A RURAL-URBAN DIGITAL DIVIDE? REGIONAL ASPECTS OF INTERNET USE IN TANZANIA.

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Abstract: The digital divide is the gap between those with regular, effective access to digital technologies, in particular the Internet, and those without. The global digital divide is a term often used to describe the gap between more and less economically developed nations, while at the national level, there is often an urban-rural divide. In developing countries, most Internet users gain access through public access points like Internet cafés. In this article, we take a closer look at the digital divide within Tanzania. Based on a survey among Internet café users in rural, semi-urban and central regions of the country, we find that the divide is mainly a question of finding venues with technology to access the Internet. The Internet users and usage at the different sites are surprisingly uniform, with, however, a few significant differences.

Keywords: Digital divide, Internet access, Internet use, Internet cafés, urban, rural, Africa

A RURAL-URBAN DIGITAL DIVIDE? REGIONAL ASPECTS OF INTERNET USE IN TANZANIA.

1. INTRODUCTION

The global disparities in access to the Internet and other information and communication technologies have led to a "digital divide" between technological haves and have-nots. (United Nations, 2006). The digital divide results from the socio-economic differences between communities, which in turn affects their access to digital information, mainly but not exclusively through the Internet (Wikipedia, 2006).

The digital divide can be categorised as global, regional or national. At the national level, there is an urban-rural digital divide (Rao, 2005). In developing countries in particular, we see clear tendencies of increased concentration of information flows to urban and central areas (Wong, 2002; Mwesige, 2004). Economically disadvantaged countries and rural and peripheral districts within these nations tend to fall further behind in human resource development as well as in economic progress and political participation.

Even if the above presented access oriented definition is commonly used in literature and everyday discussions, the digital divide will not be understood if it is viewed purely as a technological phenomenon. A broader interpretation of the digital divide is necessary. Van Dijk (2006) claims that the term cannot be understood without addressing issues such as digital skills and cultural analyses of lifestyles and daily usage patterns. On the other hand, the great merit of the sudden rise of the term digital divide is that it has put the important issue of inequality in the information society on the scholarly and political agenda.

Expansion of Internet access in poor areas is facilitated by arrangements for public use, such as Internet kiosks, cybercafés, or multipurpose community telecentres (Rogers & Shukla, 2001). The Internet café (or cybercafé) concept has been successfully spread to poor countries mainly because it combines a reasonably priced access to the Internet with the comfortable environment of a coffee house or a bar and the chance to socialise with fellow users and to pick up new knowledge and ideas in computer usage.

Ideally, Internet cafés in developing countries represent reasonably priced access points to sources of information for personal development, business start-up and growth, or political participation and the progress of civil society. Information has become one of the primary inputs in economic processes, and information and information and communication technologies (ICT) gradually become more crucial for the ability of enterprises, communities and individuals to participate successfully in the global economy (Hollifield & Donnermeyer, 2003).

In this article, we take a closer look at the digital divide within Tanzania, a poor developing country in sub-Saharan Africa. Based on a survey performed in rural, semi-urban and central regions of the country, we investigate if there are any differences in quantity or quality of public Internet access points and their use and users. When studying the users, we concentrate on infrastructural, socio-economic, and demographic aspects.

The article is organised as follows. After this introduction, we present an overview of the socio-economic context and the spread of the Internet and Internet cafés in Tanzania. Section 3 presents the theoretical basis and relevant literature, and is followed by an outline of the methodology and data collection in section 4. Our empirical findings are depicted in section 5, and in section 6 we present the conclusions, limitations, and prospects for further research.

2. THE STUDY CONTEXT

Tanzania, a merger of Tanganyika and Zanzibar, is now a multiparty democratic republic. It was firstly formed and became independent from the UK in 1964.

With 37 million people and an area of 945,000 square km, Tanzania remains one of the least urbanised African countries; only 23 percent of the total population live in urban areas. Looking at the Tanzanian administrative regions, Dar es Salaam Region has the highest urban proportion (94 percent), followed by Zanzibar (40 percent) and Arusha Region (31 percent) (Tanzania national website, 2006). There has been a moderate increase in the share of the urban population between 1988 (18 percent) and 2002 (23 percent).

Dar es Salaam, with a population of 2.5 million, is the largest city, the cultural and economic centre, and the former capital of Tanzania. The relocation of the capital to Dodoma has not yet been completed. In addition to Dodoma, six other towns (regional centres) have more than 200,000 people (Tanzania national website, 2006).

According to the national website, 2.3 million people are unemployed, but the majority of people are self-employed and most of the work is seasonal in the agricultural and informal sectors. About 82 percent of the employed working age population is engaged in agriculture. Some national statistics describing Tanzania is depicted in table 1 below.

The population of Tanzania is young and poor. More than 43% of Tanzanians are younger than 15 years, with an average age calculated to 17.7. People in Tanzania can expect to reach 45.6 years, statistically, and one-third of the population is defined as poor. Compared to its neighbouring countries, Tanzania has a relatively high literacy rate. It is worth noticing, however, that the difference in literacy between men and women is large.

Area (sq. km.)	945,087
Population (mill.)	37.4
Labour force (mill.)	19.2
Age structure (%) *0-14 years:* *15--64 years:* *65 -> years*	 43,7 53.6 2.6
Life expectancy at birth (years)	45,6
Literacy (%) *(Age 15 and over can read and write)* *Total* *Male* *Female*	 78.2 85.9 70.7
GDP; purchasing power parity (PPP) (Billion $)	27.1
GDP (PPP) per capita ($)	700
Population below poverty line (%)	36
Unemployment rate (%)	12.9

Sources: CIA (2006) and Tanzania national website (2006)

Table 1. Country statistics

In Tanzania most people have their own local language; many of them are very different from each other. Kiswahili has become the lingua franca of eastern Africa and is the official

language, spoken by all Tanzanians. From secondary school level, all teaching is in English, the second official language of Tanzania.

The penetration of the Internet in Africa differs from one country to another, depending on each country's government policy, legal and regulatory frameworks, competition among Internet service providers (ISPs), and pricing of telecommunications services. Internet connectivity in each of the world's continents far exceeds that of Africa (Mutula, 2003). Africa with currently 850 million people, about 13% of the world population, had, in 2005, about 2 PCs per 100 inhabitants and an Internet penetration of less than 4% (table 2, below). The global average Internet penetration rate was more than 15% (ITU, 2006). The situation in Sub-Saharan Africa is even worse, and in Tanzania the ITU (2006) estimates the number of Internet users to be less than 1%.

From table 2 we see that the number of Internet users in Tanzania increased from 60 000 to 333 000, or by 455%, in the period 2000-2005. The number of Internet hosts meanwhile increased by 300%. The Tanzania Communications Commission (TCC) has licensed only nine companies to provide data communication services including Internet bandwidth. As a result of their policy, Tanzania lacks cheap and high-capacity connections to the global Internet, while there is a large and increasing demand for Internet access (Tanzania Ministry of Communications and Transport, 2003).

	Year	**Internet**				**PCs**	
		Hosts	Hosts per 10,000 inhab.	Users (000s)	Users per 100 inhab	Total (1000)	Per 100 inhab.
Tanzania	2001	1,478	0.44	60.0	0.18	120	0.36
	2005	5,908	1.57	333.0	0.89	278	0.74
Africa	2005		4.92		3.72		2.24
World	2005		421.63		15.17		13.38

Source: ITU (2006).

Table 2. Internet use and PCs

Privately owned Internet cafés increasingly represent opportunities for ordinary people in economically poor areas to access the Internet. In such venues, computers are made available at various rates and connection speed, enabling regular or occasional customers to search for information and make electronic connections with others via e-mail and chatting. Internet café employees normally provide valuable guidance in Internet use and information access to inexperienced users. The fact that mainly operational costs are incurred in the payment for Internet use represents a huge advantage in economically poor contexts. Fixed costs from the purchase of equipment and leased lines are left to the business owners and only charged to the users according to the time spent on-line. In other developing countries, like Indonesia, India and Peru, more than two thirds of Internet users gain access through Internet cafés (Kristiansen et. al., 2003; Boase et al. 2002; Haseloff, 2005). Policy documents indicate that Internet cafés are the main means of Internet access in Tanzania as well (Tanzania Ministry of Communications and Transport, 2003).

Other sources of Internet access in developing countries are telecentres or multiple purpose community telecentres. The differences between telecentres and Internet cafés are mainly related to ownership, financing, and variety of services. Telecentres operate mostly as 'not-for-profit organisations', relying on various sources of external funding. In Tanzania there are only a few telecentres and we have chosen not to include them in this study.

There are no reliable statistics on the number of Internet cafés in Tanzania. Tanzania Ministry of Communications and Transport (2003) stated that the number was above 1000, while other sources estimated 300-400 some years ago (SIDA, 2001). Chachage (2001) estimated the number to be about 100, and other sources (e.g. web-directories and our own experience) indicate that 300 is an upper limit today, with the majority of them located in the commercial centre of Dar es Salaam. Due to high infrastructure prices and tough competition among them, it seems that the number of Internet cafés has decreased over the last 3-4 years.

The Internet café fee is more or less standardised over the country. Except for the most central and business oriented areas in Dar es Salaam, and special tourist sites, like the Kilimanjaro area and Zanzibar, the price is Tsh 500, or USD 0.5 per hour.

3. LITERATURE REVIEW

The digital divide is essentially a geographical division, and can be categorised as global, regional or national (Rao, 2005). The global digital divide is a term often used to describe disparities in opportunity to access the Internet between wealthy and poor nations, or between developed and developing countries. The extension of infrastructure for the use of the Internet in developing countries has generally been much slower than in economically rich parts of the world. This is mostly due to low demand and thereby low profitability of ICT businesses. The disparity in the intensity of ICT adoption among countries is wider than the disparities in their GDP per capita, indicating that the digital divide is also increasing and likely to become even more severe in the future (Wong, 2002).

At the regional level, Africa is in a particularly bad condition. According to the UN ICT Task Force (2002), the digital divide is at its most extreme in Africa, where the use of ICT is still at a very early stage of development compared to other regions of the world. Sub-Saharan Africa remains at the bottom of the list of developing regions in Internet usage surveys around the world and we will, for instance, see that Sub-Saharan Africa have only one-third of the Internet penetration compared to North Africa or one-thirtieth of the European penetration (ITU, 2006).

In developing countries, in particular, we see clear tendencies of increased concentration of information flows to urban and central areas (Wong, 2002; Mwesige, 2004). Economically disadvantaged countries and rural and peripheral districts within these nations tend to fall further behind in human resource development as well as in economic progress and political participation and thus widening the intra-country or national digital divide.

In academic literature, we find many articles covering the global and regional digital divide, in particular describing the gap between more and less industrially developed nations (e.g. James, 2005; Wade, 2004; Warschauer, 2003; Lucas & Sylla, 2003; Norris, 2001). Some authors, like Gyamfi, (2005) cover the regional aspect of the digital divide in Sub-Saharan Africa, while there are very few papers dealing with the intra-country digital divide, in particular in Africa.

Even if the above presented access oriented definition is commonly used in literature and everyday discussions, the digital divide will not be understood if it is viewed purely as a technological phenomenon. A broader interpretation of the digital divide is necessary (Joseph, 2001; De Haan, 2004; Rao, 2005). In line with this, Van Dijk and Hacker (2003) claim that the extent and the nature of the digital divide and information inequality depend on a multifaceted concept of access, where they distinguish between four kinds: “mental access”, “material access”, “skills access”, and “usage access”. While the public opinion and public policy, so far, have been strongly preoccupied with the second kind of access, lack of computers and network connections, they have observed that access problems of digital technology gradually shift from the first two kinds of access to the last two kinds.

Kling (1999) argued that Internet use is a question of social as well as technological access. Technological access refers to infrastructure and the physical availability of computer hardware and software, while social access refers to the mix of professional knowledge, economic resources, and technical skills required for the use of ICT. Chen & Wellman (2004) were looking at Internet use in eight countries: UK, US, Germany, Italy, Japan, Korea, China and Mexico. Across these eight countries, socioeconomic status, gender, life stage, and geographic location significantly affected people's access to and use of the Internet. The study reveals that Internet users are more likely to be well-off and better educated than non-users and, that men are more likely than women both to access and to use the Internet regularly. In both developed and developing countries, the Internet penetration rate among younger people is substantially higher than that among older people. Students who can get online via school connections make up a big share of Internet users in developing countries, and geographic location also affects access to and use of the Internet, with more affluent regions having higher Internet penetration rates than poorer ones. Moreover, the intersection of socioeconomic status, gender, age, language and geographic location tend to increase the digital divide in mutually reinforcing ways within and between countries. The largest gap is between better-educated, affluent, younger, English speaking men in developed cities and less-educated, poor, older, non-English speaking women in underdeveloped rural areas.

Rao (2005) highlights India in the context of digital divide by discussing its infrastructural bottleneck that includes electricity, IT penetration, teledensity, and Internet industry. Within India, some states are more digital than others and within a state, there is an urban–rural digital divide. Within urban areas, there is educated–uneducated digital divide and amongst educated there is a rich–poor digital divide.

This broader interpretation of the digital divide also contains a cultural dimension. Mosse and Sahay (2003) tell that attempts to deploy ICT in Mozambique face critical problems due to a variety of constraints ranging from inadequate infrastructure to manpower shortages, to a culture that does not yet value the "efficient use of information". Van Dijk (2006) claims that the digital divide cannot be understood without addressing issues such as attitudes toward technology, the channels used in new media diffusion, educational views of digital skills, and cultural analyses of lifestyles and daily usage patterns. He has studied the digital divide research during a period of time and states that the deeper social, cultural, and psychological causes behind the inequality of access have not been addressed so far.

According to UN ICT Task Force (2002), in Sub-Saharan African countries, the divide between urban and rural areas is even greater than in the rest of the world. Most of the services and users are concentrated in the towns, while the majority of Africans are scattered in small communities spread-out across vast rural areas. Very limited diffusion of the telecommunications networks into rural areas (often over 75 percent of the country's telephone lines are concentrated in the capital city) and irregular or non-existent electricity supplies are a common feature and a major barrier to the use of ICT, especially outside the major towns.

Kasusse (2005) has investigated the strategies of bridging the digital divide in Tanzania's neighbouring country, Uganda. Even as communication barriers fell, he found that new divides had emerged and Internet access, though certainly affordable to the middle class in the urban area of Kampala, is still mostly non-existent for the 90% of Ugandans who live away from Kampala. This shows that the digital divide is not only a hardware divide regarding telephone lines and computers. It is also a mental divide, defined by illiteracy, command of English, and feelings of ease and familiarity with these technologies.

Even if we agree in a broad definition of the digital divide concept, the first step in the direction of bridging the digital divide in a country is to provide access to the Internet in rural areas. In developing countries, most Internet users gain access through public access points

like Internet cafés (Kristiansen et. al, 2003). In China, Liang & Ning (2004) predicts that Internet adoption in smaller cities will continue to grow with the popularization of Internet cafés. Mathur & Ambani (2005) claim that private profit-making institutions, like cybercafés, can develop solutions to capture the hitherto unrecognized markets, make profits, and at the same time provide aid to the rural societies in India. From Malaysia, Alhabshi (2004) reports that in an area, which is politically marginalized and physically ignored, the digital divide is bridged by way of structurally poor and financially weak cybercafés. In a study of cybercafé industry in Africa, Mutula (2003) states that they have become important access points for a majority of Internet users.

This basis of theoretical and empirical studies will be used in the upcoming analysis of Tanzanian data to investigate if there are any differences in quantity or quality of public Internet access points and their use and users. When studying the users, we have concentrated on infrastructural, socio-economic, and demographic aspects.

4. DATA COLLECTION AND METHODOLOGY.

This paper is based on recent surveys of users of Internet cafés in five towns in Tanzania (see map, figure 1 below). Previous in-depth interviews with business owners as well as with users prepared the ground for developing a questionnaire in the Kiswahili language. Draft versions of the questionnaire were tested on a number of respondents before the final version was decided. The questionnaire has formed the main research instrument for this study.

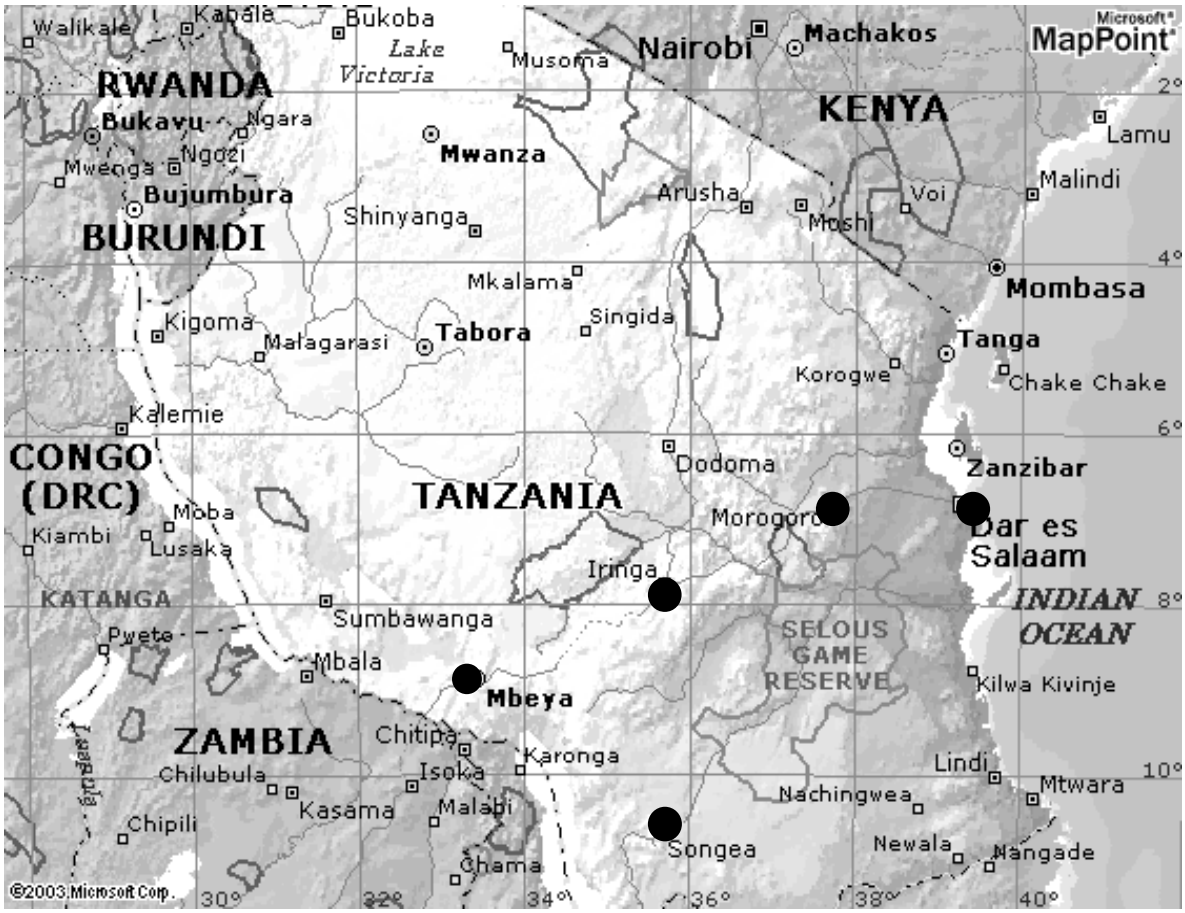

Figure 1. Tanzania – research sites

The survey was executed during two periods in 2004. In January/February, the survey took place in three rural regions, Iringa, Mbeya, and Songea in the south-western part of the country, along the main road from Dar es Salaam towards Malawi and Zambia. The three regions have between one and two million inhabitants (see table 3, below). The distance from Dar es Salaam is between 500 and 1000 kilometres. All the seven Internet cafés we visited

were found in the regional centres (towns), three in Mbeya, three in Iringa, and one in Songea. This resulted in a sample of 63 respondents. In September 2004 we carried out the second phase of the survey in Morogoro and Dar es Salaam. Morogoro region, about 200 km east of Dar, between Dar and Dodoma, has a population of 1.7 million and 260,000 people in the regional centre. The town has some industry and a number of educational institutions, including two small universities. We collected 41 questionnaires in four of the six cafés in town (no selection criteria) from all customers, at different time (morning and afternoon) on two days. Dar es Salaam is the biggest city in Tanzania, with 2.5 million people. Through our own mapping, combined with various other sources, we have registered 61 Internet cafés, mainly in the Kinondoni and Ilala areas. From this list, we selected 12 of the cafés, based on an even distribution across the two areas. In some cases, we did not get permission to distribute questionnaires to the customers from the managers, and then we went to the next, nearby café. Half of the cafés were visited in the morning, half in the afternoon. All customers present were asked to fill in the questionnaire and all together 161 valid answers were collected in Dar. The total number of respondents is 265.

Region	Population	% urban pop	# ICs	People per IC
Dar es Salaam	2 497 940	94.00	61	40 950
Morogoro	1 759 809	13.00	6	293 302
Iringa-Mbeya-Songea	4 682 545	10.78	7	668 935

Table 3 - Tanzania regions, population and number of inhabitants per Internet café.

Dar es Salaam is a typical urban and geographically central region, while Iringa, Mbeya and Songea are rural and geographically distant. Based on the geographical position, the infrastructure and the public services, we have classified Morogoro as semi-urban in this regard.

In examination of survey data, we have used simple statistical analysis. A number of additional in-depth interviews with customers in Morogoro and Dar es Salaam have helped us in interpreting statistical findings. In our statistical analyses, we investigate a number (ten) of variables across the three levels of rurality, namely age, gender, education, employment, financial capacity, Internet café expenses, personal capability (skills and knowledge), Internet café use frequency, Internet experience, and access flexibility. The variables are identified on the basis of the literature review and previous empirical findings and they are operationalised as follows.

The operationalisation of variables like *age* and *gender* is obvious. For the *education* variable, we make the distinction between three levels, namely elementary, high school, and university. In the analyses, we count the number of years in schooling. For the *employment* variable, we make a distinction between the following categories: student, self employed, government employee, private company employee, and unemployed. *Financial capacity* and *Internet café expenses* are measured by respondents' reported monthly expenditures (in Tanzanian shillings, Tsh). *Skills and knowledge* is measured by the respondents' perception of their own skills and knowledge in computer and Internet usage and English language proficiency (1=beginner, 5=advanced) and *personal capability* is the sum of the three numbers. *Internet café use frequency* is measured as the number of days per month the user reports to visit an Internet café and the hours spent per visit. *Internet experience* is measured as the number of years since the respondents started using the Internet, and, at last, the *access flexibility* is measured by the number of various venues through which the respondents report that they can access the Internet. A number that is higher than 1 means that a respondent has access to the Internet in other venues than Internet cafés.

5. EMPIRICAL FINDINGS AND DISCUSSION

Based on the literature review, we find it suitable to group the digital divide into 4 categories: Infrastructural, socio-economic, demographic, and cultural. The infrastructural digital divide is the basic one, dealing with physical access to ICT resources and to the Internet. The socio-economic category is about financial, educational and geographical conditions, while ordinary demographic dimensions, like age, gender, marital status, and ethnicity constitute the third group. The cultural category is difficult to define exactly, but it consists of elements like motivation, attitudes (for example to information and technology), and religion. In this paper, we have looked at the first three categories, when studying the Internet café users.

There is a very clear geographical digital divide between urban and rural areas in terms of public internet access points, and access to the Internet. Table 3, above, shows that there are 16 times more people per Internet café in the rural regions of Iringa, Mbeya and Songea compared to urban Dar es Salaam, and in the semi-urban region, Morogoro, there are 7 times more people per café.

On the other hand, we found that the use and users of the cafés in the three different areas are remarkably uniform, which, to some degree, question the described socio-economic or demographic aspects of the digital divide between urban and rural parts of a developing country. Out of ten investigated variables, only three (gender, age and total monthly expenditure) significantly differ across levels of centrality. There are, however a few other, smaller, differences, worthy of commenting.

The descriptive statistics in table 4 show that the semi-urban users are youngest, and also the rural users are younger than the urban users in Dar es Salaam. This combined with the lower share of students in Dar es Salaam, shows that young people, and in particular students represent a main user group in rural areas. This is in accordance with a study from Indonesia which states that the early Internet café market in developing countries is characterised by students and "youngsters" (Wahid et. al., 2004). It also supports the "life stage divide", pointed to by Chen & Wellman (2004).

Looking closer to the combination of the users' profession and the number of alternatives for Internet access, we see that there is a high portion of governmental employees among the rural users, while very few of those users have alternative Internet access at their work place. This confirms the SIDA (2001) assertion, that the level of automation (in the governmental sector) is low and is exacerbated by shortage of skills, equipment and money.

While the female share of the Internet café users is close to 40% in the urban areas, it is only 25% in Iringa, Mbeya and Songea. These numbers illustrate the difference in public participation between the two genders in developing countries in general, and in rural areas in particular, indicating that there is a "gender digital divide" within Tanzania.

The users' financial status, represented by their own stated monthly expenditure, shows a significant and interesting difference between the rural and the urban/semi-urban regions. The rural users have only one third of the purchasing power compared to the two other groups. At the same time, they spend almost the same amount of money on Internet café fees. One probable explanation is the informal economy in the rural, agriculture based areas. Due to an extensive barter economy, people neither have, nor need cash to the same degree as in the urban regions. This is, of course, a serious limitation to the spread of commercial Internet café business to these areas.

	Dar es Salaam	*Morogoro*	*Iringa, Mbeya, Songea*
Number of respondents	161	41	63
Gender distribution (%, male/female)	61.0/39.0	62.2/37.8	74.6/25.4
Age (average, years)	27.6	24.1	25.7
Education (%)			
Elementary	10.8	0.0	3.2
High school	56.4	69.7	65.1
University (diploma/Bachelor/Master)	32.8	30.3	31.7
Education (average, years)	11.55	11.73	11.68
Employment (%)			
Students	32.1	50.0	6.0
Self employed	20.1	2.8	11.1
Governmental	8.8	2.8	15.9
Private company	28.3	38.9	14.3
Unemployed	10.7	5.6	12.7
Monthly total expenditure (average, Tsh)	247,515	248,170	85,454
Monthly spending in Internet cafés (average, Tsh)	12,016	13,980	11,642
Skills and knowledge			
Computer knowledge	2.7	2.4	2.7
Internet knowledge	2.8	2.9	2.9
English proficiency	3.3	3.5	3.9
Personal capability	8.80	8.76	9.39
Internet experience (average, years)	4.84	4.44	4.00
Internet café use frequency (hours per month)	22.9	27.6	20.7
Number of visits (days/month)	12.7	13.8	13.8
Time spent per visit (hours)	1.8	2.0	1.5
Alternative places to access the Internet (%)			
home	5.0	9.8	6.3
at work place	17.4	22.0	6.3
at school/university	11.8	14.6	15.9
Access flexibility	1.18	1.34	1.19

Notes: 1 USD = 1,050 Tanzanian Shillings (Tsh).

Table 4 Descriptive statistics – the IC users

As presented in table 4, the users' educational level is remarkably similar. The average number of years in school varies by less than two percent over the three regions. Around one-third of the users, with marginal difference between rural and urban areas, have got some university education. The main impression is that the Internet café users are well-educated, which is also well documented in the literature (e.g. Chachage, 2001; Mwesige, 2004; Haseloff, 2005).

The personal capability value is a little higher for the rural users, mainly due to their perception of their own English language competence. The difference is, however, not statistically significant and has no obvious explanation other than random variations.

The semi-urban users from Morogoro are more frequent users of Internet cafés than rural or urban users. The difference is marginal, however, and is in accordance with the monthly spending on Internet café fees. The use frequency has a remarkably minimal variation across the three sites, even if the rural users have considerably less money to use.

We are a little surprised by the lack of variation in access flexibility. It is generally low. On average, the number of alternative places to access the Internet is very similar over the three sites, even if there are some differences between the access possibilities at work. This indicates that, except for the Internet café density, there is no difference in people's chance of finding places to use the Internet.

Next in our analyses, we investigate if there are any differences in type of use between the three research sites. The popularity index (table 5) is based on questions in the survey regarding the importance of various forms of use during respondents' current visit in the Internet café. The users ranked the 13 alternatives by number 1 to 13 (1=most important), and the table is the result of the average values from the users' rankings. The correspondence between the three rankings is more striking than the differences, showing that the use of Internet cafés seems rather uniform across the levels of centrality. It is worth noticing, however, that communication (e-mail and chatting) are ranked higher in the urban and semi-urban regions, while information searching activities (information seeking, research, and reading news) are all together the most popular rural activities. The reason for the lower communication ranking in the rural regions might be the low number of Internet users in that area. People in Iringa, Mbeya and Songea have fewer people to communicate with, on the net, than people in urban parts of the country.

Internet service	*Dar es Salaam*	*Morogoro*	*Iringa, Mbeya, Songea*
Email	1	1	5
Information seeking	2	2	1
Chatting	3	3	4
Research	4	4	2
Reading online news	5	6	3
Downloading software for professional use	6	7	8
Computer games	7	9	10
Downloading music	8	5	6
Downloading software for amusement	9	8	7
E-shopping	10	11	11
Doing business	11	13	13
Visiting pornographic sites	12	9	12
Gambling	13	12	9

Table 5.

Ranking of Internet services used in the Internet cafés.

In their research from Indonesia, Wahid et al. (2006) have found that the purpose of Internet usage in Internet cafés change over time. With higher education, there is a tendency to use the Web access in Internet cafés for more 'serious' purposes. Also our data reveal that well educated people in the rural areas use their Internet access for more instrumental purposes, like information seeking and research.

6. CONCLUSIONS.

The Internet users in Internet cafés are surprisingly uniform over the three levels of centrality. We can see, however, some small traces of difference between urban and rural Internet users, in the way that the users are becoming more "elite" in the rural regions, where access is scarce. Rural users tend to be younger, better educated, and they are willing to spend relatively more money on Internet use. They are also, to some degree, using the net for more "instrumental" purposes, like research and information seeking. Another, more obvious difference, is the "gender divide" – showing that the share of female users is considerably lower in rural regions.

Our study tells that the digital divide within a developing country like Tanzania is first and foremost a question of differences in the possibility of access to the Internet and ICT in rural and urban areas. It is mainly a technological divide but the problems when it comes to bridging this divide seem to be a combination of political and financial obstacles. Our policy recommendation is therefore to make the conditions favourable for entrepreneurs and organisations to set up public Internet access points, and to give people in rural and geographical distant regions the same necessary qualifications to utilise the Internet for their own human development, and thus bridge the divide.

A limitation in our study is the lack of information about non-users. To expand the knowledge of the digital divide within countries, we need to know more about the "have nots", the people that are not using the Internet and ICT today. Therefore, this study might be followed up by collecting data from a sample of non-users in the same social and economical contexts as the users, and even from areas with no Internet access at all.

In general, we have found it suitable to group the digital divide concept into four categories, infrastructural, socio-economic, demographic, and cultural divide. Even if we mainly have studied the first three groups, we are aware of the cultural aspects and see that studying this dimension as a next step, might bring us into an uncovered and interesting field of research.

7. REFERENCES.

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