



VBC PROJECT

Tropical Disease Control for Development

See So That They May See

Communication for Ivermectin Delivery Programs

A Pilot Project in Northeastern Nigeria

March 1993

Volume 1 with Attachments:

- 1. Report on Qualitative Research**
- 2. ATOP Communications Plan**

by

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Table of Contents

Author	
Acknowledgments	
Editor's Note	
Acronyms	
Executive Summary	1
1. Introduction	8
1.1 Ivermectin Delivery Programs	8
1.2 Purpose of the IDP Communication Initiative	9
1.3 The Pilot Context: Ivermectin Delivery in Northeastern Nigeria	10
1.4 Participants	13
1.5 Building a Communication Strategy for IDPs: A Proposed Approach	14
1.6 Process	15
2. Planning the Communication Initiative	18
2.1 Setting Goals and Objectives	18
2.2 Reviewing Operations	19
2.3 Assessing Project Capacity for IEC Development	20
2.4 Formulating a Detailed Plan of Action	23
2.5 Advocacy	23
3. Communication Research	28
3.1 Purpose	28
3.2 Use of Qualitative Methods	28
3.3 Research Design	29
3.4 Training and Fieldwork	29
3.5 Research Results and Conclusions	30
4. Communication Planning	32
4.1 Purpose	32
4.2 Participatory Communication Planning	32
4.3 The Communication Plan	33

5.	Materials Development and Production	39
5.1	Inputs	39
5.2	The Creative Meeting	39
5.3	Training and Design	40
5.4	Pretesting and Revising	41
5.5	Production	42
6.	Using Communication Tools	43
6.1	Training	43
6.2	Dissemination	43
6.3	Monitoring and Evaluation	44
7.	Making Communication Work for IDPs: Recommendations and Lessons Learned	46
7.1	Introduction	46
7.2	Planning the Communication Initiative	47
7.3	Assessing Inputs	48
7.4	Training	49
7.5	Communication Research	50
7.6	Communication Planning	51
7.7	Materials Development and Production	51
7.8	Dissemination and Monitoring	52
7.9	Financial Resources	52

Tables

Table 1.	ATOP Communication Plan	4
Table 2.	Development of an IDP Communication Initiative: Proposed Plan of Action	25

Figure

Figure 1.	The Communication Process	17
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Attachment 1: Report on Qualitative Research

Attachment 2: ATOP Communications Plan

Editor's Note

This report describes the development of a comprehensive information, education and communication (IEC) plan for ivermectin delivery programs (IDPs) using a pilot effort in northeastern Nigeria as an example. The IEC plan is expected to evolve along with the delivery program in Nigeria's Adamawa and Taraba States, and will be revised over time to meet changing program needs for IEC. All IEC elements described in this report may not be carried out during the pilot period, but they are presented here in hopes that they will be useful to the Adamawa and Taraba Onchocerciasis Program and to other IDPs in the future.

Acronyms

ABC	Adamawa Broadcasting Corporation
AED	Academy for Educational Development
A.I.D.	U.S. Agency for International Development
ASMOI	Adamawa State Ministry of Information
ASMOH	Adamawa State Ministry of Health
ATOP	Adamawa and Taraba States Onchocerciasis Program (supported by Africare, RBF and USAID)
ATV	Adamawa Television
BBC	British Broadcasting Corporation
BOP	Borno State Onchocerciasis Program (supported by Africare, RBF, and USAID)
CBD	Community-based distributor
DG	Director General
EPI	Expanded Program on Immunization
FGD	Focus group discussion
HEALTHCOM	Communication and Marketing for Child Survival
HKI	Helen Keller International
HW	Health worker
ID/SGD	In-depth interview/small group interview
IDP	Ivermectin Delivery Program
IEC	Information, education and communication
IEF	International Eye Foundation
INMED	International Medical Services for Health
JHU	The Johns Hopkins University
K	Nigerian currency, the Kobo; 100K = ₦1
KAP	Knowledge, attitudes and practices
KSBPP	Kwara State Blindness Prevention Program (supported by Africare, IEF and USAID)
LDC	Less developed country
LGA	Local Government Area (Nigerian sub-state administrative unit)
LOCW	Local Onchocerciasis Control Worker
LOCT	Local Onchocerciasis Control Team (at LGA level)
MEC	Mectizan Expert Committee
MOH	Ministry of Health
MOPE	Ministry of Primary Education
MOPPE	Ministry of Post-primary Education
MOI	Ministry of Information

Acronyms (continued)

MSCI	Medical Service Corporation International
₦	Naira (Nigerian currency, ₦22 = \$1)
NTA	Nigerian Television Authority
NGO	Non-governmental organization
NOCP	National Onchocerciasis Control Program, under the Nigerian Federal Ministry of Health, Directorate of Disease Control
NTA	Nigerian Television Authority
OCP	Onchocerciasis Control Program
ORT	Oral rehydration therapy
PCS	Population Communication Services Project
PAHO	Pan American Health Organization
PHC	Primary health care
PVO	Private voluntary organization
R&D/H/CD	USAID Bureau of Research and Development, Office of Health, Communicable Diseases Division
RBD	River blindness disease
RBF	River Blindness Foundation
RCPQ	Rapid Community Profile Questionnaire
RK	Radio Kaduna
SOCT	State Onchocerciasis Control Team
SOCTF	State Onchocerciasis Control Task Force
SMOH	State Ministry of Health
TH	Traditional healer
TOT	Training of trainers
TSBC	Taraba State Broadcasting Corporation
TSMOH	Taraba State Ministry of Health
TSTV	Taraba State Television
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development (overseas mission)
VCR	Videocassette recorder
VHW	Village health worker
VOA	Voice of America
VOG	Voice of Germany

Author

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Executive Summary

Since 1987 the anthelmintic drug ivermectin has been used to treat river blindness disease (onchocerciasis). Currently ivermectin is not marketed commercially for human use, but is donated by the manufacturer, Merck and Co., to organizations and institutions approved as valid users or distributors in ivermectin distribution programs (IDPs). Most IDPs are currently located in West Africa and in parts of Latin America.

The purpose of the initiative described in this report was to provide communication support to IDPs. Because such an initiative was a relatively new concept, a laboratory for testing its communication strategy and demonstrating its usefulness was offered in northeastern Nigeria by the Adamawa and Taraba States Onchocerciasis Program (ATOP), an IDP managed with the assistance of Africare. Briefly, the purpose of the activity was:

To develop an IDP Communication Program — with initial, pilot focus on Africare's IDP activity in Adamawa and Taraba States (ATOP) — to assist PVOs in using health education and communication as an integral part of implementing regular, comprehensive and sustainable preventive treatment programs.

At a planning workshop during the strategic planning phase of the communication initiative, organizations and institutions assisting IDPs discussed the following objectives:

- to build a consensus among groups interested in integrating communication into IDP operations;
- to develop a flexible communication plan to promote sustained ivermectin supply and demand in the long term;
- to match communication messages and tools with existing knowledge and practices concerning onchocerciasis and with communication channels that would reach target audiences;

- to build the capacity of IDPs and their local collaborators to manage and execute a long-term communication activity;
- to develop communication tools, insofar as possible using local inputs, appropriate to the knowledge and skills of the project audience;
- to produce the communication tools locally;
- to evaluate the pilot communication initiative after one year in order to assess the strength of the model and its replicability in other IDP activities, especially in Africa.

To develop the pilot activity, four visits to northeastern Nigeria were planned. Phase 1 of the initiative, strategic planning, began in Washington and was completed in Nigeria during the first visit along with phase 2, communication research. Each visit after that would be devoted to one phase in developing the strategy: 3) communication planning; 4) materials development; and 5) materials production. This report covers the first four phases. Each phase was marked by a participatory capacity-building exercise with the ATOP staff that led to the main products of the effort.

In Phase 2, qualitative research was undertaken in four intervention and four non-intervention villages in Adamawa and Taraba States. Methods included in-depth interviews with single informants, small group interviews, focus group discussions and unstructured observations. A study instrument was developed for each method except the last.

Research results indicated little difference in knowledge of onchocerciasis between intervention or non-intervention areas. Typically, symptoms of the disease were attributed to known conditions with similar signs, such as leprosy and scabies for itching, or aging for visual loss. Most respondents said that although public health services were available within 5 km, these facilities had few drugs and very little equipment; hence, traditional therapies were the most common source of first treatment cited. The drug ivermectin was well-received and tolerated, and nearly all respondents said they would take it again.

Overall, the research area was geographically isolated and relatively undeveloped. Available channels of communication included face-to-face, traditional drama and songs, village criers, print media (30 percent literacy) and mass media, with radio cassette players in 4 percent to 60 percent of community households.

In Phase 3, an ATOP Communication Plan was developed through a participatory process. IDP program staff helped 1) identify target audiences, 2) list desired behaviors to be promoted among members of those audiences, 3) develop messages to encourage adoption of the desired behaviors, 4) select communication channels most likely to reach the target audiences, and 5) outline materials based on the selected messages for communication through appropriate channels. The communication plan is summarized in Table 1.

The plan identifies three target audiences: residents of endemic communities, decision makers and health promoters (health workers, teachers, advocates, and so on). Desired behaviors to be encouraged for each group include taking ivermectin according to protocols (endemic community members), providing resources to ensure continuing supply (decision makers), and educating users or potential users at every opportunity (health promoters).

Two core messages were developed:

- Take ivermectin once a year, every year.
- Ivermectin prevents blindness caused by river blindness disease. It also relieves other consequences of the disease, such as intense and prolonged itching, roughened and thickened skin, and skin depigmentation.

The communication plan proposed that these messages and others be conveyed through personal communication, community drama and song, and print. Radio — owing to its wide reach — could be used cautiously to inform the public about onchocerciasis but not to create demand for ivermectin.

Table 1 Summary of ATOP Communication Plan

AUDIENCE	BEHAVIOR	MESSAGE	CHANNELS: TOOLS
<p>Beneficiaries (eligible people in hyperendemic communities)</p>	<p>Take ivermectin at the recommended dose once a year, every year.</p> <p>Recognize the symptoms of onchocerciasis.</p>	<p>Key messages: Take ivermectin once a year, every year.</p> <p>Ivermectin prevents blindness caused by RBD and relieves other consequences of the disease: intense and prolonged itching, roughened and thickened skin, and skin depigmentation.</p>	<p>Interpersonal communication: health education talks</p> <p>Print: educational flyer/posters, stickers with logo</p> <p>Traditional performances: Community drama, songs</p> <p>VCRs, audio tape players: video and audio tapes of community drama/song</p>
<p>Decision makers</p>	<p>Budget and provide resources — funds, personnel and transport — to ensure a continuing supply of ivermectin.</p> <p>Participate in IDP planning.</p>	<p>Key messages : River blindness disease is a significant problem in your area and reduces the health and welfare of your people.</p> <p>RBD affects your LGA's economy; support for IDP is a worthy investment.</p> <p>IDP requires an annual budget commitment for at least 15 years.</p>	<p>Interpersonal: Promotional visits</p> <p>Print: Information packets</p> <p>VCRs and tape players: tapes of drama/songs, videos on RBF</p>
<p>Health promoters (health workers, teachers, advocates)</p>	<p>Health workers: attend ATOP training classes, become familiar with IEC section of ATOP Training Manual, implement IEC strategy.</p> <p>All: Educate users or potential users about ivermectin.</p>	<p>Key messages : Ivermectin is an improved drug. It requires only one dose a year (1/2 to 2 tablets according to body weight) and has fewer side effects than Banocide.</p> <p>Messages on side effects and eligibility requirements.</p>	<p>Print: IEC section of ATOP Training Manual, flyers for schoolchildren, T-shirts & stickers</p> <p>VCR and tape players: tapes of drama/songs</p>

Proposed communication tools include the following:

For members of endemic communities:

- health education talks
- community drama and songs on IDP themes
- several educational flyer/posters, one per household
- stickers carrying the program logo

For decision makers:

- promotional visits
- a personalized information packet
- media materials

For health promoters:

- an IEC section of the ATOP Training Manual for health workers
- print materials (perhaps from the information packet) for science teachers
- T-Shirts for promotion and to identify health promoters

For all of the above and the general public:

- a launch of materials and presentation of community drama and song
- taped video and sound recordings of community drama and song

In Phase 4 communication tools were developed for production in Phase 5. A creative meeting initiated materials development. Participation was limited to people directly responsible for conceiving and producing the materials concerned. The session served as a brainstorming exercise during which tentative designs were proposed and key issues hammered out. Such issues included the content of communication tools, tone and thrust of messages, wording, languages, range of colors, use of illustrations or photographs, and the proportion of images to text. The general creative meeting was followed by a number of smaller meetings on the graphic materials and songs and stories/drama.

Following the creative meeting, a technical workshop was held for illustrators, graphic designers and health educators. Materials developed included 1) two educational handbills for rural communities and school-children entitled: "Do You Suffer From these Signs?" and "The Eye is the Mirror of the Body"; 2) informational stickers: "Prevent River Blindness Disease: Take Ivermectin Once a Year"; 3) T-shirts carrying the program logo: "Prevent Blindness"; 4) sample scripts for community drama and songs; 5) a draft information packet consisting of a color pocket folder with loose pages; and 6) a plan for developing community-level drama, leading to the ATOP Festival of the Arts.

In addition, resources for materials production were identified in local media houses, printing establishments, artists and performing groups, illustrators, graphic designers and health educators.

Key lessons from the communication initiative include the following:

- IDPs aiming toward sustainability should grant the continuation of *supply* as much weight as the creation of *demand*. For this reason, decision makers who control or finance supply must be one of the target audiences for IDP communication materials. In most project contexts, materials developed specifically for decision makers may offer critical support to ensuring uninterrupted and timely supply of ivermectin over many years.
- Audiences for IDP communication are highly targeted and limited only to people at risk for onchocerciasis or decision makers and health promoters responsible for the IDP. The reach of communication channels selected for IEC must be as targeted as the audience itself. Mass media must therefore be used with caution.
- Development of a well-designed and appropriate communication strategy, together with simple tools, will in most instances span an entire calendar year.

- IDP project staff with no previous training in health education or IEC methods can assimilate basic concepts quickly and perfect them through immediate application. A capacity-building approach to communication planning is both possible and desirable for achieving a long-term IEC effort in an IDP.
- Logistical support and the active participation of most project staff are critical to building local capacity to develop IEC materials. Typically the busiest period for IDPs is when ivermectin delivery is easiest. In west Africa this period usually corresponds with the dry season, September through April. IEC activities should complement, not compete with, delivery.
- Traditional performance approaches (stories, dramas, songs) to village-level health education are viable communication tools; moreover, they have proved more effective overall than print materials for village audiences, especially women, in several health projects in northeastern Nigeria.
- Because the IDP does not seek to control the black flies that transmit onchocerciasis, messages about the vector are less important than those that enhance recognition of symptoms and encourage sustained demand for ivermectin.

Chapters 2-6 of this report describe steps taken in the communication planning process, together with lessons learned for future application to IDPs elsewhere. In the final chapter, a complete list of lessons learned is provided for rapid reference. Annexes for each phase of the activity are attached to the report. They contain the main products, including the "ATOP Report on Qualitative Research for Communication Planning" (Attachment 1), the "ATOP Communication Plan" (Attachment 2), and descriptions or illustrations of Communication Tools (Annex D).

1. Introduction

1.1 Ivermectin Delivery Programs

In 1987 the anthelmintic drug ivermectin (trade named Mectizan[®]) was licensed for treatment of river blindness (onchocerciasis) in human patients. Caused by *Onchocerca volvulus*, a parasitic filarial worm, the disease is common to certain riverain areas of the developing world. The parasite is transmitted by a tiny black fly of the genus *Simulium*. Symptoms in people infected with the parasite include intense and prolonged itching, skin depigmentation, formation of worm nodules under the skin, and impaired vision leading to blindness. Currently ivermectin is not marketed commercially for human use, but is donated by the manufacturer, Merck and Co., to organizations and institutions approved by the Mectizan Expert Committee (MEC) as distributors or valid users.

Strategies for ivermectin distribution programs (IDPs) vary, but all have common features reflecting the protocols of the MEC, a body of medical advisors established by the manufacturer to ensure maximum benefit and safety for beneficiaries. The committee's technical guidelines call for supervised distribution of the drug by an approved organization; observation for 24 hours after ingestion; no commercial sale of the drug, although charges for distribution are allowed; weighing to determine dosage; and certain exclusions including pregnant women, women who have given birth during the past week, the very ill and children weighing less than 15 kg.

One rationale for the tightly supervised approach to delivery in the first years of an IDP is the potential for side reactions. While severe side reactions are rare, some patients experience temporary discomfort, most commonly in association with a high parasite load. Increased itching, swelling, dizziness, body aches and general weakness have been reported. Distributors are supplied with instructions and drugs to manage side reactions when they occur. As an anthelmintic, ivermectin may also bring about side benefits.

The effectiveness of chemotherapy in preventing blindness and reducing other symptoms of onchocerciasis depends on long-term individual compliance with a regimen requiring one annual dose of ivermectin for 10 or more years. Therefore, sustainable success of an IDP will depend on a double strategy. First, IDPs must ensure regular drug distribution to beneficiary communities. Second, long-term compliance among beneficiaries will depend on generating a genuine, individual demand for the drug. IDP health information, education and communication (IEC) will become a valuable ally in promoting long-term commitment to ivermectin among beneficiaries and decision makers responsible for drug delivery.

1.2 Purpose of the IDP Communication Initiative

The purpose of this communication initiative is to support control of river blindness disease. Specifically, this goal was set in the Scope of Work (see Annex A-2):

To develop an IDP Communication Program — with initial, pilot focus on Africare's IDP activity in Adamawa and Taraba States (ATOP) — to assist PVOs in using health education and communication as an integral part of implementing regular, comprehensive and sustainable treatment programs.

The purpose of the initiative was refined with the assistance of PVO representatives at a two-day workshop held October 1-2, 1992, in Washington, D.C. (See VBC Report 81340, "Workshop on Future Directions in Health Education for Ivermectin Delivery Programs.") The importance of *specificity* was a hallmark of workshop discussions. It was noted that any quest for global IEC guidelines in IDPs confronts the natural variety of individual countries, programs and social markets. Ivermectin is a highly targeted product and its companion communication strategy must be targeted as well. Context, it was felt, would in large measure dictate the proper direction for IEC. Whereas one may generalize principles about such strategies, their products must be context-specific. Therefore, a description of *process* would be the first product of a communication strategy for IDPs.

A laboratory for testing such a communication strategy and demonstrating its usefulness was needed. Such a laboratory was offered in northeastern Nigeria by the Adamawa and Taraba States Onchocerciasis Program (ATOP).

1.3 The Pilot Context: Ivermectin Delivery in Northeastern Nigeria

Initiated in June 1991, ATOP is managed by Africare and the ministries of health in Nigeria's Adamawa (pop. 2,124,049) and Taraba (pop. 1,480,590) States. These two states, created in August 1991 by dividing the former Gongola State, lie on Nigeria's eastern border with Cameroon. The total size of the area exceeds 100,000 square kilometers. The 1988-1989 National Onchocerciasis Prevalence Survey reported an overall infection rate for the former Gongola State of 18.25%. Approximately one-third of the area's population is estimated to be at risk of onchocerciasis infection and, following verification through rapid assessment, eligible to receive ivermectin.

1.3.1 Area topography and climate

Together Adamawa and Taraba States constitute one of the most remote and least developed regions of Nigeria. The topography is characterized by very low valleys alongside the Benue, Gongola and Taraba Rivers and by three granite hilly areas. The fast-running mountain streams and rivers that crisscross the region's valleys are ideal breeding grounds for the black flies that transmit onchocerciasis. Road links in the area are poor. Passage on the numerous untarred roads is often blocked by streams, and many roads are impassable during the May-August rainy season. Typically communities affected by onchocerciasis are located in remote areas; in any season many communities are accessible only on foot.

1.3.2 Operational strategy

Since its inception in September 1991, ATOP has targeted hyperendemic districts in selected Local Government Areas (LGAs). Initially,

these included Gashaka and Bali LGAs in Taraba State and Ganye LGA in Adamawa State. (Hyperendemic areas have infection rates exceeding 60 percent, mesoendemic areas rates of 40-60 percent and hypoendemic areas rates below 40 percent.) Possible additions are Gombi, Fufure, Hong and Jada LGAs in Adamawa and Sardauna, Donga, Zing, Wukari and Takum LGAs in Taraba. Furthermore, Biu LGA in Borno State is to begin receiving ivermectin under the new Borno State Onchocerciasis Program (BOP), and eventually communities in Hawul, Kwaya Kusar, Shani, Damboa and Askira Uba LGAs may also enter the expanded program.

The basic ATOP operational strategy was suggested by an earlier Africare-supported IDP in Nigeria, the Kwara State Blindness Prevention Programme (KSBPP). ATOP has also simplified operations where mandated by the Mectizan Committee. For example, rapid assessment (physical examination for presence of nodules, skin depigmentation and blindness) is favored over skin snipping; record keeping has been reduced to several basic forms and will soon be computerized. Unlike the Kwara State program, however, ATOP has not as yet adopted a community-based distribution system because of constraints posed by low literacy levels and drug security.

ATOP's distribution method combines elements of a community-based strategy and use of mobile teams. Members of the state and local onchocerciasis teams (SOCTs and LOCTs) spend several days in a village to assess levels of endemicity and distribute ivermectin when community infection levels justify intervention. Typically community members are notified one or two days before the team's arrival. On the assigned day the community is requested to assemble for collective instruction. (This educational opportunity seems to have been devoted to procedural matters and secondarily to the connection between ivermectin and river blindness.) Afterward, eligible people are treated and further informed in each household.

With a view to operational sustainability, ATOP initially anticipated active participation of such local NGOs as mission hospitals in the program; however, because these institutions are often based in non-endemic areas, their reach is narrow. Therefore, a community-based strategy along the lines of the KSBPP is envisaged. Before the end of

1993, community-based distributors (CBDs) are to be identified and trained to undertake local distribution and health education. Training of up to 250 CBDs (one per 300 ivermectin users) is proposed for 1993.

In addition to applying a community-based strategy in hyperendemic areas, ATOP is also considering a passive, clinic-based approach for affected individuals in meso- and hypoendemic LGAs. Such a strategy would serve all people at risk.

During its first 18 months of operation, the ATOP project distributed ivermectin to nearly 50,000 eligible community members in Gashaka, Ganye and Bali LGAs. By mid-1994 the three-year program will most certainly exceed its target of treating 75,000 people with at least one dose of ivermectin. The pace of the project's gains suggests that ATOP can afford to invest effort in developing a communication strategy; moreover, it is likely that the return on that investment will be high.

1.3.3 Socio-cultural environment

Of some 200 cultural and linguistic groups currently living in the ATOP area, the larger ones residing in endemic LGAs include the Higi and Kilba (Hong LGA), Fulani (Ganye, Jada LGAs), the Chamba-Dakka (Ganye, Jada, Fufure, Gashaka LGAs), the Mumuye (Bali) and the Jukun (Wukari). At least 85 percent of all ATOP area residents use Hausa as a *lingua franca*, and many also speak Fulani. Self-reported literacy in any language does not exceed 30 percent.

1.3.4 Current status of IEC in ATOP

IEC practices at community level have so far focused on mobilization and operational aspects of ivermectin delivery, but less often on education that supports sustained use. Other ATOP information efforts have included personal contacts with policy makers and community leaders. A "launch" of IDP in Taraba State drew the deputy governor, who distributed the first 20 doses of ivermectin. Some print and electronic media have been used to publicize the program. One local media house raised funds from private sources to create a 30-minute video for television about river blindness in the ATOP area. Newspapers have carried stories about the personal and economic consequences of onchocerciasis. A

magazine called *Taraba Insight* published an article about the impact of Onchocerciasis on the lives of people in the area.

One challenge that continues to face ATOP, however, is finding workable and sustainable methods for building health education into the routine of local onchocerciasis workers (LOCWs) and any CBDs who are eventually trained. Therefore, ATOP also sought to add an IEC section to its draft Training Manual for CBDs. Before this Communication Initiative began, ATOP management had already commissioned a local artist to illustrate the manual. These preliminary sketches were pretested in villages during the research phase of the communication initiative (see Chapter 6 and Annex C-5).

1.3.5 Joining IEC to operations to enhance sustainability

Beyond its three-year pilot phase, the future of ATOP rests in large measure on the ability of IEC efforts to encourage support for sustained supply from decision makers and sustained demand for annual ivermectin treatment among beneficiaries. Therefore, IEC must be an integral part of IDP operations.

Project agreements signed between Africare and beneficiary LGAs anticipate that LGAs will bear gradually increasing responsibility for the logistical and personnel costs of ivermectin distribution. Under the plan they will assume the full financial and administrative burden in mid-1994. Program inputs needed for IEC must be identified and mechanisms created for their full integration into program activities. Future support for IEC needs to be assured.

1.4 Participants

Chief partners in carrying out the pilot Communication Initiative were the VBC Project, the HEALTHCOM Project, the Governments of Adamawa and Taraba States in northeastern Nigeria, and their cooperating U.S. PVO, Africare. In Washington Gabriel Daniel and Alan Alemian of Africare offered insights and operational support; Willard Shaw, Lonna Shafritz and Peter Spain of AED helped plan and review

the implementation process; Kathleen Henry managed the activity for VBC. In Nigeria field colleagues included Dr. Adrienne Ertl of A.I.D.'s Office of Health, who participated in the IEC field research exercise, Dr. Edward Douglass, a HEALTHCOM consultant for communication planning, and Maria-Claudia De Valdenebro, also a HEALTHCOM consultant, for graphic design and training.

Members of the state and local onchocerciasis teams in the ATOP area were also key participants in all phases of the activity. These teams are responsible for ivermectin delivery under the guidance of Dr. Ahmed Ibrahim Mustapha of the State Epidemiology Unit (Yola) and Dr. Abdalla Meftuh and Hickson Hellendendu of Africare-Yola. The pilot effort was further assisted by Maxwell Kekene and J.P. Dangoji, health education specialists in the state health ministries of Adamawa and Taraba States, respectively.

Finally, a wide range of views was solicited from staff members of Helen Keller International, the International Eye Foundation, International Medical Services for Health and the River Blindness Foundation; from Dr. Stanley Yoder of the Annenberg School of Communication of the University of Pennsylvania; from Dr. Gilbert Burnham of the Johns Hopkins University School of Hygiene and Public Health; and from the JHU/PCS Project in Nigeria.

1.5 Building a Communication Strategy for IDPs: A Proposed Approach

The past 20 years have seen important advances in the application of multidisciplinary approaches to public health communication. Social marketing, behavioral analysis and anthropological methods join in a combined strategy to harness communication to program operations

Social marketing strategies make product *promotion* part of a comprehensive planning framework that includes the *product*, the *place* or means of product distribution, and the *price* a consumer pays for the product in time, money, transportation and other costs. The social marketing approach differs from selling because it is consumer-oriented.

It takes into account not only consumers' best interest, but even more important, also their *self interest*.

An analysis of health-related behaviors among potential consumers or their caretakers informs social marketing strategies. Behavior analysis provides a snapshot of the social environment, made up of families, communities, health facilities and other institutions, that influences behavior. It can also identify what people are doing about a health problem and why, and offer some indication of how amenable existing behaviors may be to change or adjustment.

Anthropological research deepens the understanding of behavior among potential consumers by placing it in a cultural context. "Culture" describes the perceptions, beliefs and values that inform and motivate human action. Anthropology also offers insights into the nature of human communication: for example, the relative dominance and reach of certain languages, the traditional modes of expression used, the groups having access to certain information networks, and cultural openness to new communication channels and ideas.

These three disciplines provide the conceptual framework for a process of public health communication that relies on comprehensive research and planning focused on the consumer. The IDP communication initiative uses this multidisciplinary, consumer-oriented approach to develop a model IDP communication plan in northeastern Nigeria.

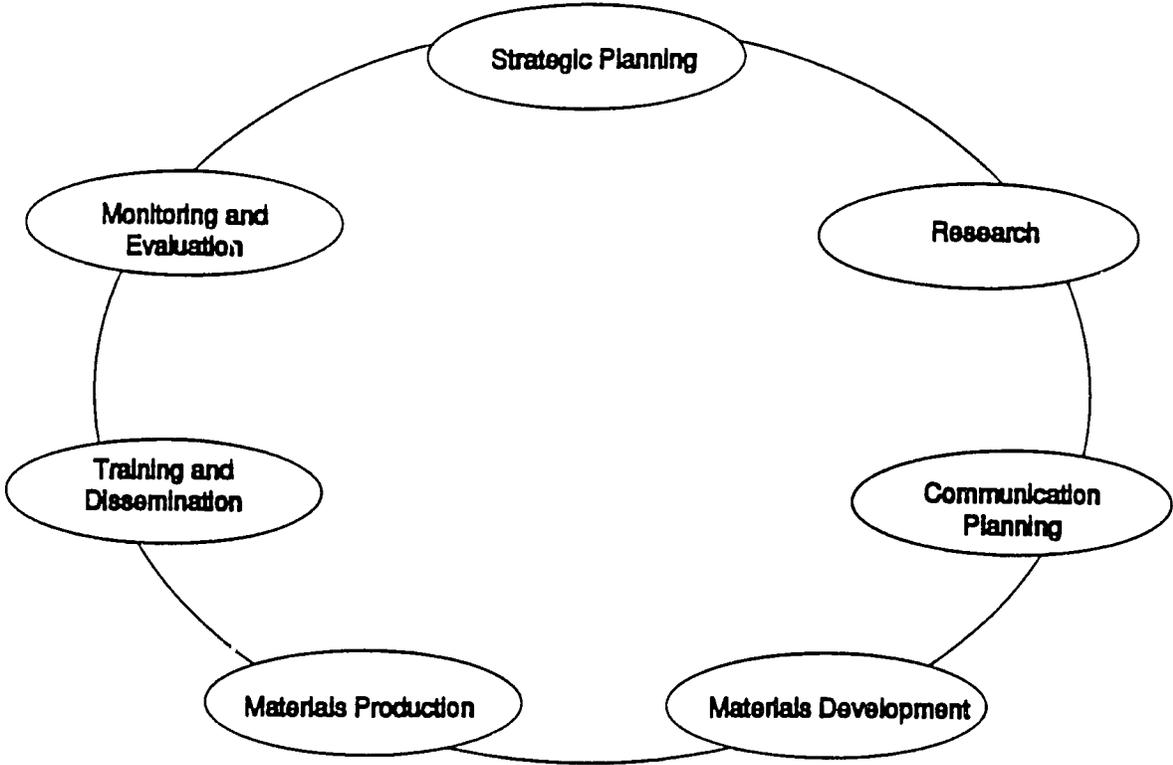
1.6 Process

To develop the pilot activity, four visits were planned to Nigeria. Phase 1 of the initiative, strategic planning, began in Washington and was completed in Nigeria during the first trip along with Phase 2, communication research. Each of the following trips would be devoted to one of the phases in developing the strategy: 3) communication planning; 4) materials development; and 5) materials production. This report describes the first four phases. It also discusses other phases of the communication process that will be undertaken by the ATOP staff later on: implementation (training, dissemination) and monitoring and evaluation.

Figure 1 shows all the phases of this communication process, which is designed to foster a continuing dialogue with target audiences. Continued monitoring and evaluation will identify questions or problems and further research will provide the information needed to adjust or revise the communication strategy.

Each chapter of this report presents a description of steps taken in the process, together with lessons learned for future application to IDPs elsewhere. In the final chapter, lessons learned are grouped for rapid reference. Annexes for each phase of the activity contain the main products of the initiative, including the "ATOP Report on Qualitative Research for Communication Planning" (Attachment 1), the "ATOP Communication Plan" (Attachment 2) and descriptions or illustrations of Communication Tools (Annex D).

Figure 1. The Communication Process



26

2. Planning the Communication Initiative

2.1 Setting Goals and Objectives

In response to growing interest in strengthening IEC support to IDPs, A.I.D. launched an initiative to:

Develop an IDP Communication Program — with initial, pilot focus on Africare's IDP activity in Adamawa and Taraba States (ATOP) — to assist PVOs in using health education and communication as an integral part of implementing regular, comprehensive and sustainable treatment programs.

2.1.1 Planning workshop

Objectives for the communication initiative emerged from an initial planning workshop held in Washington, D.C., October 1-2, 1992, with representatives from organizations that assist IDPs. Participants commented upon a background paper prepared on communication planning strategies and a second on ATOP operations and communication status. They also reviewed lessons learned from various IDP experiences and discussed how the communication initiative could complement ATOP's operational strategy. Finally, workshop participants considered the features of sustainability, replicability and skills transfer in an IDP communication activity. (See VBC Report "Workshop on Future Directions in Health Education for Ivermectin Delivery Programs.")

2.1.2 Objectives

The following objectives were extracted from the recommendations for the communication initiative proposed at the workshop:

- to build a consensus among groups interested in integrating communication into IDP operations;

- to develop a flexible long-term communication plan to promote sustained ivermectin supply and demand in the long term;
- to match communication messages and tools with existing knowledge and practices concerning onchocerciasis and with communication channels available in the project context;
- to build the capacity of IDPs and their local collaborators to manage and execute a long-term communication activity;
- to develop communication tools, insofar as possible using local inputs, appropriate to the knowledge and skills of the project audience;
- to produce the developed communication tools locally;
- to evaluate the pilot communication effort one year after its launch in order to assess the strength of the model and its replicability in other IDP activities, especially in Africa.

2.2 Reviewing Operations

In an IDP, operations and communication are mutually dependent and reinforcing. The mode of operations — whether community-based, outreach or fixed-site — will dictate in some measure the communication channels and tools that will be selected for conveying messages on river blindness control. Therefore, a review of operations is essential to planning a communication initiative.

Information about ATOP operations was obtained from ATOP reports and from interviews with project staff and other IDP participants in Yola, Lagos and Washington, D.C. The review inquired into the following:

- current opportunities for IDP IEC among decision makers, health promoters and community members;

- existing health education materials, strategies and plans;
- IEC outputs to date;
- experience with existing IDP materials, whether developed by ATOP or another project;
- perceived need for an expanded IEC component and its purposes;
- current relations with relevant projects, ministries, institutions (e.g. universities, churches or mosques), advocacy groups and key decision makers.

2.3 Assessing Project Capacity for IEC Development

For most IDPs a communication initiative will be modest, inexpensive and chiefly reliant on whatever material and human support the project itself can provide. An assessment of potential inputs to the initiative is an essential feature of preparatory planning. At a minimum this assessment should consider institutional structures, local human resources for IEC and training, time, logistical support, and resources for materials development, production and dissemination. (See Annex A-4 for a more detailed description of the ATOP inputs assessment findings summarized below.)

2.3.1 Institutional structures

Governmental institutions, external cooperating agencies, the private sector, local advocacy groups, and traditional and religious structures are the five kinds of institutional structures that may support IEC activities. In Nigeria the government institutions identified include the National Onchocerciasis Control Program (NOCP), the State Onchocerciasis Control Teams (SOCTs), a number of state government ministries, the LGA Councils, and Local Onchocerciasis Control Teams (LOCTs). The key external cooperating agency is Africare. Although the private sector has not played a direct role in ATOP operations so far, expansion of IEC will create a need for greater reliance on local media houses, free-lance artists and printing companies. The Rotary and State Councils for Wom-

en's Societies are among local advocacy groups that could lend political and financial support to IEC activities. Finally, a network of traditional rulers and local and religious institutions were identified as potential allies for IEC efforts.

2.3.2 Human resources for IEC and training

Midway through the pilot effort the need for additional staff support was recognized. One health educator from the Adamawa State Epidemiological Unit was assigned half-time to the project. This person will assist in overseeing materials development, production and distribution, and will also serve as a health education trainer. A second health educator from Taraba State may serve the same role for that state. In addition, Africare has requested that one Peace Corps volunteer be assigned to ATOP by the end of 1993 to train IEC trainers and assist in monitoring health education activities. Other sources of human resources for IEC are listed in Annex A-4.

Finally, the communication initiative discovered that its best talent could be found among the ranks of the LOCT and SOCT members and other workshop participants. For example, two illustrators were identified during the workshop and a trained health educator from the KSBPP in Kwara State quickly assumed the role of co-trainer.

2.3.3 Timing

The original calendar for the communication initiative foresaw an activity spanning seven to eight months in four phases. The time allotted was ambitious and the calendar period selected proved problematic because some activities were scheduled during the best time for ivermectin delivery. Development of a well-designed and appropriate communication strategy, together with simple tools, will usually span an entire calendar year. The proposed Plan of Action for IDPs in West Africa in Table 2 suggests an activity spanning May to May of the following year.

2.3.4 Logistics

Because ivermectin delivery is an essential feature of IDPs, logistical support for research, field exercises, materials distribution and health

education will be made available as a part of regular program operations. While climatic and road conditions will affect field research and pre-testing, research sites can if carefully chosen be visited at seasons when other operations are halted.

2.3.5 Resources for materials development, production and dissemination

A variety of IEC materials are possible in an IDP communication initiative, ranging from sophisticated video broadcasts and international radio programming to storytelling and songs at the community level. Human, institutional and training inputs required for materials development have been mentioned in previous sections. The communication initiative sought additional assistance from a professional graphic designer to train local artists. Similarly, organization of a proposed drama festival would require training support for health workers charged with stimulating community-level dramatic and musical performances on IDP themes.

Commitment to developing any communication tool should be contingent on local capacity to create the tool proposed. Midway through the communication initiative an inventory of production resources was made for the Yola area. Printing firms, media houses, radio and television stations, newspapers and journals, the State Arts Council and the market were visited. In addition, inquiries were made into the availability and cost of inks, papers and reproduction processes. Ideally such an inquiry would be made earlier in the life of the activity as an aid to planning and budgeting.

As is the case for materials production, possibilities for dissemination of IEC products vary with local technical, financial and management capacity. In discussions about dissemination with MOH and ATOP staff it was suggested that the ATOP project staff, together with health educators assigned to it, undertake or closely monitor materials dissemination.

2.3.6 Financial resources

It is expected that ATOP funds will be complemented by IEC expenditures from state governments. A function of the IEC Subcommittee of the State Onchocerciasis Control Task Force will be to promote technical

and financial cooperation among participating state ministries. For example, transfers are made frequently by the MOH to the MOI for materials development and media coverage on health education themes. Other potential sources of financial contributions are such local advocacy groups as the Rotary Club or private local philanthropists.

2.4 Formulating a Detailed Plan of Action

Once goals and objectives have been determined, operations reviewed and capacity assessed, a detailed Plan of Action for a communication initiative may be formulated. The actual Plan of Action and Calendar of Activities for the communication initiative appear in Annex A. The scheme shown in Table 2 draws upon that experience and, for the benefit of other IDPs, incorporates proposed corrections in the order and timing of certain activities.

2.5 Advocacy

A completed Plan of Action becomes useful to galvanize support for the IEC activity. It may be shared with donors, cooperating agencies, partners in government and communities, the press and others.

Advocacy at this stage becomes especially important when a project has a modest capacity to undertake a communication effort. IDP projects who have staff trained in the communication process may agree to temporarily detach facilitators to the effort. Local PVOs may be willing to support printing and materials development costs. Contributions of broadcast air time, transport, and training and materials production facilities may be garnered from government ministries. Businessmen may donate newspapers articles or advertisements, paper, T-shirts or services for materials dissemination.

VBC Project

The communication initiative sought several forms of support through advocacy. Meetings were held with other PVOs and donors active in IDP in Nigeria, and government partners were invited to a meeting to review the draft communication plan. In addition, television producers were interviewed about including IDP themes in their regular programming.

Table 2

**Development of a Communication Initiative in an IDP:
Proposed Plan of Action (West Africa)**

OBJECTIVES	ACTIVITIES	CALENDAR	PARTICIPANTS
1. To build a consensus among interested groups in favor of integrating communication into IDP operations.	1.1 Hold a planning workshop including all interested parties.	April (2 days)	Implementing agencies; donors; advocates
	1.2 Carry out follow-up meetings.	April/May (2-3 days)	project staff
	1.3 Develop a detailed Plan of Action for the Communication Activity.	(2 days)	project staff
	1.4 Create an IEC management structure.	(2-3 days)	proj. supervisors and staff
2. To match communication messages and tools with existing knowledge and practices concerning onchocerciasis and with communication channels available in the project context.	2.1 Train staff in qualitative research methodologies.	May (2-3 days)	proj. supervisors facilitators staff (trainees)
	2.2 Conduct field research.	May (1-2 weeks)	-
	2.3 Analyze data.	June (5 days)	-
	2.4 Write the research report.	(1-2 weeks)	-
	2.5 Share results with decision makers and interested parties.	(1-2 days)	proj. supervisors
3. To use local inputs for developing communication tools.	3.1 Assess the capacity of local printers, media houses, broadcasters, graphics designers, artists, professional and traditional performers, etc.	July (1-2 weeks)	project staff
	3.2 Determine tentative materials production timeliness and costs.	(in above)	"
	3.3 Write an inputs assessment report.	(2-3 days)	project staff

Table 2. Proposed Plan of Action (cont.)

OBJECTIVES	ACTIVITIES	CALENDAR	PARTICIPANTS
4. To develop a flexible long-term communication plan to promote sustained supply and demand of ivermectin in the long term.	4.1 Train staff in the objectives and methods of the planning process.	August (2 days)	proj.supervisors facilitators staff (trainees)
	4.2 Define key features of the communication plan.	(2 days)	"
	4.3 Write a draft Communication Plan.	(4 days)	"
	4.4 Present the Communication Plan for review by interested parties.	(1 day)	proj.supervisors
	4.5 Write a final Communication Plan.	September (3 days)	project staff/ supervisors
5. To develop communication tools, insofar as possible using local inputs, that are appropriate to the knowledge and skills of the project audience.	5.1 Hold a materials development workshop.	October (1 day)	project staff/ supervisors/ facilitators
	5.2 Assess materials development inputs		"
	5.3 Organize a creative meeting	November (1 day)	IEC technical staff/artists
	5.4 Develop selected communication tools.	(2-4 weeks and ongoing for per- forming arts)	"
	5.5 Pretest materials.		"
	5.5 Complete materials development.	December (and ongoing for per- forming arts)	"
6. To produce communication tools locally.	6.1 Train supervisory staff in materials production.	January (1 week)	IEC technical staff/facilitators
	6.2 Supervise materials production.	January (3-4 weeks)	"

Table 2. Proposed Plan of Action (cont.)

OBJECTIVES	ACTIVITIES	CALENDAR	PARTICIPANTS
<p>7. To integrate the use of IDP communication tools into ongoing project operations.</p>	<p>7.1 Develop an IEC training manual based on the new communication strategy and tools.</p>	<p>February (3 weeks)</p>	<p>proj.supervisors consultants</p>
	<p>7.2 Train trainers in using the communication tools.</p>	<p>March (1 week)</p>	<p>proj.supervisors IEC technical staff/ staff (trainees)</p>
	<p>7.3 Organize a launch for the new materials.</p>	<p>April (2 days)</p>	<p>government support staff</p>
	<p>7.4 Undertake ongoing communication training using the new materials.</p>	<p>ongoing from March</p>	<p>staff</p>
	<p>7.5 Distribute the new materials.</p>		
	<p>7.6 Monitor implementation of the communication strategy.</p>	<p>Ongoing from March Ongoing</p>	<p>IEC staff/ supervisors</p>
<p>8. To evaluate the pilot communication initiative in order to assess the strength of the model and its replicability in other IDP activities, especially in West Africa.</p>	<p>8.1 Conduct an evaluation of the communication activity after one year of full implementation.</p>	<p>April of following year</p>	<p>evaluators IEC staff</p>

3. Communication Research

3.1 Purpose

In ATOP the purpose of IDP communication research was to gain insight into the attitudes, behaviors, knowledge and socio-cultural environment of men and women who use or distribute ivermectin. Research results were applied to develop communication strategies to promote sustained supply and demand for the drug. The study used qualitative rather than quantitative research methods. ATOP had already conducted quantitative surveys in two of the target LGAs in December 1991. (See Attachment 1 for a discussion of the surveys and their findings.) Other reasons for this choice are explained below.

3.2 Use of Qualitative Methods

Traditionally knowledge, attitudes and practices (KAP) surveys have been used in public health research for collecting socio-cultural data. Because IDP staff regularly conduct skin-snip surveys and rapid assessments, they are conversant with sample selection and data collection and analysis. For most IDPs, however, quantitative methods present constraints, including demands of statistical validity, the need for lengthy data analysis (often by computerized systems), and development of a detailed research instrument. In many field settings qualitative methods are more congenial than KAP surveys for ethnographic and behavioral research because they rely on interpersonal communication and are highly flexible.

Qualitative research methods have also gained favor in recent years because of the insights they offer into human motives. Qualitative research is *interpretative* rather than *descriptive*. It lends texture and emotion to our understanding of behavior. Quantitative KAP surveys are useful for taking measurements of things: for example, How many people know that blindness, itching, leopard skin and nodules are caused by the same parasite? What measure of severity in relation to other

diseases is assigned to these symptoms? If KAP surveys ask the question "How many?," qualitative methods ask the question "Why?" One may wish to know, for example, why men and women in the ATOP area ignore itching as a disease symptom or why the local health service is not used. Changing behavior requires a deep understanding of the emotions and beliefs that drive it. Comparisons of qualitative and quantitative methods have been presented in the literature by Debus (1991) and others.

3.3 Research Design

Four qualitative instruments were used for the ATOP research: in-depth interviews with a single informant; small group interviews (a method similar to, but less intimate than, in-depth interviews); focus group discussions (FGDs); and unstructured observations. (See Annex B for survey question guides.)

Research was undertaken in eight villages, four in Adamawa State (Nawai, Taksi, Mapeo, So'o) and four in Taraba State (Hawan Mata, Pamanga, Kwanan Dutse, Sunkani). Requirements of focus group methodology governed sample selection. Sample size was doubled for each key selection variable: male/female, young/old, intervention/non-intervention ($2 \times 2 \times 2 = 8$ villages). All interviews in each village were undertaken simultaneously and were recorded on tape or by notes. Results were analyzed by the two teams immediately after the research.

3.4 Training and Fieldwork

Research trainees (SOCT members) were numerous and therefore were divided into two groups for training and field work. Preparatory workshops introduced them to qualitative research techniques. Emphasis was placed on developing research questions, recognizing differences between quantitative and qualitative research, learning to conduct focus group discussions, and uses and methods of interpersonal communication, in-depth interviewing, community profiles and qualitative data analysis.

These topics were covered in two days through oral presentation, participatory in-class exercises, and a practicum using survey instruments in a semi-urban district. In-class practice FGDs proved a useful technique for team building and for exploring new notions concerning the IDP, its viability and its sustainability. Subsequently, the SOCT members carried out four days of research independently, usually in the Hausa and occasionally in the Chamba or Fulfulde languages.

3.5 Research Results and Conclusions

A summary of findings showed the following:

- ***Disease entity and etiology:*** No appreciable difference in the understanding of onchocerciasis was found between intervention and non-intervention areas. This finding suggests that so far, health education in the ATOP intervention villages has been limited.

In general, onchocerciasis as a distinct disease entity is unknown, in large measure because its signs and symptoms are extremely diverse. Rather, people tend to group together similar symptoms under a single cause. For example, itching is classed with scabies, leprosy and leopard skin, while blindness or visual loss are clustered separately. Causes of itching include "bad water," spirits and exposure to field grasses. Blindness may be caused by aging, spirits or unidentified diseases. Names for river blindness disease have been developed recently in local languages. These names usually stress the symptoms of itching or blindness. The term "filaria" is known in some cases as an equivalent for the disease. In general, disease prevention — and control — are not well understood; however, concepts of sanitation and nutrition have been reinforced by the government and are widely appreciated.

- **Therapies:** Public health facilities are staffed and available within 5 km of most beneficiaries; however, they are poorly supplied with drugs and equipment. In general, primary health care (PHC) services are in collapse. Traditional healing is widespread and respected in most areas and is the first contact for treatment for more than half the people suffering from signs of onchocerciasis.
- **Response to ivermectin:** In the four intervention villages recognized benefits of ivermectin included reduced itching, smoother skin, undisturbed sleep and visual improvement. Among recognized side benefits were the drug's anthelmintic action and a greater sense of well-being. Mild side reactions after the first treatment occur in about one-third of patients and include body aches and pains, headaches, swelling of extremities, mild fever, general weakness and transitory intensified itching. In all but rare cases reactions do not deter patients from taking a second dose.
- **Communication channels:** Literacy is variable in the ATOP area and less than 30 percent overall. Hausa is an acceptable *lingua franca*. Four to 60 percent of households (about 20 percent overall) have radios, usually with cassette players. There are very few television sets, and government viewing centers are located only in district capitals. Respondents expressed a strong interest in Hausa-language broadcasts. The main source of health information is the village head and occasionally health workers or radio. Person-to-person communication is the approach to health education in communities preferred by most respondents.

A full account of research results and conclusions appears in Attachment 1, "Report on Qualitative Research for Communication Planning."

4. Communication Planning

4.1 Purpose

In any public health program product delivery and use are enhanced by a continuing IEC effort aimed at one or more well-defined target audiences. In a long-term program such as the IDP, where full benefits to users accrue after an extended period, communication support is even more essential to ensure sustained supply and demand.

The key rationale of an IDP communication strategy, therefore, should be that communication will help sustain delivery and use of ivermectin. This approach requires a future-oriented communication plan that defines a simple, replicable process for local development of appropriate educational messages and communication methods.

The communication plan developed assumes that a constantly evolving communication strategy will enhance product delivery and use. Its flexibility will allow program staff to match changes in program operations with appropriate adjustments to the communication strategy.

IDP communication must be sustained. Hence, one rationale of the communication initiative was to institutionalize the process of communication research, planning and materials development as part of the IDP by building the IEC capacity of key government units in health and information, state and local onchocerciasis control teams, and Africare staff.

4.2 Participatory Communication Planning

The ATOP communication plan evolved through a participatory process whereby IDP program staff helped 1) identify target audiences; 2) list desired behaviors to be promoted among members of those audiences; 3) develop messages to encourage adoption of the desired behaviors; 4) select communication channels most likely to reach the target

audiences; and 5) outline materials based on the selected messages for communication through appropriate channels.

A "Roundtable on Communication Planning," organized for one day during the research phase, set the stage for more concerted communication planning the following month. During the discussion the framework for communication planning was presented, together with key concepts in the selection of target audiences, behavioral change and reinforcement, message development and materials production. Participants were also introduced to an exercise in materials pretesting using provisional sketches commissioned by the ATOP management. (Products from that event appear in Annex C.) This preliminary planning exercise prepared participants to identify and research further planning inputs during the period between the first trip and the Communication Planning Workshop. Trainees were also encouraged to draft an IDP communication plan suitable to their localities.

The Communication Planning Workshop, which was the main activity of Phase 3, brought together many of the same staff who had conducted the formative research in Phase 2. Continuity was important and helpful. Over a three-day period participants reviewed the products of the roundtable, discussed the results of the interim research and planning exercise, and explored optimum ways to achieve their objectives by suiting messages, tools and channels to audiences and desired behaviors.

4.3 The Communication Plan

4.3.1 Goal

The goal of the ATOP communication plan is to develop a flexible, replicable, sustainable IEC strategy that supports delivery by decision makers and health promoters and encourages the use of ivermectin by communities.

4.3.2 Target audiences

The ATOP communication strategy will focus on three target audiences: community members, decision makers and health promoters.

4.3.2.1 Community members

Users of ivermectin at the community level comprise the first target audience. Members of communities in which *Onchocerca volvulus* is endemic are the chief beneficiaries of the program. Their regular use of ivermectin may reduce the prevalence and intensity of symptomatic disease in individuals and their resident communities. The IEC research summarized above suggests that the target audience of users may be further segmented into subgroups whose concerns about the effects of river blindness vary according to age, sex and, in some measure, social status. Population segments include children, women under 40, young fathers and mothers, adults over 40 and community leaders. If resources for communication activities are sufficient, each of these audience segments could be addressed with messages that appealed to their interests.

4.3.2.2 Decision makers

Decision makers responsible for ivermectin delivery to communities constitute the second target audience. Key decision makers include government officials, traditional rulers at the village and district levels, religious leaders and, in some instances, advocacy groups, academic professionals or individual philanthropists. Under Nigeria's current decentralization strategy, LGA officials are chiefly responsible for providing funds, personnel and logistical support for ensuring ivermectin supply. The LGA chairman, an elected official, is assisted by a Local Government Council and by members of the regular civil service. Key members of this group are the Primary Health Care Coordinator (the chief LGA health policy maker), the LGA Chairman (responsible for budgets and other resource allocation), the Supervisory Councillor for Health (member of the LGA Council).

4.3.2.3 Health promoters

Health promoters — including health workers, teachers, advocates and special interest group members — are a third target audience. One important segment of this group are health professionals, who play a pivotal role by implementing policy decisions on behalf of ivermectin users. Such professionals include members of the State Onchocerciasis

Control Teams (SOCTs), Local Onchocerciasis Control Teams (LOCTs), and local health workers at LGA and district levels. A few villages in the ATOP area have organized health committees or voluntary health workers who link the community and the health structure. ATOP intends to tap key human resources at the village level by training community-based distributors (CBDs). Eventually, CBDs will become front-line IDP health educators in rural areas.

4.3.3 Behaviors

The ATOP communication strategy will encourage specific behaviors among members of each target audience to ensure long-term compliance on the part of drug users and long-term drug supply by decision makers and health promoters. Here, specific features of the country context and potential changes in project operations must be considered.

Two key behaviors will be encouraged among beneficiaries. *The first is that each eligible beneficiary takes ivermectin according to the drug protocol: once a year, every year. The second key behavior is to recognize signs of onchocerciasis.* The research shows that the diverse indicators of infection are rarely understood to be associated with one another or to be progressive consequences of a single infection. Initially, the communication strategy will not attempt to explain the causes of river blindness disease. Rather, first priority will be given to promoting appreciation that ivermectin may relieve or control symptoms of the disease. In time, recognition of individual disease indicators should serve as a prompt toward treatment or retreatment with ivermectin.

The behavior of decision makers responsible for ensuring regular supply of ivermectin to beneficiaries is equally important. According to the nature and level of their authority, they will be encouraged to participate with beneficiaries and health promoters in planning IDP activities and to budget and plan for allocation of needed resources in the forms of money, personnel and motorized transport.

Behaviors of health promoters will vary according to their profession or avocation. Health workers, who are one category of health promoters, will be encouraged to attend IEC training courses offered by ATOP, to become thoroughly familiar with the content of the ATOP training

manual and the health education techniques it promotes, and to put the procedures proposed into practice. Similar promotional behaviors will be encouraged among other professionals, such as primary school teachers and religious leaders.

4.3.4 Messages

Every communication to each target audience should contain, at a minimum, **two key messages**:

- Take ivermectin once a year, every year.
- Ivermectin prevents blindness caused by river blindness disease. It also relieves other consequences of the disease, such as intense and prolonged itching, roughened and thickened skin, and skin depigmentation.

Other messages may be added:

- Ivermectin is easy to take; treatment requires only one to two tablets once a year, every year.
- Ivermectin is safe to take.
- Ivermectin has specific and limited side effects that affect only a small percentage of those treated. This new drug has far fewer and less serious side effects than Banocide, for example. Treatment of these side effects, should they occur, is provided free of charge.
- Ivermectin is being provided free of charge by the manufacturer for an unlimited period as long as onchocerciasis persists.
- Pregnant women, women who have given birth during the past week, the very ill and children weighing less than 15 kg. should not take ivermectin, but should seek treatment as soon as they become eligible.
- Ivermectin prevents blindness caused by river blindness disease. For consumers whose eyesight has been affected already by the

disease, ivermectin stops further visual impairment.

- Skin that has become rough and thick ("lizard" skin) can return to its former smoothness following annual treatment with ivermectin.

4.3.5 Communication channels and proposed tools

4.3.5.1 Community members

Channels and tools selected will depend on the intended audience. For community members interpersonal communication will be the initial channel. Interpersonal communication will be supported by two printed flyer/posters to reinforce the IEC messages and as a reminder to seek treatment in a year. The flyers will be designed to communicate messages predominantly through graphic images. Sufficient quantities will be produced so that each household receives a copy to keep and post at home. Flyers will be passed out to each household treated with ivermectin and used as teaching aids during interpersonal health education talks. If funds permit, a fresh flyer should be received every year.

Another communication tool, a sticker, could be displayed in prominent locations. More durable and easier to display than a poster, a sticker may be placed on walls, notebooks, vehicles and doors.

Messages could also be delivered to community members in traditional song and dance/theater. Proposed scripts for these performances may be adapted by communities to suit their own cultural traditions. A Festival of the Arts competition for the best performances is also suggested.

Another possible channel, radio, is mentioned with reservations. The major limitation of radio is that only about 25 percent of rural villagers on average has access to a radio. Moreover, if not used carefully, radio may create demand for ivermectin in communities that are not in endemic areas or will not be served by the IDP. Radio is recommended for general information about onchocerciasis control, but not for demand creation.

4.3.5.2 Decision makers

The audience of decision makers in the LGAs will be addressed through three channels of communication: interpersonal, video and print. Interpersonal communication, which will be the primary channel used to urge decision makers to support the IDP, could be supported by a video that shows the debilitating effects of river blindness on the people in the decision makers' jurisdictions. These decision makers will also receive an information packet of factual material. The packet may include a personalized cover letter, socio-economic information sheet, project information sheet, explanation of the causes and signs of river blindness disease, and a request for specific actions from the decision maker.

4.3.5.3 Health promoters

Unlike the other target audiences, health promoters are involved in a two-step process. First, health promoters must be prepared to assist directly in IEC activities; second, they will in turn train community-level volunteers in providing health education to the consumers. Materials developed for the health workers may include an IEC section for the current ATOP training manual.

Teachers in primary and post-primary schools comprise a second group of health promoters. Communication materials directed at primary science teachers may be developed eventually. Meanwhile a simple educational flyer/poster for students may be distributed. Other potential health promoters may use appropriate materials developed for other audiences. A project T-shirt will be provided to motivate IDP health promoters.

During the materials development stage, the strategy was modified to include another communication tool for all audiences: a logo. This emblem of the program will carry the key message ("To prevent blindness due to river blindness disease ... take ivermectin once a year, every year") and will appear on most IEC materials.

Illustrations and descriptions of the specific communication tools proposed appear in Annex D.

5. Materials Development and Production

5.1 Inputs

In Chapter 2 the need to identify inputs for materials development and production was discussed. Assessment of potential inputs should precede communication planning. For print materials printers, graphic artists and illustrators should be surveyed. For mass media cameramen, media houses, broadcasting and publishing houses should be listed. For traditional or performing arts traditional genres and the identities of performing groups and artists should be determined.

A rapid method of identifying inputs and drawing all interested people into the materials development process is to hold a Materials Development Workshop, either during the communication planning exercise or afterward. Workshop participants may review the proposed communication tools, together with similar tools produced elsewhere, and consider initial designs. The feasibility of some tools proposed may then be tested against available inputs.

5.2 The Creative Meeting

Materials development usually begins with a creative meeting. Typically, participation is limited to those directly responsible for conceiving and producing the materials concerned. A successful creative meeting should include at least some individuals who have participated in research and communication planning.

A creative meeting typically lasts one-half to one full day and serves as a brainstorming exercise during which tentative designs are proposed and key issues hammered out. Such issues may include the content of communication tools, tone and thrust of messages, wording, languages, range of colors, use of illustrations or photographs, and proportion of images to text. Often draft materials are presented as a catalyst for discussion.

If the types of materials proposed are diverse, the creative meeting may be followed by separate meetings to discuss each type. In ATOP, the general creative meeting was followed by a number of smaller meetings about graphic materials, songs and stories/drama.

5.3 Training and Design

Decisions made during the creative meeting are realized through the effort of individual artists and technicians. Ideally local talent is used and, if necessary, given guidance. In ATOP a local illustrator of exceptional talent was discovered in the SOCT by chance, and his work was guided by co-artists and HEALTHCOM's graphic design consultant. Similarly, scripts for performing arts were developed by two local health educators in conjunction with an oral communication specialist. This pilot project was fortunate to find a very high level of technical input from within the ATOP staff. In many countries such expertise may be found in a project or nearby.

5.3.1 Graphic design

The project logo and designs for a sticker, T-shirt and two flyers were created in a graphic design workshop. Three local artists and two health educators participated in the workshop. Skill levels of the participants varied, but inclusion of the health educators was important to expand their appreciation of the materials development process. Beginning with individual exercises, the course progressed to the work of a single illustrator who produced final mock-ups of designs. It was expected that a media house would also be involved. Private sector involvement can be important for sustainability, but the absence of its director precluded media house staff participation.

5.3.2 Performing arts

Health educators also contributed ideas and stories to the development of sample scripts for songs and dramatic or storytelling performances at community level.

To develop this communication tool, a future training-of-trainers workshop was proposed to include nine health workers, three from each of three project intervention areas in Adamawa and Taraba States. Following a two-day training in story and drama development, they would in turn engage three communities each in creating performances about ATOP messages in their own languages using traditional arts, genres and musical instruments. A local contest at the district level would select entries for a festival to be held in a capital city. The entire process would be supervised by the two health educators.

5.3.3 Textual materials

Text for the information packet for decision makers was developed with the assistance of a local journalist familiar with the ATOP project. (For a description of the text see Annex D-5.)

5.4 Pretesting and Revising

Pretesting is essential to ensuring that communication tools succeed in putting their messages across to the target audience. Graphic designs and some sample scripts were pretested midway through their development. Because print materials are intended to communicate chiefly through images, they were pretested both with and without their Hausa-language text. As a standard part of the production process, graphic designs should be pretested again after they are redrawn into larger, camera-ready versions, and further revisions may be necessary.

Concerns that emerged from the first pretest of flyer/posters included the need for consistency in representing characters in a visual narrative, the order in which story images would be read, complexity, the colors selected, and the clarity of actions (scratching) or afflictions (skin depigmentation, blindness). Revisions were made to address these concerns. The information packet will also be pretested with its target audience.

5.5 Production

As the final design of print materials became more apparent, bids were prepared for local printing houses. (See Annex E for sample specifications.) Meanwhile, participants in the graphic design workshop were invited to visit printing establishments and were instructed in the technical processes involved in lithography (preparing camera-ready copy, color-separation, printing) and silk-screening. Such knowledge would prepare them to supervise the process in future.

A production plan for performing arts was created, and a detailed budget for this activity proposed (see Annex D-6).

6. Using Communication Tools

Chapters 2-5 of this report describe the activities undertaken during the first four phases of the ATOP IEC activity. This chapter outlines the activities anticipated in phase 5.

6.1 Training

Using a participatory process throughout a communication initiative simplifies training of trainers because it gives trainers an in-depth understanding of the purpose and rationale of the communication strategy. Topics to be covered in IEC training may include a review of the rationale of the communication plan, role playing, skills in interpersonal communication, techniques of record keeping for health education events, and requirements for monitoring. In addition, methods for training CBDs, health promoters, or other users of the tools should be addressed.

It is expected that an IEC section of the ATOP Training Manual will be developed to guide training of trainers. Every training opportunity in ATOP will be an occasion for improvement of IEC skills. (For a sample scope of work for developing the IEC section, see Annex D-7.)

6.2 Dissemination

Materials development should be preceded by a materials dissemination strategy. While print and electronic media — as private or semi-private concerns — are often well-organized to ensure dissemination, government institutions such as the MOH may learn that warehousing and logistical constraints inhibit distribution of print or cassette materials.

Two dissemination strategies are common. First, dissemination of many products may be built into an operational routine. For example, handbills on the merits of ivermectin could be stored and distributed with the product itself, ensuring its distribution to the proper target audience.

Second, some materials may require organizing a special event. A festival of the arts, for example, has been proposed to catalyze creation of community-level dramatic and musical performances on IDP themes. It was suggested that the festival could provide the entertainment for a "launch" of the IEC materials. A filmed record of the event would expand the potential audience for an essentially community-based educational channel by reaching radio and television audiences or people who own personal cassette players or VCRs.

6.3 Monitoring and Evaluation

Monitoring the use of communication tools should center on two activities. The first is the process of materials dissemination. Health education materials must be accessible to the members of their intended audience. The importance of distribution should be stressed at all levels. Every treated household, for example, should have a flyer/poster. Similarly, every new decision maker should receive a personalized information packet. Monitoring may prevent materials from falling into the hands of a possessive protector who locks them away from view or use by others.

The second monitoring activity will focus on interpersonal communication and the delivery of health education messages or talks. The number and type of such events should be recorded using the new health information system developed for IDPs.

It is proposed that a first evaluation be conducted a full year after implementation of the communication plan. The evaluation should consider the *impact* of the materials as well as project *output*. The qualitative methods taught in the communication initiative may be used with quantitative techniques to assess such impact measures as increased levels of knowledge about onchocerciasis, treatment with ivermectin, the mechanism employed for distribution, and use of the drug. Similarly, knowledge levels of health promoters and decision makers may be ascertained.

While demand for ivermectin can be expected to be high during the first years of an IDP, the true test of IEC in supporting sustainability will come several years after inception. For this reason, an evaluation should be repeated every two to three years.

7. Making Communication Work for IDPs: Recommendations and Lessons Learned

7.1 Introduction

Chapters 1-5 describe the experience to date with a pilot communication initiative for IDPs. Specific reference is made to the Adamawa and Taraba States Onchocerciasis Program (ATOP) and, in less measure, to the Borno State Onchocerciasis Program (BOP). This chapter presents recommendations and lessons learned from the experience for possible application to IDPs embarking on an IEC activity. The most important lessons learned from the communication initiative follow.

- IDPs aiming toward sustainability should grant the generation of *supply* as much weight as the creation of *demand*. For this reason, decision makers who control or finance supply must be one of the target audiences for IDP communication materials. Materials developed specifically for decision makers may offer critical support to uninterrupted and timely supply of ivermectin over many years.
- Audiences for IDP communication are highly targeted and limited to people at risk for onchocerciasis or decision makers and health promoters responsible for the IDP. The reach of communication channels selected for IEC must be as targeted as the audience itself. Mass media must therefore be used with caution.
- Development of a well-designed and appropriate communication strategy, together with simple tools, will in most instances span an entire calendar year.
- IDP project staff with no previous training in health education or IEC methods can assimilate basic concepts quickly and perfect them through immediate application. A capacity-building approach to the communication activity is both possible and desirable for achieving a long-term IEC effort in an IDP.

- Logistical support and the active participation of most project staff are critical to building local capacity to develop IEC materials. Typically the busiest period for IDPs is when ivermectin delivery is easiest. In west Africa this period usually corresponds with the dry season, September through April. IEC activities should complement, not compete with, delivery.
- Traditional performance approaches (stories, dramas, songs) to village-level health education are viable communication tools; moreover, they have proved more effective overall than print materials for village audiences, especially women, in several health projects in northeastern Nigeria.
- Because the IDP does not seek to control the black flies that transmit onchocerciasis, messages concerning the vector are less important than those that enhance recognition of symptoms and generate demand for ivermectin.

7.2 Planning the communication initiative

Because a communication initiative embraces a range of distinct activities, each requiring different talents and skills, adequate attention and time should be granted to advance planning. Lessons on the strategic planning phase follow.

- The initial planning phase sets the tone for the entire communication planning process. All major actors should be full participants in early planning and indicate that they are willing to collaborate in the effort.
- If a permanent management structure for IEC is established in the IDP during the initial planning phase, it will help ensure strong coordination between all participants in communication development and help make IEC an integral part of program operations.

- A needs assessment built into early planning for IEC should address both 1) the planning effort itself and 2) tentative requirements for materials development, production and dissemination. The assessment should address the desired sex, ages and linguistic skills of team members for field research.
- Writing a detailed Plan of Action is the final product of the planning phase. The plan is useful for building consensus among all actors in the communication process and for making advocates of potential supporters.

7.3 Assessing Inputs

Potential inputs both internal and external to the IDP structure should be considered. The first are necessary to the process of building IEC capacity in the IDP; the second to sustainability of the activity. The quality and quantity of accessible inputs are key to designing a viable communication strategy. IDPs may profit from the following observations:

- An inputs assessment of institutional structures, human resources, training capacity, available time, logistical support and financial resources should be undertaken early in the communication planning process.
- Adequate time and personnel are necessary to the assessment. People familiar with the IDP context are the most efficient assessors.
- Follow-up assessments should periodically test the viability of the communication strategy and identify any need for course corrections.
- In field situations, individual talents or institutional strengths often emerge from unexpected sources; good inputs assessment requires strong powers of observation and imagination.

- A communication initiative is a complex process that can be expected to span at least one calendar year. So that IDP staff can benefit fully from the effort, the initial phases — when the participation of all personnel is invited — should be timed to coincide with periods when they are free from the task of ivermectin delivery.
- Planning support (funds, logistics, community members' participation in research or materials development) will enhance the IEC activity if it is made available at the right time.

7.4 Training

Because a communication initiative demands new skills of IDP staff — in planning, research, and materials development, production and dissemination — any plan to develop a communication strategy with enduring benefit must include skills training. Observations from the ATOP IEC training experience include the following:

- Participatory, adult learning approaches are cost-effective, efficient methods of training staff in IEC methods and producing communication planning tools (research or planning documents) and materials.
- Including supervisory staff in IEC training events will expand their skills and increase their support for IEC activities.
- Owing to the variety of skills needed by the communication effort, specialists external to the project (e.g. communication planners, graphic designers, researchers) may be invited to serve as trainers. Continuity in trainers is desirable whenever possible.
- The capacity-building function of a communication initiative will be realized only if continuity in trainees is respected throughout the entire communication planning process. To ensure this objective, the initiative must be properly planned and timed.

7.5 Communication Research

Experience from the use of qualitative research methods in the communication initiative include the following points:

- Rapid qualitative methods — taught through guided application — can be mastered quickly by IDP project staff and later adapted to ongoing research or evaluation needs.
- During training sessions practice focus group discussions organized among health promoters may prove a useful research tool for tapping their views about IDP operations and communication.
- In Islamic or socially conservative environments women researchers may be in very short supply, as women do not always enjoy the freedom to undertake field work. In these environments, women often must be interviewed by another woman. This practice may be helpful but not always necessary in other environments. Pains should be taken to identify women researchers early on.
- Young, unmarried men were the most mobile and least integrated members of the community, and often proved poor or idiosyncratic respondents. Where possible, young married men may be preferable to single men as respondents for community-based research.
- In some cultures strong consensus-building tendencies of focus group participants may undermine the main purpose of the method, which is to gain insights into **differences** of opinion among homogeneous groups. Materials pretesting, or some similarly objective exercise at the beginning of a focus group discussion, functions as a good ice-breaker around which debate can safely develop.

7.6 Communication Planning

- A participatory planning approach will ensure consensus among users of the communication tools on the design and rationale for the strategy. At the same time, a successful planning process should be guided by a trained facilitator.
- Early testing of messages in their intended languages will prevent complex programmatic changes later on.
- IDPs will benefit in the long term from a triple communication strategy aimed at three audiences of equal importance: community members, decision makers and health promoters.
- A mixed-media strategy should be used to reinforce messages among all target audiences.
- In general, the reach of communication tools in an IDP should not extend beyond the target audiences of beneficiaries, health promoters and decision makers. Otherwise an undesired wide demand for ivermectin may be created. Mass media should be used with caution and in most instances limited to general information, not health education or promotion.

7.7 Materials Development and Production

- Materials should be developed and produced locally wherever possible. A local talent search for competent artists, performers and graphic designers will benefit the program in the long term more than reliance upon external expertise. Similarly, local printers will retain plates for future reprinting.
- Materials adapted from other IDPs may be used if they pass pretesting with target audiences.

- The life and usefulness of performing arts (dramatic performances, songs, stories) may be extended through video or sound recording, especially in areas where personal tape cassette players or video listening centers are common.
- In most IDP areas, local materials production requires supervision by a technically competent person.
- A capacity-building component of the materials development and production phases will help ensure the longevity of the communication program.
- Traditional dramatic arts are effective health education tools at community level or as entertainment for mobilization events. Development of stories and songs should be encouraged but also monitored for quantity and quality of health education content.

7.8 Dissemination and Monitoring

- A materials dissemination plan should be drawn up before materials are produced. Materials that cannot be disseminated (distributed, performed or broadcast) within a reasonable time, within the existing budget, or through a reliable structure should not be developed.
- Periodic monitoring of distribution undertaken by the project IEC management will ensure that educational materials are reaching the intended audiences.

7.9 Financial Resources

- The development of sustainable and replicable materials at low cost is possible; however, support for workshops and external technical support — whether in funds or in-kind — must be foreseen. Use of trained personnel from other IDPs will reduce costs for consultants or external technical support.

**SEE SO THAT THEY MAY SEE:
COMMUNICATION FOR IVERMECTIN DELIVERY PROGRAMS
A Pilot Project in Northeastern Nigeria**

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Attachment 1

Adamawa and Taraba States Onchocerciasis Program

Report On Qualitative Research for Communication Planning

by

Deirdre LaPin

Table of Contents

Study Purpose	1
The Research Environment	3
Methods and Previous IDP Research	5
The ATOP Research Design	14
Research Findings	25
Conclusions	48
References	50
Tables	
Table 1. ATOP IDP/IEC Interview Summary	24
Table 2. Community Populations	28
Table 3. Population Movements and Ivermectin Delivery Times	29
Table 4. Socio-economic Data	31
Table 5. Illnesses Considered Most Serious and Number of Times Cited	36
Table 6. Illness and Therapy	41
Table 7. Communication Channels	45

Study Purpose

This report presents results of a qualitative health and socio-economic study undertaken between October 23 and November 4, 1992, in eight selected communities of Adamawa (pop. 2,124,049) and Taraba (pop. 1,480,590) States in northeastern Nigeria. The goal of the study was to gain insight into the attitudes, behaviors, knowledge, and general socio-cultural environment of men and women who are users (or potential users) and distributors of ivermectin. It was expected that results from the study would be used to develop communication strategies to promote sustained supply and demand for the drug. Ivermectin, currently distributed by PVOs in West Africa free of charge, is now the drug of choice for controlling the parasitic disease known as onchocerciasis, or river blindness.

The geographical location of the study is the site of the Adamawa and Taraba States Onchocerciasis Program (ATOP). This ivermectin delivery program (IDP) has been selected as the focus of a pilot activity that will apply a participatory approach to the development of low-cost, replicable communication tools. Initiated in June 1991, ATOP is managed by Africare and the ministries of health in Adamawa and Taraba States. Recently Borno State, which borders Adamawa, has also been included in Africare assistance.

In the study, a behavioral and anthropological research approach laid a foundation for identifying target audiences, developing appropriate messages, selecting accessible communication channels, and ultimately designing the materials that will support communication of relevant informational and educational concepts.

The research was designed to yield socio-cultural data from rapid qualitative research. Rooted in anthropological methods, such approaches do not seek to provide quantified or wholly verifiable results; however, they can offer insights into the cognitive and behavioral underpinnings of social conduct and into the communication strategies most likely to encourage health-seeking behavior. Some subjects included in the research protocol are equally — or perhaps more — amenable to quantitative than qualitative research because they are about measurements (community size, poverty levels, and so on). Such questions were nevertheless included in the study where indications, rather than exact counts, were required.

Domains of the research included the following:

- ***area population***, e.g. approximate community size, population segments, ethnic groups, migration;
- ***status of program operations***, e.g. community preferences for delivery time, experience of last delivery;
- ***socio-economic data***, e.g. occupation, poverty, labor migration, local institutions, health service;
- ***health-seeking behavior***, e.g. quality and cost of services, health management at household level;
- ***perceptions of illness***, e.g. main illness in children and adults, relative seriousness;
- ***local disease entities***, e.g. local names for disease, disease algorithms, correspondences between biomedical and local disease entities;
- ***therapeutic practices***, e.g. herbal, religious, biomedical, and criteria for choice;
- ***perceptions of ivermectin***, e.g. side benefits, side reactions; and
- ***local communication channels***, e.g. languages, literacy, mass media, communication networks, artistic discourse.

Another objective of the study was to build the institutional capacity of Africare and government staff to carry out training in the design and use of rapid qualitative methods. Two qualitative IEC research workshops were held to train 15 members of the Onchocerciasis Control Teams in Adamawa, Taraba, Borno, Kwara and Kogi States, together with four staff members from Africare and one Nigerian university lecturer. Because of this training objective, the sample size of the study (four intervention, four non-intervention villages) was small, but large enough

to yield good results for the key variables under investigation. Furthermore — as is often the case in rapid ethnographic research — sample selection was based on foreknowledge of the area, using representativeness as one criterion for selection.

The Local Onchocerciasis Control Workers (LOCWs) who formed the two study teams were not professional ethnographic researchers, but they were trained in a two-day workshop prior to fieldwork. A pretest questionnaire indicated that over half had participated in KAP (knowledge, attitudes, and practices) surveys conducted at the end of 1991, and nearly all were familiar with or had participated in village-level medical assessment surveys (skin snipping or physical examination for signs of onchocerciasis).

For the participants from Kwara and Kogi States the training bore fruit almost immediately when they applied their new skills to investigate and successfully quash rumors about alleged fatal side effects of ivermectin. This fortuitous application of their new skills served to illustrate for all participants the advantages of rapid qualitative research for finding quick solutions to operational problems as well as for communication planning.

The Research Environment

Today, life in Adamawa and Taraba States continues to follow many traditional patterns. The colonial administration declared the area "settled" (that is, under control) only in 1926, but it was not until 1932 that the district officer could safely tour any part of the region. The government relied on indirect rule through the Fulani emirate. In the previous century Muslim Fulani from the north had drawn the region — together with most of Northern Nigeria — into an extensive empire. The name Adamawa is said to derive from that of Modibbo Adama, who launched the first *jihad* into the area and became its first emir (Kirk-Greene 1958).

Since the period before the arrival of Fulani cattle herders, numerous agricultural groups have settled the region in successive waves. Of some 200 cultural and linguistic groups currently living in the ATOP area, the most important are the Jukun, Chamba, Bachama (or Bwatiye), Higi,

Kilba and Mumuye (Greenberg 1966). Some of the larger groups reside within LGAs where onchocerciasis is endemic. They include the Higi and Kilba (Hong LGA) Fulani (Ganye, Jada, Song, Jalingo LGAs), the Chamba-Dakka (Ganye, Jada, Fufure, Gashaka LGAs), and the Mumuye (Bali). At least 85 percent of all ATOP area residents use Hausa as a *lingua franca*, and many also speak Fulfulde. These two languages, along with Chamba-Dakka, are the most commonly spoken in onchocerciasis-affected areas. Of these languages, oral and written Hausa is the best multipurpose choice for information and education.

Economic activity in the ATOP area depends chiefly on cattle-herding and cultivation of such cereals as guinea corn, sorghum and maize. Cotton and groundnuts are among the major cash crops. Agricultural development schemes have been undertaken or proposed on key rivers, bringing more people into areas where black flies breed.

Undergirding established government structures is the traditional political organization, which still has a major influence on day-to-day life. The variety of political systems is great. Multi-ethnic settlements may have several overlapping structures. Typically, villages are headed by a chief, whose main advisors may include an administrator (*chiroma*), the chief priest (often a rain-maker), a women's representative, and possibly others. A council of elders is likely to undertake administrative and judicial functions. Opinion leaders in the settlement may include the main traditional priests, a Muslim *mallam*, a Christian preacher or catechist, a schoolteacher, a Koranic teacher, important traders, wealthy cattle herders, traditional healers and health personnel.

Rates of school attendance at both primary and secondary levels are among the lowest in the country, although urban capitals such as Yola (Adamawa) and Jalingo (Taraba) have larger school-going populations. Female education got a very slow start, and today girls are far outnumbered by boys in school. Hausa was introduced as the language of instruction in primary school in 1931, and — though forced to cede its place to Fulani several times over the years — remains the chief *lingua franca* of the region.

Although the Muslim and Christian religions continue to gain adherents, traditional religious beliefs remain strong, even in some Muslim and Christian areas. Notable examples are festivals marking the annual

agricultural calendar when people seek the guidance and blessing of ancestors over planting, cultivating and harvesting. Ritual cleansing and purification ceremonies are common, whether in the form of Ramadan, Easter or traditional harvest festivals. Such cleansing rituals could provide symbolic benchmarks for the annual ingestion of ivermectin.

Health structures in the ATOP area are among the least developed in Nigeria. Government services are concentrated around the main cities and towns. Each LGA in principle will have a PHC clinic in its administrative center, together with dispensaries in main village areas. Quality and quantity of services vary widely, however, and the most remote LGAs cannot attract or retain qualified health personnel. Missions have historically provided services to select areas, but their coverage is small.

Methods and Previous IDP Research

Uses of qualitative research

Knowledge, attitudes, practices and beliefs are important elements in communication planning. KAP surveys are useful for taking measurements, such as: How many people know that blindness, itching, leopard skin and nodules are caused by the same parasite? What measure of severity is assigned to these symptoms in relation to other diseases?

If KAP surveys ask the question "how many," qualitative methods ask the question "why". One may wish to know, for example, why men and women in the ATOP area ignore itching as a disease symptom or why the local health service is not used. Changing behavior requires a deep understanding of the emotions and beliefs that drive it. Qualitative research methods have gained favor in recent years because of the insights they offer into human motives. As one researcher described it, qualitative research is *interpretative* rather than *descriptive*. It lends *texture* and *emotion* to our understanding of behavior (Debus 1991).

Three qualitative techniques are widely used. One is the *in-depth interview* with key informants, usually opinion leaders or people of rank and knowledge such as chiefs, mallams and traditional priestesses. Such individualized methods are appropriate when the status or sensitivity of research questions warrant their use. A second is the *focus group discus-*

sion, a method intended to explore ideas interactively. For IEC research one seeks to learn, for example, what will improve health communication, to discern behavioral intentions that may become precursors to action, and to understand channels through which diffusion of innovation is likely to occur. A third research method is *observation*, a technique as old as ethnography itself. Often time-consuming, it has the advantage of analyzing behavior as witnessed rather than behavior as described.

Today, an increasing portion of field research exploring questions of human behavior and communication has shifted from the quantitative KAP to qualitative techniques. Approaches combining elements of in-depth interviews, focus group discussions and observation have emerged. One well-known example is the *Rapid Assessment (elsewhere Anthropological!) Procedure or RAP* (Scrimshaw and Hurtado 1989, Manderson and Aaby 1992), which modifies conventional ethnographic research for application to short-term analysis of a problem, e.g. Are local health clinics meeting their objectives? How do households manage and finance cases of illness?

Critiques of rapid methods point out that one hallmark of anthropological research is the extended time generally devoted to learning about a cultural subject. To abridge the effort diminishes the broader cultural understanding and hence a useful framework for analysis. Another concern is observer bias, mitigated in some measure by the investigator's skills in language, observation, interpersonal relations and technical powers (Manderson and Aaby 1992:47). RAP seeks to minimize these limitations by assuming, first of all, ethnographic expertise in the investigator, and second, his or her familiarity with the general anthropological context of the area under investigation.

A methodology called *beneficiary assessment* is rooted even more deeply in basic ethnographic principles of participation observation because it is somewhat more attentive to actual conduct as it may be observed. Furthermore, it seeks to examine more of the institutional context in which men and women must relate to a given service, project or initiative (Salmen 1989, 1992). Beneficiary assessment is a more lengthy and expensive method than RAP, but may be preferred in certain situations.

Advantages of qualitative research over the quantified survey questionnaire for certain contexts have been amply discussed in the literature. Most important here is to note that open-ended questioning, typical of the in-depth interview, allows the respondent to offer information in her or his own style ... a style that in and of itself often furnishes clues to meaning. Subtleties of interpersonal communication, whether spoken or non-verbal, also come into play. Moreover, the conversations that characterize the in-depth interview encourage probing, exploration, and expansion of ideas and opinions.

Given the brevity of this study, the limited number of communities surveyed, and the fact that training of non-specialists was a corollary objective, the research protocol could not claim to meet all criteria for either RAP or beneficiary assessment methodologies. It should be considered a preliminary study inspired by the example of anthropological methods. The study does apply useful qualitative techniques to investigate specific questions about the institutional and socio-economic environment in which men and women make decisions and act to prevent or improve health. Results also provide some insight into the cognitive underpinnings that guide health-seeking behavior at the household level. Rapid studies yield preliminary insights for developing and framing future research questions. In this spirit, the results here amply serve the chief purpose — communication planning — but also provide a useful foundation for developing a more complete medical and social investigation at some later date, using refined techniques in a more controlled research environment.

Previous IDP research

So far, a few KAP or other anthropologically inspired studies have been undertaken by IDPs. The program context, principal methods and key findings of three such studies are discussed below.

Guatemala

A study was undertaken in Suchitepequez and Solola Departments of Guatemala to enhance "broad and sustained popular acceptance" of IDPs by means of health education among the beneficiary (mainly Mayan) population (Richards 1991:1280). Research was motivated by the need

for solid information on which to base educational activities meant to reduce some beneficiaries' reluctance to welcome a pharmaceutical treatment. Before the study ivermectin was distributed simultaneously with assessment. Some ambivalence toward the program had resulted from the corollary experience of assessment procedures (skin snipping, palpitation) and occasionally nodulectomy. The study population was, on the whole, familiar with *la filaria*, as onchocerciasis is called, and most respondents understood that the major signs of itching and nodules could also lead to eye disease. Nodulectomy had been known in the area since the 1930s.

The Guatemalan study used a KAP survey questionnaire to interview the heads of 145 households (48 males, 97 females). The instrument explored the following topics: recognition of the illness name, outcome of untreated onchocerciasis, definition and etiology of the illness, treatment, and attitudes toward the nodulectomy program. In addition, open-ended interviews were conducted with a sub-sample of 80 individuals requesting free-listing of illness terms, followed by randomized paired or triadic comparisons to determine relative severity. Using a lambda-one design, the study also attempted to locate the relative position of onchocerciasis within a local conceptual framework of known illnesses.

Overall, *la filaria* showed a high degree of name recognition and was generally perceived as a subcutaneous nodule that could lead to eye disease. It was not perceived as a serious illness (ranked 13 among 18 commonly cited illnesses) and in paired comparisons its gravity was judged roughly equal to that of a common cold. The etiology (microfilarial worm) was known to about one-third of respondents, and half knew that it was caused by an insect bite. Respondents were about twice as likely to attribute eye-related symptoms than skin-related symptoms to the illness. In a triadic analysis of similarities and differences among diseases (not signs, such as blindness), onchocerciasis emerged as being similar to skin diseases and malaria.

For the purposes of health education, conclusions of the Guatemala KAP study included 1) ivermectin would be judged as a "cure" for nodules; 2) beneficiaries should be led to recognize that adverse reactions to the drug are likely to be minor; 3) ivermectin should be promoted as a treatment for internal parasites. The authors also concluded that "health education should focus on the transmission cycle of onchocerciasis,

particularly with respect to the disease organism and the role of microfilarial drugs" (Richards 1991, p. 1280). It is likely they will find that their first conclusion — ivermectin "cures" nodules — will send a more powerful and palatable message to beneficiaries than a scientific explanation of disease transmission.

Cameroon

In South Province, Cameroon (Fang and Baka ethnic groups), a KAP survey was undertaken to assess the likely impact of cost recovery on sustained demand for ivermectin (Hewlett et al. 1992). Research issues centered on behaviors that have a positive or negative influence on health status related to onchocerciasis; on deciding management directions that would enhance sustainability; and on maximizing integration into the PHC structure.

The Cameroon KAP survey followed a preliminary study using open-ended questions in focus group discussions. Questions in the first study focused on onchocerciasis: recognition of the illness, cause, signs and symptoms, and prognosis. The KAP survey included a household census, free listing of illnesses known, and ranking of commonly mentioned illnesses. In addition, reasons underlying perceptions of illness severity were explored, open-ended questions about treatment-seeking behavior posed, and participation-observation activities undertaken.

A random sample of six rural villages was generated, and one urban neighborhood was also randomly selected. A total of 212 household heads were interviewed. The census, drawing on self-reported data, showed 81 percent of adults and 5 percent of children with *minak* (a Fang term that refers to all filarial diseases and includes *loa loa* as well as onchocerciasis), 71 percent adults with intestinal worms and 31 percent with leopard skin.

Severe itching was seen as the chief symptom of *minak*, or *bibili* (Baka equivalent). Ninety percent of respondents believed that itching was caused by worms biting under the skin. Other commonly recognized symptoms included rash and — for half of respondents — swelling of the skin and leopard skin. Few sought treatment for itching and most did not believe *minak* or *bibili* led to blindness. Believed causes of *minak* included "tiny worms biting under the skin" (Hewlett et al., 1992, p.5).

Minak is considered an adult, not a childhood, disease and is considered to be in the "middle range" of severity for illnesses, along with (in order of severity) blindness, malaria, filariasis and intestinal worms. Transmission was not well understood, with one half of respondents naming black flies as the vector; others named deer flies and mosquitoes. Half the respondents had used a traditional treatment but did not believe in it as a permanent cure for minak or itching.

About 60 percent of respondents owned radios, but only half of radio owners reported having batteries. Half had heard about minak from health workers and one-third had seen posters or some other health education information about it.

Based on results of this study, recommended health education messages included the following:

- Annual ivermectin treatment will prevent "the illness of the Dja" [onchocerciasis], which is characterized by leopard skin, and is found in many villages with many black flies.
- Annual ivermectin treatment will prevent blindness from the "illness of the Dja."
- Ivermectin kills many kinds of worms, including those in the intestine as well as those under the skin.
- Ivermectin is much better than western drugs such as ivermectin; it is more effective and safer, and its side effects are milder.
- Traditional treatment may help reduce symptoms temporarily, but it will not prevent blindness and other complications such as leopard skin.
- Ivermectin should be taken once a year.
- Ivermectin does not stop eye worms nor transient painful swellings.
- Children may not have signs of the minak, but they are often infected.

ATOP area: Gashaka and Gombi LGAs

In December 1991 two KAP surveys were undertaken by ATOP in Gashaka LGA (Taraba) and Gombi LGA (Adamawa). An implementation report states the KAP objectives as follows (ATOP 1992d):

1. To describe what methods and to what extent traditional methods are practiced in treating the signs and symptoms of onchocerciasis.
2. To assess the knowledge of the association of black flies, blindness and clinical signs of onchocerciasis.
3. To develop health education and communication strategies to encourage long-term compliance to ivermectin.
4. To monitor the impact of community-based ivermectin distribution programs.

A KAP survey report (ATOP 1992e) mentions additional objectives:

5. To gain information about knowledge levels of adults about black flies and onchocerciasis; practices related to avoiding the black fly and its bites; attitudes related to blindness and community concern; the major symptoms of oncho and their effect on the target populations, i.e., skin changes, itching and vision problems.
6. To identify target groups, topics, and practices for health education action messages.
7. To determine an estimated point prevalence of onchocerciasis and blindness associated with filariasis.

The KAP instrument used in the ATOP surveys was used afterward in the Kwara State Blindness Prevention Program (KSBPP). With the exception of the last, all objectives given above are appropriate to the KAP methodology.

Sample selection followed a cluster survey methodology. A sample of 30 clusters of 10 respondents each was chosen. Members of each cluster were randomly selected by standard methods, choosing a house by

chance and interviewing 10 eligible respondents in nearest proximity. Overall, the selection of clusters was opportunistic in order to coincide with rapid assessment surveys in progress in the area. In Gashaka 293 people were interviewed, and 301 in Gombi. Nearly 75 percent of the people interviewed were male, and all respondents were over 20. The survey population is largely agricultural (88 percent farmers in Gashaka, 66.1 percent in Gombi). Migratory pastoralists were not included.

The study devotes considerable attention to knowledge of black fly bites and their causal relation to onchocerciasis. In questions exploring knowledge about the association between black fly bites and blindness, a high awareness (50 percent) of the association was recorded in Gashaka, while in Gombi only 3.5% of respondents were aware of any association. Difference in awareness levels may be explained by the higher density of the vector in Gashaka than in Gombi (which is not hyperendemic) and with previous experience with skin snipping among at least half of Gashaka's population.

An investigation of ethnocategories and names for black flies was attempted in the survey, but no similar effort was made for river blindness disease itself. Other questions concerning black flies measure awareness of their persistent biting habits (99.7 percent), that the most likely times to be bitten are early morning (63 percent) or late evening (72 percent), and that black fly bites can cause blindness (60 percent), nodules (49 percent), or itching (96 percent). Black fly bites cause itching for several days, whether or not they transmit the parasite, and it is likely this association is reflected in the responses.

Seventy-nine percent of respondents reported suffering from an onchocerciasis-related symptom (e.g., severe itching, blindness, leopard skin) in Gashaka and 19 percent in Gombi. From the study it is not known whether "onchocerciasis" in fact corresponds to a known local disease entity or whether a local algorithm of symptoms for this disease has been explored. Symptoms may result from other causes.

The study suggests that few onchocerciasis-related symptoms trigger health-seeking behavior. While 62.5 percent of people in Gashaka and 14.6 percent in Gombi suffered from itching or a skin condition, only 27.6 percent and 25 percent respectively sought treatment. Of these, 27 percent and 10 percent visited a traditional healer, and 26 percent and 23

percent saw a health worker. In the report, a survey analyst suggests that "itching is a part of normal existence," and therefore not a cause for treatment. The nature of traditional treatment is not explored; however, of those treated by health workers, 69 percent and 18 percent indicated they had been given tablets that increased their itching. The study infers that these individuals had likely been treated with Banocide.

One half of those interviewed in Gombi and 44.3 percent in Gashaka reported having nodules. Clinical examination revealed nodules in 43.4 percent of respondents in Gambi and only 3 percent in Gashaka. About 13.5 percent and 8 percent sought treatment for nodules. Of these, 40 percent and 67 percent visited a traditional healer, who may have applied heat or surgically removed the lump; 14 percent and 5 percent visited a health worker.

Changes in skin color were noted by 49 percent of Gashaka respondents and 10.3 percent of those in Gombi, and nearly all regarded the change negatively. Clinical examination showed that 31.1 percent and 2 percent had "leopard skin," most frequently on the legs, especially the back.

The KAP report indicates that educational levels are low, with self-reported literacy rates at around 30 percent. On the average, 40 percent of respondents in the combined LGAs have completed six years of formal schooling.

As for operations, 52.6 percent and 33.0 percent favored a government dispensary or clinic as the source of the "new drug." CBWs were preferred by 32.8 percent and 32.2 percent. Third preference was a mission dispensary, possibly because of their relative scarcity or perhaps because they generally charge five naira for service.

The KAP provided a useful beginning for future communication research in the ATOP area. To develop health education and communication strategies to encourage long-term compliance with ivermectin treatment, additional research was needed to illuminate local understanding of river blindness disease, its symptoms, relationship to other illnesses, and treatment. In addition, attitudes toward possible side reactions and side benefits needed to be explored and further research into existing channels of communication, modes of discourse, and local

names and categories of disease was needed. Finally, some operational questions needed attention, particularly questions about the timing of ivermectin delivery. ATOP in-house evaluations have begun to explore this question.

The ATOP Research Design

Planning workshop: Developing research questions

A Workshop on Future Directions in Health Education for Ivermectin Delivery Programs was held October 1-2, 1992, to review experience in IEC activities from participants in ongoing IDPs in West Africa and Latin America (VBC 1992). A social marketing analysis was used to examine the operational rationale, objectives and methods of ATOP and its IEC requirements from the perspectives of both supply and demand for ivermectin.

Issues raised would lay the groundwork for developing an ATOP Communication Plan. They included operations (e.g. choice of time for ivermectin delivery, number of people missed by distribution), sustainability (institutional capacity, government commitment), communication channels available, cost (value for beneficiaries, expenditure in time or lost production), training requirements for health promoters and government staff, the ethics of informing a possibly ineligible public (residents of non-hyperendemic communities) about the program, and existing knowledge, attitudes and practices regarding onchocerciasis, drugs and ivermectin in particular.

Study group: research methods, sources and tools

Following the workshop specific research questions were developed, together with suitable sources and study methods for each. Qualitative research methods were favored over quantitative approaches for several reasons. First, as discussed in the "Background" section of this paper, behavior analysis and anthropological methods have recently come to play an increasingly important role as standard strategies for health communication planning. Second, the ATOP state onchocerciasis control teams (SOCTs) had prior experience with quantitative KAP survey methods and would profit from exposure to a new set of research tools.

In addition, some of the KAP findings invited further analysis using qualitative methods. Finally, data from rapid anthropological techniques could be analyzed quickly by the entire team, allowing a swift progression to the next stage of the process: communication planning.

Four qualitative techniques were proposed: in-depth interviews with single informants; small group interviews (a method similar to, but less intimate than, in-depth interviews, which permits exploration of one topic with several non-competitive experts); focus group discussions (FGDs); and unstructured observations.

A study instrument was developed for each method except observation. A "Focus Group Discussion Question Schedule" was designed for use by homogeneous groups of community beneficiaries or potential beneficiaries. An "In-depth Interview or Small Group Discussion (ID/SGD) Questionnaire" was developed for use with health workers or traditional healers, whether singly or in small groups. A "Rapid Community Profile Questionnaire" (RCPQ) was designed to gather basic contextual information about the village, its institutions and its inhabitants. This instrument proved a valuable tool for interviewing the *jauro*, with or without members of his council. Owing to the nature of its subject, the RCPQ contains more closed and quantifiable questions than the others.

Given the range of information needed by the study, a variety of informant categories were identified. Among them were LGA decision makers, community leaders, traditional healers, SOCT members and beneficiaries.

Each research instrument would be used at least once in every village and their subject content was allowed to overlap. This technique elicits similar information from several sources and thereby improves validity of responses. As the SOCT members soon learned, some categories of informants were more reliable than others for certain subjects. For example, women were more accurate in estimating the number of radios in a village than village leaders or older men in general. Women are keen observers of household behavior. In subsequent studies using these instruments, the questionnaires may be rationalized by deleting certain questions when experience suggests the respondent is likely to be inaccurate. (The three question schedules appear in Annexes B-6, B-7 and B-8.)

During the study, a second FGD research instrument was added at the request of ATOP management. The purpose was to pretest some educational drawings that had been produced locally. This pretest and its results are discussed separately in Annex C-5.

In sum, each research question was designed to elicit information from a targeted informant or informants. A selected sample of topics covered is offered below.

Implementation issues

ATOP managers noted implementation issues that called for further research. They include the following:

- attitudes toward ivermectin and the IDP in general;
- identifying and training CBDs, some of whom may not be literate;
- management structure and responsibility for the IDP at state and LGA levels;
- existing state and LGA IEC and health education structures.

Social marketing issues

The following social marketing issues needed exploration:

- population segments;
- traditional mobilization mechanisms;
- time for mobilized distribution, suited symbolically or behaviorally to treatment (e.g. farming season, harvest rituals);
- migratory patterns of cattle herders and methods of mobilizing their participation;

- social groupings (men's hunting associations, cults, churches, age grade associations, extended families living in single compounds);
- opportunities for collective action and methods of organizing them.

Health management issues

Research issues related to health and health management included the following:

- people responsible for illness management, resources and time available to them, and mechanisms for negotiating these resources and time (from husband, family, etc.);
- beneficiaries' willingness and ability to pay for ivermectin delivery;
- attitudes toward drugs; usual source of purchase; viewpoints of traditional healers toward Western biomedicine;
- cultural practices that may exclude certain individuals from treatment with ivermectin and political relationships (men/ women, dominant/dependent, high/low status, young/old) that may reduce treatment opportunities for some individuals;
- available health services and perceptions of their quality.

Health education issues

Health education research issues were identified as:

- attitudes and experience of health workers in carrying out health education; incentives for their willingness to do so;
- reaction to existing health education materials, whether for IDPs or other health programs; color preferences, visual/verbal styles;

- ranking of health problems in order of severity for different age and gender groups;
- names of disease entities equivalent to onchocerciasis or names of key symptoms in the disease algorithm;
- recognized etiologies and treatments;
- commonly known natural processes or phenomena that offer appropriate, educative analogies to the biology of onchocerciasis and the effects of ivermectin (e.g. malaria, use of sand to protect dried beans from larval attack).

Communication issues

Issues that needed to be explored to develop appropriate communication strategies were:

- channels of communication (e.g. mass media, informal networks) and common genres (expressive arts for given social groups, sermons, village meetings);
- common communication events (e.g. evening storytelling events, grinding songs, festivals, church/mosque gatherings, evening news exchanges) and any exclusions (e.g. women from acting in dramas, women in purdah, girls in household service);
- prevalence of radios and access to them; other electronic media available (e.g. television, video players, cassette tape recorders);
- calendar events having inherent symbolic association with notions of curing, purity and cleansing (e.g. Ramadan, harvest festivals).

Teams and training in IEC qualitative research

Many considerations govern the size of qualitative research teams. Available personnel, transport and equipment are serious concerns. More so are the sensitivities of the people who are the subjects of research.

Ideally, a qualitative research team should not exceed six members, with some allowance made for interpreters where needed. A group that is too large can be a distracting and perhaps unwelcome intrusion.

Because SOCT members from five states in Nigeria were to participate in the research, the group was divided approximately in half to form two teams, the first from Adamawa and Borno States, the second from Kwara, Kogi and Taraba States. Each team was trained separately at one of two workshops on "Information, Education and Communication: Research Strategies for Ivermectin Delivery Programs" held in the Adamawa State Ministry of Health Conference Room in Yola. The workshops were very similar. Training in materials pretesting was added to the second workshop at the request of ATOP management.

The purpose of the training workshop was to introduce Africare and government staff to qualitative research techniques useful in developing informational and educational materials to promote the sustainability of ivermectin delivery programs.

Main topics included the following:

- Overview of the IDP: issues of demand and sustainability
- The IEC approach to Social Marketing
- Developing Research Questions
- Qualitative vs. Quantitative Research
- Health Education Materials Pretesting
- Focus Groups
- Interpersonal Communication
- In-depth Interviewing
- Community Profiles

- Qualitative Data Analysis
- Practicum in a semi-urban area

These topics were treated over two days through oral presentation, participatory in-class exercises, a practicum using all survey instruments in a semi-urban district (Vinikula, near Yola in Song LGA), and a detailed debriefing following the practicum.

Workshop training was immediately applied during four days of field research. SOCT members carried out the research independently, usually in the Hausa language, although in some villages Fulfulde was used. In the few non-Hausa-speaking areas, or in the event a researcher was not Hausa-speaking (especially the Kogi and Kwara State participants), other team members served as interpreters or co-interviewers. All interviewers took written notes on their question schedules, either during or after the interviews, and all FGDs were tape-recorded as well.

Sample selection

The eight communities in the research sample were selected with attention to the key variables of age, sex and previous experience with the IDP. Four villages were chosen from those that had received one round of ivermectin and four villages from those that had not been assessed for endemicity but were likely to be scheduled for intervention in the near future because of their geographical location. Other criteria for selection included accessibility by four-wheel-drive vehicle, attitude toward the research effort, and ethnic composition. ATOP management provided useful advice for sample selection.

Because focus groups were the central research method in the study, FGD wisdom for determining sample size was taken as guide. The core sample is composed of two FGDs multiplied by a factor equal to the number of key variables in the study population. Typically further FGDs may be added where, in the judgment of researchers, a wide variance in findings is observed. Given the three key variables — intervention/non-intervention village; young/old respondents; female/male — the sample size was $2^3 = 8$ FGDs. For convenience, the eight villages were also divided equally between Adamawa and Taraba States.

In addition to FGDs, the other survey instruments were administered in each research site at least once. The ID/SGD was designed for health workers (HWs) or traditional healers (THs), and — where possible — respondents from both groups were interviewed in each village. While these interviews often involved more than one individual, respondents were usually partners or held views that were very similar for other reasons. In all but one site the main respondents for the RCPQ were the jairo and his close councilors; in one village the jairo was replaced by the head of a village ward. Final village selection, distribution of focus group variables, and other interviews undertaken are shown in Table 1, together with a summary of interviews by number and kind in each research site.

Constraints

Constraints to the research effort also deserve mention:

- Although willing and quick to learn, research team members were not trained anthropologists. However, nearly all were keen social observers familiar with the area, and one team included a university lecturer in health education.
- Owing to the training objectives of the exercise, it was not always possible to match the interviewers and interviewees by ethnic group or sex; rather, it was more important to have trainees try out each type of research instrument at least once.
- Time limitations did not make it possible to translate the questionnaires into Hausa (or Fulfulde) in order to standardize language equivalents among all researchers; to do so would have been desirable, but is perhaps less important in qualitative than in quantitative research, which strives for a high degree of statistical reliability and validity. Other language constraints have been mentioned above, the greatest being the unusual variety of languages spoken in the ATOP area.

- Adherence to standard research protocols — especially for FGDs — was compromised by the great curiosity of community members who frequently sought to join in. Such incursions were policed with mixed success and attempts to control them were often deemed unwise, especially when young women being interviewed were "protected" by older women or men.
- The variable old/young was at times difficult to apply successfully to young men. Initially, the definition "married/ unmarried" was taken as a criterion. Young, unmarried men, however, are the most mobile and least integrated members of the community, and they often proved poor or idiosyncratic respondents. The definition was later modified to "married over 30/married under 30."
- Although research instruments were thoroughly discussed with the research teams and pretested once, some culturally awkward questions were not identified at the outset. Examples include questions about poverty (embarrassing) and inquiries into the number of children a woman has (believed to tempt fate). Similarly, questions about disease entities and equivalents were difficult to frame without being either too broad or too specific. Eventually, a satisfactory sequence of questions was established.
- Women researchers were in very short supply, as few women enjoy the freedom to undertake fieldwork. Only one woman participated as a member of a research team. Consequently, the woman bore a greater burden during the research. Two women's focus groups were interviewed by men. While it is difficult to know whether this compromised the quality of the results, participants in one group were clearly more restrained.

- Finally, the greatest research constraint proved to be the strong consensus-building tendencies of participants in FGDs. The main purpose of this method is to gain insights into *differences* of opinion among homogeneous groups, but members of tightly-knit communities were at first unwilling to relinquish claims to solidarity before strangers. (One researcher found his group would lapse into their mother tongue to sort out answers before continuing the discussion with him in Hausa. With the help of another team member who knew the language in question, he was able to make out features of the hidden debate from the tape recording.)

Table 1. ATOP IDP/IEC Interview Summary by Site and Type

Village (District/LGA)	Focus Group Discussions no./sex/age	ID/SGD* no./sex/type	RCPQ** jauro + no. councillors
Adamawa - intervention			
Nawai (Toungo/Ganye)	9 men >30	1 TBA	jauro + 2
Taksi (Toungo/Ganye)	5 women 20-30; 8 women "chaperones"	1 HW	jauro + 1
Adamawa - non-intervention			
Mapeo (Mapeo/Jada)	7 men 20-30	1 TH, 2 HWs, 1 HW 3 TBAs	jauro + 5
So'o (Leko/Jada)	9 women, mixed	1 TH, 1 HW	jauro + 2
Taraba - intervention			
Hawan Mata (Dakka/Bali)	8 young men, 25-30	2 TBAs, 12 women	jauro + 8
Pamanga (Dakka/Bali)	8 men, older	1 TH	sub-jauro + 6
Taraba - non-intervention			
Kwanan Dutse (Sunkani/Jalingo)	8 women, 28-40	1 HW	jauro + 4
Sunkani (Sunkani/ Jalingo)	9 women, mixed	1 HW, 2 HWs, 2 THs	jauro + 5

*ID/SGD — in-depth interview/small group discussion

**RPCQ — rapid community profile questionnaire

Still, splits would emerge in even the most loyal group after an hour of discussion. The second research team discovered that pretesting materials at the beginning of a FGD functioned as a good ice-breaker by focusing attention on a neutral subject around which debate could safely develop.

Research Findings

Because future sustainability of the IDP depends on continued *supply* as well as *demand*, the research effort centered on three categories of actors in the onchocerciasis control program: 1) beneficiaries at community level, 2) decision makers, and 3) health promoters. Formal research tools (focus group question schedules, in-depth or small group discussion questionnaires and community profile questionnaires) were used for community level research. Unstructured interviews, discussions and observations yielded data from the other two groups. One exception to this procedure, however, was a practice FGD held among SOCT members during a research training workshop. In that discussion, participants forcefully expressed the key role of decision makers in ensuring the ongoing supply of money, personnel and motorized transport for future ivermectin delivery. Their comments led to the three-pronged IEC strategy in which all three groups mentioned above would become target groups for IEC materials.

Owing to the qualitative nature of the methods used, the findings presented here are not quantified for the most part, and nearly all represent collective responses rather than the views of a single individual. Tables have been constructed where appropriate. In general, research results are offered in a discourse that is necessarily interpretive. Data are explored for tendencies, trends and main themes rather than for rates or counts. At the same time, the analysis strives toward a high measure of validity, an aim enhanced by the duplicative nature of the various discussions held within and among research sites and by the extensive debriefings that took place among team members after each day of field work. In these meetings, team members were free to raise questions about the reported results, bringing to light idiosyncratic responses or disagreements.

Where information from experts was sought — especially from health workers or recognized traditional healers — their opinions were likely to be somewhat divergent and more deeply informed than those of the average community member. On the whole, common views were sought because only they could lay the ground for a set of IEC materials appropriate to a broad audience of ATOP beneficiaries.

Populations

The research sample of villages was selected to follow the three key variables and therefore did not control for ethnic variation. Because some proximity between villages was sought for logistical reasons, two ethnic groups predominate: the Chamba-Dakka (Adamawa) and the Yerdang (Taraba). Typically, however, villages have ethnically mixed populations, so additional ethnic groups were included among respondents.

Data on community size, ethnic mix and languages spoken was gained from the RCPQ and are presented in Table 2. The table illustrates the great cultural diversity that characterizes the ATOP area, together with the challenges to communication in a common tongue. Overwhelmingly, the Hausa language emerges as the *lingua franca* of the region.

In all villages, natural *population segments* emerged: village leaders (older men and women), men and women over 30, young men 15-30, young women 15-30, school-aged youth, and children younger than five. While these groups vary according to other socio-economic variables and sometimes overlap, members of each group seemed to share similar world outlooks, life experiences, and health concerns related to their age or sex.

Fulani living in the research area may figure among settled community members or may continue a migratory pastoralist lifestyle. Because their access to ivermectin currently depends on their location at the time of drug delivery by the SOCTs, their annual migration schedule was explored. Some observers say Fulani are the most eager clients of those who manage to procure and sell ivermectin outside the supervision of an accredited IDP. Unless Fulanis' high demand for the drug is met, the illicit market will continue and may expand. In addition, other community members tend to travel away from rural areas for work or other

activities and return at festival or holiday periods. Respondents were asked about when they were away from their villages and their preferences about delivery time. It is equally important to conduct health education activities during periods of high population.

Table 3 summarizes information about the size of the migratory population, the months when migratory groups are present in the area, the month when the largest number of people overall are present in the village, the preferred month for ivermectin delivery, and a second choice of delivery time.

Socio-economic issues

Socio-economic data gathered during the research effort were limited to issues of occupation and income levels. The methods employed yielded only preliminary insights into these questions. Asking the jauros about local perceptions of food poverty ("How many people in this community do not have enough food to feed themselves or their families?") proved difficult and sensitive. Responses should be taken with caution.

Table 4 summarizes the socio-economic findings. On the whole, a picture emerges of a population that is overwhelmingly agricultural and marginally self-supporting. In Adamawa a few men engage in petty trade, although women traders are more common. In So'o, a town under strong Fulani influence, a number of women (in purdah) engage in craft activities. Even more than in the Adamawa research area, farming is the main occupation in the Taraba villages. Herding is practiced by some in Pamanga. Sunkani is an important trading center, and women participate actively in trading.

A strong trend toward out-migration and remittances is also suggested; at the same time, the area's rich and plentiful farmland has begun to attract investors from other regions of the country. An impoverished local population will not be able to compete with such external competition for land resources.

Socio-economic data helped shed light on the preferences for delivery time expressed earlier. Responses clustered around two considerations. One, prompted by the way questions were framed, was to choose a time

Table 2. Community Populations

Village	Pop. est.	Main ethnic groups	Main languages
Adamawa			
Nawai	250	Chamba	Hausa, Chamba, Fulfulde
Taksi	500	Chamba, Fulani	Hausa, Chamba, Fulfulde
Mapeo	30,000	Chamba, Fulani, Vere, Koma	Hausa, Chamba, Fulfulde, Vere, Koma
So'o	18,000	Chamba, Fulani, Koma	Hausa, Fulfulde, Chamba, Koma
Taraba			
Hawan Mata	750	Yendang, Chamba	Hausa, Fulfulde, Yendang, Chamba
Pamanga	18,500	Chamba, Wailawa, Mumuye, Jibawa, Yendang, Kanekane, Fulani, Pai	Fulfulde, Hausa, Chamba, Wailawa, etc.
Kwanan Dutse	500	Yendang, Chamba	Fulfulde, Hausa, Yendang, Chamba
Sunkani	10,000	Fulani, Yendang, Mumuye, Wurukun, Jenjo, Hausa, Kona, Katekate, Tangale	Fulfulde, Hausa, Yendang, etc.

Table 3. Population Movements and Ivermectin Delivery Times

Village	Est. migrants (% total)	Migratory months	Most populous month	Delivery time	
				1st preference: reason	2nd preference
Adamawa					
Nawai	very few	Sept. - Nov.	September	Sept.: less move- ment	
Taksi	5	Oct.- Nov.	February	February: less work	
Mapeo	?	Feb. - April	Aug/Oct/Dec festivals	October: biggest festival month	
So'o	500	Oct. - Nov.	Oct. harvest	Oct.: festival	Jan./Feb.
Taraba					
Hawan Mata	250	Aug. - March	September	January: less work	
Pamanga	100-250	June - July	July	January/February	July
Kwanan Ditse	300	Aug. - Jan.	Aug./Jan.	Feb-March: less work	
Sunkani	1,000	November	November	Nov.-Dec.: rest	

Table 4. Socio-economic Data

Village	Occupation(s) (women)	Occupation(s) (men)
Adamawa		
Nawai	farming/trading	farming
Taksi	farming/trading	farming/trading
Mapeo	farming	farming
So'o	farming/crafts/ trading	farming/trading/ herding
Taraba		
Hawan Mata	farming	farming
Pamanga	farming/herding/ trading	farming/herding
Kwanan Dutse	farming/crafts	farming
Sunkani	trading	farming

91

Table 4. Socio-economic Data

Est. family food poverty	Out-migration?	Remittance?
2%	little	
25%	yes	yes
25%	yes	yes
10%	yes	yes
2%	7% adult males > 20	not asked
10%	2% males 20-30	not asked
4%	2% males 20-30	not asked
2%	5% males > 25	not asked

that might reach the maximum number of beneficiaries. The second, which speaks to a farmer's preoccupation, was to keep to a minimum the opportunity cost of staying home from the farm. It would be tempting to hypothesize from the small research sample that communities perceiving themselves to be poor prefer ivermectin delivery during the dry season (January-March) rather than during periods of planting (April) or harvest (October-November).

Community institutions

Local institutions were also researched to determine sources of support for health services and health education. In addition to the local political institutions of *jauro*, *chiroma* and *wakili*, all but one village reported the name of a "woman's head," confirming a social organization recognizing the political contribution of women to the community.

Primary schools, churches and mosques were centrally located in all research sites in Adamawa, with the exception of Nawai, where the primary school was at a brief distance of 100 meters. In Adamawa, Islam was reported as the predominant religion, followed by Christianity; in Taraba the relationship was reversed, and mention was made of traditional religion as an important community force.

Taraba sites, overall, had fewer or more uneven services. A good part of the population was recently attracted to the agricultural resources of the area. They are perceived locally as newcomers or temporary resident farmers with origins in Adamawa state. Hawan Mata was such a community. With some industry it had organized its own private primary school and had in addition three churches and two mosques. Residents of Kwanan Dutse used a primary school 5 km away in Sunkani; the community did, however, benefit from a small missionary clinic that provided a regular supply of drugs.

In the Adamawa research area some form of health service is available to the research villages within a distance of approximately 5 km. However, all are judged to have inadequate and irregular supplies of drugs and little or no equipment. In government clinics, health workers' services are free, and payment is made for drugs only. A small fee is charged for both services and drugs in missionary clinics and dispensaries. Some

form of health service is available in each of the Taraba research villages except Hawan Mata, whose residents must travel 8 km to a government clinic. Apart from the missionary service in Kwanan Dutse, drugs are not regularly available in Taraba clinics.

The study population generally held health workers in high esteem and faulted lack of drugs and equipment for the poor quality of government health service. Hawan Mata residents often preferred to travel 30 km to Garbachede missionary hospital rather than try their luck at Pamanga clinic 8 km away. Still one young man in Hawan Mata pointed out that having both public and private service was advised, given that some individuals in the area cannot afford to pay a health worker.

In nearly all communities traditional healers and traditional birth attendants (TBAs) offer alternative therapies. They continue to be in high demand and, while some rivalry exists between them and biomedical services ("You can see that we are important because the people who go to them also come to me"), they peaceably co-exist in most localities. A fair number of health workers are available to the population for consultation. Many appear to have some time to spare for health education activities, and the development of communication tools may inspire them to the task.

Perceptions of community health problems

In focus group discussions and individual or small group interviews, respondents were asked to list the most "serious" illnesses for the community and to rank them in order of "importance." Few of the "illnesses" mentioned were such, in the biomedical sense. Many were symptoms. Some ("fever," "malaria") are members of the same disease category in Nigerian English. Respondents were also asked to define the terms "serious" and "important," and nearly all interpreted the first as "most prevalent" and the second as "most severe."

Allowing for the idiosyncratic character of some responses (the most recent personal or communal affliction often came to mind first), the list fell overall into marked clusters of affinity and patterns of severity. Table 5 below records the number of times mentioned for each illness. It

should be understood that these counts represent personal preoccupation at least as much as actual prevalence. Preoccupation, nevertheless, is fertile soil for persuasion and conversion to new therapies.

The most important illness clusters included "fever/malaria/convulsions" and "cough/TB/pneumonia." These are identified as clusters because, as expressed in the responses, they often seemed to be uttered in the same breath, or to be very nearly interchangeable. "Itching" was the single health problem most often mentioned, possibly suggested by the subject of the study.

The table suggests that the most common and serious diseases recognized in the study sites are severe itching, fever, malaria, diarrhea, aches and pains of various sorts, eye problems, worms and measles. High prevalence of onchocerciasis is suggested by these results. Conceptual categories of diseases resembling onchocerciasis and related symptoms were also explored.

Local disease entities and onchocerciasis

After long discussions, pretesting and revision, a series of questions was framed to determine whether a local concept exists linking symptoms related to onchocerciasis. The questions, which were used in focus group discussions, in-depth interviews and small group discussions, began with the most salient symptom — severe itching — then asked about possible causes. An association with skin thickening or discoloration was explored, followed by probing for the end point of the disease.

The most widespread local disease category similar to onchocerciasis is *dundumi*, a Hausa term meaning "cloudy or hazy vision." Used commonly as a translation for "river blindness disease," or "filaria," *dundumi* is not widely recognized as having the same algorithm of symptoms and signs as the Western disease entity "river blindness disease." Rather, *dundumi* is linked chiefly to its key symptom, visual loss. This tragic outcome is rarely seen to be the end point of progressive symptoms such as itching, leopard skin, lizard skin and nodules. (The Fulfulde *nyenyase* is a category roughly equivalent to *dundumi*.)

However, when one starts with the sign "severe, persistent itching" (Chamba: *pensoson*, or Yerdang: *igbagi*) and explores the progression of symptoms forward rather than backward, associations with eye and skin problems emerge. Often these connections are vaguely formed and digress into other disease categories such as "measles," "scabies," "krawkraw" or "leprosy." Respondents usually eliminated the first two after interviewers narrowed the question to adult, rather than childhood, diseases.

Narratives of disease progression vary. In Nawai, a TBA observed that "severe, persistent itching" can lead to severe itching in the eye, visual loss and the presence of a "living thing" in the eye. Joint pains and vomiting are corollary symptoms. In Taksi, a well-trained health worker was able to describe microfilariae, itchy eyes and severe scratching throughout the night as signs of onchocerciasis; members of a focus group in the village, however, had never heard of microfilariae. In Mapeo the health worker was wholly unfamiliar with the concept. Though the ATOP manager had given him an extensive lecture on the disease the day before the research team arrived, the health worker was unable to recall the lesson.

Disease concepts in Mapeo are tightly linked with religious cults, which provide the locus for political association, power and prestige (Fardon 1988). In this respect Mapeo differs from many other Chamba village areas and from settlements of other ethnic groups around it. One TBA noted that severe itching might lead to leprosy or scabies; the health worker again noted scabies, dermatitis and fungal infections. A traditional healer suffering from leopard skin seemed to be relating his personal experience when he noted that intense itching could lead to loss of libido, skin depigmentation, pains in the legs and mental disturbances. He had tried over 30 remedies for the problem, he said, but without relief. The cause of his condition, he explained, was a spirit named "Bugha," who can intervene on behalf of his devotees to prevent or reduce leprosy or leopard skin. His supplications had failed, the healer explained, because a relative had insulted the spirit (or more likely someone who was a custodian of the Bugha cult). As Fardon observes, such accounts are not rare in the Mapeo area.

Table 5. Illnesses Considered Most Serious and Number of Times Cited

Group 1	no.	Group 2	no.	Group 3	no.	Group 4	no.	Group 5		Group 6	no.
fever	10	cough	6	<i>nodules</i>	1	ob/gyn	4	measles	6	<i>eye problems</i>	8
malaria	11	TB	2	<i>worms</i>	6	male sterility	3	polio	2		
convulsions	1	pneumonia	1	<i>"filaria"</i>	2	STDs	4	pertussis	2		
epilepsy	1										
Group 7	no.	Group 8	no.	Group 9	no.	Group 10	no.	Group 11	no.		
sleeping sickness	1	aches/pains	9	diarrhea	10	<i>itching</i>	13	snake bite	1		
bilharzia	3	headache	5	vomiting	2	leprosy	2	mental illness	3		
				bloody stool	1	children's rashes	1				
				gastroenteritis	1	scabies	1				

(*Onchocerciasis* symptoms in italics)

In Hawan Mata young male participants in a focus group noted that *igbagi* could lead to partial blindness, or to visual loss and the skin disease *kasua*. Another discussant remarked on the way itching leads to skin discoloration, white patches, and a blackening or thickening of the skin. One member of the group knew the disease filaria, but did not associate it with itching. He did, however, know that filaria was caused by *metumbi*, the black fly. (The equivalent in Fulfulde is *gagrun*, "cattle fly" or "black fly.")

The deeper awareness of onchocerciasis in Hawan Mata was found throughout the Taraba research area, perhaps because of the extremely high prevalence of both vector and parasite. Thus, a traditional healer in Pamanga was aware that intense itching was very common and that it could lead to blindness. In Kwanan Dutse a health worker observed that intense itching, when related to filaria, could cause elephantiasis, while in Sunkani, members of a focus group said that they were aware of an illness that seemed to cause aches, itchy eyes, itching all over the body, blackened and thickened skin, and "peeling" skin (a reference to discoloration.) Indeed, at least one member of the group showed signs of severe discomfort from puffy, itching eyes and had difficulty reading a picture for a pretest exercise. Residents in the Taraba study area are familiar with Banocide, used by the local missionary clinics, and have some experience with the clinical signs of onchocerciasis (filaria).

Known etiologies for the condition "severe and persistent itching" vary and range from angry spirits to black flies. Between the metaphysical and the scientific lie a number of commonly held beliefs. About one-quarter of respondents in Adamawa attributed the disease to exposure to contaminated streams or drinking contaminated water. The same number said the cause was walking through the tall grass of grazing areas. Conversely, two respondents noted that dermatitis was the consequence of *not* bathing.

The respondents in the Taraba area were more likely to name *metumbi* bites or mosquito bites as the cause of onchocerciasis, but some offered separate etiologies for the symptom of severe itching. These last included bathing in bad water, exposure to standing pools of water during the rainy season, or drinking contaminated water, especially if cattle had also been drinking from it.

Only two people in the entire study offered that the itching disease under discussion was caused by worms, that the worms developed from a parasite, or that black flies transmitted the disease in some way from one person to another.

Malaria: useful analogy?

Inquiry was also made into local understanding of malaria, a highly prevalent illness with a transmission pattern very similar to that of onchocerciasis. It was thought that an analogy based on malaria could furnish a basis for education about river blindness. Apart from a few secondary school leavers, the general population was ignorant about the cause of malaria; most did not associate the disease with mosquitoes. Among respondents, only three health workers could explain the transmission cycle. One traditional healer observed that the source of the disease was drinking milk or eating meat from cattle contaminated at the riverside.

Overall, men and women in the ATOP area hold vague notions about water-related and vector-borne diseases. Frequently they confuse the etiology and symptoms of schistosomiasis, Guinea worm, malaria and onchocerciasis. Out of this confusion, river blindness is attributed to drinking contaminated water (Guinea worm), bathing in polluted streams (schistosomiasis), or mosquito bites (malaria).

Such confusion is not surprising. Complex transmission cycles are a challenging concept in most contexts. When these cycles underpin a host of common local illnesses, keeping them distinct from one another adds to the complexity. For this reason, it is unlikely that malaria — or any other vector-borne disease — could serve as a conceptual tool in health education of ATOP beneficiaries. At the same time, considerable attention would need to be paid to these important distinctions in the training of health educators, lest their partial understanding further cloud an already murky pool of information.

Health-seeking behavior

Health-seeking behavior in the ATOP area, as in most contexts, is governed by a complex set of criteria. Most important among these is the nature of the illness. Second is the range of therapies from which to

choose. Clinics and personnel require consumable resources to function properly, and Nigeria's post-boom era has placed severe constraints on public expenditures. Therefore, it is likely that the peaceful coexistence of biomedical and traditional medicine will continue for some years to come.

Treatment of onchocerciasis must be considered within the larger context of possibilities and choices for the men and women living in this challenging environment. Table 6 below summarizes the range of therapies available in the study area and their perceived appropriateness for certain health problems. For several study villages, the table also shows which source of treatment is usually the first choice.

In Adamawa responsibility for case management within the household may fall to the head of household (husband), family relatives, the wife, or to husband and wife jointly. Men are said to seek advice most often from their relatives, neighbors, a traditional healer or the village head. Women seek advice from their husbands, neighbors and relatives. Half of the respondents indicated that wives carry out health management decisions; the other half said the responsibility was assumed jointly by husband and wife. In every instance, community leaders responded that the traditional healer is the first therapist consulted and the health center, hospital, dispensary or health volunteer second. Traditional healing is widespread and well respected by beneficiaries.

In Taraba health care management is conducted in a similar manner. Owing, perhaps, to the wider range of public and private services, health facilities are a first choice for therapy about half of the time; the other half prefer the traditional or spiritual healer. Choice also depends on the nature of the illness. Polio and tetanus, for example, are often treated by traditional healers (perhaps because clinical services can do little for these afflictions). Respondents were apt to name the husband as the decision maker in household management of cases and also to suggest that men, as often as women, follow up on decisions to provide treatment. The household therapist is often of the same sex as the patient. Women turn to their husbands, relatives and neighbors for advice about case management; men consult their neighbors, elders or the patient's relatives.

Men and women in the study area report that therapies selected for onchocerciasis-related health problems have, on the whole, not been successful. Indeed, a disparity may be noted between the high prevalence of "severe itching" (Table 4) and the rare mention of the symptom among therapeutic choices (Table 5). *Most respondents believe that severe itching is not a condition that warrants treatment, but is a natural and irreversible consequence of their occupation, age and environment.*

Table 6. Illness and Therapy

Village	Household Management	Traditional Healer	Health Clinic	Prevention
Adamawa				
Nawai	husband is manager, but if not at home the wife takes responsibility	(haven't been practicing here for a long time) for STDs, worms, bilharzia	for snake bite, protracted labor, disease of unknown cause, itching, malaria, vomiting	clean environment, washing clothes, covering stools in pit latrines, bathing regularly, not eating uncovered food, not sleeping with someone who is coughing
Taksi	most often the wife manages the illness because she is closer to the children	uses <i>timiksa</i> (Chamba), traditional herbs; can cure ALL diseases	for diarrhea (ORT), itching (antihistamines), malaria, cough, fever, scabies, diarrhea	prayer
Mapeo		for worms, jaundice, snake bite, mental problems, backache & STDs cults: Bugha, Langha, herbal medicines	for any illness, usually fever, pains, snake bites, childbirth, itching, STDs, severe body ache, mental illness, impotence, skin infections, conjunctivitis, poor vision, STDs, convulsions, itching	personal hygiene, environmental sanitation, good food, herbal remedies, appease the spirits, respect taboos, immunization, health education, good nutrition, antimalarials
So'o	traditional remedies are common; the husband manages the illness at home	for polio, swelling, witchcraft, snake bites, poisoning	for cough, fever, diarrhea, stomach pains, difficult delivery, any unknown disease	personal hygiene, oral hygiene, sanitation

Village	Household Management	Traditional Healer	Health Clinic	Prevention
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Table 6. Illness and Therapy (continued)

Village	Household Management	Traditional Healer	Health Clinic	Prevention
Taraba				
Hawan Mata	Try drugs at home (e.g. traditional or Panadol); if no improvement, go to the doctor. Usually the husband decides; the wife manages the case. If the disease is simple, the wife takes the whole task.	for <i>kunkpaza</i> (spirits of the deceased), bonesetting, poisoning	for any illness Garbarchere missionary clinic (24 km) is preferred	clean environment
Pamanga		for all diseases except epilepsy, e.g. snake bite, gonorrhoea, pneumonia	for fever, gonorrhoea, dysentery	avoid casual sex, use of common utensils, isolate the sick
Kwanan Dutse		for malaria, convulsions, epilepsy, severe abdominal pain;	for malaria, TB, itching, pneumonia, malnutrition	clean environment
Sunkani	feed the patient, if serious, buy medicine husband is decision maker, but the wife takes charge if he is away	for dislocations fractures, gonorrhoea, witchcraft, abdominal pain	for all conditions	good diet personal hygiene

Many consider leopard skin or blindness a normal, though undesirable, feature of growing older. Some have been advised to try Banocide by mission clinics but have been unhappy with the severe itching that resulted. Others take antihistamines for relief. Still others try herbal remedies of barks and leaves that are applied topically or drunk in a tonic.

Perceptions of ivermectin treatment

Nearly all respondents have been favorably impressed with ivermectin treatment. Up to 25 percent of those in the intervention areas had not been treated for a host of reasons, including pregnancy, illness, breast-feeding a young child (permitted by the protocol, but taken as a counter-indication), and — in several cases — fear of undesirable side reactions. Those who "stayed away on the farm" during distribution were adequately reassured by the example of their neighbors to take the drug during the next round.

Side reactions mentioned included swollen hands, arms and legs, swelling in the groin area, general weakness, headache, fever and joint pains. All disappeared after a few days. However, most beneficiaries would prefer not to be treated at a time when they are busy working or celebrating, as some were bedridden for several days.

Side benefits cited include greater energy, deworming, restoration of smoothness and luster to the skin, and improved vision. As one man put it, "When I did not take ivermectin I had difficulties with my vision. Now I see as clearly as when I was a child. My body has changed and become supple."

Communication channels

Table 7 shows some of the communication channels available to ATOP target audiences. Mass media are well developed in Nigeria, and most states have controlled their own radio and television broadcasting services since the mid-1970s. In Adamawa it was estimated that between 4 percent and 50 percent of households had radios, most combined with cassette tape units. The proportion most commonly cited was one-quarter of households. Apart from one individual in Mapeo, no one owned a television set, and the nearest viewing station was Ganye, around 90 km

away. Radio stations cited include the following: Radio Kaduna (cited four times), ABC (3) and BBC (3). As for Taraba, between 15 percent and 60 percent of households were estimated by the jauros to have working radios. Most cited one-third to one-half of households. Radio stations mentioned included: BBC (4), RK (4), TSBC (4), VOG Cologne (2), and Cairo, Lagos, VOA, Bauchi, Anambara and Adamawa, one time each.

The very broad reach of most radio (and television) transmitters conflicts with the ATOP objective of highly specific targeting of beneficiaries, who often live in scattered pockets in the region. Substations are established inside each LGA, and these stations must broadcast for designated hours in their chosen local language. Linguistic specificity would be one way of limiting reach to avoid generating undue demand for ivermectin among those not eligible for treatment. However, an analysis of the Adamawa State broadcasting system suggests that, for this purpose, only Fulfulde and Chamba would be appropriate choices. Meanwhile, Hausa remains the *lingua franca* of the area and would serve as the language of choice for most distributed materials.

Everyday discourse in both Adamawa and Taraba follow rules of protocol at the village level. The jauro was cited as the primary source of information of any kind in a village, including the source of new health information. In practice health management strategies suggest that a number of sources are possible, including relatives, neighbors, traditional healers and (secondarily) health workers, teachers and religious leaders. Communication networks among men, women, age mates and so on were not explored in the study, but it may be safely assumed that population segments tend to share communication channels.

Artistic discourse and entertainment have always been highly prized in Nigeria, both at the local and official levels. Special events (weddings, funerals, Christmas, Ids, harvest festivals) provide opportunities for entertainment and many villages have gifted groups of singers, drummers, molo players and dancers of *mumbara*, *jukupsa* and other dances. All villages in the study expressed interest in creating a theater group or entering a song contest. A precedent for this activity has been set by the annual Festival of the Arts, which encourages competition among performing artists from all parts of the country.

Table 7. Communication Channels

Village	HH Radio (est.)	Stations	Nearest TV	Entertainment	Performers	Interested in Creating a Theater Group?
Adamawa						
Nawai	4%	Radio Kaduna, ABC	Ganye	cassette tapes, radio, festivals	"Dakaso" group performs at weddings, namings; dance groups, storytellers, "Mumbara" dancers	yes
Taksi	50%	RK, ABC, BBC	?	Mumbara	traditional dancers	yes
Mapeo	25%	RK, BBC	one person in town	special events	Juyum (Sept.) and Dekumsa (Oct.)	yes
So'o	25%	RK, BBC, RTV, ABC	Ganye	traditional festivals	Dekumsa	yes

Table 7. Communication Channels (continued)

Village	HH Radio (est.)	Stations	Nearest TV	Entertainment	Performers	Interested In Creating a Theater Group?
Taraba						
Hawan Mata	33%	RK, TBSC, BBC	Jalingo	special events (e.g. disco)	performers are available for special events	yes
Pamanga	50-60%	RK, BBC, TBSC	Jalingo	special events	performing groups	yes
Kwanan Duts	50%	RK, TBSC, BBC, VOG, Lagos	Jalingo	festivals, weddings	have trained performers	yes
Sunkani	15%	TBSC, BBC, Cairo, VOG, RK, ABC, Bauchi, Anambra	Jalingo	special events; women have no time to listen to radio	can hire out groups; have some performers	yes

112

So far, residents of the study area have had little experience with health education materials. Many older people say that they find posters difficult to understand but that younger people will usually interpret them. Only about 15 percent of respondents could report having seen health education materials, although it is likely a greater number have been exposed to them without knowing what they were. Very few hear radio programs about health, although some had retained the content of such broadcasts. The most common messages concern nutrition, sanitation, immunization and ORT (which, unfortunately, was recalled as a message about boiling drinking water).

Through a number of observed and overheard examples, the research team recognized that few health education messages "take" the first time in the area, even among health workers. Repetition through a media mix strategy should be sought.

One member of the research team summarized his recommendations for communication channels:

"The best way I think Health Education Messages could be delivered in this community is through face-to-face communication or posters or songs. The nature of the disease 'oncho' needs to be well defined in their way of understanding. There is a need also to educate primary and secondary school teachers about oncho so that they know what oncho is, its entity, structure. They should also be able to teach the pupils. The children will also be able to pass on some knowledge to their parents and friends in the village."

ATOP has already made some advances in developing a communication strategy and related tools. Works in progress include the following:

- a manual for training ATOP health workers (a section on training them to teach the subject to other health workers at the community level needs to be added);
- a series of simple drawings intended for the manual mentioned above;

- ivermectin praise songs in Hausa, Chamba, and Fulfulde developed by health workers; communities may be encouraged to follow this example in their local languages.
- informal development of some rather persuasive health education and advocacy talks; their content should be reviewed and possibly generalized.

Conclusions

A communication plan developed with ATOP will need to begin with the advances already made. A number of behavioral and media considerations will guide the selection of messages, channels and tools.

- Little difference in knowledge about river blindness disease was noted between intervention and non-intervention areas; moreover, health education was not retained after a single session. Repeated IEC will be needed at the community level.
- Visual and verbal literacy in the ATOP area are very low; even the most carefully drawn image may be difficult for some beneficiaries to interpret. The program will need to encourage a mechanism for reinforcement through interpersonal communication.
- Print materials should carry one language: Hausa. At the same time, they should rely on images as much as possible for communication.
- Villages are prepared to develop entertainment using their own human and material resources; oncho themes should be encouraged.
- Each population segment responds to ivermectin treatment according to its sex and age. Women, for example, stress the value of smoother skin, older men the prevention of visual loss, and children the anthelmintic effect.

- Itching — the primary sign of river blindness disease — is not regarded as a severe illness requiring therapy. Skin depigmentation, however, is considered worthy of treatment.
- Side benefits of ivermectin may be used to promote the drug.
- Communication should be individualized to have a lasting effect; health education messages delivered face-to-face would be enhanced through the use of a versatile health education tool that remains with each beneficiary.
- Institutions such as schools, mosques and churches have willing health promoters; they should be identified and used by the program.
- A special advocacy campaign needs to be launched for people who make decisions affecting ivermectin supply. Sophisticated strategies may be used, including a video produced by a local media house and perhaps an information packet. Most decision makers have VCRs in their homes or have access to a government viewing center. They respond to well-produced, slick products that match their status.
- An IEC training tool for health promoters must be developed to ensure accuracy and standardization of core messages communicated through effective low-cost strategies.

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Attachment 2

Adamawa and Taraba States Onchocerciasis Program

Communication Plan

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Table of Contents

Background	1
Ivermectin delivery programs	1
Communication for IDPs	2
The ATOP program	3
Research Findings	6
The ATOP Communication Plan	12
Rationale of the ATOP communication strategy	12
Participatory Communication Planning	12
Target Audiences	13
Behaviors	16
Goals and objectives	20
Constraints	23
Communication strategy	25

Tables

Table 1. ATOP IDP/IEC Interview Summary	7
Table 2. Illness Considered Most Serious and Number of Times Cited	9
Table 3. Communication Channels	10
Table 4. ATOP Communication Strategy	26
Table 5. IDP Communication Delivery Schedule	37

Background

Ivermectin delivery programs

In 1987 the anthelmintic drug ivermectin (trade name Mectizan[®]) was licensed for treatment of river blindness (onchocerciasis) in human patients. Caused by *Onchocerca volvulus*, a parasitic filarial worm, the disease is common to certain riverain areas of the developing world. The vector for the parasite is a tiny black fly of the genus *Simulium*. Symptoms in people infected with the parasite include intense and prolonged itching, skin depigmentation, formation of worm nodules under the skin, and impaired vision leading to blindness. Currently ivermectin is not marketed commercially for human use, but is donated by the manufacturer Merck and Co. to organizations and institutions the company approves as distributors or valid users.

Strategies for ivermectin distribution programs (IDPs) vary according to organizational capacity and country context, but all have common features reflecting the protocols of the Mectizan Expert Committee, a body of medical advisors established by the manufacturer to ensure maximum benefit and safety for beneficiaries. The Committee's technical guidelines for distribution and treatment call for supervised distribution of the drug by an approved organization; observation for 24 hours after ingestion; no commercial sale of the drug, although charges for distribution are allowed; weighing to determine dosage; and certain exclusions including pregnant women, women who have given birth during the past week, the very ill, and children weighing less than 15 kg.

One rationale for the tightly supervised approach to delivery in the first years of an IDP is the potential occurrence of side reactions. While severe side reactions are rare, some patients experience temporary discomfort, most commonly in association with a high microfilarial load. Increased itching, swelling of extremities, dizziness, body aches and general weakness have been reported. Distributors are supplied with instructions and drugs to manage side reactions when they occur. As an anthelmintic, ivermectin may also bring about side benefits. Persons treated with the drug will need to appreciate its main effects.

The effectiveness of chemotherapy in preventing blindness and reducing other symptoms of river blindness disease depends on long-term individual compliance with a regimen requiring one annual dose of the

drug for 10 or more years. Therefore, sustainable success of an IDP will depend on a double strategy. First, IDPs — whose middle name is "delivery" — must ensure regular drug distribution to beneficiary communities. Second, long-term compliance among beneficiaries will depend on generating a genuine, individual demand for the drug. IDP health information, education and communication (IEC) will become a valuable ally in promoting acceptance and long-term commitment to ivermectin, both among "suppliers" (decision makers responsible for drug delivery) and "consumers" (beneficiaries). In this way, IEC may be understood as one component of a total social marketing strategy for ivermectin.

Communication for IDPs

The past 20 years have seen important advances in the application of multidisciplinary approaches to public health communication. Social marketing, behavioral analysis and anthropological methods join in a combined strategy to harness communication to program operations. *Social marketing* strategies make product *promotion* part of a comprehensive planning framework that includes the *product*, the *place* or means of product distribution, and the *price* a consumer pays for the product in time, money, transportation and other costs. The social marketing approach differs from selling because it is consumer-oriented. It takes into account not only a consumer's best interest but even more important, also his or her self interest.

An *analysis of health-related behaviors* among potential consumers or their caretakers informs social marketing strategies. Behavior analysis offers a snapshot of the social environment made up of families, communities, health facilities and other institutions, and distinguishes behaviors that favor good health from those that do not. It can also identify what people are doing about a health problem and why, and offers some indication of how amenable existing behaviors may be to change or adjustment.

Anthropological research deepens the understanding of behavior among potential consumers by placing it in a cultural context. "Culture" describes the perceptions, beliefs and values that inform and motivate human action. Anthropology also offers insights into the nature of human communication: for example, the relative dominance and reach of certain languages, the traditional modes of expression used, the groups having

access to certain information networks, and cultural openness to new communication channels and ideas.

The ATOP program

The Adamawa and Taraba States Onchocerciasis Program (ATOP) has been selected as the focus of a pilot activity that will apply a participatory approach to the development of low-cost, replicable communication tools for IDPs. Initiated in June 1991, the program is managed by Africare and the ministries of health in Nigeria's Adamawa (pop. 2,124,049) and Taraba (pop. 1,480,590) States. These two states, created in August 1991 out of the former Gongola State, lie on Nigeria's eastern border with Cameroon. The total size of the area exceeds 100,000 square kilometers. The 1988-1989 National Onchocerciasis Prevalence Survey reported an overall infection rate of 18.25% for the former Gongola State. Approximately one-third of the population is considered to be at risk of onchocerciasis infection.

Together, Adamawa and Taraba States constitute one of the most remote and least developed regions of Nigeria. The topography is characterized by very low valleys alongside the Benue, Gongola and Taraba Rivers and three granite hilly areas. The fast-running mountain streams and rivers that crisscross the region's valleys present ideal breeding grounds for the black flies that carry the parasite causing river blindness disease.

Since its inception in September 1991, ATOP has targeted hyperendemic districts in selected Local Government Areas (LGAs): initially, Gashaka and Bali LGAs in Taraba State and Ganye LGA in Adamawa State. (Hyperendemic areas show infection rates exceeding 60 percent, mesoendemic areas rates of 40-60 percent and hypoendemic areas rates below 40 percent.) Possible additions in Adamawa State are Gombi, Song, Hong, Fufure and Jada LGAs; in Taraba State Sardauna, Donga and Jalingo LGAs are being considered. Moreover, at least one LGA in Borno State is being added as part of an expansion program.

Numerous agricultural groups have settled the region in successive waves. Of some 200 cultural and linguistic groups currently living in the ATOP area, the most important are the Jukun, Chamba, Bachama (or Bwatiye), Higi, Kilba and Mumuye. Some of the larger groups reside within LGAs where onchocerciasis is endemic. They include the Higi

and Kilba (Hong LGA), Fulani (Ganye, Jada, Song, Jalingo LGAs), the Chamba-Dakka (Ganye, Jada, Fufure, Gashaka LGAs) and the Mumuye (Bali). At least 85 percent of all ATOP area residents use Hausa as a *lingua franca*, and many also speak Fulfulde. These two languages and Chamba-Dakka are the most commonly spoken in onchocerciasis-affected areas. Of these languages, oral and written Hausa is the best multipurpose choice for information and education.

Literacy in the ATOP area does not exceed 30 percent. Rates of school attendance at both primary and secondary levels are among the lowest in the country, although urban capitals such as Yola (Adamawa) and Jalingo (Taraba) have larger school-going populations.

Similarly, rural health infrastructure is weak, and government services are concentrated around the main cities and towns. In principle each LGA has a hospital in its administrative center, together with clinics and dispensaries in main villages. Quality and quantity of services vary widely. Though health facilities in remote LGAs often have qualified and dedicated personnel, they are typically ill-fitted with equipment, drugs or supplies. Mission groups have historically provided services to select areas, but their coverage is small.

By mid-1992 ATOP had undertaken rapid assessment of about 100 communities by examining adult males over 20 year of age for nodules, leopard skin and blindness. In addition, the program had distributed ivermectin to nearly 50,000 eligible community members in Gashaka, Ganye and Bali LGAs. The three-year program will most certainly exceed its target of treating 75,000 persons with at least one dose of ivermectin by mid-1994.

According to project agreements signed between Africare and beneficiary LGAs, local governments are expected to bear gradually increasing responsibility for the logistical and personnel costs of distribution. All LGAs should take financial and administrative responsibility for the IDP by the end of project in 1994. In addition, ATOP initially anticipated active participation of local NGOs, although their involvement so far has been limited. Before the end of 1993 community-based distributors (CBDs) are to be identified and trained to undertake local distribution and health education. Training of up to 250 CBDs (one per 300 ivermectin users) is proposed.

ATOP has in its first stages developed a distribution method that combines elements of a community-based strategy and use of mobile teams. Members of the state and local onchocerciasis teams take up temporary residence in villages for several days to assess endemicity and distribute ivermectin. Eventually CBDs from individual communities will be identified and trained. Team members include 121 trained staff from nearby dispensaries and clinics. These workers must fulfill multiple tasks, which include the following: 1) informing endemic communities about the IDP, 2) training CBDs, 3) distributing ivermectin house-to-house, 4) supervising CBDs and ensuring drug supply, and 5) maintaining records.

This heavy work plan of the local onchocerciasis control workers (LOCWs) gives only marginal place to "information." ATOP project papers indicate that current IEC practices are chiefly related to program operations rather than health education and sustaining demand. Current practices include 1) contacts with policy makers and community leaders, 2) use of print and electronic media in limited ways, 3) development of onchocerciasis mobilization songs and 4) personal contact with families.

Until now, ATOP has lacked a detailed communication plan or management strategy for its implementation. While social mobilization and marketing will benefit from information, a sustained demand for ivermectin treatment will also require greater emphasis on health education. One challenge addressed in the plan below is finding workable and sustainable methods for building health education into the routine of LOCWs and any CBDs who are eventually trained. Given the long-term effort IDPs require, IEC support will help ensure a continuing supply and demand of ivermectin to control onchocerciasis in endemic communities.

Research Findings

Between October 23 and November 4, 1992, research for communication planning was undertaken in eight villages. Qualitative research methods were used, namely, unstructured observations, focus groups discussions (FGDs), in-depth interviews/small group discussions (ID/SGDs), and a community profile containing structured questions for village heads and advisors (RCPQ). This research effort followed two KAP surveys undertaken in Gombi (Adamawa) and Gashaka (Taraba) LGAs in December 1991. Among the findings of that survey were 1) an estimated maximum literacy rate of less than 30 percent, and in some villages considerably less; 2) limited knowledge of onchocerciasis as a disease and of its manifestations; and 3) little effort to seek treatment for itching.

The two research teams were composed of members of the state onchocerciasis control teams (SOCTs). Two days of training preceded fieldwork, including in-class exercises and a semi-urban practicum.

Research was undertaken in four villages in Adamawa (Nawai, Taksi, Mapeo, So'o) and four in Taraba (Hawan Mata, Pamanga, Kwanan Dutse, Sunkani). Requirements of focus group methodology governed sample selection. Sample size was doubled for each key selection variable: male/female, young/old, intervention/non-intervention ($2 \times 2 \times 2 = 8$). The sample was not controlled for cultural differences. All interviews in each village were undertaken simultaneously. Interviews were either tape-recorded or recorded by notes. Results were analyzed by the two teams immediately following research.

Table 1. ATOP IDP/IEC Interview Summary by Site and Type

Village (District/LGA)	Focus Group Discussions no./sex/age	ID/SGD* no./sex/type	RCPQ** Jairo + no. councilors
Adamawa - intervention			
Nawai (Toungo/Ganye)	9 men >30	1 TBA	jairo + 2
Taksi (Toungo/Ganye)	5 women 20-30; 8 women "chaperones"	1 HW	jairo + 1
Adamawa - non-intervention			
Mapeo (Mapeo/Jada)	7 men 20-30	1 TH, 2 HWs, 1 HW 3 TBAs	jairo + 5
So'o (Leko/Jada)	9 women, mixed	1 TH, 1 HW	jairo + 2
Taraba - intervention			
Hawan Mata (Dakka/Bali)	8 young men, 25-30	2 TBAs, 12 women	jairo + 8
Pamanga (Dakka/Bali)	8 men, older	1 TH	sub-jairo + 6
Taraba - non-intervention			
Kwanan Dutse (Sunkani/Jalingo)	8 women, 28-40	1 HW	jairo + 4
Sunkani (Sunkani/ Jalingo)	9 women, mixed	1 HW, 2 HWs, 2 THs	jairo + 5

*ID/SGD – in-depth interview/small group discussion

**RCPQ – rapid community profile questionnaire

7

138

A summary of findings showed the following:

- **Disease entity and etiology:** People tend to group together itching, scabies, leprosy and leopard skin, while blindness or visual loss are clustered separately. Causes of itching include "bad water," spirits and exposure to field grasses. Disease names stress itching or blindness; the term "filaria" is known in some cases as an equivalent for the disease. No appreciable difference in knowledge was found between intervention/non-intervention areas, suggesting that all instruction to health workers or beneficiaries needs repeated reinforcement. Understanding of an analogous disease entity, malaria, was limited. Concepts of sanitation and nutrition have been reinforced by the government and are understood.
- **Therapies:** Public health services are sparse, poorly supplied and occasionally expensive. PHC (proxy EPI) is in collapse. Traditional healing is widespread and respected in most areas.
- **Response to ivermectin:** Recognized side benefits include anthelmintic action, smoother skin, undisturbed sleep and visual improvement. The most common side reactions include body aches and pains, headaches, swelling of extremities, general weakness and transitory intensified itching.
- **Communication channels:** Literacy is variable and less than 30 percent overall. Hausa is an acceptable *lingua franca*. Four to 60 percent of households (about 20 percent overall) have radios, usually with cassette players. There are few televisions. Respondents expressed a strong interest in Hausa-language broadcasts. The main source of health information is the village head. Person-to-person communication is the preferred approach to health education in communities.
- **Target audiences:** Decision makers are key to the future supply of ivermectin and must be targeted for a specific information program that appeals to their self-interest as political leaders. Health promoters must also be empowered to serve as advocates with decision makers and to ensure that health workers understand onchocerciasis and techniques of personal communication appropriate to the village level.

Table 2. Illnesses Considered Most Serious and Number of Times Cited

Group 1	no.	Group 2	no.	Group 3	no.	Group 4	no.	Group 5		Group 6	no.
fever	10	cough	6	<i>nodules</i>	1	ob/gyn	4	measles	6	<i>eye problems</i>	8
malaria	11	TB	2	<i>worms</i>	6	male sterility	3	polio	2		
convulsions	1	pneumonia	1	<i>"filaria"</i>	2	STDs	4	pertussis	2		
epilepsy	1										
Group 7	no.	Group 8	no.	Group 9	no.	Group 10	no.	Group 11	no.		
sleeping sickness	1	aches/pains	9	diarrhea	10	<i>itching</i>	13	snake bite	1		
bilharzia	3	headache	5	vomiting	2	leprosy	2	mental illness	3		
				bloody stool	1	children's rashes	1				
				gastroenteritis	1	scabies	1				

Onchocerciasis symptoms in italics

Table 3. Communication Channels

Village	HH Radio (est.)	Stations	Nearest TV	Entertainment	Performers	Interested In Creating a Theater Group?
Adamawa						
Nawai	4%	Radio Kaduna, ABC	Ganye	cassette tapes, radio, festivals	"Dakaso" group performs at weddings, namings; dance groups, storytellers, "Mumbara" dancers	yes
Taksi	50%	RK, ABC, BBC	?	Mumbara	traditional dancers	yes
Mapeo	25%	RK, BBC	one person in town	special events	Juyum (Sept.) and Dekumsa (Oct.)	yes
So'o	25%	RK, BBC, RTV, ABC	Ganye	traditional festivals	Dekumsa	yes

Table 3. Communication Channels (continued)

Village	HH Radio (est.)	Stations	Nearest TV	Entertainment	Performers	Interested in Creating a Theater Group?
Taraba						
Ilawan Mata	33%	RK, TBSC, BBC	Jalingo	special events (e.g. disco)	performers are available for special events	yes
Pamanga	50-60%	RK, BBC, TBSC	Jalingo	special events	performing groups	yes
Kwanan Duts	50%	RK, TBSC, BBC, VOG, Lagos	Jalingo	festivals, weddings	have trained performers	yes
Sunkani	15%	TBSC, BBC, Cairo, VOG, RK, ABC, Bauchi, Anambra	Jalingo	special events; women have no time to listen to radio	can hire out groups; have some performers	yes

A Communication Plan for ATOP

Rationale of the ATOP communication strategy

The "Background" section describes how social marketing, behavior analysis and anthropological research can be useful tools for understanding and persuading clients. In any public health program product delivery and use are enhanced by a regular and continuing promotional effort aimed at one or more well-defined target audiences. In a long-term program such as the IDP, where full benefits to users accrue after an extended period, communication support is even more essential to ensure sustained supply and demand.

The key rationale of an IDP communication strategy, therefore, is that communication will offer important tools for sustaining delivery and use of ivermectin. This approach requires a communication plan that is *future-oriented* — a plan that defines a simple, replicable process leading to local development of appropriate educational messages and communication methodologies. The communication plan presented here assumes that a constantly evolving communication strategy will enhance product delivery and use. Changes in program operations will be matched by appropriate adjustments to the communication strategy in terms of audience, behaviors, messages, materials or channels.

A second rationale of the communication strategy is to institutionalize the process of producing communication tools by strengthening the IEC capacity of key government units in health and information, the state and local onchocerciasis control teams, and the Africare staff.

Participatory Communication Planning

The plan described here has evolved through a participatory process whereby IDP program staff have — through research and planning — contributed key elements of the health problem analysis, formative research and communication strategy. It is expected that this approach will encourage a sustained communication effort over time. Furthermore, it is hoped that ivermectin delivery programs elsewhere may benefit from this participatory approach to the development of low-cost, replicable communication tools.

Operationally, the communication planning process began with a training workshop on IEC qualitative research strategies. Training was followed by field research described in "Research Findings" above and in Attachment 1 "Report on Qualitative Research for Communication Planning." A roundtable on communication planning, organized for one day during the research period, set the stage for more detailed communication planning one month later. Products from that event appear in Annex C-5 and are to be taken as wholly preliminary to this present plan.

Target Audiences

The ATOP communication strategy will focus on three broad target audiences. Each will play a key role in the future sustainability of the IDP. *Users of ivermectin* at the community level comprise the first target audience. *Decision makers* responsible for ivermectin delivery to the communities constitute the second. *Health promoters* — including health workers, teachers, advocates and special interest group members — are a third target audience.

Community members

Members of communities in which *Onchocerca volvulus* is endemic are the chief beneficiaries of the program. Their regular use of ivermectin may be expected to reduce the prevalence and intensity of onchocerciasis in individuals and their resident communities. The IEC research summarized above suggests that the target audience of users may be further segmented into subgroups whose concerns about the effects of river blindness vary according to age, sex, and in some measure social status. If IEC resources are sufficient, each of the segments could be addressed with messages that appealed to its self-interest.

Children

In general, children are attracted to ivermectin because it relieves intense itching and has a deworming effect, which restores energy and a sense of well-being. When properly taught, children appear to readily learn the benefits of ivermectin, the protocols for use, and the transmission and life cycle of the parasite. Schoolchildren may use this knowledge to influence their families favorably toward compliance

with ivermectin use. Furthermore, materials pretesting suggests that children's higher visual and verbal literacy makes them useful interpreters of images and words on printed health education materials. Finally, caretaking responsibilities for younger siblings or relations are often delegated to a family's older children. In this role older children should be mindful of signs of illness in their younger siblings and of appropriate therapies.

Women under 40

Women under forty say they appreciate ivermectin treatment because it returns smoothness and shine to their skin, relieves itching and increases energy levels. As primary caretakers of their children, women are the front-line managers of family health and welfare. They are among the first to notice the signs of onchocerciasis infection in their children and should be able to ensure that all children over the minimum weight of 15 kg (about 5 years of age) are included in the treatment program.

Fathers and mothers

Young fathers and mothers also ensure family welfare in other ways. Both are key producers of family income, whether as farmers, traders, herders or craftmakers. In the ATOP area women farm alongside men. Like men they say that they "work better" and "feel better" after treatment with ivermectin.

Adults over 40

Adults over forty comprise the age group most affected by blindness, debilitating fatigue and skin depigmentation due to onchocerciasis. They commonly seek treatment to prevent dreaded visual impairment. In addition, many report a surge of energy shortly after treatment. This experience favors future compliance with the treatment regimen.

Community leaders

Community leaders, who are also members of population segments mentioned above, recognize that better health improves the general

welfare and productivity of their communities. ATOP staff have noted that most leaders have welcomed the program to their villages. The few reluctant leaders often change their minds after observing the benefits experienced by members of neighboring communities. This group overlaps with the target audience of decision makers described below.

Ineligible community members

Certain members of the community, as the first broad target audience, are at times ineligible to receive treatment. Such persons include children weighing less than 15 kg, pregnant women, women who are nursing children younger than one week in age, and the very ill. Culturally acceptable methods of deselecting these individuals must be considered.

Decision makers

Key decision makers comprising the second target audience include government officials, traditional rulers at the village and district levels, and in some instances, advocacy groups, academic professionals or individual philanthropists. Under Nigeria's current devolution strategy, LGA officials are chiefly responsible for providing funds, personnel and logistical support for ensuring ivermectin supply. The LGA chairman, an elected official, is assisted by a Local Government Council and by members of the regular civil service. Key members of this group are the Primary Health Care Coordinator (the chief LGA health policy maker), the LGA Chairman (responsible for budgets and other resource allocation) and the Supervisory Councillor for Health (member of the LGA Council).

Traditional rulers in Nigeria continue to exercise important public policy and advocacy functions. The ATOP area recognizes the titles and functions of *emir*, *wakili* and *jauro* at LGA, district and village levels. These leaders are respected and may lend significant support to efforts seeking to improve human welfare and productivity.

Under the devolution scheme, states continue to set broad policy and technical guidelines for the LGA-level civil service. Key state-level actors in the health sector include the State Commissioner for Health, the Director General of the Ministry of Health, the Director of Disease

Control and the Head of the Epidemiological Unit. These policy makers also oversee operation of a state-level, multisectoral Onchocerciasis Control Task Force (OCTF). A planned IEC subcommittee of the OCTF would be responsible for oversight of future IEC materials production.

Health promoters

Health promoters constitute the third broad target audience. One important segment of this group are health professionals, who play a pivotal role by implementing policy decisions on behalf of ivermectin users. Such professionals include members of the State Onchocerciasis Control Teams (SOCTs), Local Onchocerciasis Control Teams (LOCTs), and local health workers at LGA and district levels. A few villages in the ATOP area have organized health committees or voluntary health workers who link the community with the health structure. ATOP intends to tap important human resources at the village level by training community-based distributors (CBDs). Eventually, CBDs will become front-line health educators for IDP in the rural areas.

Health workers will rely on IEC strategies to empower them in negotiations with decision makers for resources essential to supply. At the same time they will train village-level workers in communicating health education messages to the community.

Over time health workers will be joined by other categories of health promoters. They may include teachers and members of such local NGOs as the Rotary or National Council of Women's Societies. Because these individuals may eventually carry IDP information into their vocational or avocational settings, they would best receive adequate preparation through information and education addressed specifically to them.

Behaviors

The ATOP communication strategy will encourage specific, desirable behaviors among members of each target audience to ensure long-term compliance on the part of drug users and long-term drug supply on the part of decision-makers and health promoters. Here, specific features of the country context and potential changes in project operations must be considered.

Reliable drugs are generally in high demand among residents of the ATOP area. However, compliance with correct protocols of drug use is often spotty, owing variously to poor understanding of drug regimens, overdosing, low availability of a drug, or high cost in money and time for obtaining a product.

The current ATOP method of ivermectin distribution — mobile teams giving house-to-house treatment — merely requires the user to be present in his village at the moment of delivery and to swallow the drug on the spot. This supply-driven approach relies little on demand from individual clients. Within a year's time, however, this closely supervised distribution strategy may be replaced by mass distribution through community-based volunteers or, in hypoendemic areas, through a clinic-based approach. These methods of supply will require the user to make more complex choices about competing use of time (to visit the clinic) or expenditure (for transport, user fee or time cost). The user must eventually be willing to pay this higher price to take ivermectin once a year, every year. Therefore, from the onset educational messages must anticipate and encourage behaviors for both the immediate and longer term.

In the context of the communication strategy, then, two key behaviors will be encouraged. *The first key behavior is that the beneficiary takes ivermectin according to the drug protocol, which requires annual treatment in the correct dosage* for a period sufficient to ensure the death of adult parasitic worms. Because length of use for each individual is uncertain, behavioral focus will be placed on developing an annual habit of taking ivermectin.

The second key behavior will be to recognize signs of onchocerciasis. The research shows that the diverse indicators of infection are rarely understood to be associated with one another or to be progressive consequences of a single infection. Initially, the communication strategy will not attempt to explain the causes of river blindness disease. Rather, first priority will be given to promoting appreciation that ivermectin may relieve or control such signs and symptoms as intense and prolonged itching, roughness and thickening of the skin ("lizard skin"), depigmentation ("leopard skin"), swelling and itching of the eye tissue, visual impairment and eventual blindness.

In time, recognition of individual disease indicators should serve as a prompt toward treatment or retreatment with ivermectin.

The communication strategy will, in addition, encourage each target audience — according to its role in the IDP scenario — toward secondary behaviors that support the two key behaviors.

Beneficiaries

Behaviors to be promoted among the first audience — community-level beneficiaries — will include the following:

- Take ivermectin once a year, every year (and — in most cases — once a year only).
- Recognize the signs of onchocerciasis.
- Mobilize family, friends and neighbors for treatment.
- Identify people who are eligible to take ivermectin.
- Demand annual retreatment.
- Recognize side benefits.
- Recognize side reactions.
- Seek medical treatment for side reactions, if necessary.

Prior IEC research has identified population segments at the community level, according to their varying experiences with river blindness disease and their social status or condition. These segmented audiences will be encouraged to adopt specific behaviors that appeal to their self-interests. For example, *mothers* will watch for signs of onchocerciasis in their families, ensure that all of their eligible children are treated, and seek assistance for any side reactions that may occur. *Family heads* will mobilize their families for treatment and inform their neighbors about the benefits of ivermectin. *Children* will carry messages about onchocerciasis treatment to the community from school and will interpret printed health education materials for their families. *Community leaders* will inform villages about the treatment schedule, treatment protocols and the disease

in general. Leaders will maintain vigilance that mobile treatment teams reach their village on the annual schedule promised; in event of failure or delay, they may investigate and seek correction for underlying causes.

Decision makers

Equally important are behaviors of the second main audience — *decision makers* — who are responsible for ensuring regular supply of ivermectin to beneficiaries. According to the nature and level of their authority, they will undertake the following:

- Participate with beneficiaries and health promoters in planning IDP activities.
- Budget and plan for allocation of needed resources: money, personnel, and motorized transport.
- Support the IDP through public visits to affected areas, advocacy with national institutions and private donors, and media appearances.
- Deploy resources when they are needed.

Health promoters

Behaviors of *health promoters* — the third target audience — will vary according to their profession or avocation. For health workers, who are one category of health promoters, the following behaviors are encouraged:

- Participate in IEC training courses offered by the IDP and become thoroughly familiar with the content and health education techniques promoted by the manual.
- Inform and educate members of onchocerciasis-endemic communities at every opportunity.
- Promote IDP activities with decision makers and donors and brief them on program progress.

- Advise communities of the time when outreach delivery teams will arrive.
- Acquire and apply skills in interpersonal communication and health education.
- Train and motivate CBDs in communication and education skills, as required.
- Seek information about medical and scientific advances in the treatment of onchocerciasis and about treatment of side effects.

Similar promotional behaviors will be encouraged among other professionals. Primary school teachers, for example, will introduce lessons on onchocerciasis in schools located in endemic areas. Special interest groups concerned with community welfare will undertake advocacy or fund-raising efforts. Religious leaders will inform congregations about their role in controlling the disease.

Goals and objectives

The overarching goal of the ATOP communication plan is to develop a flexible, replicable, sustainable IEC strategy that supports delivery by decision makers and health promoters and encourages annual use of ivermectin by communities.

In addition to a statement of goal, every communication plan should have objectives so that those implementing the plan as well as the management of the Project know what is to take place and what the expected outcomes will be. Objectives must be stated in specific, measurable, attainable and realistic terms.

Behavioral objectives

Behavioral objectives describe the actions to be taken by members of each target audience as a result of the IEC messages received. Behavioral objectives for the ATOP communication plan are listed below.

Target audience: community members

- 85% of eligible members of targeted communities will take ivermectin once a year, every year.
- 85% of eligible members of targeted communities will be able to describe symptoms, side effects and benefits.
- If ivermectin has not been delivered within one month of the anniversary of the last delivery, a representative from the community will alert the responsible health authorities at the LGA level.

Target audience: policy makers in all targeted LGAs

- The LGA Commissioner, with the advice of the Director General for Health, the PHC Coordinator and the LGA councilors, will make annual, timely budget allocations for ivermectin delivery based on the request of the IDP.
- The LGA Commissioner will release the funds agreed upon to the IDP in time, as well as provide the personnel and vehicles requested.
- The LGA Commissioner, together with the councilors, will create a statutory line item in the LGA budget for the coming years.
- The LGA Commissioner will encourage participation by targeted community members in the IDP, using both modern and traditional political structures and channels of communication.

Target audience: health promoters

- All health promoters assigned to or voluntarily assisting the IDP will successfully complete a training program given by ATOP to provide them with adequate knowledge of river blindness and health education skills.

- All health promoters assisting the IDP will review the training manual twice a year to maintain their knowledge and skill levels.
- All health workers assisting the IDP will make strong efforts to maintain adequate stocks of drugs for the symptomatic treatment of recognized ivermectin side effects.
- Every person who receives ivermectin will also receive a health education talk by a health promoter.
- 75% of primary schoolchildren in endemic areas will have been taught about river blindness based on materials provided by the IDP.

Process objectives

Process objectives describe and quantify the communication activities that are to take place during the planning period. For the ATOP communication plan, process objectives will include the following.

- Write, pretest and reproduce information packets for policy makers.
- Revise fact sheets in the information packets annually.
- Present a video and information packets to all state and LGA policy makers in the ATOP region.
- Develop a health education skills section for ATOP's draft Training Manual for Health Promoters and Health Workers.
- Train health promoters and health workers using the training manual.
- Complete the design and pretesting of printed health education materials.
- Reproduce enough copies of each flyer so every beneficiary can receive one.

- Assist and encourage the State Arts Councils or communities to develop dramatic material (songs, plays, stories) that supports the IDP and use these materials in delivery activities.
- Develop a training manual and program to introduce river blindness education into the primary science curriculum.
- Develop teaching aids for use by primary school teachers.
- Encourage training of primary school teachers to present a module on river blindness in the science curriculum.
- Develop and apply an evaluation tool to assess the effectiveness of the selected health education activities and materials.
- Revise health education materials and the training manual in light of the results of the evaluation.
- Invite and encourage media houses and radio and television stations to report on IDP activities.
- Train ATOP staff and government health educators in graphic design and supervising printing processes.

Constraints

The obstacles to implementation that the ATOP communication plan may face are similar to those confronting any public health project in a sparsely served, isolated region of West Africa.

First, although many beneficiaries in the ATOP area live within 5 km of a health facility, few frequent these facilities because of the lack of drugs and equipment. Opportunities for clinic-based health education are very rare. Second, geographical isolation and minimal transport infrastructure place seasonal limits on travel and make many communities inaccessible to ivermectin distribution and education teams during the rainy season from about May through August. Third, literacy levels do not exceed 30 percent of the ATOP population overall, and are often lower. Fourth, the rate of economic development has accelerated in

recent years, but this progress began from a very low base. Consequently, poverty levels in the ATOP area are higher than in many other parts of Nigeria.

Other constraints refer more specifically to the disease itself. One obstacle is the relatively low priority granted to onchocerciasis in national health plans. Minimal budget allocations at national level mean that most IDP resources must come from LGA revenues. In regions marked by subsistence-level economies, competition for resources is great. A second obstacle is the scant understanding of river blindness disease among potential users.

A third obstacle relates to the kinds of drugs available in Nigeria and their use. It is estimated that over half the drugs sold in the country are either fraudulent or adulterated. Consequently, drugs are approached with a measure of caution, and caution may be heightened when the drug is distributed free of charge. Moreover, user compliance with drug protocols is typically spotty. Failure to follow a full course of treatment, overprescription and overdosing frequently occur. These tendencies have important implications for IEC supporting IDP activities.

Health education also must address specific obstacles related to ivermectin and the IDP methodology itself. For example, ivermectin will cause specific but limited side effects in a small percentage of consumers. These side effects are well known and quite predictable. There is the danger, however, that if consumers are not educated about the side effects, ivermectin could earn a bad reputation. Certain preemptive and defensive steps should be taken. Consumers should be made aware of the possible side effects. Those with particularly heavy loads of microfilaria should expect particularly intense itching but should be assured that this is a sign that ivermectin is working and that the itching will pass in about two days. Health workers should have the drugs and the skills to provide symptomatic relief to those suffering from side effects.

Some individuals may, for their own reasons, try to blame ivermectin for an illness that probably had nothing to do with the drug. In these situations, it may be necessary to send a health educator back to an individual and his or her community to prevent the spread of rumors that could harm the reputation and effectiveness of the IDP.

Of equal concern are the side benefits of ivermectin. Increased energy, deworming and presumed visual improvement tend to generate overdemand among some clients. Many assume that a drug powerful enough to be effective only once a year will be doubly effective if taken two times or more. A careful explanation of the rationale behind the protocol may be necessary in such instances.

Communication strategy

Key promise

The ATOP Communication Strategy summarized in Table 4 is based on the promise that by taking ivermectin once a year, every year, consumers will get relief from the persistent, intense itching that is an early sign of river blindness infection. Consumers who already show signs of "leopard" skin or visual impairment will be able to control further deterioration with an annual dose of ivermectin. Finally, consumers who are symptom-free and takes ivermectin every year will be able to prevent all of the manifestations of this disease, including blindness, which is its final and most tragic consequence. The key promise can be expressed in greater detail through the following supporting statements.

- Ivermectin arrests the progress of blindness, intense itching, "leopard" skin and "lizard" skin.
- Ivermectin is easy to take; treatment requires only one to two tablets once a year, every year.
- Ivermectin is safe to take.
- Ivermectin has specific and limited side effects that affect only a small percentage of those treated. This new drug has far fewer and less serious side effects than Banocide, for example. Treatment of these side effects, should they occur, is provided free of charge.
- Ivermectin is being provided free of charge by the manufacturer to Nigeria for an unlimited period as long as onchocerciasis persists.

14/6

AUDIENCE	BEHAVIOR	MESSAGE	CHANNELS: TOOLS
<p>Beneficiaries (eligible people in hyperendemic communities)</p>	<p>Take Ivermectin at the recommended dose once a year, every year.</p> <p>Recognize the symptoms of onchocerciasis.</p>	<p>Key messages: Take Ivermectin once a year, every year.</p> <p>Ivermectin prevents blindness caused by RBD and relieves other consequences of the disease: Intense and prolonged itching, roughened and thickened skin, and skin depigmentation.</p>	<p>Interpersonal communication: health education talks</p> <p>Print: educational flyer/posters, stickers with logo</p> <p>Traditional performances: Community drama, songs</p> <p>VCRs, audio tape players: video and audio tapes of community drama/song</p>
<p>Decision makers</p>	<p>Budget and provide resources — funds, personnel and transport — to ensure a continuing supply of Ivermectin.</p> <p>Participate in IDP planning.</p>	<p>Key messages +: River blindness disease is a significant problem in your area and reduces the health and welfare of your people</p> <p>RBD affects your LGA's economy; support for IDP is a worthy investment.</p> <p>IDP requires an annual budget commitment for at least 15 years.</p>	<p>Interpersonal: Promotional visits</p> <p>Print: Information packets</p> <p>VCRs and tape players: tapes of drama/songs, videos on RBF</p>
<p>Health promoters (health workers, teachers, advocates)</p>	<p>Health workers: attend ATOP training classes, become familiar with IEC section of ATOP Training Manual, implement IEC strategy</p> <p>All: Educate users or potential users about Ivermectin.</p>	<p>Key messages +: Ivermectin is an improved drug. It requires only one dose a year (1/2 to 2 tablets according to body weight) and has fewer side effects than Baniocide</p> <p>Messages on side effects and eligibility requirements.</p>	<p>Print: IEC section of ATOP Training Manual, flyers for schoolchildren, T shirts & stickers</p> <p>VCR and tape players: tapes of drama/songs</p>

1997

- The local health authorities are making ivermectin available to communities that, according to a scientific survey, are shown to be affected by onchocerciasis. At first the drug will be supplied to communities most severely affected, but eventually anyone who is afflicted with the disease will receive treatment.
- Ivermectin relieves the prolonged, intense itching river blindness causes in its early stages.
- Ivermectin prevents "leopard" skin (depigmentation) or controls it from spreading in an affected individual.
- Ivermectin rids the body of most other parasitic worms. As a result, consumers say they enjoy a restoration of energy and productivity.
- Ivermectin prevents blindness caused by river blindness disease. For consumers whose eyesight has been affected already by the disease, ivermectin stops further visual impairment.
- Skin that has become rough and thick ("lizard" skin) will return to its former smoothness and luster following annual treatment with ivermectin.

The long duration of the program will also permit the addition of further rationales that underpin support statements, such as the causes of various signs and symptoms and the cycle of transmission. Experience in the ATOP area suggests that communities can be led to understand the notions of transmission, life cycle and microfilarial "load" if they are explained in a culturally relevant manner — usually in the form of a narrative. Health educators will need to be trained in appropriate communication strategies. Above all, they must ensure that a solid understanding of support statements has been achieved before broadening their explanations to more sophisticated or complex subjects.

Key messages

- Every communication to every target audience should contain, at a minimum, the **two key messages**:

- Take ivermectin once a year, every year.
- Ivermectin prevents blindness caused by river blindness disease. It also relieves other consequences of the disease, such as intense and prolonged itching, roughened and thickened skin, and skin depigmentation.
- Secondary messages may be developed as needed based on the supporting statements above.
- The tone of the messages created by this communication plan should be positive.
- At all times, we are trying to encourage specific behaviors clearly identified elsewhere in this communication plan.
- We should avoid "selling" ivermectin to our target audiences. Rather, we should present reasons consumers should take the drug every year that are compelling to them.
- River blindness is a serious, debilitating disease that creates misery and hardship in the lives of tens of thousands of Nigerians. To communicate effectively about the terrible effects this disease has on individuals and communities, we need to be emotional at times in our communication efforts. Because this disease affects individuals, our communication should be personal as well.
- Certain messages — especially those addressing side effects and side benefits — will need to be cautionary and preemptive to counter any misconceptions consumers may have about the risks and advantages of taking ivermectin.
- Communication activities directed at policy makers need to be especially persuasive when their express purpose is asking for release of funds, vehicles and personnel to assist with the health education and ivermectin delivery. One must be ever-mindful of the competing demands upon these policy makers for scarce resources.

Communication channels and tools

Community members

Members of the communities chosen for treatment will be reached through at least three channels: interpersonal communication, drama and song, and print.

Interpersonal communication will be the initial channel. Messages will be conveyed through a health education talk covering the following aspects of IDP: benefits of ivermectin to consumers, possible side effects and what to do if any are experienced, the treatment protocol, directions for posting the flyer/poster (see below) in their home, and the critical importance of demanding ivermectin in a year's time, especially if the onchocerciasis control team (OCT) does not arrive on time. This communication will be provided by the OCT, which includes health workers assigned to help with health education and ivermectin distribution, or by CBDs.

The interpersonal communication will be supported by up to four *printed flyer/posters*. Sufficient quantities will be produced so that each household receives a copy to keep and post at home. Flyers will be passed out to each child or adult treated with ivermectin and used as teaching aids during health education talks. If funds permit, a fresh flyer should be received every year.

Flyer/posters will be designed to communicate their messages predominantly through graphic images. Illustrations will have captions or headings, but the intent is that an illiterate person will understand the messages portrayed by the graphic images, especially after having been addressed through interpersonal communication. One side of the flyer/poster will give a reason for taking ivermectin (e.g. relieves intense, persistent itching), couched in a narrative vehicle. This side will be designed as a poster to be put up somewhere in the household.

Messages will also be delivered in *traditional song and dance/theater*. The Arts Council of each state, through their outreach people in each LGA, will assist community members in developing their own dramas and songs. If possible, a workshop of community representatives may be organized.

A fourth communication channel, *radio*, has some limitations and poses some problems. The medium could be used but to a specifically limited extent. The major limitation of radio is that only about 25 percent of rural villagers have access to a radio. Moreover, the percentage of households with a working radio in the small research sample of eight communities showed wide variation in radio ownership, from 4 and 60 percent.

If not used carefully, radio may create demand for ivermectin in communities that are not in endemic areas or will not be served by the IDP. There are two ways to control this undesirable effect. First, in an environment characterized by extreme linguistic diversity, some endemic areas eligible for treatment use a language unique to a small population. One may broadcast programs in these languages from local transmitters to minimize demand-creation outside of qualifying endemic areas. Each LGA has been requested to name one "local language" for broadcasting local programs. So far, however, few of these choices correspond to the languages of hyperendemic areas. Second, for the larger language groups — and especially the *lingua franca*, Hausa — the role of radio can be confined to information, such as teaching about the spread of the disease, its effect on humans, the loss of productivity, and the successes of ATOP activities.

Decision makers

The audience of policy makers or decision makers in the LGAs will be addressed through three channels of communication: interpersonal communication, video and print.

Interpersonal communication will be the first channel used to urge decision makers to support the IDP. Health promoters and IDP managers will continue to make personal visits to LGA chairmen, members of the LGA council, and others. During these visits the benefit of the IDP to the constituents of the decision makers and to them as **elected** officials will be discussed, together with the specific contributions in money, personnel and motorized transport required from the LGA.

A *video* that shows the debilitating effects of river blindness on the people in the decision makers' jurisdictions is another possible communication tool for persuading decision makers to support the IDP. A video shot in Adamawa and Taraba States has been completed by a local media house.

Interpersonal communication will also be supported by *a printed information packet* of factual material. Possible contents may include the following:

- *a personalized cover letter*, computer-printed, citing the name of each recipient;
- *a socio-economic information sheet* with maps of local endemic communities, statistics on prevalence and risk, estimates of the economic consequences of the disease to the local region and potential productivity gains through treatment (ATOP will supply this data);
- *a medical information sheet* describing in simple terms the etiology, signs and symptoms of the disease, numbers of people afflicted or blind (and those at risk of same), and the use of ivermectin to control the disease in individuals;
- *a project information sheet* describing goals and objectives, quantified outputs, and (in concrete and specific terms) the inputs in money, personnel and motorized transport required from decision makers to ensure continued supply of ivermectin;
- *illustrative photographs* taken in the ATOP and nearby areas depicting disease signs, ivermectin distribution, prevalence surveys, and so on; additions and substitutions will be possible with the project camera and local color processing laboratory in Yola.
- In addition to the basic information above, the packet may also include: *personal profiles* of onchocerciasis victims or personal experiences with ivermectin treatment, *samples of IEC tools*

developed for communities (flyer/posters, T-shirts, etc.), and *reprints* of relevant articles from the local, national or international press.

Some of the papers and pages described above will not need to be changed while others should be revised annually. Through the use of word processing, the information packages can not only be customized for each LGA (and personalized for each recipient), but can be updated annually. Choice of binding should enable the fact pages to be updated easily. Pocket folders may be appropriate.

The information package will be presented at a gathering of policy makers. In addition to an oral presentation, the video could be shown, provided a VCR is available. The presentation should end with an appeal for assistance with funds, logistics and personnel.

Health promoters

In the process of developing the communication program, ATOP planners identified several categories of health promoters who could help the IDP reach its goal. Obviously, health workers at state, LGA and district level constitute one such category; others would include teachers, religious leaders and members of public interest groups.

Health promoters are unlike the other target audiences in that there is a two-step process involved. First, health promoters must be prepared to assist directly in IEC activities; second, they will in turn train community-level volunteers in providing health education to the consumers.

Some health workers, despite their occupational advantage, may lack the knowledge and skills necessary for effective health education. Training will probably be necessary in three areas: knowledge of river blindness and treatment protocols; skills in interpersonal communication at the community level; and a thorough understanding of the content and rationale of the health education materials developed for the two other target audiences — beneficiaries and decision makers.

IEC materials developed for the health workers may include:

- an IEC section for the current ATOP training manual, and
- a health education "kit," including IEC and demonstration materials.

Teachers in primary and post-primary schools comprise a second group of health promoters. The primary science curriculum offers an entry point for teaching about river blindness disease to children in endemic areas. A health sciences and human biology curriculum exists at the post-primary level. Beginning with the class of Primary One entering the current school term, Nigeria will eliminate the six-year Primary School Certificate and replace it with a nine-year Junior Secondary Certificate. Under this plan, the number of children in junior post-primary level can be expected to increase by 1999. In the first instance, however, primary students will be the largest and most appropriate audience for onchocerciasis education.

Communication materials directed at primary science teachers may be developed eventually. The materials should include brief scientific publications on onchocerciasis, together with some relevant fact sheets and papers developed for decision makers. Tools directed at primary level students may include a simple educational flyer/poster similar to that described for communities.

A third potential group of health promoters are organizations concerned with the welfare of people. Sometimes these groups focus on women. Examples include the Better Life Programme, under the State Women's Commission, and the State Council for Women's Societies. Such professional groups as the Yola Rotary Club have been contacted about supporting the project. Communication materials developed for special interest, advocacy or NGO groups should be very similar to those developed for decision makers.

Operational plan

The policy of the National Onchocerciasis Program in Nigeria foresees the creation of a State Onchocerciasis Control Task Force in each endemic state of the Federation. A side benefit of the ATOP Communi-

ation Plan has been a renewed sense of urgency in Adamawa State concerning this policy. Furthermore, the Directorate of Disease Control, Adamawa State Ministry of Health, has proposed the creation of a Communication Subcommittee under the Task Force. Principal members will include staff of the Ministries of Health, Information and Education, the Women's Commission, the State Council of the Arts, Africare, and possibly others. So far, the functions of the subcommittee remain to be defined. It is assumed, however, that its functions will be chiefly catalytic and advisory.

Within ATOP itself, a health educator from the Epidemiological Unit has recently been assigned half-time to the project. This person will assist in overseeing the development, printing or replication, and distribution of communication materials. He will also serve as a trainer for SOCT members, CBDs and other health workers in the program. In addition, Africare has requested that one Peace Corps volunteer be assigned to ATOP to train trainers and assist in monitoring health education activities. Should the Peace Corps agree, the volunteer would likely be on site by the end of 1993.

Efforts will also be made to establish suitable operational mechanisms in Taraba and Borno States. In both states, ministries of health have on staff one or two trained health educators, and they may be included in training events concerning health education strategies and materials.

Message delivery timetable and strategy

One striking and inescapable feature of the ATOP IDP is its seasonality, owing to the combined constraint of rains and poor roads. Situated at a latitude of about 9° N., the region has one very rainy season spanning May through August and one very dry season from January through March. Rainfall in the intervening months is variable, but usually not heavy enough to impede travel on the laterite roads and paths that link settlements in hyperendemic areas. During the rainy season it is nearly impossible to visit rural communities unless they are located along tarred roads. About one-quarter of villages must be reached on foot in all seasons.

Because of limits of logistics and time, most villages will be visited by the SOCT only once a year at the moment of annual distribution. For communities, then, most IEC activities will necessarily take place when teams are actively distributing ivermectin. An exception would be information conveyed by radio. It is important that adequate time be allowed for general village health education talks and for supplemental education in community groups and homes while community members are being observed ingesting the drug.

NGO outreach programs and other health education activities (e.g. AIDS project, Agricultural Development Programme, Better Life Programme) offer further opportunities to contact villages. At the very least, all rural development workers entering an endemic area should be prepared to distribute flyer/posters and if possible to include IDP health information in their education and training programs.

While community education will in most cases coincide with delivery, policy talks and planning with decision makers may be scheduled during the non-delivery period. A second (or possibly third) visit would be useful soon before delivery begins in the decision makers's area. The purpose of the visit would be to ensure that necessary money, personnel and motorized transport were available and ready.

Health promoters will need training to deliver community-level education or advocacy talks with decision makers. This training should be timed to complement — and not conflict with — ivermectin delivery.

The message delivery schedule that appears below spells out the different themes that will be given priority with each target audience through the various media at different periods of the year. The schedule provides a framework for consolidating efforts and reinforcing messages through multiple channels.

The periods of intense communication activities with specific messages do not preclude a continuous flow of information, advice and encouragement to the target audiences on the full complement of messages.

Monitoring and evaluation

ATOP management — and especially the health education personnel — will be responsible for monitoring materials development, reproduction, training in the use of materials, community-level health education, advocacy with decision makers and dissemination of IEC products. A plan for each of these activities will be drawn up and incorporated into the overall project logframe. Similarly, IEC will be a feature of the ATOP general health information system.

A separate evaluation of the ATOP IEC should be undertaken within one year of its inception and prior to the end of A.I.D. funding in mid-1994. In addition, measurable output and process indicators related to the objectives of this communication plan should be developed for evaluation purposes as part of the Operational IEC Plan. In Adamawa State such a plan will be developed with and approved by the IEC subcommittee of the state Onchocerciasis Task Force.

Table 4. IDP Communication Delivery Schedule

Desired Actions/Behaviors	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S
Policy Planning with Decision Makers (DMs)	X	X	X	X									X	X	X	X	
Delivering Core and other Messages to DMs	X	X	X	X									X	X	X	X	
Mass Media Publish or Broadcast IDP info.	X	X	X	X	OR ANY TIME												
Training Health Promoters on IEC Techniques and Tools	X	X	X	X									X	X	X	X	X
Developing/Updating Print Communication Materials	X	X	X	X									X	X	X	X	X
Developing/Updating Video Communication Materials	X	X	X	X									X	X	X	X	X
Developing/Updating Drama Communication Materials	ANY TIME																
DMs Release Support to IDP Activities					X	X	X	X	X	X	X	X	X				
Beneficiary Communities Take Ivermectin					X	X	X	X	X	X	X	X			X	X	
Delivering Core Messages to Beneficiary Communities					X	X	X	X	X	X	X	X					
Delivering Additional Messages to Beneficiary Communities															X	X	
Monitoring	AT ALL TIMES																
Evaluation														X	X		

37

15

Mul yiwuwa wadannan alamomi na faruwa ne sabili da ciwon dundumi. Sba avamatin sau daya a shekara kowace shekara. Tambayi wani ma'alkacin kiwon lafiya gamo da jinyar sa.



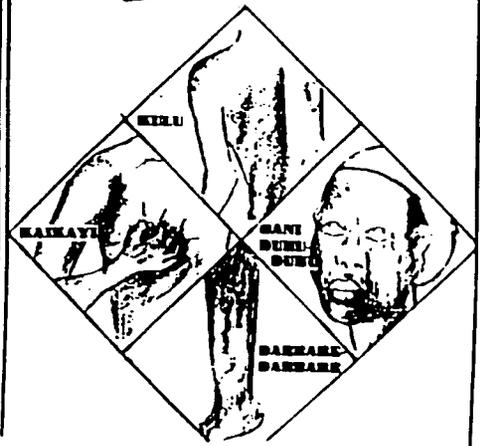
**YAKI
MAKANTA**
SABILI DA CIWON DUNDUMI



**SHA
AVAMATIN
SAU DAYA A
SHEKARA
KOWACE
SHEKARA**

"Dundumi" is used in Northeastern Nigeria as the Hausa language equivalent for river blindness disease. This handbill was developed in collaboration with

Kana da wadan nan alamu a jiki?



15/1



KAIKAYE:
Na dukkan jiki mai tsanani kuma na tsawon lokaci?

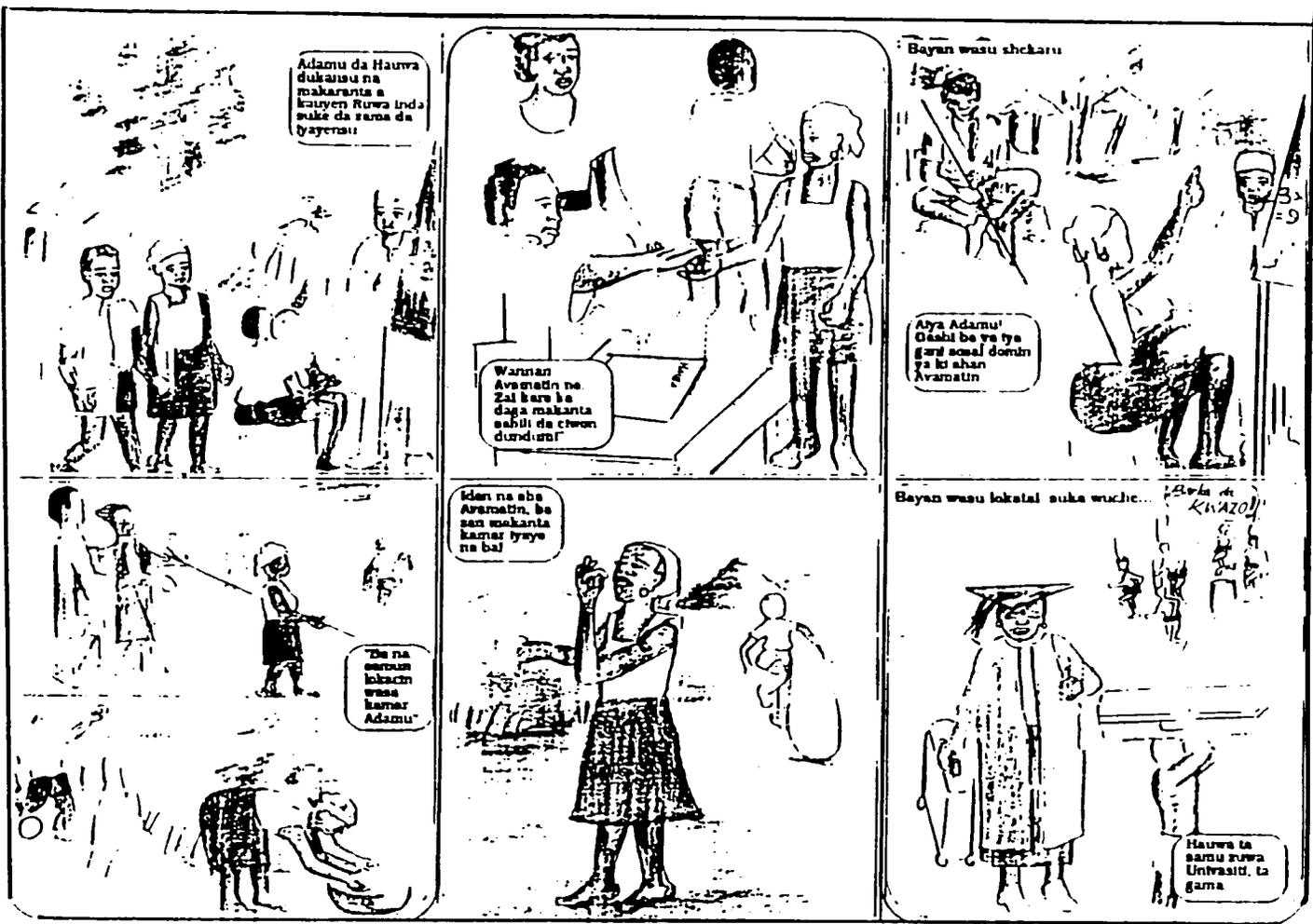


KULI:
Marasa zafi wanda ke fitowa yawan a kwankwaso ko a kifi?

DABBARE:
Fata mai kaushi da



GANI DUMU DUMU:
Rashin gani socei da kuma ruwan ruwan ido?



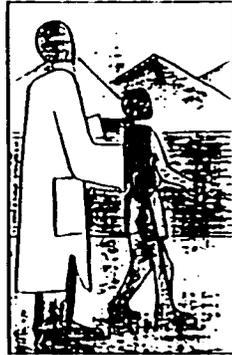
1/1

Kasance kamar Hauwa. Kare kanka daga makanta sabili da cewon dunduuni. Tambayi wani ma'alcasin kiwon lafiya game da jinyar sa. Sha Avamatin sau daya a shekara kowace shekara.



Wane misali za ka bi?
Na Hauwa ko Adamu?

**YAKI
MAKANTA
SABILI DA CEWON DUNDUNI**



**SHA
AVAMATIN
SAU DAYA A
SHEKARA
KOWACE
SHEKARA**

"Dunduuni" is used in Northeastern Nigeria as the Hausa language equivalent for river blindness disease.

This handbill was developed in collaboration with Africare, USAID, ASMOH, TSMOH, MSC1 and AED.

**“Ido shi
ne
madubin
jiki”**

Tatsuniya Jean Adams da Hauwa a kanyen Rawa.



1/2

**YAKI
MAKANTA**

SABILI DA CƆWON DUNDUMI



**SHA
AVAMATIN
SAU DAYA A
SHEKARA
KOWACE
SHEKARA**

**Sake shan naka
A v a m a t i n
s h e k a r a
m a l z u w a**

113



164