

Trying Something New:

Factors in farmer adoption or non-adoption of new practices

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Outline

- Small Farmer context
- Adoption of new practices
- Examples from our partner network
 - Nicaragua
 - Burundi
 - Philippines
- Common factors
- Behavior Change, Trust and Discipleship

Small Farmers

> 3 billion rural people in developing countries

- More than $\frac{2}{3}$ are small farmers

Represent:

- the majority of those living in absolute poverty
- $\frac{1}{2}$ of the undernourished



Small Farmers

Cultivate land of 1 – 5 acres (1 acre ~ soccer field)

Crops:

- Grains: maize/corn, rice, millets
- Tubers: cassava, yams, potatoes
- Beans
- Vegetables
- Cash crops: coffee, cotton, sugarcane, fruits

Animals

- Goats, sheep, chickens, pigs, cows

Fish

- Aquaculture in ponds, fishing

Trees for fruit, wood

Small Farmers

In what environment?

Natural:

- Soil
- Water
- Topography
- Pests
- Weather and climate

Economic:

- Access to seeds, fertilizers, pesticides
- Markets for buying, selling
- Roads, transport
- Government policies and subsidies

Social:

- Gender dynamics
- Land rights
- Political stability

Changing Climate

Farmers are experiencing now:

- **Variability** in amount and timing of rains and temperatures
- **Changes in the length of rainy season**, with growing season shortening in many areas
- **New crop pests and diseases** that were not experienced in the region before.
- **Increased intensity and frequency** of extreme events such as droughts, floods and hurricanes

New Practices

Includes:

- ✓ Choosing new seed varieties or animal breeds
- ✓ Altering planting techniques – spacing, timing, intercropping, etc.
- ✓ Investing in soil structure, using organic matter
- ✓ Using new methods for pest control
- ✓ Managing rainwater in new ways
- ✓ Planting trees within/around/near crops
- ✓ Changing animal grazing management

New Practices

New = Risky

- Few assets to fall back on
- No insurance
- Only small amount of land
- Family food security for the year

But...

Changing climate = new challenges

→ Greater imperative to try something new

New Practices

With agro-ecological practices:

- Takes time to see results
- Higher labor, especially at first
- Different from that promoted by Govt/companies

But often worth it because:

- Lower cost
- Materials accessible locally
- Environmental and climate benefits

Our Partner Organizations

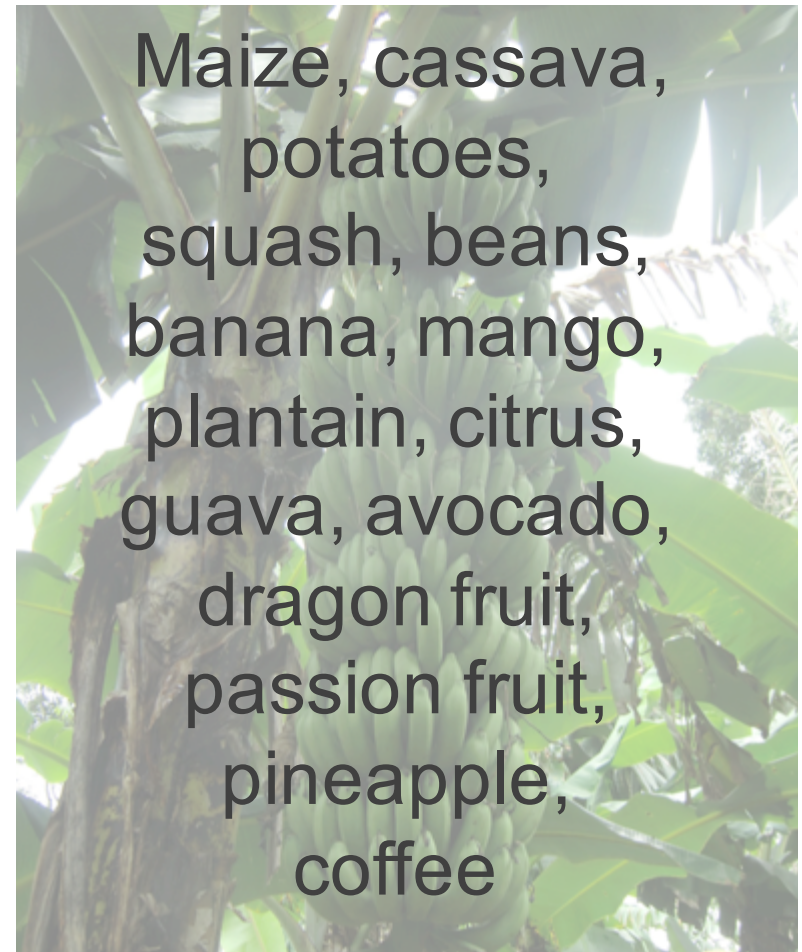
- Local
- Anglican network where feasible
- Staff of 3 – 40
- Management, technical, finance, evaluation, community facilitators/volunteers, drivers...



Nicaragua

Council of Protestant Churches of Nicaragua (CEPAD)

- 3 year farmer training cycle on four themes
- Staged investment packages
 - 8 vegetables varieties
 - 9 grain/fruit/tree varieties



CEPAD Approach

Developed with farmers
over 20+ years

- Conservation of Soil and Water
- Diversification and Merging of Cultivation
- Use of Organic Fertilizers and Insecticides
- Commercialization

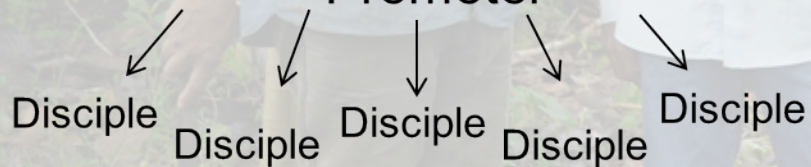


CEPAD Approach

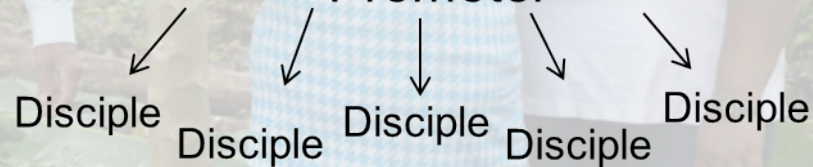
In each community:

- Community Development Committee (CDC)
- Community Agricultural Promoters (PACs)
 - Disciples

Community Agricultural Promoter



Community Agricultural Promoter



CEPAD Approach

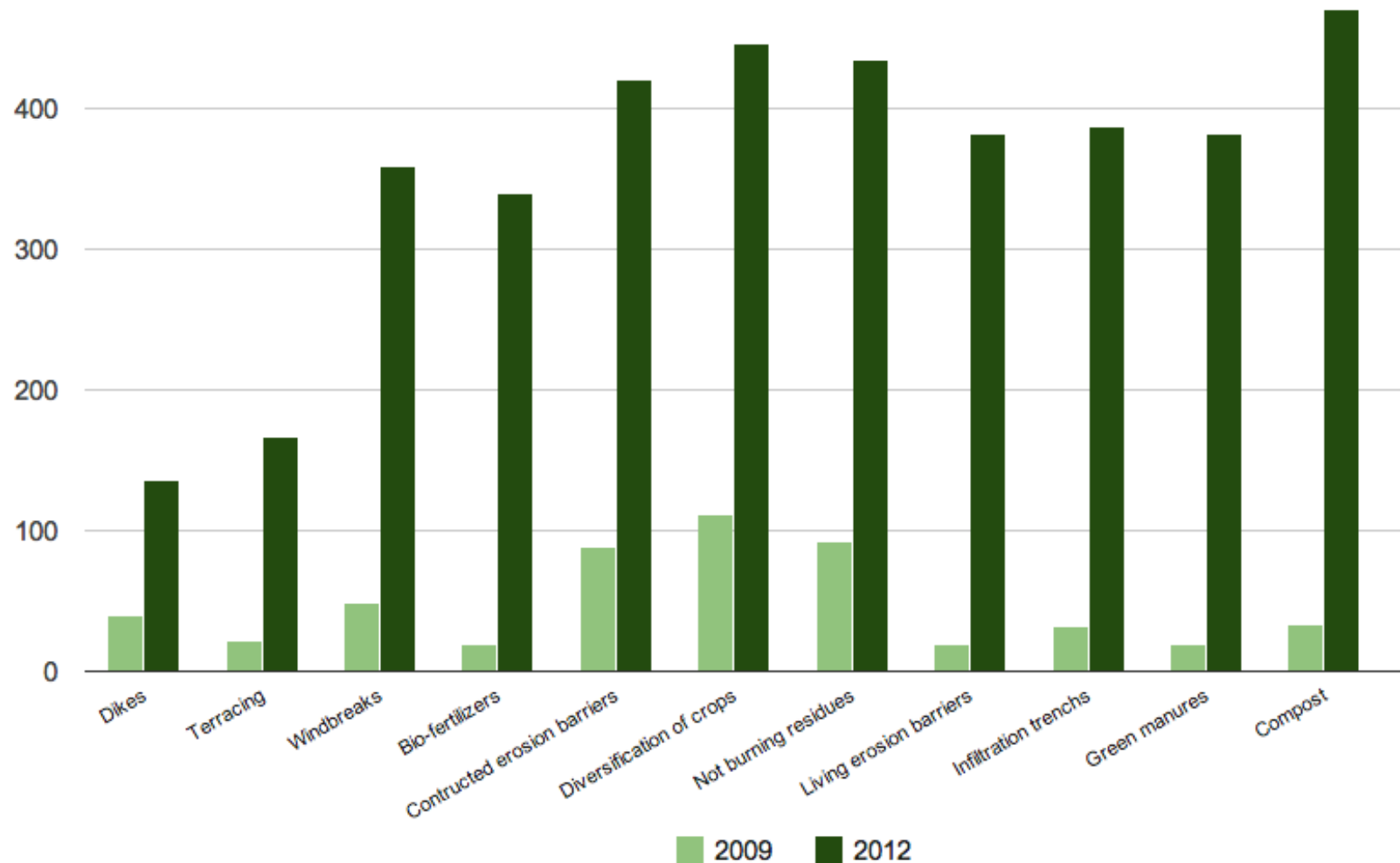
- Three intensive training sessions for promoters each year
- Three regional exchange workshops for promoters and disciples



Results

Adoption of new agricultural practices from 2009-2012

Number of farmers practicing out of 471



Adoption of New Practices

- Foundation of community organization
- Tiered Promotion: Staff – Promoters – Disciples
- Trust:
 - Of CEPAD, of Promoters as neighbors
- Farmers work in groups to reduce labor
- Local materials, + ‘investment package’ support
- Practices created with farmers
- Focus on **most** important methods / practices
- Long term approach – 6 years in each community

Burundi

Anglican Church of Burundi

- Head development office in capital – 4 staff
- Working nationally in 6 dioceses
- Diocesan coordinator each diocese
- 112 *Animateurs* at community level



Burundi

- High rainfall, Hilly!
- Dense population
- Conflict 1993 – 2005, 2015 →
- Undernutrition – ranked last of 78 countries in Global Hunger Index
- 1-2 meals/day, very low diet diversity



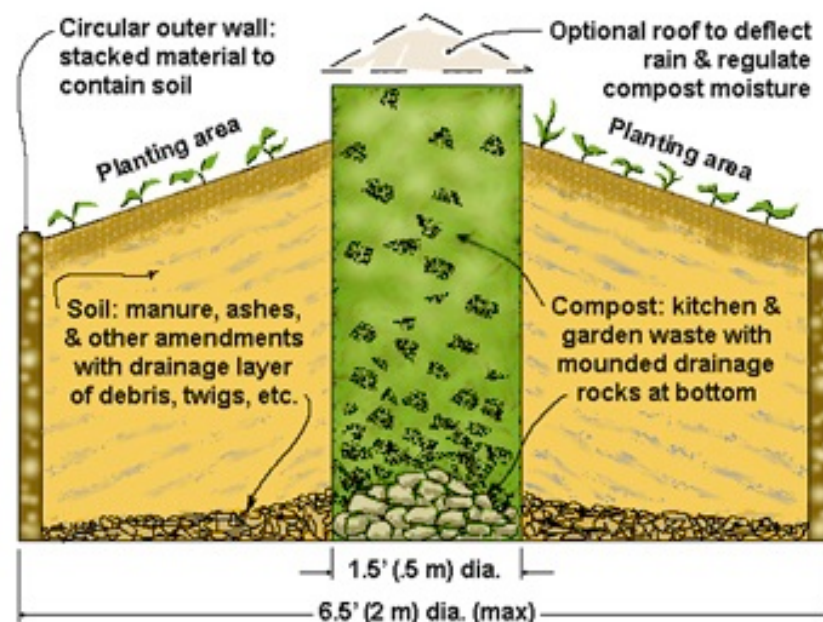
Nutrition through Gardens

- Mid-2014: Introduce Kitchen Garden technique to 60 women
- Collaboration with Cornell University
- Training and construction
- Seed selection



Nutrition through Gardens

- Center compost basket: steady supply of nutrients
- Use less water, especially when combined w/ mulching
- Requires only small area
- Low cost/free: Use of available or recycled materials
- Design can be modified by owner



Keyhole Garden Cross-section A-A

Nutrition through Gardens

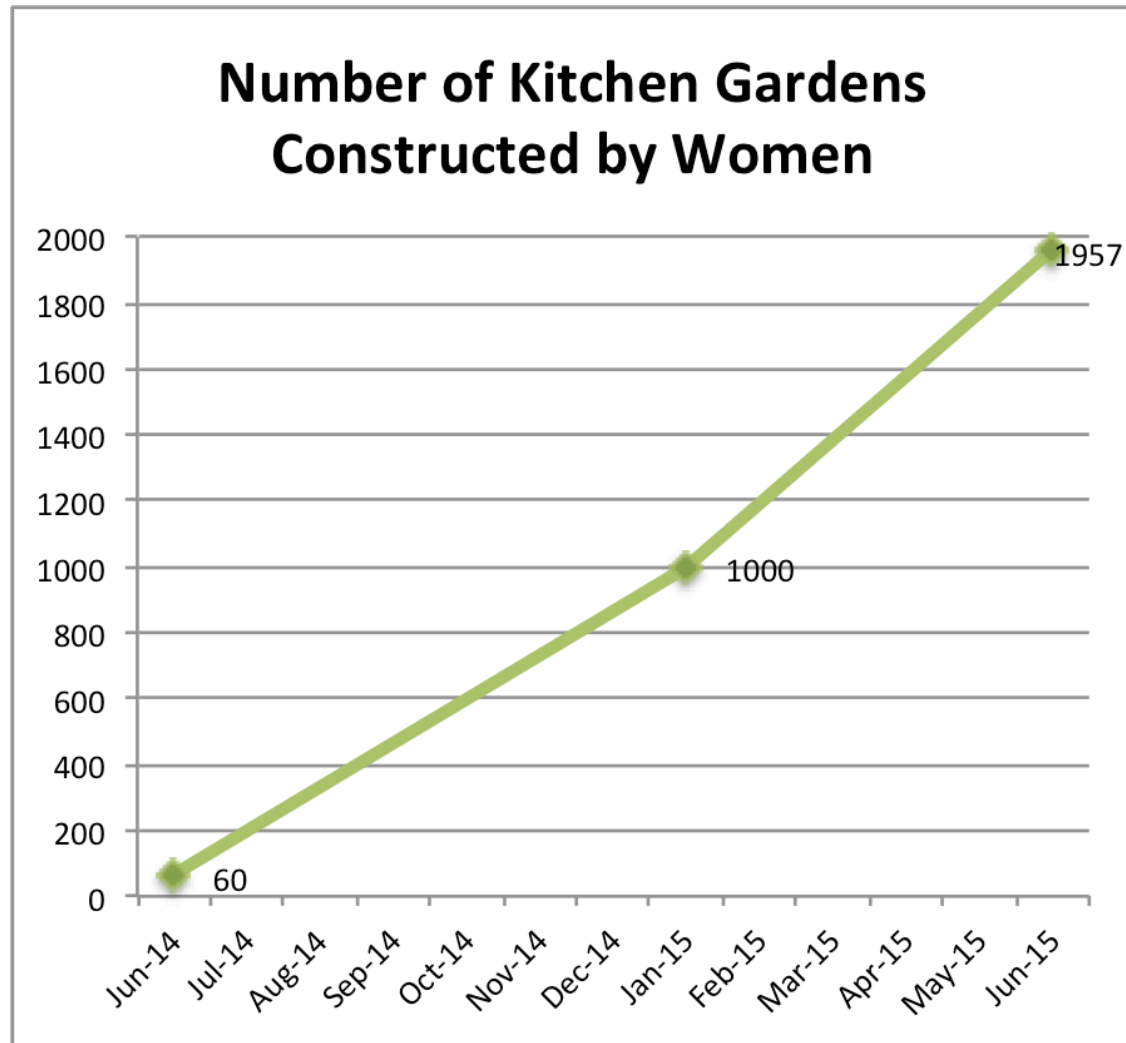
2014 - 2015

- Exchange visits between communities + regions
- Follow-up support visits and monitoring
- Seed saving, exchange
- Nutrition and cooking
- Innovation, modification and learning what works



Nutrition through Gardens

- 1376 participated in training
- 581 or 30%: *(that we know about!)* learned from a neighbor
- 1 woman can show 1-3 others



Adoption of New Practices

- Foundation of community development program
- Tiered Promotion: Staff - Trained women - neighbors
- Trust:
 - Of Anglican Church of Burundi + animateurs, of neighbors!
- Training based on seeing and exchange
- Garden with local materials, small, close to home
- Women help each other construct gardens
- Garden design adaptable by farmers
- Long term approach of program and follow-up

Philippines

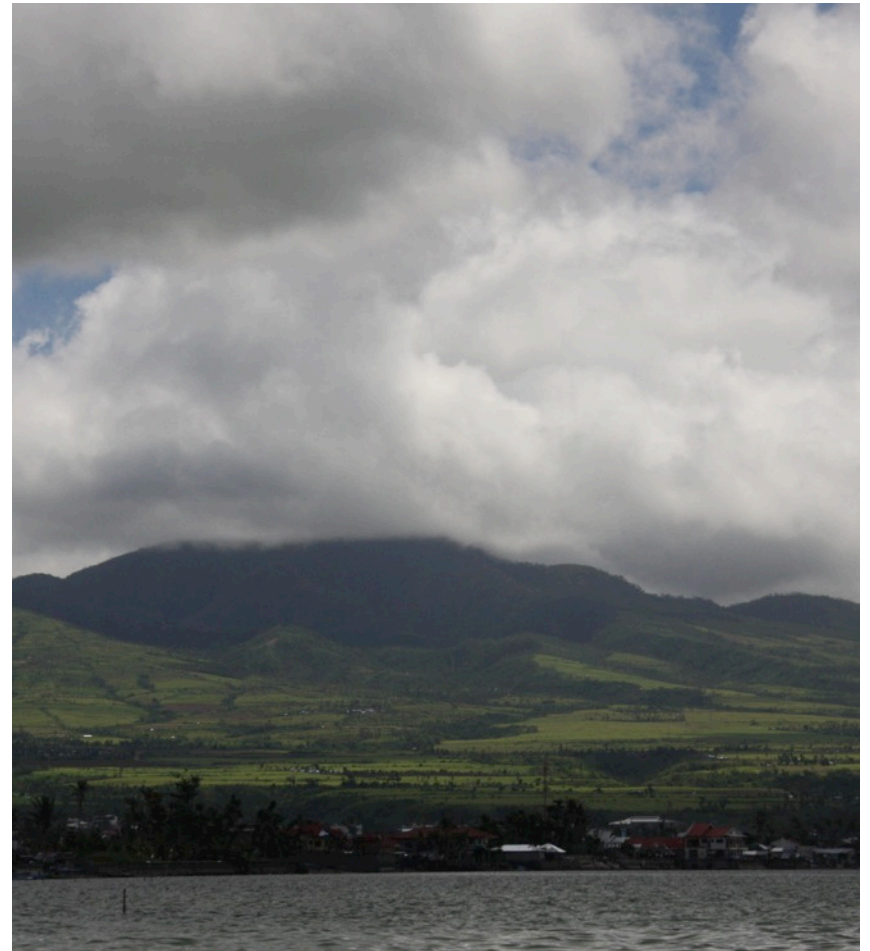
The Episcopal Church of the Philippines

- Community Development since 1980s
- 2014: E-CARE Foundation
- Program areas:
 - Economic development
 - Agriculture and food security
 - Disaster risk reduction



Promoting SRI

- More frequent and intense typhoons
- Increasing worry over cost of high use of commercial fertilizers and pesticides on rice
- 2013: Decision to begin promotion of the System of Rice Intensification (SRI)



Promoting SRI

- Precise planting times and spacing
- More use of organic inputs
- Water control
 - Stronger roots, plants
 - Plants with more tillers and higher yields
 - Lower input costs



Promoting SRI

- Both SRI and Natural Farming
- Training in small groups
- Follow-up by staff
- Use of Bible study to promote Christian values, stewardship



Results

- Slow adoption – ~ 5 out of 20 in training will try on own land
- Farmers using SRI as of mid-2015: 24 in Santiago, 15 in Visayas
- Yields at least on par with former practices
- Decreased seed and input costs
- Increased labor, especially in beginning

Adoption of New Practices

- Trust? – more competing marketing
- No official system of farmer promoters yet
- Starting small
- New practice, seeing comes later
- SRI and Natural Farming at same time = double behavior change
- Commercial vs. family rice farms
- Use of paid laborers

Adoption of New Practices – What factors help?

1. Organized and **supportive community**
2. Tiered Promotion – **local farmer promoters**
3. **Trust** in those who are promoting
4. **Seeing**
5. **Local materials** and/or **start-up support**
6. Allow farmer to **start small to lower risk**
7. Design and **adaptation with farmers**
8. **Limited** number of practices or changes
9. **Long term approach** and follow-up

Adoption of New Practices

What leads to behavior change?

- In a risky climate:
 - Some people will adopt new ideas quickly
....Others will wait and see
 - Women and men farmers adopt and share differently
- Need to create a long-term local network

Adoption of New Practices

Trust – If he or she who is promoting fully believes, and is themselves benefitting, their *passion* brings trust from others

→ Promoters, Disciples and Followers

As Jesus was walking beside the Sea of Galilee, he saw two brothers, Simon called Peter and his brother Andrew. They were casting a net into the lake, for they were fishermen.

“Come, follow me,” Jesus said, ‘and I will make you fishers of men.’ At once they left their nets and followed him. (Matthew 4:18-20)