



### **Brian's Story:**

Lost Family Tobacco Farm

Noticed things in nature where plants thrived.

Implemented in into the commercial farm he was managing.

Now is being taught and implemented throughout Africa

FGW became FFF



## What FFF Teaches.....



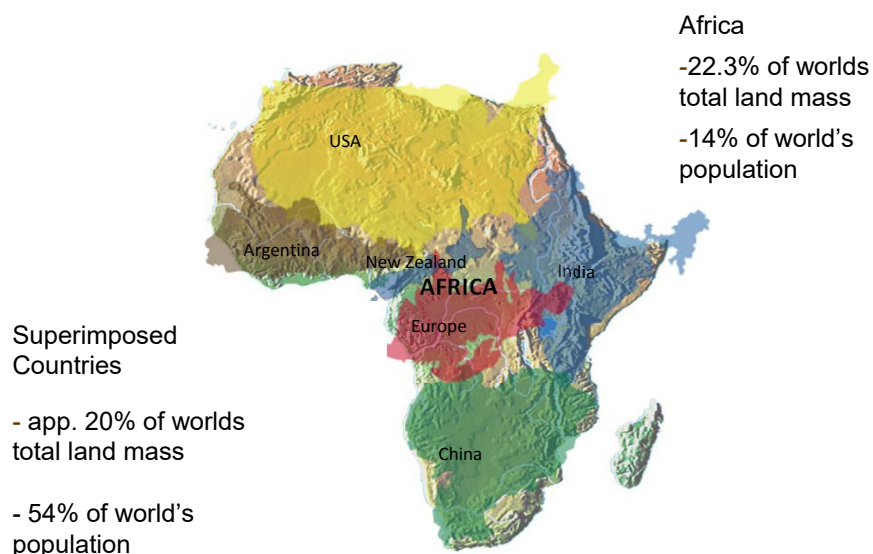
## Africa is Blessed Natural Resources

- Energy
  - 40% of the worlds hydro electric potential
  - 7% of world's proven oil reserves (more than North America, Russia, Europe and Asia-Pacific combined)
  - 7% of natural gas
  - 6% of coal
  - Sahara Desert covers solar energy field of 9,065,000 km
  - Wind

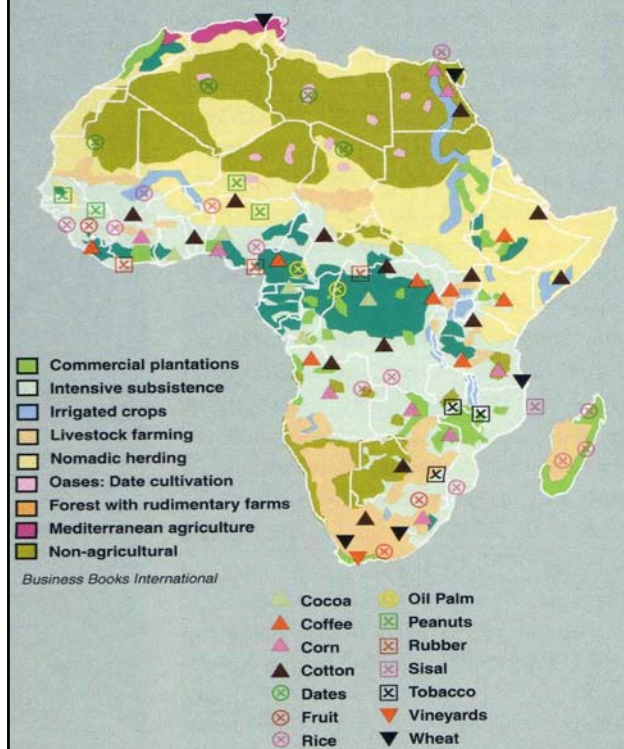
Source: Against all Hope: Hope for Africa – Darrow L. Miller and African Working Group



## The Potential of Africa



## African Agriculture



## African Agriculture







## Internal and External Development



## External Development :

Foreign Aid  
Adding Material Wealth



Internal Development:  
Personal Growth and Maturity



oped 4 basic principles to teach, promote and demonstrate perso

**On Time**  
**At Standard**  
**Without Waste**  
**With Joy**



Making a Profit is Key.

Profitability and Health of Eco System = Sustainability



- Feed your family
- Sell surplus to help buy next year's inputs
- Sell and make a profit and pay for other living expenses
- Give to others

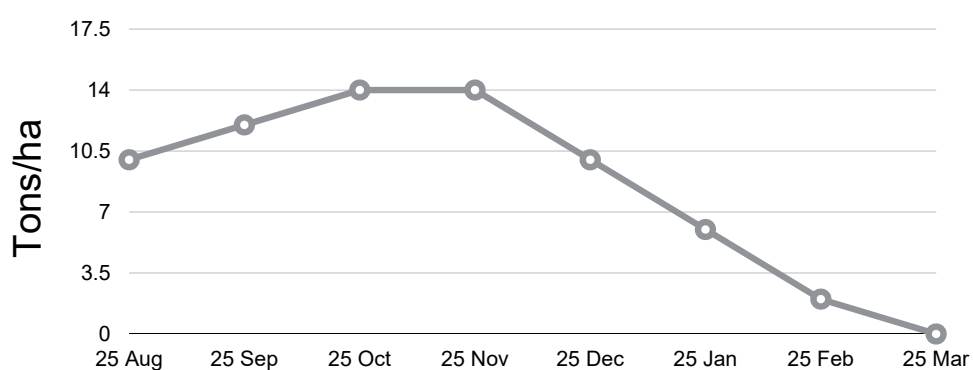


### On Time:

- Many cultures around the world follow and track the moon.
- The summer solstice is the longest day (June 20-22)
- Planting at the right time can drastically improve your profit w



### Southern Hemisphere Crop Yields Based on Sowing Data



- After Nov 25th a farmer loses 120kg/ha per day.

\*Chart referenced from FFF Zimbabwe





**At Standard:**

- Do everything with precision and excellence
- This allows us to maximize a specific plant's potential
- It allows us to record data
- Recorded data will allow us to grow, adjust and develop

**With Joy:**

- Every where in the world a farmer is always pessimistic
- Apathy is one of the most powerful hindrances of development in every culture.
- Apathy blocks creativity
- Joy is encouraging, contagious and shares hope.



### **Without Waste:**

- The world is full of resources!
- The earth does not waste
- Allowing wastage can develop a bad habit that will eventually



### **Things We Waste:**

- Natural Resources
- Time
- Energy/Labor
- Opportunities
- Reputation
- Money
- Seeds



“Not Wasting” looks like....

- Composting (local free materials)
- Weeding regularly (water and labor)
- Mulching (water and labor)
- Measuring amendments and inputs (capital)



### **Thermal Compost:**

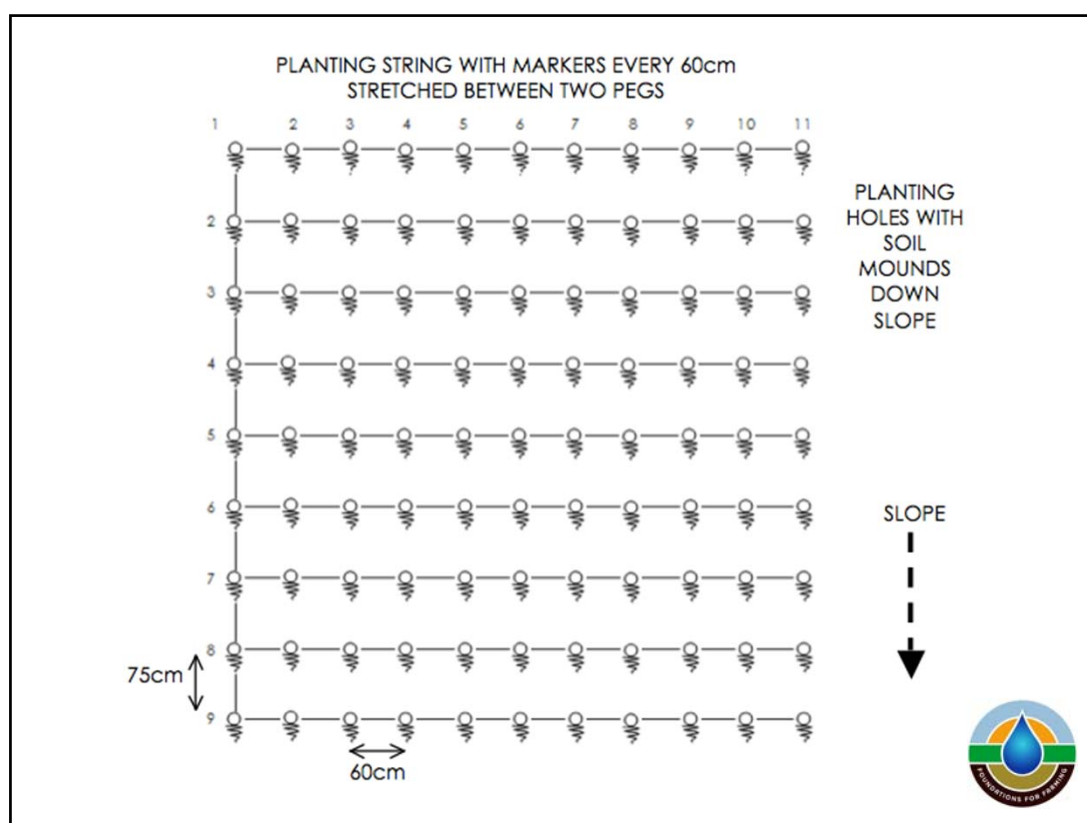
- Green Material 40%
- Dry Material 40%
- Nitrogen Source +/-20%
- Water
- Metal wire or rod
- Shovel





### How FFF Models the 4 Principles:

- Measures and Marks out a piece of land (sq)
- Places permanent stakes at the four corners
- Cover land in mulch
- Makes a measuring stick of 75cm
- Makes a measuring rope with bottle caps placed every 60cm.
- Stretches the string across the field at the top of the slope and digs a pit everywhere there is a bottle cap
- Moves the string down hill the length of the measuring stick
- This method will allow farmers to plant the following crop in the same pits used before without disturbing the soil and utilizing any remaining amendments left in the ground.







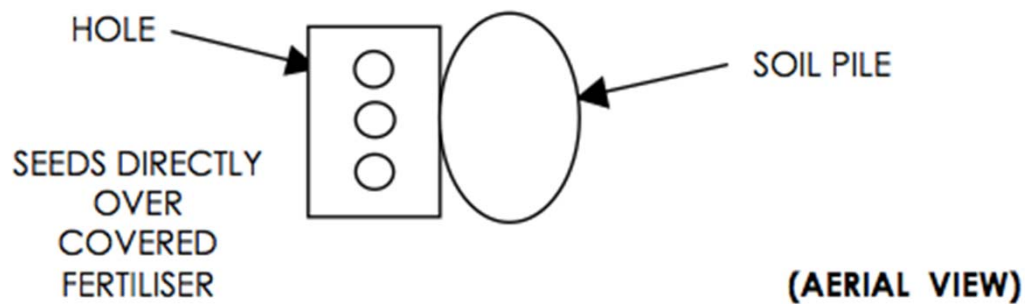
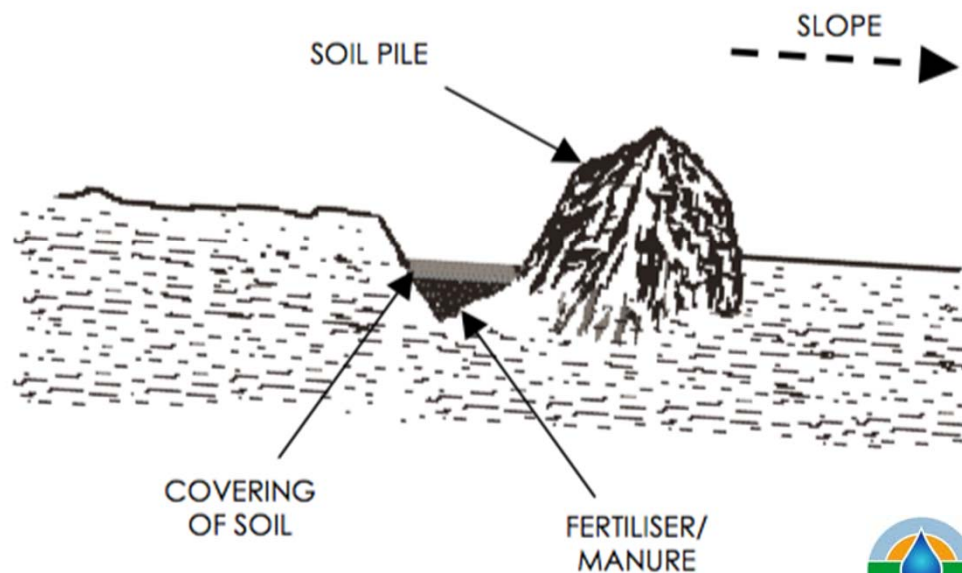
### How FFF Models the 4 Principles:

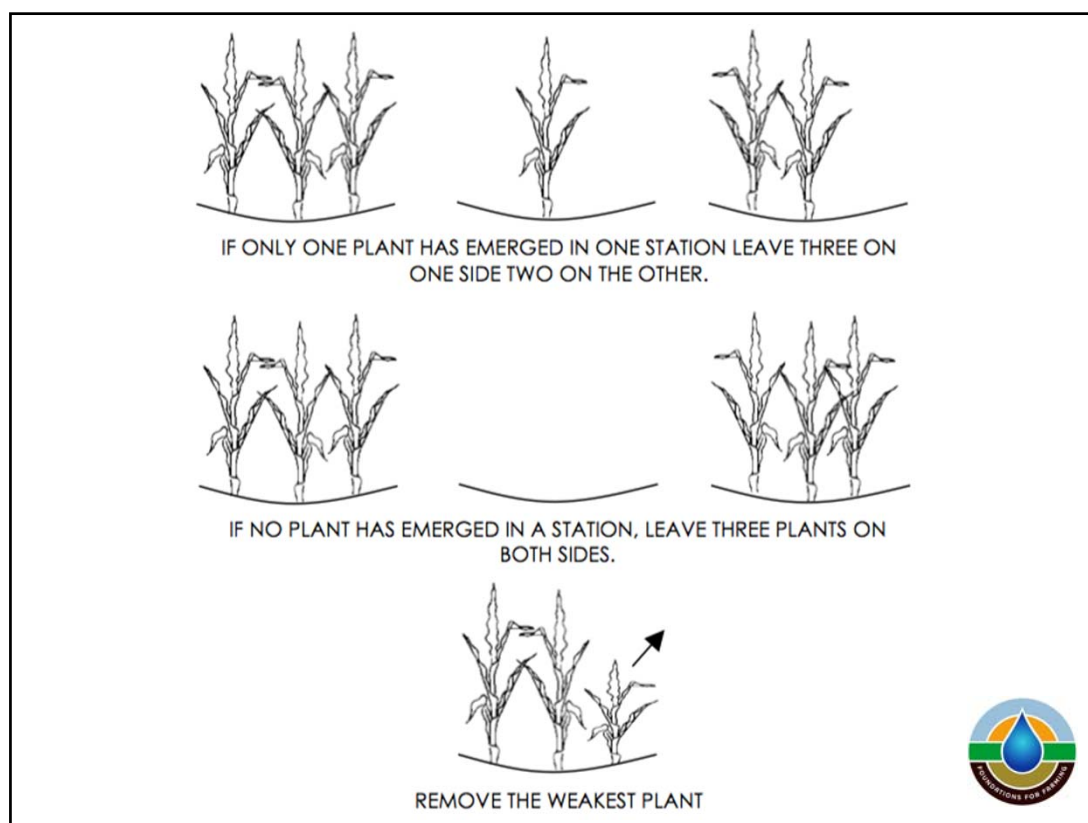
- Places amendments in the pit and covers with soil and then waits for the right time.
- With the time is right (sun and rainfall), the farmer then plants the seed and covers with soil.
- The farmer will need to weed on a regular basis in order to cut weeds when they are small, weak and without seeds
- Thin the crop 2 weeks after the plant emerges
- Top dressing 3 weeks after the plant emerges or split into two top dressings at 2-3 weeks and 7-8 weeks
- Continue weeding
- Harvest, leaving stalks and husk in the field as the next crop's mulch
- Step on stalks to lay them down and kill stalk bore





## PLACEMENT OF FERTILISER







### **Ploughed vs. Unploughed Soil**

CEDARA Research Station, South Africa

...with 63mm of simulated rain on 4% slope over 30 min

- ploughed: 10% water infiltration, 28.5 t/ha soil ran off
- unploughed: 94% water infiltration, 1 t/ha soil ran off



### **Ploughed vs. Unploughed Soil with Mulch**

- Water evaporates from the surface
- Low water table
- Roots grow proportionally larger than plant above the solid
- Soil structure is lost and organisms killed creating a soil very grainy (Sand)
- Mulch allows natural organisms to thrive
- Soil moisture is maintained
- Soil structure is maintained and acts like a sponge
- High water table



### **Well Watered Garden**

- 6m x 6m demonstration plot
- its small to make management easy
- often times watered







### **Why it works.....**

It taps in core principles of community Development:

- \*Develops the person, not the external physical.

- \*Starts small.

- \*Model Based



### **FFF in Asia...**

- \*ECHO RCBD Test Plots

- \*Teaching in Cambodia





### **Cambodia Notes:**

average Zambia I've worked with which leads to raised suspicion. C

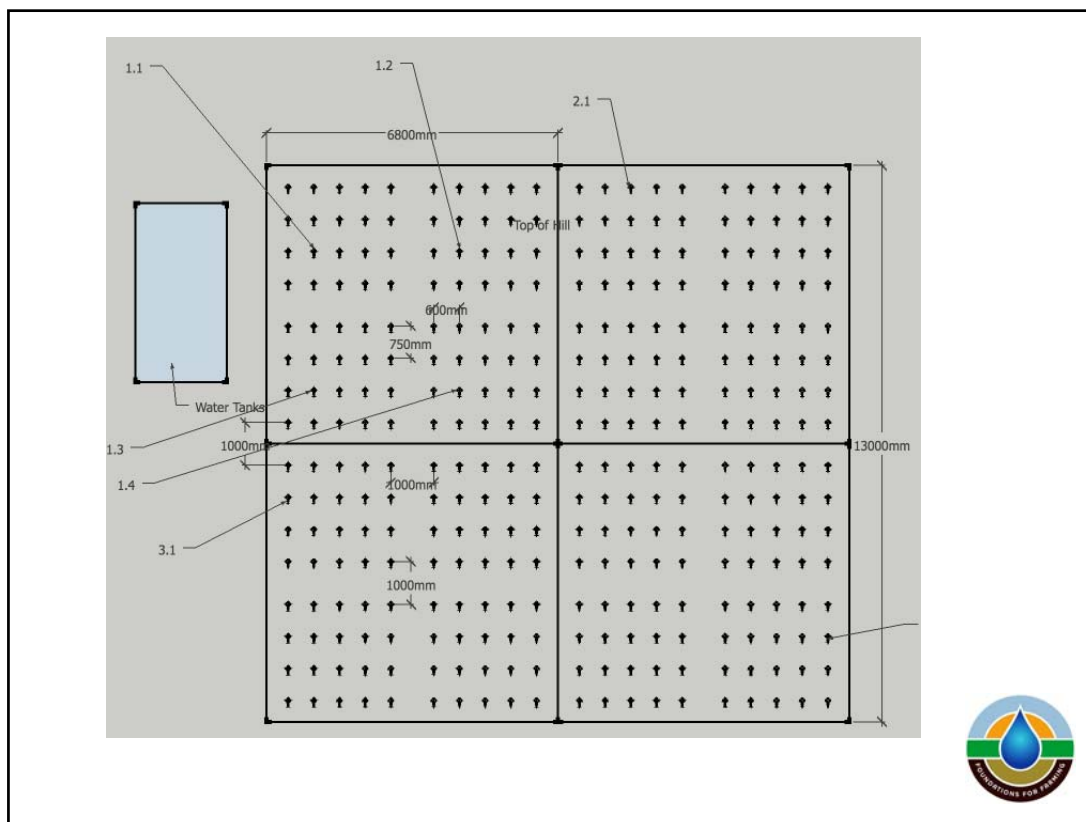


### **Test Plot Notes:**

ts with 4 repetitions of 4 experimental Units creating a total of 32

- Control
- Traditional
- Mulch and Fertilizer
- Mulch and Compost





### Test Plot Notes:

What we can deduct...

- Mulch vs No Mulch
- Fertilizer vs Compost
- Weed Count (Labor)
- Germination





### Findings:

Mulch vs No Mulch  
Rice Straw C:N = 10:1

- Soil pliability
- Moisture content consistency
- 75% less weeds
- Plant health (overall look, eighth, chlorophyll, harvest)



## Findings:

### Fertilizer vs Compost vs Control

- Fertilizer (with mulch) slightly better than compost (with mulch)
- Fertilizer (without mulch) survived but produced no harvest
- Control did not survive





## Findings:

### Germination

- corn germination better in mulched areas
- rice germination poor all around (slightly worse in mulched areas)



????????

### Rice

- Mulch may have caused poor germination in uplands rice
- Asia's biggest crop is grown in a paddy.



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