



BUMA Fish and Integrated Farm story

Presented

by

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Introduction

RCE Western - is Located in Kakamega



22 Constituencies

RCE Partners

Include

Formal Education:

Universities: MMUST for RCE Kakamega

Primary and Secondary schools

Non Formal Education

Local businesses eg **Buma Fish Farm** for RCE Kakamega

Local NGOs

Local governments

The BUMA story using

12 Step Kaizen story - Methodology

What is the Kaizen methodology

What does it mean Kaizen?

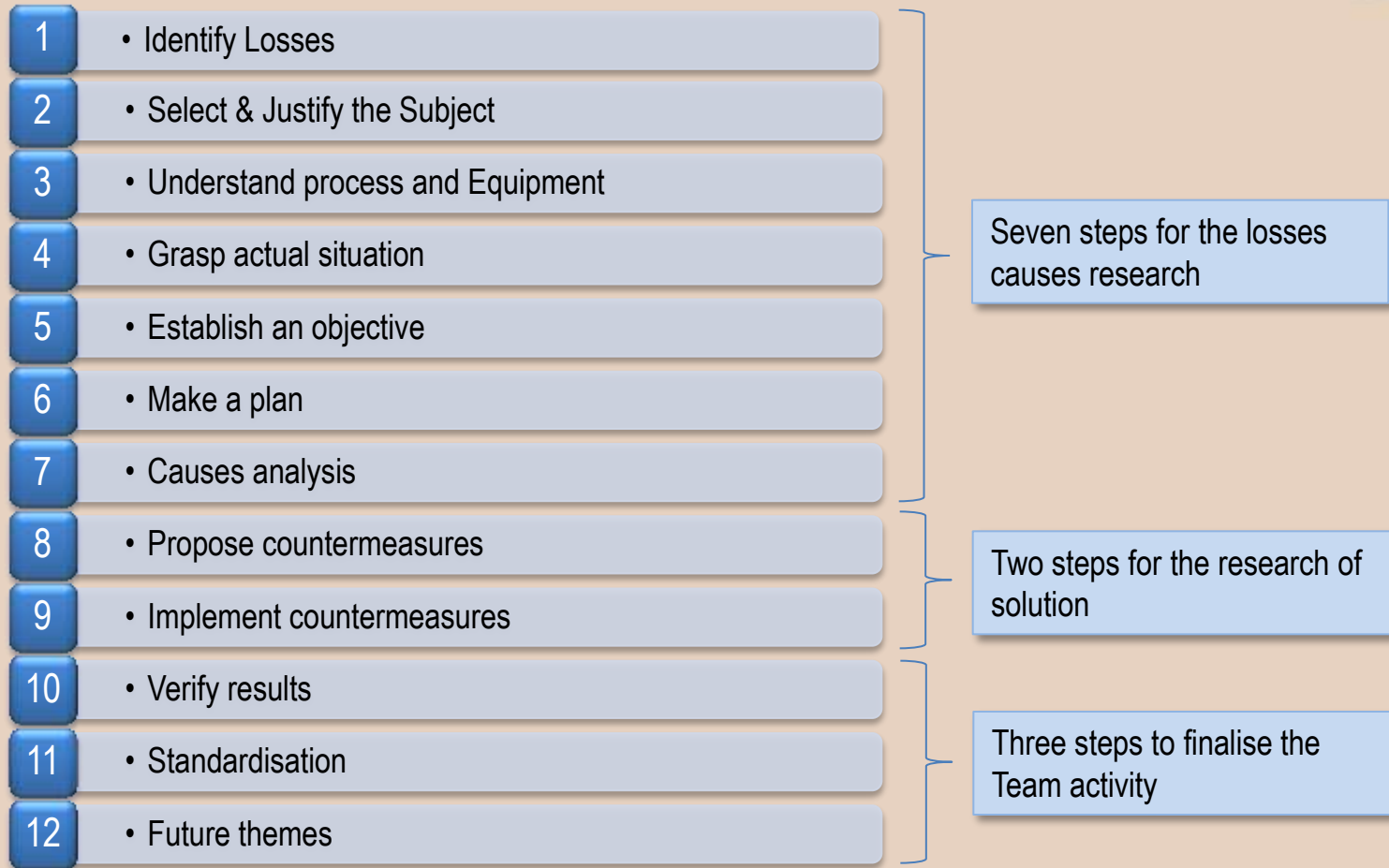


Kaizen = Continuous Improvement

Kaizen philosophy is based on a principle:

“Energy comes from bottom line”, so that in a company the result is not only due to management decisions but, in most cases, it’s due to direct activities on products and processes.

Kaizen route 12 steps



More than half of the Kaizen steps is dedicated to the research of the causes of the losses, only two for the solution research.

Look at the problem causes first!!then at the solutions

BUMA Fish and Integrated Farm

Farm house



Green house 2010



Grandchild visit



Tree climbing fun



Farm visit from
RCE Western 2013



Drip Irrigation 2013



Inland fish pond 2009



Catch from pond



Farm workers



Black night shade

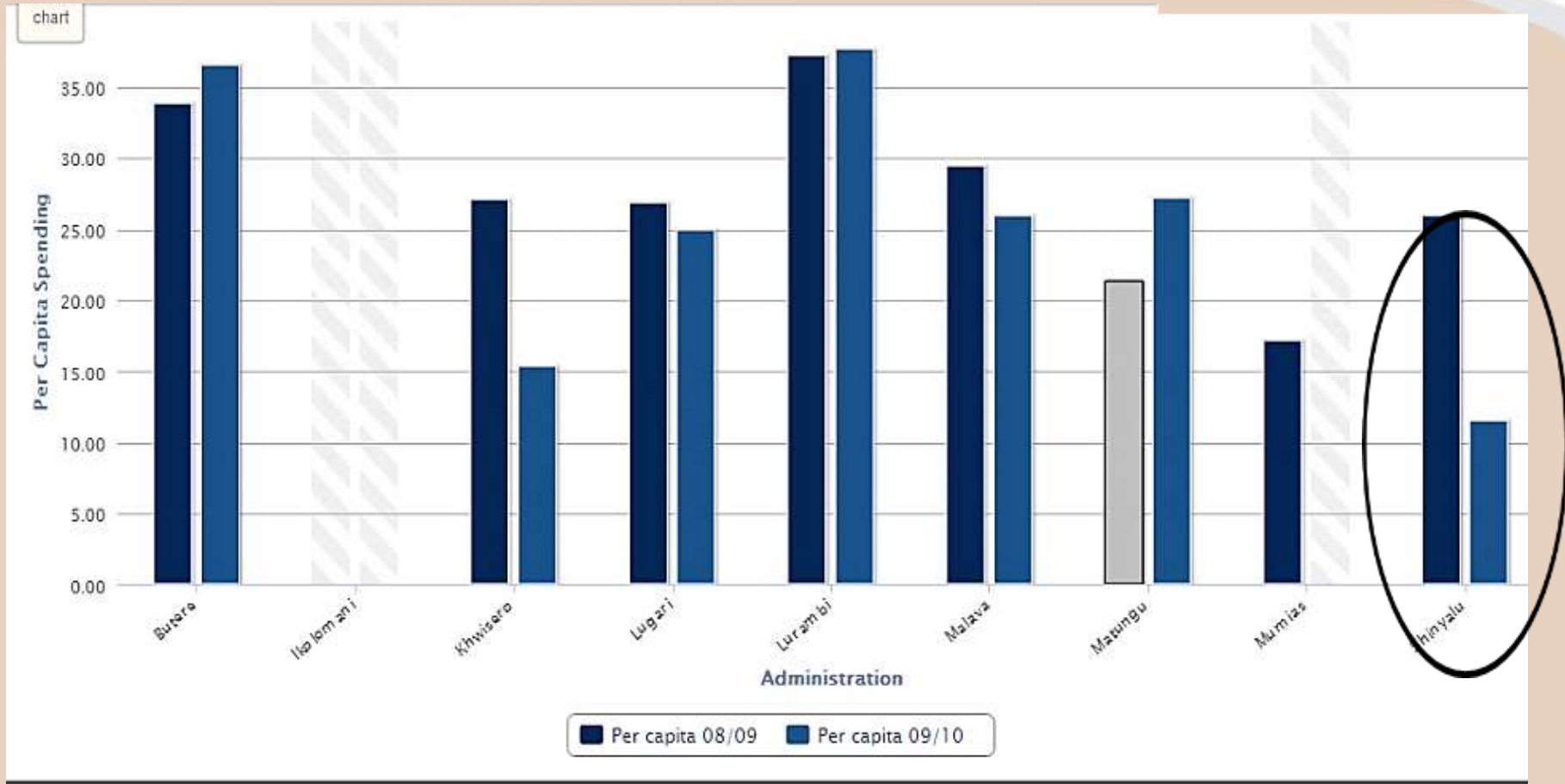


Having fun



Average per capita spending

Average income per constituency - Kakamega County in Ksh



Average income per day for an individual in Shinyalu constituency (2010/2011) was \$USD 0.34cents

Understanding situation

Demographics - 2010

- ✓ Population 1,660,651
 - ✓ The average amount of rainfall Shinyalu is between 1800-2100mm per annum
 - ✓ The average size of farms within the area is 0.5ha.
 - ✓ Average income per day for an individual in Shinyalu constituency was \$USD 0.34cents.
 - ✓ 63% of the population lives below the poverty line of \$1.25 a day
- area is 0.5ha.

BUMA Farm



Established in 2009, a small scale holding that has undergone transformation from Perennial Maize Crop production to Horticulture and Fish production.

BUMA Farm is located in Isukha East, Muranda, Shamiloli Road, Shamiloli Market, Kakamega County

Objective

- ✓ Drive behaviour change through food production, secure food supply and security **every day of the year.**



Master Plan

BUMA FARM MASTER PLAN

	Activity		2009 - 2012	2013	2014
1	Losses causes Reaserch/use of Problem solving tools				
		Act			
2	Reasearch of solutions/propose & Implement counter measures	Plan			
		Act		In progress	
3	Check Results/verify/standardize/future themes	Plan			
		Act			

What is the problem (why the project)

Using a problem solving tool **5W + 1 H**

What is it?

✓It is basically a checklist, with a series of questions, whose answers drive us to understand and correlate the phenomenon to the machine, men, method, material and environment

What is it for?

✓To understand the phenomenon

When is it used?

✓At beginning of an improvement work, during the phase of the current situation understanding

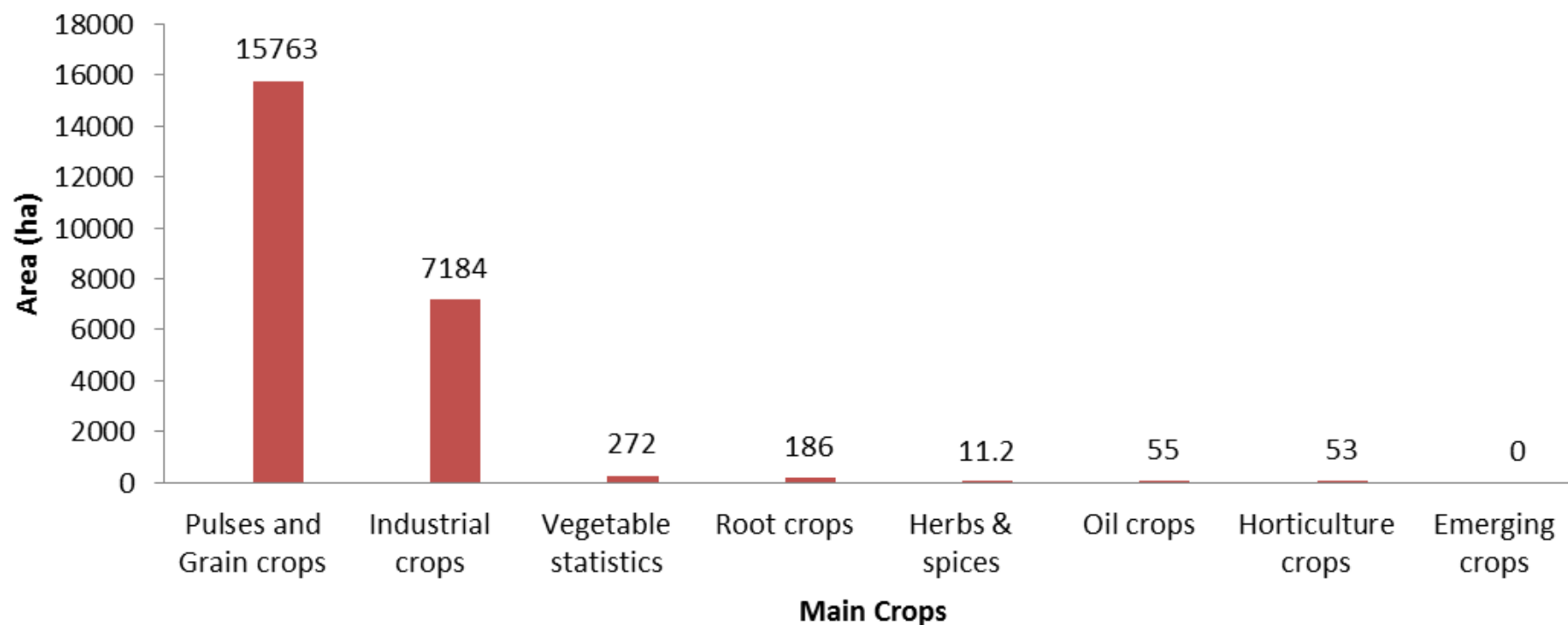
A good understanding of the initial situation will facilitate a lot the analysis to be done later.

Root causes analysis

5W+1H

1. What – Checks for variation in production (Main crops)

Main Crops production/ha 2011



Conclude: There is a variety of food crops produced in the area.

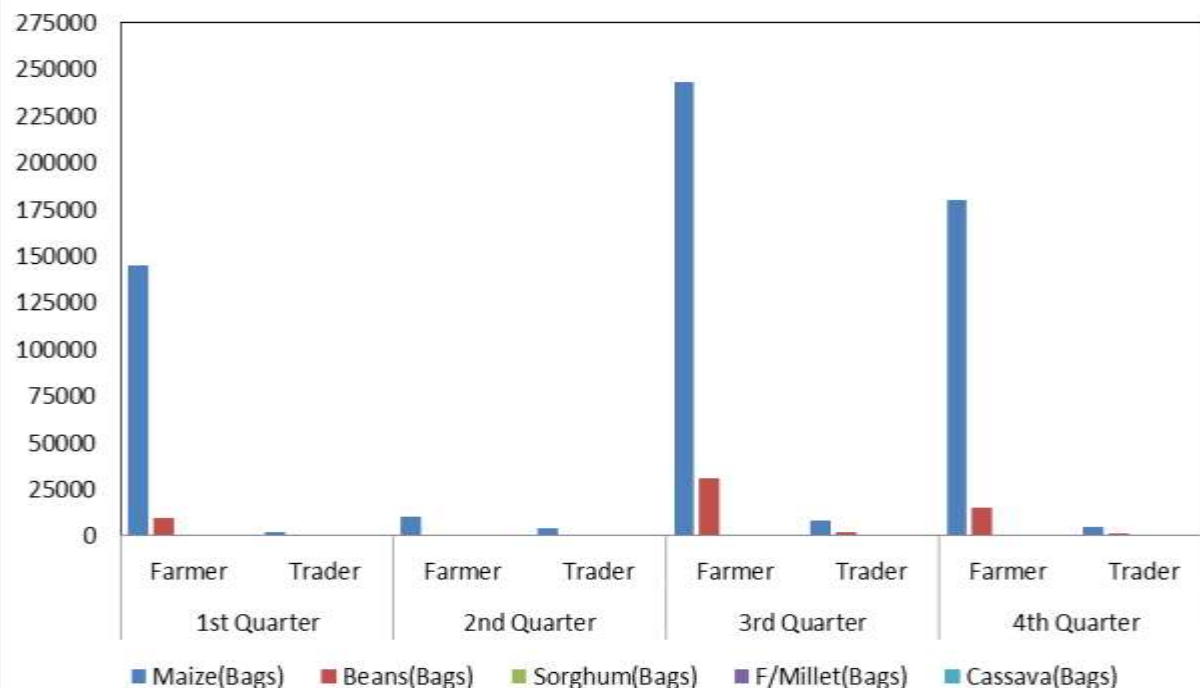
(District Agricultural Office, 2011)

Root causes analysis

5W+1H

2. Which – Check for time or period-related variations (Food stocks patterns)

**Food stocks held by the farmers/quarter
2011**



- ✓ Food availability fair, throughout the year
 - ✓ Q2 Apr-June – lowest stocks, harvest of the previous year being depleted
 - ✓ Q3&Q4 Aug – Dec fresh harvest for Maize
 - ✓ Q3 June – August fresh harvest for beans
 - ✓ Q4 Dec fresh harvest for beans
- Please note farmers replenish their stocks immediately because of insecurity

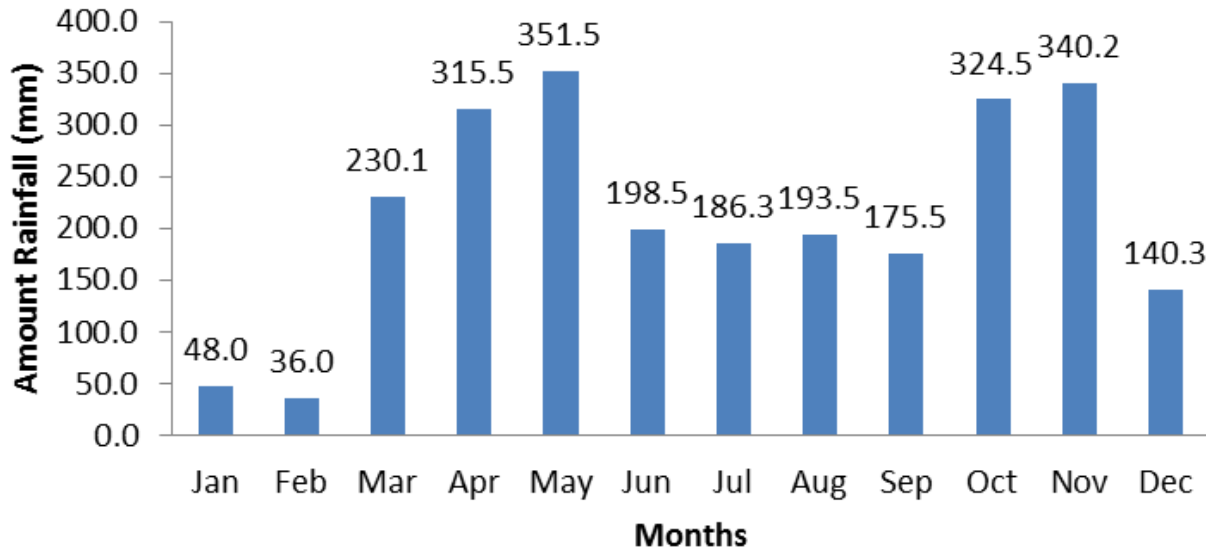
Conclusion: There is food throughout the year, with a variation related to harvesting periods

Root causes analysis

5W+1H

3. When – Trend related to weather (Rainfall patterns)

**Rainfall Station Isecheno Forest -Amount (mm)
(2010)**



- ✓ Total amount of Rain 2539.93 mm
- ✓ County experiences bimodal rainfall pattern
- ✓ Long rains March to August
- ✓ Short rains September - October
- ✓ Average rainfall 1500-2100mm p.a.

Conclusion : Enough rain to support farming, making it an attractive venture

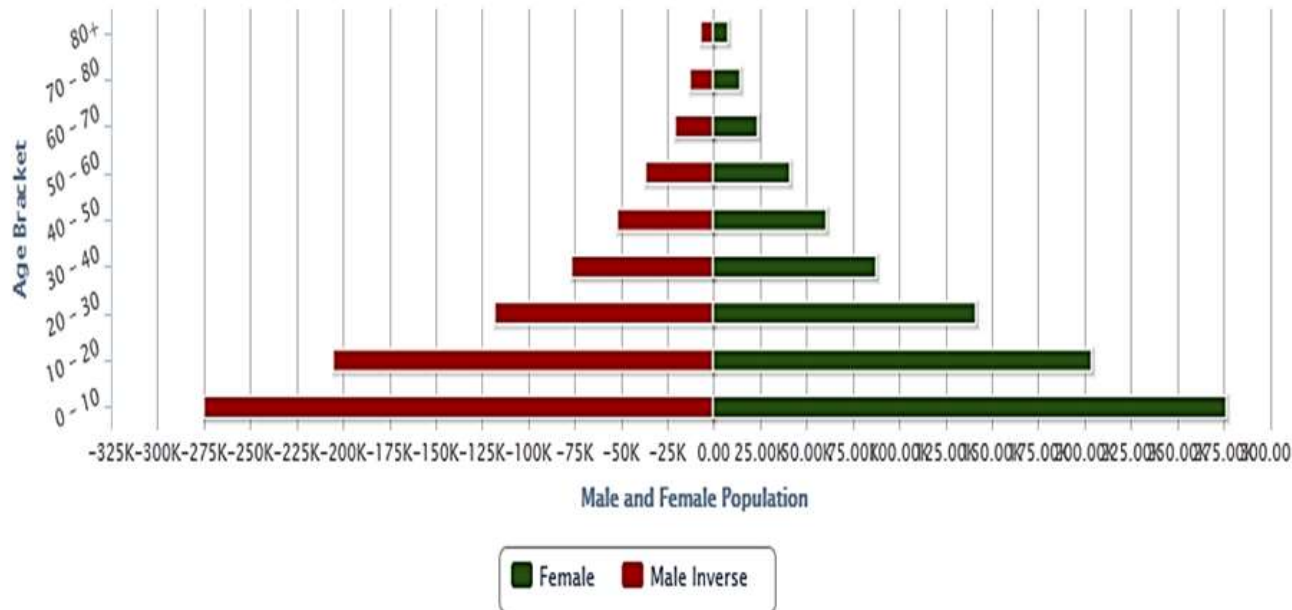
Root causes analysis

5W+1H

4. Who – Population

Census population by rural, urban, County estimates

Kakamega Age Pyramid

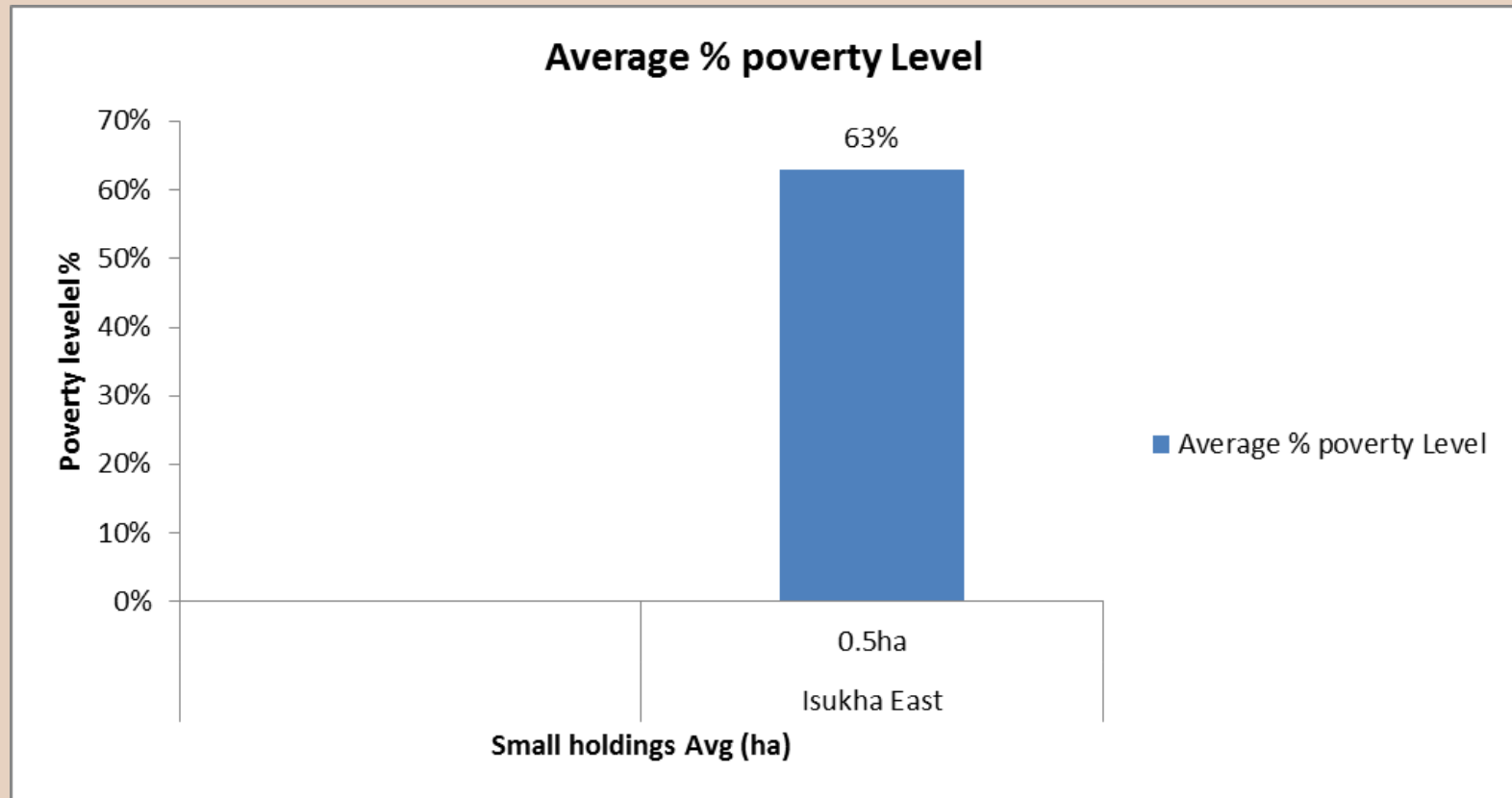


Conclusion: Average age of those involved in farming is 59.4, own the land and practising farming. This shows the pressure the elderly are under to feed the young ones, a lot of them orphans

Root causes analysis

5W+1H

5. Where – Machinery/Mechanization



Conclude: Average size of farms is 0.5ha – small land holding, coupled with high poverty levels, attracts manual labour vs. use of farm equipment

Root causes analysis

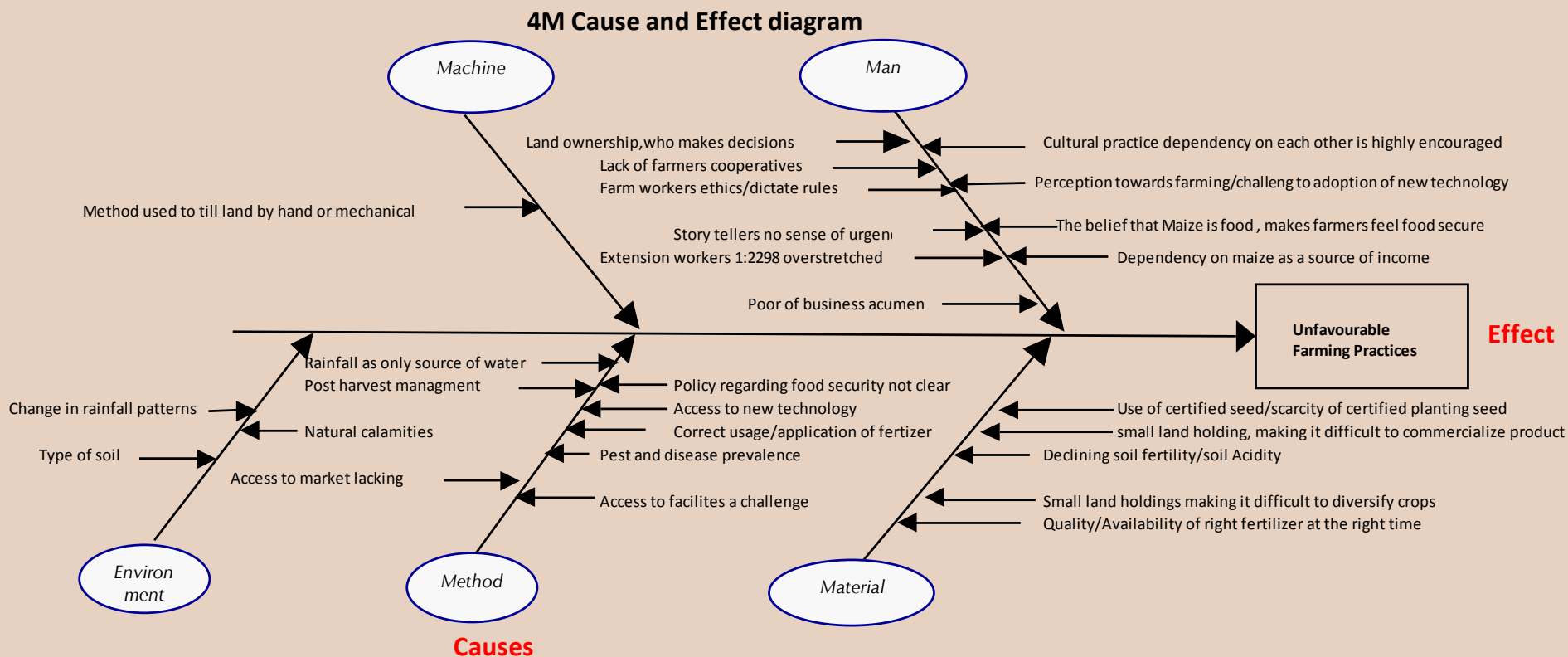
5W+1H

How — How the problem disclose

Farming Practices

4M Causes Analysis tool

It has a fish-bone structure graphically representing the relationship between an effect and its possible causes



5 Why Analysis

Problem	Why	Why	Why	Why	Why	Action	Responsible	Deadline
Lack of farmers cooperatives	Cooperatives have a negative image	Lack of trust in cooperatives	Bad Politics and Wrangles in the board	Mismanagement of resources	Bad Leadership	Set up a pilot, with good governance to return confidence	County government / BUMA Farm	2016
						Study and Review existing Cooperative Rule book		
						Create a market for the produce		
Marketing for the products	same farming practises	Production is rain fed	Practise is dependent on rainfall patterns	Farmers do not know better	Access to information	Spread the harvest through out the year	County Government	2015
						Implement a pilot project with irrigation		
						Pilot project rain harvesting		
						Write a policy regarding imports into the county		

Proposing and Implementing Counter Measures

Counter Measures

WHO	WHAT	WHEN	STATUS
	1. Fish Pond		
Zippy/dorcas/Leonard	Construct an inland fish Pond		Done
	Buy reading material		Done
	Explore Fish feed production		Ongoing
	Create a relationship with Field extension workers		Done
	2. Green House		
Zippy	Installed a Green house	2011	Done
	Partnered with Min of Agriculture Tomatoes		Done
	Partnered with Chemical co. Tomatoes		Done
	Engaged an Agronomist with Tomatoes		Done
	Tried other Kale production		Done
	3. Mechanization/Technology		
Zippy	Installed drip irrigation - 1 acre	2013	Done
	Production planning for production		Done
	Collecting local data		Done
	Add value to the vegetables (pluck and wash)		Done
	Engaged a consultant - new trial for tomatoes		Ongoing
BUMA Farm	4. Crop Production - African leafy vegetables	2009	Done
Zippy/Peninah	5. Awarded a tender at a local Hotel in Kakamega	2009	Done
	6. Formed a Women's group - " Mukulusu every day Food Group"		Done
Zippy/Dorcas	Facilitate registration of the group with Min. of Gender and Youth Affairs	2011	Done
	Qualified for a loan Ksh (50,000) from Women Enterprise, repaaymnets nearly complete		Done
	Financial literacy training - Equity bank		Done
	Group Account		Done
	BUMA Farm Provided them with a meeting venue		Ongoing



Proposing and Implementing Counter Measures cont.

Counter Measures

WHO	WHAT	WHEN	STATUS
Zippy	7. Human Resource	2012	
	4 permanent employees (3 women/ 1 man - watchman)		Done
	8 farm hands working 5 days a week		Done
	1 Consultant		Done
BUMA Farm Management	8. BUMA Farm Activities	2011	
	Hosted a Field day		Done
	Sponsored members to attend World food day		Done
	Nominated people for an entrepreneurship training	2013	
	Educational Tours, most recent from RCE		Done
	Motivational tours from people preparing for retirement		Ongoing
BUMA Farm Management	9. Partners	2013	
	Min. of Agriculture		Ongoing
	Egerton University		Ongoing
	MMUST University		Ongoing
	Golf Hotel - Kakamega		Ongoing
	Golden Inn motel - Kakamega		Ongoing
Consultant	On job training using technology/new methods of working to the farm hands		Ongoing
	10. Agri business	2009	
BUMA Farm Management	Buy and sell from the local farmers		Ongoing
	Engage the community, lead by example		Ongoing

3 steps to finalise BUMA Farm team Activity - 2014

1. Verify Results
2. Standardization
3. Future themes

Future themes 2014

1. Upscale
2. Processing
3. Marketing

Further Recommendations

- ✓ Engage County Governments to introduce a Policy to drive mind-set change, on Nutrition and Agribusiness
- ✓ Restructure field workers portfolio to reach ALL farmers with the correct information
- ✓ Monitor and evaluate field workers impact on the community
- ✓ Policy on imported farm products into the counties, thus creating a market for local produce. This will create job opportunities in production, Marketing the produce and Logistics
- ✓ Identify Demo plots for showcasing farming (agricultural shows are good but unrealistic)
- ✓ Introduce a **community agriculture day** to talk about agriculture, the opportunities, new seed, fertiliser; disease; new crops e.g. now we have sugar cane what does it mean to the farmer this is for peasant farmers

Thank you

