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## ADVOCACY STRATEGIES FOR PROMOTING COMMUNITY PARTICIPATION IN DISEASE CONTROL IN NIGERIA: LESSONS FROM IVERMECTIN TREATMENT IN ONCHOCERCIASIS CONTROL<sup>®</sup>

### Introduction

Onchocerciasis, a filarial disease caused by *Onchocerca volvulus*, is endemic in most parts of tropical Africa, where 20 to 40 per cent of the world's 17.5 million cases are found. Nigeria is the country most affected by the disease (Shu, et al, 2000). The human suffering arising from this disease is enormous. This is evident from the glaring cases of disfigurement, blindness and impaired physical, mental and social health, resulting in socioeconomic retardation of the continent. A number of studies have demonstrated the direct relationship between the savannah or blinding strain of onchocerciasis and economic prosperity. According to Samba (1994), in 1973, just before the start of the WHO Onchocerciasis Control Programme (OCP) in West Africa, it was estimated that a total of 65,000 km<sup>2</sup> of agriculturally desirable land in river valleys of the Volta Basin had been deserted because of the disease at a loss of US\$30 million per annum in potential output. As the OCP got underway, cultivation of abandoned or unused land began slowly around 1983 and started to accelerate in 1987-88, reaching an estimated 10.7 million hectares in 1995, and a projected 22.9 million by 2014 (Kim and Benton, 1995; Oladepo, et al., 1997).

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This paper derives from a multi-country study on advocacy for sustained ivermectin treatment in onchocerciasis control and funded by UNDP/World Bank/WHO Special programme for Research and Training in Tropical Diseases (TDR) Filariasis Intervention Research (FIR) Task Force.

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Consequently, Onchocerciasis, or river blindness has received primary attention for its blinding effects. However, half of the 17 million persons affected in Africa live in zones where the forest strain of the parasite lives and is more likely to cause skin rashes and musculoskeletal pain than blindness (WHO, 1995). While the non-blinding or forest strain of Onchocerciasis in South Eastern Nigeria, may not be as dramatic, it is serious enough to raise concern. The skin disease is a major source of social stigma. According to Brieger, et al, (1998), the social stigma associated with diseases that affect the skin has been well documented. "Tolerance by society is the exception rather than the rule" (Lucas and Gilles, 1973). Amazigo (1994) documented the social impact of onchocercal skin disease (OSD) on women in Eastern Nigeria. Those affected appear to marry at a later age and wean their children sooner than those without skin lesions. WHO (1995) has quoted other reports of stigmatization such as rejection of persons with onchocerciasis in areas of Nigeria where the condition is believed to be associated with dirtiness, as well as the social isolation of persons with severe manifestations such as hanging groin in Venezuela.

Of recent too, concern is being raised about the economic impact of the non-blinding strain of onchocerciasis. Baseline data from Ibarapa LGA of Oyo State, one of the sites in a multi-country study of the social and economic effects of OSD showed that farmers with OSD had significantly less farmland under cultivation (9117 m<sup>2</sup>) than those with no OSD (13850 m<sup>2</sup>). The farmers with OSD did not appear to have alternative income strategies to compensate, and consequently, they had a lower value of personal wealth indicators than those without OSD (Oladapo, 1997). It was thus concluded that although the effect of forest strain onchocerciasis is less dramatic than the blinding form, the disease still poses an important economic threat in the region. This is equally true of the South Eastern region of Nigeria, with the same forest strain, thus calls to concerted efforts to control in our societies.

Its control strategy is based on annual administration of ivermectin to all members of communities where the disease is highly prevalent and where therefore the risk of blindness or skin



disease is greatest. Unfortunately, there appears to be a lack of communication between health services and the general population, resulting in low motivation to participate in the distribution activities (Shu, *et. al*, 2000).

The African Programme on Onchocerciasis Control (APOC) was established in December, 1995 with the objective of setting up effective and self-sustainable ivermectin distribution in 19 countries of Tropical Africa, where 50 million are at risk of onchocerciasis using the Community Directed Treatment with Ivermectin (CDTI). CDTI is an approach to community involvement in disease control that was freely tested with support from UNDP/World Bank/WHO Special Programme on Research and Training in Tropical Disease (TDR). To achieve this, there is need to mobilize, sensitize and create broad base awareness about the disease and benefit of treatment in target communities, because according to Shu, *et al* (1999), compliance with ivermectin treatment may not be effective if communities perceive onchocerciasis as a low-priority health problem.

Although APOC is sustaining onchocerciasis control programme in Africa, this will only last for 5 years with a process of devolution, it is expected that National Onchocerciasis Control Programmes (NOCPs) will continue to manage their own Community Directed Treatment with Ivermectin for upwards of 15 years.

CDTI approach is the principal control strategy of APOC. It is a process of active community participation in drug delivery and reporting. The approach recognizes decision-making and problem solving by communities and health services as crucial towards installation of sustainable ivermectin treatments.

This hopefully will lead to increase in demand of drug by community members. After sensitising communities by creating the demand of the drug annually, there is also a need to ensure that this demand is sustained by improving the supply and distribution mechanism, that is, there is a need to ensure that there is enough supply of Mectizan for distribution to meet the endemic communities' demand.



In Enugu State, distribution of Ivermectin started in January 1995 with hyper and meso endemic LGAs being actively treated while hypo-endemic LGAs were treated passively.

The main objective of this programme is to control onchocerciasis to a level where it ceases to be a public health problem through mass distribution of annual doses of Mectizan for at least 10 - 15 years to all eligible persons living in hyper and meso endemic communities. By the year 2000 when the present study commenced, Enugu State was in its fourth year treatment round. The annual treatment objective was 1,520,000 of eligible at risk - population and 1,453,356 persons were treated in 3,445 at risk - villages.

The programme encountered major problem ranging from lack of sufficient mobility for personnel in LGA for both monitoring and supervision, constant changing of Local Government Area policy makers as well as re-allocation and transfer of Local Onchocerciasis Control Team (LOCT) members to other LGAs. Also non-involvement, ownership, acceptance and willingness of policy makers and opinion leaders in communities to pay remuneration to CDDs also hinder implementation of the programme.

In view of the above, there became a need to increase public awareness of onchocerciasis and its treatment (CDTI) through intensive media campaigns and other means of mobilization among various implementors/partners during which the structure of community and various problems faced by all partners involved in the process of onchocerciasis control using ivermectin will be identified for better sustainability of the programme. The effectiveness of the different advocacy strategies is yet unclear.

This paper discusses the results of the effort at developing, implementing and evaluating a framework for advocacy to ensure sustained demand, supply, distribution and treatment coverage of ivermectin in CDTI for onchocerciasis. It also identifies the most effective advocacy strategy for eliciting behaviour change in disease control in Nigeria.

### **Conceptual Framework**

In this framework a sustained high coverage of individuals in



the communities is affected by the flow of drugs and information between different levels involved in the demand, supply and distribution of ivermectin. At the individual level in the community, there is need for information on the availability of the drug and the community should be organized, if informed, to collect the drug from the health facility. Based on the demands from the community, the health facility compiles and makes demand on the Local Onchocerciasis Control Teams (LOCTs). The LOCT in turn makes demand on the sub nation/national levels. At each level, there should be adequate information on demand and availability of ivermectin at the different levels.

However, a number of factors were envisaged to affect the flow of information and drug between levels in the distribution chain.

## **Research Design, Materials and Methods**

### *Design and study area*

This study was operations research and used a pre- and post-intervention design. Elements of case study research were included in that full documentation of intervention processes and responses were undertaken to ensure that the researchers could fully explain how and why the advocacy intervention works or does not. The study focused on the LGA as the unit of intervention and analysis.

Enugu State, which is located in Southeastern Nigeria, lies between latitudes 5° 55' and 7° 10' North and longitudes 6° 50' and 7° 55' East. It is bounded in the north by Kogi and Benue States, in the East by Ebonyi and Abia States, in the South by Ebonyi, Abia and Anambra States and in the west by Anambra state. It is in the rainforest zone.

Administratively, the State is divided into seventeen (17) Local Government Areas. According to the 1991 population census, the population was put at 2.1 million with a 2001 projection figure of 2,809,125. The state is predominantly rural and agrarian, with 78.3% of the population living in rural local government areas and 65% of the working population being farmers. The age/sex structure of



the population of Enugu State is broadly similar to the overall pattern for Nigeria, with 50.7% being males and 49% females. The population is typically youthful with <10% under the age of 5 years. The population dependency ratio is also high 46.9% in the rural areas and 50.4% in the urban area (Ukwu, 1998).

Epidemiological assessment for level of endemicity using the Rapid Assessment Method (Remo) show that out of 1,683 villages identified, 1,120 are hyper endemic for onchocerciasis, 211 are meso endemic, 349 are Hypo endemic. Only three villages had no signs of the disease.

Distribution of Ivermectin in the State started in January 1995 with hyper and meso endemic LGAs being actively treated while hypo-endemic LGAs were treated passively through the community based ivermectin treatment strategy (CBIT) supported by the Lions Club International Foundation. In 1998, the community-directed treatment with ivermectin (CDTI) project was established with APOC support.

The main objective of this programme is to control onchocerciasis to a level where it ceases to be a public health problem in the State through mass distribution of annual doses of ivermectin for at least 10-15 years to all eligible persons living in hyper and meso endemic communities. Four LGAs, namely Ezeagu, Nkanu-west, Enugu east and Oji River, were selected for the advocacy study for sustained distribution of ivermectin in the State.

### **Study Population and Sampling at each level**

The study population broadly consisted of all partners in the process of onchocerciasis control using ivermectin. These included villages, their leaders and the CDDs they have selected. Responsible members of staff of the local government health service were also key partners studied. These include health facility staff who assist in ivermectin management and CDD supervision, the local government onchocerciasis control team, and other health department staff who play a role in managing the programme. Local policy makers such as councillors play a role in determining



priorities and funding for health programmes including onchocerciasis.

In each APOC country there are different levels of management and decision making prior arrival of ivermectin supplies at the level. These include state and zonal onchocerciasis task forces and programme managers and staff of various partner NGOs. Table 1 presents the distribution of samples among the different stakeholders and levels of the study.

#### 5.4 *Data Management and Analysis*

Quantitative data entry and analysis could be done using EPI INFO or any other statistical package for handling quantitative data. The qualitative (content) entry and analysis should use standard word processing programmes and Text Base Beta or any other computer package for managing qualitative data. Standardized data entry formats should be developed prior to the analysis phase. Simple descriptive statistics and graphic illustrations could be used in presenting the key demographic characteristics of the study subjects. Specialized statistics such as chi-square ( $X^2$ ) could be employed in comparing the data pre- and post intervention.

#### **Intervention process:**

The intervention was planned to take place immediately after the situation analysis of the baseline (phase I) data collected in the year 2000. The evaluation exercise would then be targeted at comparing the results of ivermectin distributions immediately before intervention and immediately after intervention. Unfortunately, there was a lapse with one full year of inactivity from the period of the baseline data collection and the intervention, which eventually took off in year 2002. It then became necessary to revalidate the data collected in year 2000. The revalidation exercise took place in the last quarter of year 2001, thus giving the true treatment situation before the intervention in year 2002. The results of the revalidation exercise are presented on Table 2 below.

The Table reveals that there is a general drop in the therapeutic coverage from what it was in 2000 when the phase 1 survey was conducted. In some communities, now, there is no evidence of CDTI,



that is no distribution of drugs, and no CDDs. The CDDs discontinued because of lack of cooperation and compensation from community members. In others CDDs collect drugs but fail to treat anyone as no one wants to be treated.

The high treatment coverage recorded in 2000 may be attributed to the fact that the phase 1 survey came very close to the independent monitoring of the State project in August 1999. The onchocerciasis control team itself for the monitors and intensified efforts immediately after the monitoring but slacked on their duties year after. Non-payment of salary of the LGA staff was top among reasons given for the slack in the implementation of CDTI in the State.

### **Pre-testing of intervention packages**

The materials for the intervention were pre-tested in two communities, namely Umuopu and Aji in Igboeze north LGA of Enugu State. These pre-tests confirmed that the materials could be understood the way they were designed and packaged in the joint workshop for the design of the intervention materials. Subsequently the team produced the required quantity of advocacy materials as stated in Table 3 below.

### **Advocacy intervention activities**

The intervention took place between February 2002 and May 2002. The intervention consisted of the use of radio jingles, radio drama, workshops, public rallies calendar, posters, and stickers in promoting community ownership and support for Onchocerciasis Control programme. The team took advantage of special events such as February 12 Onchocerciasis Awareness Day to advocate for greater policy maker and community commitment to CDTI.

### **Results**

#### ***Treatment Coverage***

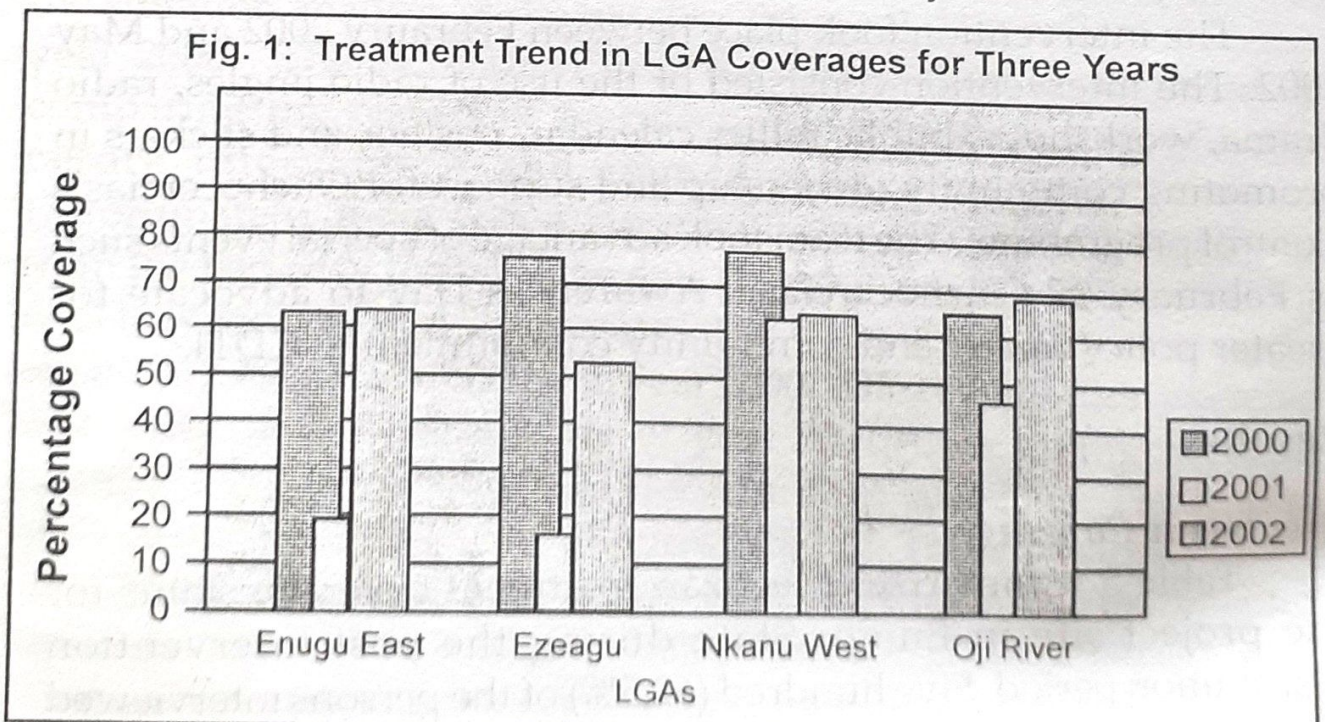
Table 5 summarizes Mectizan treatment coverage status for the project site in Enugu State during the post intervention distribution period. Five hundred (62.5%) of the persons interviewed



for treatment coverage received Mectizan. While this represent a fall in treatment coverage from the 70.0 per cent recorded in 2000 pre-intervention survey, this was an increase over the revalidation data of 2001, which stood at 36.2 per cent. The chi-square value of 120.21 showed that the rise over the situation immediately before intervention in 2001 is statistically significant at .0000 levels.

Figure 1 shows that there was a general rise in treatment coverage recorded in 2002 over 2001 in all the LGAs irrespective of the medium of intervention. It would be reiterated that workshops and public rallies (interactive mode of communication) were employed in Ezeagu and Nkanu West LGAs while posters, door stickers and calendars (print mode of communication) were used in communicating the need for treatment and community ownership of CDTI in Oji River and Enugu East LGAs.

The Table 5 above shows that six in every ten persons interviewed in Enugu State received the drug during the last distribution. When examined for the different LGAs, one observes that compliance is highest in Oji River and lowest in Ezeagu, where 69.0 percent and 53.0 percent respectively received the drug. The commonest reason for not receiving drug is absence during distribution in the different LGAs. Unlike the pre-intervention survey results, refusals did feature significantly.





The number of tablets received by individuals ranged from one to four. This is understandable, in recognition of the fact that dosage is varied by a number of factors, including age and height. In the pre-intervention survey of 2000, it was observed that in Oji River, no one ever took four tablets. A great majority here took two tablets. This pointed to two facts, namely that the last distribution here had insufficient supply of drugs and consequently, some rationing of the drug. It could also mean poor knowledge on dosage by CDDs who were inadequately trained on the change in dosage. The situation changed with the intervention, which influenced the distribution process.

Those who did not receive drug as responsible for their action mentioned a number of reasons. The commonest reason, mentioned earlier, was absence during distribution (40.3%). Unlike the pre-intervention survey, where this was most noticeable reason in Ezeagu LGA because of the phenomenon of migrant farming the post intervention data reveal that only 10.6 percent of the Ezeagu people were absent during distribution.

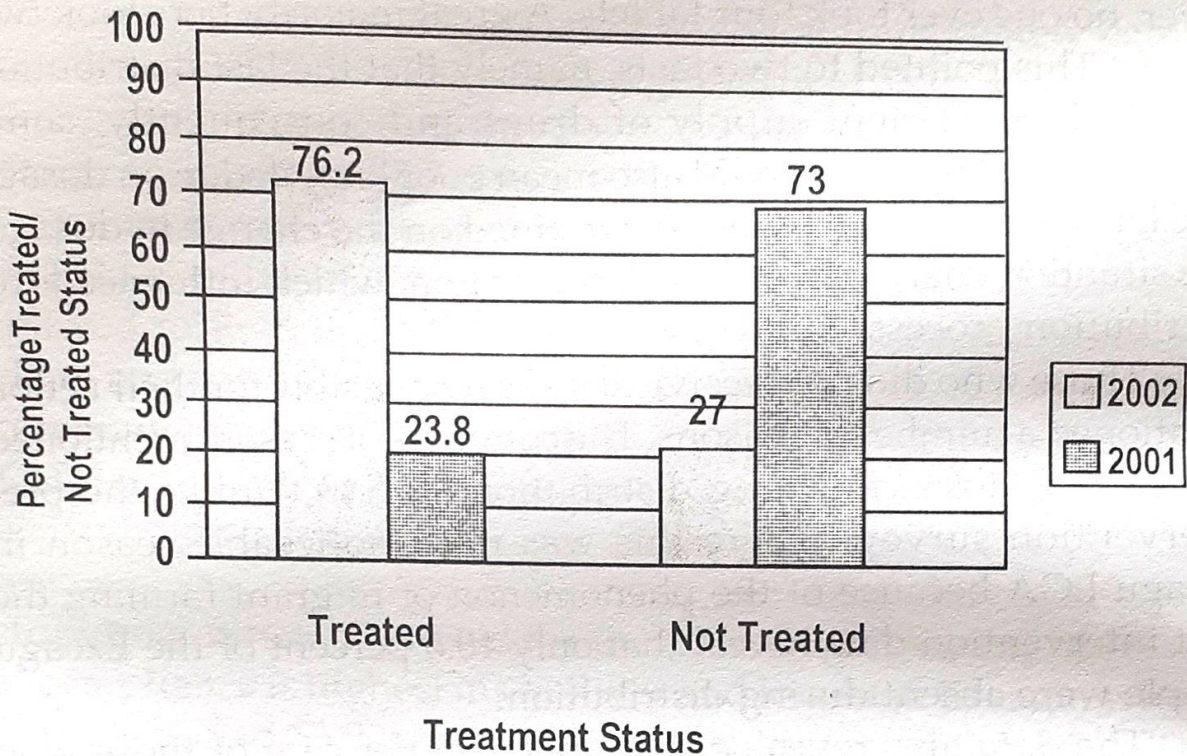
The data also revealed that only 23.8 per cent of those who received treatment in the post intervention period received treatment the year before. On the other hand, as 73.0 per cent of those who did not receive treatment in the post-intervention period did receive treatment the year before. This shows a decrease in the number not receiving treatment. This is further shown on Figure 2 below.

On awareness and information dissemination about ivermectin, the results are contained on the Table 6 below.

In response to the question of whether they have ever heard of ivermectin, 97.0 per cent of the respondents responded in the affirmative. This is an increase when compared with the proportion that gave similar response before the intervention. In the pre-intervention phase, 93.5 per cent of the respondents indicated that they have heard of ivermectin. However, the increase in the proportions indicating that have heard of ivermectin is not significant.



Fig. 2: Treatment Status of Household Members Before and After Intervention



On the sources of their information, more of the players in the different sources, namely health staff, CDDs, community leaders, churches and community meetings are getting increasingly involved in the dissemination of information about Mectizan distribution and the control of onchocerciasis in the communities. The results show that between 24.7 per cent and 96.9 per cent of the respondents indicated that they got information on ivermectin from these sources. The single most frequently mentioned source was the CDD with 96.9 per cent. The pre-intervention data, on the other hand, revealed that the single most frequently mentioned source was the CDD with 59.3 percent of the respondents indicating it. Health staff (28.1%), community leader (8.5%) and church (5.6%) followed this. The source with the least mention is community meetings, which was indicated by only one person.



The differences in the levels of involvement of these sources in the dissemination of information about ivermectin were highly significant. Further more, community meetings and community directed town crier were now being used as major sources of information dissemination on onchocerciasis control in the communities.

Table 6 also revealed that unlike the pre-intervention data, more people (95.0% and 33.0%) now indicated that ivermectin cures other ailments promote good health. A statistical test for significance revealed that the differences were significant at 0.000000 levels respectively.

Table 7 above shows that only 97.0 per cent of the respondents in the post-intervention survey attested to the availability of the drug during the last distribution in their community. Ninety-seven per cent of the entire respondents said they were informed of the availability of the drug. These scores were increases over the pre-intervention data where only 88.9 per cent and 92.9 per cent indicated that drugs were available and they were informed of the availability of the drugs respectively. The Table also shows the increased involvement of the community structures such as community leaders, town community directed town crier and community meetings in getting people informed of the availability of the drug in the community. These differences over the pre-intervention situation were statistically significant.

Over ninety per cent (97.0%) of the entire 200 respondents indicated that the drug (ivermectin) has ever been distributed in their community. However, only 90.0 per cent indicated that they were told when the drug was to be distributed in their communities. This is similar to the pre-intervention results. Once again, their source of information on the distribution included health staff, CDD and community leaders, among others. The community structures were significantly more involved during the post-intervention phase than the pre-intervention phase.

Another significant finding is that increasingly more people (96.0%) in the post-intervention era, unlike the 26.7 percent in the



pre-intervention period indicated that there were no problems. No one mentioned any fears about side effects.

### **Policy Makers, Onchocerciasis Managers' Experience and Opinion:**

Policy makers at both the State and LGA levels talked on a number of issues on the CDTI process. On the procurement and movement of the drugs, the responses tend towards the fact that there is a definite pattern for drug requisition and procurement. For most,

"the health facility head will request for the drug from the district health supervisor and the community will get the drug from the facility head".

Unlike the pre-intervention period when problems of transportation were highlighted, this was not mentioned during the post-intervention period. Instead, according to the LGA onchocerciasis control team coordinators,

"we are supported by the health department to move the drugs to the nearest health facility and the communities when informed simply send their CDDs to come and collect their own drugs".

With respect to the general problems encountered in the programme, a number of issues came up. Chief among the problems is the lack of logistic support from the administrative and political authorities at the State and LGA levels. According to a respondent,

"they at least pay our salaries and do not bother with us. But that is all. They are not interested in the success or failure of the programme because it neither yields money to their purse nor earn them political points".

Another respondent corroborating thus argued

"the LGA Chairman will only promise some money during training but nothing is released".

This seems to cut across all health programmes. However the Head of Department for Health in Nkanu West LGA noted that,



"these are Transition Committees. They were appointed after your recent advocacy campaigns. In those States where career civil servants were made Transition Committee Chairmen, you can be sure that would support the routine programmes of the LGA like CDTI. But these are politicians appointed by the Governor. Their goal is to ensure his re-election and distribution of Mectizan is not one of those things that would ensure his victory. They would rather engage in physical projects"

The onchocerciasis control coordinator for Oji River supported this view when he highlighted the issue of continuity. According to him,

"if there is continuity you can plan and expect to achieve your target. What I mean is that we hoped for new era after your advocacy campaign. Unfortunately, there was this argument on the life span of the Executive Chairmen and Councils. After all said and done, they were sent packing and new Transition Committees were set up. We are watching them but you know that we do not expect much from them

We shall begin to reap the fruit of the advocacy campaign as from 2003 when elected Local Government Councils and Chairmen would be in place. That however depends on whether you people will still assist us with your campaigns. It is usually more effective when outsiders like you carry it out. It supports our normal routine sensitization of the executive chairman and his council on the general health issues in the LGA."

However, the policy makers, at the State level professed their appreciation of the programme and their willingness to support in any way resources permit. Unlike the pre-intervention stage when the policy makers at the State level and the zonal office complain of alienation, they now indicated that they are better involved and they know what is going on. According to the State Director of disease control,

I will make sure the programme succeeds in this State. After the Abuja meeting in February, that is the Onchocerciasis Day celebration when you people talked to us, I resolved to make it succeed in my State. That is why I made so much effort to get you to meet the Commissioner.



### Community Experience and Opinion:

With respect to ivermectin, there seems to be a general liking for the drug. This is reflected in the comments of some CDDs who were asked to narrate their experiences as CDDs. According to one CDD from Enugu-Agu in Nkanu West where the interactive modes of communication (workshops and public rallies) were used, the people

“responded positively. The number that responded is large, there were no refusals during the last distribution. And I think it has to do with the workshops and public rallies you had. Before some refused to take the drug, saying that we are deceiving them ...”

This was the typical experience of the CDDs in all the communities visited. Others attributed their good fortunes to the calendars, posters and stickers. According to a female CDD in Achi, Oji River LGA,

“the people came because they liked the posters they got earlier. Most of them took the posters to their houses. Even the ones that were placed in public places were removed to their houses. But what is important is that for the first time the Town Development Union gave me money to go and collect the drug from the health, to attend training and even feeding”.

In Ezeagu LGA, one of the CDDs indicated that,

“the programme (CDTI) had been forgotten in this part. No one was mentioning it again until you people came with the campaign and workshops. They awoken the people and they started asking for the drug even before distribution. But there was some delay which may have been caused by your campaign”.

In the focus group discussion sessions, participants indicated their appreciation of the drug, which they say has the potentials for curing many ill health conditions including rheumatism, worm infestation, joint pains etc. According to a social leader from Akegbe Ugwu in Nkanu West,



"everybody in the town that hears of the drug must come and we must give it to them as and when due. You know that during the workshop at the Secretariat I assured you that I will mobilize my people. I did and they came out in large numbers...."

The reason is because they see the effect. They however complained, in some cases, that the drug is not always there and "some times the CDDs complain of some hardship in getting and distributing drug without remuneration or incentives".

On the procurement of drugs, all community leaders interviewed indicated that together with their CDDs they estimated the quantity of drugs they need and passed the information to the health staff at the health center. And according to the health staff in Ugwuoba community in Oji River,

"when we collect information on the number of drugs each community would need for the next treatment and we supplied this to the LOCT. When the LOCT supplied us with the drug, we now gave the drugs to the CDDs after training them".

This was the same with other communities visited.

## Discussion

There is increased participation of different segments of the communities studied in decision-making and implementation in relation to drug distribution. The different structures in the communities, namely community leadership, community meeting, churches and community directed town criers, were involved in the dissemination of information about the distribution of Mectizan. Ivermectin treatment coverage level in the communities increased over the situation just before the advocacy activities from 36.2 per cent to 62.5 per cent. This was attributed largely to the effects of the advocacy because according to the revalidation data CDTI was almost forgotten in some of the communities until the intervention took place. It remains to be observed if this would be sustained.

Communities supported CDDs by providing them with funds to attend training, collect drugs and feed during distribution. The morale of CDDs was high as many people showed appreciation for their work and the drug.



Existing channels were used for the articulation of demands for Mectizan as well as its supply to communities.

The different partners in the communities played roles expected of them in the CDTI process. Communities collected their drugs and selected CDDs. Health workers trained and supervised CDDs. Furthermore, communities used various channels in disseminating information about Mectizan distribution.

Policy makers and onchocerciasis control managers at the State and LGA levels appreciate the onchocerciasis control programme. Unfortunately, political exigencies made it impossible to gauge the political support for the programme at the LGA level. In the State, the Director for Disease control demonstrated strong commitment to the success of CDTI in the State.

Adequate amount of drugs were supplied and timely too.

In conclusion, a general pattern is discerned from the data across sites and that is that the print media tended to be more effective in promoting improved compliance to treatment in a community directed mass treatment programme like the CDTI as shown in Table 5.

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**TABLE 1:**  
**DISTRIBUTION OF SAMPLES TO DIFFERENT SEGMENTS**  
**OF THE STUDY POPULATION**

Instruments	Levels of Administration	Number to be Administered
FGD	Community: Aged men and women Female and Male Youth Ethnic groups	Twenty in all
In-depth Interviews	State: Oncho Coordinator Director of Disease Control Zonal Oncho Coordinator NGDO Partner  LGA: Chairman Oncho Coordinator HOD, Health Managers, other health prog. Elected Councillors Supervisors for Health Supervisors for other depts. HOD other depts. Prominent Business leaders Prominent Female leaders Prominent Religious leaders  Community: Village heads/leaders Social leaders Indigenous Healers CDDs Health Workers	One One One One per NGDO  Four Four Four As many as possible As many as possible Two As many as possible As many as possible Two Two Two  Twenty Twenty Seventeen Fifteen Eight
NGP	State: SOCT + NGDO Partners LGA: LOCT + Facility workers Community	One Two Two per community
HH Survey	Community	Two Hundred
Coverage	Community	Eight Hundred



**TABLE 2:**  
**HOUSEHOLD SURVEY REVALIDATION OF THERAPEUTIC COVERAGE**

Name of LGA/Village (Communities in Parenthesis)	Date visited	Previous R <sub>x</sub> Coverage	Revalidated R <sub>x</sub> Coverage
Enugu East LGA	February 1, 2002	62.5%	19.4%
1. Nkwubo (Nike)			0.0%
2. Amokpo (Nike)			61.9%
3. Nkpologwu (Nike)			0.0%
4. Gabon Camp (Nike)			0.0%
5. Amangwu (Nike)			11.1%
Ezeagu LGA	February 2, 2002	75.0%	16.3%
1. Umudim (Imezi-Owa)			10.0%
2. Amaokpogho (Imezi-Owa)			33.3%
3. Okunitor (Umunba-Ndiuno)			39.0%
4. Uwani-Idume (Ndiuno)			0.0%
5. Umuene-Idume (Ndiuno)			0.0%
Nkanu West LGA	February 4, 2002	77.5%	62.3%
1. Umuatu-Gbuoma (Akagbe)			93.8%
2. Amagu (Akagbe)			82.9%
3. Amichi (Ozalla)			77.8%
4. Enugu Agu (Ozalla)			39.1%
5. Amagu (Ozalla)			42.4%
Oji River LGA	February 5, 2002	65.0%	46.7%
1. Agolo (Ugwuoba)			76.3%
2. Egbagu (Ugwuoba)			46.0%
3. Ihe (Achi-Agu)			35.3%
4. Umuori (Achi-Agu)			55.7%
5. Ahani (Achi-Agu)			16.7%

**TABLE 3: PRODUCTION OF INTERVENTION PACKAGES**

Materials	Dates Translated	Dates Pre-tested	Dates Produced	Quantity Produced	Language
Calendar		13 February	Feb. 15 2002	1000	English
Poster	10 February	13 February	Feb. 15 2002	3000	Igbo
Stickers		13 February	Feb. 15 2002	3000	English
Drama	February 10	13 February	Feb. 28 2002	2 types	Igbo, Pidgin, English
Jingles	February 10	13 February	Feb. 28 2002	2 types	Pidgin, Igbo



**TABLE 4:**  
**DISTRIBUTION OF ADVOCACY INTERVENTION ACTIVITIES BY LEVELS**

Levels	Targets	Comment
National	Policy makers and stakeholders.	The national workshop of February 12 2002 was successfully executed with the representative of the minister for Health giving the minister's Press Briefing.
State	Commissioner for Health	Efforts to meet with the commissioner and schedule a workshop at the State level were not successful. The reasons include the recent changes of commissioners in the State, the need for time for the commissioner to get acquainted with the programme and the recent loss of the project vehicle. In place of a workshop, therefore, the team in conjunction with the State Onchocerciasis Control Team, the Director of Disease Control and some key players in Onchocerciasis control paid advocacy visit to the Commissioner for Health to sensitize him on CDTI and solicit his support.
	Director of Disease Control	The Director was very enthusiastic after the advocacy visits and pledged to work for the success of the programme. He was involved in trying to fix the appointment with the commissioner as well as the workshop. He also participated in the National Workshop of February 12, 2002
LGA/ Communities	Nkanu-West and Ezeagu Oji River and Enugu East	Workshops here, as well as the public rallies (interactive media) were held in two of the intervention LGAs, Calendars, Posters and Door Stickers (print media) were used in sensitizing the people to demand, receive as well as support the process of distributing Mectizan in the communities. Radio jingles and drama aired four times a week were used in targeting both policy makers and community members on CDTI.



**TABLE 5: DISTRIBUTION OF RESPONDENTS BY LGA AND HOUSEHOLD COVERAGE VARIABLES (PERCENTAGES IN PARENTHESIS)**

Household Variables	Coverage				
	Arm A Nkanu W.	Arm B Oji River	Arm A Ezeagu	Arm B Enugu E.	Total
<b>Received Drug:</b>					
1. Yes	129 (64.5)	138 (69.0)	106 (53.0)	127 (63.5)	500 (62.5)
2. No	71 (35.5)	62 (31.0)	94 (47.0)	73 (36.5)	300 (37.5)
<b>Number of Tablets:</b>					
1. One	13 (10.1)	13 (9.4)	17 (16.0)	10 (7.9)	53 (10.6)
2. Two	56 (43.4)	44 (31.9)	39 (36.8)	57 (44.9)	196 (39.2)
3. Three	33 (25.6)	42 (30.4)	29 (27.4)	17 (13.4)	121 (24.2)
4. Four	27 (20.9)	39 (28.3)	21 (19.8)	43 (33.9)	130 (26.0)
<b>Side Effects:</b>					
01-No Reaction	87 (67.4)	93 (67.4)	63 (59.4)	86 (67.7)	329 (65.8)
02-Itching	2 (1.6)	10 (7.2)	4 (3.8)	4 (3.1)	20 (4.0)
03-Dizziness	8 (6.2)	-	5 (4.7)	4 (3.1)	17 (3.4)
04-Headache	-	-	3 (2.8)	1 (0.8)	4 (0.8)
05-Swelling	1 (0.8)	3 (2.2)	5 (4.7)	2 (1.6)	11 (2.2)
06-Nausea/Vomitting	-	-	-	-	-
07-Many Reactions	2(1.6)	4 (2.9)	1 (0.9)	1 (0.8)	8 (1.6)
08-Feeling Better	29 (22.5)	28 (20.3)	25 (23.6)	29 (22.8)	111 (22.2)
88-Others	-	-	-	-	-
<b>Response to Effect</b>					
1. Nothing	6 (75.0)	9 (90.0)	10 (100.0)	7 (87.5)	32 (88.9)
2. Modern medicine	1 (12.5)	1 (10.0)	-	1 (12.5)	3 (8.3)
3. Others	1 (12.5)	-	-	-	1 (2.8)
<b>Reason for Not Receiving Drug:</b>					
1-Child<5 yrs	11 (15.5)	8 (12.9)	9 (9.6)	10 (13.7)	38 (12.7)
2-Absent	46 (64.8)	33 (53.2)	10 (10.6)	32 (43.8)	121 (40.3)
3-Pregnant	2 (2.8)	2 (3.2)	5 (5.3)	8 (11.0)	17 (5.7)
4-Refusal	4 (5.6)	10 (6.1)	5 (5.3)	10 (13.7)	29 (9.7)
6-Sick	6 (8.5)	8 (12.9)	6 (8.5)	11 (15.1)	85 (28.3)
7-Others	2 (2.8)	1 (1.6)	2 (2.8)	2 (2.7)	10 (3.3)

<sup>4</sup>Arm A = Interactive media (workshop and public address system) approached.

Arm B = Print media (posters, door stickers and calendar used).



**TABLE 6: DISTRIBUTION OF RESPONDENTS BY AWARENESS AND SOURCE OF INFORMATION ON IVERMECTIN (PERCENTAGES IN PARENTHESIS)**

Ivermectin	Pre-Intervention	Post-Intervention	P-Value for Chi Square ( $X^2$ ) Test for Significance
<b>Heard of Ivermectin:</b>			
Yes	187 (93.5)	194 (97.0)	0.998
No	13 (6.5)	6 (3.0)	
<b>Source of Information:</b>			
Health Staff	56 (28.1)	98 (50.5)	0.000004
CDD	118 (59.3)	188 (96.9)	0.000000
Community Leader	17 (8.5)	74 (38.1)	0.000000
Community Meeting	1 (0.5)	68 (35.1)	0.000000
Church	11 (5.6)	48 (24.7)	0.000000
Town Crier	-	100 (50.0)	0.000000
<b>Uses of Ivermectin:</b>			
Treat Onchocerciasis	183 (91.5)	194 (97.0)	0.02
Cure other diseases	1 (0.5)	190 (95.0)	0.000000
Promote good health	1 (0.5)	64 (33.0)	0.000000
No response	2 (1.0)	-	

**TABLE 7: DISTRIBUTION OF RESPONDENTS BY AVAILABILITY OF IVERMECTIN, INFORMATION ON DRUG AVAILABILITY AND SOURCE OF INFORMATION (PERCENTAGES IN PARENTHESIS)**

Ivermectin	Pre-Intervention	Post-Intervention	P-value for Chi Square ( $X^2$ ) Test for Significance
<b>Availability of Drug:</b>			
Yes	177 (88.9)	194 (97.0)	0.002
No	21 (10.6)	6 (3.0)	
Not Certain	1 (0.5)	-	
<b>Informed of Availability of Drug:</b>			
Yes	183 (92.9)	194 (97.0)	0.067
No	14 (7.1)	6 (3.0)	
<b>Source of Information:</b>			
Health Staff	50 (26.6)	88 (45.8)	0.0001
CDD	109 (58.3)	188 (96.9)	0.000000
Community Leader	24 (12.8)	80 (41.2)	0.000000
Church	8 (4.3)	42 (21.6)	0.000000
Town Crier	8 (4.3)	88 (45.4)	0.000000
Community Meeting	1 (0.1)	60 (30.9)	0.000000
School Teacher	9 (4.9)	4 (2.1)	0.1026



**TABLE 8: ISSUES ON DRUG DISTRIBUTION IN THE COMMUNITY  
(PERCENTAGES IN PARENTHESIS)**

Drug Distribution Issues	Pre-Intervention	Post-Intervention	P-value for Chi Square (X <sup>2</sup> ) Test for Significance
<b>Ever Distributed Ivermectin:</b>			
Yes	183 (91.5)	194 (97.0)	0.0182
No	15 (7.5)	6 (3.0)	
Not Certain	2 (1.0)	-	
<b>Told When Drug was Distributed</b>			
Yes	178 (89.0)	180 (90.0)	0.7443
No	18 (9.0)	20 (10.0)	
Not Certain	4 (2.0)	-	
<b>Source of Information on Drug Distribution</b>			
Health Staff	21 (11.8)	80 (40.0)	0.000000
CDD	76 (42.7)	178 (89.0)	0.000000
Community Leader	14 (7.9)	64 (32.0)	0.000000
Church	25 (14.0)	36 (18.0)	0.2752
Town Crier	23 (12.9)	72 (36.0)	0.000000
Community Meeting	5 (2.8)	54 (27.0)	0.000000
Neighbours	17 (9.7)	-	0.000000
<b>Mode of Distribution:</b>			
Central Place	134 (69.1)	126 (63.0)	
House to House	45 (23.2)	36 (18.0)	
Mixed Method	12 (6.2)	38 (19.0)	
<b>How Long did Distribution Last?:</b>			
One Week	44 (35.5)	36 (18.0)	
Two Weeks	43 (34.7)	90 (45.0)	
Three Weeks	9 (7.3)	58 (29.0)	
Four Weeks	26 (21.0)	10 (5.0)	
Five Weeks	2 (1.6)	6 (3.0)	
<b>Problems:</b>			
No problem	50 (26.7)	192 (96.0)	
Not Enough	1 (2.6)	2 (1.0)	
CDD not available	3 (7.6)	6 (3.0)	
No Interest	2 (5.3)	2 (1.0)	
Fear of Side Effect	5 (13.5)	-	