

Knowledge Transfer and Adobe Block

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Order of Presentation

- What is Knowledge Transfer
- Adobe Solutions
- Summary



Knowledge Transfer

Long Term Influence

WITHOUT

Continued Outside Influence

Undeveloped Countries

AND

Rural Areas

Sounds Simple

But is it ??

Knowledge Transfer to Underdeveloped Countries

Culture (not Western)



OUR RULES **DO NOT** APPLY

NEED **TIME** TO DISCOVER AND
LEARN THEIR RULES

BUILD RELATIONSHIP



Knowledge Transfer to Underdeveloped Countries

Local Resources (not Western)



Unmilled Branches for Shoring



Adobe is Baked in Ovens
(enough heat ??)

Knowledge Transfer to Underdeveloped Countries

Skill Sets (not Western)



Hand Labor



No Heavy Equipment

BUILD RELATIONSHIPS
DETERMINE RESOURCES
DETERMINE SKILL SETS

THEN
BEGIN
HELPING

ADOBE

Knowledge Transfer to Underdeveloped Countries



Kenya

Rural Orphanage for Child of AIDS Pandemic

(Nymbani)

Marauding Tribes Break in with Sledgehammers

HELP

Create a Wall System that will take much longer for penetrate.

BUT

Wall to be tested at Cal Poly using resources of Kenya

Knowledge Transfer to Underdeveloped Countries

Make Adobe as Made In Kenya

- Use resources of Kenya (dirt, water, cement, sand)
 - Use skill set of Kenya (Freshman)



Knowledge Transfer to Underdeveloped Countries

Use Wall System that can be Repeated without Continued Outside Influence

- Double wall with energy dissipating material (SAND)



Single Wall: 9 Swings and Back of Wall Explodes Out

Use Wall System that can be Repeated without Continued Outside Influence

- Double wall with energy dissipating material (SAND)



Double Wall: 139 Swings and have to Dig through Wall

Knowledge Transfer to Underdeveloped Countries

Current Effort

DURABILITY of ADOBE



DURABILITY of ADOBE ISSUES

Rains Erode the Adobe

Average Building last 10 years

**Curing of Adobe is
not of High
Enough Heat**

**Adding Cement is
Expensive**

**Western
Solution of
Asphalt
Emulsifiers is
NOT local
resource**

DURABILITY of ADOBE ISSUES

**Studying
LIME to augment Adobe**

Knowledge Transfer

Can we take our Technology and “REVERSE” Engineer in THEIR TERMS?



Knowledge Transfer

What is Your Goal?

Short Term Immediate Help?

Long Term Lasting Affects?

Each has its Challenges and Rewards

Thank You