

## FGW works - Kiawanda School

FGW Plot vs. Control Plot

(Planted Oct, May 2010 yield/results)

Maize yield on FGW plot

51 kg (on the cob)

Maize yield on control plot

13 kg (on the cob)

Third season FGW produces 3.9 times the control plot!







# Farmer Dixon in Malawi

Farmer - Dixon	2005	2006	2007	2008
Yield bags	5	45	54	69
% Increase	infinity	900%	1100%	1380%

#### **FEBRUARY 2014**

Dixon's farm with tassling maize on the right.



#### **JANUARY 2014**

Dixon's farm in the background & a neighbour's farm on the foreground

















#### If the gospel can heal and transform people...



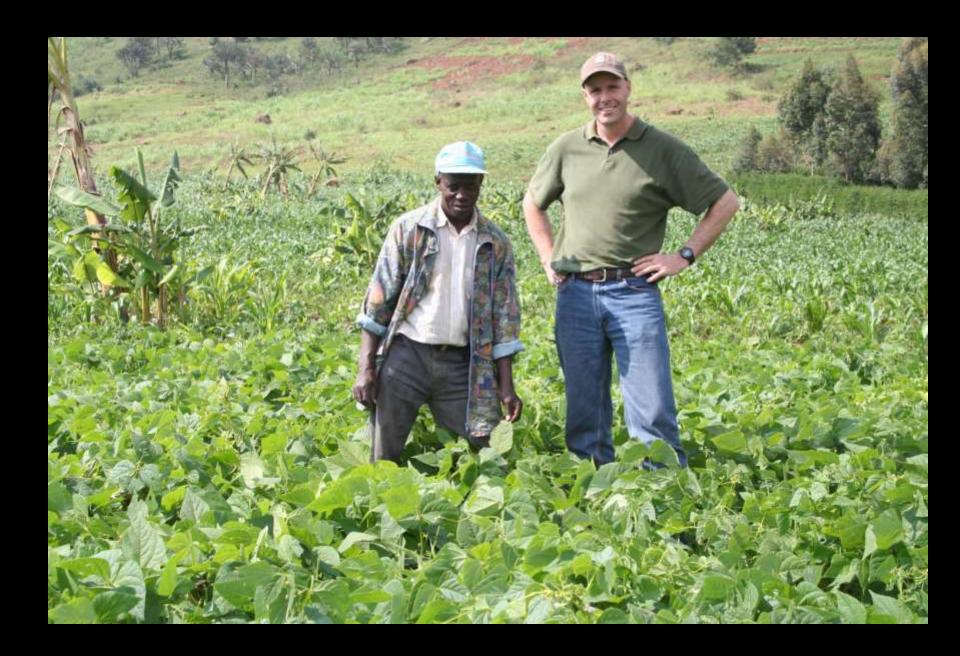
...then surely it can heal and transform how we farm





















## Contol plot late Feb, 2011 = Total failure











#### CCK Jan 11, 2011 Bean harvest, Kijabe

Control plot = 1,803 pods

FGW = 5,548 pods



**Control** = **1.57 kg** 

FGW = 5.8 kg

3.7 times more yield

## Obstacles to successful adoption

- 1) Scarcity of mulch, esp. in dry areas
- 2) Maize stalks viewed as a source of quick cash (mulch vs. cash)
- 3) Crop residues perceived to be a valuable food for cattle ("I am getting the most out of my land")

## Obstacles to successful adoption

4) Theft of mulch by others - both by local herdsmen & outsiders

5) Deforestation problems can hinder adoption when maize stalks or other crop residues are the only available source of fuel

## Obstacles to successful adoption

- 6) Benefits of mulch & importance of feeding the soil not well understood
- 7) Thick & brushy mulches can attract rodents that damage emerging crop seedlings finer mulches work better
- 8) Wildlife damage more likely on FGW plots

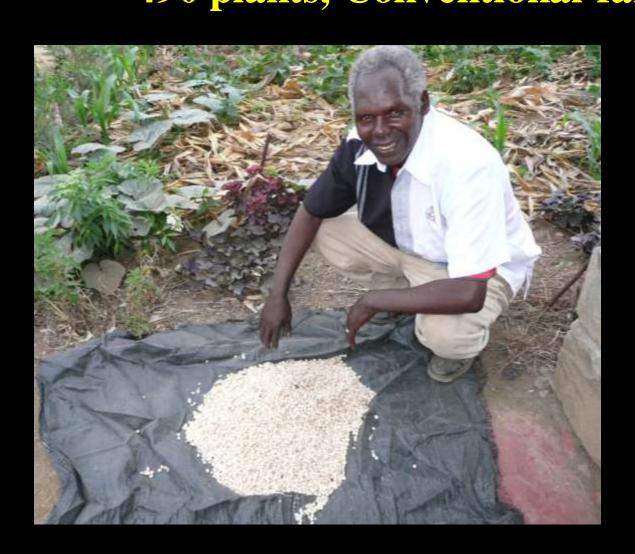
### Obstacles to successful adoption

- 9) Scarcity of qualified FGW trainers
- 10) Many trainings minimize biblical teaching & the critical aspect of implementing at high standards
- 11) Strategic need for Africa is multiplication of certified trainers

# Successful adoption is a process

- 1) Discipleship & regular follow-up essential to reinforce biblical principles & to cultivate a farmer's commitment
  - •Follow-up critical to identify obstacles & refine proper implementation of technical details
- 2) Take a long-term approach
- 3) Farmers learn best from other farmers
  - •Encourage those new to the technique to visit those who have experienced proven success

# Simon - Sept 2011 Mai Mahiu IDP 490 plants, Conventional farming plot



Yield = 6.7 kg

# Simon - Sept 2011 Mai Mahiu IDP 490 plants, FGW plot



Yield = 39.6 kg

Nearly 6 times more yield than neighbor plot

# **CCK onions late July 2011**



### CCK Oct, 2011 Onion harvest, Kijabe

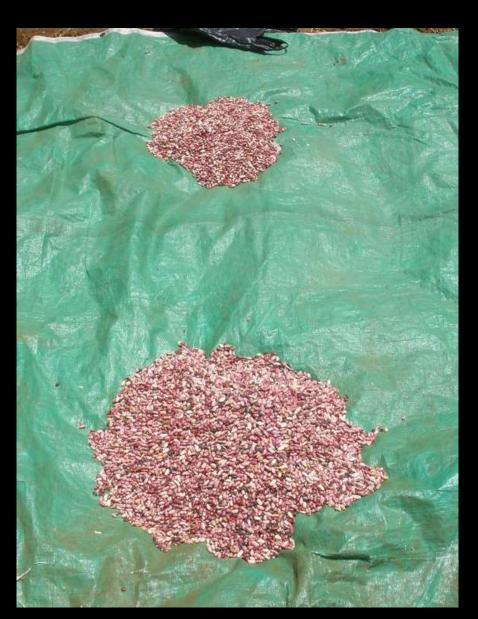


Control = 17.3 kg

FGW = 76.9 kg

4.4 times greater yield

#### CCK Jan, 2012 bean harvest, Kijabe



Control = 3.4 kg

FGW = 11 kg

3.2 times more yield

#### CCK Feb, 2012 potato harvest, Kijabe



Control = 51 kg

**FGW** = **89 kg** 

75% more yield

#### CCK March, 2012 maize harvest, Kijabe



Control = 8.9 kg

FGW = 17.3 kg

94% greater yield

Very dry conditions

#### CCK Jan, 2013 potato harvest, Kijabe



Control=
89 kg

#### CCK Jan, 2013 potato harvest, Kijabe



**FGW** = **163 kg** 

83% more yield

# August 2013 cabbage plots



#### CCK Aug, 2013 cabbage harvest, Kijabe



**Control** 

=87 kg

**FGW** 

= 215 kg

2.4 times more yield

# August 2013 onion plots



# **December 2013 potato plots**



#### CCK Dec, 2013 potato harvest, Kijabe

FGW = 61.8 kg

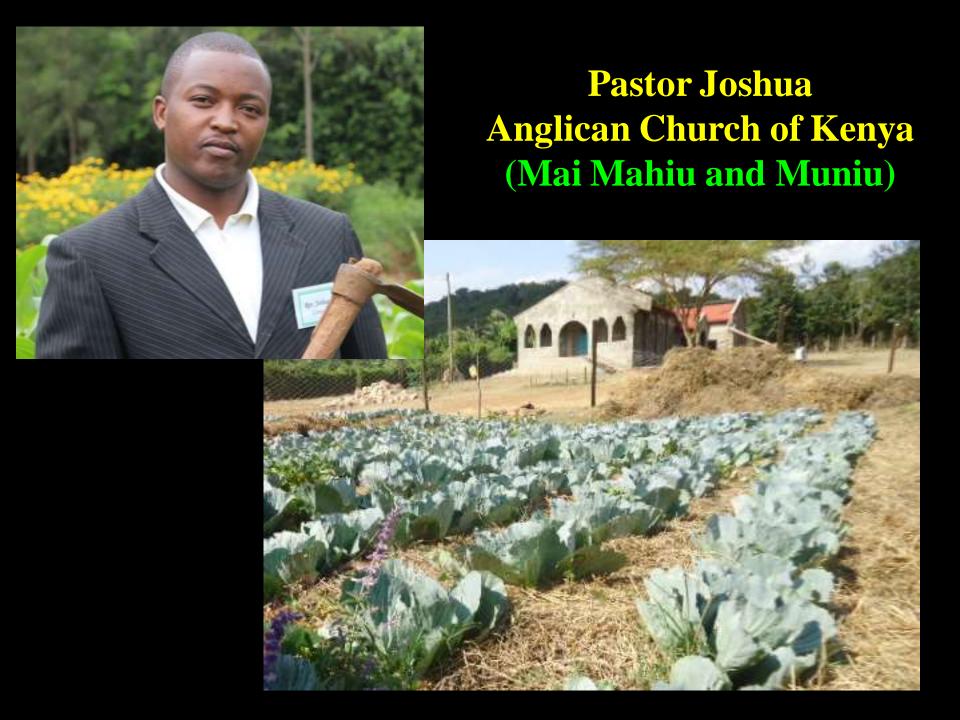
Conventional = 16.7 kg



**FGW** 

produces

3.7 times more yield



# Rose uses FGW to produce amazing zucchini and cabbage



# 2014 - FGW spinach with Grevellia mulch grown by elder of AIC Maingi



## Oct 2014 - FGW onions in background



# Oct 2014 - FGW potatoes on right







#### Matathia Primary uses FGW to grow maize



#### **Transforming People Transforming Farms**



"I have now learned that we have completely left God out of our farms. Your teaching has opened my heart to realize that we have strayed from God's will and I know God is calling us back to the garden. We claim to have faith but have not been practicing it."

Henry Munjuga

#### **Transforming People Transforming Farms**



"The whole church and our children need to hear this message!"

**Paul Kiongo Thuo** 

#### Transforming People Transforming the Land



"Since I started attending the discipleship classes I have changed my perspective of farming. I used to hate farming but now I love it and I dream about it every day."

Hannah Wanjiku



## Rev. Patrick Mureithi Presbyterian Church of East Africa (PCEA)

"I now see how caring for God's creation can be a very powerful way to disciple our fellow Christians. This was the most significant realization for me as a result of this training. When can we do a Training of Trainers course on this issue?"

# With God in the center of our gardens there is hope for the hungry!



# Why FGW and Control Plots?

# Scientifically it allows you to do a direct comparison of the evidence

- •Farmers are sceptical of change and don't like to take risks - seeing is believing and we want to eliminate all doubt.
- •Helps farmers to see that all factors are the same (same seed, same place, same amount of fertilizer, same amount of rain)
- •Allows farmers to examine the difference through the growing season and at harvest time

# Why FGW and Control Plots?

# Scientifically it allows you to do a direct comparison of the evidence

- •Allows you to watch and document how FGW can restore the land over time (yields continue to increase, soil structure is healed, etc.)
- •Helps to demonstrate the primary problem of decline (the continual stripping of the soil and its results)
- •Simplifies the need to maintain high standard of mulch cover on the FGW plots

## **Benefits of FGW for Water**

# God's blanket & no plowing

- Minimizes runoff
- Improves infiltration of water into the soil
- Minimizes evaporation of water from the soil
- •Restores organic matter levels, improving water holding capacity of the soil
  - •Keeps soil temps cooler better overall conditions for moisture and crop growth

## **Benefits of FGW for Soil**

# God's blanket & no plowing

- Dramatically reduced soil erosion
- Soil structure and life is restored
  - More space for water and air
- Better conditions for exchange of nutrients
  - Reduced compaction
- •Soil animals, microbes, insects resume their God-given functions

## **Benefits of FGW for Soil**

# God's blanket & no plowing

- •Soil fertility restored as God's blanket decomposes and FEEDS the soil
- •The practice of crop rotation also improves soil health and fertility

## Benefits of FGW for People

- Increased yields and profits
- God's blanket suppresses growth of weeds
- •Healthier plants result in less disease and pest problems and less need for pesticides
- •Eliminates the back-breaking labor and cost of plowing
  - •Fields can be prepared in the dry season, maximizing use of rainfall

### Benefits of FGW for People

- Fertilizer is not wasted from loss by erosion
  - Harsh impacts of drought are minimized

# FGW is the best water-harvesting and drought fighting system

## Benefits of FGW for Creation

- •Soil and water resources are protected over the long-term
- •Opens the door for tree-planting since less land is needed for crops
- •Rivers, streams, dams not filled up with sediment
  - Less use of harsh and dangerous pesticides
  - •Greater diversity of crops and trees reduces the loss of biodiversity
- •Improved crop production minimizes pressure on remaining forest / grassland / wildlife areas

## Maize yields in East Africa (FAO)

## Average yield

•1,200 kg/ha - 480 kg/acre - <u>5.3 bags/acre</u>

• Maximum potential for maize yield....

•14,000 kg/ha - 5,600 kg/ac - <u>62 bags/acre</u>

# Maize yields in East Africa (FAO)

#### Food requirement for 1 person = 450 kg/year

- Currently in East Africa, the average output of 480 kg/acre feeds just 1 person
- Ideally, 1 acre of land could feed 12 people

# Our Maize Yield 38.5 x 34 ft plot (1/33rd acre)



# **Care of Creation yields**

(at Brackenhurst 2007-2008)

#### Maize yield March 2007

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\bullet7,600 kg/ha = 3,040 kg/acre = 34 bags/acre
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•1 acre feeds 6.75 people

#### Maize yield March 2008

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\bullet 8,700 \text{ kg/ha} = 3,509 \text{ kg/acre} = 38.9 \text{ bags/acre}
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•1 acre feeds 7.8 people

Compare to yields in Tiekunu of 7 bags/acre

# Care of Creation yields

(at Brackenhurst 2007-2008)

Bean yield March 2007

 $\cdot$ 2,100 kg/ha = 840 kg/acre = 9.3 bags/ac

Bean yield March 2008

-2,690 kg/ha = 1,076 kg/acre = 11.95 bags/ac

Compare to yields in Tiekunu of 5 bags/acre

# FGW works - 2009 Drought!

Maize yield April 2009 (Care of Creation)

12.2 bags/acre (31% of our best yield to date)

## Bean yield March 2009

8.8 bags/acre (73% of our best yield to date)

Other maize plots not using FGW and planted at the same time experienced complete crop failure





# Pastor Alex Mwaura uses FGW to grow potatoes in Mai-Mahiu







"Since I started attending the discipleship classes I have changed my perspective of farming. I used to hate farming but now I love it and I dream about it every day."

Hannah Wanjiku



"We took a portion of my land that has never produced anything for so many years and we decided to try Farming God's Way on it and the beans on that plot are beautiful."

Elizabeth Njoki

Before CCK's biblical teaching on farming Elizabeth's marriage was on the verge of collapse. Her husband was an idle man. But now he spends his days on the farm with Elizabeth. He has become very supportive and has started going to church again.



"I have never seen such good crops growing on this land. Please come and teach me how to do farming God's way."

**Daniel Mbugwa** 

"You and your organization have been sent as angels by God to rid us of our miserable lives as farmers. The truth as you spoke from the Bible is so evident that I wonder how far we'd be if you had come here years ago!"

Mzee Godfrey Njenga from Karanya

"These teachings are a big revelation and the best thing to have happened in our lives as farmers particularly because we have realized that farming is ordained by the First Farmer - God, himself!"

Farmers Group from Ndeiya





#### **JANUARY 2014**

Dixon's farm with maize on the right hand side and cotton on the left hand side.



# FGW works - Kiawanda School!

#### FGW Plot vs. Control Plot

(Oct 2008 Results)

Maize yield on FGW plot

13.2 bags/acre

Maize yield on control plot

6.1 bags/acre

More than twice the harvest seen on the very first season!

## FGW works - Kiawanda School

#### FGW Plot vs. Control Plot

(Oct 2009 Results)

Maize yield on FGW plot

17.7 bags/acre

Maize yield on control plot

5.9 bags/acre

Second season FGW produces 3 times the control plot!

# **APRIL 2014**

Part of Dixon's maize harvest







