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Community based Indoor Residual Spraying in Tanzania: Findings and recommendations from pilot testing

9th annual VCWG Meeting

19th - 21st , Feb 2014

Geneva

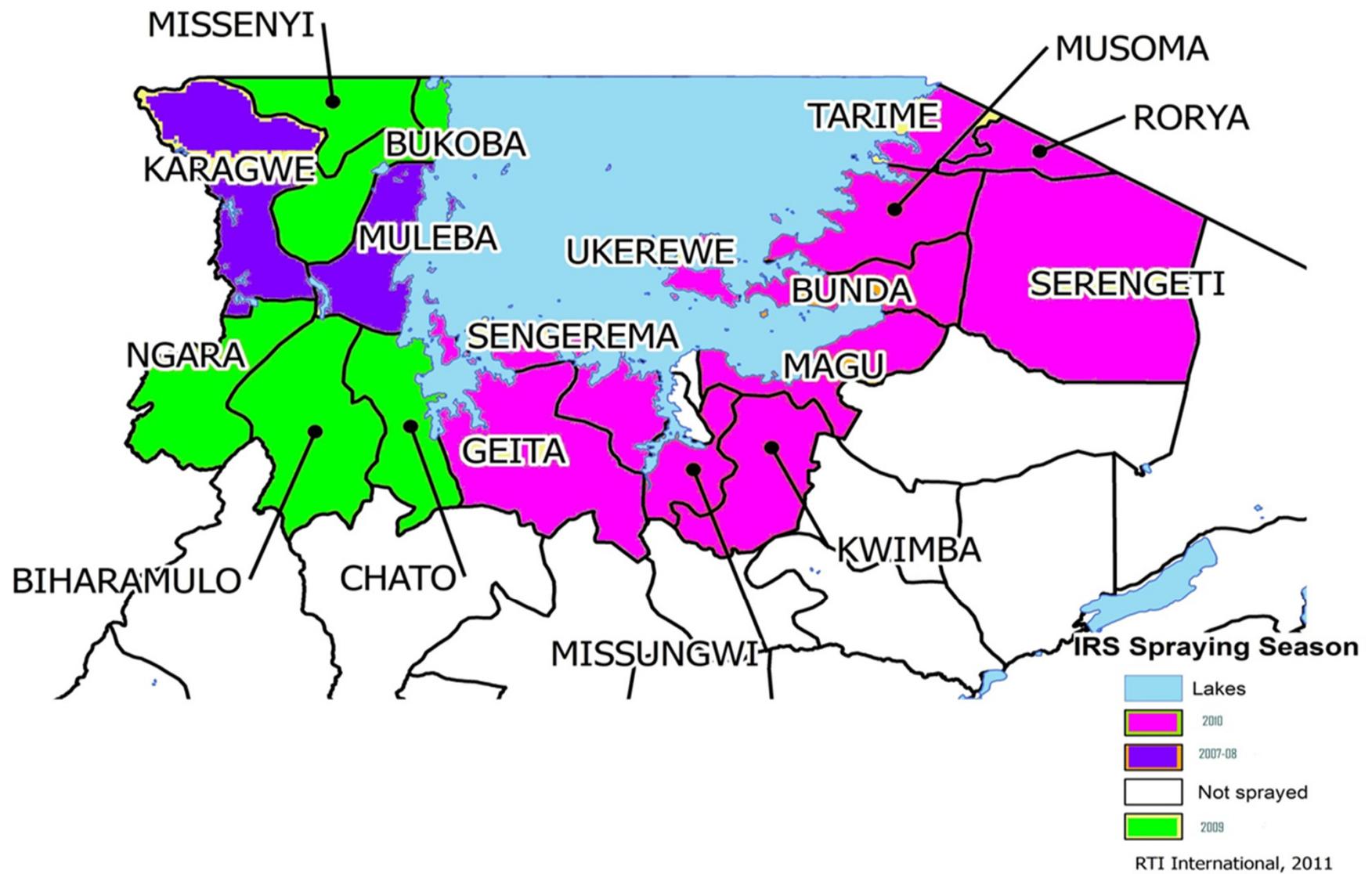
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Introduction

- With PMI support, IRS started in Muleba and Karagwe districts in 2007 and 2008 respectively
- In 2009, IRS expanded to all 7 districts of Kagera
- In 2010, it expanded to Mwanza and Mara regions (6 and 5 districts, respectively)
- By 2010, it covered 18 districts in the Lake Zone
- Different modes of IRS implementation have been used: highly centralized, partially decentralized and community-based IRS

IRS scale up in the lake zone 2007 - 2010



Highly centralized IRS implementation, 2007 - 2009

From 2007 to 2009, IRS was organized at highly centralized camps with the following features:

- Large camps accommodating > 100 people
- Staff provided with food and sleeping places
- Served large spray areas with $\geq 20,000$ spray-able structures
- Large storage facilities to accommodate bulky insecticides, PPE and other commodities

Highly centralized IRS implementation, 2007 - 2009

- Team leaders composed of site managers assisted by supervisors and store assistants
- Transportation involved large number of trucks, 4WD vehicles and motorcycles
- Each site was equipped with truck installed with a tank and water pump for supplying water
- Remote sites were provided with temporary stocks of fuel for vehicles, motorcycles and generators

Disadvantages of highly centralized IRS sites

- Very difficult to organize and manage due to large number of people and related logistics
- Expensive in terms of accommodation, food, modality of water supply and transportation
- Difficult to manage and monitor transportation

Partial decentralization of IRS, 2010 – 2012

- Shift from large camps to medium size IRS sites
- Relatively small compared to former IRS camps, serving 5,000 – 10,000 spray-able structures
- Average of 40 spray operators per site
- No accommodation and food costs

Partial decentralization of IRS, 2010 – 2012

- Managed by site managers and team leaders (no supervisors or stores assistants)
- Transport provided to spray operators only
- Water supplied by local water vendors
- Despite change to partially decentralized approach, coverage and quality of IRS remained high

Introduction of community based IRS (CBIRS)

- Since 2012, RTI in collaboration with regional and district authorities conceived the need to further decentralize IRS
- Decentralization aimed at organizing and implementing IRS at village level, referred to as community based IRS

Objectives of CBIRS

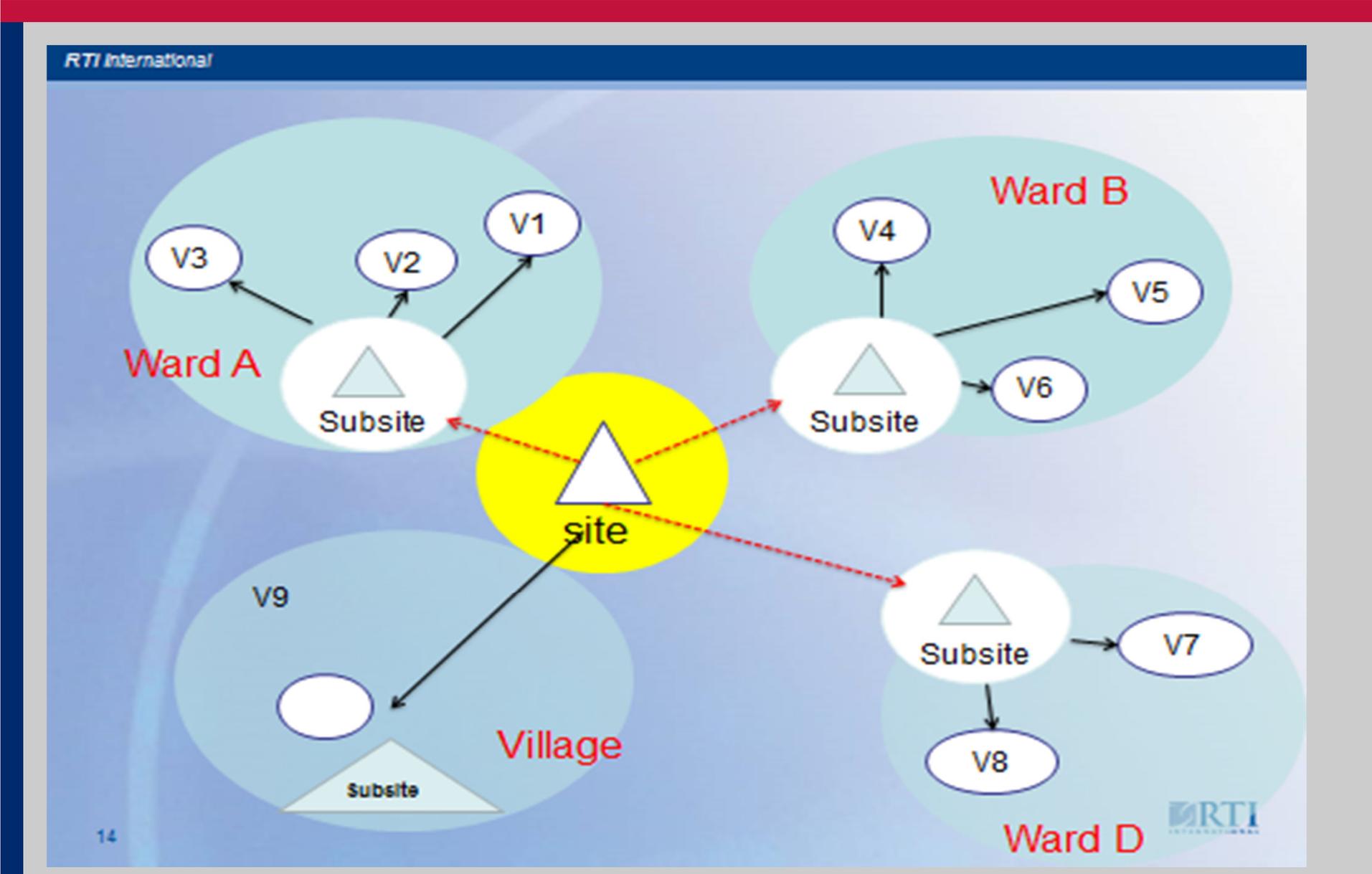
- i. Reduce costs of IRS implementation
- ii. Increase level of community participation & ownership
- iii. Reduce the organizational complexity of IRS

- iv. Achieve acceptable level of IRS quality
- v. Comply with environmental protection requirements

Main distinguishing features of CBIRS

- IRS was organized and implemented at the village level
- Construction of sub-sites
- Recruitment of sub-site supervisor for sub-sites with more than one spray team
- Recruitment of spray operators by village governments
- Recruitment of village IEC mobilizer
- Spray operators switched from using vehicles to using bicycles for transportation
- Water for spray sub-sites were supplied by the village

Schematic representation of CBIRS



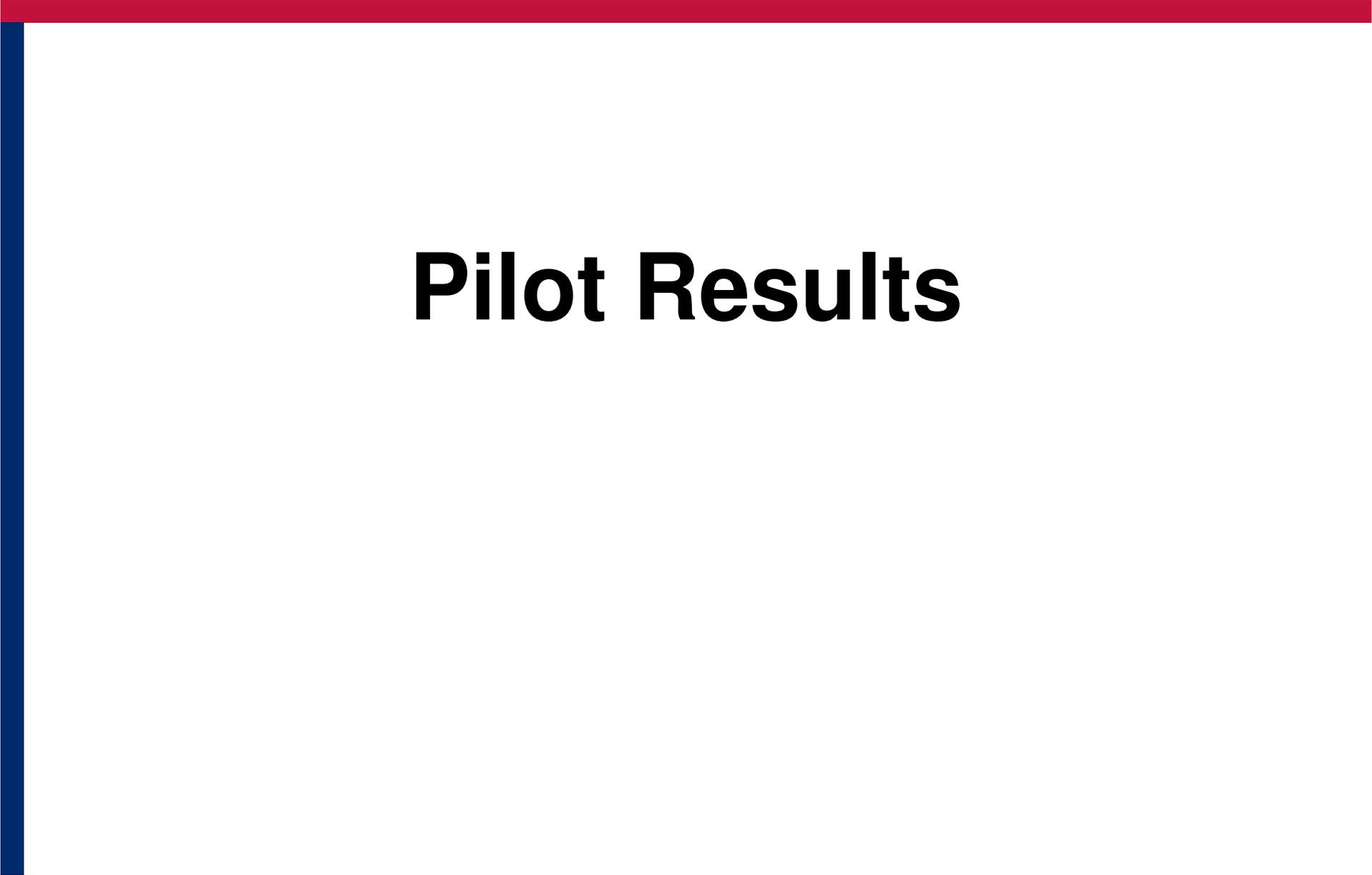
Organogram for the sub site management



Piloting of CBIRS

Between November and December 2013, CBIRS was piloted in collaboration with regional and district authorities

DISTRICT	VILLAGE	STRUCTURES
Chato	43	21,368
Geita	23	15,831
Rolya	09	6,175
Total	75	43,374



Pilot Results

How CBIRS affects costs of IRS

SNo	ITEM	COST IN COMMUNITY BASED IRS	COST IN CENTRALIZED IRS
1	Compensation to village IEC mobilizer (VIM)	3,340,000	0
2	Compensation to Sub-site supervisor	4,050,000	0
3	Compensation to Site Manager	1,610,000	1,610,000
4	Compensation to Site IEC mobilizer (SIM)	1,325,000	13,250,000
5	Compensation to spray operators	37,790,000	38,636,000
6	Compensation to hamlet leaders	5,700,000	6,300,000
7	Transport cost for Site manager and sub-site supervisor	3,080,000	0
8	Transport cost for SIM	840,000	840,000
9	Sub – site fabrication/site repair	17,071,400	60,000,000
10	Cost of supervision vehicle	9,000,000	4,500,000
11	Cost of distribution vehicle	9,808,000	6,000,000
12	Cost of spray operator vehicle	0	25,000,000
13	TOTAL	93,614,400	156,136,000
Difference between CBIRS and CIRS			-62,521,600

The influence of CBIRS on community participation and ownership

- Village governments were given the opportunity to recruit spray operators that the community trusted
- Village governments were more willing to accept IRS and the responsibilities pertaining to IRS operations
- Village governments supplied water which previously was paid for by donor (PMI)



Women volunteering to supply water at the sub-site of Busanda

The influence of CBIRS on community participation and ownership

- Builders/laborers for temporary sites were sourced from the community
- Locally recruited labor proved cheaper than obtaining labor through licensed contractors
- Reduced conflicts between villages and district authorities on recruitment of spray operators

The influence of CBIRS on the organizational complexity of IRS

- CBIRS was easy to organize and manage due to small size of teams (n=5-8) in villages
- Smaller stocks of insecticides and other supplies meant smaller storage facilities needed and more easily managed
- No need of escort since operational areas were well known to spray operators
- Reduced travel distance eliminated need for vehicles
- Trust of local spray operators increased cooperation from households

The influence of CBIRS on the organizational complexity of IRS

- Increased demand on logistic teams to distribute insecticides and other supplies to many sub-sites
- The wide scattering of operational areas at one time overstretched the district supervision team
- Increased number of staff eg Village IEC Mobilizer and Sub Site Supervisor

The influence of CBIRS on the quality of IRS

- Spray coverage was high (87 – 99%)
- The quality was acceptable using the following indicators;
 - Preparedness of houses to be sprayed: > 89% of households were well prepared for spraying
 - Coverage of rooms in a sprayed structure: > 90% of households had all the rooms sprayed
 - Instructions to the household members: 92% of household respondents received correct instructions post-spray
 - Good opinion of IRS among household members: > 86% of household respondents had a favorable opinion of IRS delivery as compared to last round

The influence of CBIRS on compliance of environmental protection requirements

- Building of sub-sites was carried out taking into account of environmental compliance (*had washing bay lined with plastic sheeting and soak pit to treat generated effluent wastes*)
- The community were able to provide storage facilities that were ideal;
 - Were with strong doors and windows
 - Good light and ventilation
 - Located where no threat for interacting with non authorized people



- The sub-site at Nyabilezi in Chato district fenced with mats



The sub-site at Msasa in Geita district fenced with poles

Waste effluent disposal structure of a standard IRS site



Conclusion and recommendations

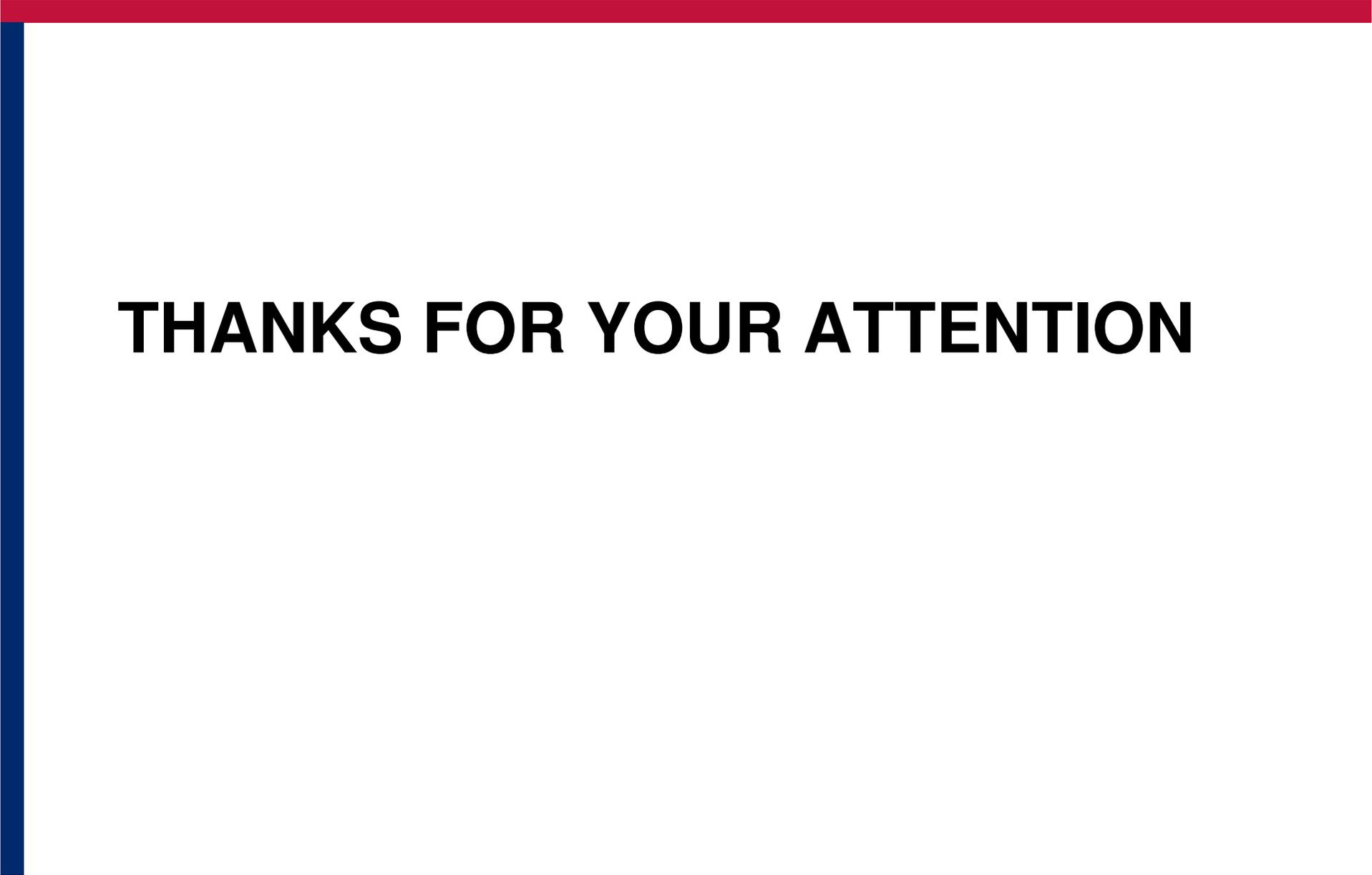
- Successful piloting of CBIRS indicates it is replicable in other districts with the following modifications:
 - Use of Village IEC Mobilizer adds unnecessary costs since their tasks can easily be carried out by hamlet leaders
 - Where the sub-site accommodates more than one team, one competent team leader can serve as the sub-site leader and be motivated to take on added responsibilities. This will reduce compensation costs and transport costs incurred by sub-site supervisors

Conclusion and recommendations

- The construction of sub-site effluent disposal structures should be further simplified based on recommendations of the senior environmental compliance expert:
 - use one soak pit instead of two
 - use small water containers where the number of spray operators is small e.g. 5 operators may need 200L capacity instead of 500L capacity

Conclusion and recommendations

- In Community based IRS, team leaders have extended jurisdiction of supervising many things like environmental compliance, supervising quality and quantity of IRS and they work under minimum supervision, thus their training should be updated to cope with current tasks
- Develop user friendly documents and plans to guide the implementation of community based IRS at all levels
- CBIRS to be rolled out to full scale in districts that piloted the approach and other districts as per stratification



THANKS FOR YOUR ATTENTION