

RADIO BROADCASTING FOR FISHERIES DEVELOPMENT IN NIGERIA: KAINJI LAKE EXPERIENCE

BY

ADEGBIJI, J. A.

NATIONAL INSTITUTE FOR FRESHWATER FISHERIES RESEARCH,
P. M. B. 6006
NEW BUSSA, NIGER STATE.

ABSTRACT

The impact of Radio as a medium of communication in all human endeavours cannot be over emphasized. It is the cheapest means of reaching large number of people in illiterate society. Thus, the Kainji Lake Fisheries Promotion Project used Radio in reaching fishermen around Kainji lake basin. Two Radio Stations namely Radio Niger, Koro station in New Bussa and Federal Radio Corporation (FRCN) Kaduna were used. Open broadcast using Hausa language, which is commonly spoken among the target group, was used for the broadcast. A total of 152 programmes were produced and broadcasted 720 times. After five years of broadcast, impact assessment studies was carried out using focus group discussion method in 25 randomly selected fishing villages out of 309 villages. The paper reports the result of the impact Radio broadcast on fishing and related activities and how this affects management strategies adopted by the project.

INTRODUCTION

Communication for social change is as old as organized society. Communication has been used in various forms to influence the values and behavioural patterns of the society in which man lives. Today, there is even an unprecedented need for change to assure our future well being on earth. But who plans such change, and how? How do individuals, groups, and societies come to an awareness of the need for change and act accordingly?

Communication through interpersonal, group, and mass media is at the heart of these processes, for people take decisions for change once they have been motivated and empowered by information they have internalised and found relevant to themselves and their interest. The mass media (print and electronic) have been found, in particular to be a very potent agent. It is on record that the mass media can create awareness, educate, persuade, inform, and can also bring out the necessary tools for mass mobilization. The electronic media has the advantage of immediacy, and therefore have profound effect on the attitudes and behaviour of people. Specifically, the news items on Radio reaches the grassroots faster than any known medium. These reasoning has led, in most developing countries, and indeed Africa, to the Radio being recognized as an important tool in rural development programmes.

The Nigeria-German Project of technical Co-operation on Kainji Lake Fisheries Promotion is aimed at the implementation of a community-based management of fisheries resources of the Lake Kainji, the biggest man-made Lake in Nigeria. The Project needs to closely co-operate with its target group, the fisherman/women, fish processors, and fish traders. Therefore it was important that a channel of communication be identified early in the Project, which started in 1993. Ibeun and Mdaihl (1994) carried out a survey about media of communication among fishermen around Kainji Lake. They interviewed 500 fishermen as well as all village

leaders and Sarkin Ruwa from 58 villages (out of 221 villages existing in 1994). According to their results, 99% of the population understands Hausa and only 1% has a formal education, making radio (and oral messages in general) the most adequate means of communication. They recommended that the Nigerian-German Kainji Lake Fisheries Promotion Project should use the local Radio Niger booster station, Koro, New Bussa, for broadcasting extension messages in Hausa two-three times a week between 7-8 a.m., 3-4:40 p.m. and 8-10p.m.

Following these recommendations the Kainji Lake Fisheries Promotion Project (KLFPP) started radio broadcasting to the fishing communities around Kainji Lake in March 1995. This paper summarizes broadcasting activities of the GTZ Kainji Lake Fisheries Promotion Project (KLFPP) since 1995 until the end of the year 2000. In order to assess the impact of the programs aired on the fisher folk's activities, style and airtime, a survey was undertaken in November 2000.

1. METHODS

1.1 Radio Stations and Airtime

Radio broadcasting started on 1st March 1995, using the local Radio Niger booster station, Koro, New Bussa. Messages were aired on 306 meters at 981 Kilohertz on MW band three times a week for 30 minutes each: Monday 11:00 - 12:00 a.m., Wednesday 11:15-11:45 a.m., and Friday 03:30-04:00p.m. The signal could be received in all villages around Kainji Lake. Due to constant technical problems with the booster station, resulting in irregular broadcasting (e.g. no broadcast during the months of September to October 1995) and consequently in the loss of audience, the Project switched to the Federal Radio Corporation Kaduna (FRCN) as at 16th October 1997. Another reason for substituting Radio Koro by FRCN was that fishermen expressed confidence in the messages aired by Radio

Kaduna because it is a Federal Government Radio Station. Since then messages were aired on the 49 meter band at 6.090 megahertz on SW band, equally covering the whole Lake Kainji. Due to higher costs, airtime was reduced to Monday 09:45-10:00 p.m. and Wednesday 09:15-09:30 a.m. A further reduction in airtime took effect as from 1st July 2000 with only Monday 09:45-10:00 p.m being maintained.

1.2 Production of Radio Programs.

Proposals for the topic to be aired were discussed during regular meetings of the KLFPP staff. Project Management decided which particular topic to be covered, when and how often. The lingua franca around

the Kainji Lake is Hausa thus, Hausa was used for all broadcasting. Original scripts in English were carefully edited and translated into Hausa by a recognized Hausa speaker.

1.3 Analysis of broadcast programs.

Analysis of programs broadcast was done by separating programs according to the topic covered. Numbers of programs produced, how often and for how many minutes. The specific program that was broadcast was calculated on the basis of four weeks in a month (Tab. 1). Due to this, numbers of broadcasts and broadcast times presented are slightly lower than the real ones. However, this systematic error should not have any influence on the overall picture generated from the results.

Table 1: Summary of how broadcast times were calculated for March 1995 - December 2000.

Calculations were done on the basis of four weeks per month, given the varying number of weekly broadcasts and their lengths. Total number of broadcasts calculated on this basis is 626.

State	Period	Number of Weekly Broadcasts and length (minutes) of each broadcast	Monthly broadcast time (minutes)	Total broadcast time (minutes) for the indicated period
Radio Koro	March - Sept. Dec. 1995	3 x 30	360	2,520
	Jan - Dec 1996	3 x 30	360	4,320
	Jan - 15 Oct. 1997	3 x 30	360	3,420
Radio Kaduna	16 Oct - Dec 1997	2 x 15	120	300
Jan - Dec.	Jan. - Dec. 1998	2 x 15	120	1,440
	1999	2 x 15	120	1,440
	Jan - June 2000	2 x 15	120	720
	Jul - Dec. 2000	1 x 15	60	360
Mar 1995 - Dec. 2000				14,520

Source: Radio broadcasting for extension .. 1995- 2000 (Adegbiyi J. A. *et al.*, 2001)

1.4 Impact assessment

309 villages were identified around Kainji lake (Anonymous 2000). Twenty-five of these villages with a total of 265 fishermen were randomly selected for interview by a team of three staff from National Institute for Freshwater Fisheries Research. The selection of these villages was geographically representative. Interviews were conducted using the principles of the Focus Group Discussion (Maier *et al.*, 1994) guided by a questionnaire (Annex). One day prior to the interview the respective village heads were asked for permission to conduct the survey and a time for the meeting was agreed upon. Interviews were recorded and later transcribed from Hausa into English. Answers were categorized according to the themes covered.

2. Results and discussion

Table 2 indicating Age group of the respondents

Age Range	No.	%
21 - 29	6	2.2
30 - 39	55	20.4
40-49	181	67.0
50-60	28	10.4
> - 60	-	-
Total	270	100.00

Source: Field Survey 2000.

Table 2 shows that 2.2% of the group interviewed are between the ages of 21 and 29 while 20.4% are within 30 to 39 years. Most of them are in 40-49 with 67%. This group constitute the working force. About 10.4% are in their 50's.

2.1 Topics covered

Messages broadcast from March 1995 to December 2000 covered all major activities of Kainji Lake Fisheries Promotion Project. They have been categorized into six main topics and several subtopics. They are:

- * Kainji Lake Fisheries Management and Conservation Unit (KLFMCU) and Community Based Fisheries Management.
- * Fisheries edicts and regulations (includes: licensing, illegal fishing methods).
- * Fisheries data collection (frame survey, catch assessment) and results.
- * Water hyacinth control (Boom, Biological and manual control measures).
- * Alternative income generating activities (e.g. tree seedlings, improved cocks)
- * Various.

It is clear that almost 95% of the productions were direct open broadcasts, meaning plain messages from the Project. Only in few occasions other types of radio presentations like drama, songs or interviews were used.

Table 3 provides an overview of the main topics and their percentage share of programs produced, total numbers and time of broadcast; note that the total number of broadcasts (720) is higher than the theoretical (626), which is due to the fact that several topics often shared one broadcast event.

A total of 152 programs were produced for the 6 main topics and broadcast for a total of 14,520 minutes during the 67 months from March 1995 until December 2000 (with the exception of September - October 1995 due to technical failure). Coverage of one topic in a single month varied widely from 12 to 360 minutes (12 times one to 30 minutes). Table 3 also shows that the analysis according to the main topics reveals very similar results, regardless of number of programs, number or time of broadcast is considered.

Fisheries edicts and regulations, including illegal fishing methods (topic 2), were covered with 55 programs during some 247 broadcasts lasting a total of 5,150 minutes, being about one third (35%) of the totals. Fisheries data collection and results (topic 3) follows with 27%, water hyacinth control measures (topic 4) with 20%. Alternative income generating activities (topic 5) and various (topic 6) both occupied about 8% of the total broadcast time. Less than 2% of the total airtime was used for topic 1, the Kainji Lake Fisheries Management and Conservation Unit (KLFMCU) and Community Based Fisheries Management (CBFM).

Table 3: Summary of programs produced and broadcast March 1995 - December 2000 according to the main topics distinguished and their percentage share.

Main Topic	Totals per topic			Percentage of		
	Number of Programs	Number of Broadcasts	Broadcast time (minutes)	Programs produced	Broadcasts	Broadcast time
1. Kainji Lake Fisheries Management and Conservation Unit (KLFMCU) and Community Based Fisheries Management	4	13	255	3	2	2
2. Fisheries edicts and regulations (includes: licensing, illegal fishing methods)	55	247	5,150	36	34	35
3. Fisheries data collection (frame survey, catch assessment) and results	36	184	3,958	24	26	27
4. Water hyacinth control (Boom, biological and manual control measures)	22	110	2,835	14	15	20
5. Alternative income generating activities (e.g. tree seedlings, improved cocks)	20	100	1,122	13	14	8
6. Various	15	66	1,200	10	9	8
Total	152	720	14,520	100	100	100

Source: Radio Broadcasting for extension ... 1995-2000 (Adegbiyi J. A. *et al.*, 2001)

2.1.1 Production and Broadcast Costs.

Costs for program production and broadcasting have been estimated based on available accounting information and are summarized in table 4. On an average each programs cost was approximately 7,000 Naira and 120 Naira was spent for one minute of broadcast. The average annual cost was thus about 500,000 Naira, out of which the National Institute for Freshwater Fisheries Research (NIFFR) paid roughly 50, 000 Naira or 10%, the remainder came from the assisting German Technical Cooperation Agency GTZ. Obviously, it was significantly cheaper to use the nearby Radio Niger Koro station than the Federal Radio Corporation Kaduna (FRCN), which is about 530 km (by road) away from KLFPP headquarters. Annual cost

for Radio Niger Koro was around 180,000 Naira with 360 minutes airtime per month (approximately 50 Naira/Minute), whereas using FRCN cost more than 500,000 Naira per year or approximately 350 Naira per minute airtime at 120 minutes per month.

2.2 Impact assessment

2.2.1 Source of information concerning Project activities

The participants were able to enumerate five sources of information about Project activities. The Project's radio program had the highest mentioning (20 out of 25 villages). Other means of information mentioned were: extension workers and other Project officials (6 villages), fishermen representatives (4), letters (4) and Posters (2).

Table 4: Cost estimates for production of 152 programs and 626 broadcasts for a total of 14,520 minutes during 67 months.

Item	Details	Cost (Naira)
Production costs:		
One communicator (NIFFR staff) for one week per month ¼ of salary during 67 months	5,000 Naira x 67 months	335,000
Monthly allowance for communicator 2,000 N/month Mar. 1995 - Dec. 1998 3,000N/month Jan. 1999 - Dec. 2000	2,000 Naira x 46 months + 3,000 x 24 months	164,000
One translator English - Hausa	1,000 Naira per program x 152	152,000
Voicing	1,000 Naira per program x 152	152,000
One communicator and one assistant for 5 days every 6 months, allowances for field work	1,000 Naira x 2 persons x 5 days x 11 occasions	110,000
Assets for production (tape recorders)		30,000
Consumables for production (tapes etc)	1,500 Naira x 67 months	100,500
<i>Subtotal Production Costs</i>		1,043,500
Broadcasting costs:		
Monthly travel allowance for communicator; Oct. 1997 - Dec. 2000	5,000 Naira x 39 months	195,000
Transport New Bussa - Kaduna	2,500 Naira x 39 months	97,500
Radio broadcast: 01 Mar 1995 - 15 Oct. 1997 15,000N/month	15,000 Naira x 28.5 +	427,500
16 Oct 1997 - 30 Jun 2000 35,000N/month	35,000 Naira x 32.5 +	1,137,500
01 Jul - 31 Dec 2000: 25,000 N/month	25,000 Naira x 6	150,000
Subtotal Broadcasting costs		1,715,000
Grand total for producing 152 programs and broadcasting them in 14,520 minutes during 67 months		2,758,500

Source: Radio broadcasting for extension ... 1995-2000 (Adegbi J. A. et al., 2001)

2.2.2 Knowledge of Project activities

Most of the interviewed fishermen were able to enumerate some of the activities of the Project, except in three of the villages, where the fisher folks claimed not to know what the Project is actually doing. However, on closer scrutiny it was discovered that they were aware of the activities but because of their involvement in illegal beach seine practises they usually would not like to be forthright while interacting with Project officials.

Migrant fishermen, in most cases, were observed to be more appreciative and abreast of the Project impact on their fishing occupation. It is safe to state that the fisher folks were quite aware of some of the benefits of these activities. The license for instance was described as a means of self-identification whenever they travel out of their domain: "... since I collected my license, wherever I go I show it to anybody who cares to know who I am and they recognise me as a professional fisherman. I have been to Abeokuta in Ogun State, Nigeria and Akosombo Dam in Ghana with it". This view was strongly shared by most of the fishermen. However, the team was unable to reconcile this recognition with the attitude of some fishermen who do not want to pay for the fishing license, unless they are pursued.

It can be concluded that Project activities are well known by most of the fisher folks. However, the applicability of the various Project activities to fishery is highly recognized in the beach seine ban and licensing activities.

2.2.2 Changes in the Lake fisheries.

The perceptions of fisher folks concerning the changes they have experienced on the lake fisheries differ accordingly to their methods of fishing. The non-beach seiners saw a great benefit accruing to them in the form of increased catches over the last two years since the enforcement of the ban on illegal fishing methods. The ban on beach seine (dalla) was singled out for commendation. A fisherman remarked: "The fishing edict that bans the use of beach seines is a blessing to all fishermen. Six years prior to the ban the fish I caught could not be called fish in the real sense of it (because it was too small), but since last year I have been experiencing big catches". Other fishermen acknowledge the statement and attributed these increases in catch to the ban on beach seining.

The beach seiners not only felt that they have been put out of business, it was their opinion that the ban on beach seine has not brought any significant change to the productivity of the Lake fisheries: "...as for me I am yet to notice any change on the Lake after the stoppage of dalla for the past two years, because the fish is not available in the Lake If something is put in place you expect to see some changes. To us we have stopped dalla completely but we use to hear that in Kebbi State some people are still practising it". The beach seiners who had abandoned the practice after the compensation period of grace are particularly irked by the fact that there are still

some few who seemed to be defying the fisheries edict and are yet to be brought to book. No argument satisfies them and they continue to see some injustice done by fisheries authorities.

2.2.3 Impact of the radio program on fishing activities.

Fisher folks explained the impact on their fishing activities through the enumeration of relevant topics. The broadcasts explaining the fisheries edict, which embraces the collection of fishing license, the ban of illegal fishing methods (beach seining, under meshed size of other gears, beating of water, grass cutting etc), were the most recollected (Table 5). Arguments used by the fishermen why these topics were of interest to them were:

- * They learnt about bad fishing methods and their implications. Some fishermen also mentioned that better yields were obtained after the beach seine ban.
- * They were enlightened on the importance and benefits of license fees and now use the license as an identification card.
- * They were motivated to accuse beach seiners.

Besides that these topics are of interest to the fisher folks, it is not astonishing that these issues were mentioned most, because the airtime was highest with 35% (Table 5). Astonishing, however is that the broadcasts on fisheries data collection and the reports of the results were not mentioned at all, even though the airtime was the second highest with 27% of the total. This seems to indicate that this issue is not of much interest for the fishermen.

Water hyacinth control measures and genetically improved cocks were other topics mentioned by the fishermen, whereas the issue of Kainji Lake Fisheries Management and Conservation Unit (KLFMCU) and Community Based Fisheries Management (CBFM) was not mentioned, this may be attributed to the very poor airtime of 2% (Table 5)

The Emirs, high ranked fisheries officers, District Heads and Sarkin Ruwas are greatly respected by the fisher folk and hence their messages, concerning the aims and objectives of the KLFMCU and the compliance of fisheries rules and regulations, were well received.

Perception of fisher folks about the Project's radio program.

The participants acknowledged the fact that the radio programs impressed them. However, they also stated that some topics of their interest have not been adequately covered. They mentioned that more broadcasts contained their own comments and views would assist in appealing to them on some issues. Also increasing the number of aired speeches by important persons like the Emirs, Sarkin Ruwas and the like would

Table 5: Radio broadcast topics, their percentage airtime in the years 1995 - 2000, and the frequency of mentioning by fishermen during the radio impact survey in November 2000 in 25 villages around Kainji Lake.

Broadcast * Topic as mentioned by fishermen	Percent airtime	Frequency of mentioning by the fishermen groups (number of villages)
1. Kainji Lake Fisheries Management and Conservation Unit (KLFMCU) and Community Based Fisheries Management (CBFM)	<2	0
2. Fisheries edicts and regulations including illegal fishing methods * Ban on beach seining * Other illegal fishing methods * Fishing license * Undersized meshes of nets * Fisheries edict * Ban of sales of clupeids	35	10 6 4 4 3 2
3. Fisheries Data collection and results	27	0
4. Water hyacinth control measures: * Water hyacinth clearing * Boom construction	20	3 2
5. Alternative income generating activities * Genetically improved cocks	8	3
6. Various	8	0

Source: Field survey, 2000.

help greatly in stimulating fisher folks to listen to the authorities.

Problems

The most recurring problem associated with the radio program was the actual airtime, i.e. 9:45 p.m. on Mondays and the duration of the broadcast. Participants expressed that they, especially the elderly ones, are too tired after work to stay up late: "We are poor people who get up early to set our nets and work throughout the day and by 9 o'clock in the night we are tired and ready to sleep. I think if it (the radio program) comes up earlier between 8 and 9 p.m. we can enjoy it better". Some fishermen would prefer the airtime to be between 6 and 7 p.m., the great majority suggested a time frame between 7 and 9 p.m.

The participants also mentioned that the airtime should last between 30 and 45 or even 60 minutes and should be repeated at least twice a week.

The problems of inaudible receptions and improper pronunciation of names of persons, places and objects was mentioned but not considered to be a major flaw.

Desired future Radio programme:

- * Quiz time for the fisher folks,
- * Debates by fishermen on topical issues, presenting different views,
- * Fishermen request time,
- * News on forthcoming festivals like e.g. the Argunu fishing festival,
- * Drama presentations, especially of sensible issues, using a jovial manner to help in avoiding associated tensions and initiating discussions.

3. Conclusions and recommendations

The impact assessment clearly confirmed that the fisher folks acknowledged the Project's Radio broadcast programs to be their first source of information about the Project activities. Most of them agreed that the Radio programme have impact on their fishing activities. However, they strongly expressed their wish for more involvement of their traditional leaders and colleagues in the radio programs. Whilst attempts have been made to include extracts of fisher folks' interviews and speeches of traditional and government leaders in other programmes, our approach has been carried out in the old-fashioned reflecting top-down approach, with the Project being the "Sender" and in total control of the message been passed on to the "Receiver", who are the fisher folks.

The suggestions concerning new broadcasts, which fisher folks would like to be incorporated, are pointers to an interactive fashion of communication. It is now much more imperative for the Project to move from the objective of informing and raising awareness stage of social communication of its radio program to the interactive learning stage. This will further enhance a community-based resource management approach. Interactive learning communication is crucial for community-based (co-management) initiatives, as they seek to overcome the logic of top-down expert authority and prescribed behaviour.

The analysis of costs incurred for 67 months of radio broadcast showed that this means is relatively cheap with only 500,000 Naira (<5,000 US\$) per annum on the average. Costs were considerably lower at the beginning, when the nearby Radio Niger Koro, a Niger State owned station, was used.

To strengthen the Community Based Fisheries Management Project at Kainji Lake, it is recommended that:

1. Radio broadcasting in the local language should be used to initiate the process of an interactive learning communication between fishing communities and the Project. Community Based Fisheries Management should be promoted in a participatory and planned manner, reserving at least 80% of the programs produced and aired for it. This means that an annual broadcast plan should be established with considerably more participatory radio presentations providing occasions for dialogue, discussion and the opportunity for fisher folks to express their own views, to ask questions and to dissent.

2. As radio is a relatively cheap activity, and because the fisher folks like the medium, more airtime should be utilized at least two weekly broadcasts of 30 minute each. The preferred hearing time of the targeted audience should be used.

REFERENCES

- Adegbiji J. A. Okomoda J. K., Bawa J and Salzwedel H. (2001) Radio broadcasting for extension. 1995-2001. Nigerian German Kainji Lake Fisheries Promotion Project, Technical Report Series No. 20, 13 pp. ISSN: 1119-1449
- Anonymous (2000): Fisheries statistical bulletin Kainji Lake, Nigeria 1999. Nigerian-German Kainji Lake Fisheries Promotion Project Technical Report Series No. 18, 22 pp. ISBN 978-037-017-X
- Ibeun, M. O. and M. Mdaihi (1994): Media of communication among fishermen around Kainji Lake Basin. Nigerian-German Kainji Lake Fisheries Promotion Project Technical Report Series No. 1, 42 pp. ISBN 978-037-000-5
- Maier, B. R. Gorgen, A. A. Kielmann, H. J. Diesfeld and R. Korte (1994): Assessment of the district health system using qualitative methods, London MacMillan Press Ltd and Basingstoke, 106 pp. ISBN 0-333-5986-9