SADA, A NEW PLAYER IN DEVELOPMENT COMMUNICATION: REACHING THE UNREACHED IN AFGHANISTAN

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> "We can't bring and ensure the security in the region by police or the national army. Instead it is education and use of the latest and modern technologies which lights our society and helps us to bring a sustainable peace and stability in our war-torn country of Afghanistan. We need to educate our people and need to eliminate the ignorance as soon as we can."
>
> — Mr. Hedayat, Former Ministry of Education Director for Nangarhar Province.

In the Gardez District of Paktia Province in Afghanistan, a group of women who lined up to cast their ballot in a voting booth, described themselves on the day of the parliamentary election, September 18, 2005, as a happy "army of blue *chadors* (veils)". After listening to several hours of engaging programmes on the novel *Sada* digital audio device, these women knew that they had the right to vote, and understood what to look for in a good parliamentary candidate (Focus Group Discussion, Gardez District, October 16, 2005). Some women said that the *Sada* made them "brave, and able to talk to others and encourage others to register to vote and participate in the election". Respondents from focus group discussions in several provinces shared their enthusiasm for the *Sada,* and were especially happy that they could "use God's sunshine" to recharge the *Sada*'s batteries because most families did not have the 15 Afghanis (U.S. \$0.30) to repeatedly buy batteries. The *Sada* connected these poor, remote Afghan women to their country's political future.

❝Development follows exposure to communication media and is the result of interpersonal communication about the media message (Rogers, 1995). These new small media technologies provide channels for exposure to communication messages, encourage interpersonal communication about the messages, and engage participants in the development process.❞

The impact of new information and communication technologies (ICTs) on development has been a topic of extensive international debate, primarily focused on the Internet and reducing the digital divide (UN/ITO, 2003/2005). For NGO programme planners in Afghanistan, the ability to inform underserved and illiterate or low-literate audiences in order to change knowledge, attitudes,

and behaviours, is limited by the lack of mass media and Internet penetration. Although the number of private television and radio stations, and print publications, has increased in Afghanistan since the fall of the Taliban in 2001, at least one-third of the population remains without access to any mass media (JEMB, 2005). The very low literacy rate among Afghans further restricts the channels through which they can be reached with development information.

In August 2005, Voice for Humanity, a U.S. non-profit humanitarian organisation, distributed 41,000 low-cost, battery-powered audio players, named *Sada*[1], to inform Afghans about the parliamentary election, and encouraging them to vote. This paper presents findings from an evaluation of the *Sada* technology and its use in Ghazni and Takhar provinces of Afghanistan. First, we paint an historical backdrop of the field of development communication, especially highlighting the role of small media in fostering social change. Next, we provide a snapshot of the political and communication contexts in Afghanistan, into which the *Sada* was introduced. Finally, we present findings from the assessment of the *Sada* technology and its uses, and discuss the potential of this small media device to further national development goals.

The Role of Small Media in Mediating Social Change

Small media is a rubric for non-mass media communication channels that are participatory, public, and not controlled by state governments or large corporations (Sreberny-Mohammadi & Mohammadi, 1994).[2] Big media (e.g. satellite and cable television, national and regional radio networks) are generally state-run or privately owned and operated media. Small media may include free local newspapers and newsletters, photocopies, videos and photos taken by local citizens, CD/DVD and audiotape recordings, fax machines, computers (virtual space) available in public community venues, and community radio and television channels.

The distinction between "big" and "small" media is not tied to the technology itself, but rather to the uses of the technology. Small media generally represent the "people's voice" (Jankowski et al., 1992), and are used as a political forum, as a catalyst for emancipation and social change, and as a channel for cultural and religious expression. For example, in Eastern Europe and the Soviet Union underground magazines and newssheets provided a counterpoint to the highly censored state-run communication channels (Downing, 1984). In Iran, in the late 1970s, followers of the then-exiled Ayatollah Khomeini utilised mimeographed newspapers and pre-recorded audiocassettes to disseminate his daily messages to the Iranian public. During his exile in France, Khomeini talked daily with his followers in Iran by telephone. Khomeini's daily sermons were so effective in mobilising public opinion that the Shah was eventually overthrown, even though his government controlled the big media of television and satellite-based telecommunications (Singhal & Rogers, 1989).

Public space as a small media channel for political discourse has been used throughout the world to diffuse ideas and ideologies. In Nicaragua, citizens painted political slogans and messages on the walls of city streets (called *pintas* or wall graffiti) to call the public to rebel (Sreberny-Mohammadi & Mohammadi, 1994). In Chile, *Teleanalisis*, news stories that demonstrated the repressive realities of the Pinochet regime in Chile in the 1970s and 1980s, were recorded on VHS cassettes and distributed via religious and community groups (Gumucio Dagron, 2001).[3]

The proliferation of new small media, for example, cell phones with built-in cameras and MP-3 record-and-play devices, provides new opportunities for development communication. Development follows exposure to communication media and is the result of interpersonal communication about the media message (Rogers, 1995). These new small media technologies provide channels for exposure to communication messages, encourage interpersonal communication about the messages, and engage participants in the development process.

To more fully understand the role of the *Sada* digital audio device in Afghanistan, it may be useful to visit Afghanistan's recent socio-political history, as well as the status of its communication infrastructure.

The Emerging Democracy of Afghanistan

In October 2004, three years after the fundamentalist Taliban regime was overthrown by a U.S.-led coalition, Afghanistan held its first-ever democratic Presidential elections; over eight million people voted, of whom more than 40 percent were women. The Presidential elections marked the symbolic re-entry of women into Afghan public life.

On September 18, 2005, Afghans went to the polls again, this time to elect Parliamentary and Provincial Council representatives. Voters cast ballots for representatives of both the lower house of the national assembly, known as the *Wolesi Jirga*, and the provincial councils. More than 5,800 candidates, including 582 women, competed in the September elections. Approximately 1.6 million new voters registered, adding to the 10.5 million who registered for the presidential elections in 2004 (USINFO, 2005). The candidates held campaign rallies, distributed posters and leaflets, and broadcasted campaign advertisements on radio and television.[4] These electoral processes contributed to a strong foundation for the future of a democratic country.

Despite remarkable progress since 2001, many of Afghanistan's social and economic indicators continue to be the worst, or close to worst, in the world. Life expectancy is 46 years, and the total fertility rate is 7.4.[5] Infant mortality is 165 deaths per 1,000 live births. The under-five infant mortality rate is 257 deaths per 1,000 live births, and maternal mortality is 1,600 maternal deaths per 100,000 live births (UNICEF, 2006). Infectious diseases continue to constrain the ability of many Afghans to contribute to the rebuilding of their society. Many Afghan children, particularly girls, do not have access to education. The growth of poppy crops threatens the long-term stability of Afghanistan and undermines the legitimate economy. Afghanistan's ruined infrastructure continues to impede economic growth. Much work remains to rebuild the country's social fabric and infrastructure and chart a successful transition to full democratic self-rule.

Afghanistan's Communication Context

When the Taliban occupied Kabul in 1996, they banned all television and radio broadcasts, and private performances of music, as part of their strict interpretation

of *Sharia* law.[6] The Taliban religious police smashed privately owned television sets and strung up videocassettes in trees in a form of symbolic execution by hanging. Anyone found with a television set was subject to flogging and a six-month incarceration. In late 2001, following the fall of the Taliban, Radio Afghanistan returned to the air in Kabul; music was broadcast over its airwaves for the first time in six years.

Today, Afghanistan's media landscape is diverse. In early 2005, there were some 300 independent publications, 40 independent radio stations, and 4 private television stations (JEMB, 2005). Many of these new media outlets were funded by Afghan and international NGOs and development agencies. The state-owned radio and television station, Radio and Television Afghanistan (RTA), whose main station is in Kabul, continues to broadcast through regional stations in some of the 34 provinces. Broadcasts from radio stations outside of Afghanistan are on the air in Kabul, including the BBC, Radio France Internationale, Deutsche Welle and US-funded broadcasts from Radio Free Afghanistan, which uses the name Azadi ("Freedom") Radio, and the Voice of America, which brands its Dari and Pashto broadcasts as Radio Ashna ("Friend"). The digital divide in Afghanistan is extreme. In 2005, there were only 26 internet hosts and about 25,000 internet users out of a population of 29.9 million (UN/DESA, 2005).

Afghanistan has a strong oral tradition, and a low literacy rate of about 43 percent among adult men, and 14 percent among adult women (Europaworld, 2005). At least 70 percent of the population lives in rural (and often remote) areas (USAID, 2006a), and only about 7 percent have access to electricity (USAID, 2006b). Traditionally, radio was the voice of authority in Afghanistan. Today, radio is the main source of news, information, and education for most Afghans. About 89 percent of literate Afghans, and 77 percent of illiterate Afghans listen to radio. Some 52 percent of literate and 26 percent of illiterate Afghans watch television. Thirty-eight percent of literate and only 2 percent of illiterates read a newspaper (or have a newspaper read to them). Internet access is about 5 percent for literate Afghans, and one percent for illiterates (JEMB, 2005). Internet access is growing through Internet cafes and public telekiosks in Kabul.

Various governmental and non-governmental organisations are working on developing the ICT infrastructure in Afghanistan, but they are years away from reaching remote regions that require the most attention. Insufficient capacity and lack of access to knowledge are major stumbling blocks in implementing reconstruction programmes. While ICTs have the potential to provide a low cost solution to building capacity via distance education, little has been done toward using ICTs for education and capacity building in Afghanistan. The introduction of the *Sada* in Afghanistan was an attempt to harness the existing educational potential of such low cost communication technologies.

The Sada Small Media-Based Civic Education Project in Afghanistan

The *Sada* is a low-cost, battery-powered audio player with built-in speakers, designed to communicate audio information to oral communicators (Figure 1).[7] The player is pre-packed in a small carrying-case containing the *Sada* unit, a solar battery re-charger, a set of three spare batteries, and earbuds for individual listening. Information recorded on a plug-and-play chip can be replayed, discussed, and shared with others in small listening groups. The information on the chip cannot be copied or modified, and is accessed using a three-tiered navigation system with color-coded buttons on the face of the device. Instructions for using the device can be heard by pressing a button with a question-mark icon.

In August 2005, Voice for Humanity (VFH), a non-profit humanitarian organisation based in Lexington, Kentucky, distributed 41,000 *Sada* units (20,500 pink units for women, and 20,500 silver units for men) in 23 provinces of Afghanistan.[8] The *Sada* plug-and-play chip contained information about the parliamentary elections and civic engagement, including civil society governance, principles of democracy, the purpose of a constitution, the responsibilities of a parliament, the purpose for an election, basic human rights, women's rights, and the importance of voter participation. The *Sada* information encouraged Afghans to (1) participate more fully in civil society processes, and (2) vote in the September 2005 parliamentary election. These messages were delivered using (1) entertainment-education programmes, that is, dramas, songs, and comedy skits with embedded civic education messages, (2) readings from the Koran, and (3) messages from Afghan opinion leaders (including Muslim clerics) about the importance of civic engagement. This content was provided in the two main languages of Afghanistan, Dari and Pashto.

Figure 1. The *Sada* Player. The buttons on the left side help the listener hear the audio instructions for using the device, pause or stop the device, and increase or decrease the volume. The buttons on the right side help users to scroll through the programme contents

VFH AUDIO PLAYERS

- **Designed for Oral Communicators**
- **Based on DSP technology**
- **Compresses Speech Data 125X**
- **Capacity up to 500 hours (428 CD's)**
- **No Moving Parts**
- **Multiple Power Options, e.g. solar**
- **Group or Individual Listening**
- **No instruction manual required**
- **3-tier hyper-speech indexing**
- **Plug and Play Content**
- **Cannot be Copied or Modified**

The Sada Technology Study

The purpose of the present study was to answer the following straightforward research questions: (1) How easy or difficult is it to use the *Sada* device? (2) Where do *Sada* users listen to the programme content? (3) Do *Sada* users listen to the programme content alone or with others? (4) Do *Sada* users discuss the programme content with others? (5) What are the listening habits of *Sada* users (frequency and programme preferences)? (6) What are listeners' perceptions of the *Sada* content? (7) Which medium do listeners prefer, *Sada* or radio?

We conducted a post-election survey of Pashto- and Dari- speaking Afghans to determine the appropriateness of the *Sada* technology for delivering information about the parliamentary election in Afghanistan. Three of the present authors also conducted focus group discussions (FGDs) in six provinces of Afghanistan as part of a larger project to evaluate the impact of the *Sada* content on civil society knowledge, attitudes, and practices (these results are reported in Shefner-Rogers & Singhal, 2005, and Sengupta, Long, Singhal, and Shefner-Rogers, 2006). FGD participants provided information about how they used the *Sada*.

Study sites

The two provinces selected for this study were Ghazni and Takhar. In Ghazni province, Gelan district was randomly selected as the treatment site (i.e., the site where the *Sada* device was distributed); in Takhar province, Warsaj district was the selected treatment site (Figure 2). Gelan is located in the southwest of Ghazni province, approximately 2.5 hours by car from the province center. The district consists of mostly desert and drought affected land, and is home to an estimated 78,000 individuals. The population is nearly 100 percent ethnically Pashtun, and speaks Pashto. This district was a stronghold of the *Taliban* before their regime was toppled. Warsaj is located in the southernmost region of Takhar province. Its 40,000 residents are ethnically Tajik (100%) and speak Dari (Persian). The district is mountainous with limited land for agriculture. Many villages are inaccessible by road. This district did not experience heavy fighting during the *Taliban* time, and has not been affected by drought.

The two provinces were strategically selected using the following criteria: (1) each province was situated geographically in an area that was not exposed to *Sada* in 2004, when *Sada* units were distributed by VFH prior to the Presidential election;[9] (2) each province was in an area that was beyond the radio broadcasting

Figure 2. The Two Provinces and Two Districts of Study in Afghanistan
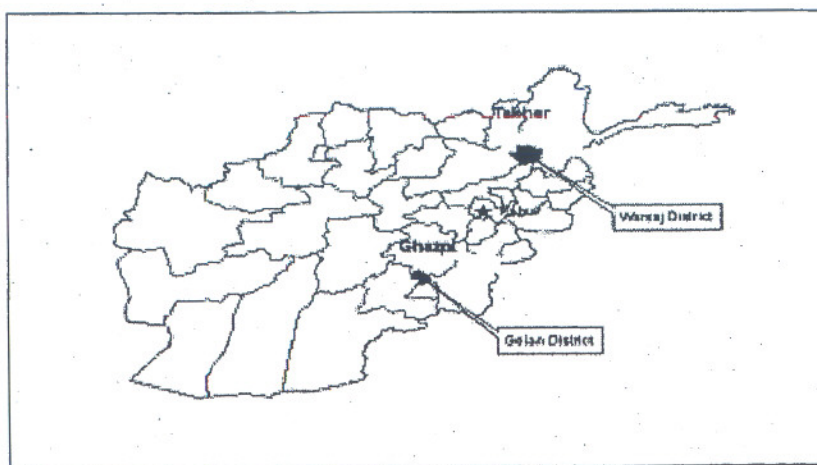
footprint of Afghan media, and thus less likely to be impacted by radio messages about the parliamentary election; (3) each province was in a relatively secure region of the country; and (4) each province was physically accessible to the research field teams. The two districts within each province were selected using UNHCR profiles.[10]

Individuals in both study districts live in large compounds containing a few houses with large yards surrounded by high mud brick walls. Access to electricity is limited. It is usual for several related families, each with an average of six individuals, to live together in one compound. Women are mostly confined to their compounds and immediate surrounding areas. Women traveling outside their compound do so only with a male escort, and cannot show themselves to unrelated men without a male family member being present.

In each study district, VFH coordinators provided a brief training session on how to use the *Sada* device (e.g., how to turn the device on and off, how to recharge the batteries using the solar charger, and how to scroll through the content), prior to distributing the players.

Study sample

A total of 364 *Sada* recipients were interviewed; 175 in Gelan district, and 189 in Warsaj district. Table 1 shows the percentage distribution for selected characteristics of the study participants. In Gelan, 64 women and 111 men responded to the survey questionnaire. At least 94 percent of respondents were ethnically Pashtun, and 90 percent were Pashto speakers. The mean age of respondents was 32 years old. Some 77 percent of respondents were married, and 61 percent had never attended school. In Warsaj, there were 84 female and 105 male survey respondents. At least 98 percent of the sample were Tajik, and spoke Dari. The mean age for respondents in Warsaj was 31 years old. About 69 percent were married, and 44 percent had never attended school. The literacy rate in Warsaj (61 percent) was slightly higher than in Gelan (53 percent); both rates are higher than the national male literacy rate of about 43 percent.

Data collection, and data analyses

A local research agency, Altai Consulting, was contracted to conduct the fieldwork and data collection, using Pashto- and Dari-speaking interviewers. Female interviewers conducted interviews with female study participants. The data analyses were conducted using SPSS version 13.0.

Results

The survey response rate in Gelan was 70 percent (N=175), and the rate in Warsaj was 76 percent (N=189).[11] The majority of *Sada* recipients had at least four weeks to listen to the device prior to the post-listening data collection. Four individuals in Gelan and five in Warsaj reported that their player was not fully functional. Only three individuals in Gelan district did not have their player at the time of the interview; two respondents had given the *Sada* to friends, and one gave the player to a neighbour.

Table 1
Percentage Distribution for Selected Characteristics of Participants that Received a
***Sada* by Area of Residence in Ghazni and Takhar Provinces, Afghanistan**

	Ghazni Province	Takhar Province
	Gelan District	**Warsaj District**
Characteristic	N (%)	N (%)
	N=175	N=189
Gender‡		
Female	64 (36.6)	84 (44.4)
Male	111 (63.4)	105 (55.6)
Ethnicity		
Pashtun	165 (94.3)	1 (0.5)
Tajik	10 (5.7)	187 (98.9)
Uzbek	0 (0.0)	1 (0.5)
Other (Arab)	0 (0.0)	0 (0.0)
Language		
Dari	17 (9.7)	188 (99.5)
Pashto	158 (90.3)	1 (0.5)
Uzbek	0 (0.0)	0 (0.0)
Mean age of respondents in years (SD)*	32.3 (12.3)	30.5 (11.4)
Marital Status‡		
Single	35 (20.0)	55 (29.1)
Married	135 (77.1)	130 (68.8)
Widowed	5 (2.9)	4 (2.1)
Ever attended school		
Yes	67 (38.3)	106 (56.1)
No	108 (61.7)	83 (43.9)
Mean education in years (SD)	8.3 (3.7)	8.6 (2.9)
Literacy‡		
Can read/write letter	92 (52.6)	116 (61.4)
Cannot read/write letter	83 (47.4)	73 (38.6)
Paid work outside the home‡		
Yes	66 (37.7)	94 (49.7)
No	109 (62.3)	95 (50.3)

*** SD=Standard deviation; ‡ p<.001.

Source: Data for Table 1 are from personal interview surveys conducted by Altai Consulting
in Kabul, Afghanistan in the provinces of Ghazni and Takhar.

Sada technology assessment

Question #1 asked: How easy or difficult is it to use the *Sada* device?

Some 85 percent of *Sada* recipients in Gelan and 71 percent in Warsaj reported receiving training on how to use the *Sada* device. In Gelan district, 32 percent of respondents found the *Sada* "very easy" to use, and 57 percent found it "easy" to use. In Warsaj district, 43 percent of users found the *Sada* "very easy" to operate, and 51 percent found it "easy" to use.

The mean number of hours of reported battery use was 8.8. The mean number of hours that respondents reported it took to re-charge the batteries using the solar re-charger was about 4.4 hours.

The majority of respondents in Gelan (66 percent) rarely used, or never used the earbuds when listening to the *Sada*. In Warsaj, at least 56 percent of respondents reported using the earbuds "sometimes"; 29 percent never used the earbuds.

Locations where respondents listened to Sada

Question #2 asked: Where do *Sada* users listen to the programme content?

The majority of respondents in both Gelan and Warsaj listened to their *Sada* in their own homes (Gelan=94.3 percent; Warsaj=99.5 percent), or in a relative's home (Gelan=78.6 percent; Warsaj=74.6 percent). In Warsaj, more than half of all respondents said that they also listened to the *Sada* at a friend's house.

Listened to Sada with others

Question #3 asked: Do *Sada* users listen to the programme content alone or with others?

The vast majority of listeners in both districts listened to *Sada* with other people, mostly in a family setting. In Gelan, 75 percent of respondents listened to *Sada* with other individuals (N=131). Some 96 percent of *Sada* recipients in Warsaj listened with others (N=182). Figure 3 shows the percentage distribution for individuals or groups with whom *Sada* was shared. The majority of respondents in both districts listened with their spouse and/or family members.

Figure 3. Percentage Distribution of Respondents that Listened to *Sada* with Others, in Gelan and Warsaj Districts, Afghanistan (Gelan, N=175; Warsaj, N=189).
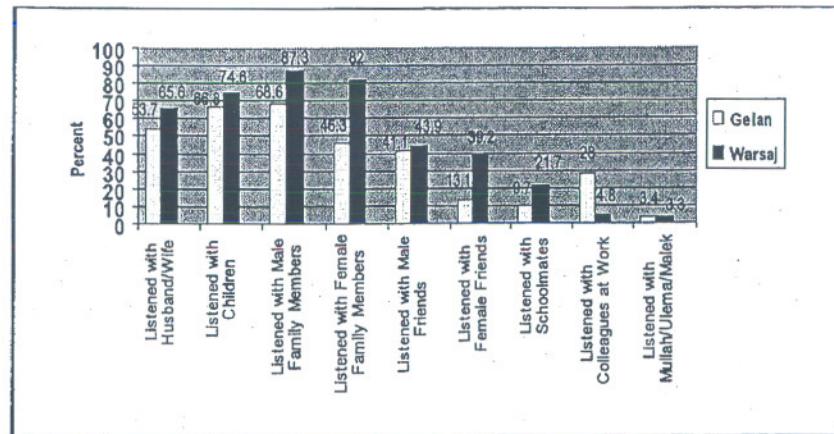
The mean number of individuals in both districts that listened to the *Sada* with the *Sada* recipient, in his or her home, was 7.8. *Sada* recipients held approximately 5.7 listening sessions in their homes prior to the parliamentary election.

The mean number of listening sessions in public settings in both districts

was 1.4. On average, 2.1 people listened to the *Sada* with the recipient in a public setting. In Gelan, 12 respondents reported connecting the *Sada* to loudspeaker and broadcasting the *Sada* programmes. In Warsaj, only 4 individuals connected their *Sada* to a loudspeaker. The mean number of times that the *Sada* was broadcast in a large group setting was 3.1.

Discussed Sada with others

Question #4 asked: Do *Sada* users discuss the programme content with others?

In both districts *Sada* listeners discussed the content with others. Nearly two-thirds (63 percent, N=110) of respondents in Gelan, and close to half of Warsaj listeners (47 percent, N=98), reported that they discussed what they heard with others. More respondents in Gelan discussed the *Sada* programmes with their spouse and/or family members, compared to respondents in Warsaj.

Listening habits

Question #5 asked: What are the listening habits of *Sada* users (that is, frequency of listening and programme preferences)?

Results showed that most respondents listened to all fifteen hours of programming, and that about one-third of respondents listened to *Sada* more than once daily, while approximately half listened daily. Sixty-one percent of respondents in Gelan listened to the entire *Sada* contents (N=107). Almost all respondents in Warsaj (99.5 percent) listened to the entire *Sada* contents (N=188). At least 37 percent of respondents in Gelan listened to their *Sada* two or more times per day (N=65). In Warsaj, 34 percent of *Sada* users listened to the contents two or more times per day (N=65). At least 46 percent of individuals in Gelan listened to the *Sada* once per day (N=80), compared to 50 percent in Warsaj (N=95).

Overall, listeners in both Gelan and Warsaj preferred the information about the importance of the parliamentary elections (49.1 percent and 59.8 percent respectively) to other topics on the player. In Gelan, messages about security issues (e.g., turning weapons over to the government) were liked the least (22.3 percent).

Respondents were asked two opened-ended questions about the *Sada*: (1) "What did you like the most about using the *Sada*?" and (2) "What did you like least about using the *Sada*?" The majority of respondents liked listening to the dramas, comedy, or songs (N=93), and many liked the information about the elections (N=18), about the parliament (N=15), about women's rights (N=11), and the children's programmes (N=6). Several *Sada* users liked the battery and charger, and the fact that using the device did not have any associated expense (e.g., paying for batteries) (N=25). A few respondents liked the simple, local language of the programmes (N=9).

Some 55 listeners said that there were not enough songs on the *Sada* or that the songs were not good (N=55). Several respondents remarked that they did not like the sound of the donkey in one of the programmes (N=38). Other respondents did not like that the battery lost its charge quickly (N=16).

Perceptions of Sada content

Question #6 asked: What are listeners' perceptions of the *Sada* content?

Respondents in Gelan and Warsaj were asked a series of questions to determine how they felt about the *Sada* content. All of the respondents in Warsaj, and 98 percent of the respondents in Gelan, believed that the *Sada* provided correct information. At least 99 percent of *Sada* recipients in Warsaj, and 98 percent in Gelan, agreed that the *Sada* information was trustworthy. Almost all of the respondents felt that the *Sada* content was interesting to listen to (Gelan=97 percent; Warsaj=99 percent), and that what they heard on *Sada* helped them to understand the importance of the parliamentary election (Gelan=98 percent; Warsaj=98 percent).

Some 78 percent of *Sada* users in Gelan, and 70 percent in Warsaj, agreed that the programme language was easy to understand. Almost all agreed that the programmes were entertaining (Gelan=93 percent; Warsaj=99 percent). Most of the respondents in both districts said that the messages from local leaders made them believe that the *Sada* content was important (Gelan=87 percent; Warsaj=99 percent). Overall, the *Sada* contents were well-received; the programmes were perceived as credible, trustworthy, and culturally appropriate.

Preference of Sada versus radio

Question #8 asked: Which medium do listeners prefer, *Sada* or radio?

Survey results showed that listeners compared *Sada* fairly equally to radio as a source of political information. In Warsaj district, respondents reported that they would prefer to receive information about politics in Afghanistan from the *Sada* (58.7 percent) as opposed to receiving such information from the radio (40.7 percent). In Gelan, slightly more respondents would rather receive political information from the radio (47.4 percent) than from their *Sada* (44.0 percent) (Figure 2). Some respondents found the language used by local radio stations difficult to understand, compared to the language used on the *Sada*.

Figure 2. Percentage Distribution of Respondents' Preference of Sada or Radio for Receiving Information about Politics, in Gelan and Warsaj Districts, Afghanistan (Gelan, N=175; Warsaj, N=189).
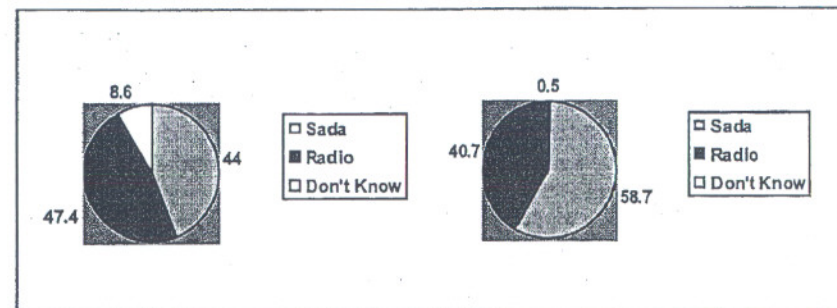
Conclusions

How appropriate was the *Sada* technology for disseminating information about the parliamentary election in Afghanistan? Our findings suggest that listeners considered the *Sada* technology easy to use and the solar battery re-charger a distinct advantage over purchase of batteries. Group listening was the norm with the *Sada* player, thus multiplying the reach of the audio messages, and providing opportunities for dialogic conversations. The majority of listeners found the vernacular of the *Sada* programmes easy to understand, and perceived the programme content as accurate, trustworthy, interesting, and important. In general, *Sada* users perceived the technology as appropriate and informative. In the words of a respondent in Gardez Province, "Listening to *Sada* brought us light and brightened our eyes. Before this, we were in the dark."

The *Sada* is a low-cost and easy-to-use device that (1) can teach when there are no teachers available, and (2) can help listeners make informed decisions about specific issues. It is compatible with Afghan radio listening habits, and has relative advantage over most radios and radio programmes available in Afghanistan because (1) it is solar-powered, (2) the programmes recorded on plug-and-play chips have a longer shelf life compared to radio programmes, and (3) individuals can listen to the programs at their convenience, and replay the information as necessary. As one male respondent stated: "Posters show us how to do things, teachers train us, but we may forget, so *Sada* helps us to remember".

The *Sada* player may have relative advantage over interpersonal communication when consistent information, for example, teaching step-by-step techniques for preparing oral rehydration therapy (ORT), is required; the information recorded on the *Sada* cannot be altered, and is therefore consistently delivered. Another potential use for the *Sada* is as an evaluation tool; survey questions can be recorded onto a chip and delivered to respondents without variation. The *Sada* holds great potential to be the centerpiece of a community listening library with a variety of plug-and-play chips on a variety of health and educational topics, for example, advances in agricultural techniques, water and sanitation, micro-enterprise, and maternal and neonatal health.

Since the fall of the Taliban, the structure, content, and reach of media in Afghanistan has experienced a profound transformation, including widespread liberalisation of media, new media laws, and a proliferation of media outlets. These changes have mostly occurred in large cities, and the limited mass media coverage available in rural areas is mostly accessible to those who have electricity. As a small media device, the *Sada* can fill the gap in information dissemination until such a time when remote and underserved populations have consistent access and connectivity to electricity, mass media channels, the Internet, and telephony.

The challenge of using ICTs for development is complex, and requires high-cost infrastructure, connectivity, and literacy. Unlike most conventional ICTs, the *Sada* does not require the preconditions for ICTs, and, as this study showed, is appropriate, accessible, and easy to use for remote and illiterate audiences. As Dr Masooda Jalal, Minister of Women's Affairs in Afghanistan, said, "*Sada* fits the Afghanistan circumstances 100 percent!" (Personal interview, 2005). The *Sada*

does, however, require resources and expertise for designing and recording the programmatic content, and also access to duplication technology for producing the plug-and-play chips. The *Sada* currently uses proprietary technology and requires specialised equipment to reproduce the chips.

Knowledge and information are essential for the development of newly democratised societies. ICTs in and of themselves do not guarantee benefits to remote and underserved populations. While new ICTs can play a crucial role in advancing development goals, they may also further increase the gap between those that have access and those that do not. Informed populations are better equipped to face the challenges of social, economic, and political changes. Our study suggests that the delivery of culturally appropriate and relevant information using the *Sada* might empower previously disenfranchised populations.

Endnotes

1. *Sada* means "voice" in the Dari (Persian) language. Pashto-speakers call the audio player *ghaag*, which also means "voice".

2. Other terms for "small" media include "little" media (Schramm, 1977), "radical" media (Downing, 1984, 2001), and "community" media (Nigg &Wade, 1980).

3. For further reading about the uses of small media see the case studies in *Making Waves: Stories of participatory communication for social change* (Gumucio Dagron, 2001).

4. Radio and television advertisements were regulated through a sponsored advertisement system supervised by the Media Commission. Under this system, every candidate had free and equal access to the mass media.

5. The total fertility rate is the average number of children that would be born per woman if all women lived to the end of their childbearing years and bore children according to a given fertility rate at each age.

6. The one exception to the ban on radio programs was the BBC World Service Trust program *New Home, New Life*, a soap opera in which the characters in three fictional Afghan villages portray life in a society where the public infrastructure (including health, education, and justice) has been destroyed by over two decades of civil war. For example, through various plot lines, the characters explain the processes for electing the Emergency *Loya Jirga* (Hartenberger, 2006; Skuse, 2002).

7. The *Sada* has been referred to as "a poor-man's MP-3 player," and "Tivo for radio".
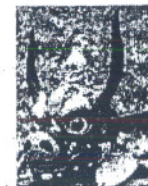
8. This VFH project was funded by the United States Agency for International Development (USAID).

9. *Sada* units were not distributed in either Ghazni or Takhar in 2004, or in the provinces immediately surrounding Ghazni and Takhar.

10. UNHCR is the United Nations High Commissioner for Refugees. This agency publishes Field Office District Profiles for each of the provinces in Afghanistan. See http://www.aims.org.af/.

11. Security issues following the parliamentary election in both Gelan and Warsaj prevented the researchers from contacting some of the *Sada* recipients.

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