

# **“The impacts of migration on establishment of social capital and environmental degradation in Kibwezi, Kenya”**

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## **Abstract:**

Kibwezi, Kenya is a community situated in a fragile environment experiencing rapid in migration because of land availability. As more poor farmers are settling in the area, there is a serious risk of environmental degradation, which only deepens poverty there. Efforts to improve the quality of life in Kibwezi need to focus on {a} the readiness of the population to organize around environmental issues, {b} the extent of people's environmental knowledge, and {c} the varying motivations individuals and groups have for dealing with ecological stress. This ongoing project examines the ways in which a sense of community is emerging in and around the town of Kibwezi in terms of "social capital" formation. Sometimes equated with "neighborliness," social capital includes the intimately localized relationships between individuals and groups that condition communication necessary for promoting community initiative, responsibility, and adaptability. Interviews are being conducted to determine which types of populations are moving into the Kibwezi area, where they have come from, how long ago, and for what reasons.

## **Acknowledgements:**

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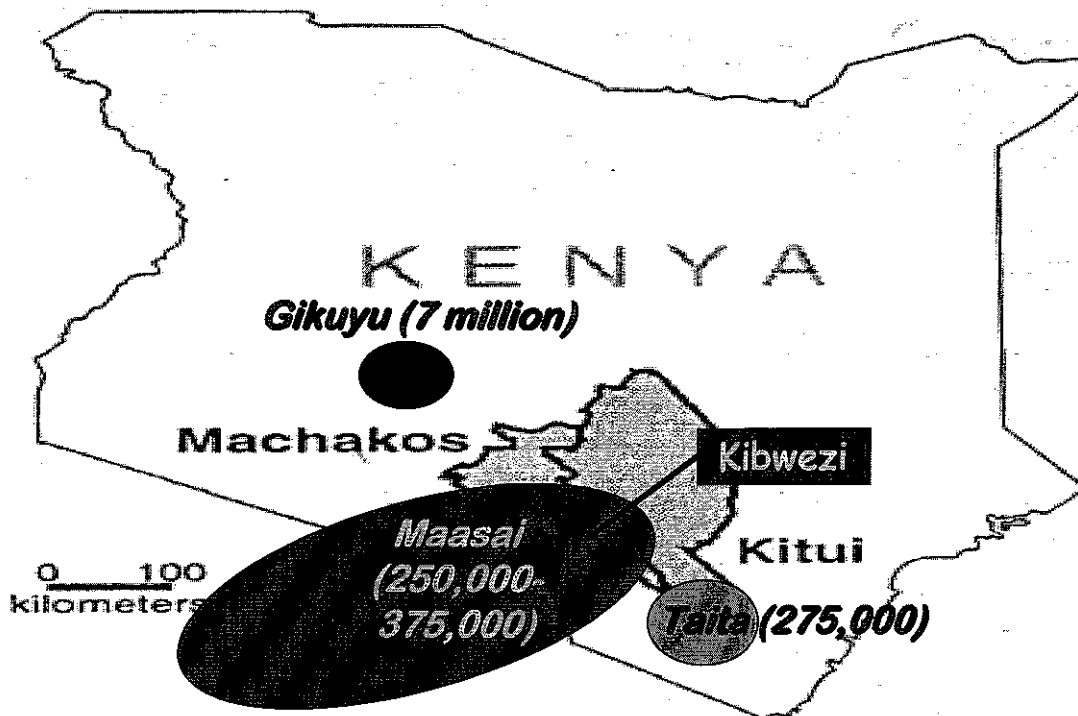
## **Introduction:**

As Kenya's per capita GNP has declined since the late 1980s, the gap between rich and poor has widened dramatically. According to the World Bank (1989, p. 166), by 1990 the poorest fifth of the population earned 3% of GNP, while the richest fifth earned 60%. While the country remains overwhelming rural, only 18% of Kenya's land is arable, and more than 40% of that is held by 1% of farming households in farms averaging 1000 hectares in size (Government of Kenya 1994, p. 41).

Consequently, most of the population struggles to survive under marginal circumstances. Particularly marginal is Kibwezi Division, one of three administrative sections of Makueni District in southeastern Kenya. In every respect, Makueni qualifies as a "hardship" district, ranking sixty-fourth out of sixty-seven districts nationally in terms of household income, educational achievement rates, general health trends, food security, et cetera. While the main highway and rail line in the country run through the center of the District, it is an unmistakably rural place.

Yet in the last twenty years, this same main highway has brought increasing numbers of people and goods into rural Kibwezi. People move across landscapes for a variety of reasons. Motives for moving to Kibwezi are varied. Some arrive due to forced migration by the government from more fertile lands. Others have settled the previously sparsely populated Kibwezi Division hoping for greater household income sought on expanded acreage rather than by way of labor migration to Nairobi or Mombasa. Still others use Kibwezi as a stepping stone to either move to a city or back to a traditional homeland, in either case under improved circumstances. As important as the decision to move is the question of why certain people end up in the same places. Kibwezi has been termed by some inhabitants as a 'metropolitan' community due to the immense diversity of people living within Kibwezi town. A true demographic census is not available. However, an estimate from observation and questioning in Kibwezi would suggest upwards of ten ethnicities converging in Kibwezi town, not to mention a variety of religious affiliations and groups.

## Diversity in Kibwezi:



### The Ukambani area of Kenya

Ethnic diversity in Kibwezi emphasizes interactions of the indigenous Akamba with Gikuyu, Taita, Maasai and coastal Swahili populations, among others. The Akamba were among the first groups encountered by British colonists and assumed they would have a large part to play in the building of the country (Munro 1975). At first, this seemed to be the case, as the largest Akamba settlement (Machakos) became the center of the colonial administration before the founding of Nairobi, today's capital of Kenya. However, the Akamba have become a suppressed people, partially because of the ethnic affiliation of Kenya's presidents. The Akamba are found living on some of the poorest land in the country even though they are one of the largest ethnic groups in the nation and make up a majority of the population in Kibwezi. The Akamba are indigenous to southern Kenya between the Taita Hills to the east, the Yatta Plateau to the north, and the eastern escarpment of the Great Rift Valley to the west. This semiarid region is known as Ukambani (Rocheleau, Benjamin, and Diang'a 1994).

A majority of the Akamba population has made the choice to stay on the marginal lands that are left of their traditional homeland. The Akamba believe that a person's soul resides at one's birthplace. There is an eternal tie and responsibility of every Kamba person to their place of birth. This tradition

assumes the dispersal of a deceased's capital back to ancestral homelands. Still, land consolidation by export agricultural producers around Machakos led to significant settlement of lowland areas including Kibwezi after independence in 1963 (Murton 1999; Tiffen and Mortimore 1992; Tiffen, Mortimore, and Gichuki 1994).

The Gikuyu are the people originally from west of Kibwezi along the rift valleys and on the plateaus near Nairobi. The Gikuyu have become the elitists of Kenya after independence. These people are the largest black landholders of arable in the country. This is because they were first to receive much of the land once known as the "White Highlands" (having originally suffered the loss of it to British colonists after WWI, together with many Maasai- see Kanogo 1987). The postcolonial allotment was a simple case of helping your own kind as is done by many leaders, even today (see Klopp 2000). The Gikuyu population is small in Kibwezi. However, those Gikuyu who do reside in the town are often stereotyped as rich regardless of their true economic status.

Kibwezi is located in the northern reaches of traditional Maasai migration routes. However, the Maasai are not considered a significant influx to Kibwezi's population. During our interviews, a new Maasai migrant to Kibwezi was aware of only two other permanent Maasai inhabitants (all male) within Kibwezi town and five Maasai women who commute to the Kibwezi market, but who do not live in Kibwezi town. But however small the Maasai population may be, their presence is particularly well known within the community. People interviewed of many ethnicities and religious affiliations stated a respect for the Maasai population. As developing cities move outward and government policy continues to encourage the Maasai to establish permanent settlements so that more territory can be converted to wildlife parks, the Maasai may become more common, if involuntary, inhabitants of Kibwezi Town (see Talle 1988). Indeed, the Maasai claim the entire area of Kibwezi Division, extending southwest over the range of the prominent Chyulu Hills in Kajiado District and across the international border into Tanzania as "Oloirien", a vast precolonial range.

The Taita, originally from the hills of southern Kenya, have recently become migrants to Kibwezi as well. Large-scale commercial agriculture promoted by the Kenyan government has prompted poorer Taita to move north. Taita populations in Kibwezi are presently small in number, similar to that experienced by the Maasai.

Swahili populations of Kibwezi have congregated in the center of town. Many of these families are small business owners in the community. A majority of the Swahili population lives in what is termed locally the "Muslim Quarter." This area of Kibwezi is the most visible micro-community within the town. This area is also the most ethnically diverse part of Kibwezi and the most environmentally marginalized living space. The Swahili represent a mix of African and Arab populations blended together for more than a thousand years through Indian

Ocean trading contacts on the coast. With the appearance of Europeans in the region starting in the 16<sup>th</sup> century, the Swahili increasingly moved inland, establishing a string of trading outposts, the most interior being the town of Sultan Hamud. Kibwezi's Swahili population includes Kenyan Swahili, together with Somalis, Yemenis, Saudis, and others.

Importantly, though a minority population (in terms of numbers and religion), this group continues to play an influential role in defining and sustaining the community. The Swahili established the Kibwezi Township School and, together with the Asian population imported as laborers by the British, built the rail line. Hussein Yaro is a clinic director in Kibwezi. He and his family live in the Muslim quarter of town. Although his family is of Somali descent, Hussein has never felt like a minority in Kibwezi because he considers himself Kenyan. His family has lived in Kenya for three generations. He says he intends on staying in Kibwezi because he wants his children to grow up there. Hussein believes Kibwezi is a, "diverse and growing cosmopolitan community."

The population influx of many of these peoples has occurred just in the last ten to twenty years. Along with this population increase has come such technological developments as running water and electricity. The consequences of increased development, together with a more active economy, can cause environmental stress just as can an inactive economy and increased poverty. The ramifications of Kibwezi's population growth have yet to be fully manifested. Halima Owit, a Taita woman, relocated to Kibwezi with her Luo husband in 1955. Halima is now 64 years old and has seen Kibwezi change from a small stop on the railroad to the community it is today. She and her husband moved to Kibwezi in hopes of purchasing land of their own. Today Halima still owns 4 acres of land herself. She believes that people who come to Kibwezi are, "lost here [in Kibwezi] to stay." Halima's family considers her lost because she has been away from home for so long, even after her husband's death. She says she stays in Kibwezi because there is nowhere else for her to go.

Makueni District, Kibwezi Division within it, and Kenya in general face staggering problems associated with large-scale poverty. At the same time, the region has significantly untapped reserves of labor power and indigenous problem-solving creativity that could be brought to bear on critical issues concerning the country's further development. In light of this situation, we examined the ways in which a sense of community is emerging in and around the town of Kibwezi in terms of "social capital" formation. Social capital is sometimes equated with "neighborliness" and includes the intimately localized relationships between individuals and groups that condition communication necessary for promoting community initiative, responsibility, and adaptability (Fox 1995; Richling 1985; ). Because of this, we interviewed individuals and families throughout the community to determine where they have come from, how long ago, and why they migrated to Kibwezi. Assumptions were made that length of residency and frequency of contact with similar sub-populations in the area would bear an

important relationship to the willingness an individual or group might demonstrate in working with others for the common development of the place.

### **Social Capital in Kibwezi:**

Social capital is mainly built within the Kibwezi area {a} through family connections with ownership of farmland (*shambas* in Ki-Swahili), {b} through business and working environments, and {c} in terms of participation in community organizations. The majority of those interviewed reported working on more than one shamba. They typically worked on a shamba within the Kibwezi area and then traveled frequently to help family members with shambas at other locations (in some instances, outside the district). Often the shared plots located away from Kibwezi are larger and produce a wider variety of crops. Needless to say, this would seem to challenge the possibility of building up social capital available for Kibwezi's development. Indeed, investigations in a community near Kibwezi of what Tiffen *et al* (1994: 52) call "circulatory migration" revealed at least one absentee family member in fully 40% of all households (Howes 1997: 827). In other words, it might be appropriate to consider Kibwezi currently as an engine for the development of several other communities.

A specific example to this phenomenon is that of Susan and Jeremiah Mwalli. Susan and Jeremiah have lived in Kibwezi for nearly 15 years. Their two daughters have gone to school and made friends in Kibwezi. Susan owns and operates a hair salon in Kibwezi and both she and Jeremiah are active members of a beekeeping and honey processing organization in Kibwezi. Formerly a mid-level officer with the national health service on assignment throughout the whole breadth of Eastern Province, Jeremiah now runs a small auto parts store in Kibwezi. However, this family has also up kept a more extensive home and farm in the not-so-near community of Sultan Hamud. When asked where their 'home' was, the entire family answered "in Sultan." There was no doubt in their minds that their home and true residence was in Sultan Hamud regardless of the time they have spent in Kibwezi. Although they insist their connection and responsibility is to the Sultan community from which Susan and Jeremiah are each descended, they continue to build on to their home in Kibwezi (one of the most modern in the town) and contribute to the community through township school fees for their younger daughter and economic stimulus from their business. In other words, the conscious response of people in Kibwezi (what they say) is that they do not believe Kibwezi to be their home, nor do they feel a responsibility to the place. However, the nonconscious response (what people do) is often exactly the opposite. As found in similar migrant situations elsewhere in the world (Massey and Bassem 1992; see also Smart 1993), many people who continue to live between two communities are indeed contributing to both.



During the interview process, we were also interested in the knowledge that people bring into the Kibwezi community regarding farming practices, marketing contacts, nutritional habits, and so on. This is because Kibwezi is overwhelmingly an agriculturally-oriented community, the specific geographic conditions of which are important to understand. According to UN and FAO data, the amount of crop land per caput for the whole East Africa sub-region was 0.27 hectares, compared to an average for all developing countries of 1.8 hectares. For Kenya, this average falls to 0.17 hectares. The amount of forest and woodland per caput for the sub-region was 0.40 hectares, and while in Kenya the figure is slightly higher (0.66 hectares), the African average is 1.16 hectares and the world average is 0.75 hectares. Kenya also faces a low supply of renewable water, averaging only 1 cubic meter per caput per day (compared to a global average of 19m<sup>3</sup> per day).

Within Kenya, Kibwezi is a community situated in a particularly fragile physical environment of low agricultural potential, receiving less than 25 inches of rainfall yearly (distributed bimodally, the preferred "long" rains failing to come 6 out of every 8 seasons). In the southern reaches of what was once Machakos District Kibwezi sits within a geographic region of decreasing altitude, increasing temperatures and decreasing moisture. The soils are poorly drained and unsuitable for perennial agriculture (Rocheleau et al. 1994). The inhospitable conditions have been a buffer for population pressure to the region. Nonetheless, the district centered on Kibwezi is experiencing rapid in-migration because of cheap land prices as well as the opportunity for access to better business, education, and technology than in surrounding rural areas. As more and more poor farmers settle the area, there is serious risk of environmental degradation, which only deepens poverty. Thus, efforts to improve the quality of life in Kibwezi need to focus on the extent of people's environmental knowledge and how that expertise might tie in with their sense of belonging to the community.

### **Indigenous Knowledge in Kibwezi:**

Every person who moves into Kibwezi from every different walk of life and each corner of the country brings with them the knowledge of that landscape as well as the culture of that area. This knowledge, when considered specifically in relation to the natural environment as been termed Traditional Ecological Knowledge (TEK). When a broader lens is used in determining the scope of knowledge indicative to the creation of community the term coined has been Indigenous Knowledge (IK). By encompassing social interactions, problem solving and economic habits it is possible to gain a more in-depth view of the complexity of the environment created in Kibwezi.

Indigenous Knowledge can include methods of agriculture, gathering and processing of natural resources, water conservation practices, biological

identification, cultural traditions, values, beliefs systems, and world views. Dei (1993, p. 28) describes Indigenous Knowledge as a "holistic and inclusive form of knowledge encompassing the mental, intellectual, spiritual and physical development of the individual self and interconnectedness between self and society with Earth". Indigenous Knowledge is a base of knowledge which is specific to each individual group of people. Two Akamba families who have come from two different regions in Kenya may each have very different IK.

Migrating populations enter into Kibwezi and share and learn from and with the people already there creating functioning multicultural/ethnic communities. In Kibwezi the patchwork pattern of internal neighborhoods fosters a reciprocating knowledge swap. Within these overlapping regions of ethnic and religious diversity there is potential for distribution of knowledge between people who would not traditionally interact repeatedly. As different peoples migrate to Kibwezi they bring with them Indigenous Knowledge. By exchange of IK it may be possible to retain, if not increase the dynamic nature of a said group of people and alter individuals historic perceptions of resource use. The landscape is affected by everything that occurs within and upon it. Understanding where people come from and the history of their interactions with the land is essential to understanding the choices made by these people in Kibwezi.

The ecological impacts of migration are far from clear. In 1934 Roger van Zwanenberg reported that, "Erosion was particularly bad around the Machakos area of Ukambani." The extent of this environmental degradation was attributed to the immense population pressures in the region and was singled out by the Kenya Land Commission as needing "urgent attention" (Okoth-Ogendo 1976). The situation has only worsened since then. More than thirty years ago (Boserup 1970), the hypothesis was put forward that increased population density can promote intensification of land use through innovation of techniques and improved land management. Since that time, a number of studies (Lagemann 1977; Tiffen and Mortimore 1992; Tiffen, Mortimore and Gichuki 1994; Turner, Hyden and Kates 1993) have confirmed this possibility in Kenya and elsewhere in Africa, but the strong case exists to suggest that what really happens under such circumstances is socioeconomic stratification and land consolidation. As a consequence, the rural poor shift to areas on the frontiers of agricultural or range land productivity (Mbaria 2000). Inasmuch as income disparities are becoming increasingly exaggerated, the environmental impacts may be assumed to be at least as dramatic. Indeed, according to one estimate, "for every hectare that they sell in their home area, migrants are likely to cut 10 hectares when they relocate to the semiarid frontier" (Thomas-Slayter, Wamalwa-Muragori, and Rocheleau 1995 p. 28; see also Rocheleau, Benjamin, and Diang'a 1994).

In this regard, it is also worth noting that the recent history of Kibwezi is associated with mass evictions by the government of several thousand families from two nearby areas (one to the west and one to the north). Under the circumstances, some of those who have lost land, livestock, and other property

are particularly cynical about relying on "neighborliness" to help them improve their lot. Others, though, face the same situation insisting that working to build relationships of trust between local residents regardless of background is an absolute necessity for future development in light of government corruption and caprice. In either case, newcomers (whether as refugees or voluntarily settlers) bring a variety of different perspectives on what is valued as environmental resource in the area, and efforts need to be undertaken to make sense of (and if possible, harmonize) that variety of perspectives before further landscape degradation occurs.

An example of the dissensus of perspectives among Kibwezi residents can be seen in the varying degrees of land use. While some inhabitants of Kibwezi have fortified and farmed the land for many years to feed their families and bring produce to the market, others have taken to a more rigorous land use. Kibwezi's soil is littered with rocks. Sections of land adjacent to Kibwezi Town (on government land, no land) are being stripped of these rocks for use in construction and development. The removal of these rocks is a labor intensive activity and the payoff is minimal. However, the rewards are more immediate than farming and the land is not necessarily owned by those reaping its benefits. This rock collection is causing erosion of landscapes in the magnitude of feet per year. Trees which stood tall last season are now uprooted and the sit atop a dwindling soil line. Social capital formation is an investment in the future. The migratory nature of Kibwezi's population does not foster the thought of a future in Kibwezi. In short, for many Kibwezi is a place to use and leave.

Migration histories are not the only factors influencing the possibility of establishing and developing social capital in the Kibwezi area. Especially in terms of linkages to issues of environmental degradation and sustainability, social capital formation occurs in a particular context in the region, not least of all one of insecure land tenure (Fisher 2000). Current migration and environment literature is dominated by Davis' 1963 work outlining a paradigm modifying multi-phase response demographic theory (Curran 2002). Davis proposes that population growth affects land use in four distinct phases. These phases include: tenure regime change, appropriation of land (extensivication), technological innovation, and demographic change (out-migration). A shortcoming of the paradigm as outlined by Curran is that, "it only considers two migration-environment relations-migrations to places where there is 'available' land and out-migration in response to limited environmental resources" (2000, p.6). In Kibwezi land is only somewhat available and resources are already limiting. Yet, people keep moving to Kibwezi. Land in and around Kibwezi town has the appearance of being 'available.' However, much of it is not registered. People living on and using the land rarely have responsibility for it. Some are squatters, using the land to better themselves and move on before owners coming from Nairobi are aware of their presence (as evidenced, for example, by rock collection). Others are people who have lived on these plots for over 15 years and farmed the land and have fed their families from it. This land may not be

theirs either. Without registration their claims mean nothing and their homes are up for sale hundreds of kilometers away in Nairobi.

According to the Ministry of Lands and Settlement, less than half (45.70%) of all lands in Eastern Province have been registered with the government. Unregistered lands may be subject to competing claims, spontaneous settlement, government seizure, or distribution to commercial interests. Some parts of the country show weaker standings in terms of land registration, but each case is special. Coast Province, where less than a fifth of all land has been registered, is subject to intense speculation for tourist and industrial sector development. Lands in and around Nairobi also change hands frequently, and of course the very possibility of land ownership and use there is subject to persistent government intrusion and manipulation (Klopp 2000). Northeast Province, where effectively no land has been registered, is largely uninhabited desert.

Province	Land registered (%)
Central	90.22
Rift Valley	70.05
Nyanza	68.33
West	48.60
Eastern	45.70
Coast	19.59
Nairobi	17.43
Northeast	0.05

Source: Government of Kenya 1998

### **Histories of Settlement in Kibwezi Division:**

The possibility of securing registration is further complicated by the fact that, as elsewhere in Kenya (Kanogo 1987), the region has a particularly complex history of occupancy, legal description, and settlement purpose. The area was subject to evictions of native peoples during colonial times so that the region could be divided into 375 large private estates. These private estates collapsed due to their isolation from transport infrastructures and the regions poor ecologic state.

The 1902 Native Reserves Ordinance had profound impacts on local populations, forcing the removal of people from a large area stretching from the Tsavo River in the south to the Kiboko River in the north and from the Chyulu Hills in the west to the Athi River in the east. In a series of moves, people were

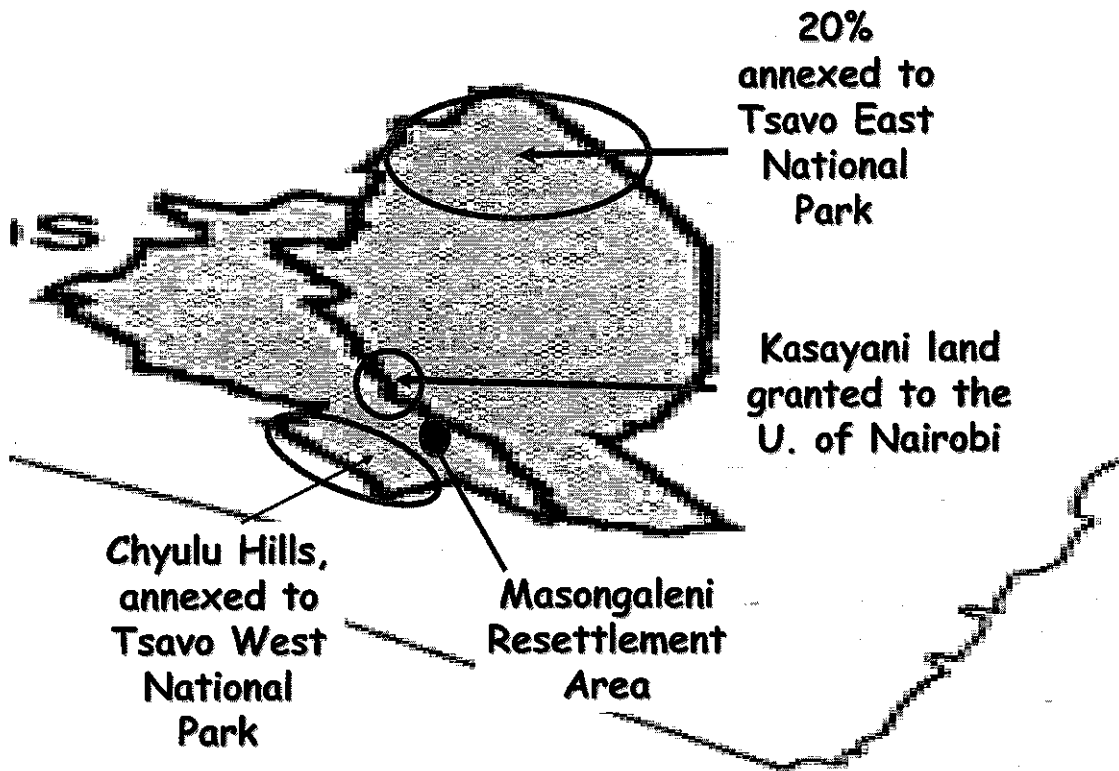
first shifted into an area near Kiboko called Cyale, then allowed to colonize the Chyulu Hills briefly, and then moved in the area on and around Mbwinzau Hill north of Kibwezi Town. The Mbwinzau site, about 64 square kilometers in area, had been granted by the British to the Presbyterian Church of East Africa in an agreement signed in South Africa in 1897, six years after the missionaries arrived in Kibwezi. It is instructive to emphasize that the arrangements concerning Mbwinzau were made without local input and not even conducted in Kenya! In the wake of the Native Reserves Ordinance, the church was allowed to sell to the government the area it had taken control of around Mbwinzau, the proceeds not passing to the indigens who had been evicted from the area. Instead, the area was subsequently declared Trust land, to be held inviolately by a new population settled there during the period when native reserves were being organized.

By 1915 all land in Kibwezi Division (with the exception of Mbwinzau and two other, smaller areas of Trust land around Cyale and Mikuyuni) was declared government property under the Crown Lands Ordinance. Following World War I, some parts of the Division were given to white veterans in a land lottery held in Nairobi. As already mentioned, the white estates around Masongaleni failed, but in 1962 on the eve of independence the Minister for Agriculture arranged to have 20,000 acres in the area transferred to the company of which he was a director. This became the foundation of the Dwa Estate, bought at the remarkably bargain price of only two Kenya shillings (KSh) per acre.

Shortly before independence, efforts were made to relieve population pressure on Akamba *shambas* in the area around the town of Machakos (Murton 1999). However, the higher potential agricultural areas to the north were held by European ranchers and administratively excluded from the resettlement schemes. Consequently, since the 1960s increasing numbers of Akamba peasants have moved down into Kibwezi Division, which was originally part of Machakos District. The best land in the area could be found in the Chyulu Hills, which as of 1963 was reopened for settlement. By 1987, the estimated population of the parliamentary constituency to which Kibwezi belongs (together with Makindu and Mtito Andei Divisions) stood at about 150,000 and was for the most part made up of families that had arrived during the previous 10-12 years. Through in-migration and natural increase, population growth in the area around Kibwezi achieved a rate of about 8% per year, twice the national average before the impact of AIDS and some concerted efforts at family planning (Carnegie Quarterly 1987, p.9).

Worsening matters, Machakos District was subdivided in 1992, with Kibwezi now located in Makueni District, a new administrative region with few resources to look after its rapidly expanding population. At about the same time, the Chyulu Hills flanking Kibwezi were attached to Tsavo West National Park, while a portion of Kitui District to the north has been attached to Tsavo East. In both cases, the government's efforts focused on protecting endangered wildlife (especially in the north during the 1980s when faced by poaching raiders from as far away as

Somalia). Also north of Kibwezi, a large agricultural research farm granted to the University of Nairobi in the early 1990s led to seizure of considerable acreage east of Kasayani. Altogether, about 60,000 Akamba were evicted from their farms and (especially when official resettlement allotments have still not been adequately distributed) pushed to search for land elsewhere in Kibwezi Division, an area about 1100 km<sup>2</sup> in size. Some of these refugees have relocated to the Masongaleni resettlement scheme.



The Ministry of Lands and Settlement (successor to the Ministry of Agriculture) expects the refugees to first register their claim to the land parcels they occupy, at a cost of KSh 2500 per acre. Securing registration is a highly unlikely prospect given both the general poverty of the population and the labyrinth of bureaucratic procedures required to do so, not to mention the costs in time and funds traveling to distant administrative offices. Even then, another charge of KSh 2500 per acre is assessed for purchase of the land, and while the government appears to appreciate that most of the uprooted residents of Masongaleni can ill afford such prices, the Ministry charges a 6.5% annual interest rate on loans it extends for purchase, requiring 10% as a down payment and the remainder to be paid within 28 years in semiannual payments. If at the term of the loan a farmer is in arrears, he or she is expected to pay the balance in full or face immediate dispossession.

Together with natural increase and unabated in-migration, by 2002 the total population of Makueni District was estimated at 800,000 having risen from 470,048 in 1979 (AMREF 1998). Of this, as many as 210,000 were resident in the parliamentary constituency, with 87,000 in Kibwezi Division and nearly a quarter of that (21,000) living in the Masongaleni Resettlement Scheme (MACOSUD 2002). Within the Division, the rise in population has been dramatic, up 64% since 1996 (Action Aid Kenya 1997). In 1979 the population of Kikumbulyu Location (including Kibwezi Town and areas to the north-northwest) was 17,307; for 1993 the total was estimated at 28,890. The population of Ngwata Location (east and southeast of the Masongaleni Resettlement Scheme) also rose rapidly, from 28,921 in 1979 to an estimated 48,292 for 1993 (Action Aid Kenya 1990). In short, evictions and subsequent resettlements have not occurred in a vacuum but in the midst of ongoing population arrivals in and around Kibwezi of significant magnitude given the ecological challenge of the area.

Thus, the resettlement issue in particular emphasizes the difficulty of establishing social capital for investment in cooperatively developing Kibwezi Division's future. There are problems of ethnicity related to eviction histories, since in clearing the Chyulu Hills some Gikuyu settlers were not removed, leaving the impression that the government had especially targeted ethnic Akamba. On the other hand, the opposition local leadership forestalled violence that could have resulted from a politically instigated threat to evict Gikuyus from Kibwezi Town in 1997 (Action Aid Kenya 1997). But there are also problems with locational histories, as when the Kasayani area was cut in half when the University of Nairobi farm was established, those in Kasayani East losing land, homes, and livestock while their former neighbors in Kasayani West were left relatively undisturbed. Moreover, inside the Masongaleni Resettlement Scheme itself it has proven difficult to build connections between households seeking to rebuild disrupted lives since the refugee population includes those evicted not only from the Chyulu and Kasayani but also from Kalembani. For that matter, allotments in the resettlement areas have been made by use of a ballot system, destroying social capital insofar as former neighbors have rarely found themselves living next door to one another after being moved. Another administrative obstacle to cooperative action has to do with the division of the resettlement schemes into parcels assigned by "family", ignoring the variable size of different households. Over time, division of these parcels among inheritors of originally resettled family heads has led to an exacerbation of the land-hunger crisis experienced in the area, with smaller families maintaining relatively larger farms. Indeed, it is worth mentioning that even before the formal process of resettlement began in the Masongaleni area, 120 private investors with connections to government of one sort or another had each acquired multiple-parcel lots averaging 50 acres while the official limit on land allotment was 10 acres per family. Given the exorbitant prices charged for resettlement lots, it should come as no surprise that only 200 landowners have successfully registered their claims in the Masongaleni area, most of whom of course are those (generally absentee) owners of large farms.

## Histories of Environmental Challenge in Kibwezi Division:

Environmental challenge is part of life in Kibwezi Division. Oral histories dictate droughts, floods, and famines as far back as the memory allows. Without enough rain crops will fail. With too much rain fields flood and crops will fail. As settlement in the region has increased so has the frequency of famine and environmental hardship. Although inhabitants do not control the weather, resources for coping with crop failure must be distributed amongst more people resulting in more devastating outcomes.

A participatory poverty assessment exercise carried out in ten village clusters in the northern parts of Makueni District (AMREF 1998) derived a time line associating local history with environmental changes. These are listed below. The settlement dates were obtained from the Foundation Agency for Rural Development (FARD) headquartered in Kibwezi, Kenya.

Years	Environmental Events	Years	Settlement Events
1961	<i>Yua ya ndeke</i>	1902	Native Lands Ordinance
1965	<i>Yua ya atta</i>	1915	Establishment of Crown Lands
1967	<i>Kau wa Akamba na Maasai</i>	1936	Eviction from Chyulu Hills
1975	<i>Yua ya longoso</i>	1960's	Displacement from Machakos
1980	<i>Yua ya nikwa ngwete</i>	1962	Dwa Estate established
1982	<i>Yua ya ndukambikwatye</i>	1963	Chyulu Hills reopened
1984	<i>Kuka kwa iiyu</i>	1989-92	Evictions from Chyulu Hills and Kisayani East
1990-92	Cost-sharing introduced		
1993	Bumper harvests		
1994-96	Drought and famine in many parts of the District		

Well-remembered is the 1961 "famine of planes" (*Yua ya ndeke*), when American relief efforts air-dropped food in Ukambani. A few years later the region suffered a famine (*Yua ya atta*) during which only a certain wheat flour was available that resembled that manufactured by a local company (*Atta*). The 1980s were a



particularly difficult time in the district, starting with the Yua yu nikwa ngwete (“I die yet I have money”) famine, so named because though household incomes were relatively high, no food was available locally due to drought. Two years later, another famine was nicknamed Yua ya ndukambikwatye because men left the region in large numbers searching for work to buy needed food, skeptically warning their families “Don’t depend on me” (ndukambikwatye). Then in the mid-80’s parts of Makueni District were hit by an army worm infestation (Kuka kwa iiyu). Times of ecological stress are not the only moments people in the area remember as difficult; in 1993 bumper harvests in some parts of the region depressed consumer prices after three years of poor rainfall had raised producer costs significantly.

Histories obtained from FARD indicate famines in addition to those above in 1910-15 (Yua ya Malakwe), 1929 (Yua ya Nzalukamya), 1934 (Yua ya ukuku), 1942 (Munyoloka) and, 1945 (Mwolyo). The famine of 1910-15 was accompanied by the establishment of Crown Lands in Kibwezi Division which displaced large portions of the population. The initial eviction of the Chyulu Hills in 1936 came at a time when people were already combating Yua ya ukuku. The 1942 and 1945 famines came one after another to communities already feeling resource strain from the influx of migrating peoples from the Chyulu. As the migrations have become more frequent in the last half of the century the frequency of famine also increased showing a correlation of population increase and ecological hardship.

### **Conclusions and implications for future research:**

In many societies of the developing world there is presently a call for a rejuvenation of IK at a local level. The threat of ecological disaster has also created an increased interest in IK as a tool for a sustainable societal development (Dei 1993). Dei (1993) also indicates that the interference of government policy, land rights, and eviction can cause the breakdown of traditional ecological safeguards and practices, essentially resulting in a loss of IK. In Kibwezi the governmental influence may have already taken a toll on the population’s IK due to events such as the Chyulu Hills eviction. Indigenous knowledge in and of itself may not cause societal change. However, the exchange of IK and the interactions associated with said activities may foster the development of social capital and aid in the development of a responsibility to the landscape regardless of personal history. High social capital has been found to be associated with cooperative social problem solving (Brown and Ashman 1996). With the amount of upheaval these populations have felt it is no wonder that social capital formation in Kibwezi is comprised of a subtle set of actions waiting to be cultivated instead of a predominant and visible part of every day life. This community is still growing and learning from one another.

Kibwezi's population is comprised of people from many backgrounds with connections to many other rural areas of Kenya. Perhaps through their continual interaction, the people can develop a community in which they teach and sustain themselves through their own programs. It's important to note that a search for ways to build up social capital (or strengthen interpersonal connections vital for existing forms of it) does not necessarily imply improvement in the economic status of the community. For example, vigorous household investments in health and education services in Kerala State, India, as well as highly visible participation in political activity, have not translated into improved financial wellbeing (New Internationalist 1993). Likewise, studies of rural Newfoundland (Matthews 1983; Richling 1985) have demonstrated such a strong presence of social capital that "you'd never starve here", even though the collapse of the provincial fishing industry has crippled families in that part of maritime Canada economically. Cooperation, mutual respect and a willingness to work together may be a vital first step in building community, especially under circumstances as challenging to survival as found in Kibwezi. However, they are not in and of themselves sufficient to guarantee the development of the place in any full sense of the word. Especially in this regard, there is undoubtedly a vital role to be played by indigenous nongovernmental organizations that have recently taken on an increasingly important role as negotiators with the State for improved access to resources. Clearly, to extend the present research will not only require broader and deeper investigations of household histories of contact with Kibwezi, but also of how different sub-populations there interact organizationally.

Presently, significant interactions of sub-populations in Kibwezi are limited to those among the minority populations. It is these minority populations, who even together comprise only a small portion of the Kibwezi population, which have begun the process of social capital formation. Often the only ethnic separation visible in the community is that of Akamba and everyone else. As previously indicated, it was residents of the Muslim Quarter who built the public school for everyone's children to use; likewise, it was leaders within the Muslim Quarter who organized a Harambee (a traditional Kenyan fund raiser wherein the government provides matching funds to those raised by voluntary donation) for the community during our research stay in the summer of 2002. These people are the fewest in number but arguably are making the most tangible differences in Kibwezi.

To gain an understanding of the organizational interactions of sub-populations in Kibwezi, it will be necessary to identify organizational leaders within the community. Brown and Ashman (1996) indicate the existence of individuals and organizations with intersectoral relationships which enable interaction of people with differing backgrounds to have a positive effect on the establishment of social capital. Organizations and individuals who create these "bridges" between groups are indicative of the continuation of creative problem-solving within communities (Brown and Ashman 1996). Within Kibwezi these "bridge" members are often self-proclaimed leaders including directors of NGO's, school

headmasters and religious leaders. These leaders are aware of the possibilities of connecting Kibwezi's inhabitants to create community interactions. However, many of these leaders are missing the target by focusing on populations which are not actively working towards these same goals. A goal of future research should be to begin to engage community leaders in conversations with more marginalized and minority populations who have already begun to establish social capital. Indeed, a preliminary workshop with some of these "bridge" members of Kibwezi was conducted for this purpose in July 2002 and yielded intriguing results. Those people present at the workshop did not believe there was a stationary "center of town" in Kibwezi. Instead the central location of the community changed as the community changed through time. At the time of the workshop it was believed the center of town was located at the *matatu* (bus) station. This is an interesting association considering most of the interactions in this area are focused on getting out of Kibwezi.

Another suggestion made by a teacher at the Kibwezi Township school was that perhaps there is no center of Kibwezi town. The town could be considered in quarters (i.e. the Muslim Quarter located downtown or the road to Mbwinzau where many teachers live). A person living in Kibwezi goes to different areas for different things and if a migrating family is of a certain descent or religion, that family would gravitate to certain areas in town. Within Kibwezi these quarters or micro communities might be thought of as neighborhoods. Each of these neighborhoods intersects with another in at least one place, creating what in ecology would be termed a patchwork effect. Together these patches create the rough exterior boundaries of a "community." The outlying patches of each micro communities may intersect. It may be that Kibwezi hasn't fit a traditional community definition because it is actually many communities in one space.

When asked to draw a map of the area around and including Kibwezi town the only people who included physical features on their maps were those who were not from Kibwezi, indicating that people from town do not consciously associate with the environment around them. It was agreed amongst the participants that much of Kibwezi's population works in town, but lives along the outskirts making Kibwezi a working place and not a meeting place. Each of these observations suggests that although an outsider can see social capital accumulating and organizations and community structures forming to those people who live in Kibwezi there is not a singular community in which to contribute.

Further and more extensive community mapping with a more diverse sub-population of Kibwezi's population would be beneficial in creating an image of the Kibwezi community as its inhabitants see it, as opposed to the view an outsider has of the community. The contrasting observations of a researcher, NGO director and school teacher are varied enough to suppose that more marginalized and minority populations may have a different point of view all together.

Although a lack of conscious social capital was observed in the middle and old age majority populations of Kibwezi there is another sub population of the area which was not sampled exclusively. This population was that of children born in Kibwezi who have lived there their whole lives. When a class of 75 standard eight students (eighth grade) were polled, none of them considered Kibwezi their home. However, all of these children had been born outside of Kibwezi and moved to the area in the last ten years as part of the population boom mentioned previously. These students have siblings of younger ages who have been born in Kibwezi and are beginning to gain a connection to the place. Perhaps Kibwezi's community is in elementary school right now and as this population grows so too will social capital, a sense of community and a responsibility to the landscape.

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