

# Climatic Change and Female Reproductive Health: The Case of Traditional Medicine in Tanzania

by

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## Abstract

*Climate change is one of the most important issues in the global social, political and economic agenda, yet it has taken a while to be prioritized. This is partly because climatic change was communicated as a scientific problem which was originally complex, confusing and at times contested scientific information which resulted to a slow public and political awareness. Thus, climate change commentators have argued, but humanity have done very little to prevent the outcomes. Tanzania has not escaped from the shock waves of climate change. Authors have written about climate change in its broadest parameters. Seldom however has climate change raised concern on issues related to traditional medicine and their role in female reproductive health. Using the Makonde community, this research has portrayed the use of traditional medicine and its significance in with an immense performance in rescuing women's live through curing common reproductive diseases. Thus, a wide variety of roots, leaves, barks, flowers, thorns, minerals, animal and insect were used as medicine which imply that the Makonde had extraordinarily knowledge about local plants.*

*Sadly, climatic changes have diminished medicinal plants and various wild medicinal plants have disappeared resulting to increasing maternity complications and other female reproductive system diseases. In rural areas where public hospital are grappling with a countrywide drug shortage and long distance allocations of hospitals, traditional medicine would have served a number of women. Therefore, there is a need for government support in analyzing and documenting traditional medicine for an immediate rescue. Given the fact that climatic change cannot be avoided, good planning is required to reduce vulnerability and recovery costs which include consciously constructed opportunities for learning involving some form of communication designed to improve indigenous health knowledge such as local health museum for local herbs, which can lead to better health for women.*

## **Introduction**

Traditional medicine technology is the total knowledge and practices, based on observation and practical experience that have been handed down from one generation to another, verbally or in writing and used in diagnosing, preventing and eliminating physical, social and mental disequilibrium (Mashimba, 1995; Ataudo, 1985). Evidences show that modern diseases can be traced to the very remote past. The history of human diseases closely linked to stages in development is noteworthy: the development of cities about 3,000 years ago and the trade routes between Europe and Asian beginning mainly with the Roman Empire (Leakey, 1970). Early diseases were related to bones and skin. For example, incidents of Osteosarcoma and arthritis have been found in human remains dating as far back as 2.5 and 1.7 million years ago respectively. However, major outbreak in the spread of diseases did not become a problem of major concern until 4000 years ago when humankind began to live in large extensive communities. Development of community life allowed for humans to improve food supply and living conditions and promoted spread of diseases (Leakey, 1970). This required every culture to have health care specialists, and thus curers are among the world oldest professions, besides hunters and gatherers (Kottak, 2004).

Archaeologists and historians accept that the major subsistence patterns of hominids and hunter-gatherers were roots, fruits and meat. It is therefore true that hominids and hunter-gatherers were affected by different diseases and might have got healed through the consumption of certain foodstuffs. Therefore, the use of traditional medicine to cure different diseases has been the case over time in many parts of the world, and so among the Makonde community of Tanzania.

## **Makonde Community Milieu**

The Makonde are traditionally a matrilineal people (Saetersdal, 1999) that inhabit the Northern bank of River Ruvuma, which borders Tanzania in the southeastern part (Fig.1). The Makonde are also found in Mozambique and they are more or less the same as one community despite being into different countries. Hence, originally these two groups were one but they have split due to different waves of migration caused by calamities and instabilities (Liebenow, 1971). Conversely, this paper is the result of research conducted among the Makonde community of the Mtwara region in Tanzania.

Geographically, the Makonde live on the famous Makonde plateaus that rise from the northern banks of the river. For centuries, they have been practicing slash and burn shifting cultivation. These practices bear the etymological origin of their name from the root word 'konde' singular, 'Makonde' (plural meaning plateau/ forest/ valley/ farm yard). The ecology of the plateau is dry with sand soil which erodes very easily with a dense thorn bush and a few water sources (Saetersdal, 1999). The climate resembles that of its coast with two rain seasons, and a cooler drier season from June to September (Saetersdal, 1999; Liebenow, 1971). The main cash crop is cashew nut while other fruits and food crops are grown for subsistence, and sale at a local market.

Makonde plateaus have scattered clearings in the overall blanket of thicket, resulting from the re-growth of bush during the period of soil resting (Kjekshus, 1996). A maximum of three years cultivation would be tried on one plot before the re-growth of thickets, thus, these rapid shifts were held to cause serious destruction of the forest potentials including fruits, flowers and medicine. And a few remnants of the original vegetation revealed that tall trees had once covered the plateau, but traditionally, the forest provides the Makonde with all basic needs of food, shelter (building materials), rain, medicine, sanctuary for religious practices, a cemetery, as well as refuge during calamities such as war.

The commonest use of natural forests of the Makonde is for traditional medicine, and thus, the medicines are special for disease curing and preventing ranging from initiation/circumcision rite to communicable and reproductive diseases. Traditional medicine among the Makonde is a self-taught activity which employs nature to enhance capacities and capabilities. Thus a profound knowledge of the environment and curative herbs is a paramount significance to facilitate the knowledge of plants and plant parts which can be used as medicine. Through these skills, the curability of the Makonde medicines is immense and supersedes many other communities. Accordingly, Makonde women have trusted and relied on traditional medicine in present as the past due to the ability of the medicine to cure or prevent women reproductive diseases with dignity and secrecy. Yet, many modern women specialists are men, thus women shy away from expressing their diseases and sometimes expose their infected parts to male doctors for medicine prescription; and given the intervention of climate change which affects the Medicinal plants, the health of Makonde women is endangered.

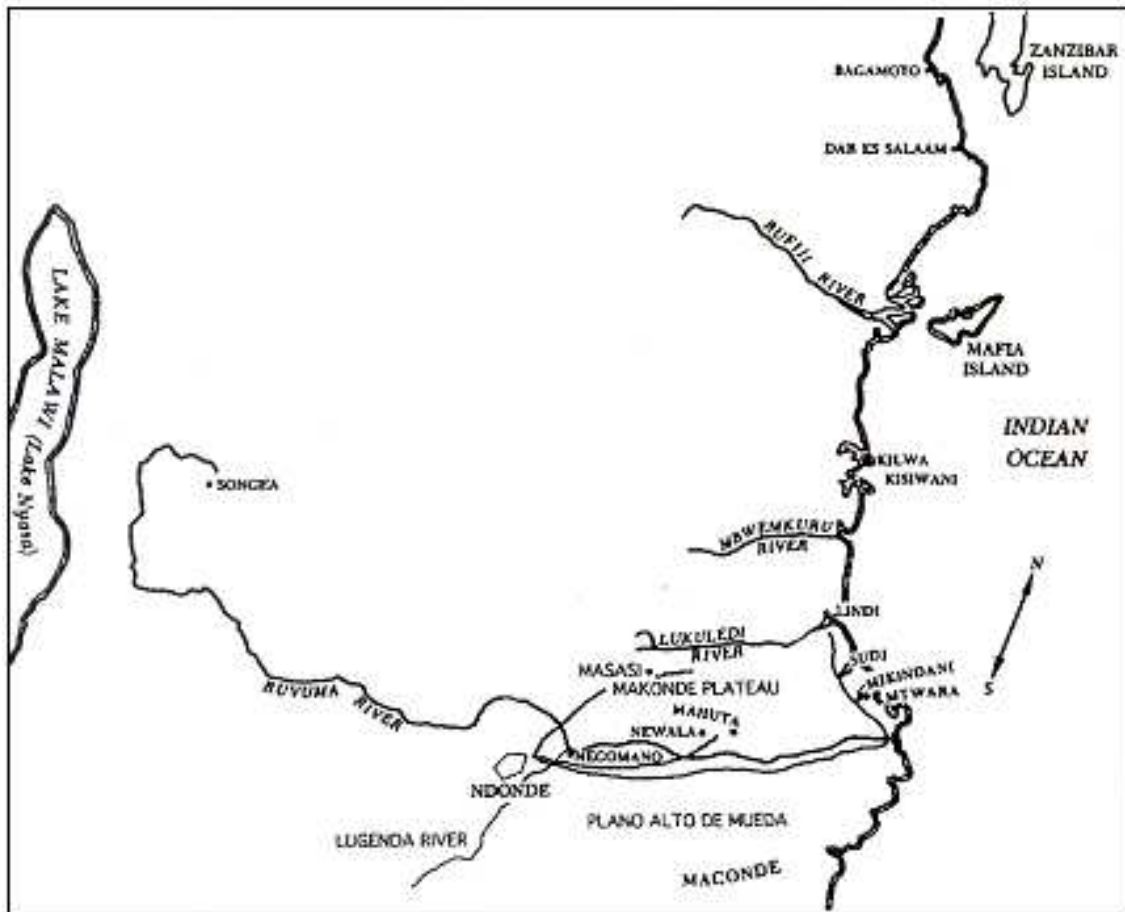


Fig 1: Map showing the Makonde area (after Saetersdal, 1999)

## Traditional Medicine Nomenclature

Traditional medicine refers to health practices, approaches, knowledge and beliefs incorporating plants, animals, minerals, spirits and exercises applied singularly or in a combination to diagnose that treat and prevent illness or maintain well-being. Many people use traditional medicine to help meet some of their primary health care needs. In Africa for example, up to 80% of the population uses traditional medicine for primary health care (Mesaki, 2004).

Among the Makonde, traditional medicine consists of herbal medicine and sorcery. Hence, herbal medicine are the normal plants medicine commonly ranging from leaves, fruits, roots, branches, barks and flowers; and sorcery is mostly associated with depraved spirits and ritualistic practices. Sorcery practitioners almost always use animal parts especially skin and horns together with plant remains in association with spirits and mischievous beings. In an African context these forms of traditional medicine are important and engraved in almost all ethnic groups. And even after the advent of foreign religious beliefs that prevent divination, generally, African people have been visiting their ancestors either secretly or openly, especially when one is sick or in cases of disaster/calamity in the family/society. The healing aspect does not go singularly as a dose prescription, but encompasses motivation and courage. Thus one is healed even before the actual act of taking medicine, and aspects of traditional medicine that revolves around spiritual, physical and biological scenery are interconnected in traditional healing methods and techniques.

Furthermore, the positive association of traditional medicine with community health is eroding wherein globalization underpins the situation due to the facilitation of multicultural encounters, and thus, medicine men/women have been misinterpreted and misunderstood (Mesaki 2004). The nomenclature of traditional medicine, particularly in a Kiswahili translation of healing and the healer have therefore minimized the technology so that names like '*mganga wa jadi*' (traditional/customary healer), '*mganga wa kienyeji*' (local/indigenous healer) or '*mganga asili*' (native healer) together with '*dawa za jadi*' (customary medicine), '*dawa za kienyeji*' (local medicine) or *dawa za asili* (indigenous medicine) are so perplexing that the linguistic descriptions of traditional medicine are undermining.

However, patterns of diseases and healing depend on the environment where people live. Historically, in Africa, the health of the society was emphasized not only on the restoration of health after sickness but also in the general prevention to the community (Mselemu, 2004). And in contrast, biomedicine alienates the patients from their natural environment, family, companions, neighbors and community. Therefore, placing the patient in a strange world of the hospital where family and friends have to reserve time to visit the patient, a practice that is completely alien in an African context.

## Legacy of Traditional Medicine

During pre-colonial times, healing was part of the economic, political and religious belief systems of the inhabitant's, ranging from persons of wisdom, diviners, rainmakers, circumcisers and curers. Plausibly, pre-colonial healers were to be found in practical every village and their practices were community based, and focused on preventive as well as curative methods. Hence, the healers were generally people of high integrity and status (Mesaki, 20004). And their connection to the spirit world won them prestige, respect and influence to the extent of alleviating social, physiological and psychological problems through handling frictions between community members, administering botanical treatments, and conducting rituals.

Nevertheless, colonial conquest assaulted the institution of health through the destruction of the healing systems. Colonialists prevented healing matters to intervene in sovereignty or public order. For instance, the Germans destroyed the healers control over conditions of health because traditional healing had a role in the Maji Maji War of 1905-1907 (Alexander, 2008). Thus, they were persecuted because their actions were taken as a threat to colonial sovereignty, and they also were capable of mobilizing people. Besides, the British, despite using an indirect rule policy which utilized and recognized traditional rulers/chiefs, they neither interfered nor officially recognized traditional healers. Therefore, an aloof policy of no interference and leave the practitioners alone unless their activities led to murder was adopted. And the issue of sorcery during the British administration was dealt with through the Ordinance of 1922 which made it illegal for anyone to practice medicine with intent to harm (Mesaki, 2004). This led to the coexistence of authorized dispensaries and traditional healers particularly in rural areas during the British colonial administration.

Furthermore, post-colonial health situation was pathetic, with only 12 qualified doctors providing hospital services (Mesaki, 2004). However, through policies of building the nation adopted after the 1961 independence of Tanganyika, efforts were made to improve the quality of the medical services. Yet, apart from all these efforts until today, in rural areas the situation is not pleasant, hence traditional medicine plays a significant role in rescuing peoples' lives in rural as in urban areas, although most African governments encourage their citizens to seek biomedicine even when the medicines are inaccessible for the majority, while traditional healing is being discouraged.

## **Earth Potentials for Health**

Human exist on earth. Forests and land are essential ingredients for the human existence on earth. It is on earth where plants grow and act as food or medicine for human survival. Health concerned with the well-being of an individual, free of disease or abnormality, sustained balanced and adequate nutrition, nurturing physical environment, supportive social contacts and spiritual security. Good health permits an individual to live a life that is mentally fulfilled and functioning as well as physically unrestricted until a time of dying that is natural, and not shortened by genetic impairment, physical abuse of the body or accident.

Hence, women's reproductive health is concerned with issues special to women because of their physiology, their role as mothers, and because of the diseases that affect only women or mainly women during reproduction. And moreover, from time immemorial, women's reproductive health has so far been treated by traditional specialists for women related diseases (Traditional Birth Attendant/TBA), hence, some of these diseases relates to maternity and menstruation among others.

Traditional medicines have been significant and widely trusted by women for cure of various reproductive diseases. These medicines have thus been affected by climate change and some of them have completely disappeared while others are hardly found in areas where they were plenty. Climate change indeed has profound impacts on vegetation which affects the entire life cycle of any plant species in five direct ways namely: temperature, atmospheric humidity, carbon dioxide concentration, soil moisture and wind speed. This impact goes hand in hand with the nature of the plant. Thus, the majority of plant species can be grouped into two major categories: C3 and C4 plants depending on metabolic difference in the pathway of carbon dioxide uptake. C3 plants under photosynthesis assimilate carbon dioxide into a three carbon compound phosphoglyceric acid. These plants have an active respiratory cycle triggered by light. C4 plants use the same pathway for carbon fixation as C3 plants, but beforehand they assimilate carbon dioxide into 4-atom compounds such as oxaloacetic acid in the mesophyll. These act impacts people, social, ethnic group or nations who either live in areas of greatest risk or are marginalized within an increasing internationalized world. Plants which have been used as traditional medicine suffers the impacts of climate change because their extinction limit plant species which are used as medicine.

Extinctions can simply be explained by changes in climate episodes of global warming or cooling that destroy sensitive ecosystems. These extinctions have faced traditional medicine because in women's health in the context of this study, it is depended on fruits, flowers, roots, leaves and even shoots of wild trees as medicine. Thus the immediate impacts include increase infant's mortality, poor postnatal care, weaken mother's health and affect production and economy.

Given this reality, traditional medicine in Tanzania is unappreciated, although it is rooted in the culture, family, community, local materials, and social practices of the people of each ethnic group. And contrastingly, the knowledge of traditional medicines and plant food are in danger of being forgotten. For example, informants from the Makonde community even mentioned interviews held by some foreigners about traditional medicine while pointing out that in their local community many of their neighbors understand the skill. And even their immediate relatives ignore the technology and regard it as rudimentary and of no significance. Therefore, with extinction of some plant species, traditional medicine practitioners cautioned against the total disappearance of this technology if necessary remedies are not taken quickly. Besides, development of synthetic drugs in the laboratory as well as the discovery of new plant-based medicines creates ignorance of traditional plants. And in compounding the situation, indigenous people have seldom shared the profits gained from ethno-archaeo botanically derived drugs and thus it has made them leery of sharing information with researchers and further hindering the study of the noncommercial aspects of this indigenous wisdom regarding the plant world.

Climate change analysis is underprivileged in Tanzania despite the notification of dynamicity in the weather and seasons. Temperatures have increased and rains are not falling as they used to. Many Tanzanians are frustrated by resource scarcity, yet most of them have no understanding of the relationship between these issues and climate change (BBC World Service Trust, 2010). Deforestation is one of the clearest manifestations of the country's deteriorating natural environment; however the pace towards increasing deforestation is supersonic. Hence, deforestation has led the cutting of medicinal trees and tremendous bush fires which has endangered wild species. And ironically, the Makonde understand how trees affect their local climate, but seldom have they planted trees because they claim that they cannot afford the resources to plant them.

Accordingly, the Makonde herbal plants are worth a special mention, which consist of (1) *Tamarindus indica* is a plant medicine on which leaves and barks are used to cure diseases like gastointestine, paralysis and allergic dermatitis; (2) *Adansonia digitala*, a plant medicine used by the Makonde women involving roots, bark, fruits, leave used for treatment of lassitude, physical and menstrual abdominal pain, and fever that is rich in ascorbic acid, vitamin C, sugar, potassium, titrate and Calcium, and thus, it also enhances immunity, and (3) other immunity medicines of barks, branches and roots like *Erythrina abyssinica*, *Euphorbia cuneata*, and *Cussonia bacteri* used for the treatment and cure of Brucellosis



## **Traditional Medicine Preference among the Makonde**

Traditional medicine technology in Tanzania has been used before modern medical services were introduced (Conco, 1972). Biomedicine was introduced during colonialism and continues to be recognized and used in a post- colonial Tanzania, whilst traditional doctors are not formally recognized as medical practitioners. For example, traditional practitioners can be charged with unauthorized practice, or even with murder in the case of patient's death (Feierman and John, 1992). Yet, since modern treatments are generally expensive and take a long time to treat, people don't attend modern treatments to instead use traditional medicine.

Nonetheless, in spite of these preferences, Tanzania has not included traditional health in its modern health care (Erdsieck, 2003). Hence I content that the contribution of traditional medicine technology to Tanzania is immeasurable, especially to those who live in areas with less access to modern medical services whereas biomedicine and traditional medicine are used differently in rural and urban areas. In urban areas public health facilities and private clinics are better staffed and accessible, thus women who enjoy somewhat higher incomes consult modern medical personnel before considering various traditional practitioners. In contrast, in more distant rural areas where modern care facilities are poor and unequipped, women continue to rely on traditional medicine much the same or even more than the urban people do from their modern medical personnel. Accordingly, traditional medicine have roots among the Makonde culture, thus despite the availability of services and higher income in urban areas, people still consult traditional practitioners for services that modern medical personnel fail to offer (Lawi and Mapunda, 2004). For example, a few weeks (2-1 week) prior to the Expected Date of Delivery (EDD), modern hospitals resort to blood transfusion for women with anemia, while traditionalists have a traditional medicine for a quick blood increase and therefore, a safe delivery without obtaining the financial expenses of biomedicine based facilities.

Consequently, most women prefer traditional medicine to biomedicine. This is because they often shy away from expressing their diseases to men doctors who most of the times are modern hospitals and therefore, gynecologists. Despite this, modern hospitals are located far away, and for the case of villages, there is no reliable transport. And needless to say, most of the village health centers have a labor shortage. Thus, traditional medicine is mostly preferred by women because: they are available, cheap, best curing, have no side effects and there are no restrictions such as drinking lots of water, sleep for a certain time and/or the use of certain vegetables and fruit. Also there is freeness in the varieties of medicine for the same disease, the sick are not confined to one healer, and they can move from one practitioner to another seeking for cure; sometimes from one ethnic group to another.

Cultural factors and choice of the services are considerable as well. Some women do not use biomedicine not only because they are expensive or due to lack of biomedicine experts, but also because they believe and trust traditional medicine. For example, pregnant mothers, who reside about one kilometer from the modern dispensaries, may prefer traditional services for delivery assistance, instead of modern hospitals. This is because culturally, they have always been treated by the traditional birth attendants; therefore they don't see why they should engage the services of modern hospitals. And generally, traditional medicine play a significantly irreplaceable and useful role which is not always obtained from modern midwifery procedures (Msafiri, 2010). Hence, the traditional midwife provides psychological and physical strength, motivation and courage that an expectant woman need during gestation and during post natal care which the modern hospitals very often can't or simply fail to offer. To illustrate further, among the Makonde a pregnant woman may move to the traditional birth attendant one week or so before delivery, and even earlier whenever there is complications, and thus they stay with the attendant until delivery and post natal care training. This process therefore implies not only care, but also comprehension of care which often nullifies the non-comprehension aspects of modern health dispensaries.

In juxtaposition to the above, this research also reveals that Makonde women have a preference for traditional medicine over biomedicine. Hence, twenty one (21%) said that they would use whatever medical service, provided that it would cure and that it had no side effects; twenty-four (24%) said that modern medical care would be their choice because it has been scientifically tested and is serviced by professionals, and fifty-five (55%) acknowledged that they would prefer traditional medicine because it is available, best curing, has no side effects, has been used by their fore parents without affecting them via no restrictions such as drinking water, sleep for a certain time and/or use certain vegetables and fruit; and because its services were less expensive compared to modern medicine.

## **Mabadiliko ya Hali ya Hewa**

The issue of climate change is not simple to comprehend and interpret among elites let alone lay people. Hence, 'mabadiliko ya hali ya hewa' in Kiswahili implies a normal change in seasons or weather which culminates into the unconscious destruction of forests as mentioned above, which are part and parcel of the global climate. Furthermore, the discouragement of the traditional medicine by modern government has also alienated African people from the right to own and preserve traditional healing as a service to the entire community, thus community health is very important and therefore it owes a lot from the environment from which the sickness emanates. In this reasoning, I posit that diseases in Africa are better cured traditionally under the environment which endows it, and that some of following measures/recommendations can be taken to enhance indigenous healing technology in Africa:

- Special local botanical museums should be created at local levels whereby traditional medicine can be preserved and exhibited. Such a medicine exhibition would enhance training for all community members and thus publicize the traditional medicine and prevent its total disappearance
- Women should be trained on how to create nurseries and farms for scientific planting and the caring of the herbal medicine, hence traditional medicine can serve as a good source of employment for women
- Traditional medicine specialists should be equipped with formal training which would include training on better storage equipment, proper dosage, establishing expiry dates, and the proper use of seeds and seedlings within a research environment
- Create research which aims to explore and document traditional medicine; establish a register of traditional medicine; preserve plant species
- Develop a multi-discourse approach to the question of the vulnerability of traditional medicine in relationship to climate change; publicize the importance of traditional medicine

## Conclusion

Traditional medicines are important to many socio-economic groups regardless of their economic status and geographical location. Traditional medicine services are used in rural and urban areas because they fill a void of services in demand, they are very cheap, accessible and they give recognized responses to illness. In addition, traditional medicines treat illness in its social, cultural and familiar context and seek the root cause of the disease beyond the disease itself. Therefore, there is a need to train traditional medicine practitioners in some aspects of allopathic medicine in order to achieve the goal of health for all. The modernization of traditional medicine via the collaboration between traditional healers and allopathic health workers through seminars are of paramount importance to bring about mutual understanding on the contribution of both sectors to health care (modern and traditional medical practices). Health seminars would therefore not only afford contact between them and allopathic health workers, but it would also enable them to present their experience that would reflect actual feelings in Tanzania, and throughout Africa, in regard to matters of health and illness.

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