<td>15.7</td>
</tr>
<tr>
<td>Sea-level rise</td>
<td>0</td>
<td>2</td>
</tr>
</tbody>
</table>

*Source: Survey data, 2009.*

In addition to food insecurity, the study also looked at how seriously climate change had affected the availability of fresh water. Significantly, 96% of the respondents...
reported that they were not getting the same quality and quantity of water from the existing sources as they used to do two to three decades earlier. As already noted, the causes for this problem in both villages were drought, saltwater intrusion into underground aquifers, and inundation of boreholes by sea water.

2.5 Coping and adaptation strategies

As already explained in preceding sections, farming and fishing are the most vulnerable livelihood activities to climate change, in the study area. As one of the coping strategies, a significant number of respondents in the study area who had been engaged in fishing decided to venture further into distant waters in order to try and increase their catch. Another significant initiative identified by respondents was in regard to the use of alternative fishing equipment that would help to enhance fish catch.

Such initiatives aimed at curbing the impact of climate change have not been carried out only by the local people; the government has also chipped in some assistance. More than half of the surveyed households in Mchungu village informed that support from the government had been in the form of materials, although they were also of the opinion that unless these interventions come in the form of capacity building programmes, particularly training, improving community livelihood would not be sustainable. In the village, a Government of Tanzania/World Bank initiative has been implemented; this is the Marine and Coastal Environment Management Project (MACEMP). Broadly, the project aims to promote the sustainable use of coastal resources. Again, District Agricultural Development Projects (DADPs) have been introduced in the area whereby farming and livestock-keeper groups, with 25 members each, have been formulated to facilitate farmers' exposure to modern and sustainable cultivation and livestock keeping methods.

The initiatives notwithstanding, overall assessment of the interventions indicate that 90% of the respondents (with 85% majority from Mchungu village) were still not happy about the degree of progress that their communities had made towards improving their livelihood. Besides, many people seemed ignorant about the initiatives that were being undertaken, as the following personal account from one participant testifies:

This is the second year since fishing groups were established, but most group members have not earned even one thousand shillings. In order for fishing to be run efficiently, facilities like boat engines, fish nets, and storage equipment are needed. All groups that have been sponsored by MACEMP in the coastal area have been given boat engines except those of Mchungu. If the government has failed it should look for other donors to support us. Boats with no engines are not very useful as we are forced to stay out longer at sea when the sea gets rough. We are then forced to salt the fish so that it lasts longer, resulting to poor fish quality, which subsequently attracts lower prices. For instance, a medium-sized fresh fish called Ngulu is sold at TZS 8,500, so if one catches forty of them it is a lot of money but inefficient and unreliable fishing boats force us to salt the fish hence ending selling one such fish at between TZS 2,000 and TZS 3,000.
3.0 Lessons from the study

This study found out that people perceived and defined climate according to their local environment, based on common climatic variables. The dominant livelihood activities of the majority of the people in the Rufiji Delta region include fishing and farming, which are highly influenced by such climatic variables as ocean currents and rainfall. Therefore, the knowledge of farmers and fisher folks about climate was expected. Furthermore, comparing people’s perception on climate between the two villages that were studied, it was found that terrestrial-based aspects of climate were most often referred to by people in Mchungu village, whereas people in Mchinga-Mfisini related their livelihood more closely to marine aspects of climate. This observation further proved that people’s perception of climate is predominantly based on their local environment and this would tend to differ from place to place.

Further findings have shown that the amount of rainfall has decreased in the last two decades, and this decrease has been accompanied by unpredictable rainfall pattern and seasons. Changes in the rainy season were normally associated with short rains which used to commence in September, contrary to the current situation where such rains may begin as late as January, or sometimes never come at all. Such incidences of prolonged dry spells have resulted into droughts in the study area, a situation that has adversely affected the livelihood of the local community. However, statistical analysis of rainfall data over the past thirty years does not suggest a significant fall in the amount of rainfall; rather changes in seasons and/or rainfall distribution has been mainly the concern of the community. Likewise, temperature increase in the study area is said to have intensified within the last decade. As mentioned earlier, this has been locally associated with an increase in crop pests that results to coconut fruits drying up. In some delta island villages in Rufiji, coconut production has drastically declined due to diseases attributed to coconut lethal yellow (Mbiha & Sonkondo, 2001). It was reported that the pest had increased.

Changes in sea water temperature are expected to affect fisheries along the coast, thus compromising socio-economic sectors (Alusa & Ogallo, 1992). In the study area, this is associated with the fact that the sea has become shallow along the coastline, mainly as a result of alluvial deposition from the Rufiji River catchment. Therefore, higher temperatures and alluvial deposits have resulted in less fish in the shore area. There are other studies that have affirmed similar observations in the southern Tanzanian coast, Mtwara in particular, of variations and changes in temperature and rainfall.

Despite this direct impact on fisheries which in turn adversely affects livelihood, the study also noted that climate change had impact on coastal vegetation, particularly mangroves. Mangrove wetlands are crucial for fisheries as they provide favourable breeding sites for a number of fish species, especially shrimps. Therefore, deterioration of these mangrove wetlands has led to loss of such breeding sites, and subsequently decline in the amount of fish caught. As said earlier, fishermen have taken up several coping and adaptive measures in order to secure sufficient catch; they are now under pressure to fish farther out at sea where the water is deeper and cooler, a condition preferred by fish when there an increase in temperature. They have also found it necessary to use alternative fishing equipment and nets that
enable them catch more fish. Fishing nets with small-sized mesh have increasingly been adopted, although such nets have been declared illegal by the government (URT, 2004). The local hooked fishing bow has been another method of fishing that has been introduced.

As substitute activities, people have been engaged in the trading of fish, charcoal and mangrove poles. However, this venture is risky and non-promising since fishing, as noted above, is dwindling while charcoal burning and mangrove felling in forest reserves (in this case mangroves) are prohibited by law (URT, 2002).

Rise in sea water level has resulted into increase in salinity. There has also been beach erosion by sea waves. These two factors – increase in salinity and beach erosion – have been linked to sea-level rise. Some stands of *Avicennia Marina* mangrove species (white or grey mangrove) in Mchinga-Mfisini village, as observed during the study, were withering away. This certainly proved that the level of salinity had increased dramatically. The grey mangrove shows stunted growth in water conditions that are too saline, but thrive to their full height in waters where both salt and fresh water is present (Ripey & Rowland, 2004).

Similar other studies have shown that several areas along coastal Tanzania including Mtwara, Mikindani, Kilwa, Dar es Salaam, Tanga and Zanzibar have been severely affected by coastal erosion attributed to sea-level rise (Shaghude et al., 2009). It is further documented that there has been land loss as a result of inundation and erosion due to sea-level rise in four African countries of Côte d’Ivoire, Egypt, Gambia and Tanzania. As a result of such rise in sea water levels, socio-economic and natural systems along coastal areas have been greatly affected (Dixon et al., 2003). This observed rate of sea-level rise during the 20th century is (within present uncertainties) consistent with model simulations, and it is very likely that 20th century warming contributed significantly to the observed sea-level rise through thermal expansion of sea water and widespread loss of land ice (Gitay et al., 2002).

In connection to climate change and its impact on farming, the study went further to appraise the extent to which farming has been affected. It was established that several crops that had previously been grown in the area e.g. sugarcane, maize, vegetables, fruits, sorghum and sesame had been abandoned. This means that climate change has adversely affected farming in the study area thus jeopardising household food security and income generation opportunities, given the fact that farming is a sector which employs the majority of the population in the study area. As a result of this change in climate, farmers switch between and among a variety of crops – those that are resistant to drought such as cassava and sorghum and those that require abundant rainfall such as rice and bananas – depending on the direction of climatic change (Pavoola, 2009). The most reliable crop in the study area was found to be rice paddy which is highly dependent on irrigation from the Rufiji River. However, rice paddy cultivation is not sustainable as some farmers have to clear government-protected mangrove forests to allow for rice paddy cultivation, and as said earlier, this is an act that is against the law. In addition, rice paddy cultivation is vulnerable to intrusion of salt water as a result of sea-level rise.
Climate Change Impact and Adaptive Strategies In The Rufiji Delta

4.0 Conclusion
The study has noted that local communities possess broad-based local knowledge about their environment, which has always guided them in determining changes occurring in their surroundings. In the Rufiji Delta area, the study specifically observed how the local communities’ perception of climate is associated with physical environmental parameters such as rainfall patterns, marine systems, hydrology and soils. Therefore, changes associated with such features are being interpreted by the community as constituting climate change. This study, which was based on the Rufiji Delta, supports this assertion as several climate change-related effects were observed.

In addition, this study noted that basic livelihood systems in developing countries are still nature-dependent such that any slight environmental variation could lead to adverse impact on livelihood. Subsistence rain-fed farming and small-scale fishing are good examples of activities that are affected by such variation. Due to the ongoing changes in climate, such economies have been significantly impacted, leading to decline in the production of food which causes household food insecurity, water scarcity and even a trend of settlement destruction in fragile and vulnerable environments such as the coast.

Local communities in the study area were found to have developed means to cope with environmental changes. The study observed how communities in Rufiji Delta strive to cope with climate changes. While farmers have largely resorted to irrigated farming, fisher folks have devised new fishing equipment as well as identified new areas that could promise better catch. However it should be noted that most of the coping strategies that have been deployed are quite unsustainable given their incompatibility with the existing legal and policy frameworks as well as the poor economic status of most people, to finance such initiatives.

Acknowledgements
Support for this study was provided by the CREATING Programme. The authors also wish to thank L. Larsen for comments and advice.

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Ndesanjo, Ngana & P. Yanda


Critical Issues in Female Performance
At the University of Dar es Salaam 2004-2010:
Role Models and Lessons for the Future

Magdalena K. Ngaiza*

Abstract
This article explores the facts underlying the 50 years (1961-2011) that saw not only independence, nor the birth of the first Tanzanian university but also the gender initiatives. The gender initiatives have raised the stature of the Tanzanian nation in African statistics and the prestige of the University of Dar es Salaam. It celebrates women’s intellectual achievements along their male counterparts. The article argues that during the 50 years, there was ‘magic in the air’ that enabled female success in different degree programmes amidst unpredictable biological and gender environments! Besides, the numbers that pulsed year after year in the university admission records were evidence to the spirit of a growing nation in civilisation. Some of the female achievements proved to the chagrin of the conservative theorists that Tanzanian girls are, without doubt, intelligent in their own right. I refuse to compare the performance of females and males and label such a comparison, a ‘defunct science’. I also recognise female academicians in various positions as Nobel and other prize winners, professors, lecturers, senior administrators as conquerors of positions which were purportedly spaces for men. These are the role models for the upcoming young female students. The article argues that within the 50 years the credit that the university claims is that of recognising that female performance in academics was very much encumbered by both biological and social dispositions and was likely to drop if not supported. With evidence it brings to the attention of the university that a real female academic revolution has yet to come which ensures that female students pursue their academic obligations in a fair gender environment both for students and staff without prejudice or preference. It concludes that the promise of emancipation for the women of Tanzania will depend on ensuring that at intellectual level they achieve their rightful academic grades and be supported to surpass the biological and socio-economic encumbrances so as to open up their rightful opportunities and responsibilities in various job opportunities.

1.0   Introduction
The University of Dar es Salaam (UDSM) reached 50 years which many people certainly cerebrated with appreciation. Indeed “Advancing Knowledge and Creating Futures” (the slogan of the celebrations) has been a job well done. The reflection in this article is to give a bird’s view of how the university marched its mission and vision with the gender terrain. The national people’s university did not fail to recognise that women were part of this society and indeed to accommodate female students as they

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Critical Issues in Female Performance at the UDSM: 2004-2010

surfaced since the catchment areas were very few. Female students on their part did their best in terms of fighting all hardships to achieve reasonable grades. It is these grades that are the subject of this article. The overriding concern is that generally there is a seemingly academic gender gap in academic achievement where male students outshine females. This is a global conclusion based on wrong data and logic which I call a ‘defunct science’. I therefore take a feminist approach in appreciating the fact that women joined the prestigious “Hill” and were able to be visible in all courses formerly considered male like Engineering, Sciences, Law, among others. Some were also among the best students as it shall be shown. The act of comparing different male and female achievers should be a subject for another study and should include more variables than sex.

It is therefore important to cerebrate and acknowledge that during the 50 years, there was ‘magic in the air’ that enabled female success in different degree programmes amidst unpredictable cultural, biological and gender circumstances in a male university! Besides, the female numbers that pulllulated year after year in the university admission records were evidence to the spirit of a growing nation in civilisation. Some of the female achievements proved to the chagrin of the conservative theorists that Tanzanian girls are, without doubt, intelligent in their own right as we read and appreciate their visibility and performance in all schools and colleges. Although it has not been possible to obtain all the data that show the performance of students over the 50 years, we have used available electronic data in ARIS during 2005-2010 to show the possibilities and talents that female students exhibited.

Besides students, UDSM also among its female staff has produced great role models. These are known locally and are internationally acknowledged. Nobel Prize winner in Science (Botany) the late Professor Semesi; first female President of the African Union Parliament Ambassador Gertrude Mongela; former Professor of Economics, UN-habitat Director, now Minister for Land, Housing and Human Settlements, Prof. Anna Tibaijuka; former Law lecturer, Minister for Community, Gender and Children Affairs, Minister for Foreign Affairs and Assistant UNO-Secretary General, Hon. Dr. Asha-Rose Migiro, Professor Mlama and others have served on various national and international boards and guided many successful initiatives. All of them have excelled in their areas of specialisation and service to the community.

In the area of administration, it has been acknowledged that women have executed their roles highly magnanimously and professionally. As Deans and Directors no one woman has been declared a wash out, rather they have all been recognised as excellent leaders in all schools and colleges including the Library which is the heart-beat of the university. It may be important in another study to trace, in detail, the leadership of women administrators (role models) during the 50 years beyond the cursory look of this article.

2.0 The university’s vision, mission, and values
It is understandable that the university authority wished every member of the university community to uphold the vision, mission and values expected of the university. This article of course questions indirectly whether the spirit of the
university was observed by all during the fifty years. As a male-focused university, females were like intruders so that the data may suggest some kind of negligence in this area although this is not the main objective of the study.

UDSM started with acknowledging men and women within the spirit of the nation after independence which saw both women and men participating in the struggles that brought about independence. At that time, the girl child was included in colonial education as a footnote. So the nationalist spirit continued with the trend of giving girls some opportunities including going to the East African University at Makerere. As it continued with more national consciousness, will power and advocacy by advocates, UDSM increased the number of females using deliberate efforts as guided by the first president. This achievement came very early in the history of the nation and the university. By participating in the nationalist struggles, older women had proved that their daughters’ way in other fields was also paved as recognised by the first president as well as successive presidents.

However, there was no strategic objective to discover the women’s intellectual potential during their studies and after graduation. So UDSM maintained a carefree attitude towards issues of performance provided there were the assumed basics for success such as a library, bookshop, competent professors, a student bursary (that was almost insufficient) and a group of academic advisors (whose role was not clearly known). Indeed it can be said that although UDSM did make an attempt to attach students to advisers, the strategy never made a good contribution as the study participants concluded. Besides academic mentoring there has always been the Dean of Students’ office that deals with general discipline and what is considered individual ‘baggage’ which students come with, as well as the confusion that some students develop while at the university campus. For example, issues of family, teenage behaviour, poverty, pregnancies, marriages and the total gender environment have been inimical for both male and females and have relevance for students’ mental health and academic levels of achievement.

3.0 Relevant Literature

3.1 Historical Account

Historically, there have been the patriarchal tendencies of ignoring the gains that females make and global literature attest to this truth. Females therefore were not expected to reach great heights in academics as speculated by conservative psychoanalysts like Burke and Freud (1986) who saw women as elephants in their kitchens but with little brains elsewhere, and Ngara people (see Ngaiza, 2002) and the recent Nobel Prize saga in Britain. Because this thesis failed at UDSM and elsewhere as argued by Chodorow (1978) and Figueroa (2000) both male students and staff respectively had a strategy to belittle female students through committing sexual indignities as ways of pulling them

1Female education was largely about home making that set the tradition of women’s subjects but which again leads to questions of why women study what they do? When they study other subjects they are called names! When they perform well they are rejected by the very elites who argue for male-female competition.

2The first female Secretary to Council (2000-2005), and the VC’s Assistant (1980-1995) were ex-Makererians.
down (harming them, knocking them down and reminding them of their sexual roles to males). In the history of UDSM even as we celebrate our past 50 years of feminist and gender achievements, no serious feminist scholar will ever ignore the desperate suicide of Levina Mukasa who was raped by fellow students apparently to ‘size her down’. Also, the history of ‘punch’ as male bullies to threaten female students and force them to couple up sexually with males is not yet on record analytically and I will try to do that in this article. Several female students were either raped during the day or at night at the slightest mistake of visiting male students.

Such violations were committed under the pretext that both males and females were starved of sex and that everybody had to understand! Clearly, this violence was aimed at threatening girls and obstructing them from serious academic work as we shall see from the conversations we made with various respondents. Historically, it can be said that a good number of female students have had a negative gender environment while at UDSM which pulled them down academically. However, this depends on how one looks at the historical events and makes interpretations. The 20 case studies referred to in this article have produced some inkling to the facts which are usually outside the concern of the university but may be central for concern. The literature globally points to serious omissions in managing social relations at universities for better academic achievement while elsewhere efforts have been made to separate women into their own colleges in order to observe an experiment of women on their own!

By understanding the feminist and gender history at UDSM, one begins to acknowledge the need of research on female academic empowerment revolution. What I read of the historical feminist history at UDSM is that there is still a haunt of Levina Mukasa’s death because it did not produce a historical rupture that would bring the university community into greater consciousness about the crisis in gender relations. Instead, the staff went into blaming students forgetting that some of the male staff were also culprits! Meeting in the Council Chamber, male and female staff had different feelings of guilt but several men felt that it was befitting her because she was academically brilliant and therefore ‘invited rape’ by being outgoing.

This conclusion was reached because some male staff chased women activists around trying to stop them from organising an all campus demonstration with a coffin. A joint meeting of female students and female staff was convened to condemn the ‘punch’ phenomenon and the immediate facts that had led to the girl’s suicide under the protection of the then Minister of Community Development, Women and Children, Hon. Mrs. Gertrude Mongela. Women were angry; the male students were shocked and stood in close proximity to hear how ‘punch’ (their agent) was being fought. The question that imposes itself today is why did we not see that rape was an attack on the

3Bright female students as well as the strikingly beautiful ones were always nuisance at least in the early decades 1970s-1990s. ‘Punch’ was seen as the answer against them until it was brought to rest by the death of Levina Mukasa. Other students were also raped in the same spirit of keeping them down.

4Levina had gone to a student party at Silversands with a team of her male ‘friends’.

5Also Hon. Mongela was criticised by several men for accepting to attend to such a ‘minor issue’ instead of letting the UDSM leadership handle it.
female brain? Why did we not read anger on the male psychology then against female performance? Was there adequate conceptualisation, organisation and advocacy by female staff? The answer is probably not and this is why it has taken a long time to bring this gender crisis to record. In my view it does not tarnish the name of UDSM but it gives it the concrete facts to act more firmly from an informed perspective.

Our university appears sheltered from female revolutionary influence, but several sexual offence cases will forever haunt us especially how they were mildly handled, and in favour of men. The blindness on these issues undoubtedly grows out of a dominant assumption that ‘men and women attract’ so it is normal to rape/attempt rape or punish those female non-conformists, which in a way is a measure of self-delusion and a males’ reality. Due to persistent outcry, the university invoked a Gender Policy and an Anti-Sexual Harassment Policy for the university community (UDSM, 2005) to meet the standards of civilisation as guided by the national law (Act 1999) on sexual offences. The war against the academic excellence of women may still be present today in hidden forms as we have been discussing and celebrating the 50th anniversary since last year, but we should not give up since UDSM is now widely known for its strengths and weaknesses. If one cannot explain such isolated incidents, then a bigger revolution may be in the offing where female students will put professors to shame by mentioning their names publicly, for ignoring the university’s vision, mission and values.

3.2 The academic problem

The above are only a few dimensions of the problem but, in any event, it is clear that just as the signs of the gender crisis were difficult to miss at UDSM, even those without a sociological microscope admit that academically female students need both guidance and protection in career choice and focus. The degrading of the collective self-image of women compounds the sense of degradation of each individual woman. The assumption that if females are academically threatened by males they will compromise their self-respect is quite alive and has lived on for many years. The heroines against self-degradation have been squeezed to committing suicide, being raped silently or to getting lower grades for lack of clear, quick and secure lines of support. Usually the young female students are expected to keep silent as if nothing happened in order to avoid negative publicity.

The silent revolts that follow in the wake of acts of desperation can in this sense be interpreted as carrying forward a demand for social recognition, respect for human rights and above all the demand for academic freedom that everyone knew could not be satisfied by the then patriarchal structures but required the establishment of a highly sensitive network and gender focal points campuswide. All the cases that are recorded in the history of the 50 years express above all, a will to recover a sense of individual and female collective self-respect and above all academic freedom to perform and be rightfully rewarded. The problem is therefore double pronged as a

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6 A recent pronouncement in a newspaper by a government official regarding the behaviour of Dons victimising students has been met by a flurry of hungry negative responses. Who is right?

7 Students are told by a male professor, “you are too many; some of you might have to go”. Who is being addressed? Or “some of you are likely to fail”. Who is being addressed?
‘social question’ and primarily an ‘academic question’. It can be said that some men just hadn’t understood the purpose of the presence of women at universities and which values they generally stand for. It suffices to say that the female students’ performance is still a hidden issue whose details cannot be captured by simple statistics. History shows that some damage has been done so that need exists to design better ways of supporting academic performance for the youth but more for females with clear justification.

3.3 Conceptualisation of university success factors

Aptitude, role model mentoring, male expectations and behaviour as well as the gender environment are key factors in explaining success, other things being equal. Besides aptitude, the gender environment can play havoc to one’s chances be it in social, political or economic areas. Various studies have argued that there is no convincing research that has established that women have less aptitude than men (Figueroa, 2000). In fact, sometimes it has been to the contrary at different ages (Byrne, 2011). Byrne found that at Harvard Business School actually women spend more time on academics than men do although women are not yet able to achieve honours. In the United Kingdom and Australia it has been the same story.

In Jamaica, Figueroa (2000) shows a situation where young girls are ahead of boys. However, in the end, all these results can be explained. The fact that men have outdone women among the top 20% at Harvard for many years presents a complex phenomenon that needs thorough investigation beyond the ability of this article, but gives us hints about things that can happen. For example, the science of how men’s and women’s brains are knitted need to be understood; more especially, how they function. Sociologically, a conducive gender environment allows both men and women to excel in their areas of specialisation, or in their daily activities, and vice versa. The educational gender gap is a historic fact and one that does not need simple answers. Various authors have investigated the gender gap adequately including UDSM (Mukangara, 2008; UNESCO, 1998) showing the role of the gender environment. Figure 1 shows relevant factors for academic achievement.

Being one of the strategic gender needs, education is considered to be the root cause of other forms of participation and interaction among women in other sectors of the society. Basing on this fact, a gender environment through which women participate in the education arena becomes a very important area of discussion, especially to the extent to which it enables women to excel in the academic fields and vice versa. Male behaviour and expectations of women is another factor as discussed earlier. Some males may be shocked that women are catching up on them and being competitive than compliant and dependent. This female elevation causes hidden anger and revenge amounting to academic sabotage (see Chrester, 2011). Reading from the actions of some males in academics towards female counterparts the male perspective of females as ‘objects of pleasure’ has hardly changed or may be changing slowly if at all.

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1Aptitude is also related to social conditioning. For example, in the so-called female-related soft subjects females excel in cookery, social sciences etc. (Figuora, 2000).
Finally, the effect of role models is not to be underplayed. Literature shows females especially in science enjoying better guidance from female role models than otherwise, something that pushed for female-only universities in some parts of the world including Africa (Ethiopia, Zimbabwe and Sudan) though for different reasons.9 This shift obliges us to investigate the character of universities.

3.4 The character of universities revisited

Elsewhere in the world researchers note that from its beginning as an enterprise established by men for men, to early experiments in coeducation, the university was marked by isolating women and limiting their participation in university life (Nidiffer, 2001; Miller-Bernal, 2000; Solomon, 1985). Women were an afterthought even at UDSM. Given this historical legacy, it is just short of remarkable that today women outnumber and in many respects perform better than their male counterparts [sic]. In fact, the National Centre for Education Statistics (2001) noted that female students today have comprised the majority of undergraduates for more than two decades in some universities in Britain and USA.

Moreover, women are said to be more likely than their male peers to hold high educational aspirations, to enrol in college, and to persist to degree attainment (Bae, Choy, Geddes, Sable, & Snyder, 2000). Though impressive, women’s gains in numerical representation and achievement may mask more complex issues of gender inequity in the academy. Indeed, despite the advances made by women in higher education, some argue that women continue to be treated as ‘second class citizens’ (AAUW, 1992; Riordan, 1992; Holland & Eisenhart, 1990) a fact that has necessitated women-only colleges. Since 1982, when Hall and Sandler reported a chilly climate for female

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9 Some countries may be responding to religious needs and/or gender complications. This was revealed at a Gender Mainstreaming Training at OSSREA, in Addis Ababa, in April 2011.
undergraduates, the quality of the learning environment for women at co-educational colleges and universities has been a topic of justified concern. They put it as follows:

Though the evidence supporting the chilly climate thesis is somewhat limited, what does exist suggests that compared with men, many women students perceive their campus to be less supportive of their academic and social needs and that, as a result, their learning and personal development is adversely affected (Pascarella et al., 1997; Drew & Work, 1998; Rice, 1991).

Pascarella and his colleagues found a handful of moderate size negative relationships between perceptions of the campus climate and selected intellectual and personal development outcomes. This pattern persisted through the junior year, wherein students who perceived their campus to be ‘chilly’ had lower gains in writing and thinking skills, science knowledge, and arts and humanities knowledge (Whitt, Edison, Pascarella, Nora, & Terenzini, 1999). In other words, the undermining conditions can be difficult to measure because researchers cannot determine the relationship between lower grades and sexual harassment, or broadly the gender environment.

In addition, women students continue to be underrepresented in positions of leadership on co-educational campuses (Astin, 1993) and in the traditionally male-dominated fields of Science, Mathematics, Engineering, and Technology (Postsecondary Institutions in the United States, 2001). In part, this may be because women students have qualitatively different leadership styles and experiences during college (Astin, 1993; Kezar & Moriarty, 2000; Whitt, 1994). In addition, females who might serve as role models are underrepresented among senior administrators and faculty positions (Nidiffer & Bashaw, 2001). It is argued that as these and other micro-inequities accrue over time, they have a damaging cumulative effect, creating an environment that dampens women’s self-esteem, confidence, aspirations and their participation.

Researchers argue that such inequities were especially marked in areas where women are underrepresented, such as Science, Mathematics, and Technology (Davis, Ginorio, Hollenshead, Lazarus, Rayman & Associates, 1996). In such instances, the paltry proportions of women students in classes were seen to contribute to women’s feelings of lack of belonging as learners and to their discomfort in the learning environment. Since experiences differ, in Africa the pain for STEM subjects is in acquiring employment than grades, especially for engineering students. Female students in Science, Mathematics and Engineering at co-educational institutions are often discouraged from pursuing Science as a career because they have few interactions with role models that could support such a choice and perceive that male science professors fail to take them seriously (Davis et al., 1996; Seymour & Hewitt, 1997). At UDSM the number of females in STEM subjects has also not grown adequately for reasons explained elsewhere. However, unlike in the past STEM students at UDSM have started to organise themselves for a better day.

By establishing conditions that foster student faculty interactions, women-only colleges are said to have provided important support for women in fields where they are underrepresented. This is true, for example, at Sweet Briar College where 60% of its graduates obtain advance degrees, many of them in the sciences. First-year students
and seniors at women-only colleges participate more actively in class, collaborate more frequently with their classmates in and outside of class, and tutor other students more than women at co-educational institutions. However, although the radical approach of ‘women only’ colleges may truly show other results, my view is that men and women must learn to live respectably with each other but the learning environment must be visibly established to benefit all.

In the following section, I report findings of research conducted at UDSM. The objectives of the inquiry were three: to capture the performance of females at the level of excellence (honours first and second classes) during the 50 years of UDSM; to explain the performance of female students and people’s perceptions; and to come up with recommendations that can improve female performance as part of the gender mainstreaming efforts of UDSM.

4.0 Female performance at UDSM in the last 50 years

4.1 The heterogeneity of female students

Among the key issues that this research found as part of the background was the heterogeneity of students. Participants noted that female students come to university in many colours and shapes (the different faces of Eve), which is the reason why one has to be ready to offer them some extra support and professional guidance. Women have realised that pregnancies and marriages should not be reason for them to be left behind. When such women appear on campus one cannot give them a blind eye. Some students affirmed that attaining a degree plus getting a child, both in the same study period, is a very big success! There are two known cases (1974 and 1993) of female students who got their first degree with three children each, during the same study period, because their husbands were fearful that the wives would mess around with other men!

Some of those women students who pursue different degrees while they are already in marriage find themselves performing multiple roles at once. They are often forced to fulfil their responsibilities as students, wives, and mothers, and most of the time they have limited or no support. This combination of roles does not only limit their study time but it also affects their mind-set psychologically to such an extent that their concentration in their studies gets largely affected. Sometimes, they are forced to stay outside campus or hostels not because of room scarcity, but because they have to attend to other duties as mothers and wives. One professor at UDSM commented: “Women cannot be successful because usually there are no men behind them”! He reminded me about the dictum which says: “Behind every successful man, there is a woman.”

Female students under such circumstances find themselves also restless because of the roles they are supposed to assume at the same time as mothers. They must make sure that their children are properly taken care of in terms of proper nutrition, schooling and development in general. All these demands affect their scope of involvement in academic matters. While they know that they can’t win on both fronts, this situation has often reduced their possibility to excel in the academic fields. Today, or in the next fifty years, the university and other stakeholders may want to offer the requisite
services of all students beyond the unmarried category. Some of the women (whether married or not) get pregnant during studies. This also becomes an obstacle to them both physically and psychologically. Accompanied with its complications, concentrating on their studies and interacting with their fellow students for the purpose of studying becomes very difficult. Given the fact that they are supposed to carry the same load as other students, it becomes very hard for them to shine and excel in the academic field. Some of them have sometimes been forced to freeze and postpone their studies, which extends their graduating time.

Some of these women came from distant rural areas like Kibaha and Moshi (live cases), and they were expected to harmonise the demands of their families, husbands, and those of their studies. Some of them travelled to see their families every weekend, so they had to cover approximately 400 kilometres. The extra strain was taking toll, and sometimes they even failed to attend the next day’s lectures.

Some other women in high learning institutions were single parents. They were sometimes forced to have children, support them and other relatives while at the same time struggling to support themselves economically in their college life. They found themselves overloaded with responsibilities beyond their studies as well as being inexperienced.

Another category is that of young women fresh from school that joined the university alongside others. These joined the university full of dreams but not knowing what was going to happen in their academic life. They had no obligations in their families, and these (especially those from well-to-do families) received financial support from their parents and others. These were expected to excel better than any other category of women who joined the higher learning institutions. Some of them joined the higher learning institutions with even better grades than those of their male counterparts. Yet this category was also faced with a number of challenges. Some of them suffered from being picked upon by their fellow male students in the class, and also by their male professors. The atmosphere became unfavourable for them to actively engage in discussions with their fellow students.

Some of the girls got mixed up by their fiancés. They got forced to divide their time between studies and their emotional relationships. These relations tended to affect the females psychologically, especially when these relationships failed. Some of the boyfriends, out of sheer mistrust tended to bump into their fiancées’ timetables with no consideration of the harm this might cause to their female students’ academic performance. The male focus group wondered how female students managed to accommodate all these complications and yet achieve high grades.

4.2 Conversations and revelations

Findings about the performance of female students in the last 5 years\(^{10}\) (2006-2010) are at best interesting. They show that women are actually doing well and perhaps could even do better as we read the data below; while at worst the findings show a

\(^{10}\)Readily available data is limited but it allows us to say something about female performance.
distortion of female academic achievements due to what is called the negative gender environment in the last 30 years resulting from their partnerships, biological responsibilities and other externalities.

The early years of the UDSM (1970s and 1980s) admitted female students who were more mature and serious with university studies than today. However, it was revealed during the discussions that there was no particular drive around 1970-1976 to recruit women tutorial assistants. The character of UDSM was patriarchal and women had not developed a bargaining spirit for space in universities because it was not an issue if one stayed at UDSM or not. Jobs were abundant elsewhere. If females ‘graduated’ with fiancés or husbands, they were satisfied; besides, career counselling was weak.

A male staff opined that as one might continue searching for explanation as to why females do not stay back to teach, one has also to consider the fact that even today there are career opportunities which have better rewards compared to staying in an academic environment, which perhaps is not either morally or socially perfect for some females to stay. There is better take-home, and the working environment promises a happier future out there than at UDSM. With regard to excelling, he noted that not many students attain the required GPA for one to become an academic; for example, only a few students want to search for knowledge while others just want to copy. He thought also that academic posts at the university are selectively given [sic], blaming it on the failure of the university/government to strategise on retaining the best performers. In the struggle to distribute the few resources available, even some of the male students do not get open scholarships when preference is given to women. He recounts: “If I were to give my own example, my undergraduate GPA was 4.5. I confidently applied for masters open scholarships offered by the university, they didn’t take me, and I was rescued by the Loan Board in 2005 (a year later).”

A focus group at the Institute of Social Studies revealed that being faced with various socio-economic setbacks and an unfavourable gender environment which in most cases are less considered when articulating female poor performance, many female students fear of getting lost on the way. The male respondents were genuinely concerned about female performance. The foregoing discussion does not tell the whole story about what prevents many female students from getting to the top. Moreover, it also doesn’t tell their academic competence either. The statistics below give some clues.

Table 1: Female students’ performance at UDSM between 2006 – 2011 (n = 6883)

<table>
<thead>
<tr>
<th>Degree Class</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st class</td>
<td>27</td>
<td>0.4</td>
</tr>
<tr>
<td>1st &amp; &gt;3.7 (GPA)</td>
<td>668</td>
<td>9.7</td>
</tr>
<tr>
<td>Upper second</td>
<td>1694</td>
<td>24.6</td>
</tr>
<tr>
<td>Lower second</td>
<td>4709</td>
<td>68.4</td>
</tr>
<tr>
<td>Pass</td>
<td>453</td>
<td>6.6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>6883</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Source: UDSM: Examinations Department (ARIS, 2011). 9.7% is counted alone.
Critical Issues in Female Performance at the UDSM: 2004-2010

Evidence from faculty statistics 2006-2010 (ARIS, 2011), Table 1 above and Graph 1 below) shows that female students have generated quite a critical mass which excelled (first and upper second class above a GPA of 3.7) and from which adequate numbers to stay as academic staff could have been found, other things being equal. In other words, if we claim that females are not at the top we must also see that given their circumstances not many are at the bottom either.

According to records at UDSM (2010) high achievers during 2006-2010 (5 years) were 9.7% or 668 students out of a total 6,879 female students who had a GPA of (3.8-4.8). During the period of five years only 27 (0.4%) female students were 1st class (GPA 4.4-4.8). The upper second class alone (GPA 3.5-4.3) were 1,693 or 24.6%. Lower second class were 4,707 or 68% while the pass group had a very low number of 451 (6.6%). From this data many females who excelled are out there in the public and private sectors and they have been joining higher studies comfortably.

This distribution is normal and allays fears about female students not being up to the mark. Across faculty/schools and colleges there were the usual discrepancies regarding the small numbers of women in almost all the colleges. What is important is not how they compare with male students but how they manage their difficulties to reach satisfactory grades from pass level to first class. The female circumstances were said to be much harder and literature supports that assertion, to the extent that female performance was affected. Such issues have been indicated in the history and the heterogeneity of female students discussed above. We also read the data in terms of how female students were distributed in the honours grades in terms of the top 5%, 10% and 20%, between 2004 and 2010 (see Table 2 below).

<table>
<thead>
<tr>
<th>School</th>
<th>5%</th>
<th>10%</th>
<th>20%</th>
<th>Total Enrolment</th>
</tr>
</thead>
<tbody>
<tr>
<td>CASS</td>
<td>201</td>
<td>403</td>
<td>806</td>
<td>4029</td>
</tr>
<tr>
<td>Education</td>
<td>36</td>
<td>72</td>
<td>154</td>
<td>772</td>
</tr>
<tr>
<td>UDBS;</td>
<td>37</td>
<td>75</td>
<td>150</td>
<td>748</td>
</tr>
<tr>
<td>Journalism/MC</td>
<td>11</td>
<td>21</td>
<td>42</td>
<td>212</td>
</tr>
<tr>
<td>Engineers</td>
<td>16</td>
<td>32</td>
<td>64</td>
<td>318</td>
</tr>
<tr>
<td>LAW</td>
<td>18</td>
<td>37</td>
<td>144</td>
<td>722</td>
</tr>
<tr>
<td>Science</td>
<td>25</td>
<td>50</td>
<td>100</td>
<td>498</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>328</td>
<td>690</td>
<td>1379</td>
<td>7299</td>
</tr>
</tbody>
</table>

*Source: Calculated from ARIS Data 2004-2010*

The data suggest that the numbers look small especially at the 5% level. The truth is that many students are left out in the counting but the number is not qualitatively insignificant for purposes of what excelling women can do. The figure below shows the visibility of the data. CASS shows a total of 806 in the (5%, 10% and 20%) but could be said to be small given the history of the school. Education shows a total of 154, UDBS shows a total of 150, while Journalism and Mass Communication (JMC) which is relatively new shows 42, Engineering 64, Law 144, and Science a total of 100.
These are reasonable achievements that need to be applauded. In the figure below, we see reasonable visibility at the 20% level, but also the 5% and 10% are not invisible.

**Figure 1: Visibility by Honours Percentages**
*Source:* Calculated from UDSM-ARIS Data (2004-2010) & Table 2 above

The top scoring (GPA) for the above respective 20% shows the following order: Engineering (4.8) lead by ICT with the majority in top 5%; Science (4.7) lead by ICT, with many other scientists in Wildlife, Aquatic Sciences, Molecular Biology and Education in honours grade; Journalism and Mass Communication (4.5) with only ten students without honours grade; CASS with the majority female students but with a GPA of (4.4) lead by FPA, Arts with Education, Economics and Statistics. Education top GPA (4.4) is at par with CASS in terms of highest GPA; these are followed by UDBS with highest GPA (4.2) and finally Law with the highest GPA at (3.7) by four students only. More analysis of the database is needed to complete the picture. The figure below translates Table 2 above and seeks to show the importance of each category.

The College of Informatics and Communication Technologies (CoICT) is currently producing comparatively better results as far as female students are concerned (College Board - CoICT, 2010/2011). A study comparing female performance in different colleges and schools may be informative. At the time of the study, CoICT students were spread into the faculties of Science and Engineering.

**Figure 2: Share of females in respective colleges**
*Source:* Calculated from UDSM-ARIS Data (2004-2010) and Table 2
Figure 2 shows the share of colleges (faculties by then) in absorbing female students: CASS 55.2%(4029), Education 10.6%(772), UDBS 10.3%(748), JMC 2.9%(212), Engineering 4.4%(318), Law 10.6%(772), Science 6.8%(498).

Figure 3: Top 5% Female performance across schools and faculties
Source: Calculated from UDSM-ARIS Data (2004-2010) & Table 2 above

Figure 3 indicates that data of the last five years shows not only the presence of female students among the top 5%, 10% and 20%, but also the need to be more visible in the higher GPAs at 5%, 10% and 20%. Reasons have been given above largely involving an improved gender environment, exposure to role models, social protection and visible caring, as the gender terrain is getting more complicated.

Although the five percent seems visible and usable for practical purposes, there is hidden potential if the gender environment is highly improved. The College of Informatics and Communication Technologies is leading the way and perhaps there is something to learn here. The College of Engineering is also catching up because of the previous deliberate efforts to improve on recruitment through pre-entry support. This input generated new energy among female engineering students, and the University Gender Centre has kept its eye on encouraging them to do recognisable things.

The preceding information tells us more than we can see. On the part of female students they have also excelled to enter fields which previously were reserves of male students. The university takes credit to have encouraged female students to take Engineering subjects. With support in recruiting them through a pre-entry programme, female students did their best as the data show, with the majority in the honours group, and they are in all fields. All the fields of Engineering have been infiltrated by females and their numbers have increased. Another new field is Business. Fields of Accounting, Marketing, Corporate Finance, Business Management and Administration and Banking are all in the purview of female students.
5.0 Critical factors in the academic life of female students

Some critical factors have been recorded that play havoc to female students. Positive factors were also identified as role models and supportive staff and relatives. These critical factors are explained below.

5.1 Role models and aptitude

Since this study was conducted to find women role models who performed at the top of their classes, the data is positive from all sources. In some of the classes where male and female respondents were together, males admitted that female students did sometimes surpass their male counterparts. These female students found to be brilliant, impress not only their fellow students, but also their professors largely because it is a state of affairs that is thought to be out of the ordinary. Some of them have been able to shine throughout their academic stay at the university. However, such possibility is closely linked with the nature of the professors whether they give females that room to shine or not. (This was a comment by a male participant). Data also revealed the presence of challenged female students who failed to shine out because of being victimised by the socio-economic environment especially the gender relations which surrounded them at UDSM and at home. The foregoing statements might imply that sometimes passing or failing depends not only on ability but on the desire of the instructors, and the general social-economic conditions.

One of our female respondents and two male respondents in this study gave evidence to this situation regarding treatment of failed female students. Due to space we have used only a few case studies as source materials for the statements made in this article. It is not uncommon to hear of female students being asked to meet a professor in a guest house or hotel room as discussed earlier on threats to females. Other possible influencing factors were named to be the economic background and character of girls, and the influence of their peer groups and various threats. Female students from well-to-do families were found to have better chances of shining out because they are financially stable, and thus, they don’t become victims of men because of poverty. And so, if they have high aptitudes and determined to make things happen, they obviously could shine out.

5.2 Gender stereotypes

Gender stereotypes were also said to be persistent, and one of the forces which also disappoint women. Verbal abuse was said to be very common among the student community at UDSM. It was argued by male students that in most cases if a girl outshines men, that girl is less accepted and not appreciated among the student community. Her performance tends to be linked with what is called ‘sex grades’ or favours from a professor in exchange for sex. In this way, their academic achievements do not get widely respected; but if the same female student fails to perform well, her poor performance is attributed or linked to low academic ability without considering other genuine factors which might be responsible for such low performance. For example, the lower second class to which many students are placed is an area of contention because even some of the best students find themselves in this category.
5.3 Female-male student relations
Asked about whether or not female-male student relations had negative outcomes on studies, a focus group at UDSM admitted that some cases had proved to be negative, for example student (Y) from a well-to-do family joined the university with high grades. During her first and second year final results she had a GPA of 4.0; while in her final year she got a GPA of 3.5. Her poor performance in her final year was claimed to be the result of unhealthy intimate relations with a fellow male student. Some of the interactions between male and female students negatively affect women achievement in academics. Several girls have fallen victim in this category since the early 1970s, and some students have infected their friends with HIV, either on purpose or unknowingly.

Another case was recited of a student labelled (Z). This one was said to have had sexual relations with different professors and tutors at UDSM as long as she was guaranteed good grades. This kind of preferential treatment enabled her to shine academically to the extent that she was retained in her faculty after graduating. But after she had gone for a Masters degree, she failed to prove her academic ability that had enabled her to be retained as a teaching staff. As a result, she was eventually discontinued from studies (From a focus group participant).

5.4 Marriage and studies
Marriage is also one of the factors that can and did prevent women from excelling academically. Some married female students were supposed to play three roles, all at the same time: as wives, mothers, and students throughout their studies. A female student labelled (A) lamented that she had to travel more than 400 kilometres every weekend to see her husband and children. She sometimes had to forego some of Friday and Monday lectures because she had to leave early on Friday and arrive in Dar es Salaam late evening on Monday. As a result she wasted a lot of time. Surprisingly, she managed to graduate with a GPA of 3.4. She was admired by her classmates. Such juggling was a necessary evil for married women.

5.5 Poverty
Poverty is another problem which hit female students strongly at UDSM. This was said to be one of the factors that prevent female students from achieving their academic goals. They end up in the hands of their professors or fellow male students from well-to-do families, or even engage in commercial sex. A female student named (B) was discontinued during her second year after she had performed poorly in her examinations. One of her friends said that she had to spend most of her evening time in the city where she was conducting commercial sex due to the fact that she was unable to afford tuition fees and other costs for subsistence.

Another case is of a girl who was brilliant but had to finish with a PASS degree. The girl also had to spend a lot of her time on the street offering sex for money. In one occasion she spent a night with one of her fellow male students from a different degree programme but they did not recognise one another at the time. After some days they bumped into each at Mabibo Hostel and the news spread, badly affecting the girl psychologically. However, she managed to graduate with a PASS degree.
6.0 Conclusion and Recommendations

6.1 Conclusions

The fragile foundations that allowed sexual harassment along the fifty years can be explained in three ways: lack of common experience by the female peers on how the university space was dominated by male interests and how to contest it; absence of discussion fora on gender issues on campus; and a divided approach when it came to starting dialogue. While men thought women were exaggerating gender facts, women thought facts were enough evidence to the existing gender crisis but that research needed to show more scenarios countrywide and concentrate on national gender and women related research.

We have travelled a difficult path but we hope it is clear that female students are able to perform better if the gender environment is rectified because aptitude is guaranteed by entry requirements. The values of UDSM are clearly based on respect to each individual but as evidence shows this value system has been seriously disregarded and damaged. Nevertheless, the university has covered some milestones in gender responsiveness towards equity in terms of recruitment but needs to do a lot more in designing strategies to improve female performance. Finally, performance by females during pre-entry programmes in the Colleges of Engineering, Science and Education have indicated that with some concerted support to offset the female pre-entry weaknesses, women can do better. So the claim that males necessarily outdo female students or that female students are not able, is not a valid conclusion.

6.2 Recommendations

There are many measures that can be taken to protect female rights and academic freedom. Both policy and pragmatic approaches are required. Globally, there are experiences that show the establishment of separate women colleges as a means to enable them enjoy the learning environment without being interfered by men. The assumption is that these separate women colleges with dominant female professors will offer female students an opportunity to enjoy the learning environment both within and outside the classes. They will also offer appropriate interaction between female students, and their professors. This suggestion is based on the successful story of USA and elsewhere where the oppressive gender environment to women students led to the establishment of separate women-centred colleges. These colleges enable female students to enjoy the learning environment, and excel academically.

As argued by many, because men are absent at women’s colleges, women students at single-sex institutions have unique opportunities to engage in the education process (Langdon, 2001; Sharp, 1991; Neff & Harwood, 1991; Conway, 1985; Women’s College Coalition, 1981). Unlike women at co-educational institutions, women at single-sex colleges assume all the leadership roles on campus, form study groups composed only of women, and take charge in laboratory exercises and classroom discussion. Further suggestions support Fassinger’s (1995) conclusion that classroom conditions at co-educational institutions reduce women’s level of participation, whereas women’s colleges seem to create classroom conditions in which women
students are more likely to be actively engaged. Students at women-only colleges also report better performance compared to those at co-educational institutions.

As Clifford (1993:142) observed, “Gender . . . is one of the most potent forces in shaping human institutions, including education.” For more than two decades, proponents of women’s colleges have asserted that such institutions offer female students a more equitable, and therefore a higher quality, developmentally powerful learning environment (Langdon, 2001; Sharp, 1991; Neff & Harwood, 1991; Conway, 1985; Women’s College Coalition, 1981). Furthermore, staff and students in each region appreciated the ways that teaching was focusing on women’s ways of learning and on empowering them as students, scientists, and future workers. As reported by their peers at US women’s colleges (Hardwick-Day, 2008; Kinzie, Thomas, Palmer, Umbach, & Kuh, 2007; Wolf-Wendel, 1998), students said that they felt taken seriously, that staff cared about them as people, and that they felt empowered for future success in the classroom and in the workplace.

Researches support this claim and indicate that single-sex colleges are not an anachronistic post-secondary option for women. On the contrary, in many respects they are models of effective educational practice, institutions that have much to teach other types of colleges and universities that aspire to provide a challenging yet supportive educational environment for all their students. This is a radical theoretical and practical prescription for the future. UDSM however can add some practices to what is already available as a co-educational institution. Below I recommend several issues that such practices might want to consider.

(a) Female mentoring facilities should be established, to act as service points dealing with gender related issues which in one way or another oppress female and male students. The departments will provide academic advice to female students, and equip them with necessary skills on how to deal with the compromising situations. The departments will also act as the mouth piece of female students because the latter fail to open up. The mentoring departments may be established in each school, and they would be working parallel to the Gender Centre and the Dean of Students of UDSM. The departments should also be responsible in counselling female students on how to avoid being naïve at UDSM and develop valid expectations. The departments should consist of senior academic members, and senior students. Monitoring of possible bad cases must be done but also the teaching staff must be made aware that they are being watched.

(b) Courses should be taught by two professors and marked by anonymous makers where necessary. This will reduce the bossing attitude of male professors towards female students. It will also reduce the possibility of distorting grades for self-interest\(^1\); and in case there is no female professor fit for instructing the course, a female lecturer should be left to coordinate the continuous assessment and the final exam.

\(^1\)Cases have been found of grade distortion to benefit or punish females (and males too) in that confusion.
Magdalena K. Ngaiza

(c) For the case of Masters students, UDSM should reform the policies on thesis and dissertation supervision. There should be two supervisors for each student, and ideally one should be a male and the other a female in case the candidate in question is a woman. This will likely reduce the manipulation on grading students’ theses and dissertations, including either failing them unfairly or writing for them. Senior students report of female supervisors as being comparatively more helpful and more businesslike in their work, while older female students make advances at supervisors for academic favours. Self-respecting male professors should be allowed to throw out female students who attempt to impose themselves on such professors.

(d) The DVC - Academic, Gender Centre through the Student Gender Club, and the Student Union (DARUSO), should sensitise female students to work for higher grades so that they stand better chances of getting employed. For example, at Harvard University such deliberate sensitisation has helped to raise female students’ grades to the honours category. Again, conferences beyond orientation sessions could be held annually to discuss factors that hinder female performance and how to go around them including popularising support centres and telephone help lines in case of trouble. It is imperative to realise that the problem of female students will be better solved by creative and sympathetic feminists – both women and men.

References


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Critical Issues in Female Performance at the UDSM: 2004-2010


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Effects of Water Scarcity on Women in Pastoral Areas: A Case Study of Melela Ward in Mvomero District – Morogoro, Tanzania

A. Ngomuo* & A. Msoka**

Abstract
Rural areas in most developing countries are subjected to low water coverage, which is also contaminated with chemicals and bacteria. Such a situation is the consequence of lack of proper water management which creates insufficient and poor water quality in the community. The sustainability of community water for good health is based on available and within-reach safe water sources, free from contamination. Melela Ward is a pastoral area, with an estimated population of 292,505 people and has only one water source serving the whole population. The water source is contaminated with human beings bathing and washing in it, and there are faecal contaminants from animals and chemical (mercury) contaminants from mines operating around the area. Such hazards endanger people’s lives, who are subjected to frequent outbreaks of diarrhoea and cholera. Findings revealed that water scarcity forces women and children to walk long distances in search for this scarce facility. This has resulted to conflicts and violence in their households when these women come back after dark with insufficient water for the house and unable to do productive work. Sometimes, they risk being raped by men who would like to take advantage of the circumstances; they risk being attacked by wild animals; and they even become psychologically affected due to unnecessary harassment from their spouses. Again, these women are constantly in fear of the security of their children, when the latter have to be left back to fend for themselves when their mothers are out in search of water. It is being recommended that there has to be awareness creation regarding the hazards that might be the result of using contaminated water. Responsible authorities should ensure proper management of available water and water sources, ensure that the whole community is aware of ways to make water availability sustainable, and the government and organisations concerned with environmental protection should seek to design programmes that will address and improve the lives of women in pastoralist areas.

1.0 Introduction
Rural areas in most developing countries are subjected to low water coverage which is also contaminated in most cases. Study on water, women and children in Mozambique and Philippines revealed that in most poor communities, water collection is a woman’s chore; and children reared by such mothers who have little time to cook are subjected to malnutrition as they eat less nutritious meals. Similarly,

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these women do not have enough time to do other household tasks such as cleaning, sweeping, scrubbing, washing, child care and agricultural work (Cairncross, 1987).

Melela ward, which is a pastoral area with an estimated population of 292,505 people, has only one water source serving the whole population (URT, 2003). The aim of managing water sources as documented by the National Water Policy, focuses on water conservation, water quality management and pollution control. It puts in place the appropriate principles and procedures for managing the quality and conservation of water resources, improving and protecting the ecological systems, biodiversity and wetlands (URT, 2002). What is taking place in Melela village where water is of very poor quality due to contamination by mercury chemicals from nearby mines is quite the opposite of the aim stated above. There is also disturbance to the ecological system, and environmental destruction. The Melela water problem integrates four national policies addressing water, land, agriculture, health, environment and livestock (National Water Sector Development Strategy [NWSDS], 2006). According to NWSDS (2006), operational targets focused on increasing the number of people who have access to clean and safe water from 53% in the year 2003 to 65% in the year 2010/2011. These people were envisaged to access water within 30 minutes of the time they would have to spend searching for same. The clean and safe rural water coverage in Tanzania was 56.6% in 2011 compared to 58.7% in 2009 (MoW, 2012). Unfortunately, the national projected water coverage was not met and only a 3.6% increase was achieved in eight years. Women in Melela have to walk for three to four hours to fetch water for domestic purposes, and this water is from the only water source which provides water for household and livestock purposes, in Melela.

Like in Melela, many communities in rural Tanzania are subjected to poor quality and insufficient water. Observation by Ngomuo (2005) revealed that good water quality and enough water quantity can only be achieved through the community by putting emphasis on safeguarding water sources; discouraging activities such as bathing, washing clothes and utensils in/around water sources; and preventing grazing animals around water sources or along river banks. Moreover, water treatment has to be done following World Health Organisation and Tanzania Rural Water Guidelines of water standards.

A study by Sud (2009) found out that due to the amount of time that women take at the water sources, conflicts between husbands and wives emerge, while fights between women and water vendors have also been reported. Women are more severely affected by climate change because of their social roles and because of discrimination and poverty. Some women walk up to 10 km one way daily in search of water for domestic use. Water in most rural areas is mainly obtained from shallow wells dug on dry river beds and most of these water sources are often unprotected and open to contamination.

The objectives of this particular study that was conducted in Melela village were to:

- gather information on water scarcity and the nature of women’s life style in this pastoral area;
- find out the causes of water scarcity;
Effects of Water Scarcity on Women in Pastoral Areas

- investigate the effects of water scarcity on women; and
- recommend ways to reduce the problem of water scarcity.

In order to attain the said objectives, the research set out to find out whether the following questions could be answered satisfactorily.

- Is there any real water problem in the community?
- What is the current water situation?
- How do people manage to get water for domestic purposes?
- Who fetches the water, and when is fetching done?
- What is the current water quality?
- Are there any strategies for reducing the current water problems?
- Has there ever been any assistance/means of solving the current water problems?
- What could be recommended to solve the current water shortage?
- How does the community involve itself in solving its own water problems?

2.0 Water scarcity and its impact on development

Water scarcity can be put into two categories: economic scarcity and physical scarcity. Economic scarcity refers to the fact that finding a reliable source of safe water is time consuming and expensive. Physical scarcity simply means there isn’t enough water (Water Scarcity, 2012). The community in Melela village is faced with both types of water scarcity – physical scarcity and economic scarcity. Reports from Water for Life (2005) showed that water scarcity is both a natural and human-made phenomenon. In the case of Melela, water scarcity is a human-made phenomenon. Melela is pastoral land where the community does not settle in one place and take care of the land, for example planting trees, or practising shifting agriculture. Pastoralists of Melela move with their herds of cows from place to place and there have been reports of farmers complaining about herds of cows destroying agricultural products. Moreover, the new activities of mining that have been started in the uplands have compounded the problem of water scarcity. These consequences can be linked to reports from the Management Options to Enhance Survival and Growth (2012) which showed that human-made phenomena significantly impacts the availability, quality and quantity of water due to reduced river flows and reservoir storage, lowering of water tables and drying up of ditches.

Studies related to Water Scarcity (2012) revealed that the majority of sub-Saharan Africa suffers from economic hardship that exists because of people’s lack of the necessary monetary means to operate adequate sources of water. This problem is linked to Melela community where the community cannot afford permanent houses that are roofed with corrugated iron sheets, to enable them to harvest rain water. Moreover, according to the nature of pastoral life, shifting agriculture is difficult to practice. This kind of agriculture helps to prevent soil erosion and by having settled life, people could plant trees to save the environment. From the study, it was established that out of the two forms of water scarcity in Melela ward, economic scarcity could be addressed quickly and effectively with simple infrastructure to collect rainwater from roofs and dams, but with the kind of roofing that exists, water cannot
be collected. The locally operated mining in the uplands has to be improved to ensure that the associated activities do not further contaminate the water, which is already polluted by animals and other human activities. The following sections describe the effects brought about by water scarcity.

2.1 Health
World Water Day (2012) documentation showed that the most immediately apparent impact of water scarcity in Africa including Tanzania is on community health. It is documented that scarcity of water forces those living in water deprived regions to turn to unsafe water resources, which then might lead to the spread of waterborne diseases including malaria, typhoid fever, cholera, dysentery and diarrhoea, trachoma, plague, and typhus. Additionally, water scarcity forces many people to store water in their households, which increases the risk of household water contamination and incidents of malaria and dengue fever spread by mosquitoes. These waterborne diseases are not usually found in developed countries because of sophisticated water treatment systems that filter and chlorinate water, but also natural, untreated water sources often contain only tiny disease-carrying worms and bacteria. Globally, 2.2 million people die each year from diarrhoea-related diseases, and at any given time 50% of all hospital beds in the world are occupied by patients suffering from water-related diseases (World Water Day, 2012). Infants and children are especially susceptible to these diseases because of their inexperienced immune systems, which lends to elevated infant mortality rates in many regions of Africa. Infection of infants with waterborne diseases due to water scarcity prevents women from contributing effectively to their communities’ productivity and development, because they have to attend to their sick children. Most of the reported cases from Melela showed that the people suffer from diarrhoea, schistosomiasis and cholera. Thus, with safe drinking water, conditions in Melela will improve and the burden on healthcare would be lessened, creating a bigger and healthier workforce which would stimulate economic growth and pull many people out of poverty.

2.2 Women, children, and education
Women’s Life (2012) documented reports on water scarcity showing that African women are disproportionably burdened by scarcity of clean drinking water. In most African societies, women are seen as the collectors, managers, and guardians of water, especially within the domestic sphere that includes household chores, cooking, washing, and child rearing. Because of these traditional gender labour roles, women are forced to spend around 60% of their time each day collecting water, which translates to approximately 200 million collective work hours by women globally per day. For African women, this often means carrying the typical jerry-can that can weigh over 40 pounds when full, for an average of six kilometres each day. As a result, many women are unable to hold professional employment.

Additionally, this burden prevents many young girls from attending school and receiving an education. This is because the young girls of Melela assist their mothers in fetching water and helping with the household chores that are made more time-intensive because of a lack of readily-available water. Furthermore, lack of clean water
means the absence of sanitary facilities and latrines in schools, and so once puberty hits, this has the largest impact on girls. In terms of lost educational opportunity, as a result of spending a lot of time looking for water, school girls lose quite a number of potential school days. The end result is that subsequent generations of African women are going to break out of the cycle of equal opportunity for gainful employment. Taking these facts into account, availing clean water for women and children will translate to Africans with potential for education, prosperity, power, literacy, hygiene, security, and equality (Women for Water, 2012).

Below we provide a framework that shows how the question of gender relates to, and affects community health.

![Figure 1: Framework on contaminated scarce water and aggravation on gender violence and community healthy](source)

Source: Constructed by authors

2.3 Agriculture

The majority of Africa remains dependent on an agricultural lifestyle and so water scarcity translates to loss of food security. At this point, the majority of rural African communities are not tapping into their irrigation potential, and according to the UN Economic Commission for Africa and New Partnership for Africa’s Development (NEPAD), "irrigation is key to achieving increased agricultural production that is important for economic development and for attaining food security". But for many regions, there is lack of financial and human resources to support infrastructure and technology required for proper crop irrigation. Because of this, the impact of
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droughts, floods, and desertification is greater in terms of both African economic loss and human life loss due to crop failure and starvation. Additionally, lack of water causes many Africans to use wastewater for crop growth, then causing a large number of people to consume foods that can contain chemicals or disease-causing organisms spread by the wastewater. Thus, for the extremely high number of African areas suffering from water scarcity issues, investing in development means withdrawing from clean freshwater sources, ensuring food security by expanding irrigation areas, and effectively managing the effects of climate change.

3.0 Causes of water scarcity

3.1 Climate change

According to Climate Change and Africa (2012) reports shows that although Africa is the continent least responsible for climate change, it is particularly vulnerable to the effects and long-term impacts that include the following:

- Changing rainfall patterns that affect agriculture and reduce food security;
- Worsening water security;
- Decreasing fish resources in large lakes due to rising temperature;
- Shifting vector-borne diseases;
- Rising sea level affecting low-lying coastal areas with large populations; and
- Rising water stress.

Because of Africa’s dependence on rain-fed agriculture, widespread poverty, and weak capacity, the water issues caused by climate change impact the continent much more violently compared to developed nations that have the resources and economic diversity to deal with such global changes. In the context of such effects, it was learnt that during the dry season all the ditches in Melela ward dry up, leaving a single water source to cater for all water needs. Thus, Melela community becomes short of safe water, and food security is also reduced. The pollutants of mercury from mining activities, people washing and bathing near water sources, and animals drinking from the water source all affect the water security.

3.2 Productivity and development

Water Scarcity (2012) revealed that the social and economic consequences of lack of clean water penetrate into realms of education, opportunities for gainful employment, physical strength and health, agricultural and industrial development, and thus the overall productive potential of a community, nation, and/or region. Because of this, the UN estimates that sub-Saharan Africa alone loses 40 billion potential work hours per year collecting water. This observation corroborates what is happening in Melela ward where women walk miles and miles to fetch water; also school children queue for many hours fetching water for their school.

The mining activities in the uplands pollute the water draining to the sources from which the community fetches water. Sometimes women have to walk to the water points after dark as the water is relatively cleaner during this time because animals will have stopped stirring the mud and less people would be doing their washing after sunset.
It is necessary to enhance the awareness and understanding of the impact of water scarcity and its linkage with violence, conflict and victimisation of women, and identify any opportunities that may arise to reduce the identified problems.

4.0 Water crisis in developing countries

The cause of the global water crisis is believed to be far from a scarcity problem but rather a result of poverty, inequality, unequal power relations and flawed water management policies evident in most of the developing countries (UNDP, 2006). However, the fact that the voices of the marginalised groups especially women are rarely heard by the policy makers, illustrates another truth behind the water crisis, i.e., lack of political will (Perkins, 2008). Governments do not prioritise the needs of the marginalised and without support, even the NGO activities become unsustainable (Perkins, 2008). As a result, 1.1 billion people across the globe as reported in 2004 had no access to improved drinking water, with the majority of these living in the rural areas (UNDP, 2006; Alford, 2007).

Although water is seen as a source of life and a valuable natural resource that sustains the environment and supports livelihoods, it is increasingly being seen as a source of risk and vulnerability especially to the women (UNEP, 2004; UNDP, 2006). Women are the most vulnerable because in most societies, it is women’s responsibility – without choice – to ensure that there is enough clean and safe water for their households. (Buckingham, 2000). It has often been said that in developing countries coping with the water crisis is almost impossible, and millions of women and girls spend most of their time looking for water to meet their households’ water needs (UNDP, 2006). As a consequence, this limits their participation in productive economic activities (for adult women) and low school enrolment (for female pupils) (Coles, et al., 2005). This is worsened by policy constraints and gender inequalities that have resulted in low sustainability of the conventional communal water supplies leaving more people in the rural areas with no access to safe water for domestic use than it was in the 1990s (Sutton, 2008). There must be found ways to deal with the problem of domestic water supply especially in the rural areas, in developing countries.

4.1 Domestic rural water supply improvement

One of the critical components of the Millennium Development Goals (MDGs) is increasing access to domestic water supply coupled with improved water resource management and development in rural areas (Lenton et al., 2008). According to WHO domestic water is water used for all domestic purposes which include drinking, cooking and bathing. Therefore, when measuring adequacy of water in the household all such uses should be considered (WHO, 2003).

To ensure that rural households are water-secure, it necessary to evaluate the number, geographic location, yield, dependability, season and quality of the water sources (Kahinda et al., 2007). Besides, equipping people in rural communities with appropriate technologies and skills to enable them harvest rain water and drill underground water together with effective management of these sources can provide
sustainable solutions to the problems associated with the scarcity of domestic water supply in rural households (Malley et al., 2008).

Improved water supply services in rural areas can in turn give women more time for productive endeavours, adult education, empowerment activities, and leisure (Panda, 2007). Therefore, investment in community based organisations for water management can improve social capital for women through leadership, networking opportunities and solidarity building which can enhance their empowerment in society (Lenton et al., 2008).

4.2 Approaches to rural water supply

There are diverse sources of supply of domestic water in rural areas but these can be categorised into two – conventional communal sources, and self-supply sources. The conventional communal sources are justified for improved water quality and use of high level technology like drilled boreholes equipped with hand pumps, collection tanks and protected springs (Carter et al., 2005). Other macro scheme techniques include powered systems like submersible pumps and gravity flow schemes (Carter, 2006). However, the conventional communal facilities in most of the rural areas in the developing countries have been proved to be unsustainable because of their high rate of breakdown as a result of poor operation and maintenance, congestion, difficulty in operating the pumps and long distances because sources are too few and yet rural households are many and scattered (Brett et al., 2007; Singh et al., 2004).

Conventional communal sources have also been observed as grounds for social unrest within the communities and are argued to be not funded enough to achieve the MDGs water target (Davidson et al., 1993; Sutton, 2008). More still, though the coverage of facilities has increased in most parts of Uganda such facilities have been abandoned by the expected beneficiary communities because of the high iron content in the water (Martin, 2007). This poses a challenge to Uganda, a country with more than 80% of its population living in rural areas (UBOS, 2002).

As a result, self-supply initiatives have evolved as an alternative approach to water supply construction and management (Sutton, 2008). Self-supply builds on the initiatives of private households or communities to improve water supply through user investment in water treatment, supply, construction, upgrading and management (Sutton, 2008). This should be based on locally available and easily affordable technologies to the users in the rural communities (Alford, 2007). Self-supply initiatives are spearheaded by people in the respective communities who have the income and are willing to invest in water supply sources (Carter et al., 2005). However, most of the people in the rural areas are poor and so they sometimes try to mobilise their friends and neighbours to improve traditional water sources using local labour and materials. But such sources are often associated with poor water quality and seasonal unreliability (Carter, 2006).

It is important to note that though the self-supply initiatives are private, the use and access to the water source by other households is usually shared at no cost or for a
small fee, as a way of promoting social relations (Carter et al., 2005). This is because water is seen as a natural resource and as a result payment for water in the rural setting is quite unacceptable (Shiva, 1989). However, this leaves the construction and maintenance costs in the hands of the households that initiated the construction of the self-supply sources (Carter, 2006). This can compromise access to water among the disadvantaged groups in society especially the women who do not have the capacity and ability to construct and/or maintain the domestic rural water supply sources (Alford, 2007).

4.3 Women empowerment and participation in water management

Women are increasingly being seen as active agents of change and the dynamic promoters of social transformation that can alter the life of all members in society (Sen, 1999). However, the manner in which decisions and choices on water resources are handled can have great implications on women who use the technologies to get water and are the end users of water resources in the households (Rydhagen, 2002; Rodda, 1993). Gender sensitivity which involves women participation in water management is important; however, instrumental gender mainstreaming in water management depends on how the main agenda can address the transformation of gender relations in water supply, use and management (Panda, 2007; Hombergh, 1993). This is because even in instances where women maybe involved in a water supply project, they are often not given a chance to influence the focus of the projects. Yet women’s involvement in the planning of the water projects could actively enhance sustainability since they are the end users of such projects (Rydhagen, 2002). Access to clean water can change gender relations in the household and offer women the opportunity for productive use where their mobility is socially constrained (Sutton, 2007; Karl, 1995). But this is only possible if those responsible for making choices for the technologies for water supply, paying water bills at household level and those who attend water management meetings at community level are identified (Rydhagen, 2002).

5.0 Findings of the study

The findings of the study have shown that women have to cover distances on foot, sometimes for three to four hours, to look for water and queue for many hours waiting for their turn to fetch water in one source. They are accompanied by their children sometimes through thick forests, seeking water. Such occasions put them at risk because quite a number have been raped, and some wounded by wild animals. Moreover, their young children are left without care. Spending sleepless nights thinking of where to get water next, has psychological effects on the women. In addition, social conflicts occur between husbands, wives and children resulting to lack of peace in their families.

Moreover, the same sources with unsafe and insufficient water are also utilised by the school which is within the community. This widens the problem of water scarcity due to increased number of people utilising the water source.
It was also observed that the existing gold mining activities in the mountain contaminate the water with chemicals, in the lowlands. Such situation creates health hazards and in the long run it may lead to epidemics to the whole community.

The study has also shown that very few people (government and community leaders) are genuinely conscious about the magnitude of the prevailing water crisis and contamination, as well as the health risks involved. Nobody has ever been charged with the improper mining in the forested mountains, which contaminates the water with minerals and creates water scarcity that endangers the health of the community. Thus, the whole situation pulls down the development of the community.

6.0 Recommendations
After having established the extent of the water problem, we recommend the following steps that might be useful in reducing the crisis:

- The community should be sufficiently mobilised to look for alternative means to get safe, sufficient and sustainable water, within community reach. The idea is to have the community itself safeguard the available water source, by build a fence around it to prevent animals contaminating the water. It will be necessary to create awareness among the community about the kind of health hazards that might be caused by water contaminated with the gold impurities.

- A village water committee that involves both men and women should be established to oversee the water sources and set by-laws to control the water source area and the mining area, for better community health.
The community should be motivated to contribute some money so as to construct a well in the primary school, which is the only place having a large building. This will help to harvest water during the rainy season. The community should also improve their houses and use corrugated iron sheets so as to harvest rain water. This might have to involve sensitising people to change their way of life and adopt a more settled life, as most of them are nomads.

Where the community uses water from a well, it will be necessary to construct a furrow from the water source to a place where animals can drink. This will ensure less contamination by the animals.

Each household of the Melela community has to be required to plant trees around their houses to help improve the water cycle. Again as the area is dry, people should use waste water from washing utensils and cloths to water their seedlings.

The government and organisations fighting for the rights of women should help the Melela community to access safe water closer to home in order to minimise the risks associated with women and children having to walk long distances in search for water.

7.0 Way forward
Collecting water is taken to be the duty of women and children in developing countries. In areas with severe water scarcity it takes up to six hours walking seeking for water. Hence, immediate sustainable measures need to be created for pastoralist families to have defined settlements that can be served with defined water sources, for the sake of the security of women and children.

Household conflicts and violence related to water scarcity should be resolved immediately for women and children’s security, through sensitisation and, if necessary, by forced measures.

Schools in pastoral areas should be served with their own water sources to avoid students having to queue for water in the community water sources, and wasting precious study time.

Moreover, policy makers, water providers, and local and central government should immediately take measures against contamination of water and water sources. They should realise that safe water for human life is a right; therefore, they should take the problem of water as their responsibility and not a question of charity.
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References


Agricultural Transformation and Population Nexus: Some Theoretical and Empirical Lessons for Sub-Saharan Africa

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Abstract

Compared to other regions in the world, agricultural performance in sub-Saharan Africa (SSA) has for many decades been deteriorating. Theoretically, it has been argued that rapid population growth could be responsible for not only deteriorating agricultural performance but also to environmental degradation. On the other hand, the Asian Green Revolution of 1960s has been reported as a success story in terms of transforming agriculture and improving food security in the context of increasing population in countries such as China and India. This article reviews the Malthusian theoretical ideas and their relevance to agricultural transformation in the African context and sub-Saharan Africa in particular. It further discusses empirical evidence emanating from sub-Saharan Africa in relation to agricultural productivity, population growth and the integrity of the environment. Based on ensuing discussions, the agricultural sector in SSA needs to be transformed, and theoretical arguments that negate the Malthusian stance are really relevant in this sub-continent. It is further stressed that replicating the Asian Green Revolution will not work perfectly in SSA because of variations in context based on policy, institutional, and structural arrangements. Therefore, transforming agriculture in this sub-continent is not an easy and straightforward task; rather, its success will depend on the interplay between policy interventions, integrating the agricultural sector with other sectors of the economy, active participation of different stakeholders, as well as government mediations.

Keywords: agriculture transformation, Green Revolution, population growth, environmental degradation

1.0 Introduction

The relationship between agricultural transformation and population dynamics is of great importance in Africa in general and sub-Saharan Africa (SSA) in particular. This has raised a growing concern for integrating population variables in development on the one hand, and maintaining the integrity of natural environment on the other (Marquette, 1997a; Marquette, 1997b). Agricultural development needs to integrate population dynamics and the natural environment to ensure that what is produced is not only enough to feed the increasing population but also to stimulate sustainable broad-based growth at national, regional and international levels. This article focuses

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on agricultural transformation and population nexus in sub-Saharan Africa. It begins by discussing some theoretical arguments, and further discusses some available empirical evidence. The article argues that population growth by itself is not a problem with regard to agricultural productivity as well as environmental concerns, and that it cannot hinder agricultural transformation provided requisite policies, structural and institutional arrangements are put in place. What SSA should worry about is the structure of the population as well as rural-to-urban migration. Agricultural transformation is conceptualised in this article as a process whereby individual farms shift from subsistence oriented and highly diversified farming towards more specialised production oriented farming (Staatz, 1998). The process encompasses reliance on input and output delivery systems; integrating agriculture with other sectors of the economy nationally, regionally, and internationally; commercialisation; broad-based smallholder farmers’ development; as well as intensification in terms of labour, land, capital and technology. In addition, the process occurs when a considerable number of households have moved up the poverty line, investing more heavily on the farm, and also, adopts new technologies regularly (Nindi, 1993; Seckler, 1993; Staatz, 1998).

Scholars clearly portray SSA as characterised by the fastest growing population compared with other regions in the world. Further, agriculture which employs and supports livelihoods of the majority in the sub-continent has for many decades been deteriorating. The implication is that SSA is in a food crisis. The concern of this article is whether population growth in SSA is or can be a constraint to agricultural transformation as theorised by orthodox Malthusians. The article contributes theoretically and empirically to the discussion as well as to the knowledge about agricultural transformation and population nexus. It further raises some policy, structural and institutional issues necessary for transforming agriculture in the context of increasing human population.

1.1 Classical and contemporary population theories revisited

In many instances, economists and development practitioners have attempted to establish linkages between population, food, environment and economic development. The debates on this nexus have been basically inspired by ideas from a classical economist and clergy, Thomas Malthus and later the protégés of Malthusian school of thought. The Malthusian school of thought claims that population grows at a very high pace compared to food production and thus it can more broadly outperform economic growth and development (Nafzinger, 2006). Ricardo’s hypothesis here is that resources such as land are fixed and that increasing labour force through population growth would lead into low output per capita and in the long-run cause diminishing returns (Boserup, 1996; Wils, 1996; Castro, 1997). The Malthusian orthodoxy postulates that rapid population growth could exceed the earth’s carrying capacity, natural resources base, and finally lead to serious environmental problems and widespread food shortages (Urdal, 2005). This would eventually lead to a subsistence standard of living among the population. Nevertheless, this postulate has been contested and history has somehow proved these arguments apocalyptic.
Despite the fallibility of the Malthusians’ pessimistic view, they however stimulated a discourse among economists and other development thinkers regarding the synergy between population, food, agricultural technology, environment and development (Marquette, 1997a). Most of the ideas that evolved among others were succinctly those stressing that population increase exerts more pressure on land and eventually culminates into environmental degradation because even the marginal lands are cultivated to support the increasing population (May, 1993; Pimentel et al., 1996; Castro, 1997; Holden & Sankhayan, 1998). To exemplify this, May (1993) presents the case of Rwanda, that its population growth of about 3.2% per year had already resulted into decreased fallow periods of agricultural lands and utilisation of marginal lands and thus causing soil degradation, and that pasture and forest lands have been converted into cropland in Rwanda.

It should be observed however that the orthodox Malthusians advanced their ideas within the European context during pre-industrial as well as pre-agricultural revolution, and at a time when there was rapid population growth coupled with great hunger. Based on this context, their arguments could probably hold water. On the other hand, the neo-Malthusians epoch was during the economic, hunger and oil crises in Africa in 1970s (Rees, 1990). These situations probably inspired them to conceptualise and cement their ideas and were seemingly correct during that particular period and context. An important point to note is that the orthodoxy and neo-Malthusians concentrated on population growth rates without considering higher dependence ratio and other population dynamics such as rural-to-urban migrations and how these could affect food and agricultural production especially in sub-Saharan Africa.

The anti-Malthusians such as Ester Boserup, Julian Simon and other classical economists who wrote during the post industrial and agricultural revolution in Europe constructively raised counter arguments against the orthodox Malthusian trap (Castro, 1997). The anti-Malthusians presented the role of science and technology in agricultural production for increased productivity (Marquette, 1997b). For example, Ester Boserup and Julian Simon maintained that increasing population leads into two important things: first, increased demand for food; and second, improved agricultural productivity through adoption to new technologies and innovations by the farmers. These two observations lead into increased food production per capita and eventually support the increasing population, thus negating the pessimistic view of the Malthusian orthodoxy (Marquette, 1997a; Chrispin & Jegede, 2000).

Put differently, population growth is a critical pre-condition for technological innovations in agricultural production. The pressure which can be created by rapid population growth on the environment and other resources such as land, acts as a development promoting factor within Boserupians’ framework. Increased pressure on land for instance, may prompt farmers to adopt improved land utilisation technologies such as better cropping systems, use of irrigated agriculture, as well as use of industrial and organic fertilisers, herbicides and pesticides (Rees, 1990; Nerlove, 1995). The challenge remains on how to accommodate environmental problems such as soil degradation and environmental pollution which might emanate from intensive irrigation schemes and use of agrochemicals and other technologies.
1.2 Relevance of the theoretical ideas to Sub-Saharan Africa

Human population in LDCs and SSA in particular, is increasing rapidly. Out of more than six billion people in the world, about 80% are found in LDCs including SSA (Nafzinger, 2006). A salient feature of human population in Africa and SSA, is that the population is mainly of young people. Put differently, the dependent age group is large compared to the older ages. For example, in the 2002 population and housing census of Tanzania, 44% of the population was in the age group between 0 to 14 years (URT, 2003). Most of SSA countries have this kind of population structure. By implication, increasing fertility rates in SSA will substantially increase the dependency ratio and definitely increase demand for food and agricultural production. Marquette (1997b) wrote extensively about the Boserupian relevance in SSA. Marquette’s thinking was theoretically relevant in that, like other parts of the world, the growing population in sub-Saharan Africa (SSA) managed to go through different techniques and/or systems of agricultural production to preserve and improve the fertility of the land.

Marquette (1997b) also pointed out that by 1990s, there was more land in Africa than the sparse population needed for growing crops. Until today, many societies in Africa still practise extensive land use subsistence systems including pastoralism. In addition, less than 25% of arable land in Africa is under cultivation, while large areas are used as pasture, forest or grassland (Marquette, 1997b; Collier & Gunning, 1999). It is said that population growth rates in SSA are currently higher than they were in Europe during the 19th century. This has led the region to heavily depend on food imports (Rooyen, 1997). Based on the population pyramid, food shortage is likely to accelerate in SSA. It is imperative therefore SSA adopts agricultural technologies as proposed by Boserupians, coupled with population policy and interventions to address higher dependence ratio which would result into agricultural intensification and possibly become the solution to the poor agricultural performance in SSA. Additionally, other structural and institutional arrangements such as credit provision and extension services need to be strengthened never mind drought which can be addressed through establishment of large-scale irrigation schemes.

As earlier stated in this article, one of the short-term solutions to address food shortage is food importation. This is increasingly becoming a common norm in SSA. Three reasons are reported to cause food problems in the sub-continent (Marquette, 1997b). First, rural infrastructure for example roads are largely impassable, and there is inadequate use of agricultural inputs. Second, there are poor land tenure systems that often lead to disputes over land rights; and finally, there is over-dependence on food imports to feed the growing population. Further, climate variability and change in SSA, particularly frequent drought and floods, are likely to exacerbate the problem. These call for urgent agricultural transformation through, among other things, agricultural technologies as contended by the Boserupians. Nevertheless, we should hastily add that Boserupian ideals should be supported by good policy, and structural and institutional arrangements. In addition, agricultural productivity and the environment should not be left to the vagaries of free market forces currently sweeping the globe; otherwise SSA might fall into the orthodox Malthusian trap. Further, the physical environment specifically land, may become highly degraded to the extent that it might not be able to produce enough to meet the food demanded by the increasing population. In other
words, there should be checks and balances between population increase in terms of dependency ratio, environment and agricultural production in terms of policy, and structural and institutional frameworks to ensure that what is produced is not only for subsistence purposes but also for stimulating broad-based growth in a sustainable and environmentally friendly manner.

1.3 Rural-urban migration and agriculture

Agricultural productivity is decreasing in LDCs (Institute of Development Studies, 2006). Short-term solutions have included importing food from outside; nevertheless, importing food is not a rationally sustainable solution because it can exacerbate deterioration of agricultural production and lower productivity. Further, it can also intensify the loss of productive and economic active groups in rural areas through enhancing rural-to-urban migrations. Theoretical and policy implications of rural-to-urban migration on food and agriculture have been extensively researched in SSA (Harris & Todaro, 1970; Byerlee, 1974; Rooyen, 1997; Zhang & Song, 2003; Lucas 2004).

Most migrants are school dropouts, young and energetic and who constitute the large labour force in the rural sector (Byerlee, 1974). The relationship between rural-urban migration and agriculture invokes two contrasting theoretical strands. First, rural-to-urban migration leads into deterioration of per capita agricultural productivity in rural areas in SSA because it decreases the labour force (Byerlee, 1974). The deterioration of per capita productivity in turn exacerbates rural-to-urban migration and thus completing the vicious loop. This situation may negatively affect food production and the share of the agricultural sector to Gross National Product (GNP) as it is now happening in most SSA countries including Tanzania. With these observations therefore, despite the importance of the agricultural sector in SSA national economies, the sector may progressively become a risky enterprise in the region. This in turn will increasingly make the rural areas unattractive to live in, so triggering mass exodus of the young and energetic labour force to urban areas where the infrastructure and other economic opportunities are deemed to be much better. However, this theoretical strand overlooks the issue of rapid urbanisation coupled with high unemployment rates which is now a reality in most cities of Africa. Life in urban areas is not that rosy and sooner than later this might probably become a disincentive to curtail rural-urban migration.

The second theoretical strand posits that agricultural productivity is inversely related to the size of the rural labour force especially in developed countries (Harris & Todaro, 1970). Extrapolating on this thesis, it is deemed that decreasing agricultural labour force results into increasing agricultural productivity. In other words, rural-to-urban migration may result into increased agricultural productivity though the rural labour force may be decreasing. For example, Lucas (2004) observed that agricultural labour force decreased from 21% in 19th century to 2% in 20th century in Britain. Over the same period labour force decreased from 79% to 3% in the USA. In all these countries, food crop productivity increased during the same period. Although what happened in these countries was attributed to intensive adoption of new agricultural
technologies and hence improved agricultural production and productivity, it was also the case that more people became urbanites as a result of rural-urban migration and therefore left big areas of land free for large scale agriculture.

In explaining the driving forces of rural-to-urban migration, economists have used mainly the Labour Surplus Model. Based on this model, a co-existence of two sectors is considered in a developing economy: the traditional rural sector and the modern urban industrial sector. As explained by Zhang and Song (2003), Harris and Todaro (1970) and Byerlee (1974), the relationship between these sectors is that the traditional rural sector is becoming deprived of surplus labour whereas the modern urban industrial sector is gaining labour force. The driving forces of rural-to-urban migrations are theoretically mentioned to include: differences in expected income between rural and urban areas; agricultural land scarcity in the rural areas; and government policies that tend to be pro-urban and distorted public investment distribution. For example, using a Regression Model, Zhang and Song (2003) analysed both time-series and cross-section data to investigate the driving forces of rural-to-urban migration in China. In the time-series analysis, the dependent variable was the number of net migrants in the urban areas over time. Results showed that economic development in urban areas significantly contributed to rural-urban migration. On the cross-section data, the dependent variable was share of emigrants in total agricultural population. Findings revealed that rural-urban migration was positively and significantly caused by income gaps between rural and urban areas. Normally, rural areas are characterised by low income than urban areas especially in LDCs and SSA in particular. In addition, migration was higher in rural areas, in terms of physical distance to urban areas.

Despite the fact that in China many people have migrated into urban areas, the majority of Chinese who are still living in rural areas are currently not planning to migrate into urban areas. One major reason for this interesting observation is the existing arrangement of land management in rural areas (Zhao, 1999). This land related technologies provide disincentive for rural-urban migrations in China. Based on these findings from Britain, USA and China, SSA can borrow a leaf about how to reduce rural-urban migration which is currently on the increase. One of the issues SSA needs to seriously consider in addition to land management technologies is secure tenure and ownership of land and clearly defined property rights. Furthermore, SSA needs to address the issue of unequal income gap and distorted public investment distribution between rural and urban areas so as ensure equity in growth of both areas. This is a tall order given that economic planning in most countries in SSA is under the dictate of global capital. In a nutshell, SSA needs to improve the agricultural sector by intensifying and integrating agriculture with other sectors of the economy so as to curtail rural–urban migration rather than rely on restrictive migration and population policies.

2.0 Population and agriculture: Empirical evidence

Harris (2001) reports that global population growth rate decreased from 2% in 1960s to 1.4% in 2000. Despite this marginal decrease in population growth rate, the annual world population increase was still high. Based on population growth rates,
Nafzinger (2006) categorised the world into three major groups: Developed Countries (DCs), within which population grows at less than 0.8%; Newly Industrialised Countries (NICs), within which population grows between 0.8 and 1.8%; and Least Developed Countries (LDCs), within which population grows at 1.9% and above. Currently, estimates indicate that the world population is above 6 billion and LDCs including SSA constitute more than 80% of world population (Nafzinger, 2006). Projections reveal that by 2025 population growth rate in LDCs will have risen to 2.4% (Nafzinger, 2006).

What accelerates population growth rate in SSA includes high fertility rate and decreasing infant and under-five mortality, and so resulting into a big number of dependant children aged 0 to 14 years (URT, 2003). As stated elsewhere in this article, a small proportion of labour force in SSA supports too many dependants. This kind of population structure creates serious problems as resources such as food, health services, education and other social services have to be allocated to the young (dependants). By implication, this may negatively affect the amount of resources and budget allocated to the agricultural sector for the purpose of agricultural transformation.

More than 70% of the population in LDCs, Africa and SSA in particular, live in rural areas (Rooyen, 1997; Gabre-Madhin & Hagglade, 2001), and depend on agriculture for food and general livelihood. Those who live in urban areas also substantially depend on agricultural productivity for their survival. In some countries such as Tanzania, about 80% of the population in rural areas depend on agriculture (DTU, 2003). Following these observations, it is obvious that agriculture is a very important sector for improving the standard of living in SSA. However, agricultural growth, per capita food output and contribution of the sector to the Gross Domestic Product (GDP) in Sub-Saharan Africa have for many decades stagnated. For instance, for about three decades between 1960s and 1990s agricultural growth marginally increased by 0.1% (Cleaver, 1995). Further, Sautier et al. (2006) reported that the share of agriculture to GDP in SSA decreased from 38.1% in 1965 to 17.0% in 2005. Despite these decreasing trends, population growth was skyrocketing at about 3% per annum (Seckler, 1993; Cleaver, 1995) and by implication, increasing dependency ratio and many mouths to feed. For instance, in 1990s, estimates showed that about 786 million people in the world were hungry and the majority were found in Africa particularly in SSA (Rosset, 2000). This means that SSA needs to do a lot in terms of agricultural transformation through intensification, improved technologies, appropriate policy, structural/institutional arrangements and also creating a functional agricultural-industrial continuum so as to become food secure. Literature shows that one of the viable options in improving agricultural productivity and eliminating food shortage could be adoption of the Green Revolution technologies coupled with population policies that will in future work towards reducing the dependency ratio.

1 Developed Countries include: European countries, North America, Australia, New Zealand and Japan; Newly Industrialised Countries include: countries in East and South East Asia, Latin America, Argentina, Chile, China, Taiwan, South Korea, Thailand, Vietnam, Indonesia and Sri Lanka; and Least Developed Countries include: most of African Countries, Asia and Latin America (Nafzinger, 2006).
2.1 Agriculture and Green Revolution technologies

Improving food production through agriculture has been practised by the human population for many decades the world over. This effort culminated into what is called the Green Revolution during the 1950s and 1960s starting from the United States of America to Southwest Mexico and then spreading to Asia, Latin America and later on to some parts of Africa (Rosset, 2000). Green Revolution makes intensive use of high yielding varieties (HYV) such as improved seeds, fertilisers, pesticides and irrigation in order to increase production per unit area of food crops. The success stories have been reported in countries including China, India, Malaysia, Vietnam and Indonesia. By 1980s, countries such as India had become self-sufficient in food as well as net food export (Singh, 2000). Ironically, there are many people who are still hungry in India not because of little food but because of poverty; they are unable to purchase food which is readily available due to their poor purchasing power.

Arguably, the Chinese Green Revolution of the 1960s was probably the most effective in transforming agriculture as well as addressing the question of hunger to the rural poor than other parts of the world. China is currently able to feed her 1.3 billion people (URT, 2006a). This could be attributed partly to the fact that in line with the Green Revolution, China adopted broad-based changes in terms of land tenure systems. Communal land ownership became a strategy for transforming agriculture in China. This largely created a better environment for agricultural mechanisation.

Development practitioners are currently debating about the fact that Africa needs an alternative Green Revolution rather than adopting experiences from Asia and Latin America. The reason is that diversities exist between and within SSA countries based on poor infrastructure, immense size, and reliance on rain-fed agriculture (IDS, 2006). Other pertinent issues include lack of credit provision and fertiliser subsidisation to smallholder farmers. Further, smallholder farmers in SSA own very small pieces of land not efficient for mechanisation. Land grabbing by private investors is another serious concern regarding agricultural transformation, and it is likely to exacerbate the problem. It is cautioned that the Green Revolution alone, as it was practised in Asia and Latin America, will not transform agriculture in SSA, unless the approach is accompanied by many other cross-cutting interventions. Some of such interventions might include improving:

- access to land and purchasing power to the poor;
- access and adoption of agricultural technologies, addressing the question of high dependency ratio and poverty;
- partnerships among producers, suppliers, marketers, policy makers and farmers;
- access to markets and credit;
- access to new technologies including environmental sound technologies and natural resources management;
- empowerment to women because they provide most of the labour force in agriculture; and
- government budgets to agriculture to the tune of not less than 10% per annum (Rosset, 2000; IDS, 2006).
Smallholder farmers in Africa are affected by many factors compared to big farmers in developed countries. For example, during the harvesting period, farmers sell their produce at very low prices, but during food shortages they buy food at very high prices. This reflects poor commodity price and market arrangements in Africa (Goletti et al., 1995). Further, poor farmers in Africa cannot afford to buy enough fertilisers and other agricultural inputs in big volumes compared to farmers in developed countries who are subsidised by their governments. Water is also limited and the problem is likely to exacerbate given the impact of climate variability and change. African poor farmers cannot access irrigated agriculture; and agricultural credit though essential, is not readily available to the poor farmers in the sub-continent. As such, the adoption of agricultural technologies has for many decades stagnated compared to other regions in the world (Nindi, 1993; Seckler, 1993; Cleaver & Donovan, 1995; Singh & Hossain, 1995; Mwangi, 1995; Karshenas, 1999; Kherallah et al., 2000). Following these observations, in order to transform agriculture the Green Revolution in SSA should in the first place address economic as well as political issues regarding adoption and use of agricultural fertilisers. Of much importance, free-market policies on agriculture should be minimised or avoided through government intervention. Put differently, SSA governments should intervene by, among other things, subsidising farmers as developed countries do; and providing or improving access to agricultural credit as well as supporting farmers in terms of improving irrigation infrastructure. Data from Karshenas. 1999) indicate a significant decrease in fertiliser application from 1980s to about mid-1990s (Table 1 and 2). This can partly be explained by the agricultural reforms occurring in SSA over those specific decades, even though the situation modestly improved by 1997 (Kherallah et al., 2000).

Table 1: Adoption of agricultural technologies in SSA. 1965-1994

<table>
<thead>
<tr>
<th>Year</th>
<th>Mean fertiliser consumption (Kg/ha)</th>
<th>Change</th>
<th>Mean tractors in use (per 10,000 ha of arable land)</th>
<th>Change</th>
<th>% of irrigated land (mean)</th>
<th>Change in % of irrigated land</th>
</tr>
</thead>
<tbody>
<tr>
<td>1965</td>
<td>4.8</td>
<td>-</td>
<td>14.5</td>
<td>-</td>
<td>2.2</td>
<td>-</td>
</tr>
<tr>
<td>1980</td>
<td>12.9</td>
<td>8.1</td>
<td>19.9</td>
<td>5.4</td>
<td>3.8</td>
<td>1.6</td>
</tr>
<tr>
<td>1994</td>
<td>12.7</td>
<td>-0.2</td>
<td>22.3</td>
<td>2.4</td>
<td>4.6</td>
<td>1.2</td>
</tr>
</tbody>
</table>

Source: Karshenas, 1999.

The issue of fertiliser subsidisation to farmers is undeniably crucial in transforming agriculture in SSA, despite the fact that it has exceptionally been debated and discouraged. It is essential to emphasise fertiliser subsidies because about 83% of the arable land in Africa has poor soil fertility (IDS, 2006); and in addition, fertiliser use is extremely low compared to other parts in the world. Therefore, the idea is that subsidies would encourage fertiliser application by reducing costs to smallholder farmers, thereby increasing productivity per unit area of arable land. On the other hand, one of the arguments against the introduction of fertiliser subsidies in SSA is to discourage farmers from investing in marginal lands hoping that fertilisers could significantly improve soil productivity and hence improve crop production. Also, subsidies strain foreign exchange and government budgets, which may in turn lead to delayed and inadequate supplies (Goletti et al., 1995). Moreover, it is thought that
fertilisers can be expensive and therefore subsidies may distort local markets. Some strategies to increase fertiliser use in SSA is to subsidise its prices to farmers, secure market for the produce, as well as improve transport infrastructure to facilitate easier transport of fertilisers.

<table>
<thead>
<tr>
<th>Region</th>
<th>1980-81</th>
<th>1990-91</th>
<th>1996-97</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sub-Saharan Africa</td>
<td>8</td>
<td>10</td>
<td>9</td>
</tr>
<tr>
<td>Developed Countries</td>
<td>120</td>
<td>112</td>
<td>86</td>
</tr>
<tr>
<td>Developing Countries</td>
<td>57</td>
<td>89</td>
<td>107</td>
</tr>
<tr>
<td>Latin America &amp; Caribbean</td>
<td>64</td>
<td>63</td>
<td>71</td>
</tr>
<tr>
<td>World</td>
<td>88</td>
<td>100</td>
<td>98</td>
</tr>
<tr>
<td>East &amp; Southeast Asia</td>
<td>121</td>
<td>179</td>
<td>238</td>
</tr>
<tr>
<td>South Asia</td>
<td>37</td>
<td>80</td>
<td>93</td>
</tr>
</tbody>
</table>

Source: Kherallah et al., 2000.

2.2 Green Revolution and environmental degradation
Improving agricultural production through a Green Revolution requires concerted use of high yield crop varieties (HYV) through adoption of appropriate technologies. These often require heavy irrigation and agrochemical inputs such as fertiliser, pesticides, and herbicides. HYV respond positively to chemical fertiliser than traditional varieties. The heavy use of agrochemicals in countries that have undergone a Green Revolution have often resulted into soil degradation (Singh, 2000) and loss of biodiversity (IDS, 2006). After prolonged use of agrochemicals, the soil loses its productive capacity eventually resulting to declining harvests. The implication of this is that a Green Revolution may be only a temporary measure to feed the ever increasing African population, but in the long-run, agricultural productivity may be decreasing following soil degradation. It would be sustainable only if the question of environmental management becomes an integral part of the entire approach from the early conception of the agricultural revolution. This situation has been reported in some countries including China, Philippines, India, North Korea, Indonesia, Thailand, Pakistan, Sri Lanka and Myanmar (Marquette, 1997; Singh, 2000). Put differently, one would be sceptical to vouch for the Green Revolution as a panacea to address food shortage in the world and sub-Saharan Africa (SSA) in particular. Given the need for adoption of a Green Revolution in SSA the challenge then should be the adoption of appropriate technologies that do not compromise the integrity of the environment.

The solution to environmental problems emanating from the Green Revolution technologies may lie on two trajectories: internalising the anti-Malthusians theoretical arguments, and deliberate efforts by governments and other stakeholders to adopt sustainable agriculture which already has increased yield in industrialised countries. Sustainable agriculture is any system of agricultural production that systematically incorporates natural processes, reduces the use of agrochemicals that are potential for

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2 Natural processes include: nutrient recycling, nitrogen fixation and pest-predator relationship (Petty, 1995).
environmental damage, increases use of biological and genetic technologies, and also
stresses the use of local knowledge and practices in agriculture (Petty, 1995). Based on
the anti-Malthusian theory, environmental degradation emanating from intensive
application of agrochemicals may prompt farmers to adopt anti-environmental
degradation technologies. In addition, governments must intervene by putting in
place appropriate interventions that would emphasise organic farming for sustainable
agriculture. According to Mwangi (1995) and Ching (2009), a combination of Green
Revolution and sustainable agriculture can enhance food production in SSA, provided
policies and institutional frameworks are in place to address environmental and soil
degradation that might originate from intensive use of the Green Revolution
technologies. While improving food production, sustainable agriculture can also help
to reduce emission of Greenhouse Gases from agriculture, estimated to account for
30% of entire global emission leading to climate change (Ching, 2009). Sustainable
agriculture can therefore mitigate climate change through carbon sequestration as well
as increasing organic matter content in the soils. It is argued here that to ensure
environmental sound technologies, the African Green Revolution should integrate and
make use of good practices of sustainable agriculture.

3.0 Agriculture and the green revolution in Tanzania
Tanzania’s agriculture like other sub-Saharan African countries is still on a subsistence
level (Mattee, 1994; Deng et al., 1995). This is characterised by smallholder farmers
who occupy about 85% of the arable land in the country and account for about 75%
of food production, while using traditional farming practices (Mattee, 1994). Smallholder
farmers in Tanzania cultivate not more than 2 hectares. Agricultural
production and its share to the GDP have been decreasing over the years (Table 3).
For about a decade (from 1996 to 2006), the share of agriculture to the GDP in
Tanzania decreased by 2.3% (URT, 2005; 2006b). This suggests that agricultural
transformation is truly relevant in the country and should focus on smallholder
farmers who are the main producers through, among other things, improving
agricultural husbandry with the aim of increasing agricultural productivity as well as
improving output per capita.

<table>
<thead>
<tr>
<th>Year</th>
<th>Contribution to GDP (%)</th>
<th>Change in GDP contribution over time (%)</th>
<th>Agricultural growth rate (%)</th>
<th>Change in agricultural growth (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>46.3</td>
<td>-0.7</td>
<td>5.8</td>
<td>-0.6</td>
</tr>
<tr>
<td>2005</td>
<td>45.6</td>
<td>-0.7</td>
<td>5.2</td>
<td>-1.1</td>
</tr>
<tr>
<td>2006</td>
<td>44.7</td>
<td>-0.9</td>
<td>4.1</td>
<td>-1.1</td>
</tr>
<tr>
<td>2007</td>
<td>25.8</td>
<td>-18.9</td>
<td>4.0</td>
<td>-0.1</td>
</tr>
<tr>
<td>2008</td>
<td>24.0</td>
<td>-1.8</td>
<td>NA</td>
<td>NA</td>
</tr>
</tbody>
</table>


3 These are gases which cause global warming. Some of the Greenhouse Gases include carbon dioxide, nitrous
oxide, and methane (Ching, 2009).
For many years, agriculture has been perceived to be the backbone of Tanzania’s economy; nevertheless, this perception has remained just rhetoric as the agricultural sector has remained stagnant. The challenge facing Tanzania is how to ensure that the country is self-sufficient in terms of food production (DSI, 2008). Cognisant of this, the government has been striving to transform agriculture in order to ensure that it is supporting the growing population. Among the actions taken by the government include promulgation of the sector specific policies and programmes anchored on agricultural transformation, e.g. the 1972 Iringa Declaration of Siasa ni Kilimo; Kilimo Cha Kufa na Kupona; Arusha Declaration of 1967; Tanzania Development Vision 2025; Agricultural Sector Development Programme (ASDP);4 and the very current one Kilimo Kwanza (DSI, 2008; TNBC, 2009).

With the exception of Kilimo Kwanza which was launched in 2009, the other programmes mentioned have not yet been able to transform and improve the agricultural sector as expected. This is a serious problem given that Tanzania’s population has continued to grow at a rate of 2.9% (URT, 2006a) per annum, exerting great demand on improved agricultural and food production. In 2006, the United Republic of Tanzania reported that Tanzania’s population growth had increased by 28.8 million people over the period of about 57 years since 1948. This suggests that Tanzania’s population is one of the fastest growing populations in the world and that it would double in approximately 25 years from 36.3 million in 2005. A considerable increase in the population was noted between 1988 and 2002 when agricultural production had substantially stagnated (Table 4 and Fig. 1). The notable increase in the population could partly be explained by some improvements in the health sector followed by decreasing trends in mortality especially of infants and children.

**Table 4: Population trend in Tanzania (1948-2010)**

<table>
<thead>
<tr>
<th>Period</th>
<th>Population (in millions)</th>
<th>Change of the population (in millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1948</td>
<td>7.5</td>
<td></td>
</tr>
<tr>
<td>1957</td>
<td>9.1</td>
<td>1.6</td>
</tr>
<tr>
<td>1967</td>
<td>12.0</td>
<td>2.9</td>
</tr>
<tr>
<td>1978</td>
<td>17.0</td>
<td>5.0</td>
</tr>
<tr>
<td>1988</td>
<td>22.5</td>
<td>5.5</td>
</tr>
<tr>
<td>2002</td>
<td>33.5</td>
<td>11.0</td>
</tr>
<tr>
<td>2005</td>
<td>36.3</td>
<td>2.8</td>
</tr>
<tr>
<td>2010</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: URT, 2006a.

Data from Mattee’s (1994) study and (TNBC, 2009) revealed that for more than two decades since 1986, production of major food crops in the country has not been

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4ASDP has many priorities all of them aiming at Tanzania’s agricultural transformation, they include: irrigation and water management, livestock development, animal health; better land husbandry, crop production and protection, mechanisation, storage and post-harvest, agro-processing, community empowerment, client-oriented research, animal and plant multiplication, market development and infrastructure, research, extension and advisory services to farmers, training and education and marketing and rural finance (TNBC, 2009).
smooth and that it has only marginally improved (Fig 1). Of recent, cereals have been above non-cereal crops production per annum. Even if cereal crops production has been above that of non-cereal crops, patterns have not been uniform as they have oscillated up and down. Wobst and Mhamba (2003) as well as Morrissey and Leyaro (2007) add that such periods of poor agricultural performance were also characterised by increasing poverty especially in rural areas where the livelihood of the people mainly depends on agriculture.

Low agricultural production and poor performance of the agricultural sector in the country could partly be attributed to a number of issues apart from drought. First, like in SSA, new agricultural technologies and/or innovations have not significantly been adopted by the farmers and so subsistence agriculture remains traditional (Mattee, 1994). For instance, fertiliser use per hectare of arable land is very low in Tanzania compared to other countries in Africa and the world at large (Fig. 2). Part of the reason may include poor rural infrastructure and high price of fertilisers. In addition, only 1% out of 44 million hectares of arable land in the country is under irrigation, compared to 2.8% of the cultivated land in Africa which is under irrigated agriculture (Deng et al., 1995; TNBC, 2009). These figures suggest that adoption of agricultural innovations and technologies is very low in Tanzania and this could probably be one of the reasons for the poor agricultural performance in the country.

Taking a close look at Figure 1, one notes that between 2003/04 and 2007/08 major food crops production in the country rose a little bit. Such an increase could partly be attributed to the decision by the government to subsidise smallholder farmers by using

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5 Cereals are crops that produce grain, they include in this analysis: maize, millet, rice and sorghum. Non-cereals on the other hand included in this analysis are those crops which do not produce grain, e.g. cassava, bananas, potatoes and pulses (TNBC, 2009).
a Voucher System in the rural areas (IDS, 2006; DSI, 2008). Despite the fact that the government had re-introduced subsidies to the smallholder farmers, it was still not well established whether both farmers and crop transporters needed to be subsidised. The sources of funds as well as the processes to subsidise agriculture were also still unclear besides the challenges of the free market forces (DSI, 2008).

Mattee (1994) admits that the factors influencing adoption of new agricultural innovations are numerous but for clarity, they could be classified into five distinct categories. These include:

- individual farmer characteristics such as age, education and income;
- innovation or technology characteristics such as cost, complexity and suitability;
- institutional characteristics such as quantity and quality of research, extension services, availability of credit and input supply agencies;
- environmental characteristics such as soil type, rainfall patterns and topography; and
- policy characteristics such as income and trade and land tenure policies.

In most of sub-Saharan African countries particularly Tanzania, researchers have not paid adequate attention on farmers’ characteristics; so is on policy characteristics. This means that little is known about farmers’ characteristics, as well as policy considerations that influence adoption of innovations. On the other hand, expensive innovations are normally poorly adopted by farmers. Further, Mattee stresses that farmers who have access to extension services may adopt innovations quicker than those who have no access. However, findings indicated no difference between the two in Tanzania by 1990s. Environmental characteristics on the other hand, are necessary for adoption of innovations in agriculture.

The second reason for poor agricultural performance is that from 1980s, Tanzania adopted market-oriented policies under the dictates of the Bretton Woods institutions as a way of addressing the lingering economic crisis. Unlike during the Ujamaa era, that is between 1967 and the first half of 1980s, agriculture was left to the vagaries of the free market forces starting after mid 1980s. This means that the Government of Tanzania could no longer provide to the smallholder farmers adequate agricultural extension services and farm implements. Agricultural subsidies, mostly in terms of agricultural inputs on credit basis were cut off; and facilitation of diffusion of agricultural technologies to the smallholder farmers was also remarkably reduced. These collectively might have contributed to the lowering of agricultural production patterns in the country.

Wobst and Mhamba (2003) argued that in order to improve and totally transform the agricultural sector in Tanzania, the focus should be on lowering the prices of farm inputs; increasing productivity through enhanced access to new agricultural technologies and innovations as well as increasing agricultural mechanisation that maximises labour productivity without forgetting the question of agricultural marketing and infrastructure development. In short, the study by Wobst and Mhamba...
(2003) emphasises government intervention with regard to policy, and structural and institutional arrangements in the agricultural sector, to alleviate the challenges of the free-market economy forces in agricultural development. The challenge however, would still be on the small size of land owned by smallholder farmers in the country which would be unsuitable for agricultural mechanisation.

Moreover, given the lower usage of fertilisers in Tanzania, which stands at nine kilogrammes per hectare of arable land, and which is lowest compared to other LDCs and sub-Saharan Africa, Tanzania cannot expect miracles in terms of improved agricultural productivity (See Figure 2).

![Bar chart showing fertiliser use per hectare of arable land in Tanzania compared to other countries](image)

**Figure 2: Fertiliser use per hectare of arable land in Tanzania compared to other countries**

*Source: TNBC, 2009.*

In addition to adoption of agricultural technologies, improved markets and other infrastructure, Tanzania’s agricultural transformation would also depend on providing access to land to the rural people by specifically bestowing to individuals clearly defined property rights to land. Other relevant issues to be considered in successful agricultural transformation would be enhancing backward and forward linkages, and improving water and energy, research and training, effective institutional leadership and investment environment (DSI, 2008; TNBC, 2009). As stated earlier, a successful Tanzanian Green Revolution will also depend on integrating intensive agricultural technologies in a way that ensures agricultural sustainability by addressing pertinent environmental concerns.
4.0 Conclusion and policy implications

From the discussion, it is evident that agricultural productivity in sub-Saharan Africa is on the decline. Secondly, the dependence ratio is increasing in the region demanding increased food production to cater for the bigger dependent age group and also for supporting a broad-based growth. Further, it is noted that agriculture is not receiving considerable inputs to revamp it. As such, there is food shortage both at micro and macro levels prompting governments to import food to curtail the deficit. Negative externalities due to food shortage are multifaceted, but one that relates to the discussion in this article is the increase in rural to urban migration as agriculture can no longer hold back people especially the youth in the rural areas. However, despite these unimpressive trends, the article argues that population growth \textit{per se} is not a serious problem as regards agricultural productivity and transformation. The culprit seems to be the high dependence ratio due to the large number of very young and also the rural-to-urban exodus of the working labour force. Based on the large dependence ratio, the labour force in the traditional rural sector in SSA is relatively smaller compared to available dependents at any one time. This implies that the smaller labour force available needs to toil not only to feed the bigger proportion of the young population but also to contribute to the GDP and country’s development in general.

Another effect of the rural-to-urban migration which is increasingly becoming one of the pressing concerns in sub-Saharan Africa (SSA) is its contribution to accelerating urbanisation, coupled with rising unemployment in urban areas.

From these observations, population policies in SSA need to focus at solving two critical problems with regard to population dynamics. First, policy makers should focus at the challenges posed by the pyramidal population structure that is prevalent in sub-Saharan Africa. In other words, SSA needs to devise polices that will in the near future tend to reduce the current dependence ratio. This could contribute towards minimising frequent food problems in the region and as a result improve social economic development, though this alone cannot solve the food crisis. The second policy intervention should deal with the rural-to-urban migration by ensuring that the traditional rural sector is becoming a better place to work in by improving infrastructure for example roads and other social services, but much more important initiating agricultural intensification and transformation.

Further, we are of the opinion that a Green Revolution alone will not transform agriculture in SSA unless it is government-supported in terms of policy, structural and institutional frameworks. Put differently, importing and using the experiences of the Asian Green Revolution \textit{per se} would not transform agriculture in SSA. What is required is drawing experience from the Asian Green Revolution especially the technologies that were used; adopting or internalising the most appropriate experiences and technologies suitable for SSA; and bringing in new ideas to improve the African Green Revolution. The reason is that SSA is in a different context altogether and a lot of variations exist within and between countries in terms of policy, structural and institutional arrangements deemed fundamental for enhancing agricultural transformation. Thus, comprehensive research needs to be conducted to investigate appropriate agricultural technologies suitable for SSA between and within countries. Drought and floods are also increasingly becoming incidences of concern in
SSA, negatively affecting agricultural productivity. Transforming agriculture in the sub-continent therefore needs to consider among other things, mitigation of climate change impacts. In addition to agricultural technologies and infrastructure improvement, policy interventions should also focus on the following: access to land; clearly defined property rights and ownership of land; subsidised farmers in terms of fertilisers; improved irrigation; contract farming; and provision of agricultural credit to smallholder farmers.

It is imperative that the sector should be considered together with other sectors of the economy, such as the industrial sector. Forward and backward linkages and vibrant markets are highly needed to ensure that what is produced by the traditional rural sector is processed to increase its value. Most important is the partnership between producers, buyers and processors. Prices to smallholder farmers can be improved by offering subsidies, contract farming as well as improving transport infrastructure to minimise transport costs. All in all, research and training for better agricultural practices, coupled with extension services need to be in place and/or strengthened. Partnership should also be established between research institutions, industrial sector, farmers and extension services in such a way that what farmers need in terms of technology is what is researched and produced by the industrial sector. The same should be advocated and its diffusion facilitated by the government through extension services. Lastly, the role of the private sector in transforming agriculture in SSA should be thoroughly studied to avoid negative consequences.

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Agricultural Transformation and Population Nexus


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Assessment of Tourism Associated Activities 
For Rural Livelihood Transformation

Nolasco I. Mkinga* 

Abstract
Tourism associated activities can be the best option for the transformation of rural people's livelihood, that is a shift from dependence on traditional livelihood activities such as farming, fishing, livestock keeping and others, to tourism associated ones such as direct and indirect employment in tourism enterprises. This article discusses the extent of operation of the tourism associated livelihood activities for the communities living adjacent to national parks and constraints underpinning performance of the tourism associated activities. The findings of the study show the activities are constrained by government policies, lack of capabilities, skills and financial capital and education to mention but a few. The article ends up with recommendations for different stakeholders.

1.0 Introduction
When we talk about tourism associated livelihood activities we mean those activities that local people engage in, which stem from the visit of tourists and their activities in the area. Such tourists then create demand for goods such as food; recreational activities such as cultural events and traditional dances; and souvenirs such as wood carvings, beads, cloth, and other locally supplied products. They also participate in local social as well as economic activities.

According to Ashley, Boy and Goodwin (2000), tourism is generally an additional diversification option for the poor, not a substitute for their core activities. Tourism can generate funds for investment in health, education and other assets. It can provide infrastructure, stimulate development of social capital, strengthen sustainable management of natural resources and create a demand for improved assets (especially education). Ashley and Eliot (2003) categorise the gains from tourism as ‘financial’, ‘social’, and 'empowerment'.

Financially, the poor may earn cash from waged jobs, sales of goods and services, shares of collective community incomes, while on social livelihood the community might have improved access to infrastructure, communication, water supply, health,

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and security services. Empowerment gains would include opportunities for institutional development and participation in local economic decision making (Ashley & Eliot, 2003).

2.0 Conceptual issues

2.1 The concept of tourism

For the purposes of this article, tourism refers to those industries that provide accommodation, transportation and other services (for example sale of souvenirs and other goods, restaurants, guided tours and tourists camps) for visitors who come from outside the destination for a period of more than 24 hours and less than one year (WTO, 2000). The visitors are commonly known as tourists. WTO elaborates that the motivation for domestic tourist travel might include:

- leisure, recreation and holidays;
- visiting friends and relatives;
- business and professional engagements;
- health treatment;
- religion/pilgrimages; and others (Ghimire, 1997).

2.2 The concept of livelihood

A livelihood in this article is defined as human capabilities comprising the capabilities, assets (including both material and social resources) and activities as required for a means of living (DFID, 1999). Tourism can complement other livelihood activities in a number of ways. Development of transport, markets and other infrastructure can boost other productive activities and achieve economies of scale. Skills earned through tourism can be transferred to other industries. If tourism supports local conservation, this in turn can help sustain other aspects of livelihood that depend on the natural resources base (Brandon, 1993).

2.3 Rural livelihood diversification

Ellis (1997) defined livelihood diversification as “the process by which rural families construct a diverse portfolio of activities and social support capabilities in their struggle for survival and in order to improve their standards of living”. Such diversification can have many advantages and tourism can become a means to enable accumulation (e.g. income) for consumption and investment; a means to help spread risk; an adaptive response to longer-term declines in income entitlements, due to serious economic or environmental changes beyond local control; and/or a means to take pressure off fragile lands and increase household incomes for purchase of additional food or payment of school fees. The last advantage features a non-farm livelihood pattern using human (i.e. labour) and economic (i.e. employment related to tourism) assets as a means to improve further the financial/economic asset base (i.e. income, savings, investment) as well as other dimensions of the existing stock of human assets (i.e. health, education) (Hussein & Nelson, 1998; UNDP & Wanmali, 1999). Rural livelihood diversification can be defined as the process by which rural households construct an increasingly diverse portfolio of activities and assets in order to survive and to improve their standard of living (Ellis, 2000).
In order to diversify risk and exploit available opportunities rural people combine on-farm income sources such as crop cultivation and livestock keeping on the one hand and off-farm income sources such as jobs in which local people are employed in cleaning and cooking in hotels and lodges, and self-employment such as tourism guiding, supplying goods such as building materials, food, and tourism enterprises both community and privately owned, on the other.

2.4 Tourism associated livelihood activities

The creation of employment opportunities in remote areas is one of the key indicators of how successful tourism can be in promoting rural livelihood. For example, eco-tourism has increased employment figures in various villages in different parts of Botswana. According to Schuster (2007), in 2006, 8000 local people were employed in a wide range of eco-tourism projects and activities in Botswana (Table 1).

<table>
<thead>
<tr>
<th>Activity</th>
<th>Employment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trophy hunting</td>
<td>560</td>
</tr>
<tr>
<td>Photographic and cultural tourism</td>
<td>420</td>
</tr>
<tr>
<td>Veld production (e.g. baskets selling)</td>
<td>3100+</td>
</tr>
<tr>
<td>Craft e.g. wood curving</td>
<td>4000+</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>8800+</strong></td>
</tr>
</tbody>
</table>


In Botswana, these eco-tourism projects are carried out in remote parts of the country where there are no industrial or manufacturing sectors to create employment for local people. Therefore, eco-tourism can be described as one of the tools to diversify rural people’s livelihood.

Another study conducted by Spier Leisure in the Western Province of the Republic of South Africa shows that poor people earn income from direct participation in tourism as hotel workers, guides, craft sellers, or transport operators. They also earn indirectly through the supply chain by selling the goods and services that the tourism sector needs. The key supply chain sector deals with food, beverages, construction, furnishing and a range of services such as gardening, floristry and laundry.

Poor people may operate as micro-entrepreneurs selling directly to hotels, restaurants, and operators or they may have unskilled jobs in larger companies, in supply sectors. What is more, there may be scope to increase income of the poor (or pro-poor incomes) from supply chains. For example, women living in coastal communities in Kwa Zulu Natal in the Republic of South Africa have traditionally sold functional items for the household, such as baskets, plaited rope and sleeping mats woven from grass, to domestic and international tourists visiting the area. The money earned adds to their average daily income (Keyser, 2003).
Likewise, the White Paper published in 1996 to promote tourism in South Africa has had remarkable contribution to laying strategies for improving the livelihood of the poor marginalised and previously neglected groups in the tourism industry in South Africa. This was done through establishing partnership ventures with communities, outsourcing, and purchasing goods and services from communities (e.g. poultry, herbs, vegetables, and other agricultural supplies, entertainment, laundry services etc. To ensure greater empowerment, the White Paper continuously upgrades the skills of the work force in tourism by continuously providing training and retraining (DEAT, 1996).

2.5 Women empowerment
Stormsriver Adventure (SRA) assisted local women to establish an independent catering company to supply all meals for guests. This involved intensive input from SRA at first, in terms of training, mentoring, purchasing equipment, acquiring premises and putting in place efficient administration. Examples such as these illustrate that a tourism company, large or small, can invest in stimulating small local suppliers, and this does not need up-front commitment and investment (DTI, 2007).

3.0 Constraints underpinning tourism livelihood activities
3.1 Inadequate education, skills and financial capabilities
Studies done in Northern Peru show that local communities are faced by numerous constraints as they pursue tourism livelihood activities. These constraints include lack of financial and/or physical assets, and shortage of entrepreneurial skills, which have made them unable to perceive themselves as having products to offer to tourists. Rural communities such as Kuelap are often lacking skills related to tourism such as access to tourism markets and capital for development of tourism-related enterprises (Chafe, 2004).

Likewise, studies done in rural communities in Botswana found that local people engaged in eco-tourism face problems in undertaking their livelihood activities because education among these indigenous population is low and the ability to communicate in English, French, German, Spanish or any other foreign language is low or non-existent. Similarly, limited skills in marketing means lack of the necessary negotiating business skills on eco-tourism development and joint-venture partnership (Mbaiwa, 2007).

In Madagascar, training and education in eco-tourism matters are non-existent, although the country aspires to become a leader in eco-tourism. Madagascar lacks a proper system for education and training; as a result, the country has a large number of unqualified people working in the tourism industry, which is preventing it from attaining international standards and professionalism (Spenceley, 2008). The major problem is that there has been no decentralisation of eco-tourism education and training to the different Malagasy districts; and currently, most of the activities and schools are located in the capital. For most of the students, the cost of education and living in the capital or abroad is too high (Spenceley, 2008).
3.2 Poor infrastructure

Studies also show that transport is a problem to tourists and local communities. The longer the time spent by tourists in the area, the greater the contact with local communities and the greater the opportunity for sales of services such as food and lodging; but also the increase in interest and knowledge of local culture, the greater the chance of sales of products which represent the local lifestyle. Current access to Machu Picchu – the only option for public transport – has greatly reduced the time spent by tourists in the area and hence reduced the pro-poor nature of local development.

According to Stiglitz (1998) the livelihood of the local people of Mozambique and economies like other parts of Africa are negatively affected by structural problems such as poor roads that make it difficult for tourists to access many local communities. Lack of transportation for communities and the poor state of the road system means that local economies are restricted in terms of mobility of tourists but also transfer of knowledge and skills between communities.

4.0 Tourism and associated activities

Most of the people of Mkange, Matipwili and Gongo villages are engaged in crop cultivation and some livestock keeping. However, they have very little access to tourist markets for their crops because there are no tourism facilities such as hotels or lodges in these villages. Matipwili on the other hand is close to Kisampa Bush Retreat Campsite, where local people sell their farm products such as vegetables and livestock including chicken and goats. Matipwili local people have also access to the Saadani Safari Lodge market which is located inside the park in Saadani village. Matipwili can access this market because Saadani villagers do not produce vegetables and other crops because the soil is too saline to support crops, the people do not have enough land for cultivation compared to other villages which are outside the park, and lastly, the village is infested by destructive wild animals such as warthogs, chimpanzees and others which destroy the crops as they roam freely in the village. Table 2 summarises the activities that are associated with tourism.

<table>
<thead>
<tr>
<th>Activities</th>
<th>Saadani</th>
<th>Matipwili</th>
<th>Mkange</th>
<th>Gongo</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crop cultivation</td>
<td>0</td>
<td>0</td>
<td>20</td>
<td>15</td>
</tr>
<tr>
<td>Art and Craft</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Trading</td>
<td>15</td>
<td>38.5</td>
<td>8</td>
<td>27</td>
</tr>
<tr>
<td>Tourism guiding</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Tourism enterprises</td>
<td>5</td>
<td>12.8</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Fishing</td>
<td>19</td>
<td>48.7</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>39</strong></td>
<td><strong>100</strong></td>
<td><strong>30</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Source: Survey data, 2011.

In the area, 91% of the income earned from the farming activities is used for buying clothes, food stuffs, and for meeting other social needs. Eight percent of the people's
Nolasco I. Mkminga

income is spent on education for their children and for purchasing farm implements. Most of the farm products are sold in other parts of Tanzania such as Dar es Salaam, Arusha, Zanzibar and Bagamoyo. For example, the major cash crop in Gongo village is pineapples, which are sold in Arusha, Dar es Salaam and Bagamoyo. Matipwili has accessibility to both Saadani Safari Lodge and Kisampa hotel where they sell their farm products – vegetables and livestock products. The three villages of Gongo, Mkange and Matipwili are able to engage in farming because their villages lie outside the park and so there are boundaries set between the National Park and village land. This has helped the villages to have relatively enough farming land; however, the land for cultivation is continuously being squeezed by the National Park authority which resets boundaries without involving the villagers or village leaders.

Although crop cultivation is the dominant livelihood activity for Mkange, Matipwili and Gongo villages, villagers get poor yields from their farming because they cannot afford modern farm inputs, and the government programme of providing the farmers with subsidised farm inputs such as better seeds, fertiliser and insecticides has not reached their villages. They also fail to improve their farming activities because they do not get assistance from the village extension officers. This situation of uncertainty obviously threatens the livelihood of the villagers. The sections that follow elaborate on some of the activities that are associated with tourism.

4.1 Fishing

Fishing is the main occupation of Saadani villagers. About 48.7% of the male-headed households engage in fishing. Their major market includes local people, Zanzibar and neighbouring villages of Gongo, Matipwili and Mkange. Sometimes fish is transported by vendors as far as Bagamoyo and Dar es Salaam.

Very few fish is therefore sold to tourist hotels because there are too few tourist hotels or lodges in the park to absorb fish products. Inside the Saadani National Park there is only one lodge (Saadani Safari Lodge). There are also some fishing activities in Wami River by Matipwili residents and the fish is sold in the local market. Considering that fishing is the main livelihood activity for the local people in Saadani village, it is surprising however that only 47% (as pointed out earlier) of the people engage in fishing activities; and all of these are men. This number is so low probably because fishing gear has to be borrowed, as this equipment is usually very expensive. Women on the other hand do not engage in fishing because, as they claimed, the hassle associated with this activity does not match the benefits that accrue from it.

Expansion of fishing activities by the villagers of Saadani and Matipwili is difficult because they lack modern fishing skills. Once, Saadani villagers were given modern fishing equipment by MANTEP to enable them engage in deep water fishing; however, they failed to use the equipment. There are fewer fishermen in Matipwili than Saadani because most people in the former are engaged in crop cultivation and the two activities do not have trade-offs in the use of time.
4.2 Trading
In the four villages, trading activities which are undertaken include running shops and guest houses, and selling fried fish, food and vegetables. It was also found that they used their income on their children’s education, expansion of business, and for other household requirements.

The level of trading practised in Matipwili, Mkange and Gongo villages is not significant (27%, 25% and 23.1%, respectively) compared to Saadani because most of the people in these villages spend most of their time in crop cultivation which is mostly for subsistence, while Saadani villagers do not have land for crop cultivation, as a result trading becomes important for them. Most of the people (75% of the villagers) fail to give their children enough money for school because the income they receive from trading is meagre and others do not have financial capital to establish businesses. As a result, they do not have the day-to-day income to spend on the education of their children and other requirements. Only nine (10%) of the villagers have access to the tourist market and sell their products to tourist lodges such as Saadani Safari Lodge which is inside the park and Kisampa Bush Retreat Camp which is near Matipwili Village.

4.3 Tour guiding
The local people in the area do not engage in tour guiding largely because they do not speak any foreign language except perhaps a few young men who speak a bit of English and French and guide tourists in the Amani Natural Reserve, in the Usambara Catchment Forest Project in Tanga and other attractions. The young men who are able to do this, get quite a bit of income. They also guide both domestic and international tourists around the attractions, including areas such as Mto wa Mbu, at Manyara National Park in Manyara, and Bagamoyo historical places. Although the National Park Authority (Tourism Department) has been willing to offer free English lessons, the people have not come forward to grab this rare opportunity.

4.4 Tourism enterprises
Tourism enterprises exist only in Saadani though not at a significant scale (38.8%). The tourism enterprises are guest houses, tourist campsites and food vending. However, the guest houses are of poor quality and security is not guaranteed. The only reason they get customers is perhaps because the rental charges are low. There are neither big tourism enterprises that are run by local people for example transportation of tourists, local car rental companies and modern entertainment facilities.

Moreover, Saadani is the origin of coastal slave trade, and tombs of the German soldiers who fought in World War II are also found in the village. TANAPA offices which house a tourist desk are also situated in the village; these attract both domestic and international tourists who pay a visit to get different information about the tombs, the war, slavery etc. There is only one lodge situated in the park – the Saadani Safari Lodge. Tourists spend their nights in this lodge and the village gets income from such visitors.
Local people in Mlola village are different from local people in Saadani National Park because the former are more active and use the reserve in transforming their livelihood through tourism activities such as direct employment, and establishment of both community and privately owned enterprises. They also engage in projects like bee-keeping, fishing and butterfly-keeping.

4.5 Art and craft
Local communities living in and around the Saadani National Park do not engage in art and craft. First, the local people do not know that these activities can bring a lot of income for them. Second, the local people do not have entrepreneurial skills to anticipate tourists’ needs. Lastly, they do not have materials for making local handcraft items.

4.6 Direct employment
Only about 31 (2.1%) people from the two villages of Saadani and Matipwili are directly employed in tourist lodges and most of them are employed temporarily for doing menial jobs such as digging trenches or/and construction work. The Saadani Safari Lodge employs a total of 41 workers including both permanent and temporary workers, some of whom come from outside this area. Saadani village has a population of about 1,832 people; so the 41 employees make only 2% of the total population. Matipwili village is closer to Kisampa Retreat campsite which employs 30 workers including permanent and temporary employees. Like in Saadani, most of the local people are employed in menial jobs, although this campsite provides some training to the local people. The number of young men who are employed by the campsite is modest.

There are many factors that prevent these people from transforming their livelihood activities. A few of them will be described here, and the rest will be explained in more detail later. There are four basic problems: First, local people in this area do not have adequate skills to grab the opportunities brought about by tourism; secondly, establishing tourism enterprises needs both skills (entrepreneurial) and financial accessibility, which people don’t have; thirdly, there is a very strong influence of culture in which most of the coastal people naturally resist change; and lastly, the people are constrained by the government policies, particularly those on wildlife conservation, which have been very stringent to communities adjacent to Saadani National Park. Most villagers complain that they do not have raw materials for making handcraft items such as mats, baskets and others because if they are found collecting the raw materials in the bush, they are either beaten or have their tools confiscated.

A study conducted by Spier Leisure in Western Province of the Republic of South Africa showed that poor people earned incomes from direct participation in tourism as hotel workers, guides, craft sellers, or transport operators. They also earned money indirectly through the supply chain by selling goods such as food and beverages; and services such as construction, furnishing, gardening, floristry, and laundry (Mitchel & Ashley, 2007).

The Kisampa Bush Retreat Campsite is located in Kisampa village near the Matipwili village. This campsite is different from Saadani Safari Lodge in some ways because it offers training to local people and then employs them. With this programme available,
the camp has managed to employ 30 full time staff in various positions such as house keepers, waiters and gardeners. Mkange and Gongo villages are located outside the park and due to absence of tourist hotels there is no direct employment for the local people in those villages. The indirect employment available in the villages of Mkange and Gongo, as previously hinted, are crop cultivation, livestock keeping and trading which are being undertaken at small scale. The link of this indirect employment with Saadani Safari Lodge and Kisampa Retreat Campsite in terms of supply of goods to the hotels is not substantial due to the fact that the tourist hotels are unable to absorb all the goods; instead, adjacent villages grab the opportunity. There are numerous reasons why there is little linkage between what the local people produce, and demand from tourists and tourist hotels, as Lundgren (1974) explains:

Tourists prefer the type and taste of food consumed in their home countries, but hotel entrepreneurs are not fully aware of the type, quality and quantity of locally available food; and local farmers do not want to change their traditional crop production to suit the market (Lundgren, 1974 cited in Spencley, 2008).

Gongo, which is a sub-village of Matipwili, has a population of about 1,700 people. In this village during this study, a hotel called Misenyi was under construction and employed about 20 young men in menial jobs. Table 3 shows the number of people employed from the four villages.

Table 3: Direct employment in Saadani National Park (N=90)

<table>
<thead>
<tr>
<th>Name of village</th>
<th>Population</th>
<th>Directly employed</th>
<th>Percentages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Saadani</td>
<td>1832</td>
<td>21</td>
<td>1.1</td>
</tr>
<tr>
<td>Matipwili</td>
<td>2769</td>
<td>30</td>
<td>1</td>
</tr>
<tr>
<td>Gongo</td>
<td>1700</td>
<td>20(temporary)</td>
<td>1.2</td>
</tr>
<tr>
<td>Mkange</td>
<td>1500</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>7801</strong></td>
<td><strong>71</strong></td>
<td><strong>3.3</strong></td>
</tr>
</tbody>
</table>

Source: Survey data, 2011.

For Gongo and Mkange villages, tourism has very little or no contribution in offering direct employment to the villagers despite the fact that 64(71.1%) of the villagers are fully aware that tourism is important for them because they could get employment, sell different products, and have their social services improved. As in the other villages, they cannot get direct employment because they lack the required skills needed in the lodges, campsites and the National Park. They also lack entrepreneurial skills and financial capital necessary to establish tourism associated enterprises such as transport facilities, e.g. car rental companies, travel agencies, information centres, and tour guiding services.

5.0 Constraints hindering committees from benefiting from tourism

5.1 Ineffectiveness of tourism policies implementation

The Government of Tanzania explains through its tourism policy the importance of tourism for rural development and employment in the rural areas. Tourism in places where there are attractions such as the Saadani National Park and its inherent cultural and historical riches can often form an important option for local people to transform
their livelihood and indeed can offer more opportunities than traditional livelihood activities could do. However, there is a gap between the government tourism policy and the situation on the ground. The tourism policy on Saadani National Park has not been fully implemented and this is obvious from the few tourists arriving in the park, which in turn also has led to lower performance of tourism associated livelihood activities in the area. In particular the government has failed to implement its policies on promoting the image of Tanzania’s quality resorts, diverse cultural and tourist attractions, and its position as a leading destination for wildlife viewing. Saadani in this case would be among the potential tourist resorts. The tourism policy has also failed to adequately address policy strategies in providing training, employment generation and poverty reduction in the rural areas.

The local authorities have also been deprived of power over land-use and planning though the tourism policy advocates for a participatory approach in the management of land use. The Tourism Policy (1999) requires local authorities to be responsible for land-use planning; urban and rural development; land-use control and allocation; and provision and maintenance of tourist services, sites and attractions.

5.2 Transformation of livelihoods for women

The tourism policy is gender biased because it has not taken into consideration the needs of women in terms of credit and required skills, considering that more than 80% of tourist souvenirs which include pottery, beadwork, weaving, cloth, art are made by women. Also women represent most of the local food vendors, contributing to household livelihood incomes and overall tourism development. The government has failed to conscientise and attract NGOs and other voluntary organisations to work with the local communities in the study area, as the study hardly found any NGO activities in the area.

5.3 Inadequate tourists in the area

The study shows that despite the increasing number of both domestic and international tourists in the area, this has not contributed to transformation of the livelihood of the local people. This is particularly because tourists are too few to absorb all the products of the local people and the hotels cannot employ many people.

5.4 Low level of capabilities development

According to Satge de (2002) capabilities are a combination of knowledge, skills, and state of health. Most of the villagers lack important skills such as language skills, marketing skills and entrepreneurial skills. Many people are infected with malaria and other diseases, particularly children and old men. This implies that despite the fact that they might have assets for diversifying their livelihood, they cannot not do so because of their poor health.

Skills are too elementary to produce quality products for the tourist market. Low level of education is another constraint, and therefore lack of these capabilities have made many villagers unable to access better paid jobs in the lodges and Saadani National Park. The local people have also been unable to engage in other tourism associated
activities such as art and craft, and tourism enterprises because entrepreneurial skills are needed for running such tourism oriented enterprises. For example, language skills are needed for communicating with clients who in most cases are foreigners. About 69 (76.7%) of the villagers completed primary education (standard seven) and only 16 (17.8%) of the respondents were found to have completed Form Four. So, lack of adequate education and required skills have been obstacles to both direct and indirect employment, and the establishment of tourism enterprises.

5.5 Inadequacy of financial capital
According to Fouracre (2001), financial capital encompasses financial resources which are available to people (whether savings, supplies of credits, or regular remittances or pensions). The people are unable to mobilise enough savings because their incomes are not big enough for consumption and to be set aside as savings.

Moreover, there are no financial institutions to provide credit to the local people. For example, in the villages of Saadani, Mkange and Gongo there are no banks or other financial institutions such as Vikoba, Financial Saving Groups, SACCOS, Pride, Finca, or SEDA. The local people do not have either collateral to use as security to get loans or credit. They also do not have significant enterprises to use as security for credit. About 90% of the villagers have poor houses that cannot be accepted as collateral for securing credit from financial institutions. Likewise, NGOs and other voluntary organisations are non-existent in the area. This situation has exacerbated poverty and ignorance, and this has had impact on working facilities. About 89 (98.9%) of the people do not have adequate working tools and farm inputs. Although some of the villagers might have rudimentary skills they cannot purchase simple working tools, for example tools for carpentry and masonry.

5.6 Inadequate education and training
The area does not have enough primary schools and this result to children’s deprivation of basic education. Only about 76% of all Saadanis have completed primary school. Moreover, the only secondary school found in Matipwili, discourage both parents and pupils because it is located very far, which requires parents to incur extra costs to cover transport and meals.

Lack of adequate education has also prevented the people from generating and using technology and innovations in their farming activities; and because they do not have the requisite education, they are unable to understand even basic instructions about farming and farm inputs. This has culminated to inefficient farming and fishing methods. A good example is Saadani village where people have failed to use modern facilities provided by MANTEP for modern deep sea fishing; instead, they have given the fishing facilities to Zanzibar fishermen who are better equipped with more advanced fishing techniques. Therefore, the Zanzibar fishermen benefit at the expense of the Saadani fishermen who are not even able to find out the actual catch of the day. This way, the Saadani people get swindled because of their ‘ignorance’.
5.7 Poor infrastructure
Inadequate infrastructure is another big constraint for tourism growth in rural areas. Such infrastructure include transportation, water supply, energy, telecommunication, and tourist typical facilities like accommodation, restaurants, tourist offices, and tertiary tourist facilities, like health, financial and emergency services. After the government had announced in the government gazette, the establishment of Saadani National Park (SANAPA) in 2005, there were some relative changes in the quality of roads to Saadani National Park. However, during the rainy season, roads are impassable, particularly from Saadani to Matipwili and Gongo villages; and this has caused poor linkage between these villages bordering the park because it becomes difficult to transport different products to the market. In addition to poor roads, there are also poor social services such as water and health services. The Gongo villagers walk about 20 kilometres to get water and sometimes as far as Matipwili where they buy a bucket of water (20 litres) for TZS 1,500. Likewise, there is a health centre located 9 kilometres from the village, but because of the poor transport system, this facility cannot be accessed easily.

5.8 Tourism and land conflicts
Poor land use planning causes continuous conflicts between the Saadani National Park authority and local people because the local people are denied access to land and forest products such as fuel wood, tree barks and leaves for medicine, and fruits and wild animals for meat. There hasn’t been any initiative to give them alternative ways of getting the products. The people, particularly women, hate the park altogether with its authority because the latter beat and arrest these poor women, and usually confiscate their tools such as machetes and axes.

The situation is worse in Saadani village which is located inside the Park, compared to other villages because in the other villages, clear boundaries have been set for conservation, permanent habitation, cultivation, etc. Many local people including village authorities blame Saadani National Park authority because they bypass them in decision making, particularly in the process of drawing boundaries. As a result, boundaries are set to push away farmers so that the park could be expanded. Worse still, animals cross over from the park to destroy farmers’ crops. When interviewed, about 68.9% of people from Mkange, Matipwili and Gongo villages admitted that their crops were being destroyed by wild animals. This notwithstanding, they were not allowed to kill the animals without permission from the park authority, even when these animals were a threat to both human life and crops.

6.0 Conclusion and recommendations
It is crucial for different stakeholders such as the government, NGOs, private sector, voluntary organisations, Civil Societies and Civil Society Organisations and other players to play their role to improve tourism in the area, so that the livelihood of the local people could be transformed, for overall national economic development. The government has the task of making sure that the local people living adjacent to these wildlife resources are involved in making decisions concerning the use of the resources
that surround them; this will foster sustainability of the wildlife resources as people will be taking greater responsibility to ensure that the parks are preserved properly.

The civil society and Civil Society Organisations (CSOs) have their equal role of checking that the rights of citizens are not compromised by poor policies. They have to make sure that laws and regulations do not disenfranchise the local people from the land, wildlife and other resources. Government expansion of reserve areas or creation of new national parks might deprive local people of their land; so ways should be found to create opportunities for these people, through giving them training and credit, for establishing and running various enterprises, and giving them alternative land for building and for farming.

Some of the most influential policies, such as wildlife management, land tenure, land use- planning procedures, transport and credit schemes, are not under the mandate of the Ministry of Tourism; therefore, coordination between various ministries is needed to create a supportive policy framework for community involvement in tourism. While governments are critical for determining the planning framework, land use, financial environment and tourism regulations, they are often not best equipped to address other issues, such as social and institutional development at local level. Involvement of NGOs and other organisations should therefore be welcome. The most important policy principle might be to establish a flexible process with channels for local views to reach policy-makers and for policies to be adapted over time.

One of the ways to ensure that coastal tourism benefits local communities in Saadani National Park is for the government through the Ministry of Natural Resources and Tourism, and other stakeholders such as NGOs and Voluntary Organisations to identify and promote specific enterprises that local people can undertake. Once these enterprises are identified, it will be necessary to develop business training programmes for local people as well as ensure that local investors have information about potential sources of capital. The type of enterprises that local communities could engage in include handcraft production; processing food stuffs and other products using local materials, to sell to hotels; offering supporting services such as tour guiding and local transportation; operating restaurants; and organising cultural events for tourists.

The government with the support from other players such as NGOs Civil Society Organisations, Voluntary Organisations, and other players should identify areas which are appropriate for the local people to establish both individually and collectively owned enterprises such as tourist campsites, lodges, car rental companies, carving curio shops and then provide training on procedures to establish them and eventually provide financial support in terms of soft credit. The government should also ensure that the local people are involved in issues such as setting boundaries for their villages because these are the same people who will either protect or harm the wildlife from the adjacent park, depending on whether or not they get any benefit. The government should make sure that local people are integrated into the tourist industry so that they also, like tourists, buy different products from their fellow neighbours and not elsewhere like Dar es Salaam. The local people can also be allowed to kill harmful animals that roam in their surroundings.
Moreover, the government through the Tanzania Tourist Board should increase the marketing campaign to promote the attractions found in the area to both domestic and international tourists, so as to increase the number of tourists in the area. This is a good way of expanding the market for local people’s products and hence improving their livelihood.

The government should ensure that villagers from Mkange, Gongo and Matipwili are provided with extension services and better farm inputs so as to increase yields from their farming activities. The farmers should also be advised to invest in crops or products which can also be sold to tourist hotels.

In addition, the government and other stakeholders such as NGOs and private sector should build secondary schools and vocational training colleges in the area so as to expand knowledge and skills of the local population. NGOs and Voluntary Organisations should help to train local people in entrepreneurial skills, foreign languages, marketing skills and other skills that can help them make the most of their resources to improve their livelihood.

Further, the government should create mechanisms for financial institutions to work in rural areas. Further improvement should be taken to make sure that the roads are passable throughout the year to ensure there is permanent link between the villages and other parts of the country.

Last but not least, the government should also work with investors such as hotels in improving social services in the area.

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