Sustainable Land Use Practices

Reducing Vulnerability to Catastrophic Rain Events.

Hurricane Mitch Case Study
• http://www.youtube.com/watch?v=aNaXdLWt17A&feature=fvst
What is USAID?

  - **Economic growth** – microfinance, improved investment climate
  - **Environment** – Protected areas, clean water, best management practices
  - **Health and education** – Vaccinations, nutrition, schools, HIV prevention
  - **Democracy** – Election monitoring, crime prevention
  - **Humanitarian relief** – Tsunami, Haiti, Darfur, etc.
Why USAID?

• Reduce poverty,
• Reduce vulnerability to disease, crime, and natural disasters.
• Improve domestic and regional security
• Stable governments.
Central America has a long history of floods – Over 20 storms with 25+ fatalities since named storms began in 1945

- Hurricane Stan 2005
- Hurricane Felix 2007
Heavy rain falling on poorly managed land leads to landslides

- Costa Rica 2010
- El Salvador 2009
Some examples of poor management

- Slash and burn agriculture
- Extensive grazing
- Unplanned urban sprawl
Soils become susceptible to erosion
Hurricane Mitch – October 1998

- 7th strongest storm
- 40+” of rain (unofficial)
- 19,325 dead or missing
- 2nd deadliest on record
Honduras – 14,600 casualties
Nicaragua – 3800 casualties
Guatemala – 268 casualties (many indigenous deaths not reported)
Mitch Video

- [http://www.youtube.com/watch?v=0A4ufJ66TUs](http://www.youtube.com/watch?v=0A4ufJ66TUs)
US Government response

• Immediate Response
  – Search and Rescue
  – Temporary Shelters
  – Field hospitals

• Mid-term recover
  – Infrastructure repair and rebuild
  – New housing

• Mitigation for future disasters
Despite the strength of the storm, some areas suffered little damage. Why?

- Sierra de las Minas, Guatemala
- Rain Forest, Polochic Valley
Proper watershed management with forest cover

• Multi-layer forest disperses rainfall
• Heavy organic layer slows overland flow and increases absorption.
What can be/is being done?

- Protected Area Management
What can be/is being done

• Best Agricultural Practices
  – Terraced farming
  – Agro-forestry
  – Intensive Grazing
  – Reforestation
  – Alternative livelihoods
What can be/is being done

- Planned rural development
USAID Investment in sustainable land management

- Honduras - $78 million to implement agriculture BMP’s, increase farm income, and restore watersheds through reforestation, improved protected area management and alternative livelihoods.
Guatemala - $54 million
In similar activities
Ongoing programs - $10 million/year
Questions?

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