

iK Smart Light

**BY EXPERTS
FOR EXPERTS**



1. Introduction

Indoor Residual Spraying (IRS)



MALARIA



Zika
Dengue
Chikungunya
Yellow Fever



Chagas



Leishmaniasis

Indoor Residual Spraying (IRS)



CORRECT SPRAYING TECHNIQUE



1. Spraying
distance:

45 cm

2. Spraying
speed:

2 m in **5** sec.

TRADITIONAL IRS **SPRAYING QUALITY**



Without guidance, operators
**Find it very challenging to
Spray at proper distance**





Effectiveness
of IRS
intervention is
affected by this
wrong
application:

1. Cost
(Overdosing)

2. Shorter
Residual effect
& Quicker
Appearance of
mosquito
resistance
(Underdosing)

MAIN FACTORS

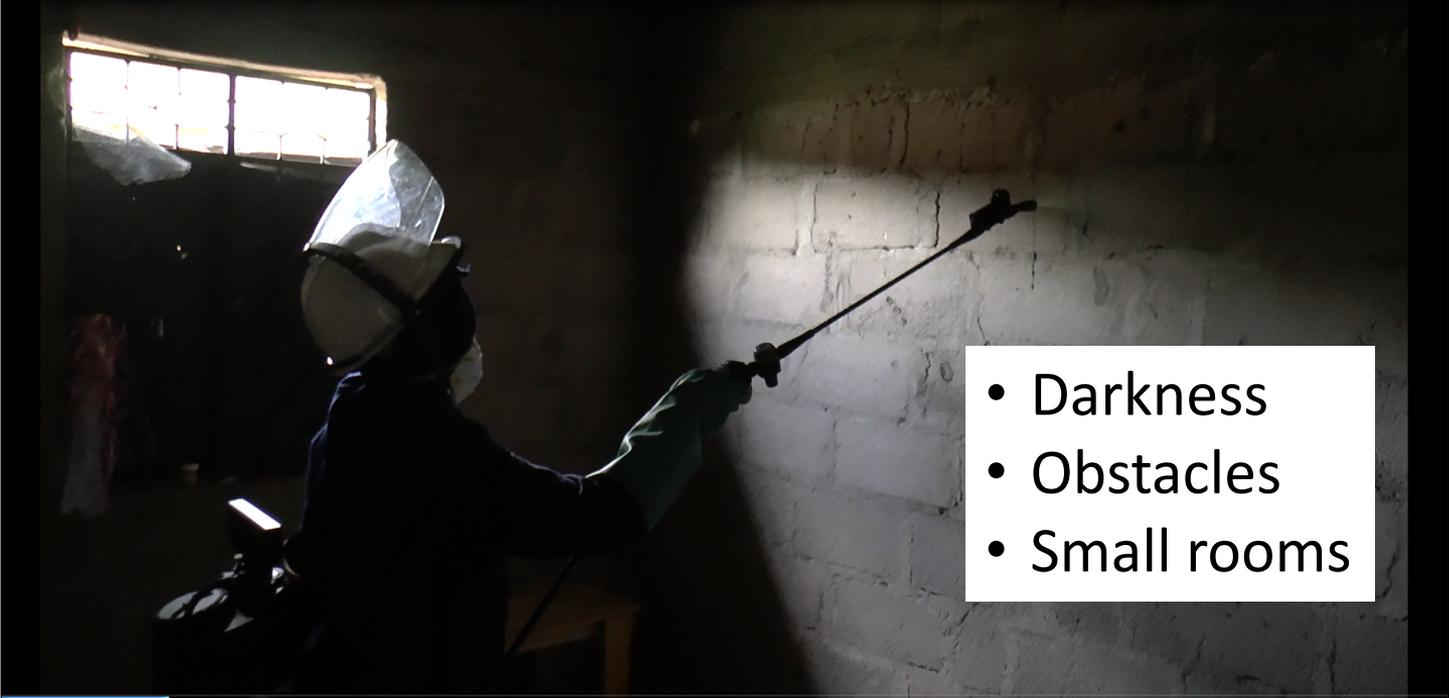
AFFECT SPRAYING QUALITY

FACTOR 1

TRAINING TOOLS

“TRAINING
SPRAYING SKILLS IS
A LONG AND
DIFFICULT JOB
BECAUSE
THERE ARE **NO**
EFFECTIVE AND
GOOD TOOLS
TO TEACH, LEARN
AND EVALUATE
THE SPRAYING
TECHNIQUE”





- Darkness
- Obstacles
- Small rooms

FACTOR 2

IRS IN THE FIELD

is much more demanding
THAN TRADITIONAL
OUTDOOR TRAINING

MANY NEW OPERATORS

FACTOR 3

with no previous experience
are participating in
IRS campaigns every year.



2. The Project



The Objective

Improve IRS
intervention's
efficiency

(Cost & Residual life
of insecticides)



Spray Operators

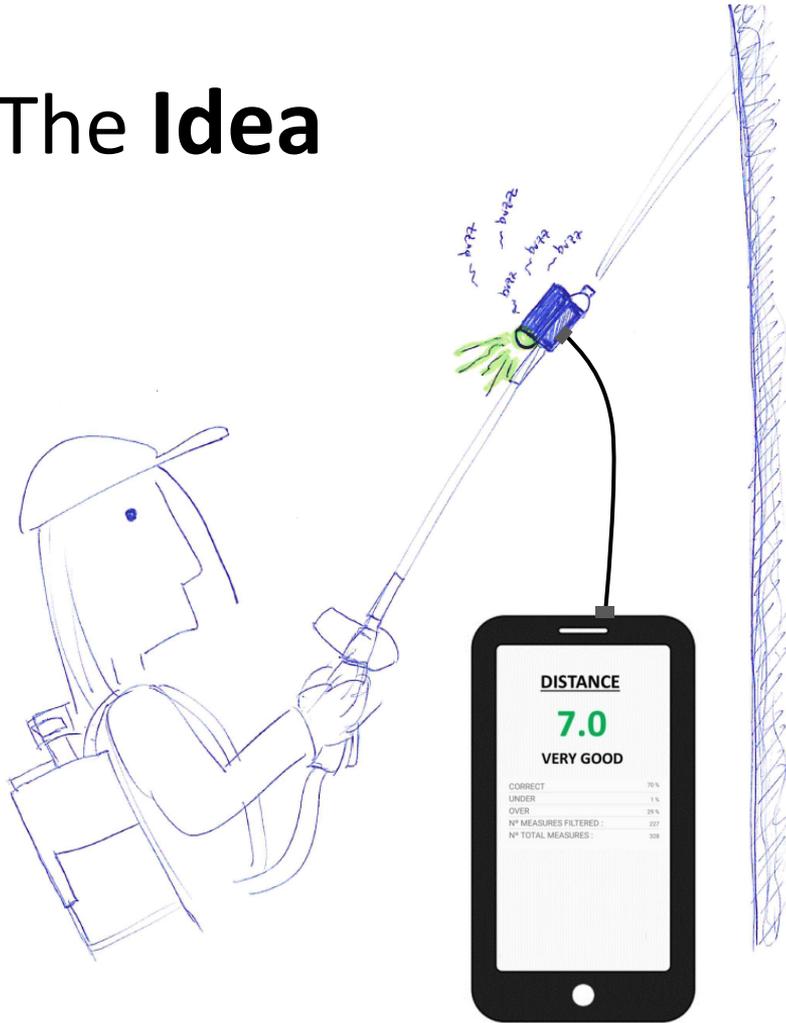
Helping spray operators
**improve their
spraying quality**
quickly and easily
under challenging working
conditions.

Team Leaders & Supervisors

Helping them **supervise and evaluate** spray operator's spraying quality much more efficiently.



The Idea



Electronic device
equipped with ...

- a BEEPER
sounds every second
to give an accurate
time reference for
spraying speed
- a SENSOR
measures spraying
distance from the
nozzle to the wall.
- 3 color LED
Green, Blue and Red.
- Memory Card
& Mobile APP
record and show
spraying quality
results

3. Preliminary Results

Preliminary Prototypes

already tested in Africa





Learnings from BENIN, TANZANIA and MOZAMBIQUE!!





Training Scenario



Operator
02

TRADITIONAL



30%



Operator
05

TRADITIONAL



40%



Operator
06

TRADITIONAL



20%



Operator
09

TRADITIONAL



20%

% of the time that
the operator is
between 40-50
cm from the wall



Operator
02

TRADITIONAL



30%



WITH
IK-SMART LIGHT



After just 2 hours
TRAINING

85%
VERY GOOD



Operator
05

TRADITIONAL



40%



WITH
IK-SMART LIGHT



85%
VERY GOOD



Operator
06

TRADITIONAL



20%



WITH
IK-SMART LIGHT



65%
GOOD



Operator
09

TRADITIONAL



20%



WITH
IK-SMART LIGHT



60%
GOOD



Operator
02

TRADITIONAL



30%



WITH
IK-SMART LIGHT



After just 2 hours
TRAINING

85%
VERY GOOD



Operator
05

Training Quality
much better
&
Reduced Training Cost
With Potential Savings

85%
VERY GOOD



Operator
06

%
DD



Operator
09

TRADITIONAL



20%



WITH
IK-SMART LIGHT



60%
GOOD



IRS Scenario

Traditional IRS

UNDER
PROTECTED



20%

(SPRAYED AREA
at **35% lower dose**)

OVERDOSE



65%

(SPRAYED AREA
at **35% higher dose**)

Traditional IRS

UNDER
PROTECTED



20%

(SPRAYED AREA
at **35% lower dose**)

IK-Smart Light

5%

(SPRAYED AREA
at **20% lower dose**)

OVERDOSE



65%

(SPRAYED AREA
at **35% higher dose**)

15%

(SPRAYED AREA
at **20% higher dose**)

Traditional IRS



UNDER
PROTECTED

20%

(SPRAYED AREA
at **35% lower dose**)

IK-Smart Light

Large Scale
Campaign
400.000
people

OVERDOSE



65%

(SPRAYED AREA
at **35% higher dose**)

Potential Chemical
Cost Saving of
17%

4. Next Steps

Over 200 prototypes are being deployed in Mozambique in Oct 2019.

Tests will be used to evaluate ruggedness and operator acceptance.

User inputs will influence final design of the iK Smartlight before commercial production.



Costs is expected to be US\$50-100 depending on scale of production.

- Costs can be overset by insecticide savings and reduction in training time.

FINAL PRODUCT EVALUATION with



PMI

President's Malaria Initiative
Fighting Malaria and Saving Lives





Thank you