

Critiquing Experts' Struggles to Amplify the Concept of 'Nutrition' among Under-five Children in Southern Coastal Tanzania¹

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Abstract

This article analyses experts' views of the underlying causes of (under)nutrition issues among children in southern coastal Tanzania by paying attention to the sectors of agriculture, wildlife and fisheries. This critique is in the light of Harvey's (2003) concept of 'accumulation by dispossession' and Foucault's (1976) concept of 'biopolitics'. While accumulation by dispossession describes transformations that ensure the coexistence of commodity and non-commodity relations in southern coastal Tanzania, biopolitics highlights experts' techniques with which both, the said relations and experts' views of nutrition, are legitimized and reproduced. Using critical ethnography, we conducted in-depth interviews (IDIs) with experts at various levels and reviewed documents to highlight the techniques with which experts represent and legitimize their understanding of nutrition. Findings show that, despite struggles to amplify it, the experts' view of nutrition remains exclusionist, representing coastal communities as isolated and restrictive to rational nutrition thoughts, actions and practices. In particular, the experts' understanding of nutrition misses critical aspects, namely features of coastal communities such as production and consumption patterns as well as their views of nutrition for children. Accordingly, this paper recommends that experts should refashion their conceptual tools to enable them to capture the social organization, consequent social conditions of the coastal communities, and their experiences. All these play a critical role in shaping their understanding of 'nutrition' among children in southern coastal Tanzania.

Key words: Experts, nutrition, undernutrition, accumulation by dispossession, biopolitics, social organization, social conditions, coastal people, southern coastal Tanzania

Introduction and Background

Nutrition problems, especially under-nutrition, remain a major cause of child mortality in Africa in general and in Tanzania in particular (Caulfield, De Onis, Blossner, & Black, 2004). The Tanzanian national rate of stunted growth, determined by age against height,⁴ among under-five children declined by 6% from 44% in 2000 to 38% in 2005 (TDHS, 2005, 2010). However, this decrease has been very slow, from 38% in 2005 to 35% in 2010, which is only

¹ Part of a chapter in a PhD thesis, an ongoing project titled "Rethinking the Concept of Nutrition among Under-five Children: A Case of Coastal Communities in Southern Tanzania", currently at the final stage.

⁴ "...failure to receive adequate nutrition over a long period of time and is affected by recurrent and chronic illness" (TDHS, 2010: 162). This is a very important measurement of nutrition on a child's body because it sums up the cumulative manifestations of undernutrition.

3% (TDHS, 2010). From 2010 to 2015, the decrease has even been negligible, from 35% to 34.7%, which is merely 0.3% (TDHS, 2015). Thus, there was no decrease in stunted growth between 2010 and 2015 because the 34.7% can simply be rounded up to 35%.

Moreover, in all the available THDS reports, at least three regions have stunted growth rates of 50% or above. For instance, in 2005, 50% of all children in Lindi, Mtwara, and Ruvuma (the southern zone) were stunted (THDS, 2005). In 2010, Lindi, Dodoma, and Iringa had 54, 56, and 52 percent, respectively (TDHS, 2010). In 2015, such high rates of stunted growth shifted to the southern highlands zone, which comprises Iringa (51.3%) and Njombe (51.5%) and to the Lake Zone, in particular Kagera (51.9%) (TDHS, 2015). Given this situation, even the target set up in 2008, namely “to reduce the prevalence of stunting among under-five children from 38% to 22% in 2015,”⁵ was not achieved (TDHS, 2010:4). This means that, instead of 22%—which would mean reducing the rate of stunting by 15% by 2015—the rate was 34.7%; therefore, stunting had declined only by 3.3% in 5 years. This decline means that, if the conditions under which it happened remain unchanged, it would take another 45 years (from 2015) for the national rate of stunting to decline to 22%.

For Africa, in general, the picture painted is essentially the same as that of Tanzania. De Onis et al. (2004) estimate that, while from 1990 to 2015 the prevalence of underweight children would increase from 24% to 26.6% in Africa, the same would decline dramatically in other regions in the same period. Likewise, De Onis, Blosser, and Borghi (2011), using Demographic and Health Surveys (DHS) from various countries in Africa, estimate that, 40% of African children under the age of five years were stunted in 2010, and there is no anticipation of improvement up to 2020. Considering this unpleasant situation, one is impelled to study prevailing experts’ understanding of nutrition among children.

Literature on nutrition reveals one fundamental feature, namely, attempts to misrepresent the relationship between experts’⁶ understanding of nutrition and the manner in which the society to which nourished or undernourished children belong is organized (McIntosh, 1996; Lupton, 1996; Mwangome et al., 2010). Most experts in nutrition, for instance, are informed by positivist approaches, which are trapped in the Cartesian dichotomy; they view nutrition as physiological features on the child’s body (Good, 1994; Kleinman, 1995; Fereirra et al., 2015). Informed by these approaches, experts have highlighted important physiological measurements such as height for age, weight for height, and head circumference for age in understanding nutrition. These can be observed on an under-nourished child’s body, irrespective of the actors and society (De Onis et al., 2004; TDHS, 2010). In an attempt to explain these nutrition-related

⁵ This is an operational target set by the Ministry of Health, Gender, Community Development, The Elderly and Children (MHGCDEH) on behalf of the Government of Tanzania (GOT) under Reproductive and Child Health Strategic Plan (2008-2015) in order to accelerate achieving the Millennium Development Goals (MGDs) conceived in 2000.

⁶ Experts in this article refer to formal professionals directly or indirectly concerned with nutrition among under-five children. These may be either health practitioners such as public health workers, nutritionists, and medical personnel in health facilities; related disciples such as agriculture, fisheries and wildlife; and scholars/researchers in natural or social-medical sciences.

physiological features, the positivist approach blames parents/caretakers and societal values for nutrition problems among under-five children. That is, the explanation for nutrition issues is mainly sought from parents /guardians' pre-modern, less evolutionary rationality (Good, 1994). Accordingly, the manner in which nutrition relates to the social organization of the society in question is not clear.

Additionally, efforts to put caretakers' rationality in perspective is offered by actor-oriented theories which pay attention to either the contextual definitions of nutrition or the values and norms which define food and how to eat, (Lupton, 1996; Hesse-Biber, 2007; Mwangome et al., 2010). These studies clarify that food, eating, and nutrition are not merely biological aspects; instead, they are also social. They are shaped by sociocultural contexts and individuals as subjects. Based on the assumptions in these studies, UN agencies especially WHO and UNICEF have developed conceptual models to guide nutrition practices. Under these models, issues such as low level of technology and production, destructive practices in using resources, abuse of women and children's rights—which characterize coastal people and communities—are identified as either “underlying” or “long term causes” of under-nutrition among under-five children (UNICEF, 2015).

The quest for understanding nutrition among under-five children in the light of caretakers' and communities' rationality is what we call experts' struggles to amplify the concept of 'nutrition.' Unfortunately, these struggles do not go beyond sociocultural patterns and subjectivities since they approach such patterns as though they have their own nature, independent of the wider socioeconomic organization. The central objective of this paper is, therefore, to highlight the techniques with which experts legitimize and reproduce their understanding of nutrition and the limitations which such techniques pose to a plausible conceptualization of nutrition among under-five children.

Conceptual Issues

In order to highlight experts' struggles and the manner in which they can be transcended, we use Harvey's concept of 'accumulation by dispossession' and Foucault's concept of 'biopolitics.' While accumulation by dispossession describes the nature of the organization of the society, biopolitics highlights thoughts, actions, and practices in which a particular understanding is legitimized. Grounded in Harvey's (2003) accumulation by dispossession, we highlight the salient features of the socio-economic organization of southern coastal Tanzania. By accumulation by dispossession, Harvey (2003:159) means

.....the continuation and proliferation of accumulation practices that Marx had treated as 'primitive' or 'original' during the rise of capitalism. These include the commodification and privatization of land and the forceful expulsion of peasant populations (.....) conversion of various forms of property rights (.....) suppression of rights to the commons; commodification of labour power and the *suppression of alternative (indigenous) forms of production and consumption; colonial, neocolonial and imperial processes of appropriation of assets (including natural resources); monetization of exchange and taxation, particularly of land.....(emphasis added).*

As shown in the above quote, the processes of commodification and colonial as well as postcolonial forms of accumulation are important features in the process of accumulation by dispossession, a process by which capitalism has spread into developing societies such as Southern Coastal Tanzania. In such societies, accumulation by dispossession has had unique features. Following Harvey, Nally (2010:37) clearly defines it as “the transformation of non-capitalist social formations into market economies”. This transformation means that, while these economies remain pre-capitalist, they are penetrated by global commodity relations such that various processes of commodification and accumulation easily take place to enable extraction of surplus from small producers such as the southern coastal people. From this description, two aspects are critical to the description of the socio-economic organization of southern coastal Tanzania. On the one hand, such transformations introduce the need for money as a condition for meeting necessities and production whose prices are not fully determined by the producers but by the world market. On the other hand, there are remnants of the pre-capitalist society. Examples are tools of production as well as systems of thought and practices such as rites of passage.

Additionally, every socio-economic organization corresponds to a system of knowledge. Based on such a system, people conceive particular thoughts and enact actions and practices; accordingly, social reproduction of livelihoods takes place (Amin, 2009). Foucault (1976, 2008) argues that the establishment of the capitalist economy corresponded to a new form of knowledge and practices based on biological and natural sciences, which he calls *biopower*, effected through *biopolitics*. Foucault (1976:140) describes the origins of biopower in the following manner:

“During the classical period, (.....) there was also the emergence, in the field of political practices and economic observation, of the problems of birthrate, longevity, public health, housing, and migration. Hence there was an explosion of numerous and diverse techniques for achieving the subjugation of bodies and the control of populations, marking the beginning of an era of biopower.

Foucault further distinguishes biopower from the precapitalist forms of sovereign power. He also shows the ways biopower tremendously transformed the precapitalist forms. Following Foucault (1976), Nally (2010: 28) distinguishes between sovereign power and biopower as follows:

[W]hat distinguishes the early from the late modern period is the fact that sovereign power is defined less as the ‘right to kill’ and *more as the ability to seize, manage and exert influence over the living conditions of individual bodies and whole populations*. This does not mean that the ‘power of death’ is completely abandoned, but rather that violence must be rationalised by appealing to future improvements: the pauper will be converted into a sturdy labourer; the prisoner will be rehabilitated; *savage populations will be civilized (emphasis added)*.

Thus, as quoted above, “the ability to seize, manage and exert influence over the living conditions of individual bodies and whole populations” constitutes biopower. In addition, the techniques for seizing and managing bodies and whole populations are biopolitical, which ultimately make it “possible to extract surplus value from them.”

With regard to nutrition among under-five children, biopolitical techniques are those related to keeping them against dangers or risks such as ill-health. The first technique involves the use of “the rationality of the market, the schemas of analysis it offers and the decision-making criteria it suggests (.....) to domains which are not exclusively or not primarily economic: the family and the birth rate for example, or delinquency and penal policy” (Foucault, 2008:323). A good example is marketization of wildlife conservation practices. The second involves interventions to civilize the so-called ‘savage population’ (Nally, 2010:28). In the context of this study, such interventions include modern agricultural technologies and practices as well as resource management and utilization regimes. These issues are at the centre of the discussion in this paper.

Methodological issues

This study adapted a critical ethnography design. This design differs from conventional ethnography whose essence is constructing positivist accounts, assumed to be both objective presentations of isolated primitive communities and free of personal values of the ethnographers who conducted those studies, (Denzin & Lincoln, 2000). Beyond such isolationist and positivist ethnographic accounts, critical ethnography follows from critical theory⁷. That is, critical ethnography centres on methods of collecting, coding and analysing data, which, rather than taking things for granted, interrogate “institutions, regimes of knowledge, and social practices that limit choices, constrain meaning, and denigrate identities and communities”, (Madison,2004:5). Data were collected from international organizations, national organizations, government officers, and non-governmental organizations. More specifically, the data were collected from the WHO resident office, Tanzania Food and Nutrition Centre (TFNC), Lindi Regional Nutrition Officer (RNuO), Lindi district officers, Nyengedi and Mchinga ward officers and Mchinga 1 and Nyengedi village officers.

We used two methods, namely in-depth interviews (IDIs) and documentary review, to collect the data. We conducted interviews with the social actors to get their understanding of nutrition. Accordingly, we could grasp their positions, understanding and views of nutrition. We conducted twenty-five (25) interviews (one in Kiswahili and 24 in English) and audio-recorded the data. In addition, we reviewed relevant documents. We collected such documents from

⁷ This represents a set of theories such as “Marxism, Neo-Marxism, Critical Theory...” (Madison, 2004) which critique the mainstream positivist thinking which used to represent the so called objective and value free accounts of developing communities such as coastal Lindi as traditional, primitive and isolated. Foucauldian thinking (which inspired this study) especially the concept of ‘biopolitics’—namely attempts to understand the ways in which experts represent nutrition knowledge and coastal people’s (re)action—is part of the critical theory tradition.

different offices such as TFNC, MHCDGEC, UNICEF, Lindi RMO's office, Lindi Rural District Council, and e-journals.

We transcribed the English data verbatim and translated the Kiswahili data into English. We then analysed the interview texts using the cross-sectional indexing approach (Mason, 1997). That is, we read through the entire data set and assigned a uniform set of categories to the chunks of data pointing to the same idea. We reviewed the documents via discourse analysis to highlight the techniques with which the experts' understanding of nutrition is legitimized. The purpose of analysis was to highlight the ways in which their knowledge conceals the manner in which the coastal society is organized. However, the discussion in this paper – as we show in the subsequent sections, is limited to agricultural practices and utilization of marine and wildlife resources.

Agricultural Practices

Nutrition experts explain undernutrition expressed on the child's body in terms of what they call the underlying causes, which include poor performance of the agricultural sector. As a means of addressing nutrition problems, experts attach special importance to modern agricultural techniques such as using fertilizers, tractors, pesticides, and appropriate planting procedures. For instance, agricultural officers at regional, district, ward, and village levels in Lindi were concerned about the poor performance of the agricultural sector. They attributed such performance to low motivation towards agriculture and the subsistence ethic⁸ among the coastal people. Regarding the low motivation towards agriculture, the coastal people are blamed for embracing a culture of laziness; consequently, their participation in the agricultural sector has been very poor. In an interview, an agricultural officer remarked the following:

(Coastal) people have no passion for their own socio-economic development; they are still very lazy. People for example still use traditional hand hoes locally known as *chikondola* by which one tills the land while seated down. In general, people along the Coast still classify themselves as of too high status (*mamwinyi*⁹) to engage in manual/ labourious activities such as tilling the land. Cashew nut production, for instance, is not so laborious because it's a perennial crop. Once planted, what follows is just weeding around and spraying both of which are done only once a year; after which there follows a harvesting season. But it is not uncommon to find some people owning not even one cashew nut tree. Food produced in many households is inadequate to meet their needs. Many households

⁸ This is an idea developed by Hyden (1980) to denote a situation in which the logic driving production is for subsistence rather than surplus and profit making. For Hyden, this is a dominant logic behind production among peasants in Tanzania, including the coastal people.

⁹ This Swahili term is from Persian Arabs who started settling along the coast of East African before the 10th century AD (Baker, 1941). It is the plural of *mwinyi* (singular) connoting a rank of a rich/successful/civilized person in the Arabic civilization. According to this civilization, the *mwinyi* would engage in activities of the civilized people especially in ivory, slaves, ornaments, clothes, and coconut trade. On the contrary, the *mwinyi* could not engage in manual work such as tilling the land, because this is for the uncivilized (heathens). Africans who were to be considered civilized had to behave like *the mwinyi*.

for instance face food shortages after the first six months after harvest. The harvesting season is mainly April to May. But, starting from October to the next season, many households always face food shortages (IDI /DAO/LDC/05).

In addition, agricultural officers see the subsistence ethic—the drive to produce for immediate consumption rather than surplus generation and accumulation—among the majority of the peasants who produce both food and cash crops¹⁰. Consequently, even cash crop production among the majority in coastal Lindi is not for profit/surplus accumulation but for meeting monetary demands required to complement subsistence consumption. Thus, most of them cultivate small plots ranging from less than an acre to two acres. They use low technologies mainly hand hoes. They are also resistant to scientific advice and modern seeds. A ward agricultural officer at Mchinga observed the following:

The food they produce does not satisfy their food requirements because they use poor technology which leads to low production. They, for instance, use traditional seeds instead of hybrid seeds. Neither do they spray insecticides or apply modern fertilizers to boost soil fertility. Our responsibility as agricultural officers is to give them technical advice on best practices of increased production. But, unfortunately, they don't listen to us. For example, we have advised them on planting (timing) seasons, more productive (hybrid) seeds to observe, crop spacing and alignment. But, when we visit the fields, we learn that they don't adhere to the technical advice we give them. It is very common to find that the distance left between one plant and another is too wide to accommodate another one or two plants. In the end, you find out that a plot which could technically accommodate 200,000 seedlings ends up being grown on only 100,000 seedlings. Peasants have an anti-progress outlook. The government has, for instance, directed that every household should at least cultivate four acres annually, i.e. two acres for food crops and other two acres for cash crops. But, when we give them such advice, some respond belligerently requiring us to specify where we get them those four acres (IDI/Ward Agricultural Officer/Mchinga/34).

While the agricultural officers' views of food production and nutrition among under-five children are not completely wrong, they do not lead to a full understanding of nutrition. For instance, they attribute the inadequacy of food and nutrition merely to the culture of laziness, subsistence ethic and inadaptability to technologies of production such as mechanized farming, hybrid seeds, and fertilizers. Such limitations stem from treating coastal people as a distinct

¹⁰ This Swahili term is from Persian Arabs who started settling along the coast of East African before the 10th century AD (Baker, 1941). It is the plural of *mwinyi* (singular) connoting a rank of a rich/successful/civilized person in the Arabic civilization. According to this civilization, the *mwinyi* would engage in activities of the civilized people especially in ivory, slaves, ornaments, clothes, and coconut trade. On the contrary, the *mwinyi* could not engage in manual work such as tilling the land, because this is for the uncivilized (heathens). Africans who were to be considered civilized had to behave like *the mwinyi*.

community or as individuals with thinking, actions, and practices that are culture specific. Consequently, interventions in agricultural malpractices among the coastal people become biopolitical techniques concealing their histories, while legitimizing themselves. The argument that their thinking and practices limit food production may be justifiable, but to consider the manner in which such thinking, actions and practices relate to the wider social and historical context beyond coastal Lindi is critically important.

The merit of establishing the connection between the contemporary coastal Lindi, on one hand, and the past and the wider contemporary society, on the other, is that nutritional thoughts and actions are not attributed to individual people or the isolated coastal Lindi community. Instead, emphasis is laid on the dialectical relations between the coastal people, on one hand, and their past and the wider (national, regional, and global) context to which coastal Lindi is a part, on the other. Without insinuating the notions of 'righteousness of thoughts, practices, and actions of such people,' we assert that the latter have clung to the past and hence rejected some of experts' proposals, for instance the adoption of agricultural inputs, depending on their evaluation of the prevailing social conditions.

The past of coastal Lindi, for instance, indicates that livelihood earning among the coastal people is historically influenced by Arabic civilization in which activities involving intensive labour are stereotyped as servants' affair, dominance of slave and ivory trade rather than of agricultural production, and agricultural crops such as coconuts and cashew nuts. All these are not labour intensive. In this context, labour intensive crops are seasonal crops such as millet and cassava. These require seasonal activities such as tilting the land. These crops were specifically for food because they were not exchanged. Despite various changes that took place such as the abolition of slave trade, the decline of Arabic civilization, and the introduction of money economy, low motivation for labour intensive agricultural production remains dominant in coastal Lindi. This situation is partly contributed by the prevalence of fishing activities, coconuts, and cashew nuts, which demand less labour time.

Likewise, the agricultural officers were dissatisfied with the persistence of unproductive patriarchal values along the coastal area of Lindi. These values exempt men from producing food at the expense of women; nevertheless, the patriarchal system gives such men control over what is produced, for instance determining how much should be sold and how much should be kept for food.

Coastal men are too lazy people. They are used to staying at the shore idly pretending to be engaging in fishing activity. Almost all productive activities have been left on the shoulders of women. Men's self-assigned duty is deciding in what should be sold and what should be left out for household consumption. Coastal men are too lazy, always pretending to be fishermen. You find a coastal man living in poor conditions but still married two more wives and wonder how they manager to provide for more than one households given their poverty conditions. In the end, you learn that it's wives who take care of men. Today he eats at the first wife's household tomorrow at the

second wife's household. This routine goes on. They don't participate fully in production (IDI/DAO/LRD/05).

Cultural practices such as rites of passage, well known as *jando* for males and *unyago* for females, are conceived of as conservative and wasteful practices. In general, *jando* and *unyago* consist of processes and practices of transitioning young men and women from childhood to maturity and celebrating that transition. This celebration is said to be inefficient since it costs huge amounts of food resources, money, and time; it may take a month or more. This might contribute to food shortage and income insecurity for concerned households. Consequently, it might lead to poor nutrition among under-five children and other household members.

However, such observations mistakenly look at these ceremonies as static and resistant to change. This observation affirms experts' view of coastal people as maladaptive and devoid of agency. On the contrary, these ceremonies have been changing by adapting to new socio-economic circumstances, for instance being sources of economic benefits; good examples are monetary presents to the child and parents by friends during the ceremony. Therefore, initiation ceremonies, being blamed by experts as traditional, unnecessary, and food wasting, are slowly being adapted to the monetary logic, which would sustain initiation practices and ceremonies. Besides their original meanings, initiation ceremonies ensure monetary benefits, a necessary commodity in contemporary times.

Moreover, the introduction of the money economy in coastal Lindi has intensified in recent years, and it is increasingly shifting labour from producing food to searching for money via fishing, salt making, and small businesses. Others are engaged in forest growing/ tree-planting projects especially Reduced Emissions from Deforestation and Forest Degradation (REDD) in return for incomes, (Mukono, 2018) and selling off of food crops produced for subsistence at relatively cheaper prices compared to costs at which they buy them, (especially when food shortages set in). In short, the search for money has intensified food and nutrition insecurity, since the money raised is always not enough to buy varieties of foods constituting a healthy, balanced diet. Unfortunately, the agricultural officers' accounts do not go this far. Instead, they have been calling for further commoditization of agricultural produce; this phenomenon intensifies poor nutritional conditions.

Local government authorities, for instance, impose a multiplicity of levies on cash crops, especially cashew nuts. Due to such levies, the price of cashew nuts per kilogram has for several years been very low, so much so that some people have abandoned their farms, and others have lost interest in establishing new farms. However, the increase of price in 2016/2017 from less than 2000/=Tshs to 4,000/=Tshs per kilogram surprised many people in this area. In the interview, a ward executive officer (WEO) at Nyengedi, who is also a native of Lindi, had the following to say:

It is for the first time in my memory cashew nuts are sold at Tshs. 3400/= (equivalent to \$1.5) per kilo we ever sold it at TZS, 700/= (equivalent to \$0.3) and then it dropped to Tsh.200/= (equivalent to \$ 0.09). It reached a

time people started selling off their cashew nut farms because managing the farm became more costly than what one could gain after harvest. Weeding around one acre for instance costs Tshs. 60,000/= (equivalent to \$ 27). If one has a ten acres farm for instance would need Tshs. 600,000/= (equivalent to \$268). In addition, 25kg bag of sulphur is sold at Tshs. 35,000/= (equivalent to \$ 16) which amounts to Tshs. 420,000/= (equivalent \$187.5) for a ten acres farm. So, if one sells their cashew nut at Tshs. 200/= (equivalent to \$ 0.09) per kilo, it becomes difficult to manage the farm the solution of which is to sell it off and hence lose their long earned source of income (IDI/WEO/Nyengedi/22).

Resource Use-Child Nutrition Nexus

Unfortunately, it is not clear if abolishing these levies would be sustainable because making quick money, which is not connected to production, is increasingly taking roots. Considering this reason, one can hardly claim whether such levies have been banned permanently or they would be reintroduced after the current regime, the 5th phase government.

For the reasons listed above, the youths who belong to the supposedly most productive age category and who are expected to engage effectively in food production have negative attitudes towards food production. Their main preoccupation is not food production but activities from which they make quick money, especially fishing and cultivation of some cash crops such as simsim.

Youths are more interested in marine activities especially fishing because it ensures them quick income. They have low interest in agricultural activities because their production cycle takes too long and they are too engaging because they require people to stay in the fields from planting to harvesting period to guard plants against wild animals and birds such as guinea fowl, monkeys, and baboons. Few youths who engage in agriculture grow simsim which is a cash crop with readily available market (IDI/Ward Agricultural Officer/ Mchinga/ 14).

This section pays attention to experts' techniques for managing and utilizing resources. These techniques shape the ways in which the coastal people gain access to food and nutrition requirements. Empirically, while such experts' techniques are legitimized as scientific and sustainable for managing and utilizing natural resources, they end up marginalizing coastal people's sources of livelihoods and nutrition requirements. On one hand, attention is particularly paid to marine resources, such as fish, coral reefs extraction for limestone, salt making, and onshore mangrove forest harvesting. On the other hand, attention is paid to wildlife resources, which are historically animal protein sources in the southern zone of Tanzania; however, such wildlife resources encroach and destroy agricultural fields.

Wildlife resources

Data indicates that the experts' main approach to wildlife management has historically been regarding people as a threat to wildlife. That is, to ensure that the rare species such as elephants

and rhinoceros multiply, people should be evicted from the reserved areas. Due to conservation efforts, there has thus been an increase of wild animals; accordingly, communities-wildlife boundaries have been blurred. Such blurring of the boundaries has had negative consequences for food and nutrition among under-five children in coastal Lindi.

The coastal people interviewed affirmed that, once the farming season commences, and throughout the season, peasants have to spend the whole day in their fields guarding the crops against wild animals. In particular, they said herds of elephants occasionally invade their farms and destroy crops. Elephants were reported to invade Mchinga I village, destroy homes, and kill people. Invasion by other vermin, such as monkeys, baboons, rats, and birds were mentioned to be prevalent from the planting to harvesting season. Daily guarding of crops against such vermin makes farming a very tedious exercise. Similarly, Johansson (2008) observed that people in the Lindi region especially in the districts of Rural Lindi, Liwale, and Kilwa have been prone to destruction of agricultural fields by wild animals from Selous Game Reserve (SGR). Likewise, Sigalla (2013) documents negative attitudes among communities surrounding conserved areas. Sigalla (2013:1) shows that, while the communities understand the importance of conservation, they still feel that “conservation activities are prescriptive and restrictive.” Hence, they constrain the possibility of “shared conservation benefits” between communities, on one hand, and conservation authorities, on the other.

Another set of dangerous vermin are animals such as leopards, lions, wild dogs; these kill livestock, (Johansson, 2008). Despite being a good source of animal protein in many Tanzanian societies, livestock keeping is largely not practised in Lindi. The district livestock development officer reveals the following:

We are traditionally not livestock keepers. Presence dangerous vermin in the nearby forests cannot make the keeping of livestock a feasible aspect. It is for instance not surprising to find adult who throughout their lives have never seen a cow. Cattle keeping is still at its infancy. It has been launched by District Agricultural Development Projects (DADPs) and the first beneficiaries own one to three cows today (IDI/Livestock Development Officer/LDC/11).

Lack of the culture of keeping large number of animals is attributable to both access to wild meat and the presence of vermin, which attack livestock. Encroachment of wild animals on village communities and agricultural areas is currently furthered by the new wildlife management technique called Wildlife Management Area (WMA). WMA is “an area of communal land set aside exclusively as habitat for wildlife by member villages” (WWF, 2014:5). Considering this definition, plenty of village land nearing reserved land such as national parks, game reserves, and game controlled areas is potential for WMA development. WMA also proposes collaborative wildlife management between wildlife authorities and village communities neighbouring wildlife areas (URT, 1998, 2009). Despite WMA’s noble intention of conserving nature, farther expansion of wildlife geographical areas to occupy formerly village lands enhances the presence of crop destructive wild animals in such

agricultural lands. In Tanzania, WMA is well articulated by the Wildlife Management Policy (URT, 1998) and the Wildlife Conservation Act of 2009.

The case of SGR shows that the interest of conserving wildlife, in many instances, prevails over people's means of securing livelihoods including children's nutrition (Johansson, 2008). People's means of livelihoods seems to be side-lined because, contrary to neo Malthusian arguments which attribute human-wildlife conflicts to the expansion of human population, the geographical size of SGR has since its establishment been expanding, regardless of the presence of communities in the incorporated areas. According to Johansson (2008: 28), while the total land area of SGR was 6,500km² in 1931, it had expanded almost eight (8) times to 48,000km² in 2003. Moreover, SGR is part of the Selous ecosystem, which is 75,000km². This ecosystem includes the Mikumi National Park (in the Morogoro region) and extends southwards to the Songea region (Johansson, 2008:28). Such expansion of the reserved areas either evicts communities or brings wild animals closer to the communities.

In addition, opportunities said to accrue from WMA to communities tend to turn the coastal people into market actors whose livelihoods including nutrition requirements would depend on selling conservation products. In particular, opportunities from WMA include the "expansion of community members' skills beyond subsistence agriculture into income generating activities such as conservation business ventures associated with management of WMA, acquire skills in contract negotiations and management, organizational and financial management through implementations of WMA" (WWF, 2014:14). However, a closer look at WMA indicates that the costs likely to accrue from WMA are higher than the benefits. In particular, once a piece of village land is designated as a WMA, the use of the land for agricultural activities is prohibited. In addition, monetary benefits likely to accrue from WMA arrangements cannot substitute agricultural benefits likely to accrue from agriculture.

Worthy of note is that comparing the qualitative benefits and value one gets by producing their own food with the monetary benefits one would get from monetary benefits substituted for agricultural production on the same piece of land is difficult. In particular, WMA replaces the old model of expansion of conservation areas by evicting village communities with a new one under which biodiversity is conserved "in village areas by demarcating village lands into additional protected areas around game reserves and other protected areas" (Johansson, 2008: 201). The implication of WMA is that it legitimizes the presence of wild animals in village communities' neighbourhoods; therefore, it increases the danger of damage to crops. According to Johansson (2008: 201),

[w]ild animals do not confine themselves to the areas designated for the biodiversity such as Selous Game Reserve in which humans try to keep and secure them. On the contrary, animals continue to challenge the separation of the wild and domestic spaces by moving across the perceived border in search for food and shelter. As a result, the small scale farmers may lose their *crops*, property, *livestock* and even their own lives in confrontation with wild animals (*emphasis added*).

The potential losses to wild animals make crops and livestock production less viable options in coastal Lindi and in neighbouring areas. The potential impacts of WMA on communities are made even more severe by ineffective compensation mechanisms put in place by the office of the director of the wildlife division in cases of crop damage by wildlife¹¹.

In this expansionist approach, village communities have been pushed away. In some cases, they have been moved from very productive agricultural niches and highly resourced fishing sites to infertile areas (Johansson, 2008). Nonetheless, many other village communities remain under the threat of WMA expansion. Moreover, these expansions are not limited to SGR. They are nationwide. According to WWF (2014), until 2014, the reserved land area was 36% of the total area in Tanzania, having increased from 5% of the land in German East Africa (that is, Tanganyika) before the First World War (WW1).

Indeed, throughout Africa, the narratives of wildlife management crudely invoke images of ungentle, unchanging, and timeless African natives at least in terms of how they relate to the natural environment around them. Draper, Seirenborg, and Wels (2007:232) rightly observe that an African is portrayed as supposedly “an ‘exotic native’ who is still part of the landscape untouched by modernity.” Accordingly, following Draper et al. (2007) distinguish between wildlife managers’ views of good natives and of bad natives. In this distinction, good natives are those who live a “traditional” life and are “perceived to be closer to nature”; in contrast, bad natives as those who have taken up “modern” values of consumerism and accumulation of material wealth, which are destructive to protected natural environment, (Draper et al., 2007: 224).

Such images and narratives of an African in relation to their environment have persistently narrowed the experts’ understanding of natives’ nutrition. Consequently, it has seriously affected the people’s actualization of their understanding of nutrition among under-five children in particular and the entire population in general. This is because, in the wildlife managers’ view, wild animals, roots, fruits, and leaves (which constitute an important part of coastal people’s diet) are supposed to be conserved rather than being part of the natives’ regular diet. Equally importantly, even the nutritionists’ view of nutrition is generalized, eliminating some types of food found in specific socio-economic and ecological environments.

Access to and utilization of fishery resources and nutrition

Just like wildlife management, there are also experts’ techniques for managing marine resources, especially fish and limestone building materials extracted from coral reefs, mangrove harvesting, and salt farming. In particular, the experts are concerned about the conservation of marine resources; they see these declining because of many factors. First, according to the district fisheries officer, the Lindi coast, contrary to the Kilwa one, has a

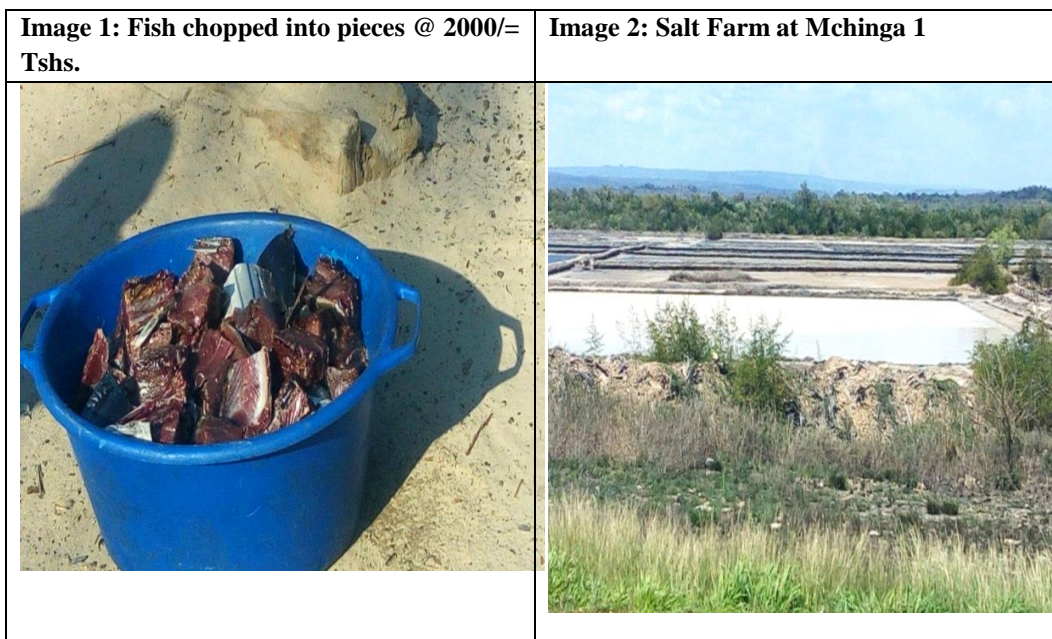
¹¹ Johansson (2008:8) shows the ways in which compensation for loss of domestic animals to wildlife in the nearby or across borderlines was in many cases incompatible with the roles played by the lost animals or crops. For instance, monetary compensation could not be equated with a long-time trained, hunting dog lost to wolves.

narrow continental shelf (*ukanda wa bahari*); in consequence, a relatively smaller fish stock is available because the broader the continental shelf the bigger the fish stock. Secondly, the fisheries' experts from the regional level to the ward level noted that coastal people, especially youths, are more interested in fishing activities than in farming since fishing activities normally ensure quick money. Consequently, the increased pressure on fishery resources has ushered in destructive fishing because of using illegal fishing gear. The practice further leads to the decline of fishery resources in coastal Lindi. In an interview at Mchinga, a division fisheries officer said the following:

Illegal fishing and the increasing demand for limestone for building purposes has resulted in the destruction of fish breeding sites, coral reefs (*matumbawe*). The illegal dynamite (which is poisonous), in addition to destroying the breeding sites, instantly kills both the mature and the young fish thus limiting the possibility of sustainable self-replenishment of fisheries resources. In addition, extraction of coral reefs for limestone contributes to migration of fish populations from sites nearby the shore (IDI/ Division Natural Resources Officer/ Mchinga/35).

The shortage of fish in Lindi is expressed through their high prices. Such prices have made it hard for most of the coastal people in Lindi to make fish part of their regular diet. A division fisheries officer at Mchinga I observed the following:

The fish stock has so much declined. The fish which was sold at Tshs. 500/= (equivalent to \$ 0.2) in the year 2005 today is sold at Tshs. 3000/= (equivalent to \$ 1.3). The main reason for the decline is destruction of the breeding sites, i.e. coral reefs (*matumbawe*) for fish caused by illegal fishers who do dynamite fishing and extraction of limestone for building purposes. Other illegal fishing tools include small sized nets (*kokoro*). Another reason is the increase of fishermen/women compared to the past. The stock has declined such even the illegal dynamite fishers do not catch as many fish as they used to. It is only when they chance of population of migratory fish passing by is when they get big catches. For these reasons, even fish consumption has highly declined because it is very expensive. A basin estimated at 17kilograms is sold at Tshs.150,000/= (equivalent to \$ 67) which is equivalent to Tshs. 8,000/= to 9,000/= (equivalent to \$ 3.5 to \$ 4) per kilo (IDI/Division Natural Resources Officer/Mchinga/35).



Source: Fieldwork Data, 2016/2017

In addition to fishing, salt production along the coast was also mentioned to have contributed to the decline in fish catches. Specifically, preparation of salt farms at the shore is said to have led to the cutting down of mangroves, which are another breeding site for fish.

The experts view coastal people's modes of utilizing marine resources as unsustainable. As a result, they have adopted fishery resource management techniques such as policing marine activities. Despite its merits, the policing technique conceals the history of coastal people's interaction with natural resources; it represents coastal people as responsible for the destruction of marine resources. The nearing extinction of fishery resources due to overexploitation sends a signal of the finite nature of fisheries (among other natural resources). Factors responsible for the exposure of marine resource to flawed modes of exploitation in coastal Lindi remain unexhausted. Commodification of fishery resources effected through large-scale commercial fishing was always left out of account by fishery experts in their account of over-exploitation of such resources, (Mwaipopo, 2001; Matungwa, 2012).

Thus, beyond the coastal people's maladaptive practices, overexploitation of fisheries (among other marine resources), which has constrained coastal people's access to proteins, is partly a result of the historical processes that have always overlooked coastal people's livelihood options. Such processes are consistent in various guidelines in agricultural and wildlife management policies. These include fluctuating crop prices, destructive wild animals, restricted access to wild animals for meat, and increased commoditization of fish. One of the implications of these processes has been coastal people's participation in overexploiting marine resources despite the restrictive guidelines and their enforcement.

As pointed above, the conservation of wildlife has constrained coastal people's access to wildlife resources especially wild meat. It has also damaged crops and domestic animals due to the increasing wild animal stock. All these forms of marginalization have had an impact on the coastal people's access to such sources of protein, especially animal meat. Thus, the seemingly localized factors shaping the overexploitation of fisheries are in fact not exclusively local. Instead, they are both national and global. Similarly, the depletion of marine resources is both a local and a global phenomenon; it is also not isolated in terms of the nature and logic by which it takes place. Instead, it is connected to other depletions intensifying nutrition problems.

Conclusion: Beyond the Exclusionist Understanding of Nutrition

We have shown that experts' efforts to broaden the concept of 'nutrition' beyond the reductionist approach—which focuses on the child's body by taking into account the coastal people and communities—have yet remained caught up in another exclusionist model. That is, interventions that seek to improve the agricultural technologies and conservation regimes that include application of the market rationality in order to legitimize the notions of 'the isolated coastal people' and 'community.' As a result, the history and experiences of such people and communities concerning nutrition are concealed rather than illuminated.

Beyond the experts' limiting conceptual tools, we have argued—in the light of the concept of 'accumulation by dispossession' and the empirical data—that approaching coastal communities as isolated from the rest of world is naïve, because, what happens among them is much influenced by global arrangements. Accordingly, experts can contribute to the understanding of nutrition if they approach it in relation to other sites of nutritional knowledge, namely both the coastal people and the wider socioeconomic and historical context within which both, the experts and the people live. In particular, as part of the efforts to understand nutrition, attention should be paid to the ways in which interventions to modernize people or keep them local, shape their nutrition conditions, including those of children. Rather than dismissing the coastal people because they are 'maladaptive', accessing their experiences on which they make sense of nutrition, especially whether their views are in line with the experts' views, is equally important.

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