

Language, culture and communication in development cooperation

On the role of ICTs in networking online communities of practice

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Abstract. Globalization results in the exclusion and marginalization of diverse categories of stakeholders at the local level in developing countries, while decentralization leads to integration and participation of some of these stakeholders. In this evolving process, increasingly facilitated by Information and Communication Technologies (ICTs), the role of language and literacy, and their relationship with culture, have been given scant attention. ICTs facilitate language marginalization and homogenization, while it is an open question whether they contribute to language growth and survival. Within the context of development cooperation and natural resource management, the Community-Based Natural Resource Management Network (CBNRM Net), which serves the global CBNRM community of practice, uses ICTs to communicate with its global membership. CBNRM Net is concerned with how globalization and decentralization is influencing traditional and modern CBNRM practices. This includes how the present massive use of ICTs to facilitate communication, relying largely on English, is affecting literacy and language in the area of traditional knowledge on CBNRM. The paper presents a framework for analyzing use of language, and impacts on culture, in online communication and networking.

1 Introduction

Two major processes are at work in the world today: On the one hand there is a situation of increasing contacts between peoples, languages and cultures, often described – in somewhat general terms – with reference to globalization. On the other hand, there is an increasing acknowledgement and sensibility, on the part of the West, of the situation elsewhere, especially at the local level. This is partly connected with an increasing awareness – in developing countries and countries in transition – of own culture and values. The latter is, especially in the context of development cooperation, translated into an increasing interest in taking part in development activities and determining the future. In policy and bureaucratic terms, this goes together with growing efforts at decentralizing, among others, governance, to regional and local levels.

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These processes are parallel; they feed on each other, and are unprecedented in terms of their historical significance as well as their impacts, at the local, national and global levels. The growing use of information and communication technologies (ICTs) is, importantly, contributing to advancing these processes. Here ICTs will be understood to mean primarily the Internet.^{2/}

The Community-Based Natural Resource Management Network (CBNRM Net) does knowledge management and networking in the area of community-based natural resource management (CBNRM), and natural resource management more generally, for the global CBNRM community of practice (CoP). CBNRM Net is concerned with short-term and longer-term implications of these global processes at the local level, when it comes to development cooperation in the area of CBNRM. One of these concerns has to do with communication and language. Given the ideas and values that are communicated, together with the language of choice being English,^{3/} what are the longer-term impacts of this on local cultures, languages and values? How does the growing diffusion of English affect the way local peoples view themselves, their cultures, their environment and their place in the world? CBNRM Net aims to address this in three ways: (1) by preparing dictionaries of selected terms and words between English and a number of languages, (2) advocating the potential implications of using foreign languages instead of the mother tongue, and (3) arguing for increased use of indigenous terms and words in local languages instead of foreign ones.^{4/}

The main hypothesis advanced is that the recent growth in use of ICTs, together with the near universal use of English as a means of communication will have important longer-term (if not short-term) cognitive and social impacts on many small languages and cultures in developing countries. This impact will likely be especially strong on traditional environmental knowledge and natural resource management.

The paper addresses some aspects of the relationship between communication and language in development cooperation in the sector of CBNRM. Based upon a general framework of communication, and with specific reference to the situation in sub-Saharan Africa, examples of translation between selected colonial and indigenous languages are examined.

2 Context

The context for this examination of inter-cultural communication in development cooperation on natural resource management, and the function and role of languages in this, together with the impact of this process on the participating languages, is communication and empowerment.

2.1 Communication

Communication, here understood as the sending and receiving of messages, is essential to all social life and cultural systems. Communication is a process that can take several forms, including linguistic or verbal communication, which concerns us here. Communication

^{2/} ICTs comprise: (a) broadcasting and publishing – including newspapers, radio (analog and digital) and television, (b) computing capacity, (c) the Internet – including chat, email, mailing lists, newsgroups, FTP, video conferencing, the Web, web conferencing and web-to-mail, and (d) telecommunications – including mobile phones, satellite communications and telephones (Soefstad and Kashwan 2004).

^{3/} Worldwide English has more than 400 million native speakers, while more than 1.5 billion speak it as a second language (Abley 2004). At the same time other colonial languages play an important role at regional levels (see Section 5.1).

^{4/} The *CBNRM Net* website is at <http://www.cbnrm.net/>. *CBNRM Net's* focus on language and communication is at <http://www.cbnrm.net/resources/dictionaries/>.

between one or more persons are characterized by being distorted by noise, occurring within a context, having some effect, and providing an opportunity for feedback.

2.1.1 Modes of communication

Three modes of communication are commonly recognized: orality, literacy, and post-literacy. As the present concern is with cultures that have written languages, orality – sometimes referred to as preliterate communication – is not addressed. However, as orality and oral tradition plays important roles in many traditional literate cultures, orality is indirectly relevant for the arguments advanced.

Literacy is not necessarily a straightforward idea, and several scientific disciplines have shown considerable interest in what marks the difference between pre-literate and literate cultures. In fact, there has been an unfortunate tendency of dichotomizing cultures, with other examples being: pre-logic and logic, and pre-scientific and scientific. As Goody (1977) has argued, we should be more concerned with how modes of thought and communication develop over time (cf. Goody and Watt 1963). The means of communication, that is, oral or written, changes over time, as do the persons or classes of persons who control access to these means. According to Goody, literacy and the mechanisms of writing is key to understanding many of the differences between traditional and modern societies. Ideology is an important factor in that it determines that certain people control access to the means of communication, as well as who have access to literate skills. Literate skills are linked to social roles, which enable us to understand the mechanisms of control and distribution of knowledge, and how access to power and privilege may be regulated according to literate skills. An important part of studying literacy is the processes of contact and domination between literate and pre-literate cultures, which is not only a historic process but also one that goes on today (see Section 3.2).

Post-literacy refers to literacy in the present era of mass media and ICTs, and the Internet is a hallmark of this mode. There is a growing body of scholarly work on the characteristics and implications of post-literacy in the West (e.g., Tuman 1992). Thus, the differences between mass media and ICTs are beginning to emerge. Several mass media, especially those using audio-visual communication and that do not depend upon literacy (indeed they do not require literacy), have important implications for the social control of knowledge. It is argued that mass media, like literacy, changes the cognitive orientation of viewers. The recent massive growth of computer technology has lead to studies on how this affects cognitive and social structures. A characteristic aspect of computing is that this technology is owned and controlled by the private sector, and that the direction in which it develops accordingly is directed by commercial interests. The impact of post-literacy on languages and cultures outside the West has, to our knowledge, so far not been studied. In this paper we are concerned primarily with the post-literacy mode of communication (which builds upon the literacy mode of communication).

2.1.2 Models of communication

Human communication is commonly understood in terms of a few models. The typology varies somewhat as regards names, number and content, but two models are commonly recognized: linear and interactive (DeVito 2002; Littlejohn 2001). The linear model (also referred to as “action model”) is the simplest. Here communication is a unidirectional event that moves in a straight line from the source to the receiver (see Figure 1).

Figure 1. Linear model of communication



The interactive model is more complex. Here communication is assumed to move back and forth. The source and receiver are constantly responding to each other, simultaneously

initiating messages and sending responses. In this way the source and receiver becomes both source and receiver at the same time (see Figure 2).

Figure 2. Interactive model of communication



The linear model is a one-way process whereby the source, for example, a person, acts upon the receiver, which likewise can be a person. In the interactive model the participants acts upon one another. In the interactive model the relationship between the participants in an interaction can be equal or unequal.^{5/} The difference between the two models becomes clear below when analyzing communication that is based on ICTs.

2.2 Empowerment

The goal with development cooperation is to make people self-reliant, to give them the knowledge, tools and self-awareness about own attributes that makes possible and leads to self-determined change. One aspect of this is empowerment. Empowerment is understood as

... the process of increasing the capacity of individuals or groups to make choices and to transform those choices into desired action and outcomes. Central to this process are actions which both build the individual and collective assets of the poor, and improve the efficiency and fairness of the organizational and institutional context which govern the use of these assets (World Bank 2004).

Empowered people have more freedom of choice and action, which in turn leads to a better chance of influencing and determining their own future. Empowerment is relative, it provides the means with which to change ones situation and future, but how that plays out, and what is perceived as betterment and increased empowerment will differ across cultures. For empowerment to take place all stakeholders, as located in public sector, civil society and private sector, must be involved. The four key elements of empowerment are:

- Access to information,
- Inclusion and participation,
- Accountability, and
- Local organizational capacity.

To achieve this institutional reform is often necessary. Of these four elements, which are closely related, the first two deserves special attention. Access to information is crucial for everybody. At the local, horizontal level, in smaller cultures orality in its many aspects, including discussions and storytelling, are important means of spreading information. Vertically, between citizens and their government, other means and approaches are necessary. Fundamentally, there should be two-way communication between them. Information need to be relevant, timely, and, crucially, it needs to be in forms that can be understood. Access to information in local languages is particularly important, especially as authority increasingly is devolved to local levels.

Inclusion and participation are closely related, that is, including people means to provide opportunities for their participation. At the local level, and in connection with natural resource management, this means to establish co-management arrangements, and to treat local people as co-producers with authority and control over decisions and resources. Types of participation include: direct, representational (through membership-based groups), political (through elected representatives), and information-based (using data aggregated and reported to local and national decision-makers).

^{5/} Some writers mention a third model, the transactional model, a special case of the interactive model were the relationship between participants is equal.

3 Language, culture and change

A concern with human communication, in all its variability, has to be based on an understanding of what language is and how languages evolve and change.

3.1 Language and culture

All languages are equally complex, and equally capable of expression. A thought that can be expressed in one language can be expressed in all other languages.^{6/} What will differ is the form that this thought is expressed in. Vocabularies show an infinite variability, and vocabulary items are largely arbitrary. Across this universality there are, at the same time, constraints or rules in all languages: in word formation (there is a finite set of sounds or gestures that are combined into morphemes, and in sentence construction (syntactic rules are similar in all languages but differ in specific constraints) (Chomsky 1975; Lyons 1981).

A language is related to the culture it is most intimately associated with in three major ways, it is: (1) *part* of the culture, (2) *symbolic* of the culture, and (3) an *index* of the culture. The latter is of special interest here.^{7/} Fishbone (1985: 444) writes:

Languages reveal the ways of thinking or of organizing experience that are common in the associated cultures. ... languages provide lexical terms for ... artifacts, concerns, values and behaviours recognized by their associated cultures. But, ... languages also reveal the native clusters or typologies into which the above referents are commonly categorized or grouped. Colors, illnesses, kinship relationships, foods, plants, body parts and animal species are all culture-bound typologies and their culturally recognized systematic qualities are revealed by their associated culture-bound languages.

Of special interest are lexical terms for nature and environment. Fishbone (1985) refers to some of these clusters or typologies. Generally speaking, they can be grouped in two in terms of what they apply to: (1) artifacts *in* nature, and (2) humans' relationship *with* nature in general and with specific artifacts. Depending upon the position or role of specific natural artifacts in a given culture, they will be accorded a central or marginal position in the overall lexicon. The position of snow in arctic cultures is obviously large, with the oft-cited fact of the large number of words for snow in Inuit languages as perhaps the best-known example. As for human's relationship *with* nature, a good example is provided by the enormous variability across the world of how cultures understand and assign property and use rights to specific resources.

In more traditional cultures, as opposed to more modern cultures, what this amounts to is a situation where the relationships between Nature and Culture, or nature and nurture, is less a dichotomy than a continuum. The importance of snow in Inuit culture will, again, provide an example: when building an igloo, Inuit uses (or used) a specialized but very simple tool made of bone. This tool can be understood as a part of the Inuit cultural inventory, or as an extension of the arm that uses it. It can also be understood as nature, in fact, as an extension of nature, as it is made from bone and is used to fashion snow, a natural artifact.

3.2 Language change

Language change is a very old process. As an intrinsic part of human evolution, languages have been created and have evolved, later on to be superseded by, or integrated with, other

^{6/} This blanket cultural relativistic position may be overstating the situation, as there likely are ideas that are easier to communicate in one language than another. At the same time is also true that both languages and speakers can learn and adapt to new circumstances (Daniels 1994).

^{7/} Hausa, a member of the 'Chadic' group of languages, and spoken principally in central Niger and northern Nigeria, provides an instructive example. At least three levels of Hausa language may have a bearing on how thought is formulated and knowledge expressed: the grammar, its lexicon and the social patterns governing its use (World Bank 2001b).

languages. In evolutionary terms, and viewed from a historical perspective, this is normal. It is part of human evolution that languages disappear as well as come about.

The process of language change, meaning both spoken and written, is a double process. In contact with other cultures and languages, a particular culture will *receive* (new) words and it will *lose* words. Both processes change that culture, but losing words will in many cases be more detrimental as it represents breaking off bonds or connections with its past. Import of new words often covers new functions, tasks and technologies for which existing words could not be used. However, at the same time new words also replace existing words, where there is no advantage to using the new terms. Depending upon the size of the recipient culture in relation to the originating culture, the balance of incoming words to outgoing words may be negative or positive. Smaller cultures will receive new words as well as lose existing words to a much higher extent than larger cultures (Bolter 1991).

These changes as a rule occurred because of contact between literate and pre-literate peoples. In more recent times language change as well as language death have increased dramatically because of imperialist and colonialist policies. The general process is one whereby an unwritten local minority language gradually is being replaced by the written language of a colonizing culture. History provides numerous examples. On the African continent, they include the Roman as well as the more recent Belgian, British, French and Portuguese colonial empires, to name but the most prominent. Literacy's adaptive advantages, together with colonial policies of ethnocide have led to the elimination of a great number of languages (and to important changes in many others).

The processes of language change and destruction are going on as we speak. On a global level, approximately one language disappears every second week, and by the end of the century, only half of today's 6000 languages will remain (Abley 2004). The colonialist and imperialist legacy may be a thing of the past. Today the rationale is often located in the realms of ideology, nation building or religion. In Morocco, the government do not want to teach the Berber language and preserve Berber culture, arguing that Arabic is the official language and everybody should speak and read it. As much as 56 percent of the population are illiterate, and the forced teaching of Arabic is likely an important factor (Prengaman 2001). In Nigeria, linguistically maybe the most complex country in Africa, there is evidence of several cases of language death in the last 100 years. In Central Nigeria there are approximately 250 distinct languages, of which at least 100 have less than 200 speakers each. The government has no policy on this. Many languages are likely to survive in a heavily pidginized form. Old vocabulary and more elaborate syntax are giving way to forms of languages with numerous loanwords and grammar influenced by English and Hausa (Blench 1996).

Language change is also about working actively to maintain literacy and languages. In many countries there are bilingual education programs that have had a measure of success. Such efforts cannot, however, be judged apart from the larger political and ideological context of – and situation in – the relevant countries.

The field of linguistics is increasingly interested not just in how and why languages change, but how to maintain languages. Thus, there is a growing focus on multilingualism. What little is done in Africa on this tends to focus on former colonial languages rather than indigenous languages. The exception is Southern Africa, where some interesting research on multilingualism focuses on three main areas: education, sociolinguistics and language policy (Norton Peirce and Ridge 1997).

A recent approach to literacy views it in broader, socio-cultural and political terms, and is sometimes referred to as “critical literacy” (Norton 2003). According to Norton:

... [w]hile earlier psychological perspectives conceived of literacy as the acquisition of particular behaviors, cognitive strategies, and linguistics processing skills, more recent insights from ethnography, cultural studies, and feminist theory have led to increasing recognition that literacy is not only a skill to be learned, but a practice that is socially constructed and locally negotiated. In this view, literacy is best understood in the context of larger institutional

practices ... [that] must be understood with reference to frequently inequitable access to social, economic, and political power. (Norton 2003, pp. 2-3)

This approach becomes especially interesting when communication and literacy is located within the context of ICTs.

4 ICTs, languages and communication

Communication on development cooperation in today's post-literacy phase cannot be conceived of apart from the use of ICTs, especially the Internet and wireless communication.

4.1 Modeling communication on natural resource management in development cooperation

The term "development communication" is commonly used to refer to the application of communication strategies and principles in developing countries and countries in transition (Waisbord 2001; cf. Food and Agriculture Organization of the United Nations 2003). This approach is derived from theories of development and social change that identified the problems of the post-war period in terms of lack of development, as viewed from the point of view of the West.

Today, the Internet and wireless communication networks are transforming the way society handles communication – inter-personal, inter-cultural, as well as across levels, that is, between global, country, regional and local levels. In this situation, the question of how to leverage these new technologies in advocating sustainability and the protection of natural ecosystems raises itself. "Environmental online communication" (EOC) is an emerging term that covers a variety of approaches that aim at this (Scharl 2004). EOC can be understood as an extension of traditional development cooperation, where the emphasis is on ICTs as the means and medium of communication.

4.2 The impact of ICTs

Quite apart from the role that ICTs have in development communication and EOC, they have a tremendous impact that is given scant attention. In being both a means and a medium of globalization, the role of the Internet and wireless communication is pervasive. Their influence today, on all aspect of social life, be it in the West or in the South, is plain for all to see. In the future they are destined to become even more influential and determinate in ways we cannot even foresee.

Literacy, communication and language are areas where ICTs play an increasing but little studied role. Language, a unique verbal communication system employed by humans, provides an instructive example of the role of ICTs. Language can be characterized, among others, by: (1) a highly specialized and independent development, (2) complexity of symbolic use, and (3) arbitrary nature. The open-ended behavioral potential of humans, which is given shape and content through locally developed symbolic systems, has had the implication of a near limitless ability to adapt to diverse ecosystems. In all its variability, language can be understood to serve the following fundamental functions or needs: (1) a vehicle of culture, (2) a means of communication, and (3) identity for culture groups or collectives.

What happens when language, as a means of communication developed to serve intra-cultural needs, is used to communicate inter-culturally, and when language, as a means and medium of communication, becomes superseded, as it were, by ICTs, as another means and medium? Building upon the above arguments about literacy and power in connection with language change and death, as well as the exposition on empowerment (see Sections 3 and 2.2), we can break down the question of what it means that ICTs affect language skills and literacy to three questions (Soeftestad and Sein 2003):

- *What is the level(s) at which there is an impact?* The most dramatic impact is found at the local level in especially developing countries and countries in transition,
- *Who is being impacted?* Members of small language groups and cultures, located at the margins, politically and economically, and
- *What is being impacted?* Skills connected with mastering the own language will be negatively affected. The degree and nature of impact – on the longer-term if not the short term – will depend upon, among others, the length of contact, the penetration of outside cultures, the economic/political position of the country in relation to neighboring countries and the world, the degree of acculturation, and the spread of ICTs. Languages at the receiving end of such contact are likely to be very simplified, for example, as regards vocabulary and grammar.

ICTs are suited to transmit data and information rather than knowledge, which is understood as information-in-context (Soeftestad 2001). In addition, through this predilection towards data and information, ICTs do not just convey information and knowledge; they impart meaning on that which they transmit. Two further important characteristics of the present use of ICTs in development communication and EOC should be kept in mind: (1) use of ICTs means indirect communication, that is, the parties to an exchange are not eye-to-eye, and (2) the language used in ICTs throughout the world is, increasingly, English.

4.3 CBNRM Net and global networking on CBNRM

CBNRM Net is a global network catering to several hundred members of the global CBNRM CoP. It began as a World Bank activity, and is now run as an independent project. CBNRM Net is a result of some of the macro-level processes that have been outlined above, in particular, globalization and use of ICTs, while at the same time also contributing to the further extension of these very processes (Soeftestad 2002).

The rationale behind CBNRM Net is that, as individual CBNRM stakeholders, members are, in their various capacities, busy doing good work and learning from it. CBNRM Net provides an opportunity – as well as the means – with which to share these experiences with others, and learn from others. The key organizing principle behind CBNRM Net's work is a structured approach to knowledge management and knowledge production (Soeftestad and Kashwan 2004).

Given that a majority of the members live and work at the local level in a large number of developing countries and countries in transition, CBNRM Net is acutely aware of the problem of relying on the Internet as a means of communication. This is compounded by the fact that the language used, on the website as well as the CBNRM Net Newsletter, primarily is English. There are good reasons for this choice of language. While it, at the present time, is not much that can be done about it, CBNRM Net is actively seeking ways to address the negative effects of the reliance on the Internet and the use of English as a *lingua franca*.

5 Languages and data

5.1 Categories of languages

To simplify the bewildering situation as regards language change and relations of domination and influence between languages, the following simplified schema of four partly overlapping categories and levels of languages is proposed:

- *English language.* English is today the emerging global standard of communication via ICTs, as well as the *lingua franca* in development cooperation,
- *Colonial languages.* Comprise former colonial languages that are used in now independent countries, including English, French, Portuguese, Russian and Spanish.

Broadening the perspective historically and geographically, languages like Arabic and Chinese should be included,

- *Regional/national languages.* Comprise former colonial languages and large dominant local languages. Examples include French in West Africa and English in parts of east Africa, southern Africa, south Asia and Southeast Asia. In some countries a colonial language is the official language, in other countries a dominant local language is the official language, and in yet other countries a dominant local language is the ‘national’ language with a colonial language being the official language. Examples include: Bahasa Indonesia, Bengali, Hindu and Vietnamese, and
- *Local languages.* Also referred to as ‘national’ or ‘indigenous’ languages. Comprise small and marginalized languages, in terms of number of speakers and/or political/economical influence and power. Located within one country, or two or more neighboring countries.

5.2 Methodology

For this paper some of the languages and dictionaries available on CBNRM Net’s website (see Footnote 4) were selected for further scrutiny. The languages are: Akposo (Ghana, Togo), Arabic, English, French, Hassanya (Mauritania), Portuguese, and Setswana (Botswana).^{8/}

A list of select English terms and words were prepared (see Table 1). The terms and words were selected with three purposes in mind: (1) they should cover core organizational and networking aspects of the global CBNRM CoP, (2) they should be connected with local CBNRM and traditional knowledge, and (3) they should be indicators of the problems associated with translating specialized terminology.

5.3 Data

In order to throw light on CBNRM Net’s concern with how globalization affects languages in the area of developing cooperation on natural resource management (specifically CBNRM) a set of data were collected. The data consists of terms and words, that is, translations between English, on the one hand, and a number of colonial, regional/national and local languages, on the other hand.^{9/}

All responses were divided in three, namely Acceptable (‘A’), Problematic (‘B’), and Not acceptable (‘C’) (see Table 2). That is, a proposed translation of a given English term or word was determined to be acceptable, problematic, or not acceptable. Furthermore, a situation where a translation was proposed but no additional/supporting information was provided was noted as ‘D’, while a situation where a translation simply does not exist is noted as ‘E’. In cases where it was not possible to arrive at a conclusion (in all cases because of lack of good supporting information), the symbol ‘F’ is used (the exception to this is in translations between English and French [see Table 4], where such cases are noted as ‘B’ (i.e., problematic). Cases where no response was received is marked as ‘NA’.

^{8/} The data were contributed by these coauthors and *CBNRM Net* members: Koffi O. Alinon (Lome, Togo), Daniela Diz (Rio de Janeiro, Brazil), Michael V. Flyman (Gaborone, Botswana), Tanja Kleibl (Maputo, Mozambique), and Lakhsara Mint Dié (Nouakchott, Mauritania).

^{9/} The complete data set is available on *CBNRM Net*’s website (see Footnote 4), and were adapted and reformatted for the present purpose.

Table 1. CBNRM indicator terms and words

No.	Term / Word	No.	Term / Word
1	Animal	11	community development
2	Bird	12	development
3	common property	13	fish
4	CPR	14	flower
5	CPR management	15	insect
6	Community	16	management
7	Community-based	17	NRM
8	CBNRM	18	ownership
9	CBNRM practitioner	19	village
10	CBNRM stakeholder		

Notes: CBNRM = Community-Based Natural Resource Management, CPR = Common Property Resource, NRM = Natural Resource Management.

5.3.1 Terms and words in local languages

Translations of the selected English terms and words into the chosen languages were evaluated (see Table 2). In addition to the terms and words listed in Table 1, in the case of one of the local languages, namely Akposo, translations of a broader set of terms were evaluated (see Table 3).

Table 2. English terms and words translated into colonial, regional/national and local languages

No.	English term/word	Akp-oso ⁽³⁾	Ara-bic	French	Hassa-nya	Portu-guese	Sets-wana
1	Animal		B	A	B	A	B
2	Bird		C	A	A	A	B
3	common property		A	A	A	B	B
4	CPR		A	A	A	D, F	A
5	CPR management		A	A	A	D, F	A
6	community		B	A	B	B, F	B
7	community-based		NA	B	NA	D, F	B
8	CBNRM		D, F	B ⁽⁴⁾	B	D, F	A
9	CBNRM practitioner		D, F	B	E	D, F	A
10	CBNRM stakeholder		D, F	B	B	D, F	B
11	community development		A	A	A	D, F	A
12	development		A	A	A	D, F	A
13	Fish		A	A	A	A	A
14	Flower		D, F	A	A	A	A
15	Insect		D, F	A	A	A	C
16	management		D, F	B	A	B?	B
17	NRM		D, F	B	B	B?	A
18	ownership		NA	NA	B	NA	NA
19	Village		D, F	A	A	D, F	B

Notes: (1) Abbreviations: CBNRM = Community-Based Natural Resource Management, CPR = Common Property Resource, NRM = Natural Resource Management, (2) Values used to characterize translations: A = Acceptable, B = Problematic, C = Not acceptable, D = No comments provided, E = Does not exist, F = Not known, NA = No response received, (3) See Table 3, (4) See Table 4, and (5) The raw data are available in the dictionaries at <http://www.cbnrm.net/resources/dictionaries>.

5.3.2 Terms and words in colonial and regional/national languages

Here the focus is on terms and words that, in several regional and colonial languages, have been proposed as equivalents of English CBNRM terms and words. For the purpose of this paper, the language of French, and translation of the term 'Community-Based Natural Resource Management' into French, has been selected (see Table 4).

Table 3. English terms and words translated into Akposo

No.	English term/word	Akposo term/word	Evaluation and comments on the Akposo term/word
1	ecosystem	Uti	E. The closest is 'uti', which means 'soil', but includes, in addition to land, also water and the air
2	Common property	ima'yu èku ofèfa	A. Describes the status of a possession (ofèfa)
3	Common property resource	Ima'ye èku	A. The emphasis is on the owned resource. When not specified as here, 'resource' is translated as 'thing' (èku)
4	co-managed protected area	ali yu èfuta	E. No term exist to describe an area that is voluntarily protected. The term refers to a forest (èfuta) belonging to the whole village (ali). IUCN term, abbreviated 'CMPA'
5	community	Ima	B. The word can mean also 'people'. 'People' can also be translated as 'alu'. Cf. 'village'
6	community-based	Ima dja a yu	D, F.
7	CBNRM	inyé li ayu èkuwa wlédu kpodu	B. Cf. 'community-based', 'management', 'natural resource management'
8	CBNRM practitioner	inyéli ayu èkuwa wlédu kpodu ayu	B. Refers to a person 'working' (oluna nani). Cf. 'CBNRM', 'management', 'stakeholder'
9	CBNRM stakeholder	Ima vi	B. Refers to a person belonging to a community. Cf. 'CBNRM', 'stakeholder'
10	community conserved area	ima ayu èfu wlédu lè	A. Refers to a place reserved for all people living in a certain village. Cf. 'management'. IUCN term, abbreviated 'CCA'
11	community development	ima yé ayu alo'ha	B. Cf. comment under 'development'
12	community-driven development	alo'ha foa nu ima auy esse zo	A. Refers to progress induced by, or because of, community decisions. World Bank term, abbreviated 'CDD'
13	decentralization	uné ozélé ka efu wani kadu ka ètu	E. The term means 'liberty is granted to places for being on their own'
14	development	Alo oha	B. Not a final point or goal, but more like progress. Means 'going ahead'
15	devolution	ikpoku atè	A. 'Ikpoke' means 'throne', and is borrowed from chieftaincy, the societal domain where devolution is found in the area where Akposo is spoken
16	empowerment	ivu du nu alu li	A(B)? The term includes the image of warming (ivu=fire) the activities of persons (alu)
17	governance	alu obladu	A. The term approximates 'how to conduct people', and carries a sense of leadership
18	management	oluna, wlédu	E, B. What is perfect cannot be managed, but what is damaged/destroyed need repair. 'Oluna' means 'work' and 'wlédu' means 'reparation'. Cf. 'CBNRM practitioner', 'community conserved area', 'natural resource management'
19	natural resource management	inyéli ayu èkuwani owlédu	B. 'Natural resource' is approximated by 'things of the earth'. This is a kind of anthropomorphism as the earth is considered an entity capable of owning things. Cf. 'management'
20	participation	unuku du nu èsèli	C. Means 'give one's opinion'
21	stakeholder	oluna'na ni	C. Means 'worker'. Cf. 'CBNRM practitioner', 'CBNRM stakeholder', 'management'

22	stakeholder analysis		E.
23	village	ali, ali'tu	A. Relationship between 'community' and 'village' is not clear. Cf. 'co-managed protected area'

Notes: (1) This list of English terms and words contains, among others, most of the terms and words in Table 1, (2) Abbreviation: CBNRM = Community-Based Natural Resource Management, (3) Values used to characterize translations: A = Acceptable, B = Problematic, C = Not acceptable, D = No comments provided, E = Does not exist, F = Not known.

Table 4. The English term 'Community-Based Natural Resource Management' translated into French

No.	French translations and versions of the English term 'community-based natural resource management'	Evaluation
1	Gestion à base communautaire des ressources naturelles	B
2	Gestion communautaire des ressources naturelles (GCRN)	A, B
3	Gestion communautaire des terroirs	C
4	Gestion consensuelle de ressources naturelles	D, B
5	Gestion locale par les communautés de base des ressources naturelles	D, B
6	Gestion locale des ressources naturelles	D, B
7	Gestion des ressources naturelles	C
8	Gestion des ressources naturelles en partenariat avec les autorités communales	D, B
9	Gestion des ressources naturelles par les communautés de base	D, B
10	Gestion des terroirs	C
11	Management des ressources naturelle sur base communautaire	D, B
12	Réseau communal de gestion des ressources naturelles	D, B
13	Réseau de gestion de ressources naturelles	D, B
14	Réseau pour la gestion communautaire des ressources naturelles	D, B

Notes: A = Acceptable, B = Problematic, C = Not acceptable, D = No comments provided.

6 Analysis

The focus here is on determining whether English CBNRM-related terms and words have corresponding terms and words in select languages, and to assess the extent to which these terms and words represent the meaning of the English term and word. This comprises one part of CBNRM Net's more formal approach to how to understand, address and deal with cases of translating between languages or, more generally, relations between cultures and languages in today's globalized communication. This approach is summarized in a decision-making tree (see Figure 3). The data presented above (see Section 5.3) covers several of the decisions to be made according to this decision-making tree. They include the following decisions: a term or word corresponds to an external term or word (no. 1), a term or word corresponds partly to an external term or word, and is used as is (no. 2.1), a term or word does not correspond to an external term or word, or does not exist, and the external term or word is imported as is (no. 3.2.1).

The key issue to keep in mind is that this work should not and cannot be an exercise in viewing the suitability and usefulness of these translations from the point of view of English, and, more generally, Western/European culture. Put differently, we all have to accept that there are different ways of expressing commonality in understanding. What this means, of course, is that the English language cannot be put forward as the standard against which other translations should be measured. The ideal of cultural relativism applies. The reason why this is an issue is that the CBNRM approach that is developing worldwide takes place in

the idiom of English. In addition, when looking for terms and words in other languages that express this same view, it is all too easy to take on a culturally specific attitude in evaluating such translations. The obvious outcome in many, if not most, cases is the default of concluding that an identical, comparable or acceptable solution (all of which represent different types of rationalizations) does not exist, thus paving the way for using English terms or words instead. What is dangerous here, is that the above are not even conscious processes – as in most cases a decision to use an English term or word is not preceded by this type of analysis. And, finally, it is ‘we’, meaning either people from the West or people educated and trained in the West (a broader category comprising many people in developing countries) that are making these judgments. A cultural relativistic approach does not search for a word with identical meaning to a given English word (and this would apply to terms as well), but for the extent to which it functions within the particular culture in question, in a similar way as the English term/word does. It follows that meaning itself should be understood as relative and not as absolute.^{10/} Moreover, and importantly, these decisions are to be made by people that are born into the culture in question. What we will end up with then, are sets of terms and words, the content, meaning and application of which – in its various linguistic incarnations and usages across languages and cultures – is broader and less determinate than some would have preferred. Cultural communication using more (and often less) identical terms is more demanding of users, as it presumes knowledge of the other cultural context, but it is at the same time also more rewarding, and on several levels. Meaning and interpretation are relative and are culturally conditioned exercises.

6.1 The data

The data includes translations between English and colonial languages (French, Portuguese), English and regional/national languages (Arabic), and English and local languages (Akposo, Hassanya, Setswana) (see Table 2). Taken together, these data sets address several parts of the decision-making tree (see Figure 3). In the following, the data in Tables 2, 3 and 4 are analyzed separately.

6.1.1 *English terms and words translated into colonial, regional/national and local languages*

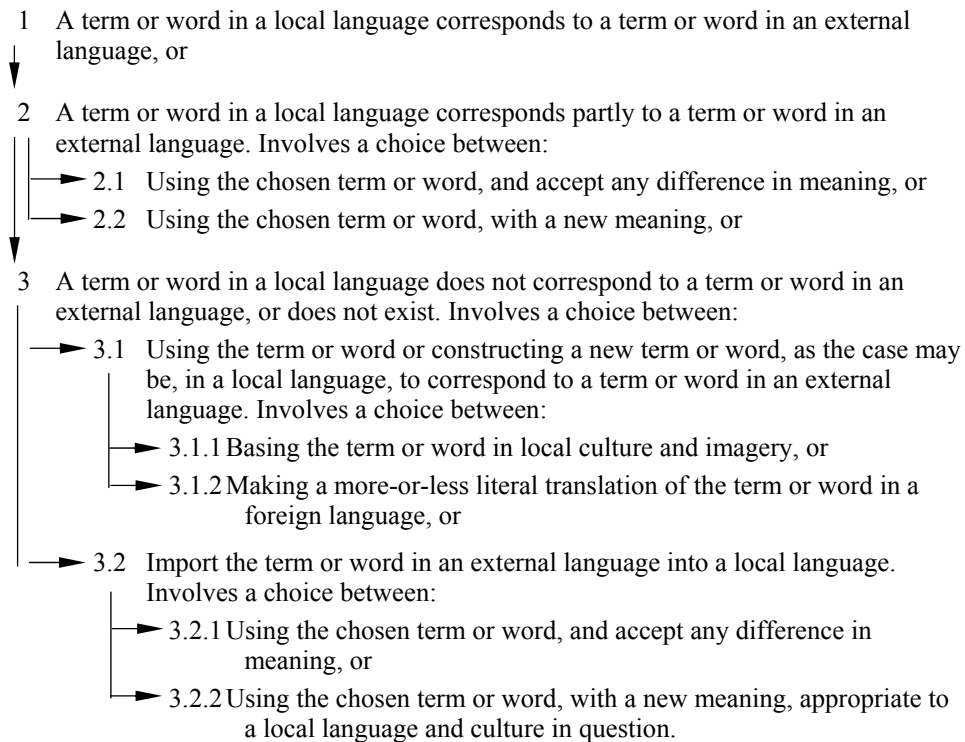
Two aspects of these data are noteworthy (see Table 2).^{11/} First, the differences between translations in colonial languages on the one hand, and translations in regional/national and local languages, on the other hand and, second, evaluating translations in local languages involves substantial cultural analysis. English, French and Portuguese all belong to the Indo-European language family.^{12/} This means that they are, relatively speaking, closely related to one another. Thus, it comes as no surprise that the proposed translations of the English terms and words into these languages in many cases are found to be acceptable. One noteworthy exception is represented by the terms ‘CBNRM’, ‘CBNRM practitioner’ and ‘CBNRM stakeholder’ (see Section 6.1.3).

^{10/} Furthermore, meaning is, in general, not understood to reside in any particular object, text or process. Rather, it arises during the communication process itself.

^{11/} The complete dictionary is at: <http://www.cbnrm.net/resources/dictionaries/>.

^{12/} French and Portuguese belong to the Gallo-Iberian sub-family, and are more closely related to each other than either are with English (see http://www.cbnrm.net/resources/dictionaries/dictionaries_descriptions.html).

Figure 3. Decision-making tree, CBNRM Net's approach to translating between local languages and external languages



Note: The terms 'local language' and 'external language' are relative. The former refers to national / indigenous, regional / national or colonial languages, and the latter refers to regional/ national or colonial languages or English (see Section 5.1).

Regarding the regional/national and local languages, namely Akposo (for analysis of the Akposo data see Section 6.1.2), Arabic,^{13/} Hassanya and Setswana, the available data makes it clear that a complex work of cultural contextualization and interpretation is necessary (see the introduction to Section 6). Some examples from Arabic and Hassanya, as spoken in Mauritania:^{14/}

- **Animal.** Arabic: Hayawane (طير حيوان). Hassanya: Hayawane (حيوان). Etymology: 'hay' means 'life'. Refers to domestic animals. The meaning can be extended to other living species, including birds, flies, insects, and reptiles, but this is only comprehensible to the educated elite. The alternative word 'el bakhnouss' covers all wild and domestic animals. The alternative word 'daba' excludes all kinds of birds and insects, and humans.
- **Community.** Arabic: 'majjouaa' (مجموعة). Hassanya: 'maj[m]ouaa' (مجموعة), 'ejmaa' (اجماع), 'ehel' (أهل). Group of people or a tribe that lives together and is connected through a common way of life and traditions, and does not share family ties. The French word 'communauté' is often understood in the sense of 'settlement', that is, permanent occupation of space, which is not the case with traditionally and idealized nomadic way of life. 'ehel' means also 'family'.
- **Village.** Arabic: 'gharya' (قرية), 'hadhira' (حظيرة), 'haye' (حياة). Hassanya: 'dcheyra' (ادشير), 'gharya' (القرية). 'dcheyra' means 'small town'. Mostly one says 'el wad', which means 'the oasis', because traditionally all villages were located near a

^{13/} Arabic is in this paper considered to be a colonial language, but is discussed here because of its remoteness from English in linguistic terms (see Section 5.1).

^{14/} For the purpose of this analysis, Arabic and Hassanya can be treated together. This is so because they are closely related. For all practical purposes, Hassanya is an Arabic dialect, and both languages contain a large number of loan words from the other language.

well. Today most people will use 'dcheyra' to designate a village. While 'dcheyra' is typically Hassanya, 'gharya' is originally classical Arabic and means 'village'. In Hassanya, 'gharya' can be understood also as bush surrounding a village.

The following are some examples from Akposo, spoken in Botswana:

- *Animal*. 'phologolo'. Will, generally speaking, be understood as wild (undomesticated) animals, as domestic animals are called 'seruiwa' (pl. 'diruiwa').
- *Common property resource management*. 'tsamaiso ya matlotlo a botlhe'. Literally: 'management of common property resource', where 'tsamaiso' means 'management', 'ya' means 'of' and 'matlotlo a botlhe' means 'common property resource'. In 'matlotlo a botlhe' the word 'matlotlo' (pl., in sg. 'letlotlo') refers here to resources (while in itself it means 'riches' as in 'natural riches') and 'botlhe', which here means 'common' is included to denote that the resource (letlotlo) is for 'all'. 'Common property' means 'ditsa-botlhle', in a somewhat formal sense. Here 'ditsa-' is possessive with reference to property while 'botlhe' means all, that is, all the people. Hence, 'dithoto tsa batho botlhe' means 'property for all people', where 'dithoto' means 'property', 'tsa' means 'for', 'batho' means 'people' and 'botlhe' here means 'all'.
- *Insect*. 'setshedinyana'. A word for insects as such does not exist. Instead, there are words for various types of insects, including 'tshoswane' which means 'ant' and 'khukhwane' which means 'beetle'. The only basis for a proposal for translation is that insects are usually small, hence 'setshedinyana' where 'setshedi' means 'creature' and '-nyana' is a suffix denoting small. That is, the word 'insect' translated into Setswana means 'small creature'.

6.1.2 English terms and words translated into Akposo

Akposo presents an interesting case as more translations are available (see Table 4). Some examples follow:^{15/}

- *Co-Managed Protected Area (CMPA)*. 'ali yu èfuta'. There is no term or word to describe an area that is voluntarily protected. There are, however, forests or places where people are not allowed to go according of cultural values ('sacred groves'). The term refers to a forest (èfuta) belonging to the whole village (ali).
- *Community-Based Natural Resource Management (CBNRM)*. 'inyéli ayu èkuwa wlédu kpodu'. To translate 'natural resource(s)' the construction 'things of the earth' is used. This is a sort of anthropomorphism because the earth is considered an entity capable of owning things.
- *Community-Based Organization (CBO)*. 'iza'. Means 'meeting' or 'assembly'.
- *community development*. 'okpodu ka ali yè ayu alo oha.' 'alo'ha' means 'going ahead'.
- *Community-Driven Development (CDD)*. 'alo'ha foa nu ima ayu esse zo'. The meaning is progress induced by community decisions. Used by the World Bank.
- *consultation*. (i) 'èlukpe nu alè, (ii) odu idalè. Can mean 'discussion'.
- *decentralization*. 'uné ozélé ka efu wani kadu ka ètu'. Means 'liberty is granted to places for being on their own'. No generic term exist.
- *development*. 'alo'ha'. This word does not denote or imply a final state or situation, but something akin to 'progress'. The word means 'going ahead' (see term 'community development' above).
- *devolution*. 'ikpoku atè'. The term borrows a term from chieftaincy, the prominent social organizational aspect of culture in this region that means 'throne'. Chieftaincy can be understood as a devolution mechanism.
- *ecosystem*. 'uti'. Means 'land', there is no word that carries the meaning of 'ecosystem'.

^{15/} The dictionaries are available at: <http://www.cbnrm.net/resources/dictionaries>.

- *empowerment*. 'ivu du nu alu li'. Means to 'warm' ('ivu' means 'fire') the activities of 'persons' (alu). This term conveys a strong idea of something that is dynamic.
- *governance*. 'alu obladu'. Means something like 'how to conduct people'. Here the idea of leadership is prominent.
- *institution*. 'olunali'. Means the place where people work. See 'work'.
- *Integrated Natural Resource Management (INRM)*. 'inyéli'ku wani owlédi obuè'. To reflect the idea of 'integration' the word 'obuè' (goodness) is used.
- *management*. 'wlédu'. Means 'reparation' (from the verb 'repair'). The English word 'management' and the French word 'gestion' has no meaning in Akposo. The logic of the proposed word is that what is already perfect needs no attention or work. However, that which is damaged, destroyed or does not function properly needs to be managed or repaired. See 'work' below.
- *Non-Governmental Organization (NGO)*. 'uha ményi fiaha su'. Means here 'a group which does not belong to the state'. From the Ewe words 'eha' (group) and 'fiaha' (attributes of the king).
- *participation*. 'unuku du nu èsèli'. Means 'give one's opinion'.
- *stakeholder*. 'oluna'na ni'. Means 'worker'. See 'work' below.
- *stakeholder analysis*. Does not exist.
- *state property*. 'fiaha ayu èku'. The word 'fiaha' derives from the Ewe word 'fiaha' which refers to attributes of the king (fia). By a sort of personality transfer, the modern state is compared to ancient kingdoms.
- *tradition*. 'ilèvlèsé'. Means also 'custom'.
- *use right*. 'olona ona nu usé'na'. 'use' refers to 'work' or to 'cultivate'. This means that a person's use right is valid only when she or he cultivates a plot.
- *work*. 'oluna'. This word gives a certain idea of 'management'. See 'institution'.

6.1.3 The English term 'community-based natural resource management' translated into French

In the case of the French and Portuguese translations, the English terms and words correspond relatively well to the respective proposed French and Portuguese versions (see Table 4).^{16/} Regarding the English term 'community-based natural resource management' (including its composite terms and words 'natural resource management' and 'management') the situation is problematic. Basically, these English terms do not have comparable versions. The problem is more complex, however, partly because a number of French terms with some overlapping meaning and usage have been in use for a long time, and have tended to migrate to the relatively new concern of CBNRM, and partly because French is a major language. This raises the somewhat complex issue of how to address a situation where a number of terms and words are in everyday use.

French terms that are used as equivalents of the term 'CBNRM' and related terms (see Table 1) represent an interesting case in point (see Table 4). Among the users there appears to be no agreement on which of these terms most closely correspond to 'community-based natural resource management'. Likewise, the criteria for deciding this are also not agreed upon. The different ways in which the 14 terms listed in Table 4 has come about throws an interesting light on the type of terminological and linguistics anarchy that can occur in situations of theoretical and terminological diffusion and close contact between two languages. These are used by a large number of persons and organizations, both based in Franchophone countries and outside this language area. Some are clearly straightforward continuations and usage of existing terms, with little or no concern or knowledge of whether the French terms in question are suitable or not (see Table 4, terms nos. 7, 10). Others bear witness of having been constructed, partly based in existing terms and partly from scratch,

^{16/} The dictionaries are available at: <http://www.cbnrm.net/resources/dictionaries>.

with little concern or understanding for the essence of the English term (see Table 4, terms nos. 3, 4, 6)^{17/} Still other terms bear witness to the originators' understanding of the issues at stake, and approach to the problem to add-ons and qualifications, with the result that the resulting terms become long and unwieldy (see Table 4, terms nos. 1, 2, 5, 8, 9, 11, 12, 13, 14). One term, 'management des ressources naturelle sur base communautaire', represents a case of anglicization, in that the English word 'management' has replaced the word 'gestion' (see Table 4, term no. 11).

The problem is that there are existing terms in use, and these terms have to be considered, in spite of the fact that their meaning is very different from the meaning of 'CBNRM'. A key "problem", as seen from the point of arriving at an optimal translation of 'CBNRM', lies in the French words 'gestion' and 'terroirs'. The latter is fairly straightforward to dispense with: 'terroirs' should be understood from an agricultural point of view, that is, as something (including natural resource, soil, earth, land) that generates an agricultural product, for example, grapes are used to produce wine. 'Gestion' is more complicated, as witnessed by the fact that almost all terms listed in Table 4 incorporates this word. An often used, and commonly accepted, translation of 'gestion' is 'management'. While, and depending on the context, more or less acceptable, a better translation in many situations may be 'administration'. Given the equality that many see between 'gestion' and 'management', this has probably to a large extent paved the way for the continued widespread usage of the word 'gestion' as appropriate to convey the essence of 'CBNRM'. The reality of it is that the word 'management' gives a more business-oriented feel than 'gestion'. On the other hand, 'gestion' in the sense of 'administration' is relevant in the context of natural resources more specifically, as in 'gestion des terroirs'. 'Gestion' in the sense of administration would appear to be in the public domain, that is, public sector top-down approach to management, and this may be the reason for the popularity of the other understanding of 'gestion', namely as 'management', which is located in the private domain (including civil society).

In approaching this, the following ideal set of criteria were formulated as a guidance in selecting the optimal French term for 'CBNRM': (1) it should represent a straightforward enlargement or extension of a universally accepted term, (2) it should be relatively simple in construction, including being short, and (3) it should have an abbreviation that corresponds with the abbreviation 'CBNRM'. Based upon the advice of several CBNRM Net members, and using these criteria, the term 'Gestion communautaire des ressources naturelles', abbreviated 'GCRN', has been chosen (see Table 4, term no. 2). This is partly because it represents an extension of a universally accepted term, namely 'gestion des ressources naturelles' (see Table 4, term no. 7), partly because it is relatively simple in construction, and partly because it provides for introducing an abbreviation that builds upon the 'GRN' form and corresponds nicely to 'CBNRM', namely 'GCRN'.

6.1.4 Summary on data and data quality

Some qualifications on the data used in the above analysis are in order. First, the amount of data available for the analysis is not very large, and the languages included were not selected based on any grand overall design, but were instead those languages that happened to be used by the CBNRM Net members that volunteered data. The literature – especially the anthropological literature – abounds, however, with descriptions and analyses worldwide of this type of linguistic variability in how we classify our worlds.^{18/}

^{17/} One cannot but wonder whether the rationale for constructing some of these terms were to coin terms for the sake of doing this, and not to contribute a useful term.

^{18/} To give an example, Keesing (1981:85) writes about the Kwaio of the Solomon Islands: "... [they] label fresh water as one substance, salt water as another; they place birds and bats in one category, in contrast to moths, butterflies, and other flying insects; they class fish and marine mammals together; and they label with a single term most colors we would call blue and black."

Second, the quality of the data can possibly be questioned, as little guidance was provided to the persons contributing them. In the case of the Setswana data, to take an example, the persons contributing them have been especially dedicated and gone beyond the expected call of duty in constructing terms and words.

Third, and as an implication of the previous argument, it may not be so easy to compare the data across different language-translations.

Fourth, the notification used for characterizing translations emphasizes the complications and implications of translating between languages. Given that the line between categories A, B, and C is not necessarily easy to draw, it is interesting to note that only a couple of translations were evaluated to be not acceptable. On the other hand, several terms and words are evaluated as being problematic, and this number would likely have been lower – and the number of acceptable and not acceptable translations correspondingly higher – if enough supporting information were available for the analysis (in some cases, especially for several Arabic and Portuguese, no supporting information was received).

Having said this, the data that were available for this analysis are assessed to provide a clear indication of both the nature and scale of the problem under scrutiny.

6.2 Broadening up: modeling language interaction

So far, the attention has been on individual cases of translations between the selected languages. These translations take place on a daily basis, by a multitude of people, going about their job or daily routine, in interactions with others, across any number of languages and cultural barriers. Starting with these micro-level (instances of) inter-cultural communication processes, let us now try to structure and systematize this on the various levels at which such communication is taking place, and construct a simple framework or model for understanding and analyzing use of language and its impact on culture.

As has been made clear from the beginning, this paper addresses, foremost, inter-cultural *online* communication. That is, although generic in form, use, and predictability, the model's use here is in connection with use of ICTs in online communication. While keeping this focus, we should not lose sight of the fact that online communication is only the latest extension of an evolutionary process in terms of how communication takes place. All communication is, essentially, communication between humans. In this sense, the starting point and foundation – that is, the lowest common denominator – for online communication are the multitude of direct face-to-face communications (or interactions) between individuals, inter-culturally as well as intra-culturally.

Interactions, that is, communicative behavior between a pair of individuals, often called a *dyad*, have a number of characteristics, can be used for analytical purposes (see Table 5).

Table 5. Characteristics of the interaction or communication in a dyad

No.	Characteristic	Description
1	Multiplexity	Whether relations are single or multiple
2	Transactional focus	(1) nature of goods and services exchanged, (2) degree of emotional involvement, (3) confidences which are exchanged
3	Directional flow of information	(1) who initiates communication, (2) direction of the flow of things exchanged
4	Frequency	How often do interactions take place
5	Duration	Life length of an interaction

Sources: Barnes (1972), Kuper and Kuper (1985); adapted from Soeffestad and Kashwan (2004).

Individual cases of interactions (or communications) can be abstracted and generalized in that a number of *types of communication* can be identified:

- *Dyads*,

- *Small groups,*
- *Public communication,* and
- *Mass communication.*

Public communication is here understood as communication facilitated by the ‘traditional’ ICTs, including broadcasting, publishing and telecommunications (see Footnote 2). Mass communication, unequivocally connected with post-literacy, is facilitated by means of ICTs, that is, the Internet.^{19/}

Earlier a number of modes and models of communication have been presented (see Section 2.1). The *types* of communication presented above can be further abstracted and generalized when viewed in the context of the *modes of communication* and the *models of communication* (see Figure 4).

Figure 4. Types of communication in relation to models of communication and modes of communication

		Models of communication	
		Interactive	Linear
Modes of communication	Pre-literate	A Dyadic	B
	Literacy	C Small groups	D Public communication
	Post-literacy	E 	F Mass communication

Communicative behavior between humans, whether direct (by word) or indirect (via ICTs) are here placed at the intersections of the modes and models of communication. The modes of communication represents an evolutionary timeline in communication, while the models of communication are understood as generic patterns of communication that go along with and characterize the modes. The types of communication, as located within this framework, represents aspects of the communication that takes place at various intersections of the modes and models of communication. The types of communication represents, on the one hand, the number of participants in any one instance of communicative behavior, ranging from two persons to masses, and, on the other hand, aspects of this communicative behavior (see Table 5). In fact, the recognized models of communication, that is, interactive and linear, can be understood as an index of aspects of some of the recognized characteristics of communication (see Table 5, nos. 1-3). There is a general historical and evolutionary move from the top left downwards and to the right, that is, diagonally from the top left (cell A) to the bottom right part (cell F) (see Figure 4). While the characteristics of communication, as presented in Table 5, were developed with reference to dyadic communication, this paper hypothesizes that they can be extended in two important ways:

^{19/} This term is closely associated with the work (and persona) of Marshall McLuhan. He saw communication media as the essence of civilization, which we agree with. He also argued, on discussing the relationship between technology and culture, that history is directed by predominant media, which we have more problems with, and certainly in its more deterministic interpretations. Beyond this, McLuhan, who largely predates the Internet age, is not focused upon here (cf. McQuail 2000).

(1) in scale, from dyadic to mass communication, and (2) in means of communication, that is, as characteristics also of indirect communication.

There are overlaps between the types of communication. For example, in the mode ‘literacy’, public communication is not linear, while elements of linear communication may be available also in small groups. Likewise, for public communication vs. mass communication, this represents less a dichotomy than a continuum.

This, admittedly general, model of the evolution of communication and communicative behavior helps us understand what happens at the present time when it comes to language diffusion and language acculturation globally in development cooperation on natural resource management, as epitomized by the universal use of ICTs.

A simplified and dichotomized situation would consist of the two scenarios represented by cells A/C, on the one hand (here called ‘local level’), and by cell F, on the other hand (here called ‘global level’) (see Figure 4). The distinction between these two categories is admittedly somewhat fuzzy, as dyadic-type communication is found at all societal levels, from the village and up to nation-state and beyond. At the local level communication is direct, and typically takes place in dyads and small groups. It is both intra-cultural and inter-cultural, and different languages are in use. Communication shows positive values on the characteristics of communication (see Table 5). Degree of quality and context are two crucial aspects of communication at the local level (see Table 6).

Table 6. Communication at local and global levels: Comparison of equality and context

		Aspect	
		Degree of equality	Context
Level	Local	Equality between participants. Similar types and amount of goods and services are exchanged. High emotional involvement. Confidences exchanged are high. All participants initiate communication. Information and knowledge flows both ways.	The context is simple. One, or a few, cultures are involved, and the cultural contexts are known to participants. They share contextual reference for interpreting communicative behavior. Communication is multiplex. Frequency of communication is high. Duration is long.
	Global	No equality between participants. Dissimilar types and amounts of goods and services are exchanged. No emotional involvement. Confidences exchanged are low. Participants with more influence initiate communication. Information and knowledge flows one way.	The context is complex. Multi-cultural and multi-language context are involved, and participants do not know the other cultural contexts. Communication is not multiplex. Frequency of communication is low. Duration is short.

At this local level, cases of misunderstanding over terms and words in one language, as applied within another cultural context, are less likely to appear. If they do, given the prevalence of shared or common cultural references, such misunderstandings will likely be resolved. Furthermore, if it is not possible to resolve a misunderstanding of what a term or word means, or of using a term or word from one language in another cultural context, the parties involved will have better chances of resolving this by applying a decision-making approach similar to the one proposed by CBNRM Net (see Figure 3).

In the case of the global level, communication will also often take place at local levels, in addition to at global levels. The difference is that the issues at stake and the implications of such communication have implications and ramifications at the global level. It is typically indirect, that is, the participants to communicative behavior communicate via ICTs, specifically the Internet. Communication at this level can be characterized also with reference to the degree of equality and context (see Table 6).

This dichotomized representation of the local level vs. the global level gives important clues as to what is happening with languages in online communication today. The data presented above (see Section 6.1) points to a number of cases where English terms and words do not have corresponding terms in local languages, or where the proposed local terms correspond more or less to the English terms. In a situation where the English language obviously is at an advantage because of the technology that is used, and because knowledge dissemination as a rule is initiated in the West, to mention only two factors, it becomes unavoidable that English terms and words gradually are transferred to the local language. Increased uses of ICTs accelerate these processes of language diffusion. If these processes of language diffusion continue unabated, and given the close connection between languages and their associated cultures that has been pointed out, cultures will be affected. In the area of the relationship between Culture and Environment, increasing use of English will, over time, have the effect that traditional knowledge about natural resources (artifacts *in* nature) as well as about how to husband natural resources (relationships *with* nature) will disappear. This will, in turn, make it more difficult to continue with traditional subsistence and natural resource management practices that are well adapted and sustainable. Further negative impacts in the area of social organization will likely result.

This argument can be generalized with reference to power – and empowerment – in communication on natural resource management issues within development cooperation. Empowerment has earlier been discussed with reference to increase in self-reliance, increased access to strategic information and knowledge, and increased capacity to make choices based on available information and knowledge, and to transform these choices into desired outcomes. Culture (including language) and traditional knowledge are in many cases fairing well: West Africa provides several examples of more important roles of culture and traditional knowledge in participatory management and regional planning.^{20/} In spite of such examples, and with reference to the above presentation of a dichotomized communication situation (see Table 6), it is evident that many local languages and cultures are at a disadvantage in communicating with the outside. Furthermore, as communication increasingly takes place via ICTs, local people are, in addition, increasingly facing a situation where ICTs achieve a kind of monopoly on providing information and knowledge. As a result, on all four elements of empowerment (see Section 2.2), that is, not just access to information and inclusion and participation, but also accountability and local organizational capacity, there will be evidence of problems. This may work against achieving increased empowerment, specifically for the smaller and marginal cultures.

On a general level, possibly the most important message that can be read out of this model, is that the increasing use of English as a global *lingua franca* has important problematic and negative implications that often are overlooked, and are, for the most part, not understood and appreciated. While we tend to view ICTs, especially the Internet, as a blessing and a proof of progress and the application of technology for the betterment of all, especially the downtrodden, this model helps us understand the less known and negative aspects of this picture. This is that globalization, especially as facilitated by ICTs – any positive implications aside – comes with a baggage that is less acceptable to the receiving cultures, especially marginal and/or small cultures, and the synergies and implications at the local level of these imports are often, and certainly on the longer term, not very desirable. In this paper the focus has been on one aspect of this, namely on language, understood not just as a means of communication, but as an integral part of culture.

^{20/} The World Bank, at the forefront of important work along these lines in Africa, has published important work done by a number of civil society organizations in its “IK Notes” series (see World Bank 1998, 1999, 2000a, 2000b, 2001a, 2001b, 2002).

7 Conclusions

Much has been written about the digital divide, including why it exists, its effects, and how to close it. A broader understanding of the digital divide would: (1) focus attention on the digital divide *within* countries, that is, the variability of access across population segments and levels, and (2) place it in the larger context of the more fundamental *development divide* (Hewitt de Alcántera 2001). The way to understand ICTs' societal and developmental role, and to realize its potential, is to locate ICTs within: (1) the broad contextual variability of socio-cultural and economic-political realities that exist in developing countries and countries in transition, and (2) the context of communication and knowledge management (Soeftestad and Kashwan 2004).

This paper has addressed online communication and the connection between language and cultural marginalization. Focusing on the relationship between language and cultural maintenance provides an angle into the enormous impact of ICTs. Use of ICTs may, in some cases, lead to linguistic and cultural marginalization, while in other cases linguistics and cultural homogenization and hybridization may result. Translation – or, broadly speaking, communication between cultures – is more complex than trying to locate a suitable term or word, or using a foreign word if none can be found. The uses of ICTs tend to make communication seem more straightforward than it is by drawing attention away from the message and toward the medium. At the same time, it is obvious that ICTs are tools that can be used to increase understanding and awareness of the connection between language and culture, and of the importance of traditional knowledge and language in local natural resource management.

CBNRM Net is part of an emerging global socially distributed knowledge production system (Gibbons 1994). Through this, it supports local cultures, including their languages. Its approach is to sensitize all stakeholders involved, and to raise the awareness of local people about the importance of language maintenance. One aspect of this is to assess the constraints of ICTs in order to understand and utilize its potential. In doing this, CBNRM Net is aware of the complicated balancing act it is involved in: one the one hand it is a product of the post-literacy period, with its basis in Western science, value systems and technology, while it, on the other hand, tries to move outside this limited framework and take on a cultural relativistic position.

CBNRM Net has initiated work aimed at developing a core set of CBNRM-related terms, together with their equivalents in a large number of languages. In doing this, CBNRM Net advocates a balanced approach of, on the one hand, standardization of terminology for colonial languages, and, on the other hand, proactively locate, define and/or construct – as the case may be – relevant terms in local languages. As an example, a standard set of CBNRM terms and words in French is assumed to make a stronger case both for a continued role of French, and for diffusion of French terms and words into local languages (instead of English terms and words). Likewise, increased use of indigenous terms and words in local languages means that it will be easier to withstand the onslaught of outside languages. CBNRM Net relies on its global network and the community of practice it serves to disseminate and promote the proposed and/or selected terms and words. In a next phase in this work, CBNRM Net members will be polled. One important issue will be to reach agreement on a core set of terms and words.

Societies and cultures are fast becoming integrated at a global level, and the world can increasingly be understood as one complex system, comprising a number of sub-systems on various levels that also are becoming more complex. The emergence of ICTs at this particular point in time is symptomatic – it is at one and the same time the hallmark of this complexity and what makes communication within these systems possible. Yet, the predominant ideologies and explanatory models do not give much emphasis to this, and often describe complex systems as simple. The danger with this position lies in taking the present for granted, in dogmatism, and in acceptance of the inevitable. The only way out is

nurturing a principle of flexibility in complex systems. Flexibility is the room we have for maneuvering within given frameworks. Bateson (1972) defined flexibility as “the unused potential for change”. While he was writing with reference to the ecological crisis, this position on the importance of flexibility applies equally well to other societal phenomena and systems, including modern online communication using ICTs. Part of this is that we manage to step outside the communicative and technological structure we are ingrained in and are part and parcel of, and view it from the outside, that is, focus on how users come to it with vastly different knowledge and resources, and how it affects users differentially. An equally important part of this is that we, through this outside-inside view, begin to assess the constraints that use of ICTs represent and act accordingly (including adapting ICTs to the situation at hand), but also that we begin to see the potentials that ICTs represent and begin to explore them in earnest.

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References

- Abley, M. 2004. *Spoken here: Travels among threatened languages*. Portsmouth, USA: Heinemann.
- Barnes, J. A. 1972. "Social networks", *Addison-Wesley module in anthropology*, pp. 1-29. Boston: Addison-Wesley.
- Bateson, G. 2000. *Steps to an ecology of mind*. Chicago: Chicago University Press.
- Blench, R. 1996. *Language death in Central Nigeria*. Talk given at School of Oriental and Asian Studies, University of London, 5 December 1996. [online] URL: <http://www.ogmios.org/45.htm>.
- Bolter, J. D. 1991. *Writing space. The computer, hypertext and the history of writing*. Hillsdale, New Jersey, USA: Lawrence Erlbaum Associates.
- Chomsky, N. 1975. *Reflections on language*. New York: Pantheon Books.
- Daniels, H. A. 1994. Nine ideas about language. In: V. P. Clark, P. A. Eschholz and A. F. Rosa, eds., *Language. Introductory readings*, 5th ed., pp. 17-34. New York: St. Martins Press.
- DeVito, J. A. 2002. *Human communication: the basic course*. 9th ed. Pearson Allyn & Bacon.
- Fishbone, J. A. 1985. Language and culture. In: A. Kuper and J. Kuper, eds., *The social science encyclopedia*. London: Routledge. [online] URL: <http://www.worldbank.org/afr/ik>.
- Food and Agriculture Organization of the United Nations. 2003. *Communication and natural resource management. Experience/theory*. Prepared by the Communication Initiative in collaboration with the Communication for Development Group. Rome: FAO.
- Gibbons, M., et al. 1994. *The new production of knowledge. The dynamics of science and research in contemporary societies*. London: SAGE Publications.
- Goody, J., ed. 1977. *The domestication of the savage mind*. Cambridge: Cambridge University Press.
- Goody, J. and Watt, I. 1963. The consequences of literacy. In: J. Goody, ed., *Literacy in traditional societies*, pp. 27-68. Cambridge: Cambridge University Press.
- Hewitt de Alcántara, C. 2001. The development divide in a digital age. An issues paper. *Technology, Business and Society Programme, Paper No. 4*. Geneva: United Nations Research Institute for Social Development. [online] URL: <http://www.unrisd.org>.
- Keesing, R. M. 1981. *Cultural anthropology. A contemporary perspective*. 2nd ed. New York: Holt, Rinehart and Winston.
- Kuper, A. and Kuper, J., eds. 1985. *The social science encyclopedia*. London: Routledge.
- Littlejohn, S. W. 2001. *Theories of human communication*. Florence, KY, USA: Wadsworth.
- McQuail, D. 2000. *McQuail's mass communication theory*. 4th ed. London: SAGE.
- Lyons, J. 1981. *Language and linguistics: An introduction*. Cambridge: Cambridge University Press.
- Norton, B. 2003. Critical literacy in an international perspective. *Ngoma, The Talking Drum*, 25(2), pp. 2-3. [online] URL: http://www.lerc.educ.ubc.ca/fac/norton/Ngoma_Win03_p1-3.pdf.

- Norton Peirce, N. and Ridge, S. G. M. 1997. Multilingualism in Southern Africa. *Annual Review of Applied Linguistics*, 17, pp. 170-190. Cambridge: Cambridge University Press.
- Prengaman, P. 2001. Morocco's Berbers battle to keep from losing their culture. Arab minority forces majority to abandon native language. *San Fransisco Chronicle*, 16 March 2001. [online] URL: <http://www2.sjsu.edu/depts/linguistics/news/berber.htm>.
- Scharl, A., ed. 2004. *Environmental online communication*. (in press). London: Springer.
- Soeftestad, L. T. 2001. Aligning needs and means. On culture, ICT and knowledge in development cooperation. In: S. Bjoernestad, et al., eds., Proceedings of the 24th Information System Research Seminar in Scandinavia, Ulvik in Hardanger, Norway, 11-14 August 2001, vol. 1, pp. 47-60. Bergen: Dept. of Information Science, University of Bergen. [online] URL: <http://www.cbnrm.net/resources/documents>.
- Soeftestad, L. T. 2002. CBNRM Net: Knowledge management and networking for the global CBNRM Net community of practice. Presented at the 9th Biennial Conference of the International Association for the Study of Common Property, Victoria Falls, Zimbabwe, 17-21 June 2002. [online] URL: <http://www.cbnrm.net/resources/documents>.
- Soeftestad, L. T. and Sein, M. K. 2003. ICT and development: East is east and West is west and the twain may yet meet. In: S. Krishna and S. Madon, eds., *The digital challenge: Information technology in the development context*, pp. 63-82. Aldershot, England: Ashgate. [online] URL: <http://www.cbnrm.net/resources/documents>.
- Soeftestad, L. T. and Kashwan, P. 2004. CBNRM Net: From managing natural resources to managing ecosystems, knowledge and people. In: A. Scharl, ed., *Environmental online communication*. London: Springer. (in press). [online] URL: <http://www.cbnrm.net/resources/documents>.
- Tuman, M., ed. 1992. *Literacy online: the promise (and perils) of reading and writing with computers*. Pittsburgh: University of Pittsburgh.
- Waisbord, S. 2001. *Family tree of theories, methodologies and strategies in development communication*. New York: Rockefeller Foundation. [online] URL: <http://www.comminit.com/pdf/familytree.pdf>.
- World Bank. 1998. Indigenous knowledge systems in Sub-Saharan Africa: An overview. *IK Notes*, No. 1, October 1998. Washington DC: World Bank. [online] URL: <http://www.worldbank.org/afr/ik>.
- World Bank. 1999. Sahelian languages, indigenous knowledge and self-management. *IK Notes*, No. 13, October 1999. Washington DC: World Bank. [online] URL: <http://www.worldbank.org/afr/ik>.
- World Bank. 2000a. Regional planning, local visions: Participatory futuring in West Africa. *IK Notes*, No. 17, February 2000. Washington DC: World Bank. [online] URL: <http://www.worldbank.org/afr/ik>.
- World Bank. 2000b. Participatory management and local culture: Proverbs and paradigms. *IK Notes*, No. 18, March 2000. Washington DC: World Bank. [online] URL: <http://www.worldbank.org/afr/ik>.
- World Bank. 2001a. Indigenous knowledge and local power: Negotiating change in West Africa. *IK Notes*, No. 28, February 2001. Washington DC: World Bank. [online] URL: <http://www.worldbank.org/afr/ik>.
- World Bank. 2001b. West African languages: Medium and message. *IK Notes*, No. 29, February 2001. Washington DC: World Bank. [online] URL: <http://www.worldbank.org/afr/ik>.
- World Bank. 2002. Developing indigenous knowledge in Francophone Africa. *IK Notes*, No. 42, March 2002. Washington DC: World Bank. [online] URL: <http://www.worldbank.org/afr/ik>.
- World Bank. 2004. What is empowerment? [online] URL: <http://www.worldbank.org/empowerment>, Washington DC: World Bank.