

**Insights and Tools for Adaptation:
Learning from Climate Variability
18 – 20 November 2003**

Topic: Communication – The Zambian Experience

RIEDNER G. MUMBI
RANET Zambia Project, Zambia Meteorological Department

I Introduction:

In all circumstances information is only useful when it reaches the intended recipient on time. Radio is a very powerful technology that can allow large sectors of the population to be reached with information, quickly and economically. There is a distinct information gap out there in the rural areas of Zambia. Over most of sub-Sahara Africa at present the information communication infrastructure is mainly tailored for the urban areas, while the vast rural areas are left in the information void.

However, the new RANET community radio system is narrowing this information divide. RANET Community radio options play a crucial role in providing accurate developmental information on climate, agriculture, education, health, HIV/AIDS, etc to the rural population. The use of the Internet, digital satellite broadcast and FM radio broadcasting in rural communication can improve access to and use of developmental information by the rural communities.

RANET Zambia is, at base a network of people supplying, interpreting, and utilising climate, education, health and other developmental information. Technology exponentially increases the ability of this human network to work together to achieve results that were previously inconceivable. The Internet, digital satellite broadcast, solar/wind-up radios and solar energy technologies plus the computing power have created new possibilities for rural communities.

In order for the rural communities to manage their development effectively, information must be available to different target groups, in different locations and at appropriate times. Recent research has shown that, although information is needed and necessary for development and poverty reduction, in Zambia poverty inhibits access to information. Generally, the people's own priorities and agenda do not correspond to those of the mass communicators and some of the information received is not relevant to their needs.

II Radio Farm Forum

In 1966 an Agricultural Information Flow was launched under the then Rural Information Services, now known as the National Agricultural Information Services in the Ministry of Agriculture. The program started after the UNESCO mission six-month survey to determine the needs and structure of "Radio Farm Forum" in rural areas.

In December 1966, a pilot project was introduced in Bemba, a local language covering four provinces –Northern, Luapula, Copperbelt and the northern half of Central, with broadcasts starting in May 1967. Due to the impact the program made on the farming community in these provinces, the project was extended to cover other six languages in two stages, January and July 1968 and by the end of November 1968. The program was designed as a two-way communication system between the farming communities and the government.

The Zambian government formed and established 1000 Radio Farm Forum (RFF) groups throughout Zambia and the Ministry of Agriculture supported them with radio sets, batteries

(torch cells) and stationery. During the period 1968 to 2001 a total of 31 radio programs were broadcast weekly in all the seven local languages and English.

The purpose of the RFF was to utilise the mass media in order for the rural communities to benefit from the transmitted ideas on radio, which are discussed by the farmers themselves and then act according to the information received. The arrangement has been to assemble a group of 15-20 farmers and introduce a problem by radio and then give listeners chance to talk about it and decide on how and what to do about the problem. The farmers listen to the programs through the radio sets, discuss the idea underlying-program and seek clarification through subsequent program broadcasts. In this regard a two-way communication system is established between the farmers and the government through questions and answers.

Government uses, with great care and attention, the RFF Discussion Register to get the feedback from the farmers. Each language has its own register and the flow of agricultural information has remained as designed when the project was first launched with only minor changes in broadcast materials. The essential point is the participation of farmers in decision-making and action and the

III On-the-Air Crop-Weather Conference

Another attempt to provide information to the rural communities was made in 1987, through a combined effort of the Meteorological Department in the Ministry of Communications and Transport, and the National Agricultural Information Services of the Ministry of Agriculture.

The strategy this time was that twice a week, on Tuesdays and Thursdays about ten to fifteen farmers in one group would assemble at each meteorological station and use radio transceivers installed at each of the 36 meteorological stations and talk to the experts at the Meteorological Headquarters and the National Agricultural Information Services Headquarters at Lusaka. These discussions were called **On-the-Air Crop-Weather Conference**. On Tuesdays Farmers would assemble at their nearest meteorological station and discuss their problems with the experts in Lusaka and at the end of each conference farmers would ask questions whose answers would be made available during the next conference on Thursdays. Discussions were centred on availability of agricultural inputs, crop management, animal husbandry and climate information.

The program worked for a few years up to the 1990 when due to unserviceable transceivers the number of stations participating in these conferences was less than ten. Lack of spare parts made it difficult to repair broken down radio transceivers and this led to the shelving of the program.

IV Community Radio Stations

The advent of FM radio broadcasting systems in Zambia in the late nineties brought new horizons to rural information delivery. One station in rural southern, Radio Chikuni, which started its broadcasts in 1998 has made a tremendous impact on the local community in the provision of developmental information and education. Other areas have also embarked on the establishment of community radio stations and a number application for the FM equipment have been received by the RANET Zambia secretariat. The use of the local language has revealed that community radio broadcasts are the best and most cost effective in the dissemination of information to remote rural areas of Zambia. In addition the use of the WorldSpace Foundation's Satellite digital radio broadcast has brought vast opportunities to the rural farmer, agricultural workers, health workers, environmentalists, community welfare workers etc.

V Zambia Agricultural Extension and Information Survey:

In the year 2001, while implementing the first RANET community radio stations Atsushi Suzuki, a representative of the Ministry of Agriculture on the RANET Zambia Project Implementation Committee, conducted a survey on the rural community listenership to radio agricultural information, supported by the Japan International Cooperation Agency. The purpose of the survey was to analyse the use of mass media by extension workers as well as the rural communities, particularly small scale farmers, and examine the current situation of agricultural information flow in rural communities of Zambia, with more emphasis being placed on the listenership of agricultural radio programs.

2. The survey was done in two parts, in the first phase 447 extension workers including camp and block officers as well as some veterinary assistants participated in conducting a questionnaire survey from 29 districts of nine provinces. In the second phase, 67 rural communities were sampled from 11 districts in six provinces and 1,042 farmers (622 men and 420 women) were interviewed. Most of them were small scale or subsistence farmers who had less than 5Ha, at most up to 10Ha, of farmland. They had produced agricultural products mainly for self-consumption using hands and hoes or oxen whenever they had access to them.

	<i>Phase I</i>	<i>Phase II</i>
Period	January – August, 2001	August-December, 2001
Target Group	Camp/Block Extension Officers	Peasant farmers/rural residents
Sampled Area	29 Districts from 9 provinces	67 villages in 11 districts of 5 provinces
Districts Covered	Chopngwe, Luangwa, Kafue(Lusaka); Choma, Mazabuka, Kalomo (Southern); Chadiza, Petauke, Lundazi (Eastern); Mumbwa, Serenje, Chibombo (Central); Lufwanyama, Luanshya, Chingola, Kitwe, Mpongwe (Copperbelt); Solwezi, Mumfumbwe (North-Western); Mongu, Senanga, Kaoma (Western); Kasama, Mbala, Isoka, Nakonde (Northern); Mansa, Samfya, Nchelenge (Luapula)	Chongwe (Lusaka) Mazabuka, Kalomo (Southern); Chadiza, Lundazi (Eastern); Solwezi, Mumfumbwe (North-Western);Mongu, Kaoma (Western); Kasama, Isoka (Northern)
Survey Methodology	Distribution and collection of questionnaires through respective District Agricultural Coordinator's offices	Field surveys by direct visits Group and individual interviews using questionnaires
Implementer	NAIS HQ/JICA Advisor	NAIS HQ/JICA Advisor AMAG (Local Consultants)
Collaborators	Provincial/District Agricultural Officers(SAIOs/DACOs/DAIOs/BEOs/CEOs	Provincial/District Agricultural Officers(SAIOs/DACOs/DAIOs/BEOs/CEOs
Number of respondents	447 BEOs,CEOs, Vas	67 Groups 1042 Individual Farmers/Villagers

TABLE I Summary of field surveys

3. Many extension officers reported lack of reliable transport and teaching materials as serious constraints for their extension activities. More than 20% of the extension officers reported to have no transport and were forced to walk to visit farmers.
4. It was found that many extension officers were working under unsure conditions since their positions had not been officially confirmed.
5. While camp extension officers reported that farmers were the first important source of agricultural information, farmers said that MAFF extension officers were the first important information source. For both parties, radio programs were the second important source of agricultural information. However, other media such as printed material, newspapers and TV programs were not regarded as important as radio programs because of their low availability in rural areas.
6. Radio set ownership among extension officers was more than 85%, which was much higher than that of other rural dwellers. Radio set ownership among farmers was estimated around 20 to 30% on average although fluctuations could be observed from community to community.
7. While about 70 to 75% of the radio listener farmers had own radio sets and listened to the radio at home, there was a good number of farmers who did not have radio sets but could listen to it somewhere else such as a friend's or relative's house. Therefore, radio listenership among farmers was considered much higher than the radio ownership in most of rural communities.

Table II Radio set ownership among radio listeners by district

District	No. of Respondents		Radio ownership among listeners %
	Listener	Having own radio sets	
Chongwe	56	52	92.9
Mazabuka	49	41	83.7
Kalomo	56	51	91.1
Solwezi	65	48	73.8
Mufumbwe	67	49	73.1
Kasama	52	32	61.5
Isoka	60	43	71.7
Chadiza	73	58	79.5
Lundazi	62	47	75.8
Mongu	53	31	58.5
Kaoma	46	32	69.6
Total	639	484	75.7

8. Due to low availability of electricity in rural areas, battery cells were the sole source of power for radio in rural communities; 80% of extension workers and 98% of the farmers reported using only battery cells to operate radio set.

Table III Place where farmers usually listen to the radio

Place to listen to the radio	No. of Respondents	Rate (%)
At home	449	70.3
At friend's/relative's house	161	25.2
At working place	3	0.5
Others	24	3.8
N/A	2	0.3
Total	639	100

9. Evening time from 18:00 to 21:00 was the most common for the farmers to listen to the radio. Nearly three fourths of listeners reported that they listened to the radio during this period. On the other hand, mid-morning 9:00 to 12:00 was the least common time for them to listen.

Table IV Most common Time of listening to the radio

Time	No. of Respondents	Rate (%) n=639
Before 06:00 hrs	177	27.7
06:00 – 09:00 hrs	177	27.7
09:00 - 12:00 hrs	55	8.6
12:00 - 15:00 hrs	241	37.7
15:00 – 18:00 hrs	252	39.4
18:00 – 21:00 hrs	467	73.1
After 21:00 hrs	135	21.1

10. Among three ZNBC radio channels, more farmers were listening to Radio 1 than Radio 2 and Radio 4. However, quite a good number of farmers reported that the reception quality of ZNBC radio channels was poor during a certain time of the day.

Table V Respondent's position in the family

Position in the family	No. of respondents	Rate (%)
Household head	692	66.4
Spouse of head	289	27.7
Relatives	10	1.0
Children	44	4.2
Other or N/A	7	0.7
Total	1,042	100.0

Table VI Gender of respondents

Gender of respondents	No. of respondents	Rate (%)
Male	860	82.5
Female	152	14.6
Other or N/A	30	2.9
Total	1,042	100

11. Agriculture was the most interesting topic among radio listeners, which was followed by "News", "Drama", "Religion", and so on. Consequently, listenership of agricultural radio programs was quite high both among extension workers and farmers. About 90% of extension workers listened to one or more titles of the agricultural programs on radio within the recent one week. In case of farmers, if they had access to a radio set, the majority of

them had listened to one or more titles of agricultural programs. About 95% of the radio listener farmers reported that they had listened to at least one program.

12. There was a clear tendency that the extension officers preferred listening to the agricultural radio programs in English than in local languages. On the other hand, the farmers preferred listening to local language programs much more than English ones.
13. Those extension officers who listened to daily English programs tended to listen to other weekly English programs and local language programs as well.
14. There was a clear difference between districts concerning listenship of agricultural programs by extension officers. On one hand, there were such districts where radio programs were listened to by a good number of extension workers; on the other hand, there were districts where extension workers did not commonly listen to radio programs.
15. Listnership of local language programs was apparently influenced by population size of language group (potential listeners) in the country. For this reason, there were more listeners on Bemba, Nyanja and Tonga programs than on Lozi, Kaonde, Lunda and Luvale programs.
16. Current agricultural radio programs were evaluated in terms of broadcasting time, length, quality of presentation and usefulness. Both the extension officers and farmers evaluated these items favourably as a whole. However, there were some opinions that the period of broadcast programs should be extended.
17. It has revealed that access to any type of print material was poor at the moment both for extension officers and farmers. 70% of farmers reported that they had never read any print materials including newspapers for the last one year.
18. It was revealed that formal education level of farmer respondents was quite low compared to extension workers. While most extension officers had completed at least Senior Secondary school with a certificate in Agriculture to meet the Government regulations, 66% of farmers answered their completed education had only reached Grade 7; and 13% had no formal education at all. The low level of formal education among farming communities has raised the question as to whether literal material was an important channel of information.
19. The level of awareness of “Conservation Farming” among farmers was about 59% on average while there was a certain fluctuation between districts.
20. The “Extension Officer “ was the first source of information on conservation farming technology for the majority of farmers, followed by “Radio programs” then “neighbour/friends”.

Table VIII Information sources of “Conservation Farming”

Information Source/Channel	No. of Respondent	Rate (%)
Extension Officers	375	61.5
Radio Programs	210	34.4
Neighbours/friends	105	17.2
NGO Staff	42	6.9
Training in the fields/ field days/farm visits	27	4.4
Seminar/workshops	18	3.0
Demonstrations	17	2.8

Printed materials	15	2.5
Others	64	10.5

21. Conclusion:

The survey has suggested several implications, which might be applicable to the improvement of the agricultural extension and information services in the country. These include:

- In order to improve information flow to rural communities, measures have to be taken to empower field extension officers by providing them with reliable transport and better working environment as extension officers are regarded as the most important source of agricultural information for the small-scale farmers.
- An improved information delivery mechanism has to be established by which field extension officers can be kept with up-to-date information at all the time. Print materials and radio broadcasts should be used strategically to increase the information flow to extension officers.
- Radio Broadcasts of agricultural programs should be promoted since radio is the second important source of agricultural information for both the farmers and extension officers. Local language radio programs are more effective to disseminate information in rural communities.
- In order to promote use of radio broadcast it is important to increase radio ownership among rural communities. Such measures to include tax exemption on radio sets in order to lower the purchase price, provision of credit facility to small-scale farmers so that they can obtain radios through loans.
- Accessibility of battery cells is also an important factor, which determines whether farmers can listen to the radio broadcasts or not. To ease the power problem, windup/solar powered radios should be promoted.
- Establishment of community radio stations would greatly contribute to the improvement of information flow in rural areas since reception of radio broadcasts from the national broadcaster is currently unsatisfactory in some areas, particularly remote rural villages. Also such stations can be expected to improve relevancy of information disseminated through radios since they can transmit more local programs.

References: Agricultural Information Flow Systems-From Source to End-Users by
Mr E. Katowezhi

Zambia Agricultural Extension And Information Survey by Mr Atsushi
Suzuki.