Absorption or displacement - necessary or gratuitous? The contention between Kiswahili and minority languages in Tanzania

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Abstract: *A growing body of research suggests that within some communities, language shift is occurring as minority languages are pushed out of their normative functional domains by a more dominant, powerful and often higher-valued language. Barton and Hamilton (1998), in their work on literacies, describe these comparative and somewhat overlapping domains as 'vernacular' and 'public'. Research in one district of Tanzania has shown that despite a significant domain shift as Kiswahili leaks from the public or formal domain into the vernacular, local languages are still able to hold their own in one field in particular: that of plant identification, knowledge and practices. This ethnobotanical knowledge, held within and maintained by the vernacular is fundamental to local livelihoods as local wild plants are a vital food source as well as medicine. This paper considers the potentially far reaching implications of better understanding the dynamics of language shift for local knowledge conservation.*

Key words: biocultural diversity; language shift; local languages; ethnobotanical knowledge; borrowing; Tanzania

"The first rule of intelligent thinking is to keep all the parts"
(Aldo Leopold 1949)

'Biocultural diversity' (BCD) is the total variety exhibited by the world's natural and cultural systems and refers to fundamental linkages and interdependence between the various manifestations of the diversity of life: biological, cultural, and linguistic diversities (Terralingua 2007). The premise of this theory is that an inextricable link exists between humans, their language, the landscapes they inhabit and cultures they live by, and that a loss or change in any of these will negatively affect the other.

The NGO, Terralingua, global leaders in work to conserve biocultural diversity advocate that,

> "*The breakdown of these [linguistic and biological diversity] connections underlies many of the environmental and social problems humanity is facing today. Therefore, any action to protect, maintain and restore the ecological health of natural environments should be intrinsically interrelated with action to protect, maintain and restore the social, cultural, spiritual, and biophysical health of human societies – and vice versa" (ibid.).*

BCD theory supports the maintenance and preservation of indigenous cultures and their associated embedded knowledge of the local environment transmitted inter-generationally via local languages. It is thought that the decline of these vernacular languages that 'encapsulate linguistic heritage' will result in irrecoverable loss of the unique knowledge that is based on specific cultural and historic experience (Brenzinger 2007, Krauss 1996, Mülhäulser 1996). This resonates with UNESCO's work on Intangible Cultural Heritage (ICH), defined as "practices, representations and expressions, knowledge and skills which are transmitted from generation to generation and which provide communities and groups with a sense of identity and continuity" (UNESCO 2003). Thus language is also integral to ICH acting as the conduit

to carry social practices, rituals, local knowledge and practices concerning nature and the universe via unique oral expressions and traditions such as songs, poems and proverbs. This reliance on the spoken language creates a fragile and vulnerable knowledge base necessitating immediate documentation, protection and conservation. ICH thus echoes the call to arms that BCD raises. In an applied sense, this traditional indigenous knowledge plays a significant role in contributing to livelihood resilience. Knowledge on locally found supplementary food sources and medicinal plants offers vital social benefits contributing to the daily subsistence needs of families and economic benefits through income-generating opportunities both of which aid the alleviation of poverty.

This study examines the use of vernacular languages in the West Usambara mountains of Northeast Tanzania, and how knowledge and practices transferred and held by these languages contribute to preserving intangible cultural heritage, particularly knowledge and practices concerning wild plants[1]. It considers the significance of these findings in the light of the local livelihood value of wild plants as a food source and that 80% of Tanzanians use medicinal plants in primary health care (AACHRD 2002, Farnsworth 1988). Once it is recognised that in African society knowledge and values are customarily transmitted from one generation to the next through the oral tradition, the value of vernacular languages becomes compelling (Mafu 2004).

Tanzania's linguistic profile

Kiswahili is the *lingua franca* of Tanzania proposed by President Julius Nyerere as the national language to promote peace and unity with the added advantage of being a 'neutral' language not favouring any one particular group or region. It is the official language of government, trade and religion, is used in mass media, is the medium of instruction in primary schools and the language in which children first learn their literacy skills. It is thought to be understood and spoken by almost 95% of the population (Batibo 1995) either as their first or second language. English is used regularly by a small minority (approximately 5%) of the population (Roy-Campbell et al 1997), is used in the national courts, in several national newspapers and is considered the second official language. English is the medium of instruction in secondary and tertiary education and the government has recently proposed that English should become the medium of instruction at all education levels (The Citizen 2008), following its East African neighbours.

There are approximately 126 vernacular languages[2] in Tanzania, although numbers are difficult to acquire as pertinent data are routinely omitted from census gathering activities. Like Kiswahili, the majority of vernaculars have Bantu origins which some academics believe make them closer to dialects than languages (Brock-Utne, pers. comm. 2005), though this is a much debated point as others argue that few Tanzanian vernaculars are mutually intelligible, the common determiner of dialects (Legère 2002). Vernaculars are primarily spoken in rural communities, amongst homogenous groupings of the same ethnic background and between family members in familiar contexts. Table 1 illustrates the areas of use of Tanzanian languages.

Table 1: Domains of Language Use

Domain of language use	English	Kiswahili	Local Languages
High Court	*	(+)	-
Government Offices	(+)	*	-
Bureaucracy / Administration	(+)	*	-
Police	-	*	-

[1] 'wild' plants refer to any plant found in the local area but not purposefully cultivated.
[2] For the purpose of this study, the term vernacular will also encompass mother tongues, ethnic, local and minority languages.

Health: Hospital	-	*	(+)
Clinic	-	+	+
Education: Government Primary	-	*	(+)
Government Secondary	*	(+)	-
Mosques and Church	-	*	-
Mass Media	(+)	*	-
Literary Expression	-	*	-
Correspondence	-	*	-
Market	-	(+)	*
Local area	-	(+)	*
Home	-	(+)	*

* used almost always, + frequently used, (+) sometimes used, - never used
(after Mekacha 1993)

Vernacular languages are not officially recognised, are absent from media, education, political or economic forums and occupy a minority, second class position. Given that 87 % of Tanzania's population lives in rural areas (URT 2005), it would seem that vernaculars have a significant role in the linguistic milieu of Tanzania. Furthermore, vernacular languages provide a valuable resource for the development of Kiswahili vocabulary and in recognition of this communities are encouraged to 'enhance and promote' (URT 2005:60) their local languages so that "Our people shall continue to use and be proud of their vernacular languages" (URT 1997:2). However, this is rarely practiced or supported.

Language choice, functions and domains

Where, when and why a language is spoken indicates the function or purpose of that language i.e. English in secondary school as the medium of instruction or a mother tongue with elders as a sign of traditional respect. This is the social-cultural context of language use and offers common domains where particular languages are normatively used (see Table 1 above). Thus language choice is not random, it is influenced by social constraints and it is these 'contexts of use' which determine choice. The three primary influences on language choice are:

- external: such as situational expectations;
- internal; such as function or purpose of the language;
- social; as in the speaker's interests or preferences.

These might change over a person's life-time as a result of shifting demands, available resources, cultural interaction, individual needs and motivations or be a collective or individual choice reflecting outside pressures (Barton and Hamilton 1998, Edwards 1995). Lexical selection itself is influenced by domain, context and speaker knowledge (Fishman 1991).

Barton and Hamilton (1998), when discussing literacy practices, suggest two main domains of language use and choice: the vernacular or private; and the dominant or public. The dominant domain is more formalised with routine sequences and expectations within social institutions. It has a more systematic and regulated learning style, has perceived higher social value, and is arguably more dynamic and progressive with more opportunity for change, adaptation and growth. The public domain includes administrative and official duties necessitating broad generic language use. The vernacular, as the name suggests, is more informal with expectations and pressures stimulated from the home or peer group and is rooted more within everyday experiences and purposes. It is more static and less open to change or alteration within its domain yet style choices are flexible and responsive to outside influences and are unregulated by formal rules, procedures or external social institutions due to its being embedded in use originating in everyday life developing a hybrid format. The vernacular domain is typified by the home, intimate relations and locally specific knowledge.

On a linguistic hierarchy, the languages spoken in the public domain are larger, more prestigious national languages with higher social, economic and functional value, whereas

those in the vernacular domain are considered smaller, minority languages less valued by society, though these divisions are debateable depending on one's epistemological position. Tanzanian's socio-linguistic setting determines that English and Kiswahili be used in the upper hierarchical public domains and local languages in the lower level vernacular.

It is important to note here that we cannot define these domains as merely 'formal' or 'informal' as this would infer that language events within the informal domain could not be considered formal. This is clearly not the case. Customary traditions and rituals adhere to strict formal procedures and expectations, as do market interactions and communication between family members where rules apply as strictly as they do in relations with banking staff or conversations with district offices. Similarly the 'private' and 'public' definition can also be debated. Some 'public' domains can be construed as private, such as Catholic confession, whereas some 'private' domains can be public such as traditional singing and dancing at a wedding ceremony.

However, these domains are not fixed, "there are questions of the permeability of boundaries, of leakages and movement between boundaries, and of overlap between domains" (Barton and Hamilton 1998:10). When the language usually spoken in one domain drifts over to the other, this creates what Fasold (1984) designates as 'functional leakage' or functional shift. There is a tendency for the majority language to extend its domains and assume more and more of the functions of the minority indicating a strong inclination towards language shift. This pattern mostly occurs in favour of the matrix or dominant language - rarely do we see a minority language extending its range in function or physical domain especially among the younger generations and in those domains in which there is a strong influence of modernization (Mekacha 1993). The implications of this for language shift are that as a dominant language moves into a minority domain and function, the minority, usually a vernacular, will recede, decreasing its functional purpose, reverting first back to the home, then to one group in the home, usually the elders. From this we can imply that functional leakage leads to language shift and a loss of minority tongue speakers.

Domain shift in Tanzania can be explained by several overlapping pressures propagating the assimilation of the minority languages into the majority group: the introduction of compulsory formal education necessitating Kiswahili; increase in employment migration promoting a need for knowing a national lingua franca; a rise in exogamic marriage demanding a common family language; the growth of globalisation, urbanisation and industrialisation; the rise of formal religions; and the spread of mass media including Kiswahili TV and radio and English music videos and films (Brenzinger 2007, Legère 2006, Adegbija 2001, Batibo 1992). Prominent linguists routinely claim, "Kiswahili threatens more than 130 other Tanzanian languages" (Brenzinger 2007:196), ethnic languages in Tanzania "are dying out in all parts of the country" (Batibo 1992:85) and "Kiswahili is threatening and displacing mother tongues. Kiswahili will take over" (Dr Rugemalira, pers. comm. 2006). Lipou (1997) asserts that "the spread of Bantu is one of the most momentous migrations in the history of Africa … causing the disappearance of many languages in its wake." Furthermore, Adegbija (2001) asserts that these shifts are triggered by the official dominance of ex-colonial and national languages as individuals seek to rise on the vertical and horizontal social and economic ladder as smaller languages are made irrelevant and functionally impotent. Thus bilingualism has become obligatory and as Fasold (1984) states, is the necessary precursor to language shift. Tanzania where the majority of the population are at least bilingual, in Kiswahili and their mother tongue, with many being multilingual, portrays the ideal profile for language shift.

Study area

This study focuses on Lushoto district covering an area of 3,452 km^2 in the West Usambara Mountains, part of the Eastern Arc Mountain chain in Northeast Tanzania. Its population of

418,652 (URT 2002) is 96% rurally based, and with 121 people per km^2 and 85% employed in agriculture, there is intense pressure on land. Sustainable use of the environment and its natural resources is a complex challenge. This dynamic has shaped a population rich in wild plant knowledge and practices particularly in sourcing additional foods and plant medicine. Indeed ethnobotanical research undertaken by Vainio-Mattila (2000) discovered that residents of this area prefer wild vegetables (*Mchicha)* to cultivated ones as they are easily obtainable and palatable. Ross-Hepworth (2006) reported that 35% of a Lushoto study group (n=92) stated they would use medicinal plants as their primary source of 'first' aid.

Two villages in Lushoto district were studied. Lushoto town is the central hub where national buses terminate, tourists alight for cultural tourism experiences and where the daily timber and vegetable trucks congregate to deliver locally produced agriculture goods and natural resources around the country. The town hosts the district hospital, the bank and bus station, numerous small shops and businesses, several hotels and guest houses, the tourist information office, two secondary and five primary schools, the court, prison and district government offices. To make data collection manageable and comparable, research was concentrated in one of the eight hamlets of Lushoto town, Chake Chake (population 3,580) the most central and urban.

The second research site, Goka, is a smaller, predominantly Wambugu rural village (population 2,209) situated two and half hours from Lushoto by bus followed by an hour's walk. Goka has a small shop, a dispensary, a church and a mosque, one primary school with a secondary school, health clinic and market an hours walk away.

There are three dominant ethnic groups which define the vernacular tongues. The largest group are the Wasambaa who comprise 75%[3] of the population, number 664,000[4] (Ethnologue 2007) and speak Kisambaa (KSA). The Wapare constitute 14% but were not studied due to time constraints, followed by the Wambugu at approximately 11% who speak Kimbugu (KBG). Wambugu numbers are unclear, ranging from 32,000 in 1987 according to Ethnologue or 7000 by Lewis in 2003. KSA, like Kiswahili (KSW), joins the Bantu family of languages, whereas KBG is a complex Cushitic language, with an 'inner' version, *Kima'a* considered the purest form of the language and KBG the 'outer' version spoken more widely. Mbugu linguists such as Thomason (1997), Mous (1994), Hudson (1980) and Bynon (1977) assert that the KBG Cushitic matrix has borrowed KSA matrix morphology resulting in the gradual 'Bantuisation' of KBG prompting distinctive morphological language shift. This study combines Kima'a and KBG as one language.

All residents are at least bilingual[5] with a high proportion being multilingual with ability determined by the internal linguistic hierarchy. KSW, as the national language occupies the top rung of the hierarchy, next is KSA which due to number of speakers is the dominant vernacular and has become the inter-ethnic language of choice, whilst KBG occupies the bottom rung in numbers and prestige. There is no social cache in speaking KBG. When numbers speaking your mother tongue are small it is likely that on a daily basis you will have to share a larger group's language to interact, "When communication requires bilingualism on someone's part, the accommodation typically falls to the small-group member" (Myers-Scotton 1993:34, also Heine 1980). As KSA is the dominant local language through demographics alone, we can assume that many non-Wasambaa also use KSA as their second or third language. Consequently, people from a large group demonstrate less multilingualism as on daily interactions they encounter ethnic group members or minority group members able to speak their dominant tongue. The Wasambaa frankly admit they are less linguistically able than the Wambugu.

[3] Percentages are an approximation based on personal communication with local district officers.
[4] This number includes all Wasambaa living in Tanzania as a whole, not just in Lushoto district.
[5] This assumes complete proficiency in both languages.

The Wasambaa are predominantly agriculturalists who today concentrate their efforts on cash crops, particularly the men, growing vegetables such as green peppers, potatoes and cabbage for markets in Arusha and Dar es Salaam. The Wambugu are traditionally cattle herders but also produce subsistence and some cash crops.

Research aims and approaches

Data for this study were collected during parallel PhD research on the use of vernaculars in wild plant knowledge and practices[6]. The aim was to examine if local languages are necessary for conserving the local environment and thus contributing to livelihood resilience and economic opportunity. We sought to explore where and for what purposes local languages are being used and the implications of possible language shift in order to inform future biodiversity conservation policy as well as language policy within basic and secondary education in Tanzania.

There were two strands to the research. We examined language use in the region in order to predict language shift by asking how many languages people knew, where they used them and with whom. From this we could assess in which domains the languages were employed. The second strand explored the links between local languages and ethnobotanical knowledge.

Structured interviews (after Martin 2004, Hunn 2001 and Zent 2001) with a random set of households in each village (Chake Chake n=54, Goka n=52) asked general questions to explore linguistic ability, areas of language use, and the 'best' language (a subjective individual choice) to inter-generationally transfer wild plant knowledge. Free answers were elicited. Botanical knowledge is not homogenous within an ethnic group and variations accrue due to factors such as age, years in formal education, locality, gender and linguistic ability (Lizarralde 2004). These issues were analysed. Language competence was not measured but was rather based on observation and individual truthfulness. A declaration of bi- or multilingualism would assume proficiency in both or all of those languages reflecting high conversational and lexical ability with minor, if any, difficulty in switching from one to another when context demanded.

A consensus analysis (adapted from Martin 2004 and Phillips 1996) was also conducted with a further 127 participants (Chake Chake n=75, Goka n=52) which analysed the language(s) used when identifying plants. Fresh, mature, locally specific wild plant species were collected from the local area including edible, medicinal, tool-making, fodder, ritual and 'other' uses which could be freely felt, tasted and smelt. Identification by a participant was considered correct when it tallied with plant identification data collected from and verified by knowledgeable local elders, the local herbarium and plant identification books. All the plants had KSA and KBG names and eleven out of the fifteen had KSW names. In the case of KBG, it was impossible to distinguish whether the recorded name was in KBG or Kima'a as this information was not documented. Identifications were encouraged in as many languages as possible. Combining all of the results from the 127 participants provided 1651 naming events. A plant trail (Lizarralde 2004) was decided against due to constraints on participants' time and the challenging nature of the terrain. Participant observation from researcher residence in the area for one year, also contributed to research findings.

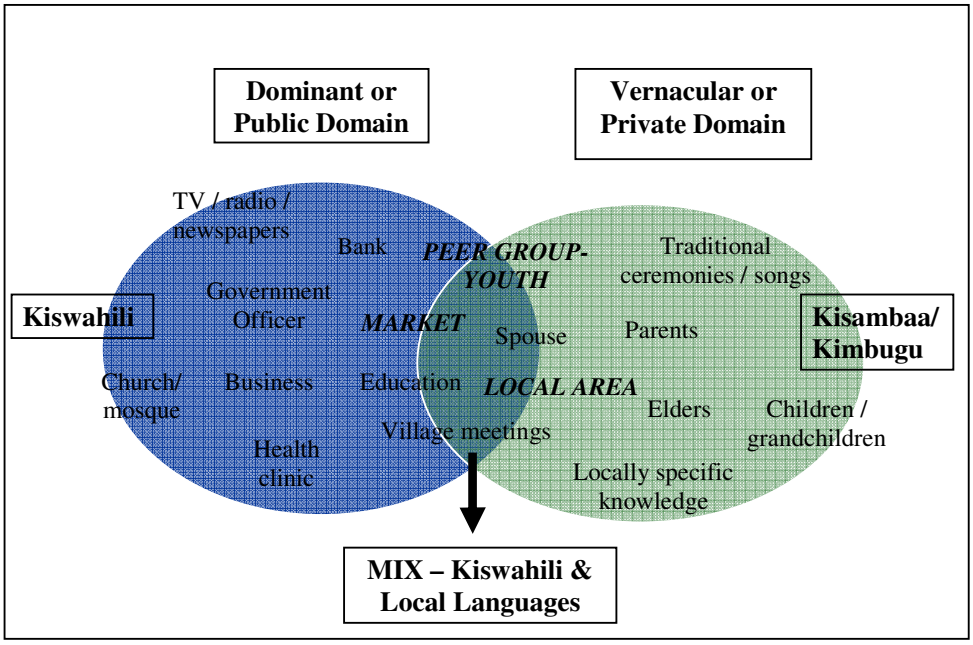
Results and discussion

The linguistic hierarchy in Lushoto follows the expected norms described above: KSW the national language and KSA the largest ethnic group occupy the top rungs of the hierarchical

[6] The main body of research explores the role vernacular languages play in conserving cultural and biological diversity through the indigenous knowledge these languages hold and transfer, and the implications of this for conservation and education policies in Tanzania.

ladder; KBG as the minority in terms of numbers and prestige remains at the bottom. These rankings are apparent when exploring the functioning domains of these languages. Table 1 above demonstrates the normative domains for language choice in Tanzania. However Fig.1 below reflects the domains of the locally used languages in Lushoto generated from data collection, as well as participant observation and informal conversations.

*Fig.1: Domains of language use in Lushoto district (**large and bold** indicates areas of language shift)*



KSW is predictably dominant in the public domain in business and bureaucratic duties, mass media, health visits and formal religious gatherings. The mother tongues are used in the vernacular domain in the home with direct family members, when conducting traditional rituals, singing traditional songs and conveying locally specific knowledge.

But what emerges is a clear area where a 'mix' of KSW and local languages are being used (in large bold above). In the habitually vernacular arenas of market, local area and amongst peer groups, KSW or a language mix dominates. In the market and local area, such as when taking public transport, KSW was used by 50.5% and 43.9% were using a MIX. A further 31.8% used KSW and 52.3% a MIX with their peer group, particularly among the younger generations (see Table 2).

Table 2: Domain language choices in Lushoto district, n=107

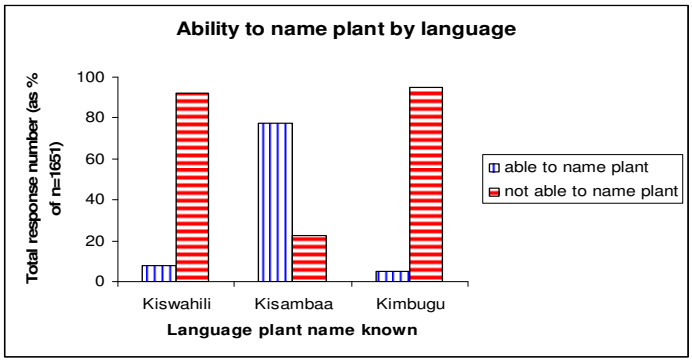
Normative domain	Domain	Languages spoken - % of speakers			
		KSW	KSA	KBG	MIX
Dominant or Public	Bank	94.4	1.9	0	3.7
	Health clinic	99	1	0	0
	Community meeting	94.4	1.9	0	3.7
Vernacular or Private	***Local area / market***	***50.5***	5.6	0	***43.9***
	Home (& family members)	14	57	12.1	16.8
	Peer group	***31.8***	13.1	2.8	***52.3***

This was further observed amongst teachers and students and between teachers and parents despite a Swahili-only policy in primary and English-only in secondary, between spouses in exogamic marriages and during village meetings. It is apparent that KSW is shifting into the mother tongue domain. This 'functional leakage' (Fasold 1984) is occurring at the expense of the mother tongue itself as language shift evidently favours KSW in Lushoto and can be explained by the normative pressures of language shift as described above.

In contrast a language function that is steadfastly remaining in the vernacular domain is that of ethnobotanical knowledge as demonstrated during the second research strand. When discussing plant use and practices the mother tongue maintains dominance, usurping the previously described supremacy of KSW and protecting the oral transference of indigenous knowledge and intangible cultural heritage in the local language.

Evidence from the plant consensus analysis illustrates that when participants were asked the name of a plant in KSA, KSW and KBG, the overall majority knew the name in KSA but not in either of the other two languages. From 1651 naming events, 8% could name the plant correctly in KSW, 5% in KBG but 77% in KSA (the remaining 10% reflect inability to identify the plant) as displayed in Fig.3.

Fig.3: Ability to name plant by each language

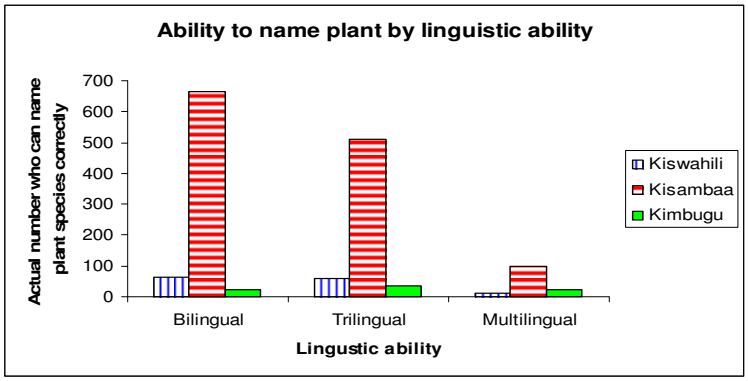


Several hypotheses were tested to compare relative plant knowledge against different social and geographical variables. Only linguistic ability is explored here. To assess whether the above result was due to fewer participants being able to speak one or more of the germane languages we factored in linguistic ability as a significant variable[7]. The hypothesis stated that the linguistic ability of the respondent will affect the language chosen to name a plant, meaning that the more languages the respondent can speak the more languages they will be able to name the plant.

Every participant we interviewed was bilingual in KSA and KSW with a further 41% able to speak KSA, KSW and KBG and 8% able to speak these three languages and a third mother tongue. As Fig.4 shows, KSA remains dominant. Even amongst those knowledgeable in KBG (demonstrated by the tri- and multilingual group, approximately 49% of the respondents), plant names are rarely known in that language allowing us to reject the hypothesis. The use of KBG for plant nomenclature is low, even amongst those who are proficient and comfortable using that language (Pearson chi-squared tests showed this to be highly significant at 0.000).

[7] Further factors that may affect ethnobotanical knowledge levels such as age, location, gender and years in education were subsequently analysed. So far location is also proving noteworthy and additional results will be forthcoming.

Fig.4: Ability to name plant by number of languages spoken



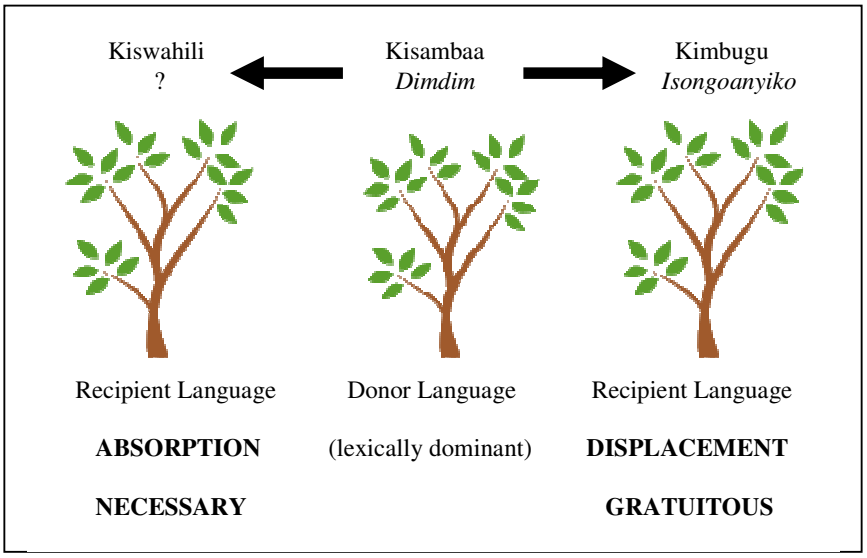
All of the plants in the sample set have a KBG name verified by the local herbarium at the Tanzanian Forest Research Institute and knowledgeable Mbugu elders. Nevertheless, despite KBG's local roots and locally generated lexicon, the majority of speakers are reluctant to use it to name plants or indeed have forgotten, or were never taught floral names in KBG. Choosing KSA over KBG when naming plants reveals language preference determined by linguistic hierarchies as the low status of KBG and low stature associated with the Wambugu as an ethnic group (even though they are more linguistically adept than the Wasambaa) determine that KSA is the language chosen and preferred to demonstrate knowledge. This instance is one of lexical 'displacement' as KSA appropriates the already present KBG botanical terminology.

KSW as the imported, high-prestige national language acquired primarily in the formal arena is arguably considered the language of knowledge and experience, modernity and urban sophistication (Mafu 2004). However, adopting KSA for ethnobotanical knowledge contravenes this view as KSA provides the expertise and knowledge. As all the participants were bilingually competent in KSW and KSA, it is surprising that only a few were able to name plants in KSW despite the existence of a KSW name often similar, or the same as, the KSA appellation. The lexical similarity, Edwards (1995) suggests, allows the easy adoption of KSA's familiar Bantu based vocabulary leading to minimal linguistic constraints encouraging lexical adoption as opposed to loan translation. In this instance, results illustrate primary lexicon 'absorption', as opposed to displacement, and complimentary language interaction instead of overshadowing.

The movement of KSA into the KSW and KBG lexicon represents language shift through the phenomenon of 'borrowing'[8]. Myers-Scotton (1992) refers to two types of borrowing: 'lexical' which involves cultural loans or objects and concepts new to the borrowed language's culture; and 'deep borrowing' for objects or concepts already encoded by the borrowed language. Here we can say that KBG practices 'deep borrowing' whilst KSW employs 'lexical borrowing'. Edwards (1995) differentiates further using the terms 'necessary' or 'gratuitous' - 'necessary' illustrates words that fill lexical gaps such as in KSW, 'gratuitous' when words already exist but are still replaced as with KBG. This form of 'borrowing' eventually results in complete absorption or displacement of, in this case plant terminology, into the core lexicon of the recipient language as depicted in Fig.6.

[8] As opposed to 'code-switching' which involves complete sentence utterances.

Fig.6: Illustration of KSA 'absorption' in KSW and KBG 'displacement' in Lushoto



NB: The botanical name for Dimdim is Xymalos monospora

Härkönen 2003, Maffi 2001 and Harmon 1996 explain the dominance of KSA plant lexicon by its place-specifity. Jocks (1998) supports this notion, that biological classification may be a "linguistically embedded system from a traditional language that has become the basis of community-specific rhetorical, aesthetic and expressive practices" (Jocks:257) where the functionality of botany depends on its relationship to its immediate contextual environment and community language. Scott (1998) adds that indigenous knowledge is culturally relevant and possesses a depth of context due to it being place-specific, subsistence related and embedded in local experience. Further, the intimacy of plant knowledge involved in food, medicine and livelihood support indicates that users are more likely to use the language which is associated with this intimacy.

A local example is *Fivi* (*Artemisia afra*), a culturally specific plant popularly used for treating malaria. The plant has recently become of interest to the scientific community who are demanding (and paying for) large amounts of the plant for pharmacological testing. *Fivi* is the KSA name (local botanist, pers. comm. 2006), however all 127 participants confidently repeated *Fivi* as the KSW and KBG appellation too. This is an example of a particular plant's socio-economic cache influencing linguistic change. The Wasambaa have a long history of farming in this region as well as a national reputation as healers or 'witch doctors', framing their language as integral to the maintenance of these vital livelihoods as well as the conservation of intangible cultural heritage.

The transference of this indigenous ethnobotanical knowledge and the language(s) chosen to convey this is highly determined by the linguistic ability of the conveyer as well as the recipient of the knowledge itself. In Lushoto, when transferring plant knowledge and practices between generations 47% preferred KSA, 29% KSW, 18% a MIX, and 6% KBG as the most appropriate language. Reasons for these choices ranged from 35% stating that plant names are *only* comprehensible in the mother tongue as other languages do not have the correct words; 34% thought that understanding improved in the mother tongue; 28% said KSW would be better as it is mutually intelligible; and 3% decided it depended on the recipient.

Local languages are deemed necessary in the process of ethnobotanical knowledge transference. The majority of respondents referred to other languages as not having the

'correct names' for plants indicating the need of KSA reflecting its local context but rejecting that of KBG. Contrastingly KSW, or a MIX of KSW and a vernacular were also considered adequate conduits of transference, again preferred over KBG, as these languages promote more wide-spread understanding. This also reveals current and future language shift as KSW moves into the traditional vernacular domain. These results illustrate pragmatic language choices choosing the majority mutually intelligible languages leading to greater conservation potential as environmental knowledge and understanding is more wide-spread.

This passing of knowledge enacted in language or action via observation and practice in informal situated learning experiences (Lave and Wenger 1991) or orally in song, myths and ceremonial activities encodes in highly symbolic forms the complex understanding local communities have about their land (Kuper 2003, Olwale 2001, Kokwaro 1995). Derrida (1973 in Sarup 1989) in his theory of 'phonocentrism' prioritises the spoken word as it gives an intimate spontaneous medium immediately present to one's consciousness mirroring the immediacy, spontaneity of nature and favouring the orality of traditional societies. Local languages are shown to be critical in the transference of indigenous environmental knowledge, reflecting the central thinking of ICH and BCD: that mother tongues are essential for the conservation of local environments and the transferring of local knowledge.

Conclusions

This research reveals that the popular belief that all African vernaculars are being lost due to the shifting of higher value languages into their traditional domains is a misconception. In the Lushoto district of Tanzania evidence illustrates two socio-linguistic phenomena: local language loss via displacement; and language shift via absorption. The lower prestige Kimbugu vernacular is being displaced by both Kiswahili and the higher prestige vernacular of Kisambaa, in all linguistic domains and functions including ethnobotanical knowledge, leading to its probable future demise. Evidence has also shown that language shift and functional leakage is occurring over the demographically dominant inter-ethnic tongue of Kisambaa as Kiswahili commandeers customary private vernacular domains.

But despite this, Kisambaa manages to remain dominant in plant nomenclature and the inter-generational transference of plant practices and knowledge, both amongst its neighbouring ethnic languages and over the official language of KSW as it adopts the role of gratuitous vocabulary provider for Kimbugu but necessary donor for Kiswahili. Kisambaa plant lexicon is not being lost or displaced but rather absorbed into the national *lingua franca* reflecting the Tanzanian policy of using vernaculars for Kiswahili expansion. Kisambaa may not survive grammatically intact, as a 'whole' language, but it will survive in terms of place-specific plant lexicon.

BCD theory and ICH thinking argue that mother tongues are essential to environmental knowledge transference and biodiversity conservation. This research supports this view providing evidence that local languages are necessary for conserving the local environment and for recognising and 'knowing' plant medicine and foods vital for livelihood resilience, economic opportunity and other income-generating activities which aid in successfully meeting livelihood challenges as well as satisfying Millennium Development Goal seven 'to ensure environmental sustainability'.

This paper considered the potentially far reaching implications of better understanding the dynamics of language shift for local knowledge and local language conservation through the mediums of ICH and BDC theory. Conclusions point to the need for more research to assess if ethnobotanical knowledge can be maintained via the transference of locally specific and contextual lexicon or whether entire local languages in their 'complete' sense are required. The decline of the smaller tongues seems to be a regrettable but unstoppable natural process

of linguistic dynamism. In order to conserve locally-specific knowledge vital in maintaining our cultural and bio-diverse heritage as well as supporting local livelihoods, it is essential that all languages are documented and conserved in the best way we know, through use.

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