



**FEED THE FUTURE**

The U.S. Government's Global Hunger and Food Security Initiative

# **Climate Smart Agriculture**

## **Examples from USAID**

### **Bangladesh and Mali**

David Yanggen PhD

Director Office of Economic Growth USAID/Mali





# **Climate Smart Agriculture**

- Context Bangladesh:
  - Flooding (cyclones, river overflow).
  - Salinity (storm surges from ocean)
- Context Mali:
  - Drought (low rainfall, variable rainfall)



## **Climate Smart Agriculture:**

### **1. Mitigation Criteria**

- Reduction in greenhouse gas emissions (GHG) from agriculture
- Sequesters (removes) GHG's from atmosphere
- No incentive for farmer. Need win-win with other criteria

### **2. Adaptation**

- Climate risk (drought, flooding)
- Changing agronomic conditions (salinity, temperature)

### **3. Low Cost**

- Affordable for smallholder farmers to adopt

### **4. Income Generation**

- Economic Incentive to Adopt
- Poverty reduction potential



# FEED THE FUTURE

The U.S. Government's Global Hunger and Food Security Initiative

## Bangladesh: Urea Deep Placement





# FEED THE FUTURE

The U.S. Government's Global Hunger and Food Security Initiative

## Bangladesh: Urea Deep Placem





# FEED THE FUTURE

The U.S. Government's Global Hunger and Food Security Initiative

## Bangladesh: Urea Deep Placem



Technology	Mitigation	Adaptation	Low Cost	Income
UDP	3	1	3	2

1 = Poor 2 = Good 3 = Excellent



# FEED THE FUTURE

The U.S. Government's Global Hunger and Food Security Initiative

## Bangladesh: Mixed Prod'n Syst





# FEED THE FUTURE

The U.S. Government's Global Hunger and Food Security Initiative

## Bangladesh: Mixed Prod'n Syst







# FEED THE FUTURE

The U.S. Government's Global Hunger and Food Security Initiative

## Bangladesh: Mixed Prod'n Syst





# FEED THE FUTURE

The U.S. Government's Global Hunger and Food Security Initiative

## Bangladesh: Mixed Prod'n Syst



Technology	Mitigation	Adaptation	Low Cost	Income
Mixed Sys.	2	3	1	3

1 = Poor 2 = Good 3 = Excellent



# FEED THE FUTURE

The U.S. Government's Global Hunger and Food Security Initiative

## **Mali: Rock Lines**





## Mali: Rock Lines

Technology	Mitigation	Adaptation	Low Cost	Income
Rock Line	1.5	3	1.5	1.5
1 = Poor 2 = Good 3 = Excellent				





# FEED THE FUTURE

The U.S. Government's Global Hunger and Food Security Initiative

## Mali: Farmer Assisted Natr'l R





# FEED THE FUTURE

The U.S. Government's Global Hunger and Food Security Initiative

## Mali: FANR





# FEED THE FUTURE

The U.S. Government's Global Hunger and Food Security Initiative

## **Mali: FANR**





# FEED THE FUTURE

The U.S. Government's Global Hunger and Food Security Initiative

## Mali: FANR



Technolo gy	Mitiga tion	Adapta tion	Low Cost	Inco me
----------------	----------------	----------------	-------------	------------





**FEED**<sup>THE</sup>**FUTURE**

The U.S. Government's Global Hunger and Food Security Initiative

# **Mali: Food Bank**





# FEED THE FUTURE

The U.S. Government's Global Hunger and Food Security Initiative

## Mali: Food Bank



Technology	Mitigation	Adaptation	Low Cost	Income
Food	1.5	3	3	2



# FEED THE FUTURE

The U.S. Government's Global Hunger and Food Security Initiative

## **Mali: Live Fence**





Technology	Mitigation	Adaptation	Low Cost	Income
Live Fence	2	3	2-3	2-3

1 = Poor 2 = Good 3 = Excellent



Thank You!



**FEED** THE **FUTURE**

The U.S. Government's Global Hunger & Food Security Initiative