USAID
FROM THE AMERICAN PEOPLE

Abt ASSOCIATES
BOLD THINKERS DRIVING REAL-WORLD IMPACT

Enumeration of Household Structures

Chipata, Mambwe, Kaputa, Luwingu and Mporokoso

21st May to 16th August, 2012

ZISSP
Increasing the Use of High Impact Health Services

Zambia Integrated Systems Strengthening Program
Plot 1321, Enock Kavu Road
Rhodes Park
PO Box 39090
Lusaka, Zambia

November 2012

This publication was produced for review by the United States Agency for International Development. It was prepared by Zambia Integrated Systems Strengthening Program.

Zambia Integrated Systems Strengthening Program

Enumeration of Household Structures
Chipata, Mambwe, Kaputa, Luwingu and Mporokoso

The Zambia Integrated Systems Strengthening Program is a technical assistance program to support the Government of Zambia. The Zambia Integrated Systems Strengthening Program is managed by Abt Associates, Inc. in collaboration with American College of Nurse-Midwives, Akros Research Inc., Banyan Global, Johns Hopkins Bloomberg School of Public Health-Center for Communication Programs, Liverpool School of Tropical Medicine, and Planned Parenthood Association of Zambia. The project is funded by the United States Agency for International Development (USAID), under contract GHH-I-00-07-00003. Order No. GHS-I-11-07-00003-00

DISCLAIMER:

The author's views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

Co-Authors

Brian Chirwa	-	ZISSP
Kachikoti Banda	-	PHO, Eastern Province
Stephen Banda	-	PHO, Eastern Province Province
KennethTembo	-	PHO, Northern Province
Morgan Sankha	-	DHO, Northern Province

TABLE OF CONTENTS

CO-AUTHORS……IV

ABBREVIATIONS VI

INTRODUCTION 1

SPATIAL INFORMATION FOR PLANNING AND MONITORING 2

ENUMERATION OF STRUCTURES USING GPS-ENABLED PDAS 3

TRAINING OF SUPERVISORS AND ENUMERATORS 4

IN-DOOR EXERCISES 6

FIELD EXERCISES 7

RESULTS FROM FIELD ENUMERATIONS 8

COMPARISON – TARGET AND ENUMERATION FIGURES 9

CHIPATA 9

MAMBWE 10

KAPUTA 12

LUWINGU 13

MPOROKOSO 14

CHALLENGES 14

CONCLUSION 15

RECOMENDATIONS 15

ANNEX 1 LIST OF PARTICIPANTS 16

Abbreviations

DHO	District Health Office
GIS	Geographic Information Systems
GPS	Global Positioning System
IRS	Indoor Residual Spraying
ITN	Insecticide Treated Mosquito Net
NMCC	National Malaria Control Centre
NMCP	National Malaria Control Programme
PDA	Personal Digital Assistant
ZISSP	Zambia Integrated Systems Strengthening Programme

INTRODUCTION

Indoor residual spraying (IRS) is one of the primary malaria intervention strategies in Zambia. IRS activities have been carried out since 2001. Since then, there has been a steady scale up from five districts in 2001, to eight districts in 2003, 15 districts in 2005, 36 districts in 2008, 54 districts in 2010 and now supported in all the districts of Zambia. Figure 1 below shows the districts that were conducting IRS in 2009 and districts that were progressively included in the IRS programme from 2010. The map also shows areas within districts that have had structures enumerated.

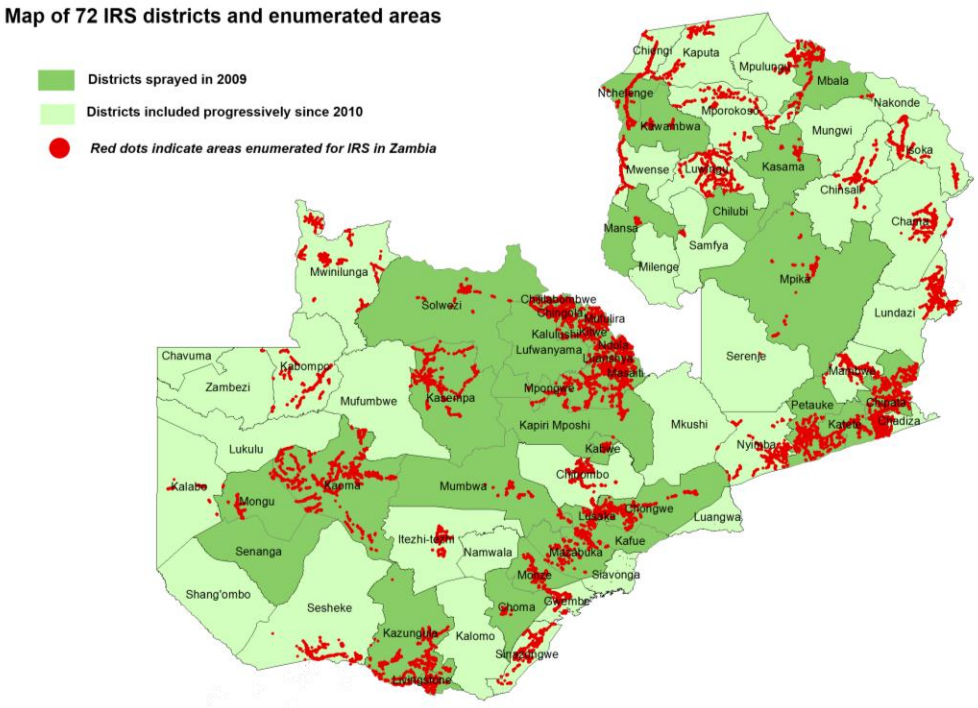


Figure1. Diagram showing districts conducting IRS and structures enumerated.

IRS is coordinated through the National Malaria Control Centre (NMCC) and is operationally administered through the District Health Offices (DHOs) and local authorities. . At the district level, understanding the scope of areas targeted for spraying is critical for all subsequent spray activities. Clearly defining IRS targeted households is important for the planning process. Enumerating IRS households provides quantifying allocation needs of spray personnel, scheduling and duration of spray activities. As IRS activities are scaled up within each district, monitoring the changes in the targeted denominators will result in overall increases in resources necessary for conducting IRS activities.
IRS activities are conducted annually and routinely include district-level planning and budgeting for targeted areas, assessment of spray structures (to determine formal, informal and overall structure counts, as well as volumes of insecticides needed), training of spray teams, IRS

campaigns, supervision and monitoring of spray activities and several post-campaign activities including reporting and attending the annual post-spray campaign national meeting for all IRS districts to share experiences and lessons learned. As an intervention, IRS plays a significant role in preventing malaria among a large proportion of the Zambian population and as a partner to the national Malaria Control Programme (NMCP). In 2012, PMI, through ZISSP is providing support to 20 of the current IRS districts. Such support includes conducting IRS needs assessments, training of trainers, training of spray operators, support to the actual implementation of the IRS spray activities, monitoring and supervision of spray activities and conducting enumeration of household structures.

Figure2 shows the IRS districts that are supported by the Zambia Integrated Systems Strengthening Programme (ZISSP) (20 districts indicated in dark green).

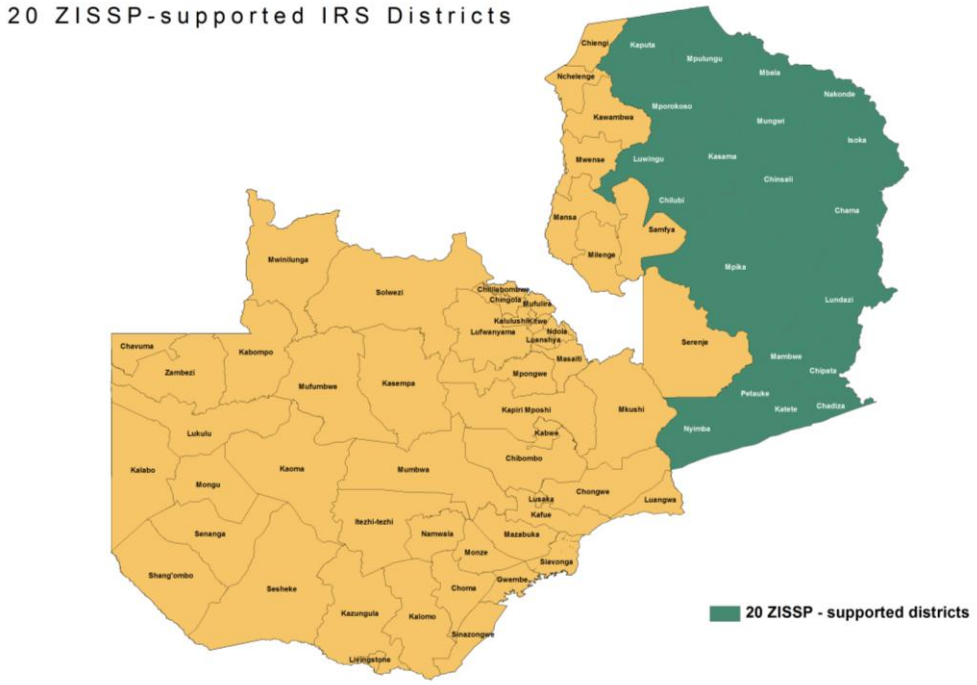


Figure 2. IRS districts supported by ZISSP

SPATIAL INFORMATION FOR PLANNING AND MONITORING

Information obtained during the enumeration of IRS targeted households using personal-digital assistant (PDA)-based enumeration of structures was incorporated into the overall planning of IRS activities for the 2007/2008 IRS campaign to adjust staffing and equipment needs for 11 of 15 IRS districts in Zambia. Information collected was also used to validate insecticide volumes ordered for the 2007/2008 spray season relative to amounts needed for formal, informal and mixed wall-surface structures. Further, clearly defining IRS areas within IRS designated districts revealed the need for national action to coordinate insecticide treated mosquito net (ITN) coverage among areas of IRS districts not serviced by IRS activities, i.e.,

areas not previously included under intensive malaria scale-up efforts. Since then, enumeration of household structures for IRS has been incorporated into the IRS planning process. The general IRS guidelines of 2009 recommend that geographic reconnaissance should be undertaken in each selected area in order to spray systematically and effectively with good coverage. Among the necessary activities listed is geo-mapping of structures.

ENUMERATION OF STRUCTURES USING GPS-ENABLED PDAs

Enumeration of household structures involves the counting of structures in order to have a true picture of the actual structures on the ground. This activity was introduced into the national and district-level spray programme in 2006-2007 to assist the NMCP with scaling up IRS activities. Since then, enumerating IRS targeted households has been done using hand-held PDAs equipped with a global positioning system (GPS). The programme on the PDA records information some of which is listed below.

Place name

Information on the township, compound, catchment area or village assists in understanding the number of structures in each of these locations so that planning of IRS operations such as the deployment of spray operators is effectively done.

Number of people in the household

It is important to have an approximation of the number of people expected to be protected once spraying has been done.

Number of structures

There are different kinds of structures out there. These include structures where people reside or spend most of their time in and structures where animals or farm produce are kept. In IRS, only structures where people reside or spend most of their time are captured.

Number of rooms

The number of rooms are captured and disaggregated based on the type of wall surface present. This is related to porosity which is the capacity of the surface to absorb moisture. It is important to know the distribution of such structures so that planning for insecticides is conducted efficiently. Where pyrethroids, carbamates or organophosphates and DDT are used, porous wall surfaces (traditionally known as informal surfaces) for instance, are sprayed using DDT while non-porous wall surfaces (traditionally known as formal surfaces) are sprayed using the other insecticides. On the other hand, where only pyrethroids, carbamates or organophosphates are used, porous wall surfaces will use twice the amount of insecticides than non-porous wall surfaces per given wall surface. This parameter therefore not only provides information on the amount of insecticides required, but also the type of nozzle that will be used.

IRS brochures

This information helps the programme to understand to what extent the IRS campaign materials have reached the household.

Enumeration of structures in the five districts

The report describes digital enumeration of structures done between April and September of 2012 in five IRS districts, namely Chipata, Mambwe, Kaputa, Luwingu and Mporokoso.

TRAINING OF SUPERVISORS AND ENUMERATORS

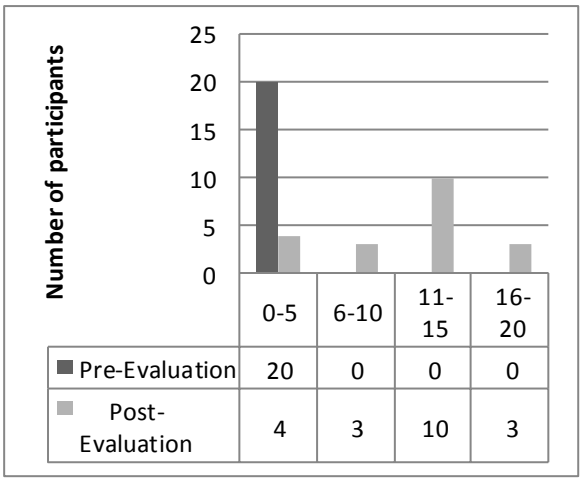
In order to successfully conduct the enumeration of structures for IRS, it is essential to adequately train the appropriate numerators. The right cadres of enumerators are selected to ensure that both quality and quantity are maintained during the exercise. Local knowledge is also an essential part of the exercise to ensure that the operation is carried out using enumerators who are familiar with their area because there is a lot of interaction between the enumerators and the household members.

Enumerators on a hands-on practical exercise - Mporokoso

Selecting the appropriate calibre of participants for training was done. To ensure that this was done well, districts were requested to engage eligible candidates, preferably those with a minimum education of grade 12 (high school leavers). The minimum in education is cardinal so that candidates can quickly become familiar entering data on to the questionnaire using PDAs. Candidates are expected to interview the households and write down any challenges that they come across in the field.

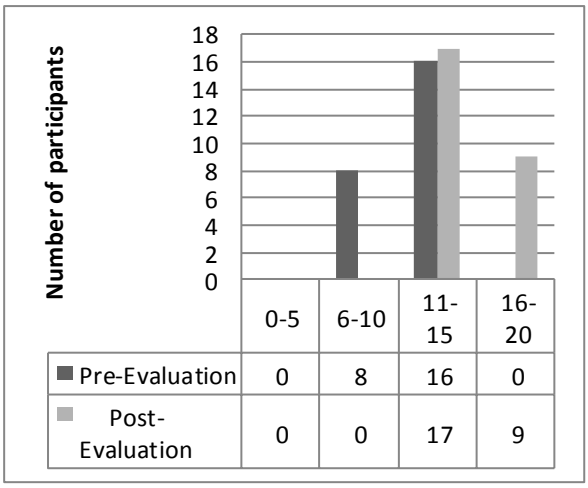
The training lasted one and two days for supervisors and enumerators respectively. The supervisors were taken through the PDA and questionnaire in order to update them with any new features since the last GIS training they had. In order to assess their knowledge of PDAs, GPS and data collection using PDAs, enumerators were given a pre-test exercise at the beginning of the training and a post-test at the end of the training. This was done to evaluate their knowledge which was then compared with their knowledge after the training in a post training test.

Mambwe



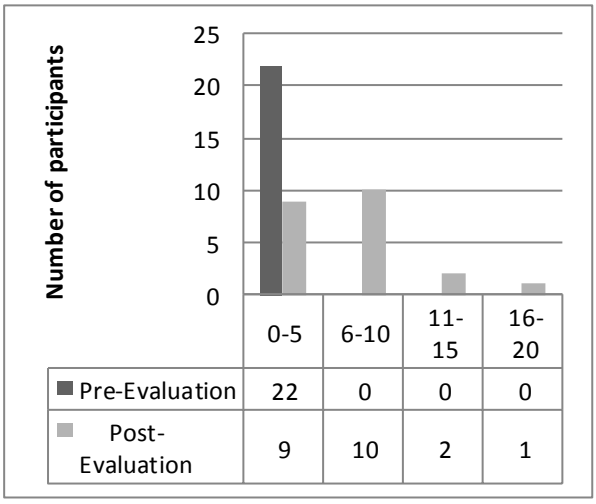
	0-5	6-10	11-15	16-20
Pre-Evaluation	20	0	0	0
Post-Evaluation	4	3	10	3

Chipata



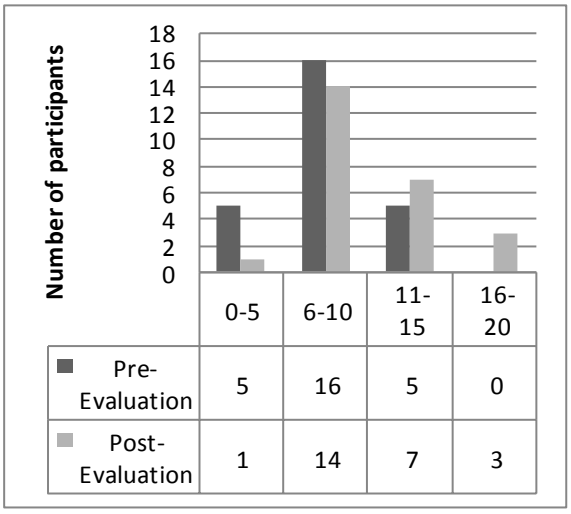
	0-5	6-10	11-15	16-20
Pre-Evaluation	0	8	16	0
Post-Evaluation	0	0	17	9

Kaputa



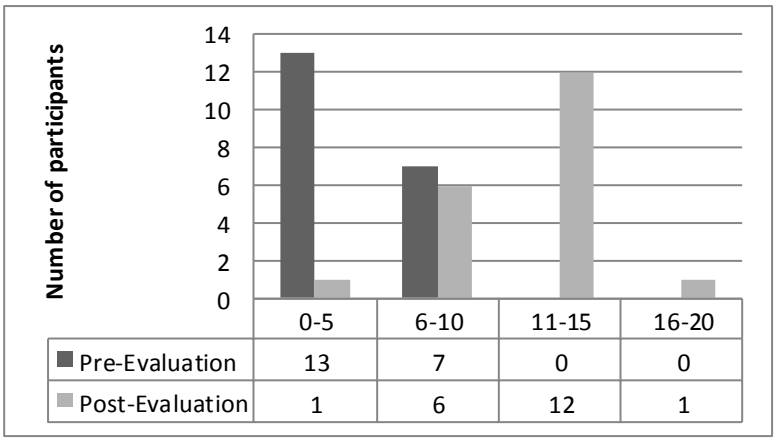
	0-5	6-10	11-15	16-20
Pre-Evaluation	22	0	0	0
Post-Evaluation	9	10	2	1

Luwingu



	0-5	6-10	11-15	16-20
Pre-Evaluation	5	16	5	0
Post-Evaluation	1	14	7	3

Mporokoso



In all the districts, the scores obtained during the pre test were lower than those obtained in the post test. In Mambwe, all the 20 enumerators scored below 25% during the pre test while 13 of them scored at least 55% during the post test with three scoring above 80%. In Chipata, the lowest scores during the pre test ranged from 30% to 50% with the rest of the enumerators scoring between 55% and 80%. In the post test however, nine enumerators scored between 80 and 100% with the rest scoring between 55 and 79%. In Kaputa, all the 20 enumerators scored below 25% during the pre test. However, the numbers improved slightly with 10 scoring between 30 and 50% and three between 55 and 80%. I Luwingu, five enumerators scored between 55 and 75% during the pre test. This number improved to seven during the post test with three enumerators scoring above 80%. In Mporokoso, all the enumerators scored below 50% during the pre test. During the post test however, 12 enumerators scored between 55 and 75% with one enumerator scoring above 80%.

In-door Exercises

Enumerators were introduced to theory and oriented on the use of the PDA, its external parts and how to adjust to the correct date. The latter is important to ensure that the date when each activity was carried out is recorded. This was followed by hands-on exercises to give enumerators an opportunity to enter data using PDAs and report any problems that they may have encountered. Enumerators were taken through the basic functions of the PDA that they would be expected to know. The main topics included the following:

Introduction to PDAs

In order for the PDA to be used effectively in the field, basic functions of the PDA were introduced to the enumerators and supervisors. These are listed below:

1. Switching the PDA on and off.
2. Accessing the settings option.
3. Adjusting the brightness.
4. Checking the battery power.

5. Updating the date and time.
6. Removing the PDA from the cover and inserting it in.
7. Slotting the GPS receiver in and out.
8. Resetting the PDA.
9. Identifying the GPS receiver indicator light.

Introduction to PDA questionnaires

The enumerators were first introduced to the paper questionnaire. The purpose was to make them familiarize themselves with the questionnaire and study the flow of the questions. This was then followed with the PDA-based questionnaire.

1. GPS2 Programme
    a. Navigating through the COLLECT screen
    b. Familiarizing with the STATUS signal
2. IRS Programme
    a. Correct way of filling in the form
    b. Understanding terms used in the questionnaire
    c. Editing records on the form
3. Practical Exercises
    a. Hands-on use of the PDA and data collection
    b. Mock interviews – approaching and addressing households
4. Tips
    a. Data back ups
    b. Troubleshooting

Enumerators were also given an opportunity to practice interviewing household members by conducting mock interviews during training. In this exercise, enumerators took turns to act as either members of the households or interviewers. During these exercises, the actors are encouraged to be as close to reality as possible without any form of pretending. Therefore, all possible responses that may be expected from the households are encouraged. The audience is given the opportunity to critique the actors and provide guidance on the best way to conduct interviews. Conduct during interviews plays a major role too. Responses from the community depend to a greater extent on how an interviewer conducts oneself. Enumerators are reminded that they have to collect as much information as possible.

Field Exercises

Field exercises were conducted to provide participants with real life experience in the community. These exercises were led by supervisors. This was done to test if the enumerators had grasped the basic principles of handling the PDAs. An average of one supervisor to four enumerators ensured that the enumerators were closely supervised. At the end of each daily field exercise, enumerators are expected to ensure that data collected that day are also stored on a memory card as a backup. This ensures that should the hard disk on the PDA malfunction or data are accidentally deleted, then there would be data securely kept on the SD card. The enumerators also assembled to share experiences and report to their supervisors experiences using the PDAs and interacting with the households. Experiences

shared are used to improve on the following day's activity as well as to assist those who are still finding some challenges.

Though PDAs have extended life batteries that can last up to eight hours, charging is done on a daily basis. Supervisors are responsible for this. Finally supervisors have a task of ensuring that data backups have been done by each enumerator. Supervisors were trained on how to go about this process.

Enumerators on a field practical exercise - Luwingu

RESULTS FROM FIELD ENUMERATIONS

The number of structures captured is shown in Table 1 below. A total of 75,244 new structures were enumerated in the five districts. Approximately 89% of these structures have walls with porous surfaces while 11% have walls with non-porous surfaces. The latter refers to those surfaces that have a smooth finish of cement or commonly referred to as plastered with cement. Whether the surface is porous or non-porous has an implication on the amount of insecticide that has to be deposited on the wall surface. The type of nozzle used for such surfaces is also different.

Table 1: Number of enumerated structures enumerated and people found

District	House-holds	Total structures	Porous structures	Non-porous structures	Number of people	Children below five
Chipata	46,442	51,508	41,644	9,864	217,271	39,369
Mambwe	7,297	8,376	6,958	1,418	37,893	6,697
Luwingu	7,006	7,388	5,787	1,602	36,744	7,446
Mporokoso	7,283	7,972	6,748	1,224	39,536	8,254
Kaputa	6,294	6,316,	6,076	240	33,842	7,772
Total	**74,322**	**75,244**	**67,213**	**14,348**	**365,286**	**69,538**

HH - Household

COMPARISON – TARGET AND ENUMERATION FIGURES

Table 2 shows the structures that were targeted for spraying in both 2011 and 2012 spray seasons. The table also shows structures sprayed in 2011. Also shown are structures enumerated in 2012 and the numerical differences between the structures targeted in 2012 and those enumerated in 2012. . To begin with, there is an increase in the number of structures targeted for spraying in 2012 compared to those targeted in 2011 in all the five districts. This is is a normal trend when a district is scaling up its spray activities. Three districts, Chipata, Morokoso and Kaputa have since increased their target by 10%, 25% and 75% respectively compared to the targets in 2011. Luwingu maintained their target to that of 2011 while Mambwe reduced the target.. Comparing target structures in 2012 against the number of structures enumerated, it can be observed that all the five districts In all the districts, the figures show that the enumerated structures in 2012 are less than the targeted structures in 2012. It should be noted that both the 2011 and 2012 targets are a result of estimations and not based on actual enumerations. Now that enumerations have been conducted, it will be necessary to look at these targets and try to establish where the variance is coming from and where possible, to try and re-adjust the target structures for 2013.

Table 2: Structures targeted, sprayed and enumerated

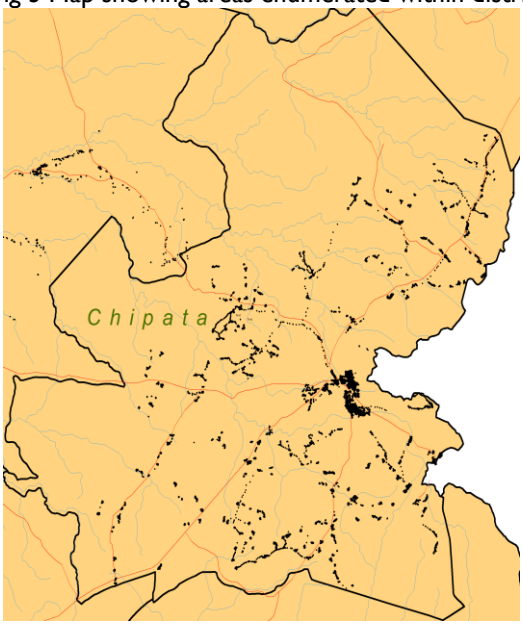
District	**Target structures in 2011**	**Structures sprayed in 2011**	**Target structures 2012**	**Target increase Over 2011 (%)**	**Structures enumerated in 2012**	**Structures enumerated compared with target structures in 2012**
Chipata	50,000	45,817	55,000	10	51,508	(3,492)
Mambwe	16,000	10,548	13,000	(19)	8,376	(4,624)
Luwingu	16,200	7,072	16,200	0	7,388	(8,812)
Mporokoso	11,967	7,932	15,000	25	7,972	(7,028)
Kaputa	17,000	7,069	29,838	75	8,500	(21,338)
Total			**129,038**		**75,244**	**(47,478)**

Chipata

Chipata first had its structures enumerated in 2008. However, only less than a quarter of the current targeted structures were enumerated at that time as the district was just starting IRS. The district has since scaled up from 38,000 structures to the current 55,000. The 3, 492 structures are from areas that do not qualify to be enumerated because they require special permission before access can be granted. Such areas were left out. However, numbers were estimated to ensure that they are catered for during planning for IRS. The target figure is not

expected to change significantly in the next year or two and as such, a target of 55,000 structures for this district is still reasonable for the next couple of years. The distribution of structures clearly indicates a complete cover of the whole district except in areas covered by hills. The furthest areas are at least 80 km north of the central business and at least 50 km south.

Fig 3 Map showing areas enumerated within district boundary



The table below shows the number of structures broken down into porous and non-porous structures. The table also includes the estimate of insecticides required based on the number of structures enumerated.

Type of wall surface	**Number of structures**	**Quantities of insecticides estimated (bottles)**
Non-porous	9,865	1,981
	3,492 (est. for eastern Command)	701
Porous	41,643	8,359
Total	**55,000**	**11,041**

Mambwe

Most of Mambwe district is covered by game management areas and areas inhabited by settlements are restricted to specific areas. Some settlements are as far as 70 km away from

the central administrative area. This is the first time structures in the district were being enumerated as part of the IRS planning process. There is a large disparity between the number of structures targeted for the 2012 spray season and the actual number of structures enumerated. This disparity can also be seen from the number of structures targeted in the 2011 spray season (16,000) against the number of structures actuall sprayed (10,548). It is possible that the 16,000 structures are not there.

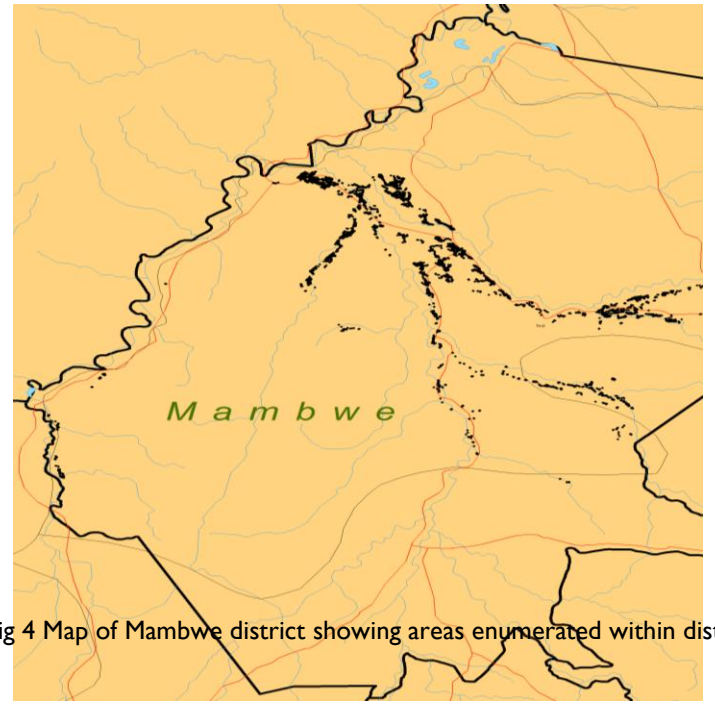


Fig 4 Map of Mambwe district showing areas enumerated within district boundary and representation

The table below shows the number of structures broken down into porous and non-porous structures. The table also includes the estimate of insecticides required based on the number of structures enumerated.

Type of wall surface	**Number of structures**	**Quantities of insecticides estimated (bottles)**
Non-porous	1,418	397
Porous	6,958	2,348
Total	**8,376**	**2,745**

Kaputa

Kaputa district started spraying in 2011. The target at that time was 17,000 structures and only 7,069 structures were actually sprayed. In 2012, the target was put at 29,000, an increase of 75% over the previous target. The district is extensive with settlements in the northen part of the district up to 115 km from the central administration area and up to 78 km in the southern part.

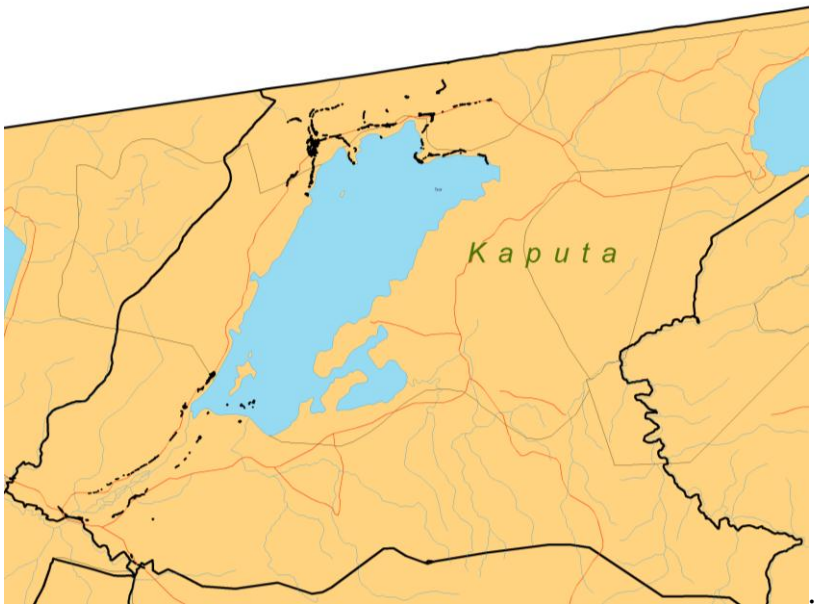


Fig 5 Map of Kaputa district showing areas enumerated within district boundary and representation

The table below shows the number of structures broken down into porous and non-porous structures. The table also includes the estimate of insecticides required based on the number of structures enumerated.

Type of wall surface	**Number of structures**	**Quantities of insecticides estimated (satchets of carbamates)**
Non-porous	323	121
Porous	8,177	3,084
Total	**8,500**	**3,205 (6,410 to cover two spray cycles)**

Luwingu

Luwingu district started spraying in 2011 with an initial target of 16,200 structures. However, only 7,072 structures were reportedly sprayed. In 2012, structures targeted for spraying were 16,200. The number of structures enmumerated in 2012 were 7,388 an indication of the large disparity between the numbers of structures targeted for the 2012 spray season and the actual number of structures enumerated. It is possible in this case too that the half of the structures targeted do not exist. The furthest distrances likely to be covered in order to reach all the settlements are at least 76 km.

Fig 6 Map of Luwingu district showing areas enumerated within district boundary and representation

The table below shows the number of structures estimated for Luwingu, broken down into porous and non-porous structures. The table also includes the estimate of insecticides required based on the number of structures enumerated.

Type of wall surface	**Number of structures**	**Quantities of insecticides estimated**
Non-porous	1,602	604
Porous	5,787	2,182
Total	**7,389**	**2,786**

Significant improvement in the test results was noted with an average of 48% and 76% in the pre and post course test respectively

Mporokoso

Kaputa district started spraying in 2011. The target at that time was 11,962 structures. The number of structures reportedly sprayed was 7,932. In 2012, the number of structures targeted was 15,000. The number of structures captured during enumeration however was only 7,972. The district is extensive with settlements in the northen part of the district up to 100 km from the central administration area and up to 80 km in the southern part.

Fig 6 Map of Mporokoso district showing areas enumerated within district boundary and representation

The table below shows the number of structures estimated for Mporokoso, broken down into porous and non-porous structures. The table also includes the estimate of insecticides required based on the number of structures enumerated.

Type of wall surface	**Number of structures**	**Quantities of insecticides estimated**
Non-porous	1,225	460
Porous	6,747	2,546
Total	**7,972**	**3,006**

CHALLENGES

Both the trainings and the actual field enumeration exerces were well organized. A few challenges were howevr encountered.

1. All these districts, with the exeption of Chipata, are so large that it takes hours to travel to most of the areas. In some of these districts, distances range from 70 to 115 km. Accessibility to most of the areas is difficult as the roads are not that good in many places.
2. With the exeption of Chipata, none of these districts have a filling station. The nearest filling station is at least 80km away making transport costs very high.
3. Public awareness campaigns and announcements were not easy due to the absence of the Zambia National Information Services (ZANIS) in most of these districts.

CONCLUSION

The trainings and the data collection exercises were well received by both supervisors and enumerators in all the five districts and these were generally well organized and well attended too. The topics covered in the three day trainings were very very practical to enable enumerators capture the structures with ease.

This enumeration results point to the fact that there may be fewer structures on the ground than actually targeted by the districts. A very common mistake is to count huts as individual structures thereby overestimating the number of structures in a district. This is particularly commn in rural parts of the district. It is also likely that some districts have been counting small structures such as latrines as individual structures thereby increasing the target figures. Usually, such small structures should be added to the main structure as rooms. The relative position and distribution of structures should help the districts plan the distribution of spray operators and to determine the distances the furthest settlement may be.

The objectives of the training were, therefore, largely achieved.

RECOMENDATIONS

1. The definition of structures should be incorporated in the IRS training modules currently being developed to ensure that agreed standard definitions are followed.
2. The quantities of insecticides distributed to districts should first correspond to the targets suggested through enumeration exercises to avoid overstocking. This should be supported by establishing provincial storage facilities as transit sites.
3. Community volunteers should be actively involved in conducting sensitization activities in their areas.

ANNEX 1 List of Participants

Chipata Enumeration Team

Name	Gender	Title and Organization	Contact Number
Chikonde Musompo	**F**	**EHT, Namseche, Chipata**	**0979643134**
Lucy Phiri	**F**	**EHT, Muzeyi, Chipata**	**0977346335**
Victor Kaluba	**M**	**EHT, ECCC, Chipata**	**0977502799**
Owen Zimba	**M**	**EHT, DHO, Chipata**	**0979840018**
Polite Zulu	**M**	**PHO, DHO, Chipata**	**0966977331**
Chilufya Gift	M	Community	0974780384
Falecy Banda	F	Community	0979925605
Douglas K Mbewe	M	Community	0978568286
Banda Lazarous	M	Community	0976245406
Mbewe Jackson	M	Community	0978133306
Sakala Macha	M	Community	0976536839
Lungu Aaron	M	Community	0978270600
Selemba Rachel	F	Community	0977543268
Prisca Ndawa	F	Community	0976991039
Ngebe Lungu	F	Community	0978025432
Banda Veronica P	F	Community	0977263720
Nyirenda Peter	M	Community	0963910249
Tobias Chipeta	M	Community	
Muzi Mwape	F	Community	0974853667
Tisa Phiri	F	Community	0975990969
Njunga Naomi	F	Community	0975641487
Mvula David	M	Community	0975632269
Ngulube Dorcas	F	Community	0979639910
Benson C Mtonga	M	Community	0976507696

Catherine Soko	F	Community	0976669797
Phillip Kakuyungu	M	Community	0977152363
Imedi Zulu	M	Community	0964942867
William Banda	M	Community	0978287232
Mupeta Lewis	M	Community	0977601706
Mathews Vinkhumba	M	Community	0979364995

Mambwe Enumeration Team

Name	**Gender**	**Title and Organization**	**Contact Number**
Jacob Banda	**M**	**EHO, DHO, Mambwe**	**0979626097**
Joseph Khunga	**M**	**PHO, DHO, Mambwe**	**0977181986**
Emmanuel Chulu	**M**	**EHT, Chikowa, Mambwe**	**0977609604**
Emmanuel Thole	**M**	**EHT, Nsefu, Mambwe**	**0979595143**
Nyendwa Levison	**M**	**EHT, Kakumbi, Mambwe**	**0978883146**
Mabvuto Banda	M	Community	0968974236
Peter Paul Daka	M	Community	0962285080
Tyness Mbao	F	Community	0979065302
Fanny Banda	F	Community	0961195195
Phiri Mathews	M	Community	0977922863
Jonathan J Mwale	M	Community	0976618501
Mitundu Mbewe	M	Community	0967705080
Aaron Chulu	M	Community	0968997625
Agness Chilowa	F	Community	0965774007
Mostafa Makawa	M	Community	0973716488
Phiri Sydney	M	Community	0964412300
Mwanza Rhoda	F	Community	0962853923
Mutalika Davies	M	Community	0975907372

Banda Eunice	F	Community	0973865741
Mbewe Moffat	M	Community	0964942568
Corina Kamanga	F	Community	0975300686
Getrude Kamanga	F	Community	0950847450
Nyendwa Rhodrick	M	Community	0975071238
Chimfwembe Chileshe	F	Community	0967778949
Mercy Tembo	F	Community	0979727704

Kaputa Enumeration Team

Name	**Gender**	**Title and Organization**	**Contact Number**
Law Katongo	**M**	**EHT, Kasongole, Kaputa**	**0976664317**
Muleya Brian Sibbuluki	**M**	**EHO, DHO, Kaputa**	**0978953888**
Oscar Mulenga	**M**	**EHT, Nsumbu, Kaputa**	**0966129575**
Bwalya Oliver	M	Community	0963449533
Chipampe Misheck	M	Community	-
Lemba Mary	F	Community	0976972707
Chilombo Kasakula	M	Community	-
Chibende Patrick	M	Community	-
Mulumbi Richard	M	Community	0974206537
Musonda Marjory	F	Community	0971628988
Simon Kabamba	M	Community	0967749859
Lupupa Christopher	M	Community	0975357976
Kasuba Katindo	M	Community	0975580873
Mvula Moses	M	Community	0975837212
Chalwe Mkandawire	F	Community	0964177555
Mulenga Jeff	M	Community	0979972716

Kaole Enock	M	Community	0971529293
Mudala Noel	M	Community	0974167751
Changufu Carol	F	Community	0965756246
Mushikita Quiver	F	Community	0964036048
Chipili Dismas	M	Community	0975037494
Mwenda Stenard	M	Community	0968401621
Mwimba Justine	M	Community	0965849108
Kampamba Suwilanji	F	Community	0978591217
Bwalya Josphat	M	Community	0975679435

Mporokoso Enumeration Team

Name	**Gender**	**Title and Organization**	**Contact Number**
Alice Kabunda Mwanza	**F**	**DEHO, DMO, Luwingu**	**0966399264**
Given Mbita	**M**	**PHO, DMO, Luwingu**	**0966990707**
David Mwale	**M**	**EHT, DMO, Luwingu**	**0979342210**
Arthur Ziwa	**M**	**EHT, DMO, Luwingu**	**0977475866**
Mukosha Moses	**M**	**EHT, DMO, Luwingu**	**0976957091**
Phiri Gift	**M**	**EHT, DMO, Luwingu**	**0979816303**
Bernard Kunda	M	Community	0977225963
Daniel Matabele	M	Community	-
Chenga Moses	M	Community	0975757415
Chipyela Benny	M	Community	0977429117
Besa Richard	M	Community	0979908516
Langi M^{c} Gil	M	Community	0966908516
Mulenga Gabriel	M	Community	0978477820
Kanyanta Chewe	M	Community	0977729290

Kaunda Alex	M	Community	0966443494
Stephen Mulenga	M	Community	0978335838
Kaira Gloria	F	Community	0973919330
Mubanga Kaoma	M	Community	0978898406
Chipolo Gideon	M	Community	0975538839
Mubanga Lydia	F	Community	0979395059
Nyirenda Sunday	M	Community	0979559039
Charity Mwanza	F	Community	0975538866
Safeli M. Wishiwabo	M	Community	0975537820
Kasongo Gideon	M	Community	0977435999
Daniel Mulenga	M	Community	0976793307
Chileshe Shadreck	M	Community	0976793307

Luwingu Enumeration Team

Name	**Gender**	**Title and Organization**	**Contact Number**
Ondya James	**M**	**EHT, DMO, Mporokoso**	**0979079238**
Kunda Bangwe	**M**	**EHT, DMO, Mporokoso**	**0977649127**
Mukamba William	**M**	**EHT, DMO, Mporokoso**	**0976390633**
Arthur Santu	**M**	**EHO, DMO, Mporokoso**	**0978571340**
Morgan Sanka	**M**	**PHO, DMO, Mporokoso**	**0977200698**
Mordecai Palangwa	**M**	**EHT, DMO, Mporokoso**	**0979189217**
Musonda Maggie	F	Community	0973003945
Musonda Moses	M	Community	0976103992
Bulambo Cacious	M	Community	0978100386
Mwale Sunday	F	Community	0978232937

Everness Chewe	F	Community	0978485459
Chipili Bertha	M	Community	0976881438
Emmanuel Bangwe	M	Community	0978161113
Mubanga Aaron	M	Community	0965539685
Mwape Joseph	F	Community	0975022704
Chongo Moses	F	Community	0976793535
Chama Davies	M	Community	0978965074
Katongo Flavia	M	Community	0963442227
Kunda Hellen	F	Community	0976008011
Nsama Kennedy	M	Community	0974560729
Liteta Patrick	M	Community	0967898672
Mukwaya Chiluba	M	Community	0978393023
Chishimba Able	F	Community	0975022361
Kaoma Elisha J.	M	Community	0979124287
Baron Mwansa	M	Community	0979476016
Racheal Mwaba	F	Community	0976334378