

OFDA/LAC Shelter and Settlements Workshop

***San Jose, Costa Rica,
25-26 February 2009***

Hosted by USAID/OFDA

Group Activity: Creating “Covered Living Space”

Session 1.1: Global Settlement Trends

Session 1.2: Focus on Framing

Session 1.3: Local Materials and Markets

Session 1.4: Host Family and Community Support

Session 1.5: Tents Pre-fabs and Camps

Session 1.6: Benefits and Costs of Plastic Sheeting

Session 2.2: Incorporating DRR

Session 2.3: Beyond Shelter

Session 2.4: Making S&S Strategies Work

Session 2.5: Linking S&S Strategies to Reconstruction and Development

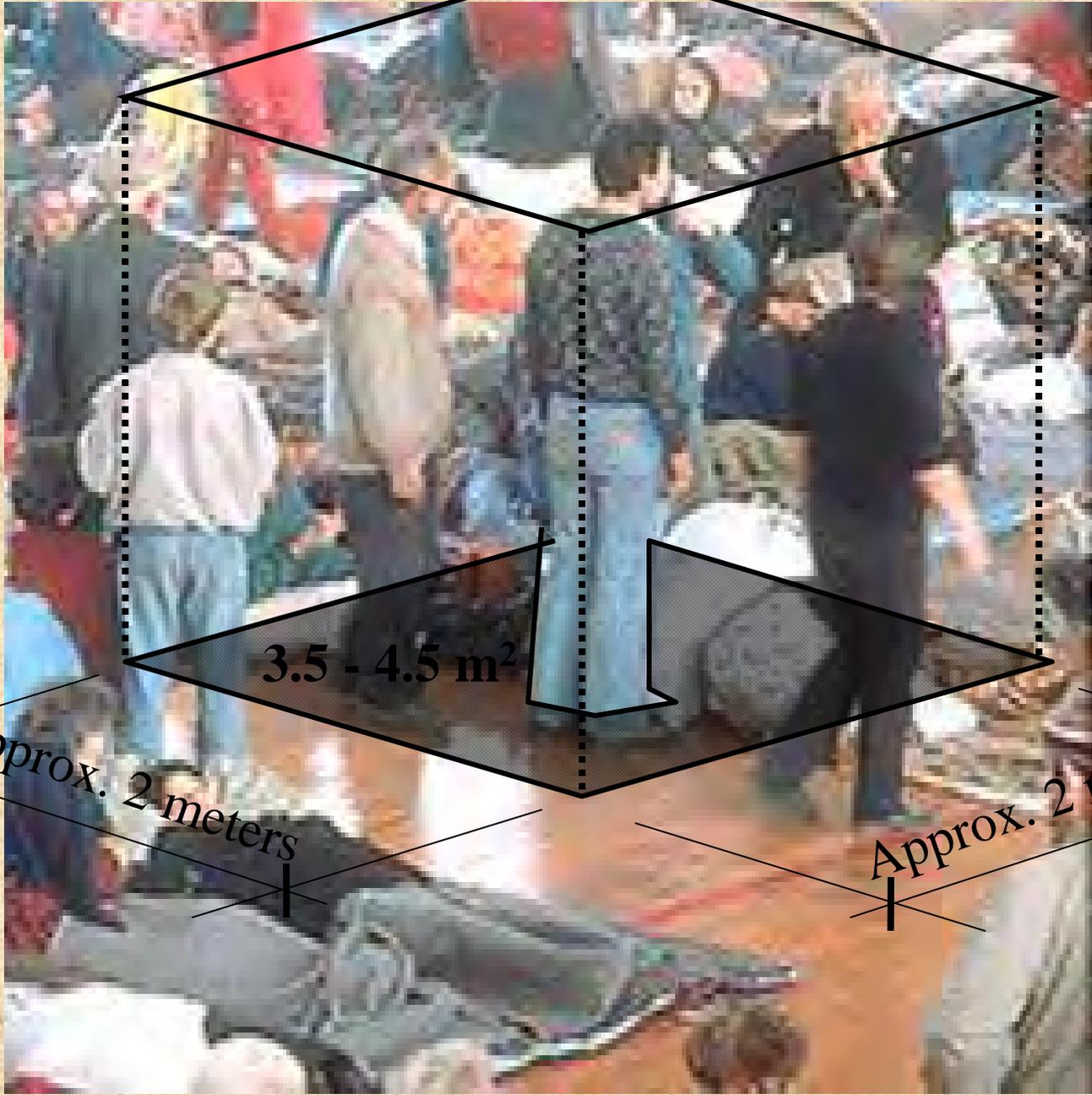
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GROUP ACTIVITY:
Creating
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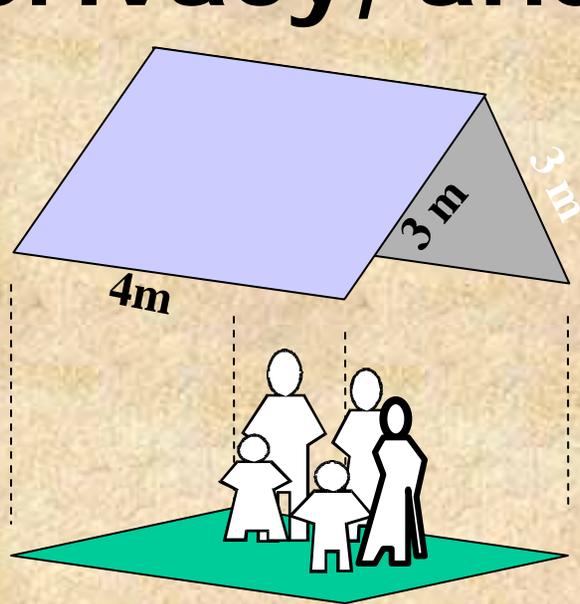


3.5 - 4.5 m²

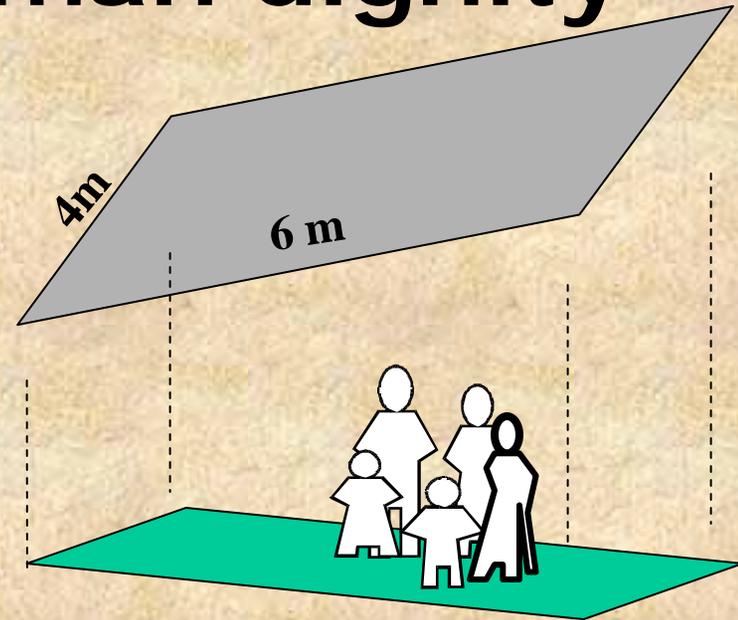
Approx. 2 meters

Approx. 2 meters

3.5 sq. m. per person is **NOT** based on comfort, but is considered “minimally adequate” to promote health, privacy, and human dignity

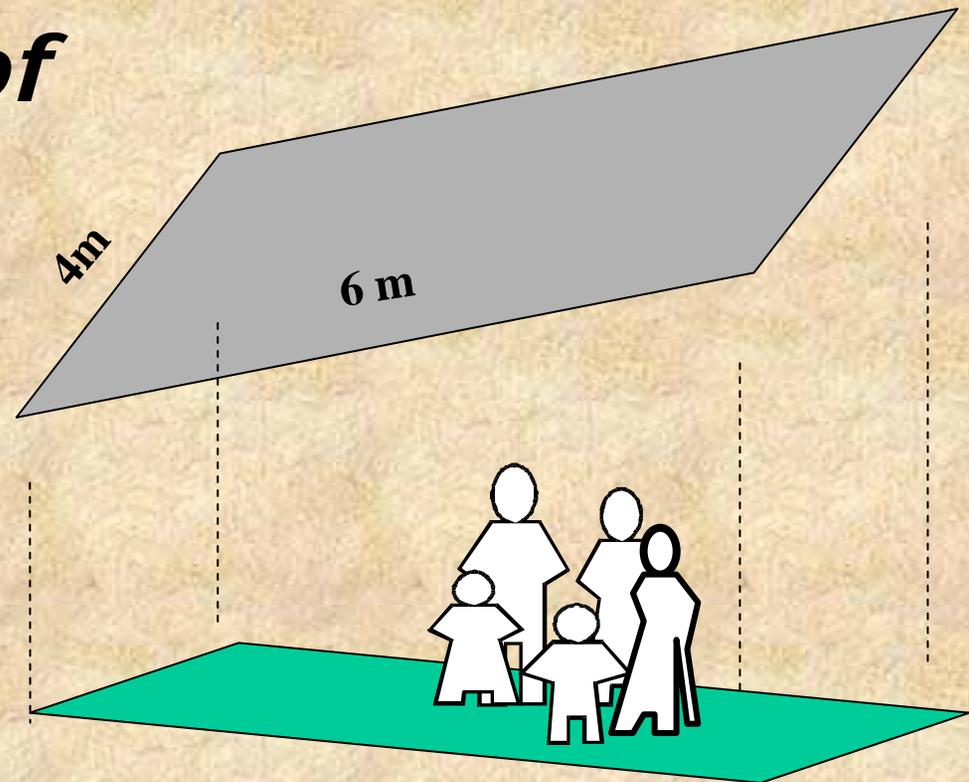


$$A = \pm 3.5 \text{ m}^2/\text{p}$$



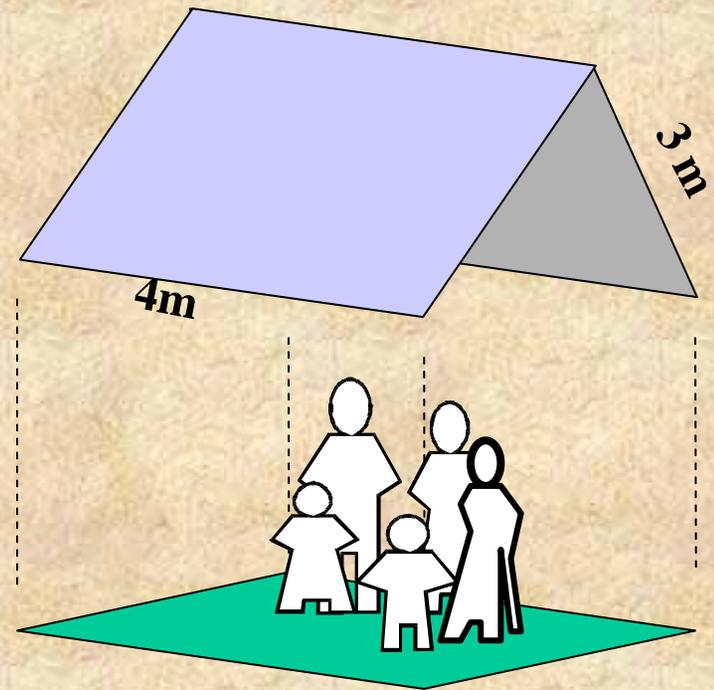
$$A = \pm 3.5 \text{ m}^2/\text{p}$$

3.5 sq. m. per person is also NOT much; it's equal to less than 1/25th of average new house size per capita in the US!



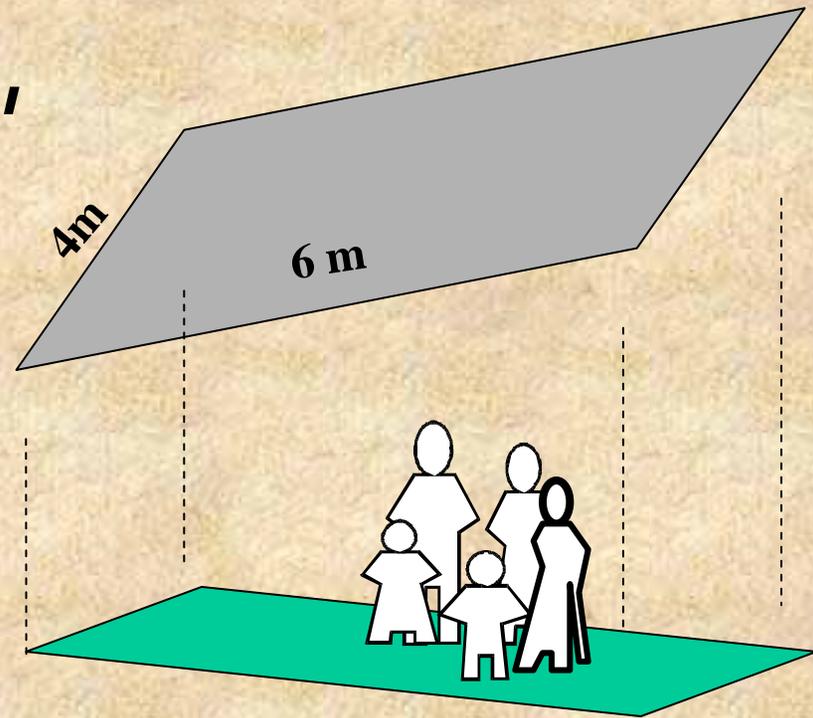
$$A = \pm 3.5 \text{ m}^2/\text{p}$$

3.5 sq. m. per person is also twice the size of a typical sleeping mat, or my nine-year old's bed! If we can't provide that, ...



$$A = \pm 3.5 \text{ m}^2/\text{p}$$

3.5 sq. m. per person is also about 40% of what people had, on average, before the disaster/crisis. Again, if we can't provide 3.5, ...



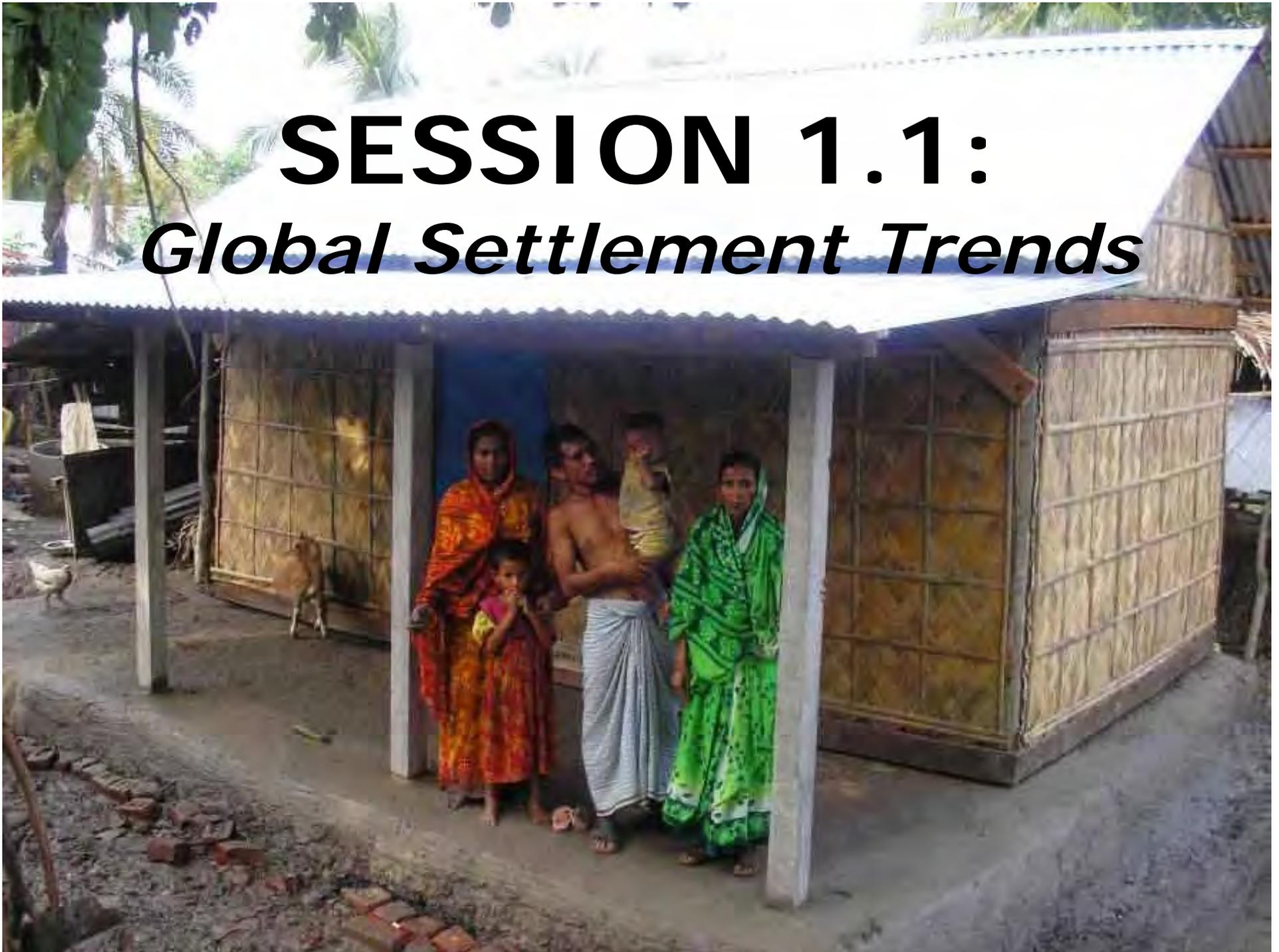
$$A = \pm 3.5 \text{ m}^2/\text{p}$$

(World Bank = 8.0 sq.m./)

(UN Habitat "slum" indicator = 5.0 sq.m./)

SESSION 1.1:

Global Settlement Trends



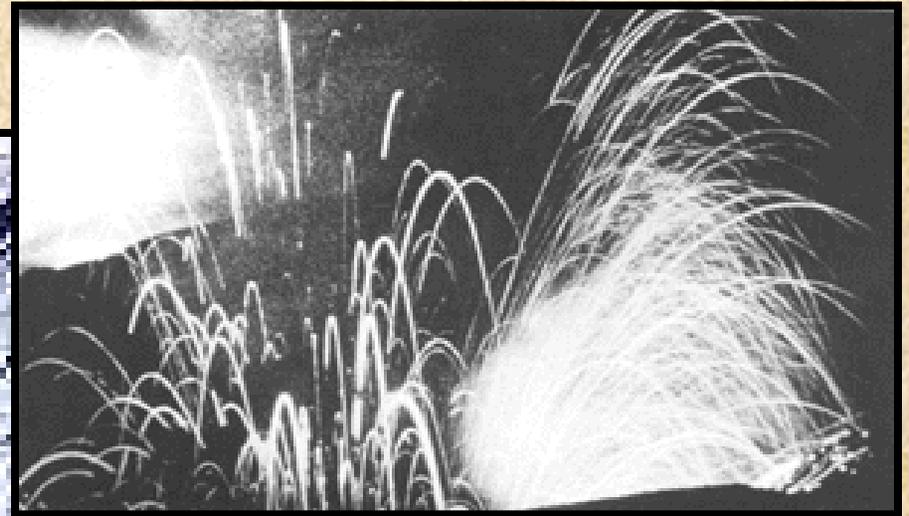


FIRST, If You Don't Think Shelter Is Important...

**Institutional Background:
OFDA has been Lead USG Agency
for Int'l "DA" Since 1964**

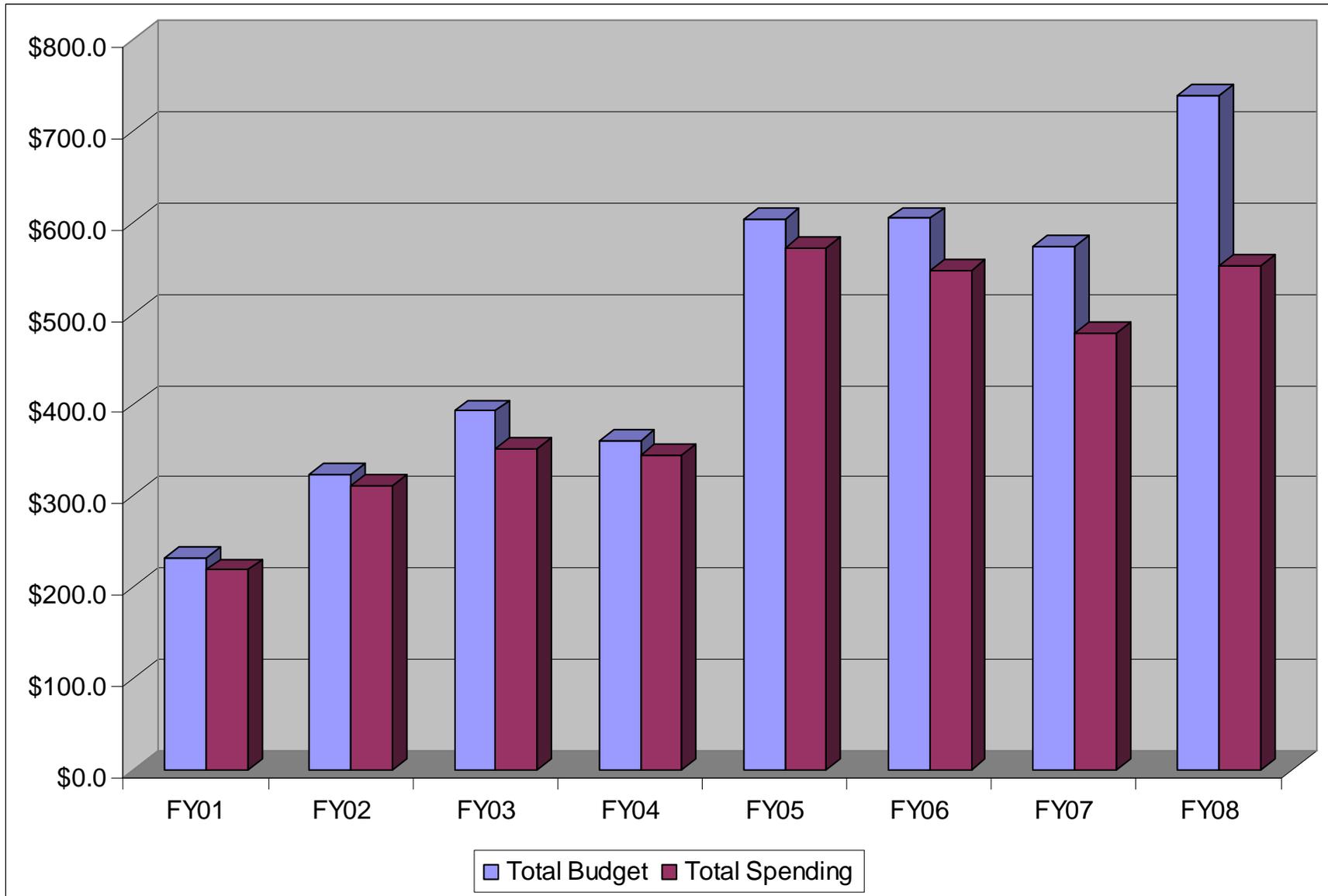


1963, Skopje Earthquake, Yugoslavia



**1963, Irazu
Volcano, Costa Rica**

OFDA Historical Budget & Spending



Note: figures reflect total budget and spending from all sources - e.g., NOA, supplemental, carry-over, recoveries, transfers, etc.

FY'08 Review

A very BUSY year...

- **\$553M in total spending**
- **Second highest in OFDA's history behind \$571M in FY'05 (tsunami)**
- **FY'07 total was \$479M**
- **81 "declared disasters," the most in years, and**
- **Spent funds on 99 different disasters**

FY'08 Review

Reasons for increase over FY'07:

- New Disasters: from \$52M to \$100M
- Iraq: from \$37M to \$75M
- Afghan: from \$30k to \$17M
- Food: Local/Regional Procurement from \$0 to \$27M

"S&S" Share of Budget

- FY '06 = \$31M; 6% of Total

- FY '07 = \$18M; 3%

- FY '08 = \$32M; 6% (#5 sector)

- But numbers are deceiving. For example, in FY '08 we distributed 10,000 rolls of plastic sheeting. Accounting for overlap, we may have helped shelter over 850,000 people (\$41/).

FY01

FY02

FY03

FY04

FY05

FY06

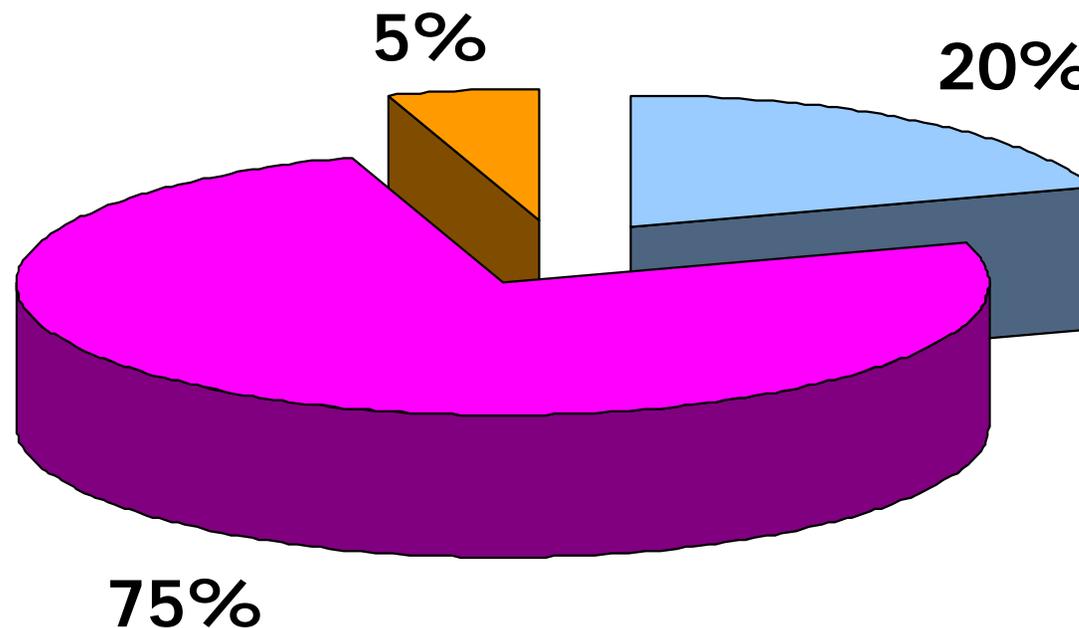
FY07

FY08

FY'09-FY'10 Overview

- **FY'09 could be busier, with budget well over \$600M**
- **But... strings attached:**
 - **Earmarks for Food security, Iraq, Afghanistan, Sudan, etc.**
- **FY'10 request higher than FY'09**
- **Key Point: OFDA's Budget is growing**

“Typical” Pattern of Recent OFDA Grant Funding...



UN Agencies

NGOs/PVOs

Int'l Orgs

**With That As An Institutional
Overview of S&S Activities...
GLOBAL SETTLEMENT TRENDS**



WHY THE FOCUS ON SETTLEMENTS?

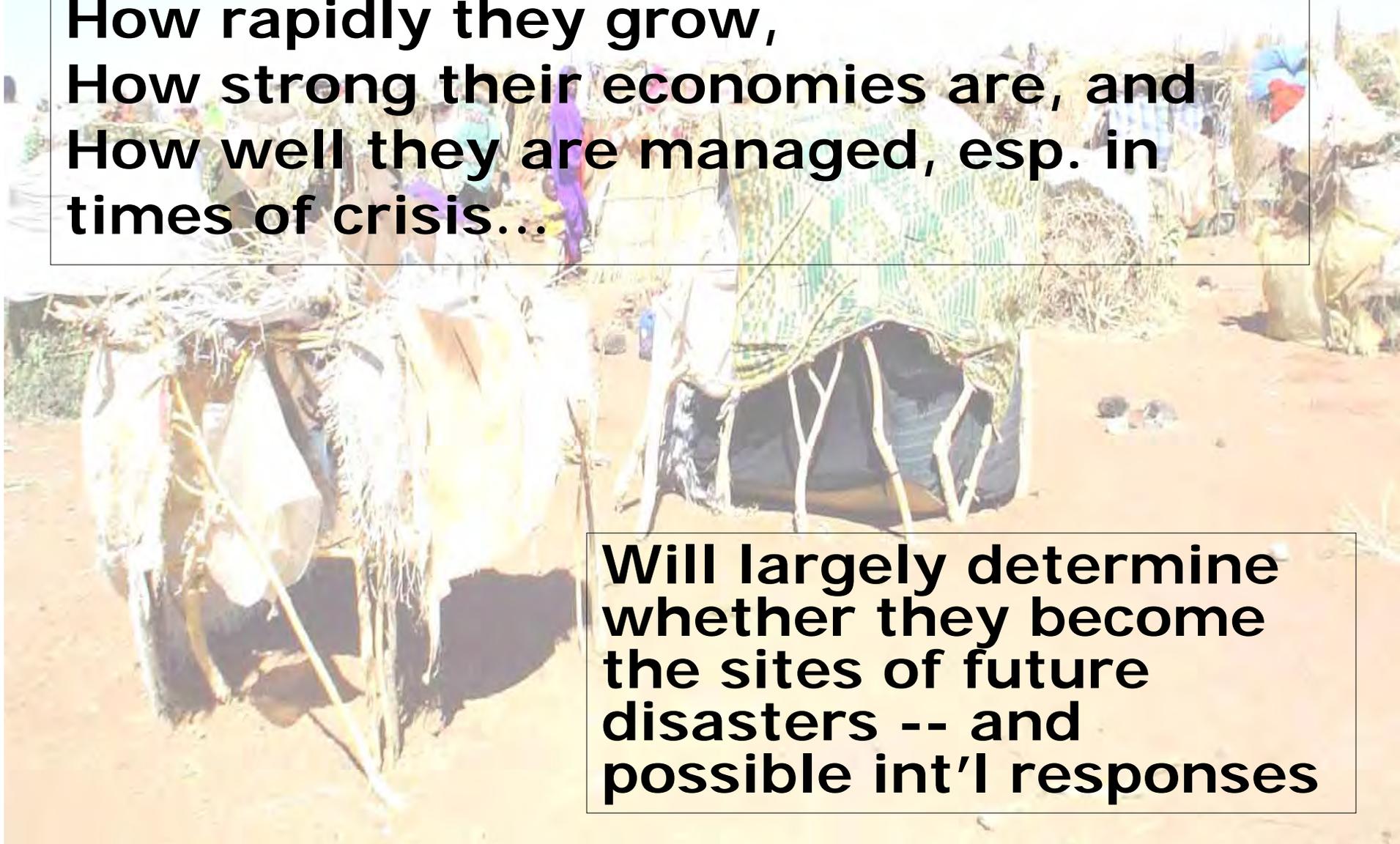


A blue-tinted photograph of a city skyline with mountains in the background. The text is overlaid on the image.

**SETTLEMENTS ARE THE
“WHERE” OF
OUR
MANDATE**

**Where Settlements are located,
How they have developed,
How rapidly they grow,
How strong their economies are, and
How well they are managed, esp. in
times of crisis...**

**Will largely determine
whether they become
the sites of future
disasters -- and
possible int'l responses**



A blue-tinted photograph of a city skyline with mountains in the background. The text is overlaid on the image.

**TRENDS IN
SETTLEMENTS SUGGEST
WE SHOULD PAY
ATTENTION...**

POVERTY



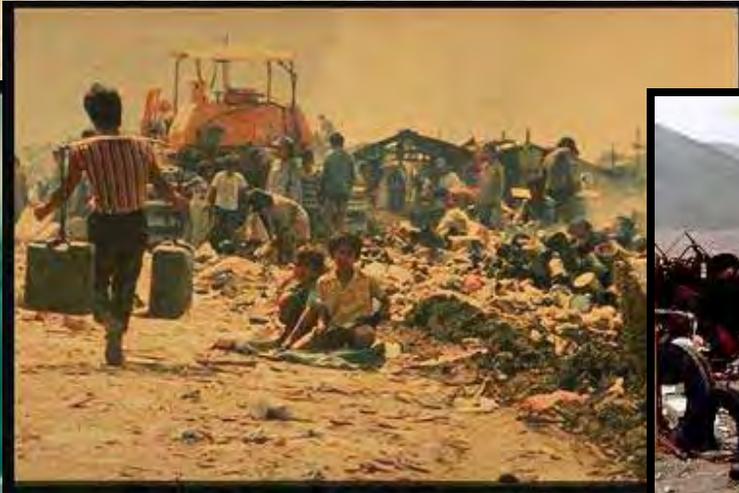
Almost one-sixth of the world's population - 940 million people - lives in squalid, unhealthy areas with limited water, sanitation, security, and other public services. The number of slum dwellers could rise to **TWO BILLION** by 2020



More than one billion people do not have access to safe drinking water



GLOBAL WARMING and ENVIRONMENTAL DEGRADATION



CONFLICT and SOCIAL INSTABILITY



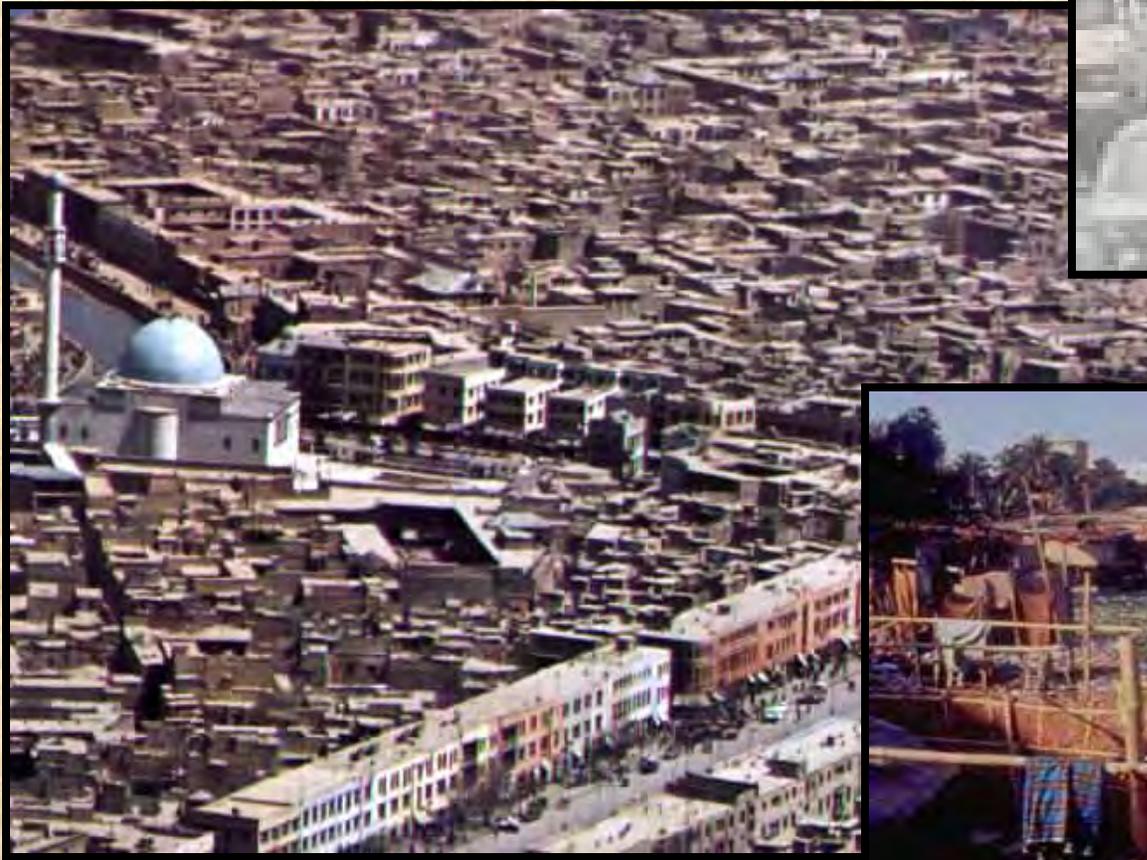
NATURAL DISASTERS



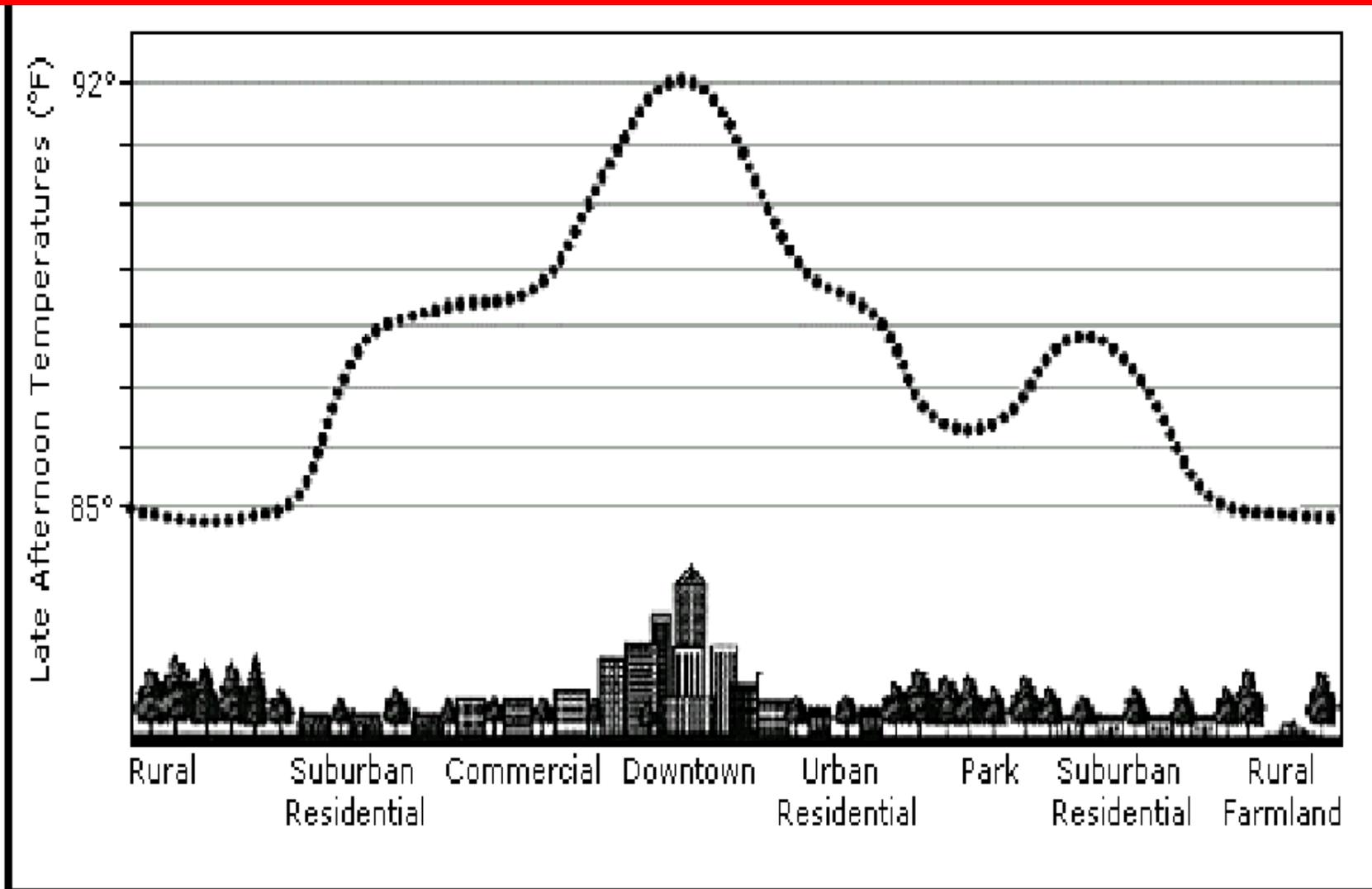
TERRORISM



URBANIZATION

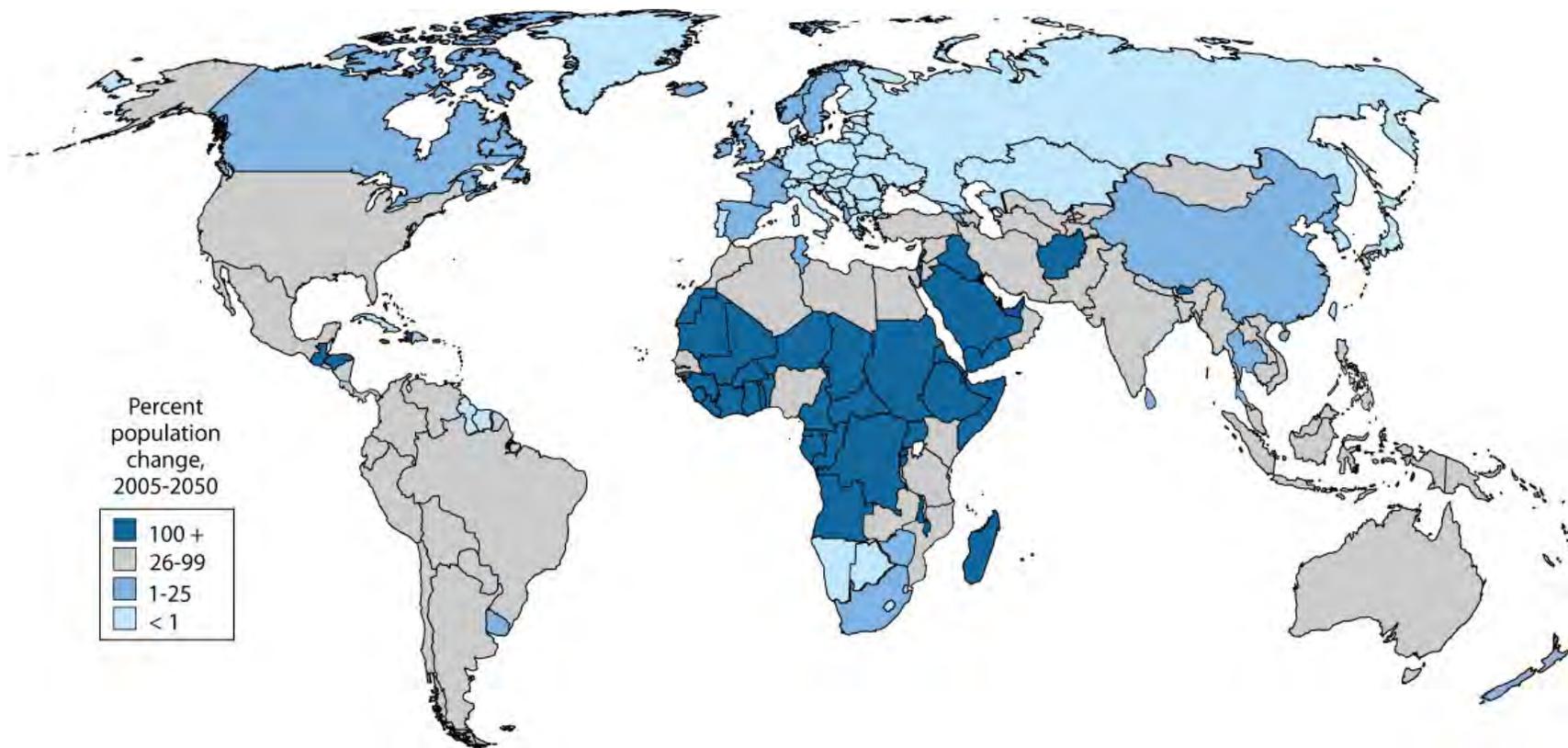


URBAN HEAT ISLAND EFFECTS



Projected Population Change, by Country

Percent Population Change, 2005-2050



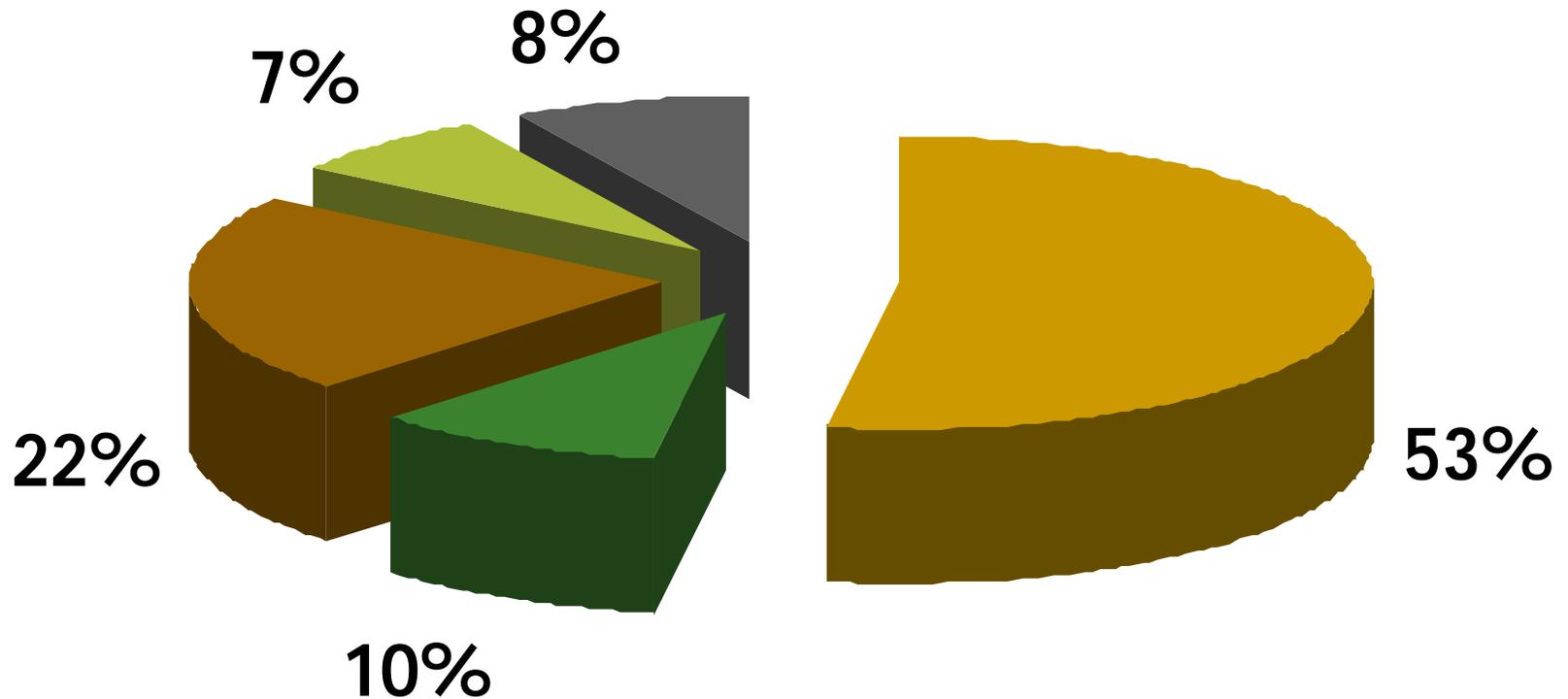
LAC: 394 m to 609m, 2000-2030: 43%

Africa: 294m to 742m: 152%

Asia: 1.36b to 2.64b: 94%

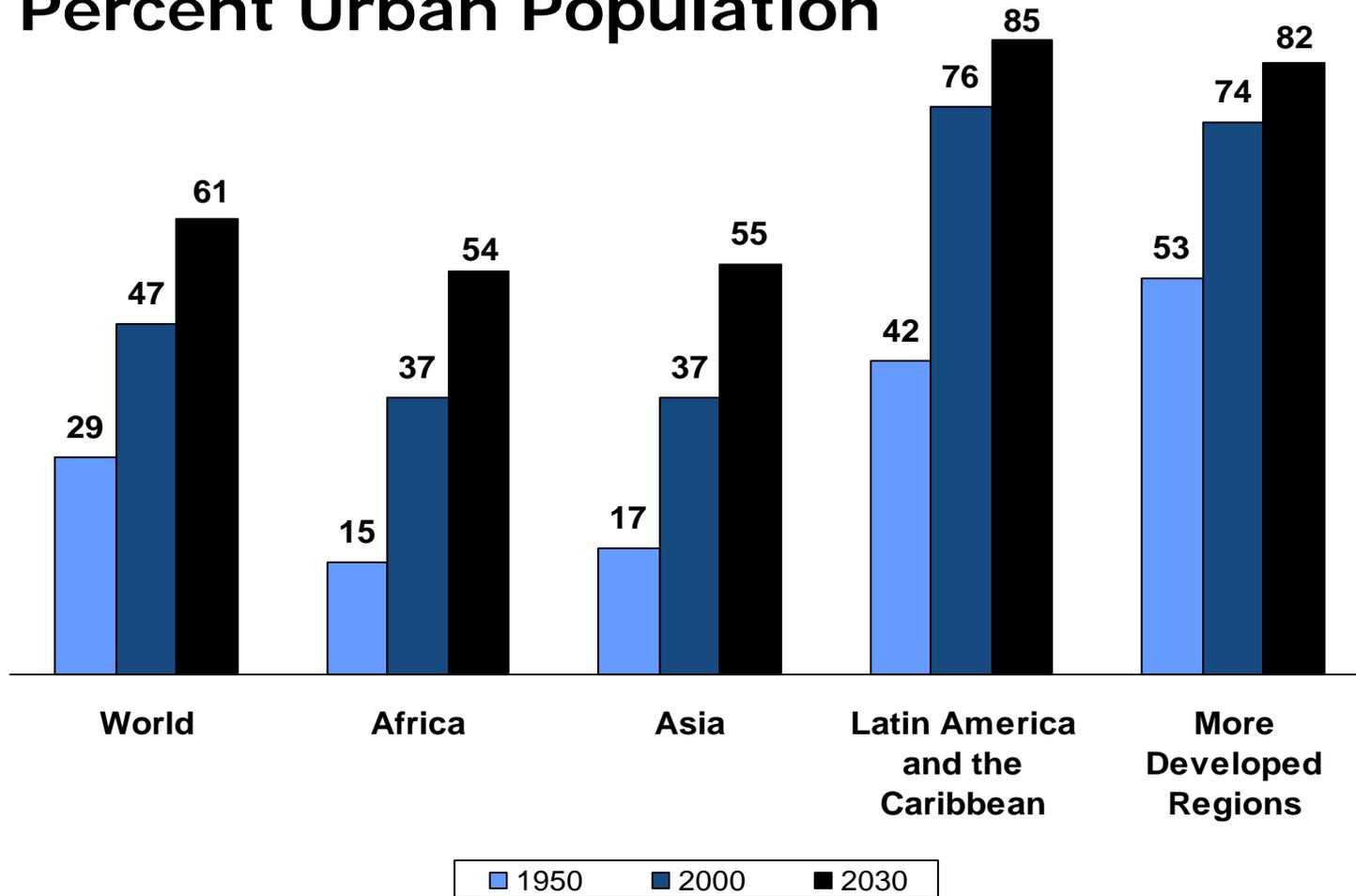
Source: Population Reference Bureau, *2005 World Population Data Sheet*.

Most Urbanites Live in Small Cities



Trends in Urbanization, by Region

Percent Urban Population

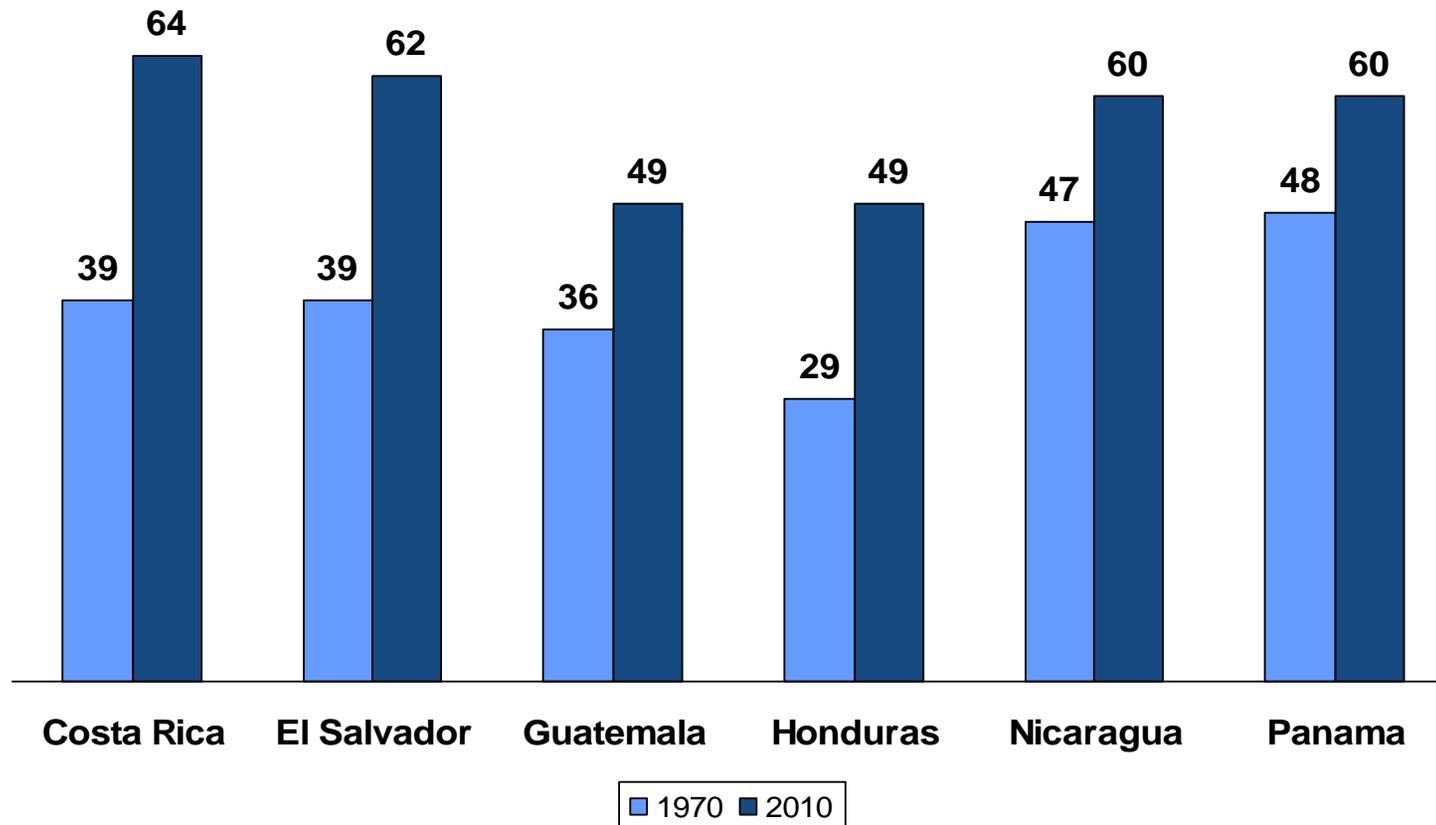


By 2030, roughly 60% of global population will be urban.

Source: United Nations, *World Urbanization Prospects: The 2003 Revision* (medium scenario), 2004.
© 2006 Population Reference Bureau

Urbanization in Central America

Percent of Population Living in Urban Areas



- 2010 projection for Central America as a whole is 71 percent
- South America has nearly the highest rate of urbanization of any world region, projected to achieve 84 percent by 2010 (virtually tied with Northern Europe)

Source: United Nations, *World Urbanization Prospects: The 2003 Revision* (medium scenario), 2004.

Implications for Your Work

- **Context: 2X urban pop., 3X urban land!**
- **Disasters/crises accelerate and exacerbate the urbanization process**
- **Typical humanitarian response to disaster/crisis-induced displacement is “return to village of origin,” reflecting both rural bias and misunderstanding of underlying dynamic**
- **How to reconcile, given need to develop a strategy?**

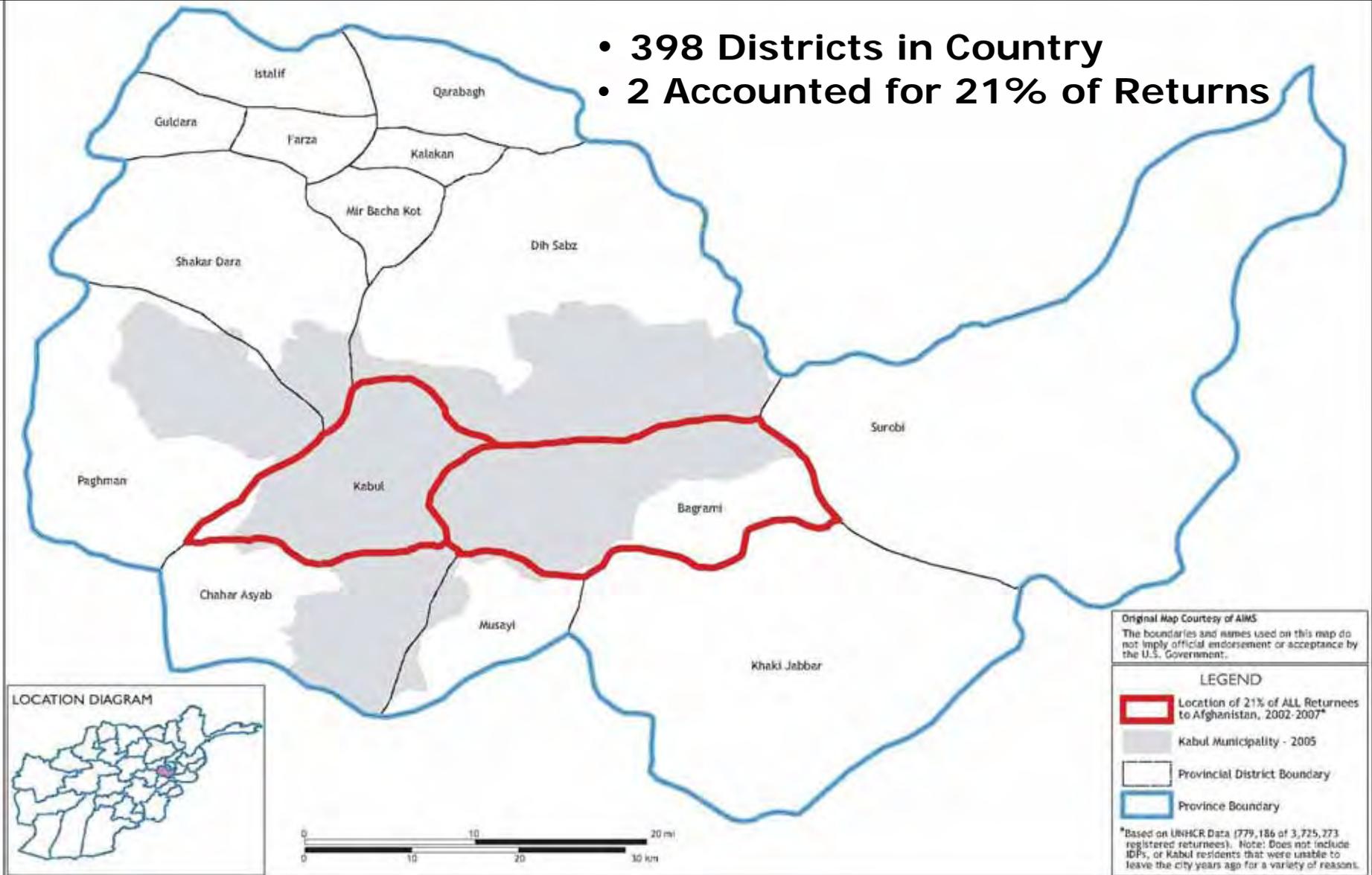
A Case of Disasters by Design?

- Are tomorrow's disasters being incorporated into today's development processes?
- Development policies affect humanitarian work. Should humanitarians be affecting development policy?

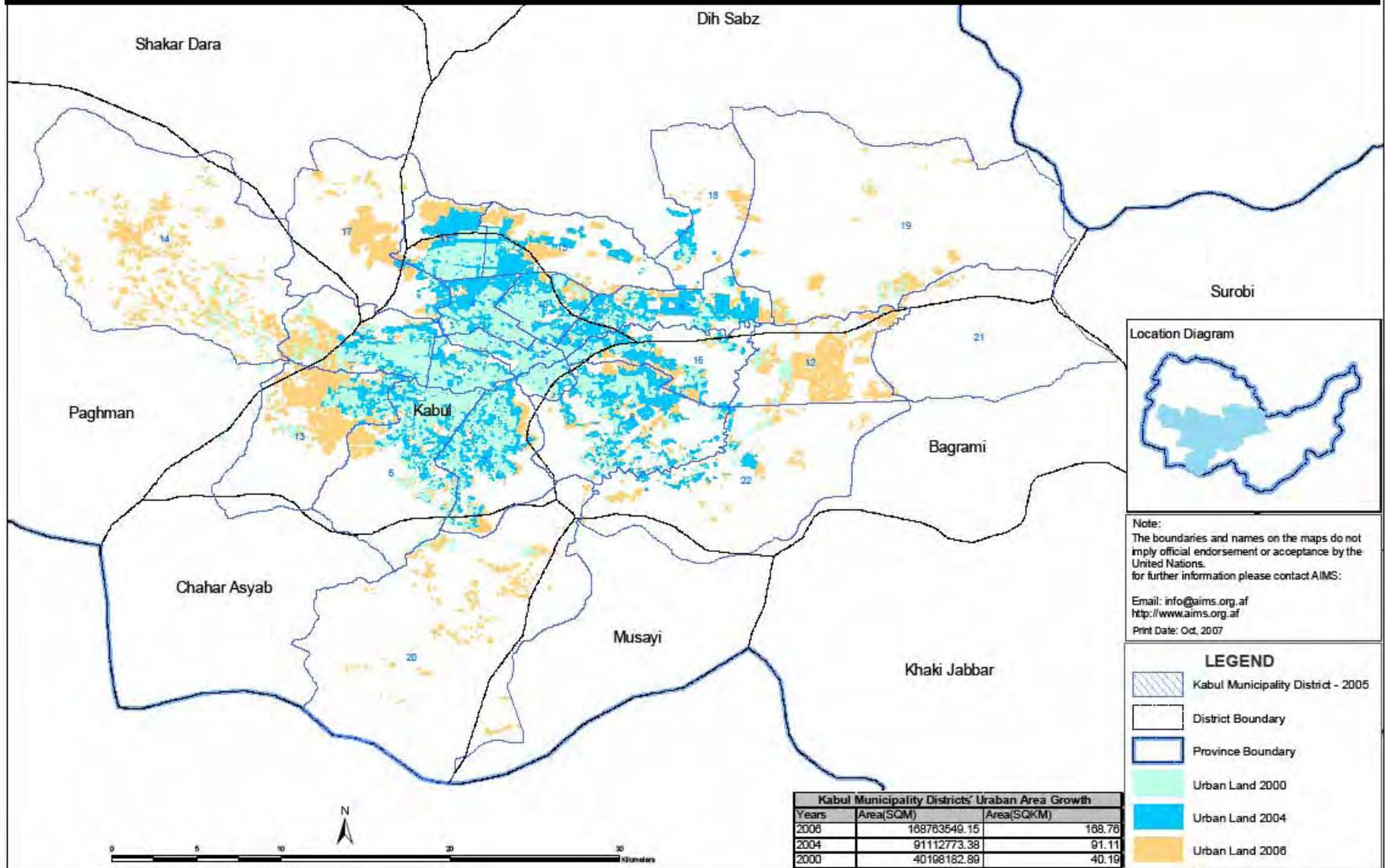


Urban "HA": Kabul, '02-'07

- 398 Districts in Country
- 2 Accounted for 21% of Returns



Kabul, '00-'06: 3X Pop., 4X Area



A blue-tinted photograph of a city skyline with a prominent mountain peak in the background. The text is overlaid on the image.

SETTLEMENTS:
THE RAPIDLY CHANGING
"WHERE" OF OUR WORK...



SESSION 1.2:

A Focus on Framing: Review of Materials and Practice

Presenters Include:

- **ADRA/Bolivia -- Metal**
- **SHARE/Guatemala -- PVC**



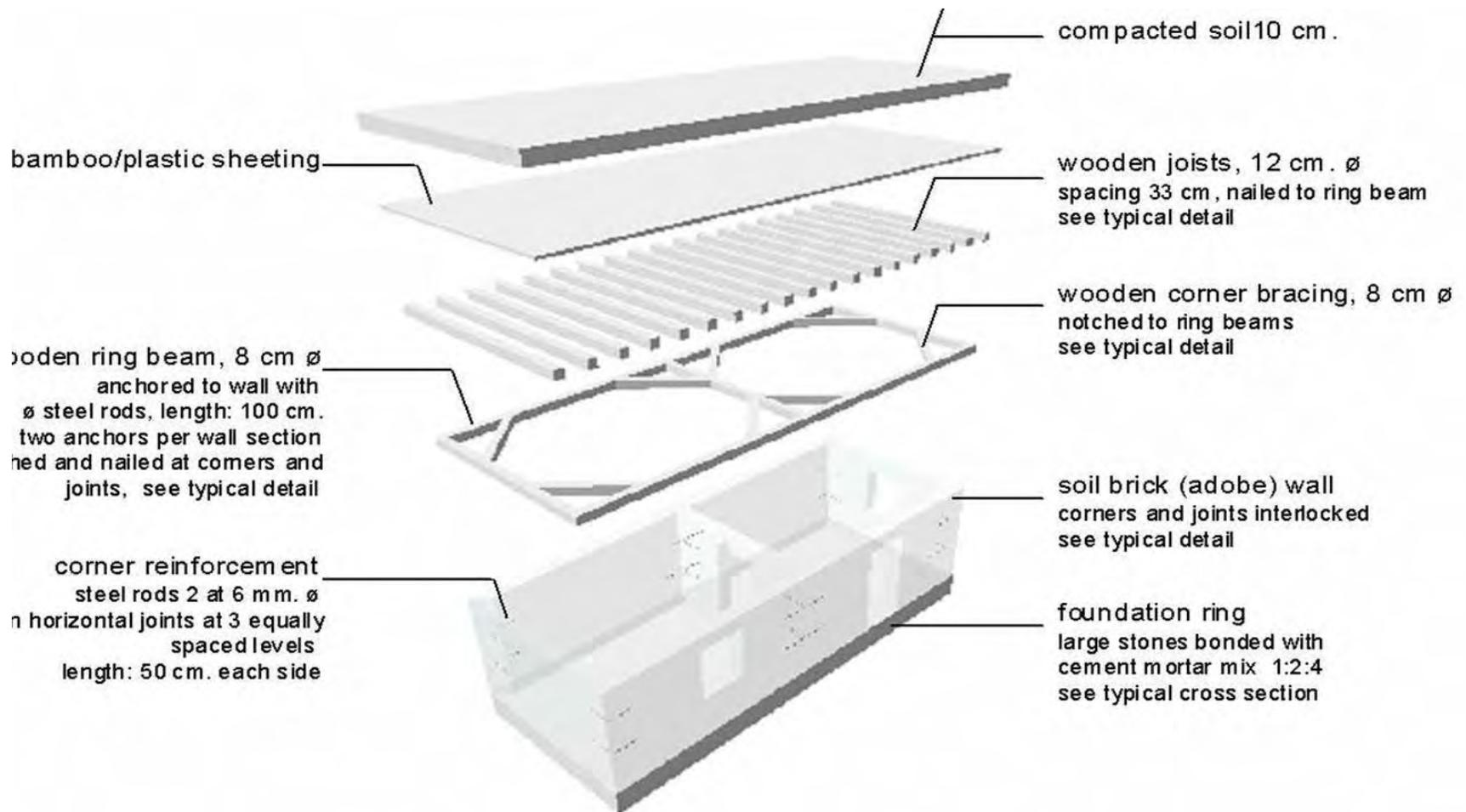
FIRST, If You Don't Think Shelter Is Important...

Where's the FRAME??!!



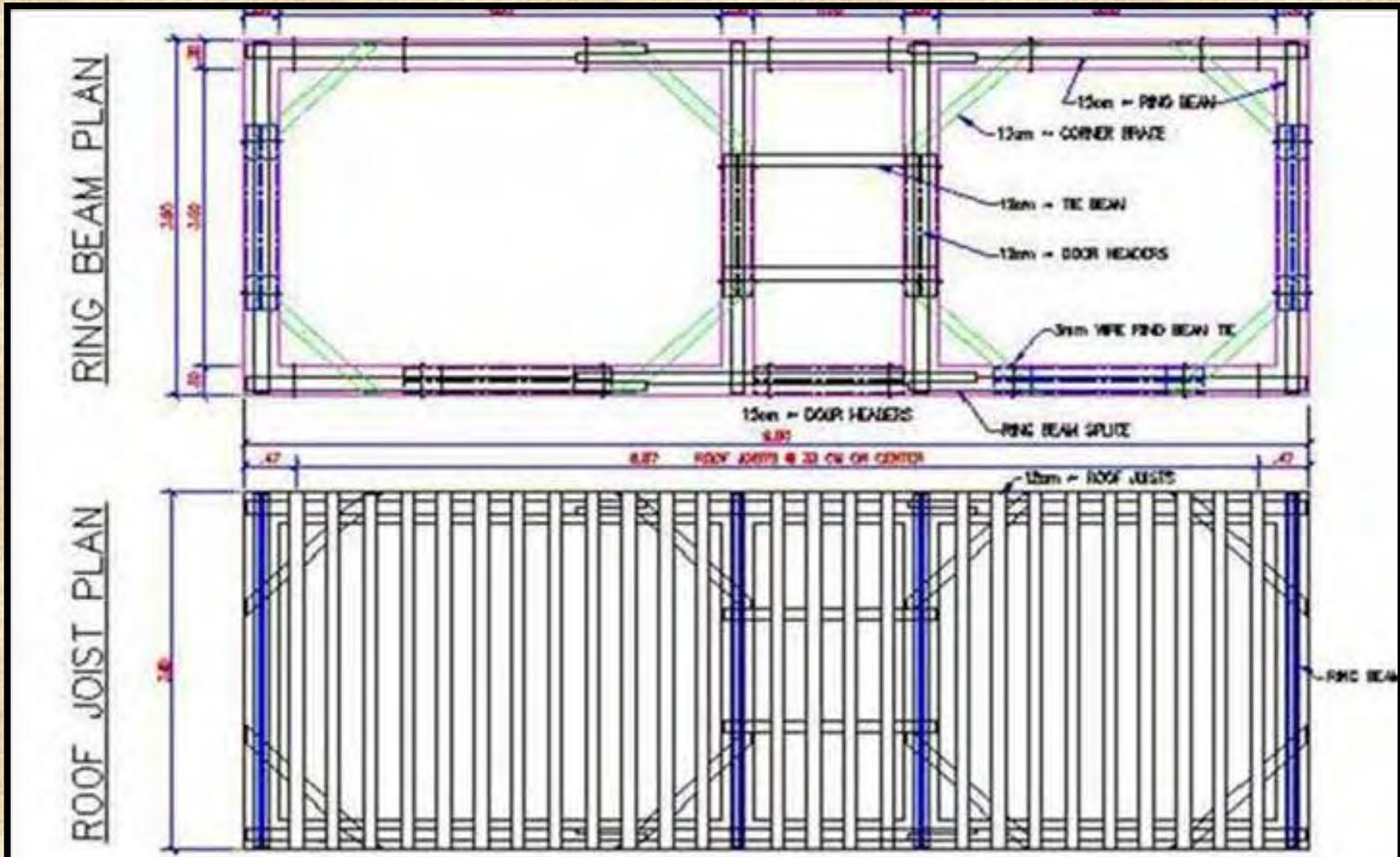


**Plastic
Shelters, IDP
Camp, Goma,
11 '08**

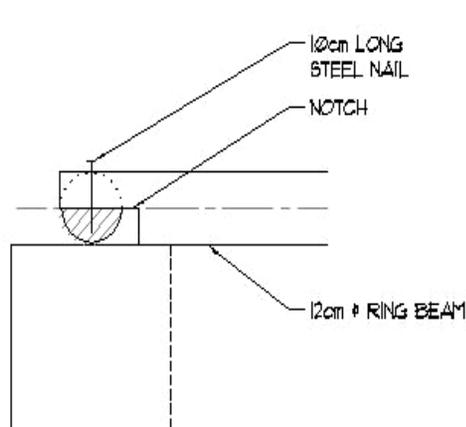


shelter dimensions floor plan: 89' x 36' (net square 24 sq.m. suitable for 7 persons according to SPHERE standards @ 3.5 sq.m. per person)

Framing of Abode Shelter

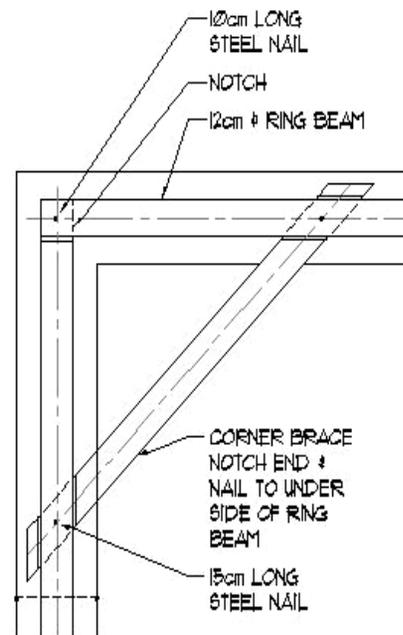


Protection & DRR as Well



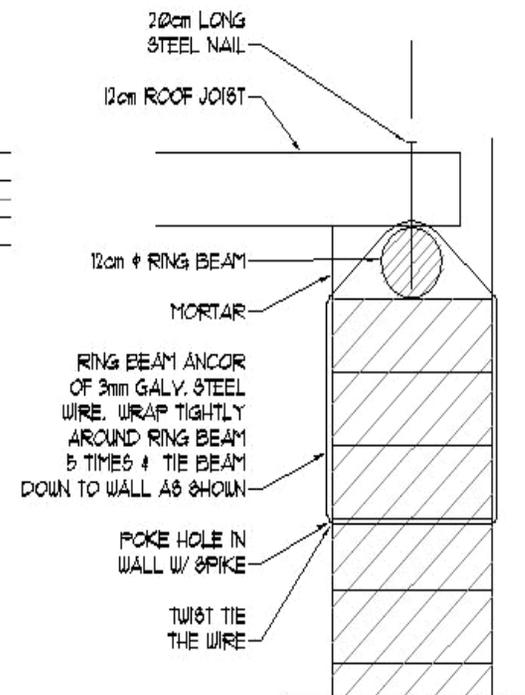
RING BEAM

SCALE: 1 : 12.5



CORNER BRACE

SCALE: 1 : 25

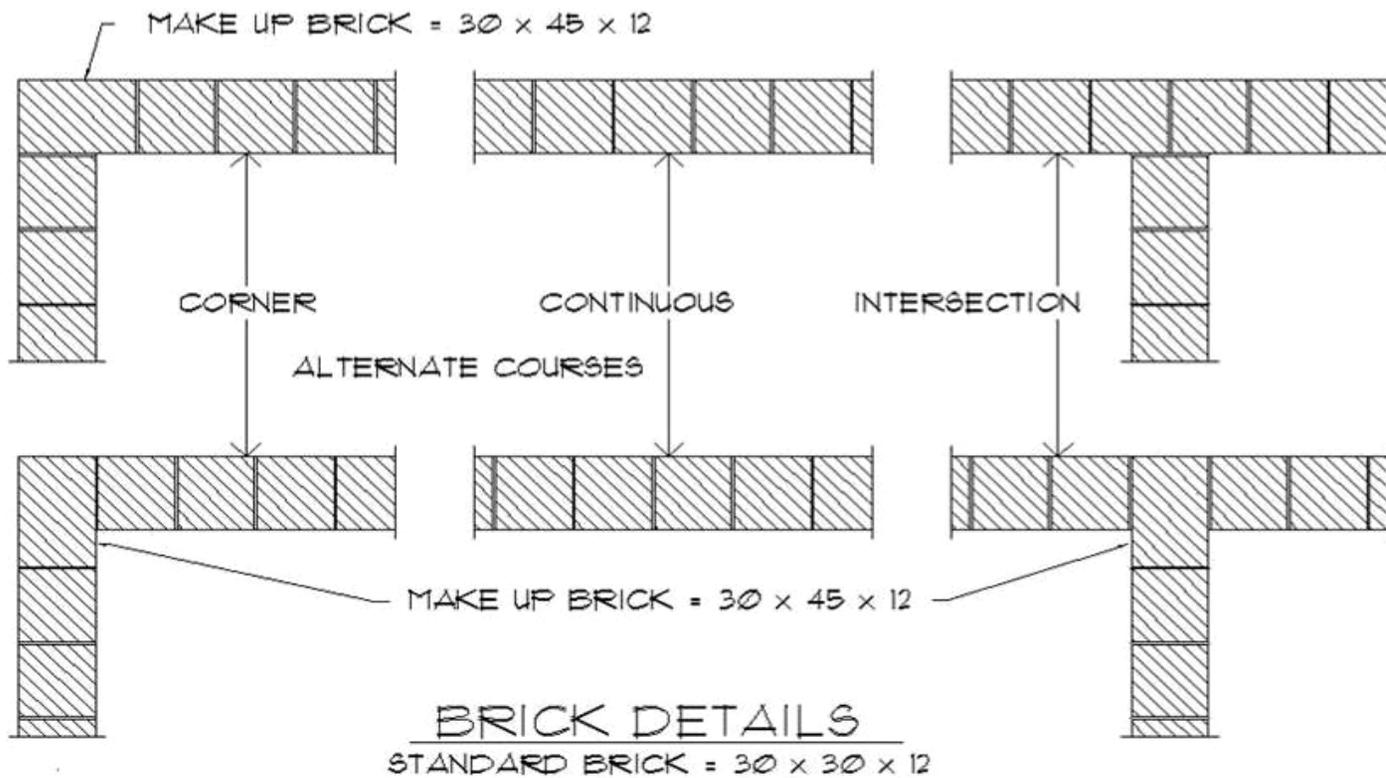


RING BEAM TIE

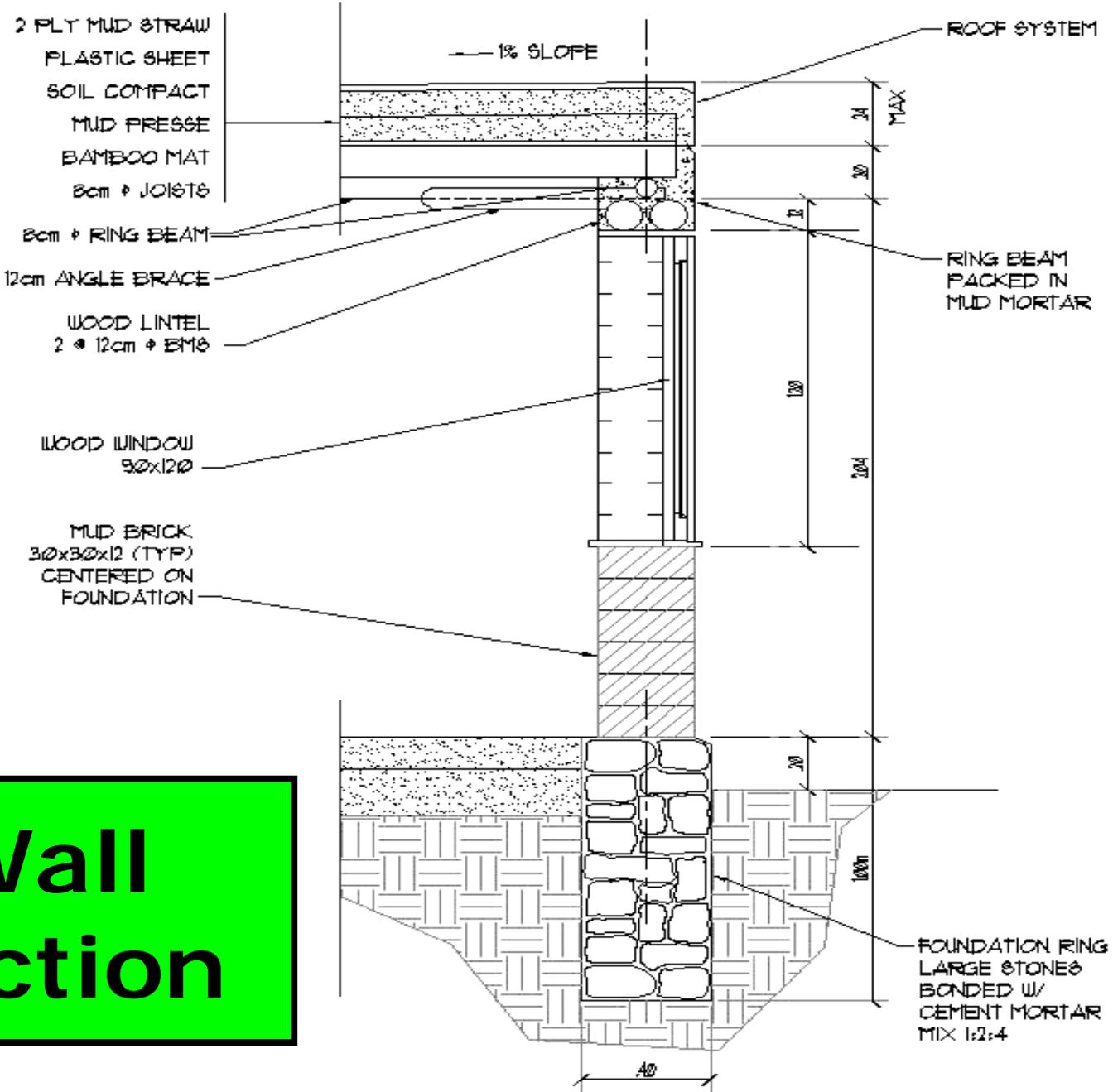
SCALE: 1 : 12.5

Detail of Connected and Braced Ring Beam, and Roof Tied to Walls

Detail of Bricks Overlapping in Successive Courses, Interior Walls Tied to Exterior Walls

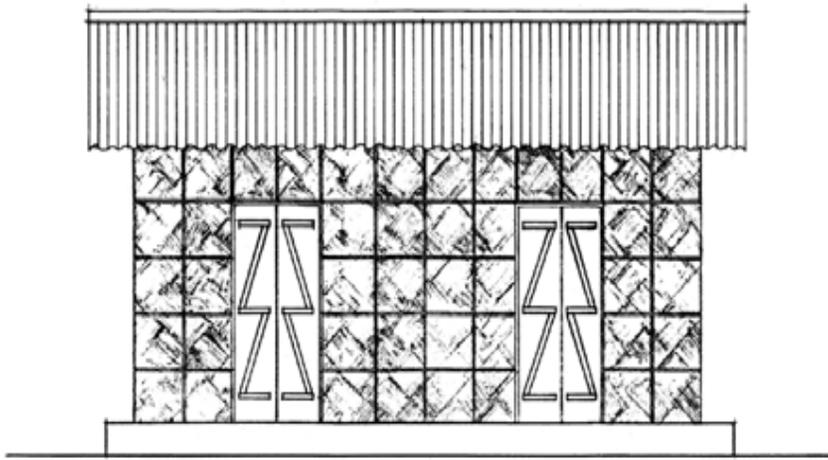


Wall Section

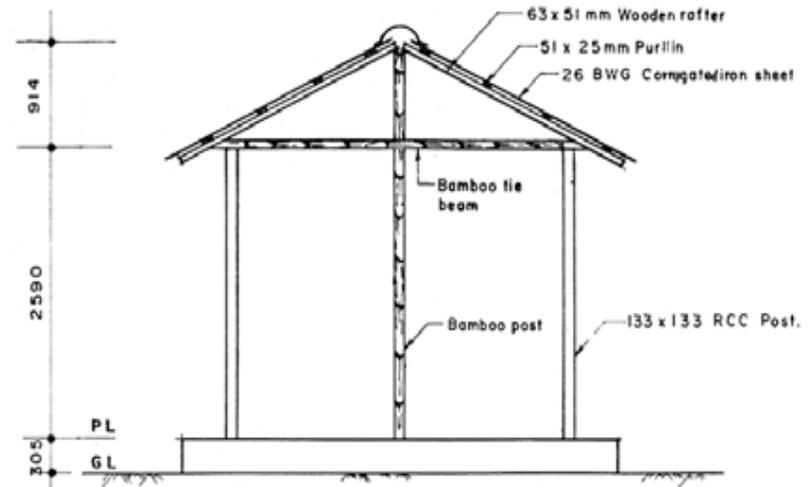




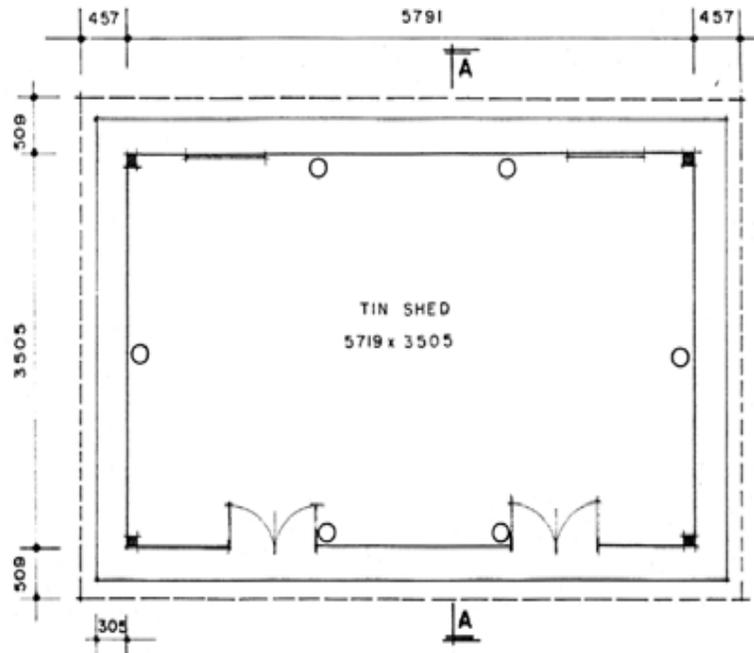
Bangladesh, 11 '07



FRONT ELEVATION
SCALE 1:50

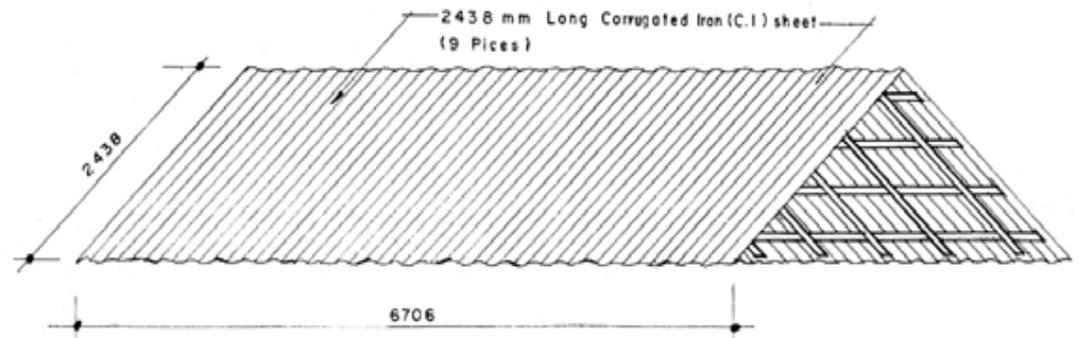


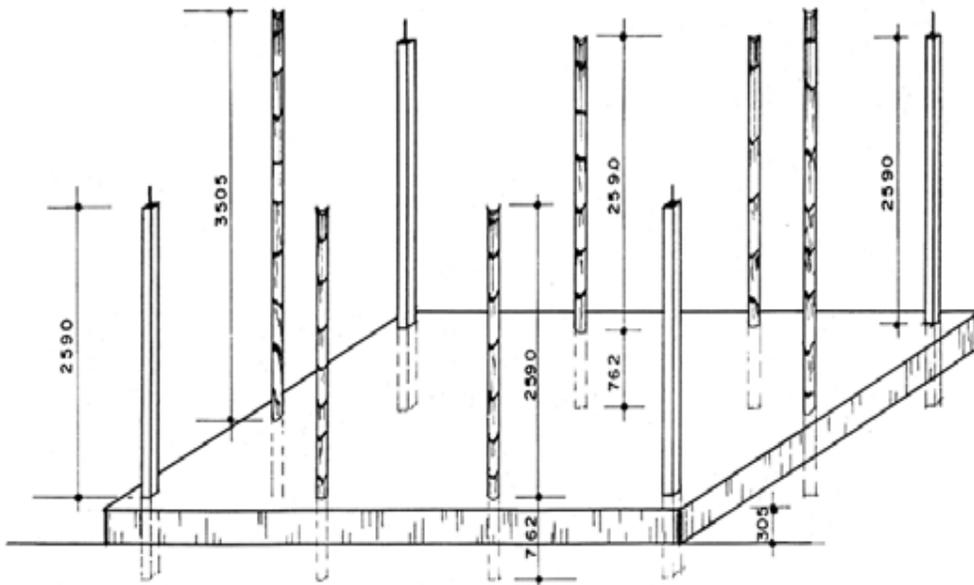
SECTION A-A
SCALE 1:50



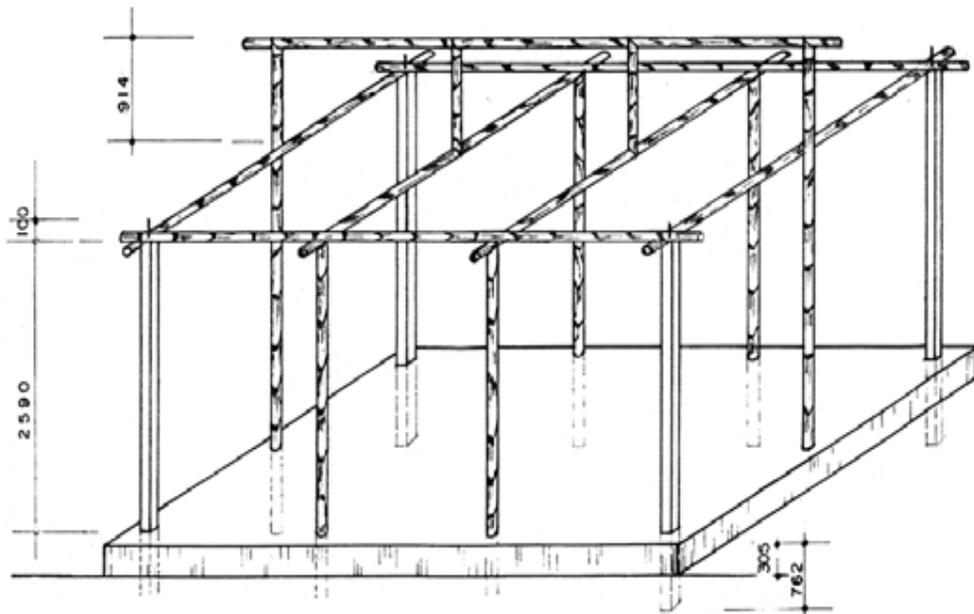
PLAN
SCALE 1:50

Basic GB Design

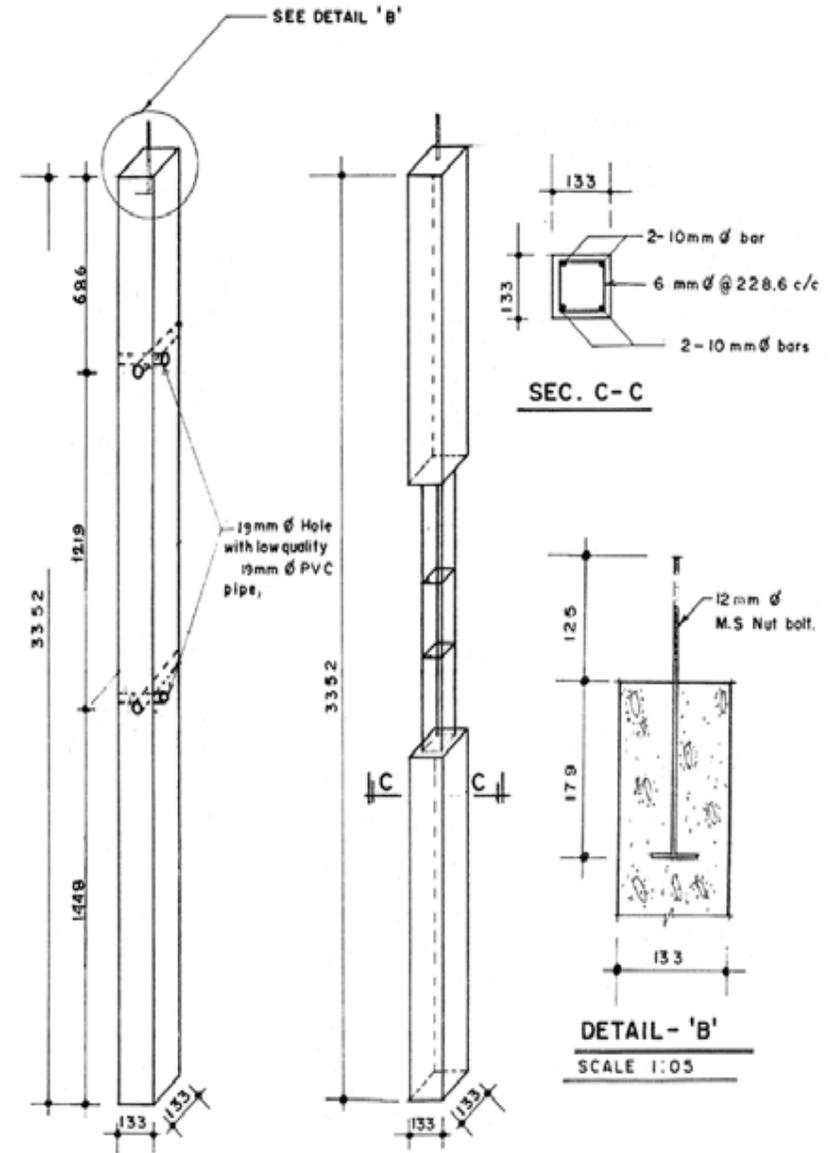




POSITION OF POST
SCALE 1:50



FRAME OF TIN SHED HOUSE
SCALE 1:50



133x133 R.C.C. POST
SCALE 1:20

RE-BAR DETAIL OF R.C.C. POST
SCALE 1:20

**Metal Framing of "Transitional"
Shelter, Dujiangyan, Sichuan
Province, May '08**





Wood Frame Transitional Shelter, Goma





**Post-EQ Incremental
Reconstruction, Pakistan; Note
Metal Straps on Wood Framing**



**Bamboo Frame
Transitional
Shelter, Java, '06**

Framing Includes Tire Strips!

MARI MEMBANGUN RUMAH DILAL DARI BAMBUN

Salah satu kesalahan yang sering dilakukan adalah menggunakan bambu yang sudah busuk atau terdapat cacat lainnya.

Pastikan sebelum menggunakan bambu untuk pembangunan rumah, bambu tersebut sudah diperiksa terlebih dahulu.

Kontrol bambu yang akan digunakan untuk pembangunan rumah. Pastikan bambu yang digunakan sudah diperiksa terlebih dahulu.

Salah satu kesalahan yang sering dilakukan adalah menggunakan bambu yang sudah busuk atau terdapat cacat lainnya.

Beranda / penerasan silang

Sebelum memasang silang agar struktur rumah lebih kuat dan tidak mudah roboh saat gempa.

Pastikan bambu yang digunakan sudah diperiksa terlebih dahulu.

Pondasi dan kolom

Salah satu kesalahan yang sering dilakukan adalah menggunakan bambu yang sudah busuk atau terdapat cacat lainnya.

Dinding

Sebelumnya pastikan bambu yang akan digunakan sudah diperiksa terlebih dahulu.

Arap

Sebelum memasang arap, pastikan struktur rumah sudah selesai.

Langkah-langkah pemasangan silang:

1. Siapkan silang yang akan dipasang.
2. Letakkan silang pada dinding.
3. Pastikan silang terpasang dengan benar.

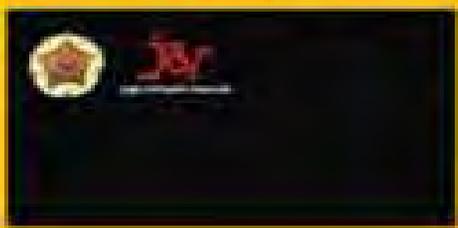
Pastikan bambu yang digunakan sudah diperiksa terlebih dahulu.

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Langkah-langkah pemasangan silang:

1. Siapkan silang yang akan dipasang.
2. Letakkan silang pada dinding.
3. Pastikan silang terpasang dengan benar.



Penggunaan material bekas

Sebelum menggunakan material bekas, pastikan material tersebut sudah diperiksa terlebih dahulu.

Sebelum memasang arap, pastikan struktur rumah sudah selesai.

Sebelumnya pastikan bambu yang akan digunakan sudah diperiksa terlebih dahulu.



**Bamboo Frame,
Burma, '08**



Irrigation Pipe Framing Solution Informed by...



Local Shelter Design



Process and Product...



We Can Do This!

Lest We Forget: Framing Also Important in "Better" Buildings, Even When Using "Better" Materials!



Don't Forget the FRAME!!

***Even if Only Doing NFI
Distributions***



SESSION 1.3:

Local Materials and Markets: Salvaging, DRR, and Livelihoods

Presenters Include:

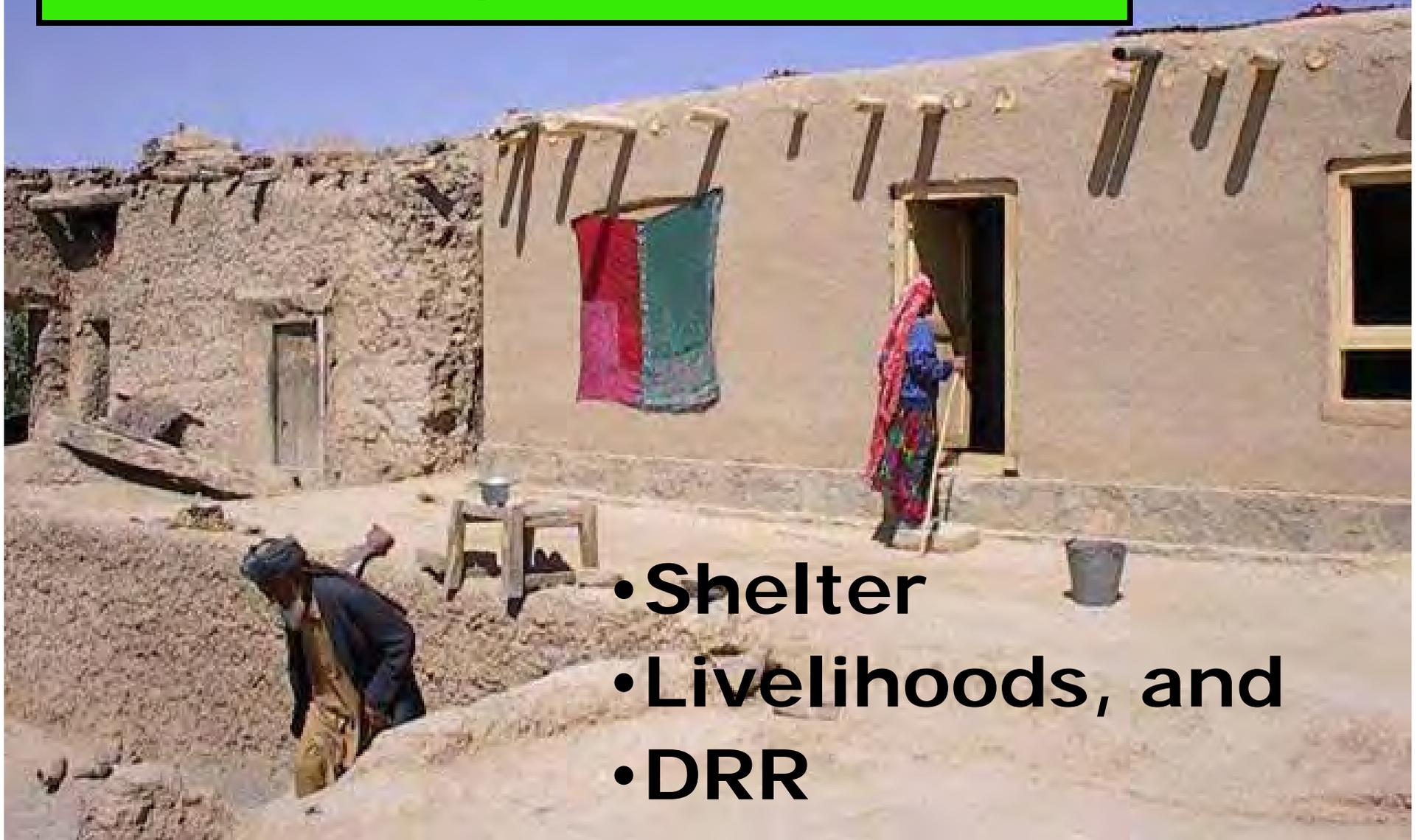
- **CARE/Peru**
- **CHF/Peru**
- **WVI/Nicaragua**



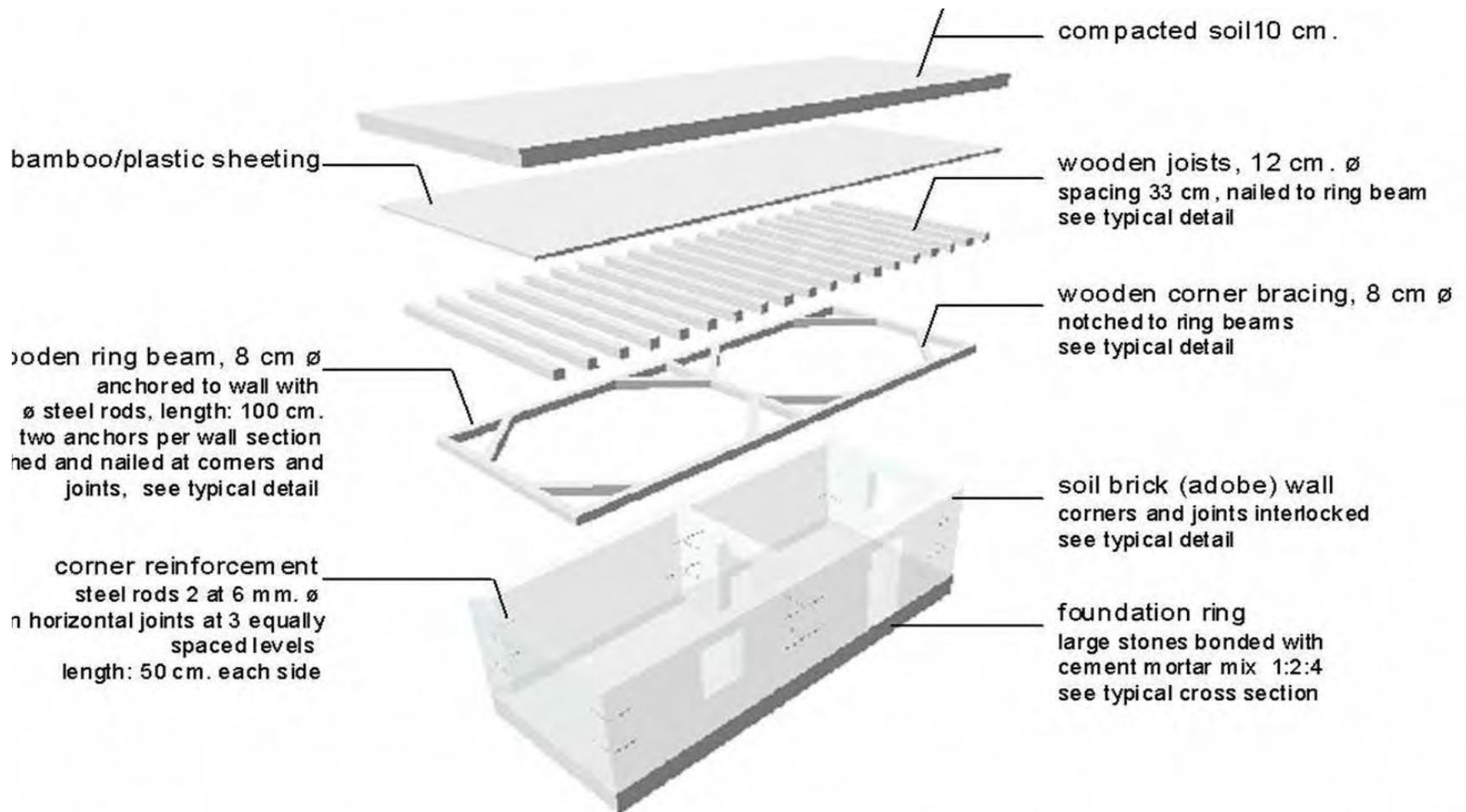


AGAIN, If You Don't Think Shelter Is Important...

Use of Local Materials: Adobe in Afghanistan (\$490/unit)



- Shelter
- Livelihoods, and
- DRR



adobe dimensions floor plan: 89' x 36' (net square 24 sq.m. suitable for 7 persons according to SPHERE standards @ 3.5 sq.m. per person)

DRR By Design... and Action



Use of New and Salvaged Local Materials, Java



Use of New & Salvaged Local Materials, Java, '06 (\$200 per unit)

DDR Opps Emerge in Design...

MARI MEMBANGUN RUMAH OKAL DARI BAMBUR

Jangan membangun rumah di tempat yang mudah terdampak bencana. Pastikan lingkungan sekitar aman.

Pastikan bangunan yang dibangun memenuhi persyaratan.

Bambu hanya boleh digunakan untuk bangunan rumah.

Bambu harus dipotong dengan benar.

Bambu yang sudah dipotong harus disimpan dengan benar.

Bambu

Pastikan bambu yang dipotong dengan benar.

Bambu yang sudah dipotong harus disimpan dengan benar.

Bracing / penopang silang

Buatlah penopang silang agar struktur rumah lebih kuat dan tahan gempa.

Pastikan bambu yang digunakan untuk pondasi rumah dipotong dengan benar.

Bambu yang sudah dipotong harus disimpan dengan benar.

Pondasi dan kolom

Buat tanggul pada rumah (20 cm) agar rumah terlindung dari air banjir.

Dinding

Buatlah dinding rumah yang tahan gempa.

Arap

Pastikan genteng yang dipasang dengan benar.

Bambu yang sudah dipotong harus disimpan dengan benar.

Buat gable rumah yang tahan gempa.

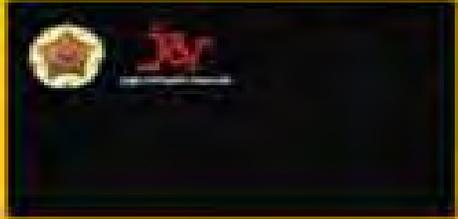
Bambu hanya boleh digunakan untuk bangunan rumah.

Bambu yang sudah dipotong harus disimpan dengan benar.

Buatlah dinding rumah yang tahan gempa.

Buatlah atap rumah yang tahan gempa.

Buatlah atap rumah yang tahan gempa.



Penggunaan material bekas

Bersihkan material yang digunakan untuk paku rumah sebelum digunakan sebagai reinforcement.

Buatlah atap rumah yang tahan gempa.

Buatlah rumah yang tahan gempa.

Salvaging for Next Steps...

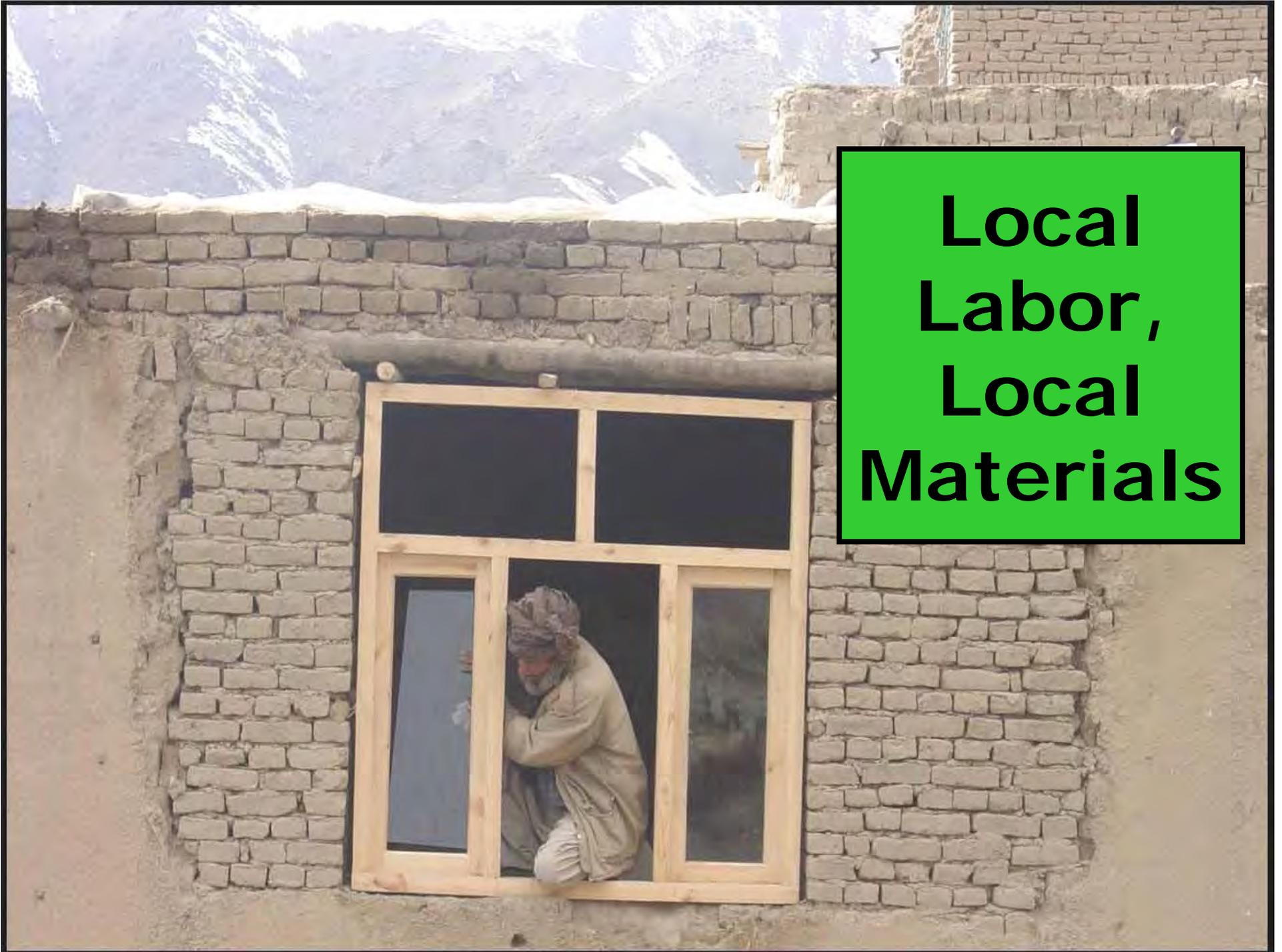


BRICKS -- and More BRICKS -- as Shelter-Livelihood Link



Significant Livelihood Generation Using Local Contractors





**Local
Labor,
Local
Materials**

Debris Fields Are Fields of Opportunity...



- In one Pakistani city alone, enough rubble to fill a line of trucks back to the DC!

Major Opportunities for Livelihood Generation



Shelter-Related Livelihood Opportunities Amidst Debris



Also A Precursor to Recovery: Debris Removal Increases Space for Shelter Activities



Shelter as a Survival *and* Production Platform





Growing Onions
INSIDE a Tent!

ECONOMIC IMPACTS OF SHELTER

- Greater Than Anticipated
- Shelter a Primary Means of Implementing OFDA Mandate's "Third Phrase"
- Can "Jump-Start" Affected Settlements
- Can Lead Transition to Reconstruction



Transitional Shelter in Goma



Project Economic Impacts...

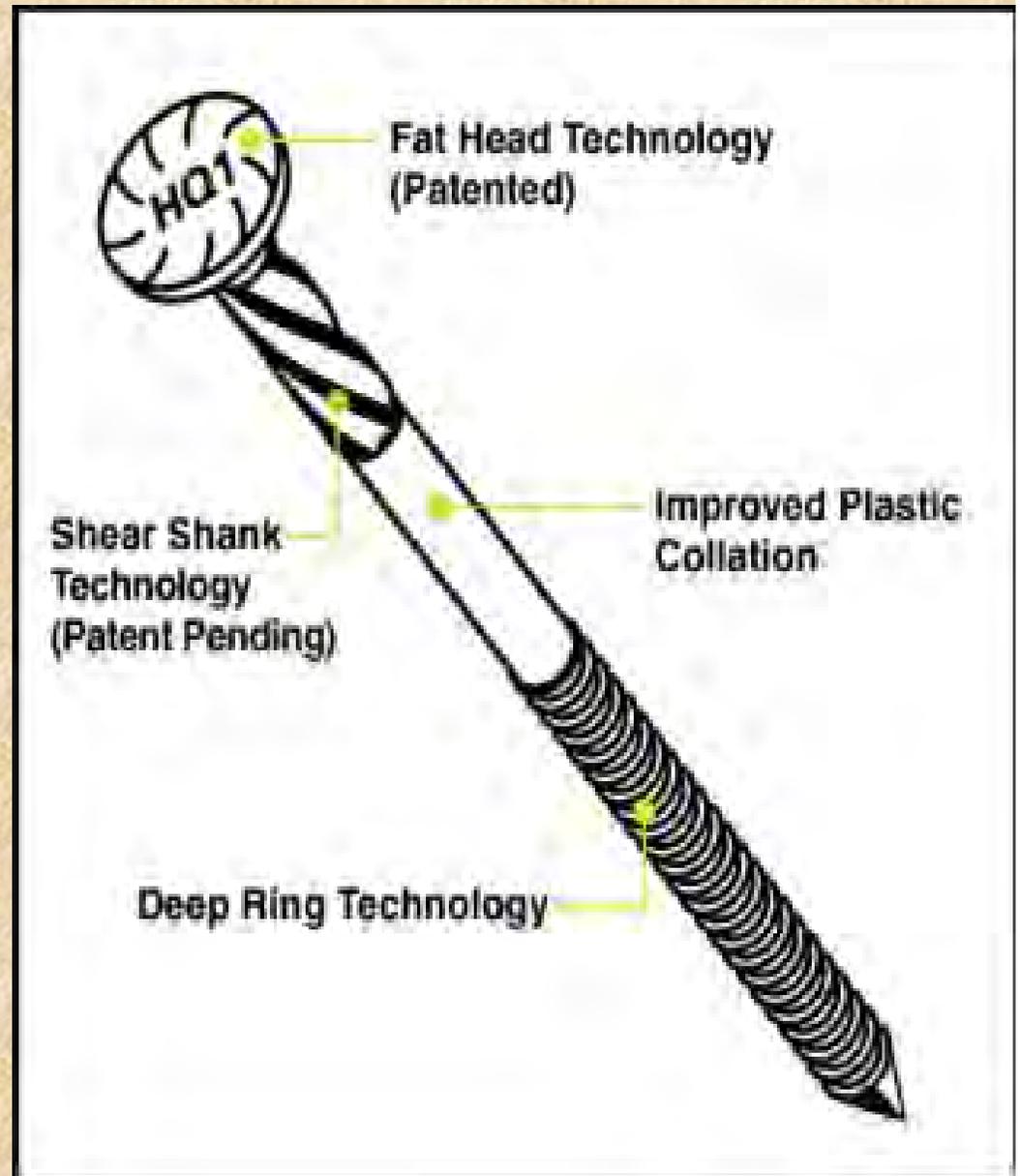
- 45,000 person-days of reconstruction work through beneficiary family hiring
- 270 jobs created in building materials and household goods supply
- 3,300 jobs created through home-based enterprises
- 5,010 total jobs, or about 1 per shelter
- Each shelter, costing \$445, stimulated community investment of an additional \$164/shelter in 1st year = 37% of cost



**LIVELIHOOD REALITY:
"Egg Crate" Brick-making Machine**

LIVELIHOOD IDEA:

Promote
Fabrication
of Wind/EQ
Resistant
Nails



KEY POINTS

- **In Addition to Responding to Shelter Needs, Shelter Provision is a Major Tool in Reducing the Economic and Social Impacts of Disasters** (*Remember the "Third Phrase"*)
- **Livelihoods are not only Rural, or Ag**
- **Shelter Activities are Livelihood Magnets, Generating More per Dollar Than Any Other Sector**
- **Livelihood Opportunities Abound in New Strategies, New Tools, and New Products**



SESSION 1.4: *Host Family and Community Support*

Presenters Include:

- **CHF/Georgia**

HOSTING IS "STEALTH" SHELTER; OFTEN OVERLOOKED

Two Basic Forms

- *Socially defined*, based on family, friends, neighbors, etc., and
- *Economically defined*, often among strangers, i.e., market-based rent support.

HOSTING: "STEALTH" SHELTER

Rationales in Favor

- Socially defined, based on family, friends, neighbors, etc.
- Usually commences before humanitarians arrive on the scene
- Cost-effective, flexible means of sheltering
- Buys time for longer-term solutions to emerge, and
- Often transitions to permanent shelter.

HOSTING: "STEALTH" SHELTER

Rationales Against

- Economically defined, often among strangers, i.e., market-based
- Rent transactions often subject of abuse
- Evictions after payment common, generating more displacement
- Protection issues emerge more readily in non-family/friends settings
- Host country governments often claim that hosting support undermines "national social solidarity"; often a ruse direct support to structure-based assistance.

HOSTING: HOW PROVIDED?

Typically...

- Develop a notional package of needs-based assistance, based on cost of basic physical repairs, WASH upgrades, mattresses/bedding, kitchen pots and utensils, food, fuel, etc.
- Assign a cost to total package
- Apply package (and costs) on an as-needed basis, rather than one-size-fits-all, and
- For host communities, school, market, health post, water system repair/expansion.



**Repair &
Upgrading
of Extra
Space**

Converting Storage to Shelter

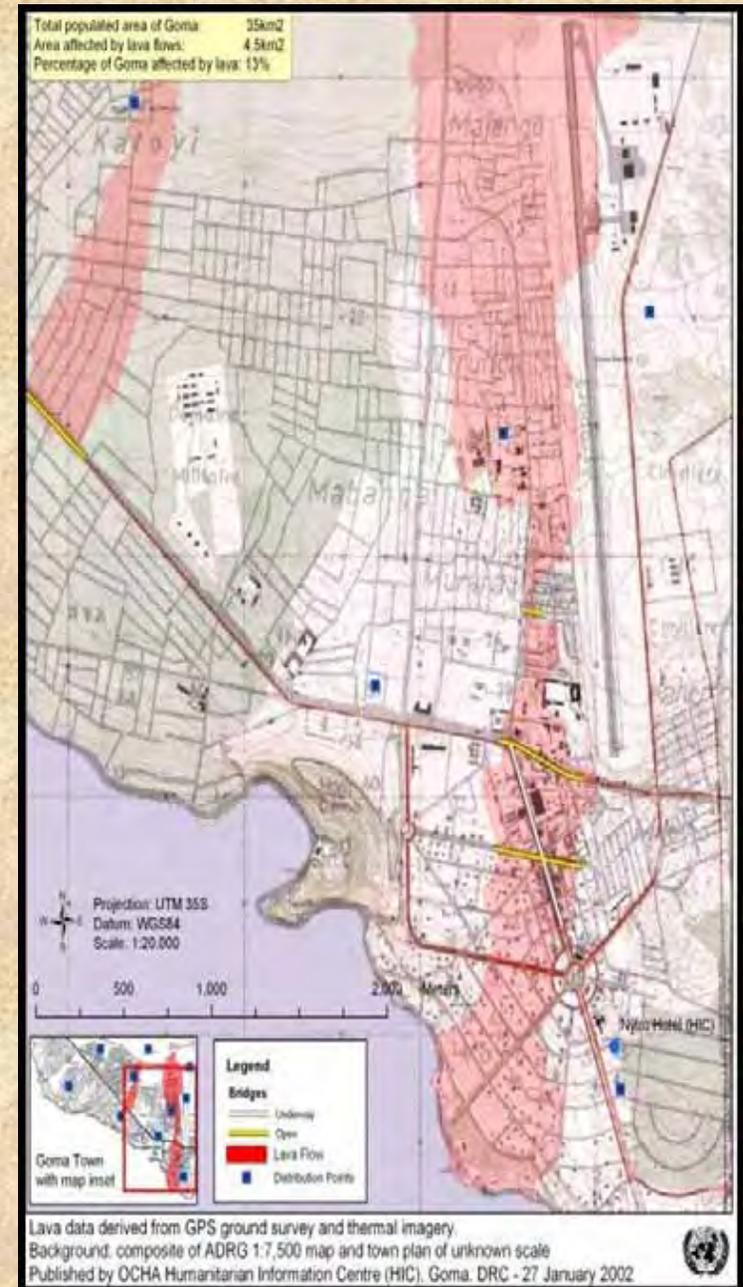




Converting Sheds to Shelter



GOMA VOLCANO, '02
13% of the city, or
1.8 sq. miles,
covered by lava in
less than a day



**Destroying
up to 15,000
Houses**



But Where to Respond?



- **Do Nothing?**
- **Move City to New Site?**
- **Move People Out of Region?**
- **Move People West?**
- **Move People into Camps?**
- **Opt for a "City-focus"?**



**“City-focus” to Promote
Hosting and Livelihoods**

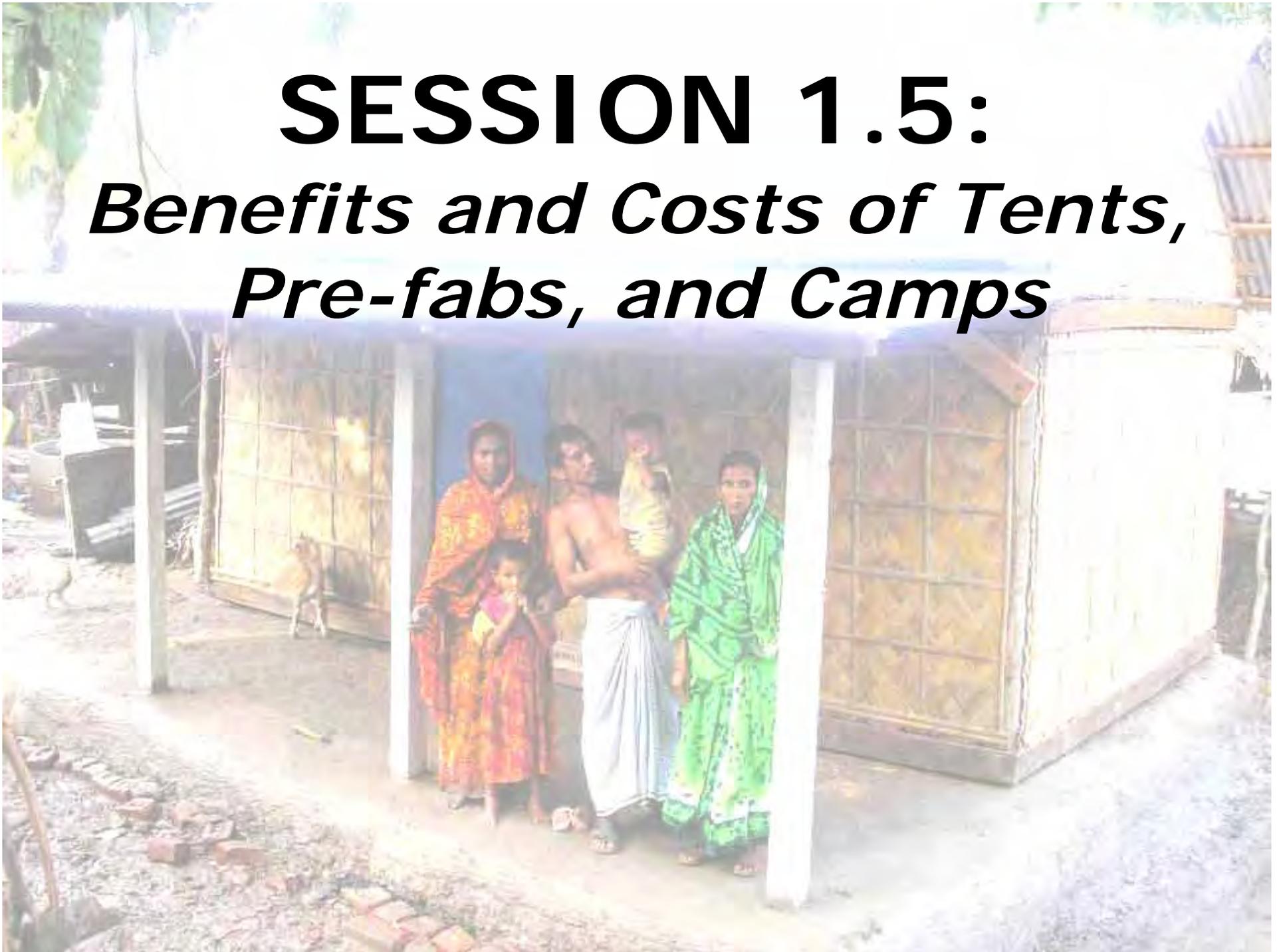
- Displaced didn't want to leave city, or live in camps
- 87% of city not covered
- Only area with services
- Shelter Density = 8 du/ac
- If all displaced sheltered in city, density = 10 du/ac
- 75% of Displaced Living with Host Families
- Would concentrate livelihoods

Other Reasons...

- **Safety in Numbers; Better to be with Family and Friends in Face of Insecurity**
- **City Hall Officials Backed by Rwandans; Viewed as Occupying Force, Not Trusted, and Another Reason Why Affected Did Not Want to Leave Goma**

SESSION 1.5:

Benefits and Costs of Tents, Pre-fabs, and Camps



- 
- **Tents & Camps: Often Inseparable**
 - **Camps VERY Expensive to Build**
 - **Camps VERY Expensive to Operate**
 - **Camps Can Become Cities**
 - **Tents Typically Not Large Enough**
 - **Good Tents Expensive**
 - **Pre-fabs Often More Expensive**
 - **Winterizing Still a Costly Challenge**
 - **Local Options Familiar/Modest Cost**

Damage is Not Spelled

N-E-E-D...

(You cannot divine needs from rubble!)

...and

Need is Not Spelled

D-A-M-A-G-E

(The home's fine, but you may not be!)

...and

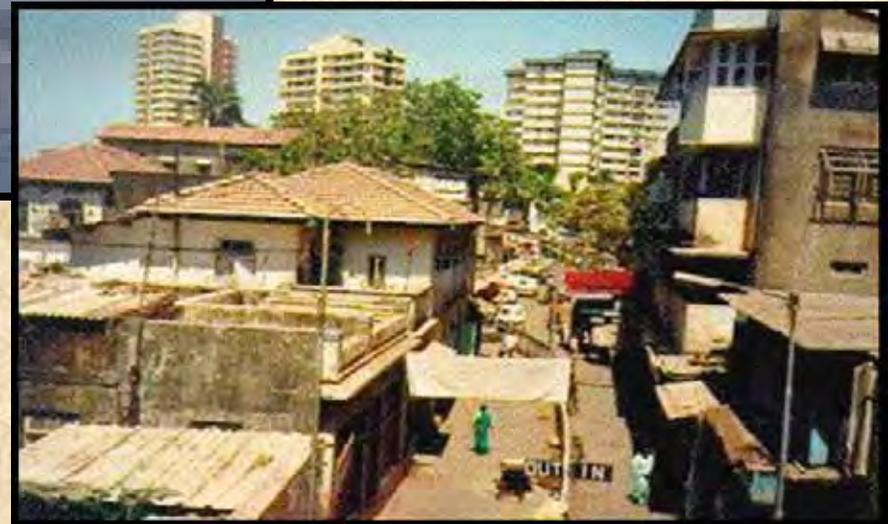
Need is *Definitely* Not
Spelled

**C-A-M-P, T-E-N-T,
OR P-R-E-F-A-B**

CONCEIVING THE SECTOR: Ambulance Chasing...



... or "Market"
Analysis??



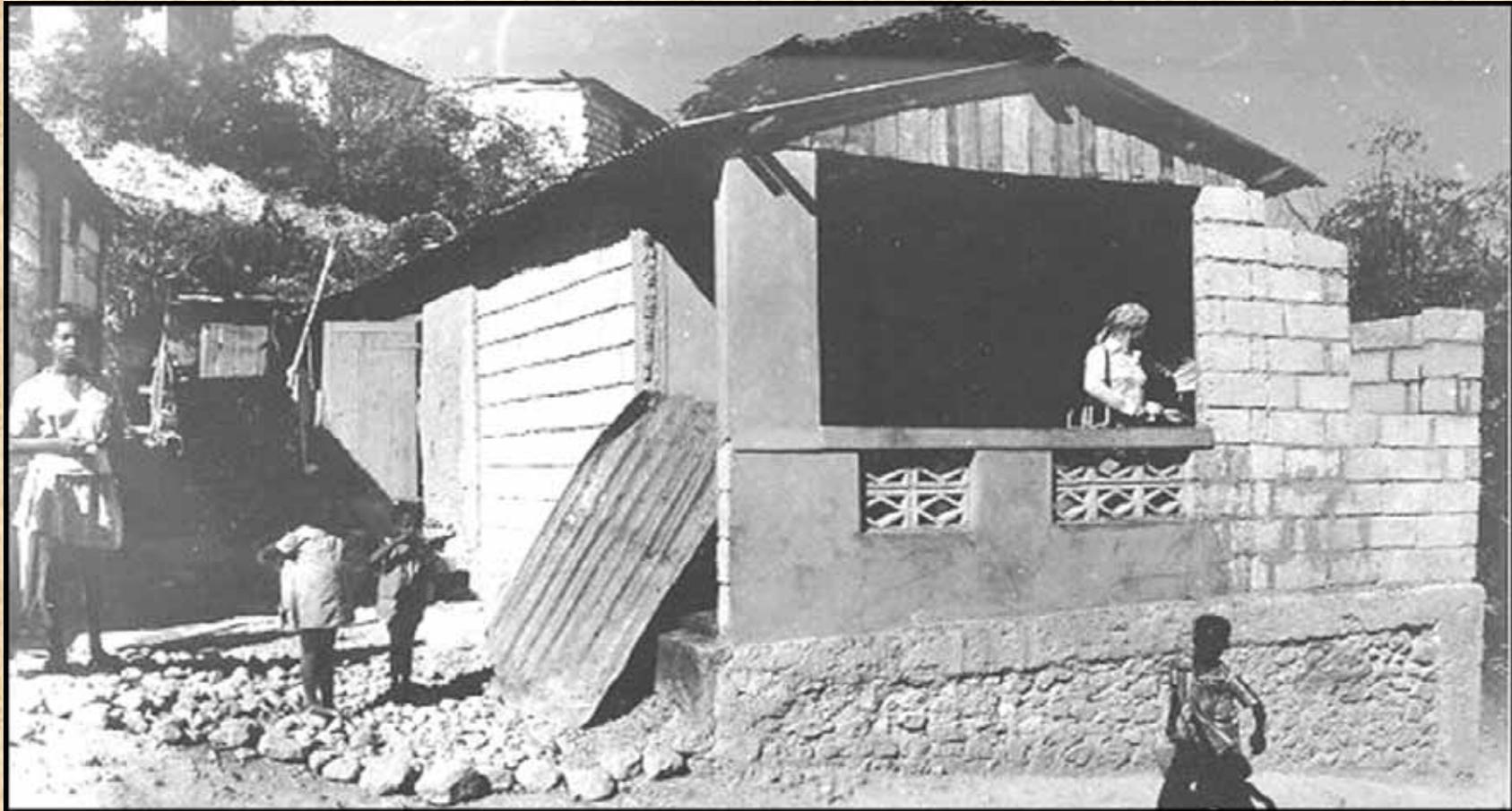
Part of a Damage Profile??



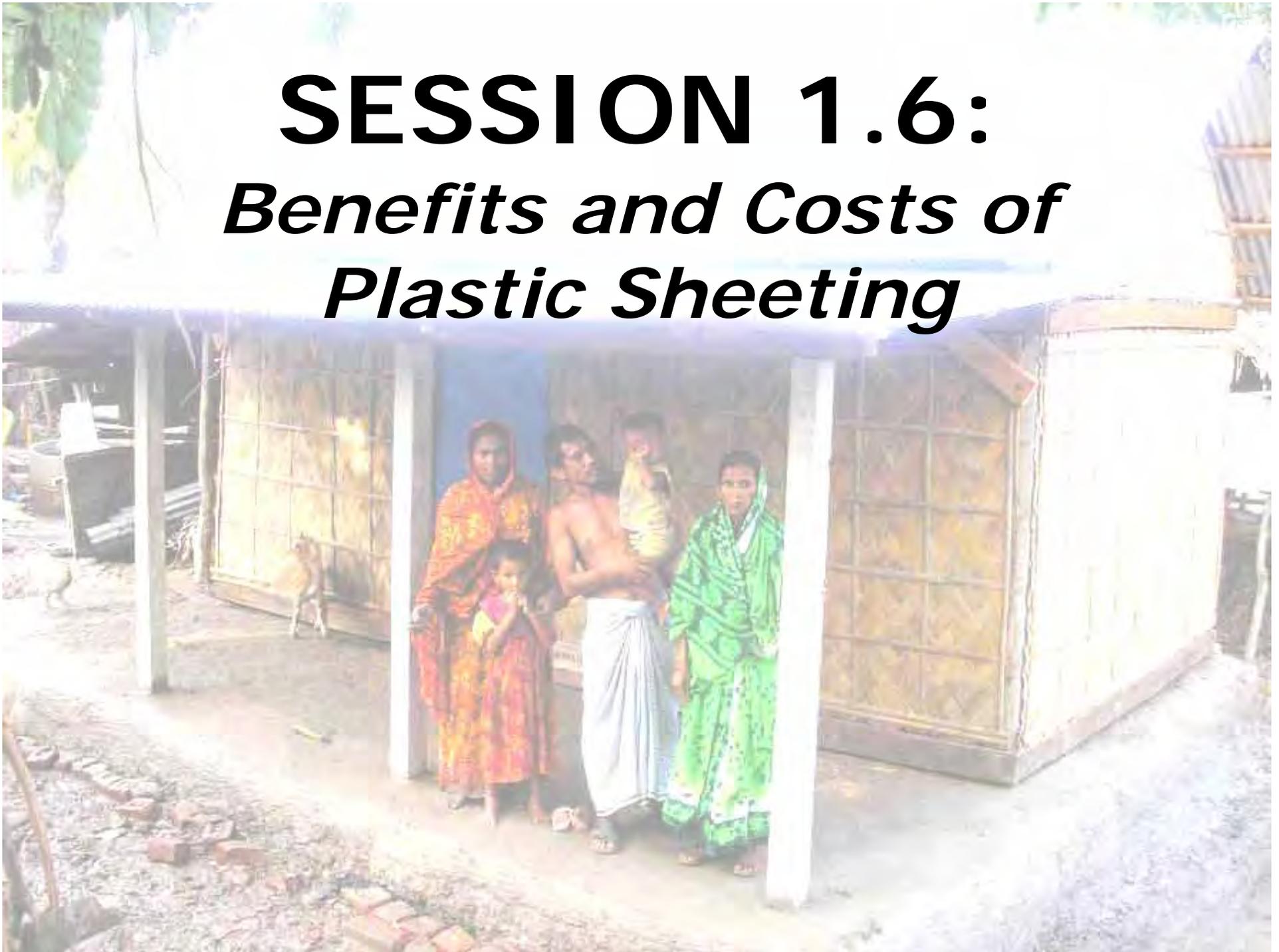
Damage Profile?



Damage Profile?



SESSION 1.6: *Benefits and Costs of Plastic Sheeting*



Some Upsides of Plastic

FLEXIBLE: Can be used in a variety of ways (e.g., roofs, walls, floors, doors, group facilities, etc.)

DURABLE: Continuous use for up to two years, in most conditions

COST-EFFECTIVE: When used judiciously, less than \$30-40/HH

USER-FRIENDLY: Well-received in most locations; does not require special skills to use.

Some Downsides of Plastic

FRAMING: By itself, not very useful

DURABLE: Once provided, no further need of assistance??

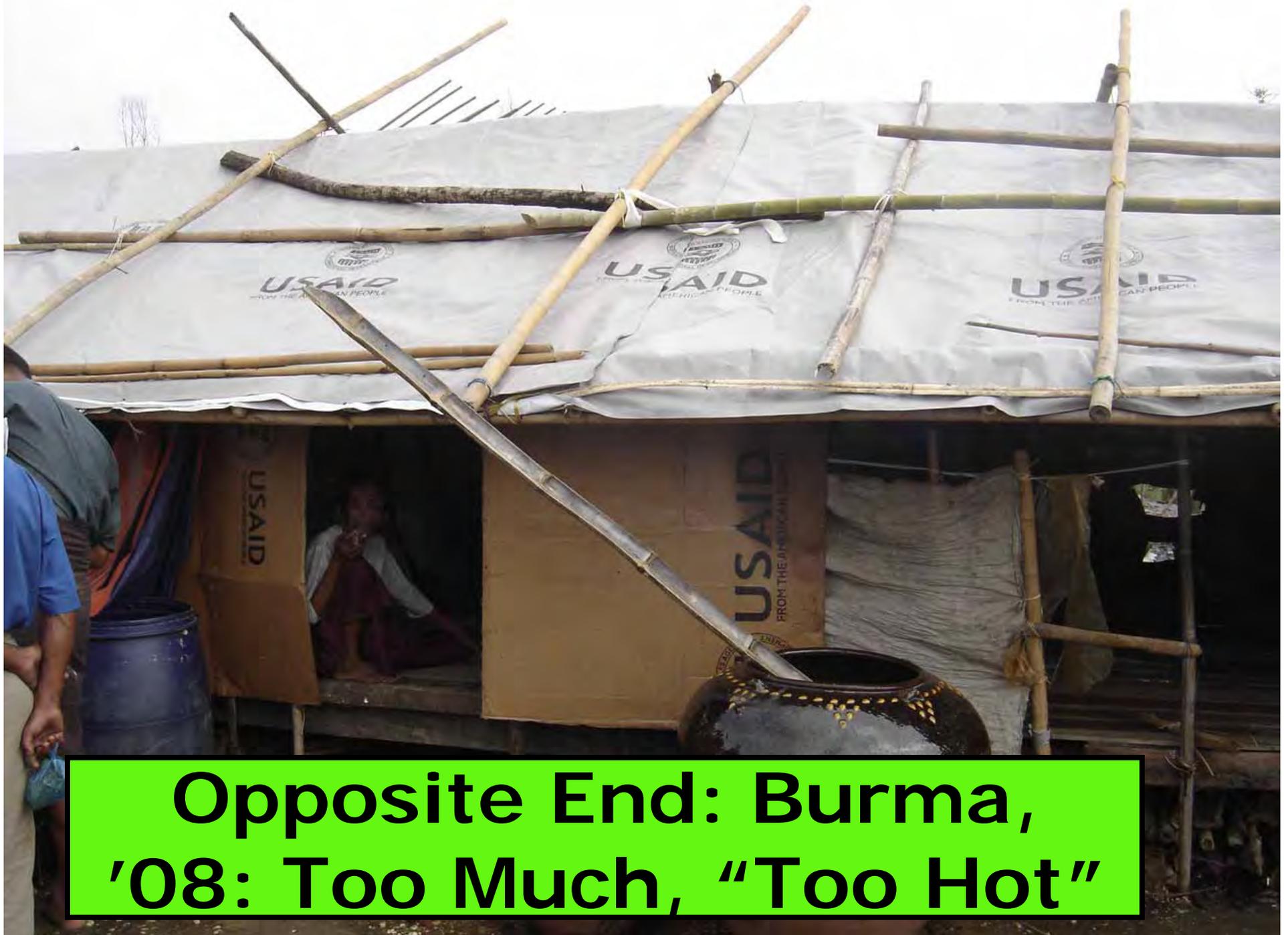
FREE GOOD: Viewed by many IPs and others as cost-free, thus no incentive to use efficiently

NOT USER-FRIENDLY: Poor insulator; lets heat and cold in. Performs poorly in cold weather

METRIC: Only OFDA Sheeting is non-metric; difficult for logistics/handling/use in metric world. (But we're changing!)

**Again,
Sheeting Alone is NOT Shelter**





**Opposite End: Burma,
'08: Too Much, "Too Hot"**



**Sheeting Shelters:
Typically Inappropriate**



**Sheeting Shelters,
El Salvador, '01**

Sheeting Shelter Considerations

Sheeting shelters are typically quite small. One model was approx. 92 sq. ft. (8.6 sq. m.), good for 2.5 persons, based on SPHERE PROJECT guidelines. We guarantee overcrowding, lack of privacy, with these types of interventions

Providing SPHERE-compliant sheeting shelters with living area for 5-6 persons all but guarantees \$100-\$150 sheeting cost per shelter, *before any other cost is included*

All-plastic shelters perform very poorly in warm weather; hard to insulate in cold weather

OPTIONS?



**Sheeting as Supplement in
Transitional Shelter, Java**



**Sheeting as Supplement,
Pre-Tile, T-Shelter, Java**

Sheeting as Supplement, T- Shelter, Sri Lanka



Sheeting as Supplement, T- Shelter, Peru





**Sheeting as
Supplement,
T-Shelter, Peru**

Shelter is Not Spelled

**P-L-A-S-T-I-C
S-H-E-E-T-I-N-G**

SESSION 2.2: *Incorporating DRR Into S&S Activities*





**ONCE AGAIN, If You Don't
Think Shelter Is
Important...**

The Mandate for DRR

- Mandate: Save Lives, Reduce Suffering, and *Reduce the Economic Impact of Disasters* (OFDA's "Third Phrase")

DRR is part and parcel of our mandate!

DRR Defined

Actions intended to minimize the adverse impacts of hazards, through avoidance (via prevention) or limitation (via mitigation and preparedness), within the broader context of recovery and sustainable development.

De-mystifying DRR: It's *NOT NEW!*

- "A stitch in time saves nine."
- "An ounce of prevention is worth a pound of cure."
- **ANY OTHERS???**

WHY DO DRR?

- Pure and simple, if we don't engage in DRR, we're not supporting OFDA's mandate. Instead, our (in)actions may well reduce lives, save suffering for another day, and increase the economic impacts of disasters
- Can reduce relief costs (Kinshasa)
- We have to; it's the law!

How Do We Do DRR?

- Incorporating DRR Thinking into relief projects
- Developing stand-alone DRR Projects
- Developing DRR Programs (project packages)

WHEN DOES OFDA "DO" DRR?

- **BEFORE** a Disaster
- **DURING** a Disaster
- **AFTER** a Disaster

Therefore, ALL THE TIME!

An aerial photograph of a city, likely Lima, Peru, showing a dense urban area with a prominent skyscraper and a large stadium. In the background, there are mountains under a hazy sky. The text is overlaid on this image.

Hazards and Disasters are NOT the Same!

What's a Hazard?

- The potential occurrence of a natural process or human-caused event that can generate negative impacts.

What's a Disaster?

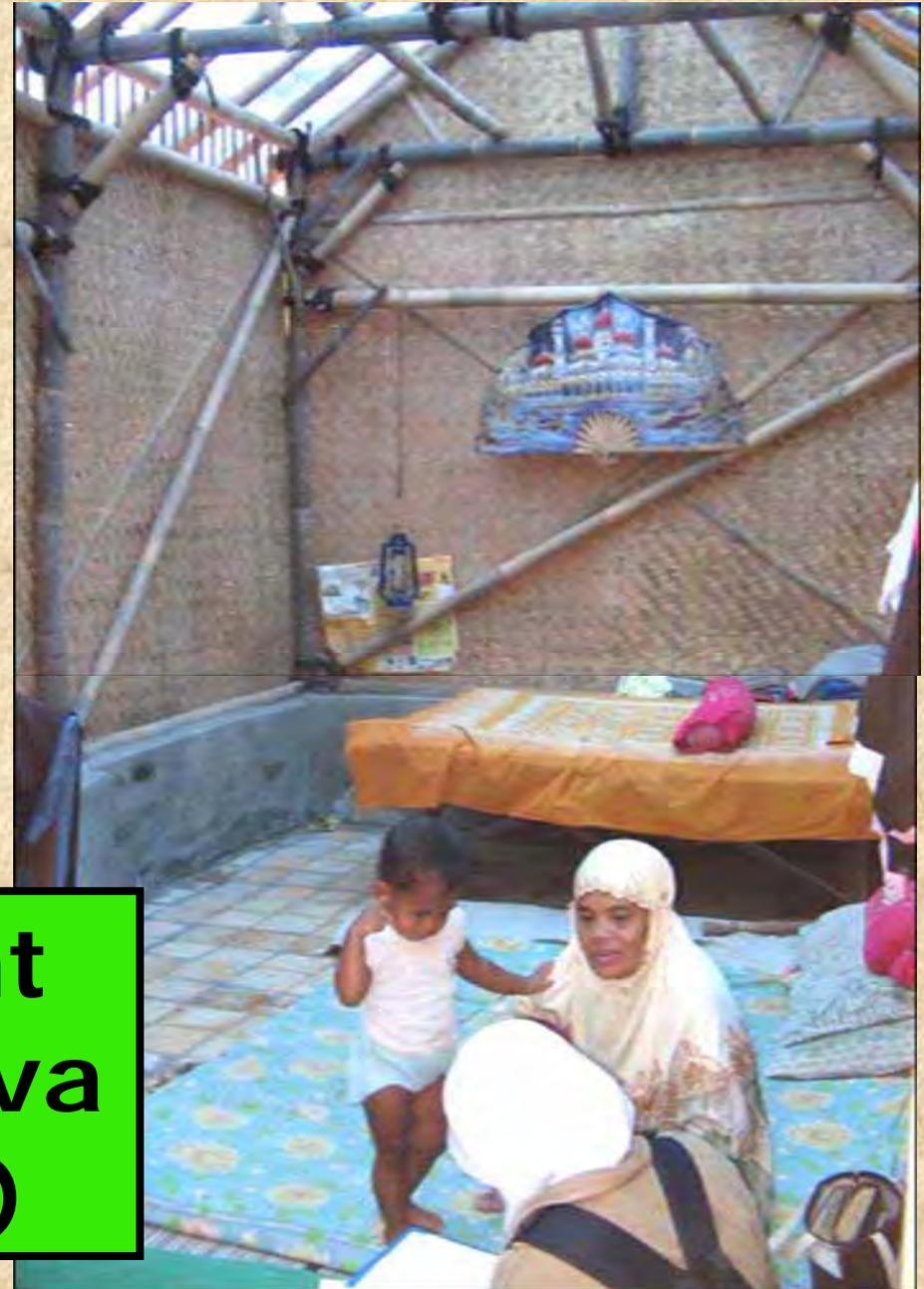
- A natural process or human-caused event which deprives people of life, health, livelihood, or property, with which the affected country cannot cope.



**Incremental Rebuilding
Begins Before “We” Arrive;
Support *and* DRR Needed**

2006 Central Java EQ

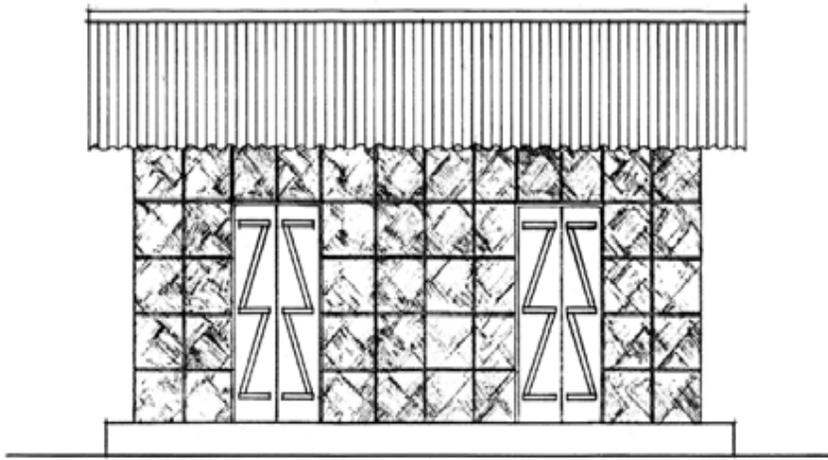
- Approx. 5,800 dead, 39,000 injured
- 359,000-578,000 houses damaged or destroyed, with at least **TRIPLE** the displacement of Aceh
- Lower end of range was 30% **GREATER** than Aceh total
- 36% of housing in most impacted area was damaged or destroyed; in Aceh 34%



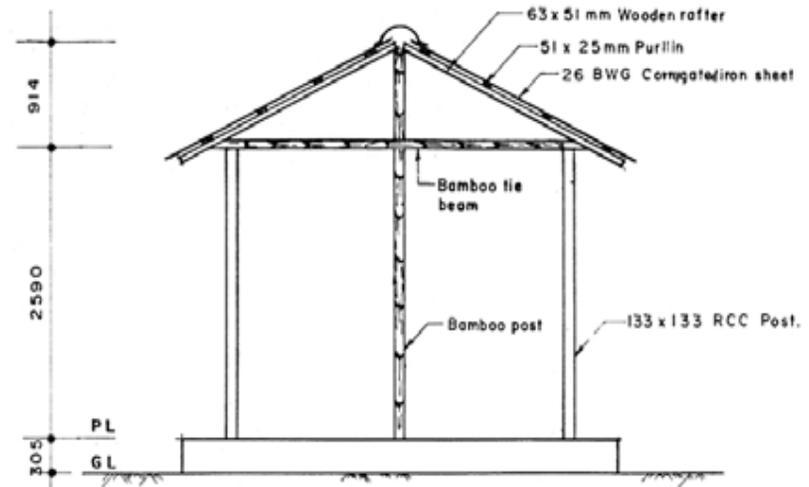
**EQ-Resistant
T-Shelter, Java
(\$210/unit)**



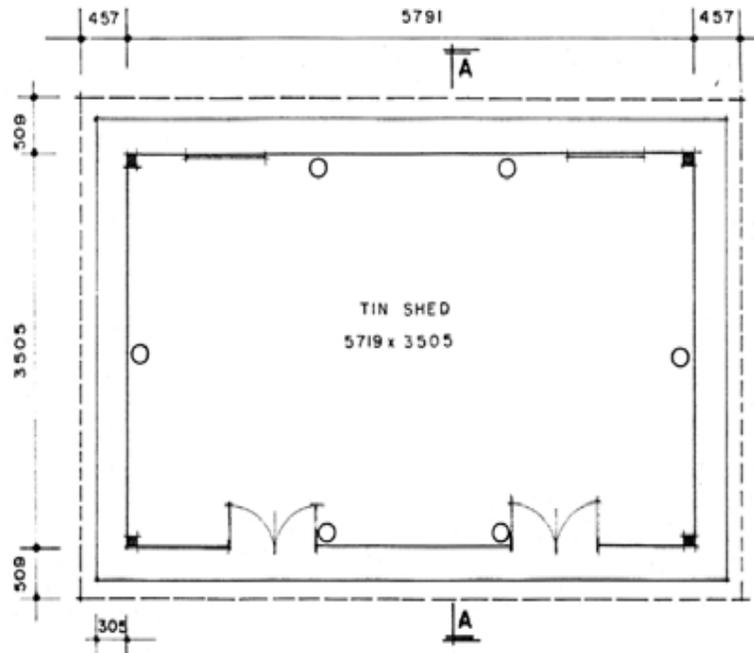
Cyclone Sidr, 11 '07



FRONT ELEVATION
SCALE 1:50

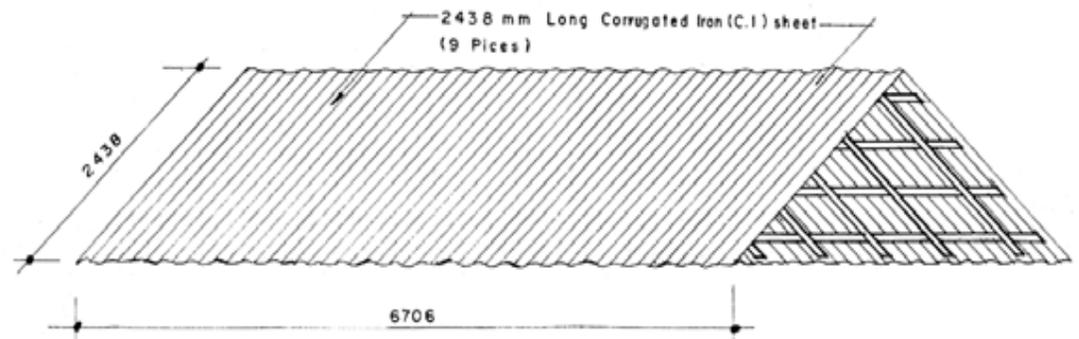


SECTION A-A
SCALE 1:50

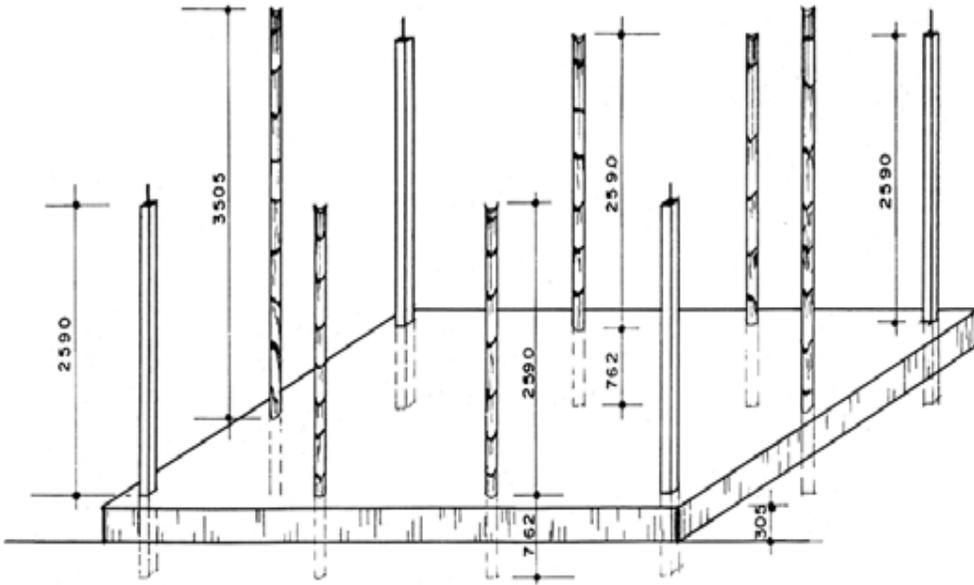


PLAN
SCALE 1:50

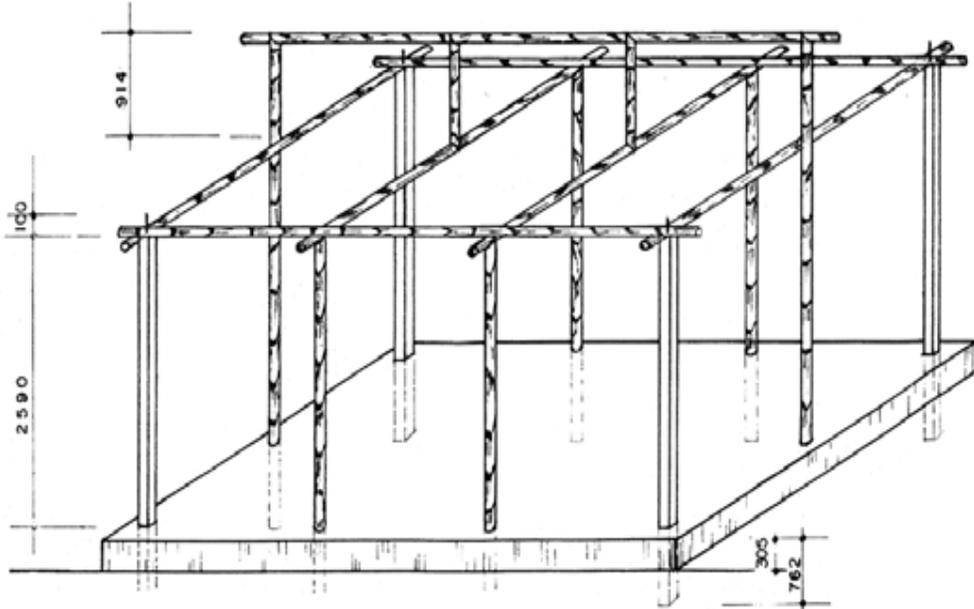
Basic GB Design



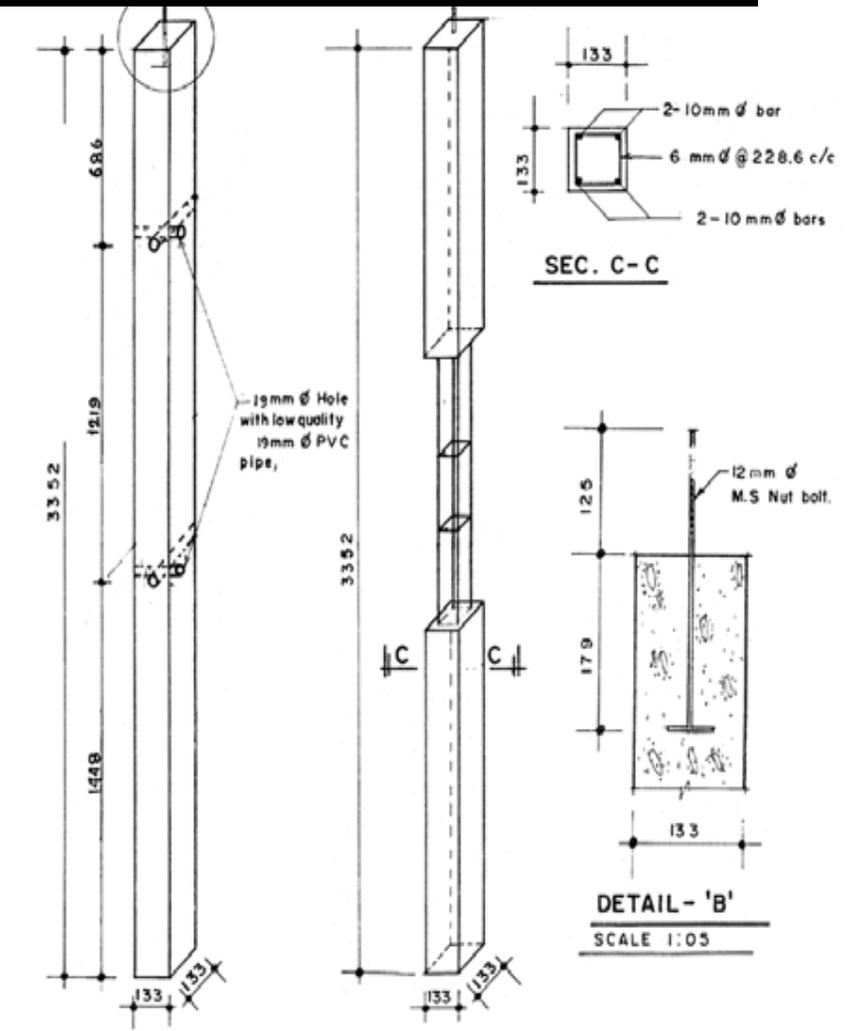
... ADAPTED



POSITION OF POST
SCALE 1:50



FRAME OF TIN SHED HOUSE
SCALE 1:50



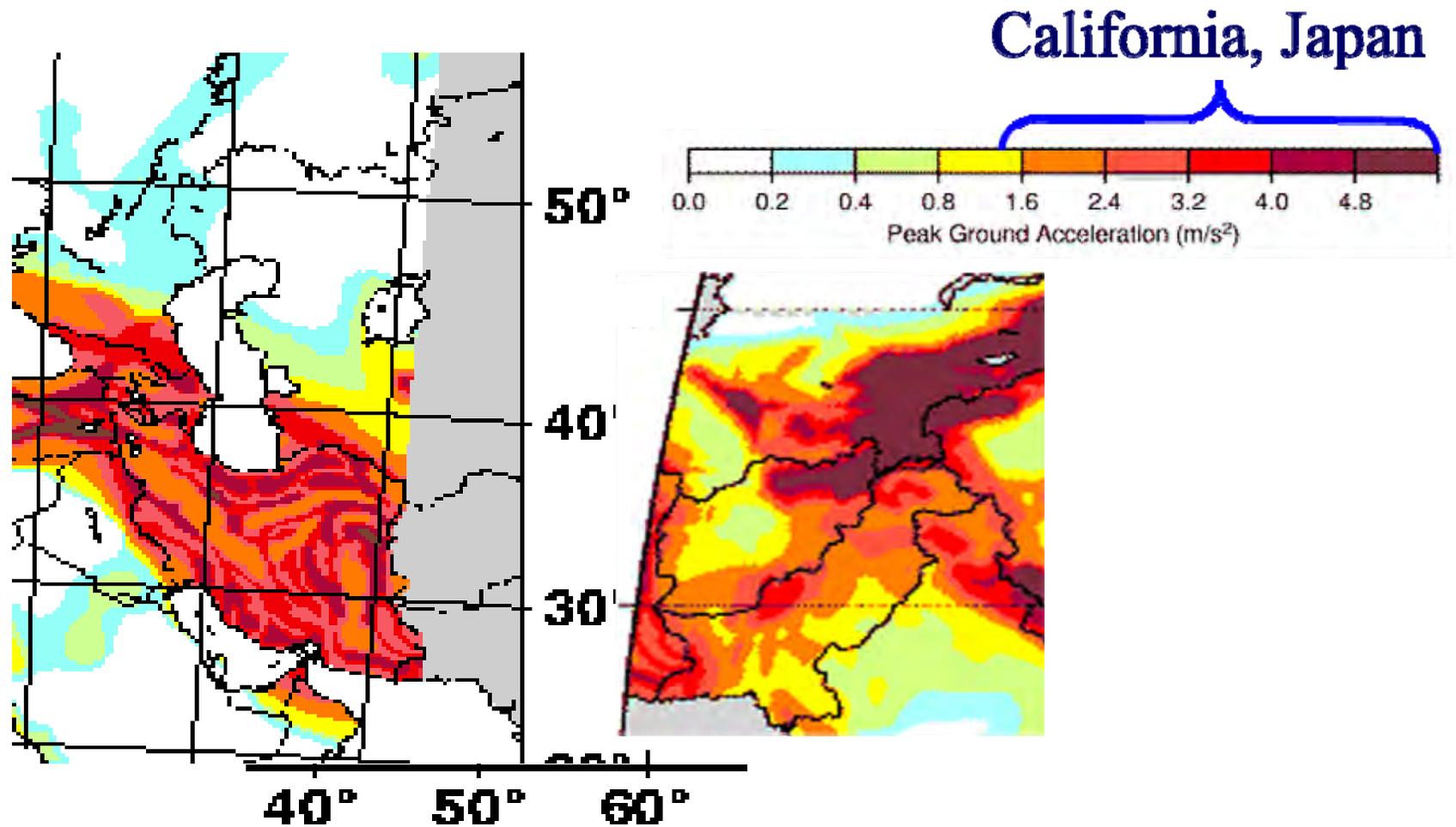
133x133 R.C.C. POST
SCALE 1:20

RE-BAR DETAIL OF R.C.C. POST
SCALE 1:20

DESIGN BY : ASRAFUL HASSAN
B.Sc. Engr. (CIVIL)

Seismic Risk in Afghanistan

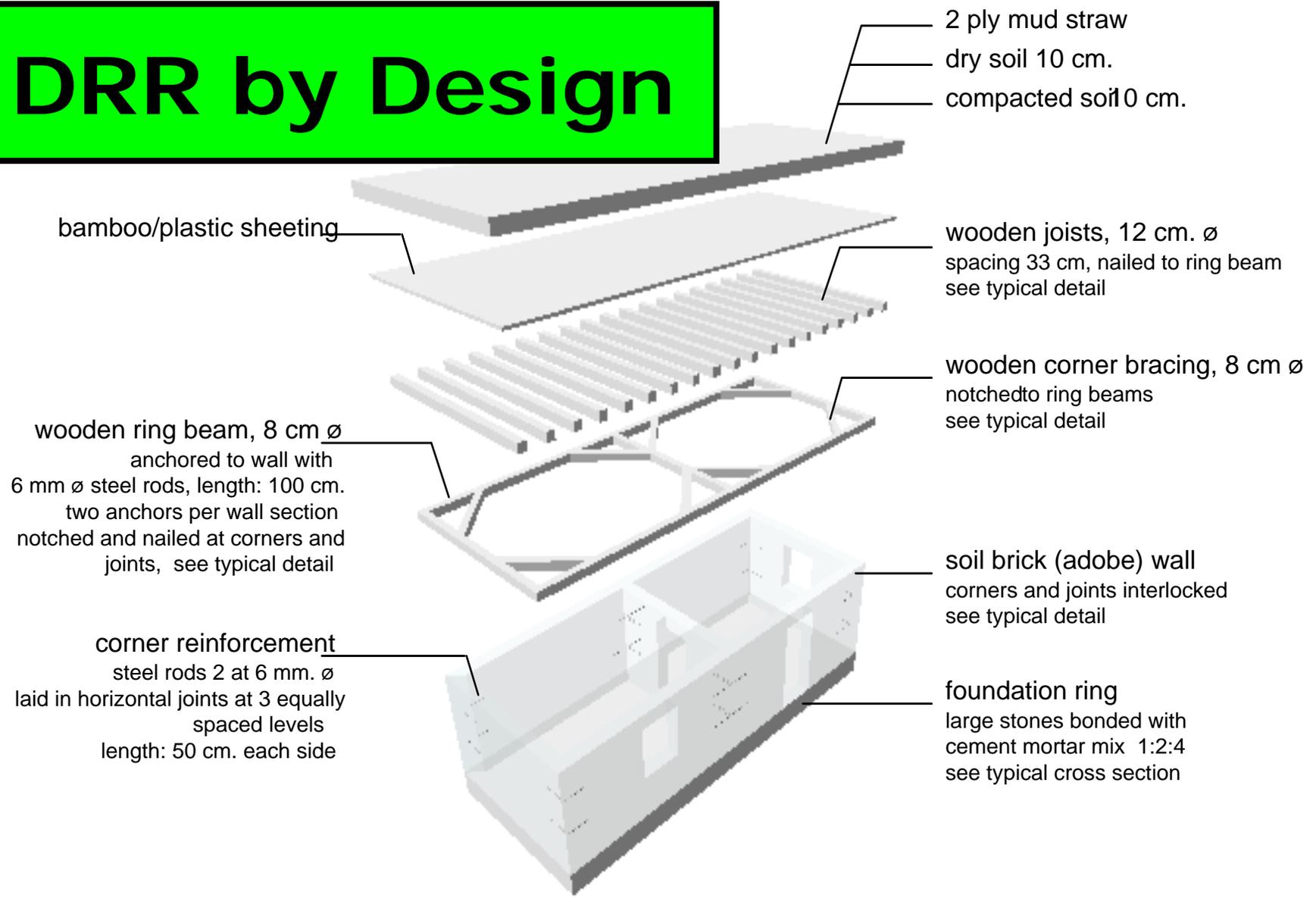
Higher Risk = Reds & Browns



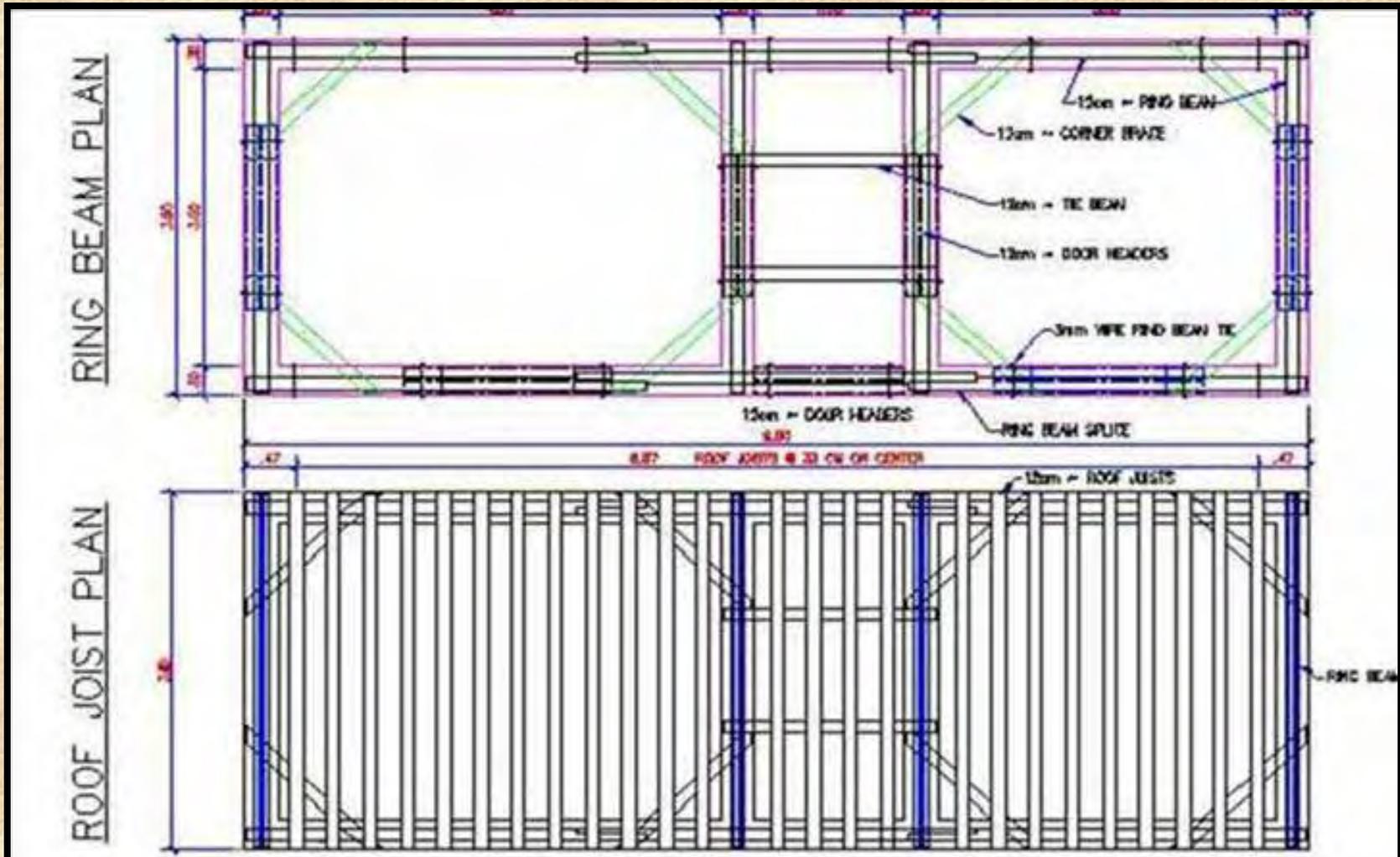


**A Response: Seismic-Resistant
Transitional Shelter**

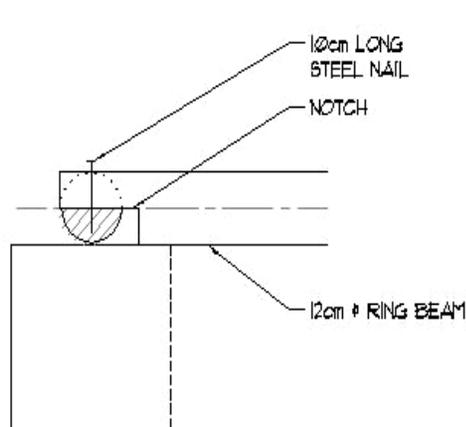
DRR by Design



*Per Sphere Project, 7 persons/HH, @ 3.5 sq.m. of
"covered living space"/person = 24.5 sq.m./HH*

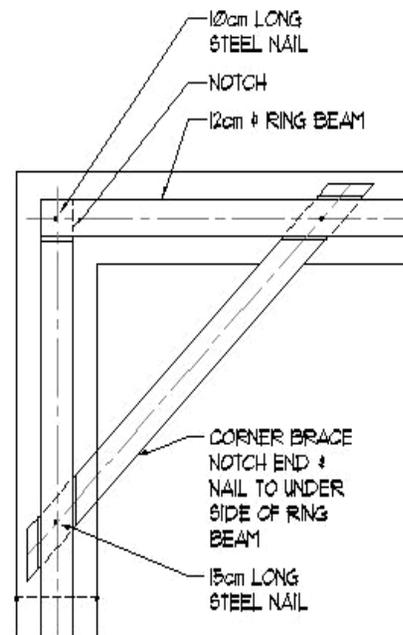


Protection & DRR in Action



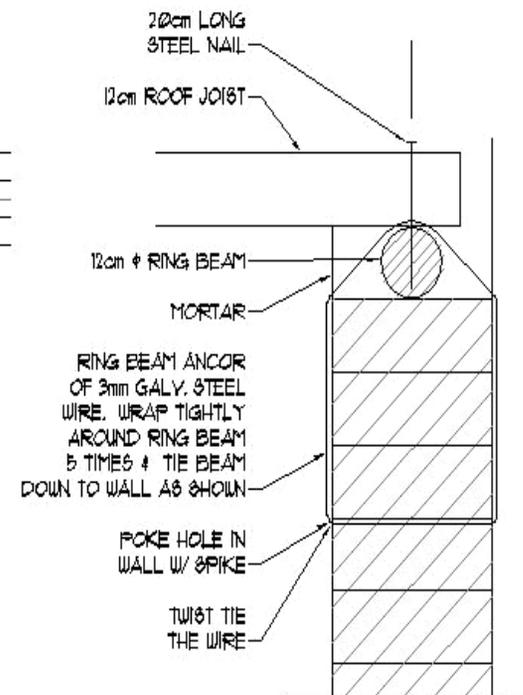
RING BEAM

SCALE: 1 : 12.5



CORNER BRACE

SCALE: 1 : 25

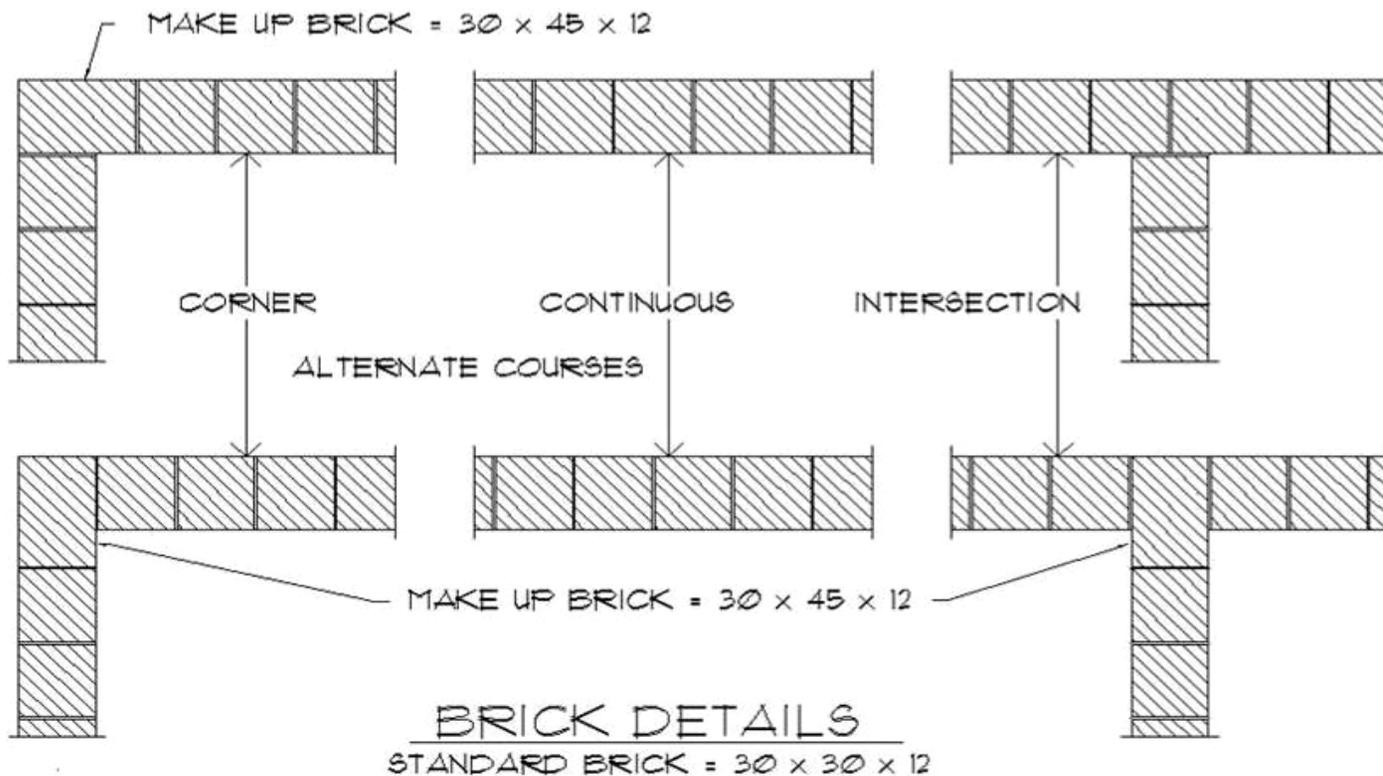


RING BEAM TIE

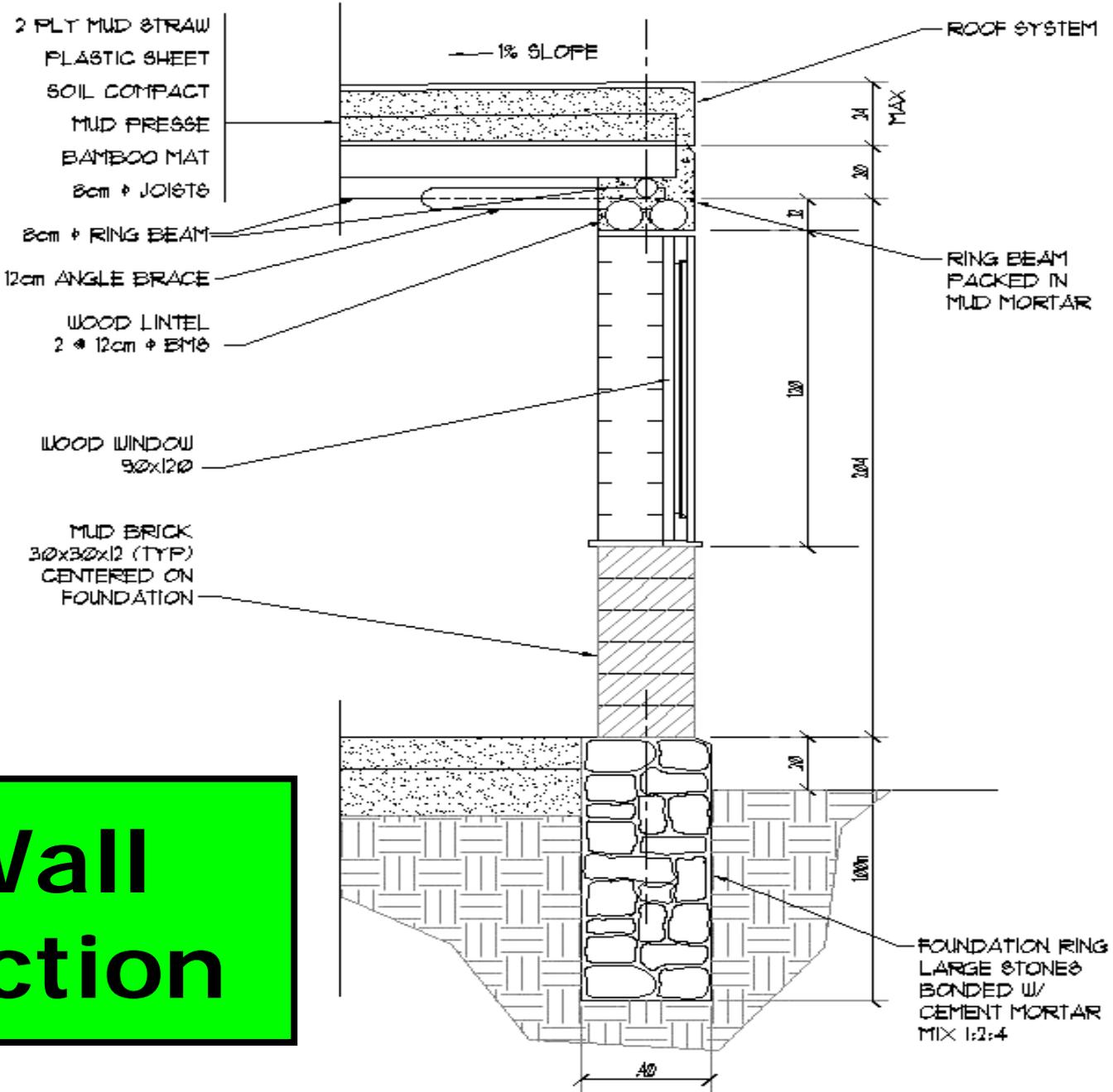
SCALE: 1 : 12.5

Detail of Connected and Braced Ring Beam, and Roof Tied to Walls

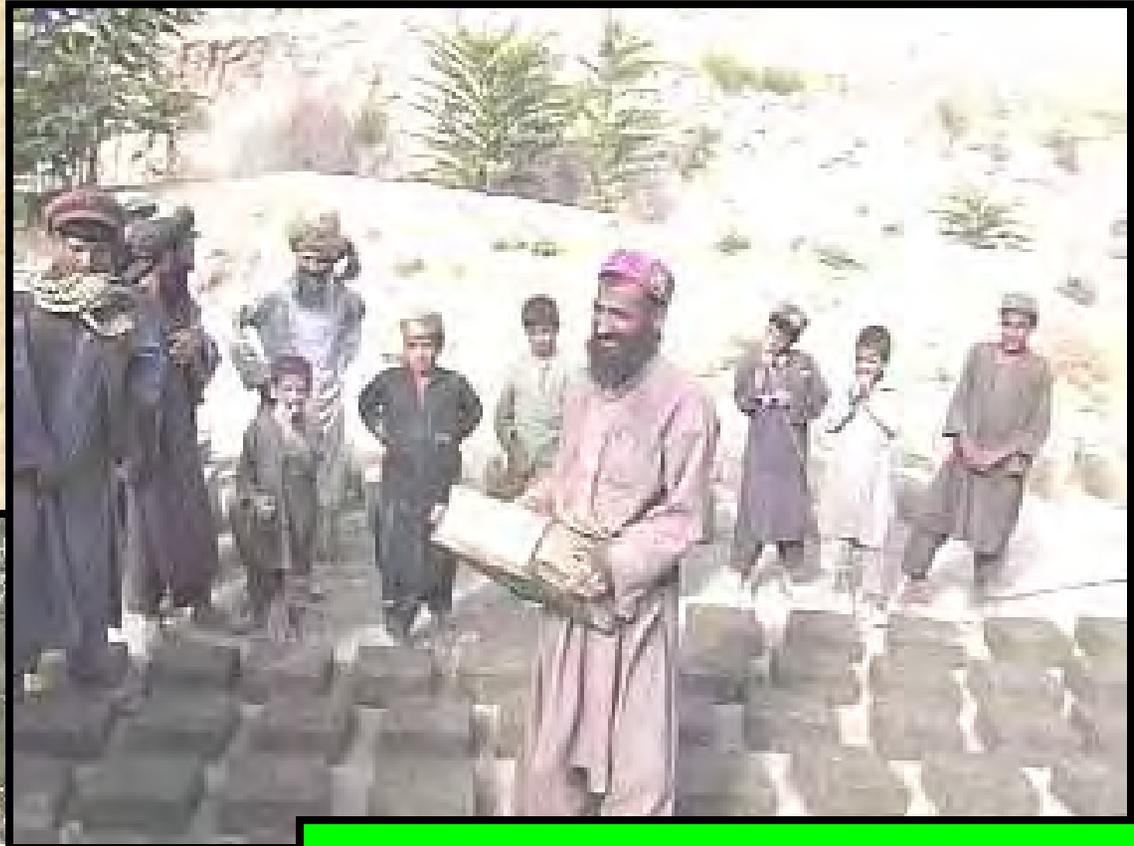
Detail of Bricks Overlapping in Successive Courses, Interior Walls Tied to Exterior Walls



Wall Section



DRR in Action



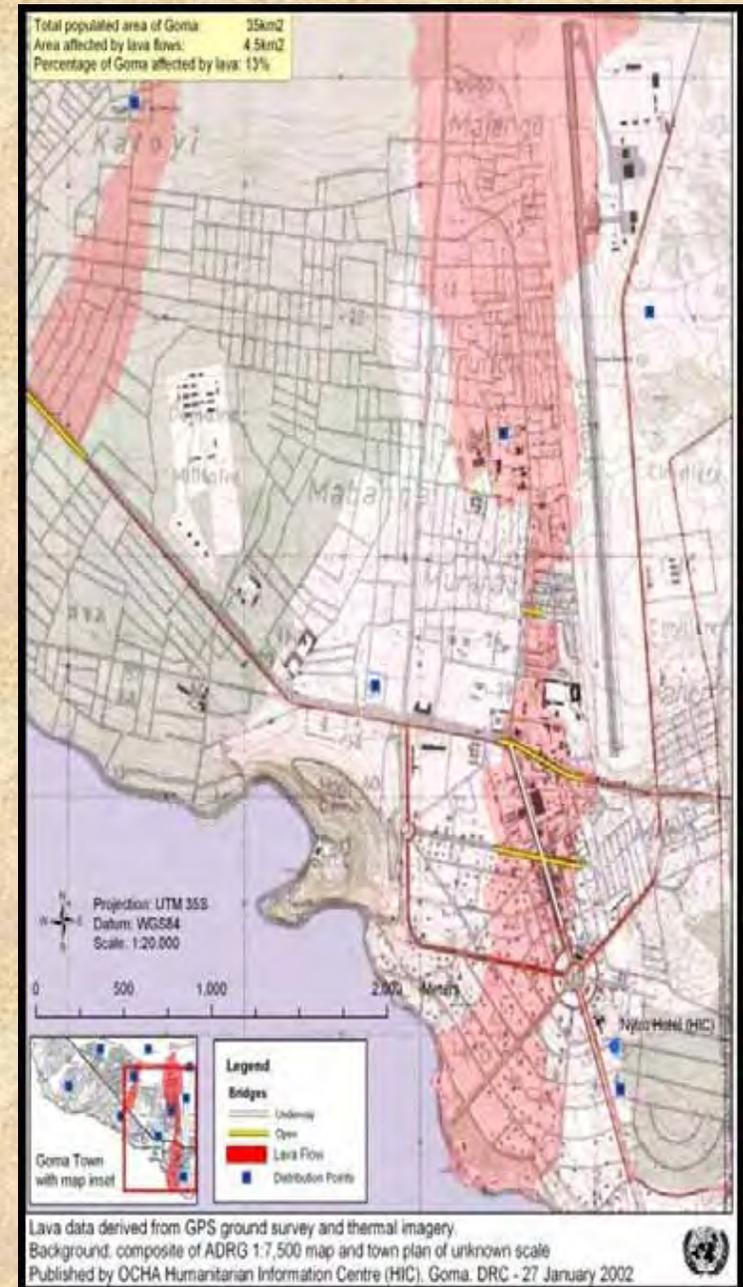
**Stone Foundation!!
Training in Block
Making and
Construction**

**Landslides Like This Indicate
Need for DRR at Structure and
Settlement Levels. In One
Project, 3 of 76 Villages, and
Portions of 20 Others, Moved**





The 2002 Post-Volcano Response in Goma, DRC: An Example of Multi-Level DRR



**Destroying
up to 15,000
Houses**



But Where to Respond?



- **Do Nothing?**
- **Move City to New Site?**
- **Move People Out of Region?**
- **Move People West?**
- **Move People into Camps?**
- **Opt for a "City-focus"?**

- 
- Displaced didn't want to leave city, or live in camps
 - 87% of city not covered
 - Only area with services
 - Could easily absorb needs
 - Would reduce risk if stayed

**"City-focus"
as
Settlements
Strategy**

At a More Micro Level...

- 5,000-HH transitional shelter project
- Two-year, community-based volcanic and seismic hazard mitigation program: "Learning to Live With Your Risk"
- Two-year support program to the "GVO"





Jumping Right In...

**Reducing Flood Risk
in Bamako, Mali**

Before...



... and After



Linking Flood Mitigation and Livelihood Generation



Linking Flood Mitigation and Environmental Management

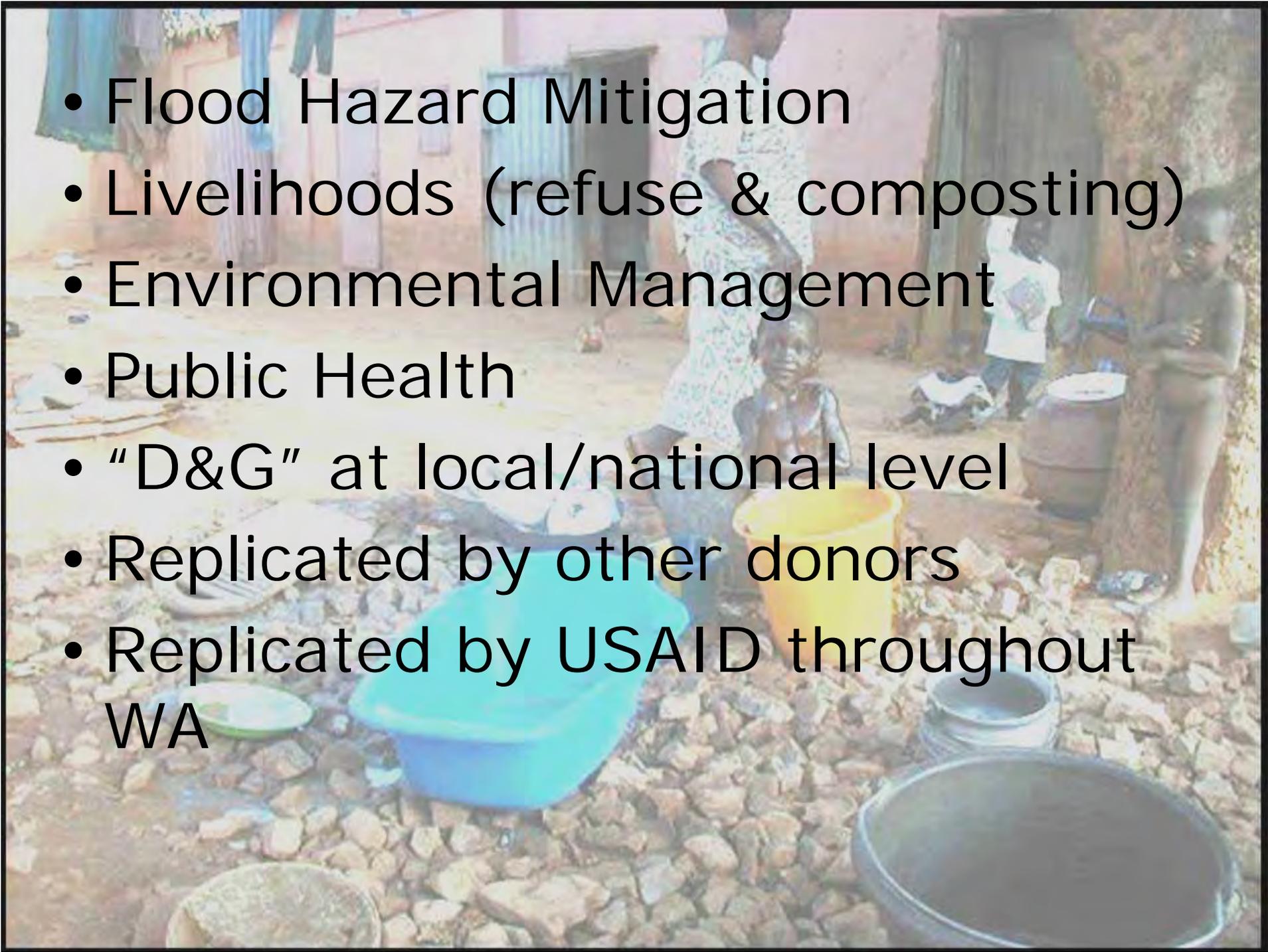


Linking Flood Mitigation and Public Health





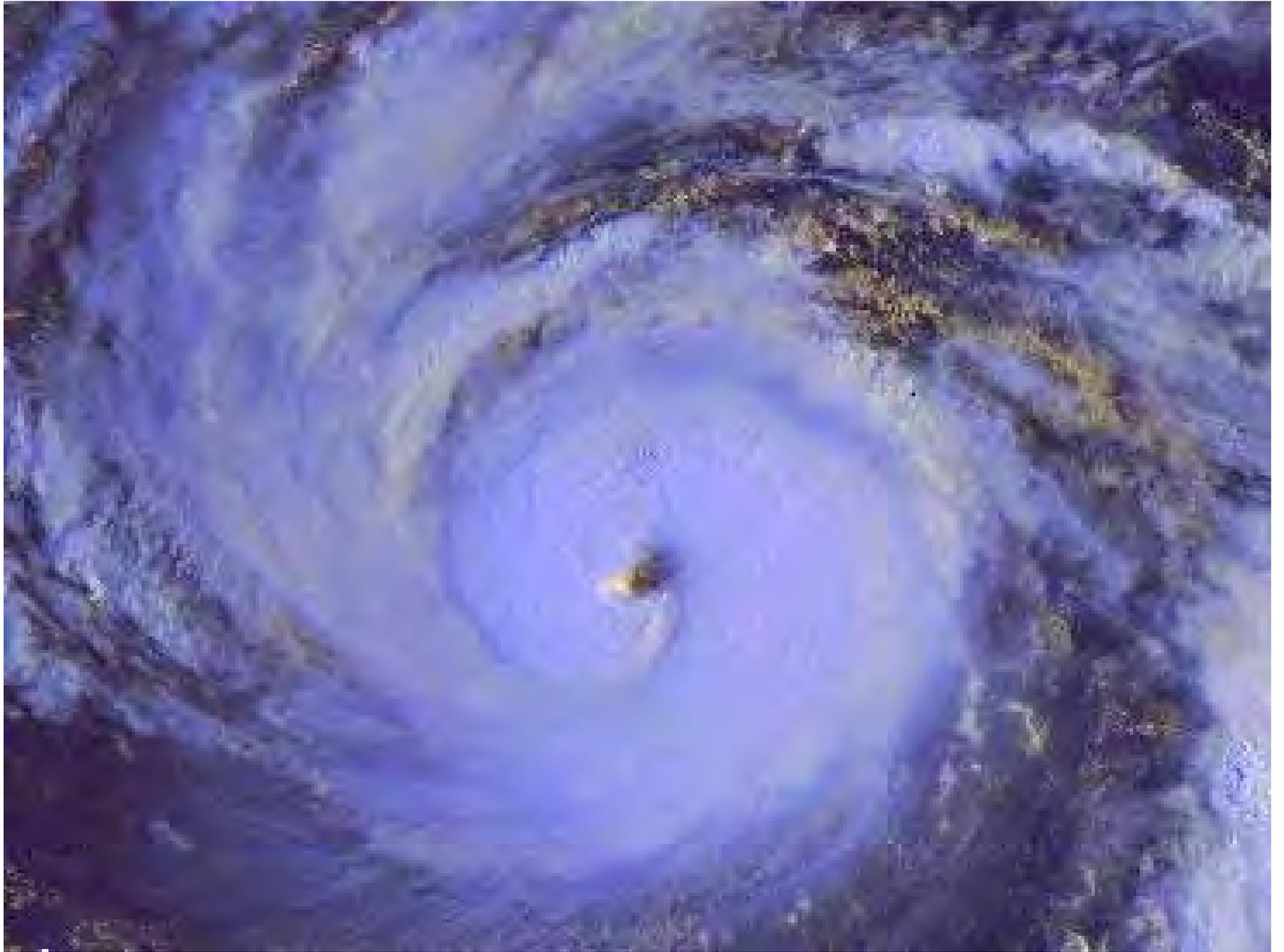
Look how CLEAN it is!

- 
- A photograph of a rural outdoor setting, likely a community area. In the foreground, there is a large blue plastic tub and a yellow bucket on a ground made of small stones. Several children are visible; one is sitting on the ground, another is standing nearby, and a third is in the background. A woman in a patterned dress is standing in the middle ground. The background shows simple buildings with corrugated metal roofs and laundry hanging on a line. The overall scene suggests a community engaged in a project, possibly related to water or sanitation.
- Flood Hazard Mitigation
 - Livelihoods (refuse & composting)
 - Environmental Management
 - Public Health
 - “D&G” at local/national level
 - Replicated by other donors
 - Replicated by USAID throughout WA

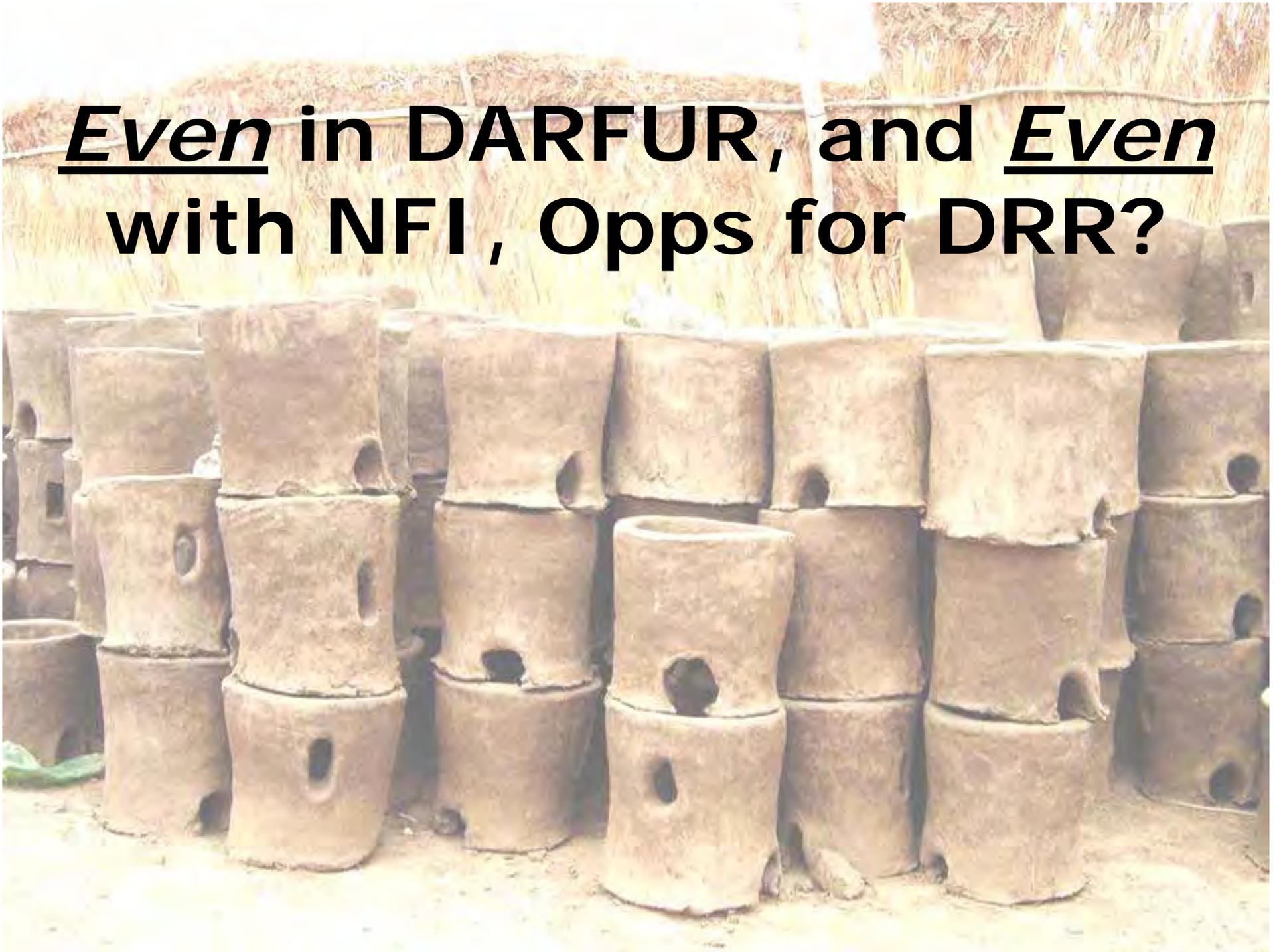
THE IMPACTS OF “HYDROMET” DISASTERS ARE NOT TRIVIAL

- From '98-'07, 2.77 billion affected, or 98.5% of total affected by natural disasters
- 2.77 billion = approx. 41% of global pop.!
- 867,000 people killed, or 84% of total killed by natural disasters
- \$805 billion in damages, or 85% of total caused by natural disasters

Source: WDR 2008, IFRCC



**Even in DARFUR, and Even
with NFI, Opps for DRR?**



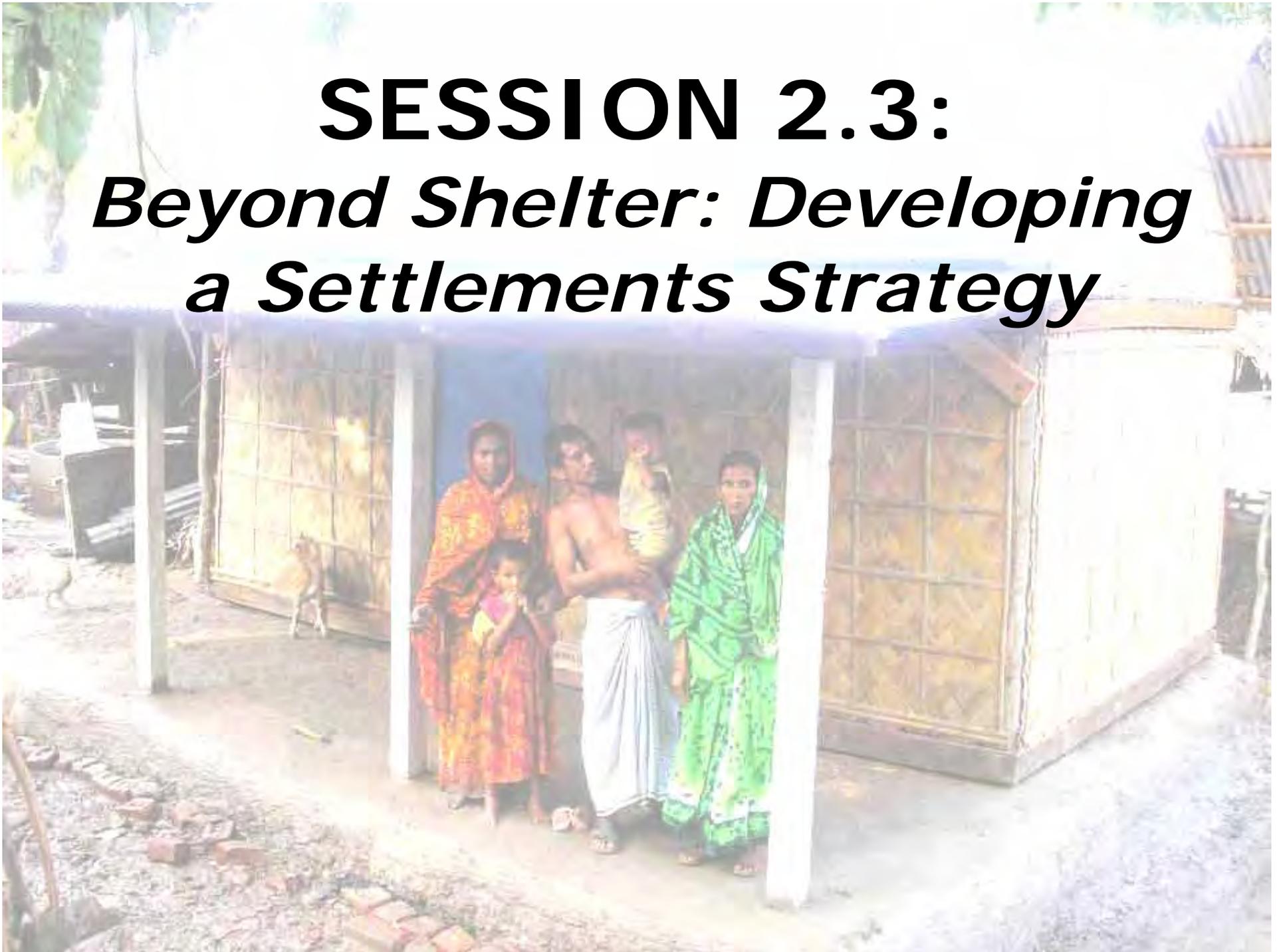
To Learn More on DRR...

- **InterAction**,
<http://www.interaction.org/disaster/riskreduction.html>
- **Provention Consortium**,
<http://www.proventionconsortium.org>
- **Provention Consortium**, *Tools for Mainstreaming Disaster Risk Reduction: Guidance Notes for Development Organisations, 2007*,
http://www.interaction.org/files.cgi/6460_tools_for_mainstreaming_DRR.pdf
- **United Nations International Strategy for Disaster Reduction**, <http://www.unisdr.org>
- **UNDP**, *Building Disaster Resilient Communities: Good Practices and Lessons Learned, 2007*,
http://www.interaction.org/files.cgi/6461_UNISDR_ngos-good-practices.pdf
- **World Bank** Disaster Global Facility for Disaster Reduction and Recovery, <http://gfdrr.org/index.cfm?Page=home&ItemID=200>

A photograph of a volcano erupting. A large, dark plume of smoke and ash rises from the peak of the volcano, filling the upper left portion of the frame. The sky is a deep blue, and the volcano itself is a dark silhouette against the lighter sky. The overall scene is dramatic and powerful.

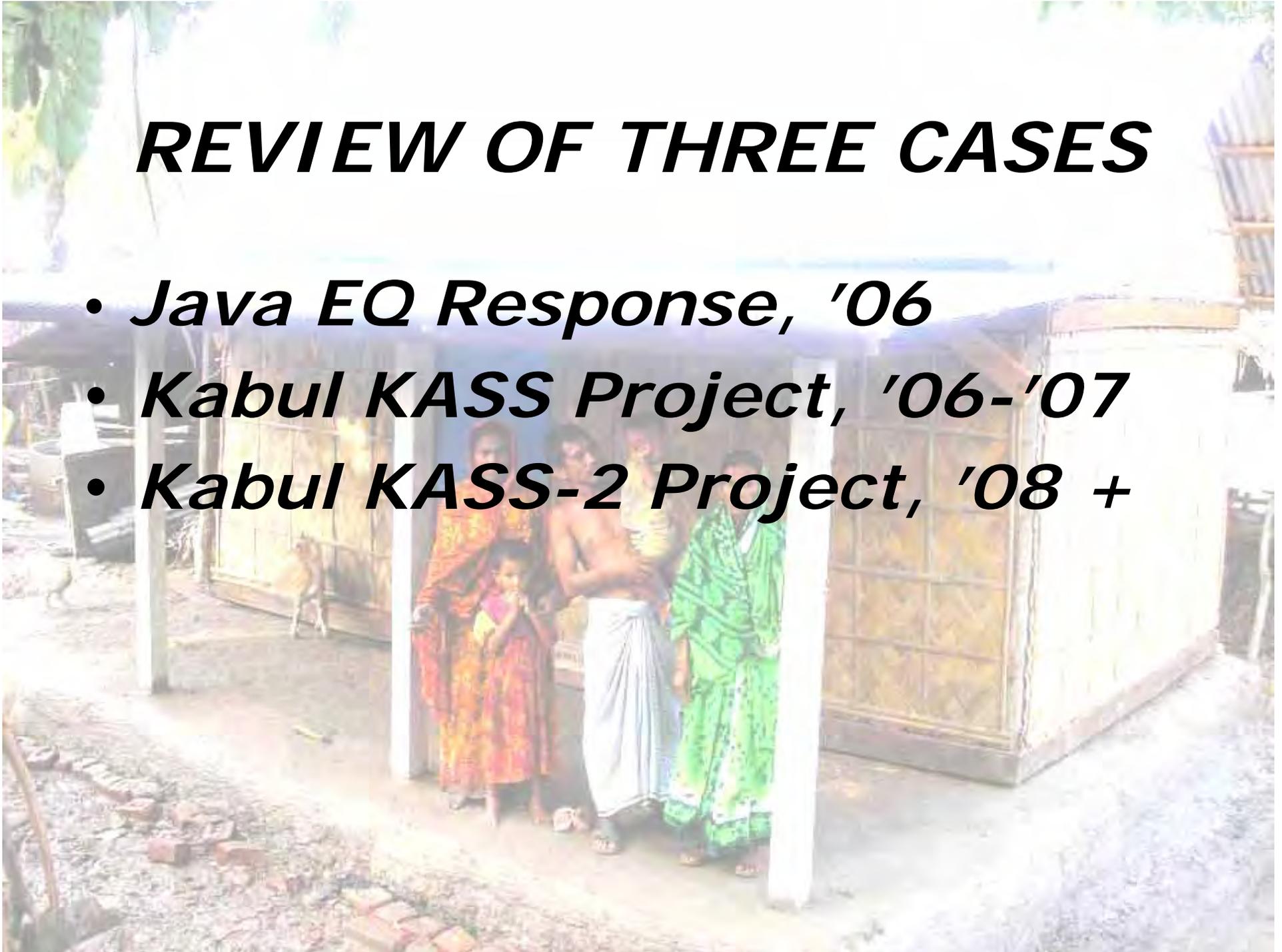
**REMEMBER,
DON'T RISK THE RISK!**

SESSION 2.3: *Beyond Shelter: Developing a Settlements Strategy*



REVIEW OF THREE CASES

- ***Java EQ Response, '06***
- ***Kabul KASS Project, '06-'07***
- ***Kabul KASS-2 Project, '08 +***



BEARING IN MIND THAT...

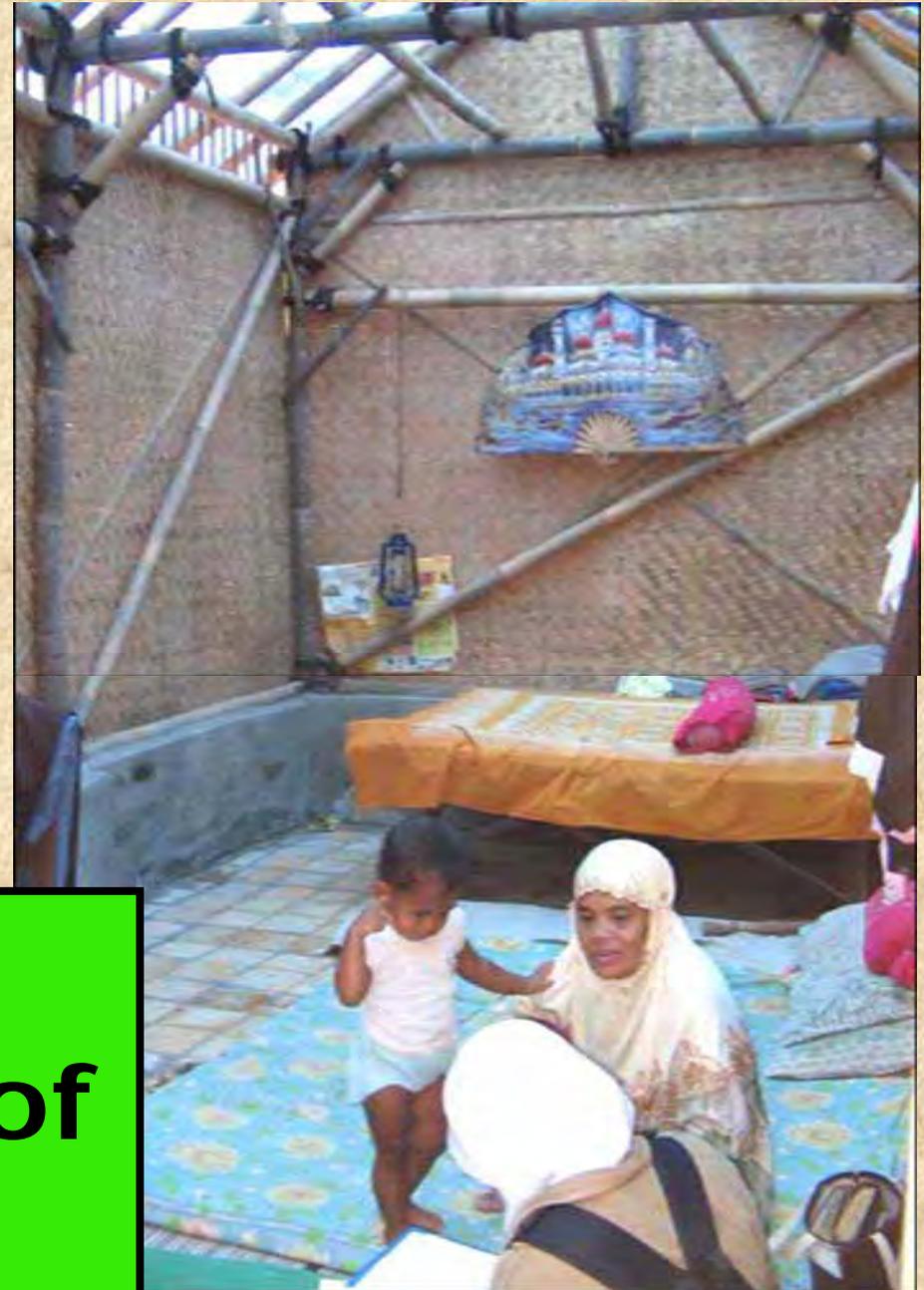
- **In Addition to Responding to Shelter Needs, Shelter Provision is a Major Tool in Reducing the Economic and Social Impacts of Disasters**
(Remember the "Third Phrase")
- **Shelter Activities are Livelihood Magnets**

FEATURES OF A SETTLEMENTS STRATEGY

- **Shelter-led**
- **Multi-sectoral, reflecting multi-faceted character of context** *(i.e., settlements)*
- **Opportunistic with regard to livelihood promotion and “DRR”** *(e.g., rubble removal)*
- **Cognizant of gender, environment, local organizations, and social relations**
- **Transitional, by linking relief and developmental concerns, and**
- **Accountable to local governing structures**

**Emergent Strategy:
Integrating "TS", WASH,
Livelihoods, DRR, and
Protection in Java, '06**

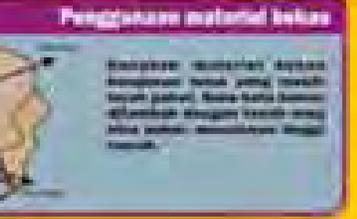
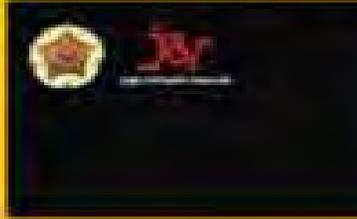
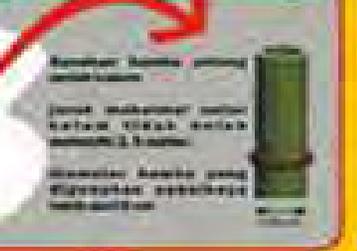
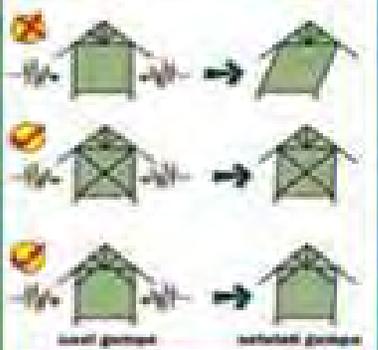




**T-Shelter:
Centerpiece of
Strategy**

Again, "DDR" Opps with T-Shelter

MARI MEMBANGUN RUMAH OKAL DARI BAMBUR



Again, Why So Important?

- Approx. 5,800 dead, 39,000 injured
- 359,000-578,000 houses damaged or destroyed, with at least TRIPLE the displacement of Aceh
- Lower end of range is 30% GREATER than Aceh total
- 36% of housing in most impacted area was damaged or destroyed; in Aceh 34%

Actions & Impacts of Note

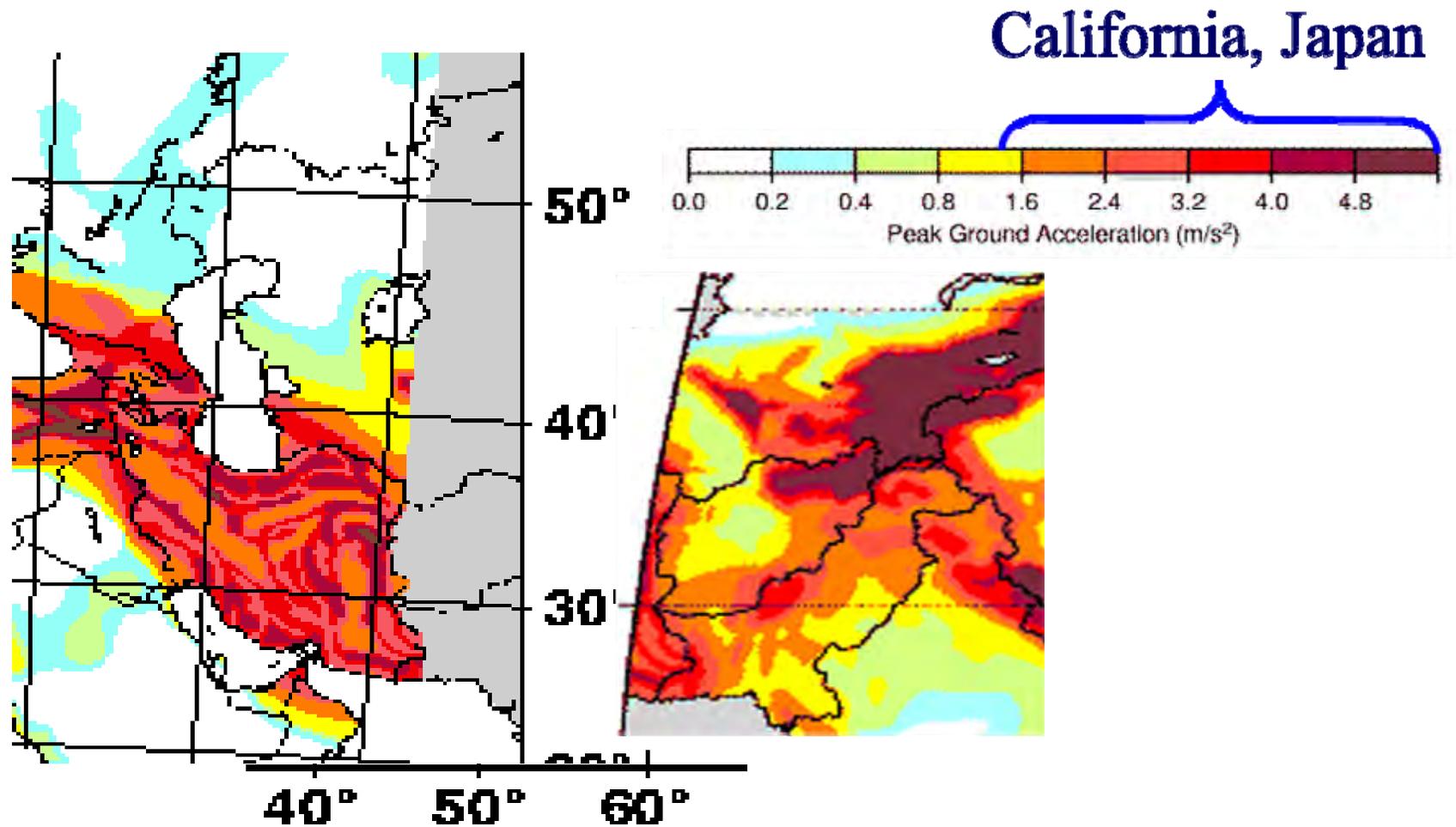
- **Significant damage + Limited resources = Need for efficient, effective, integrated response**
- **Int'l community worked with local authorities, tapped local TA resources**
- **OFDA provided basic design, funded 12k shelters, became basis for 140k**
- **World Bank used reconstruction funds and OFDA IP to support 24k T-shelter**
- **All that, but "We" still came up short...**



Evolving Strategy in Afghanistan

Seismic Risk in Afghanistan

Higher Risk = Reds & Browns





**Decades-long Conflict
Continues, and Ruins of
War Still Provide Shelter...**

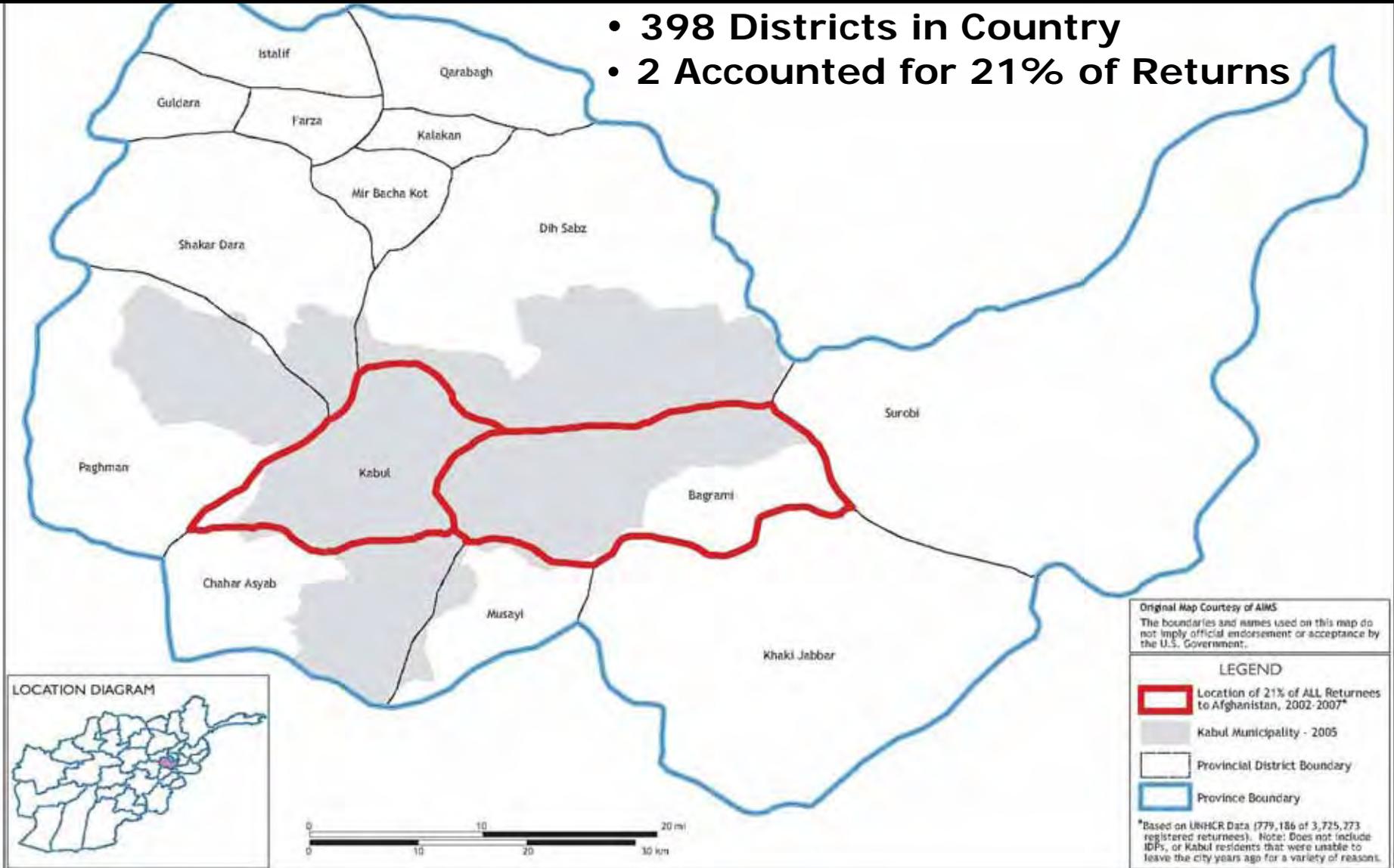
**Afghans still form the largest
refugee population in the
world, even though more than
four million have returned
since 2002**

**Most return from Pakistan and
Iran**

**With shelter in scarce supply,
families live just about
anywhere.**

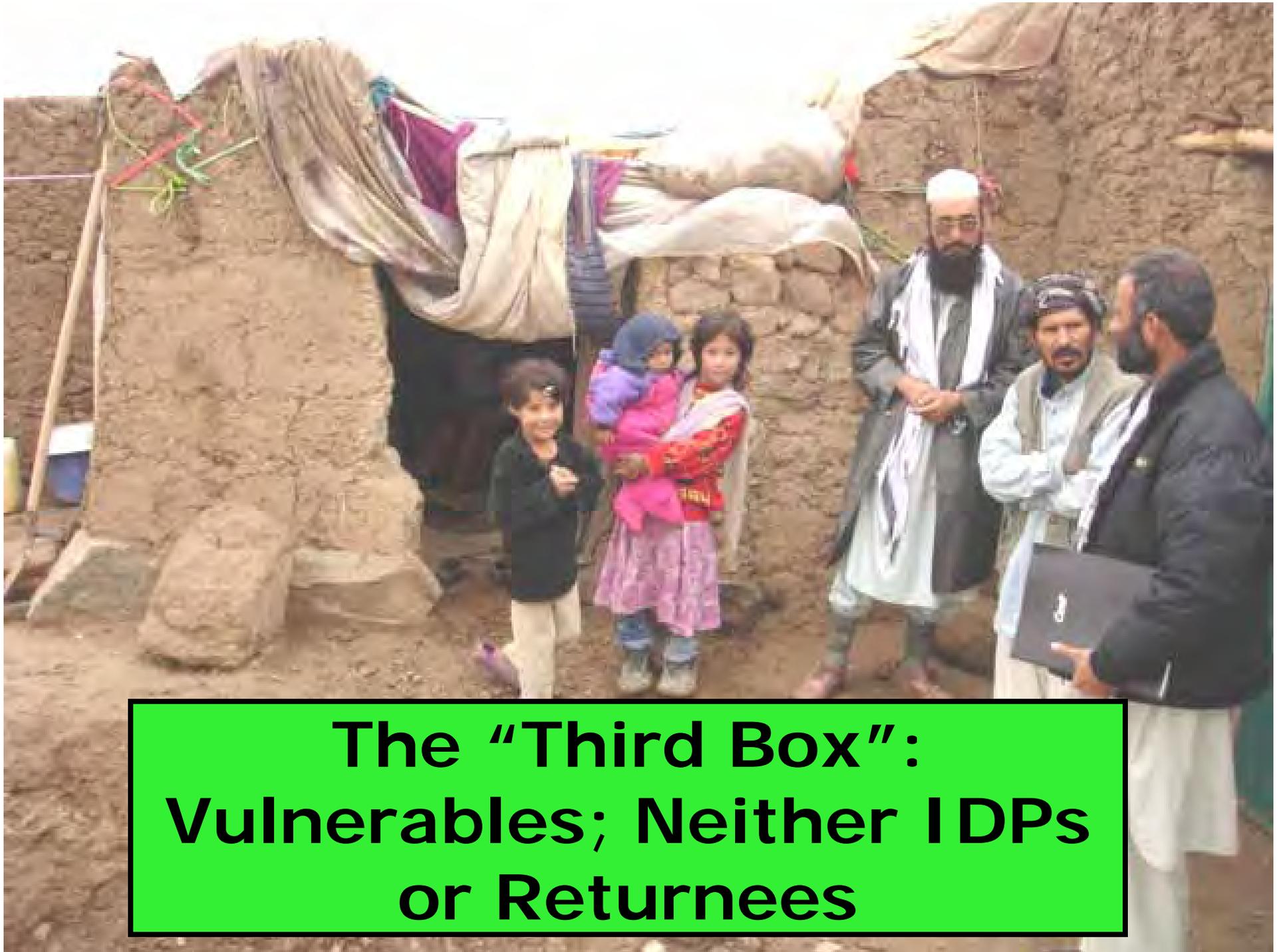
Returns Fuel Recent Kabul Growth

- 398 Districts in Country
- 2 Accounted for 21% of Returns





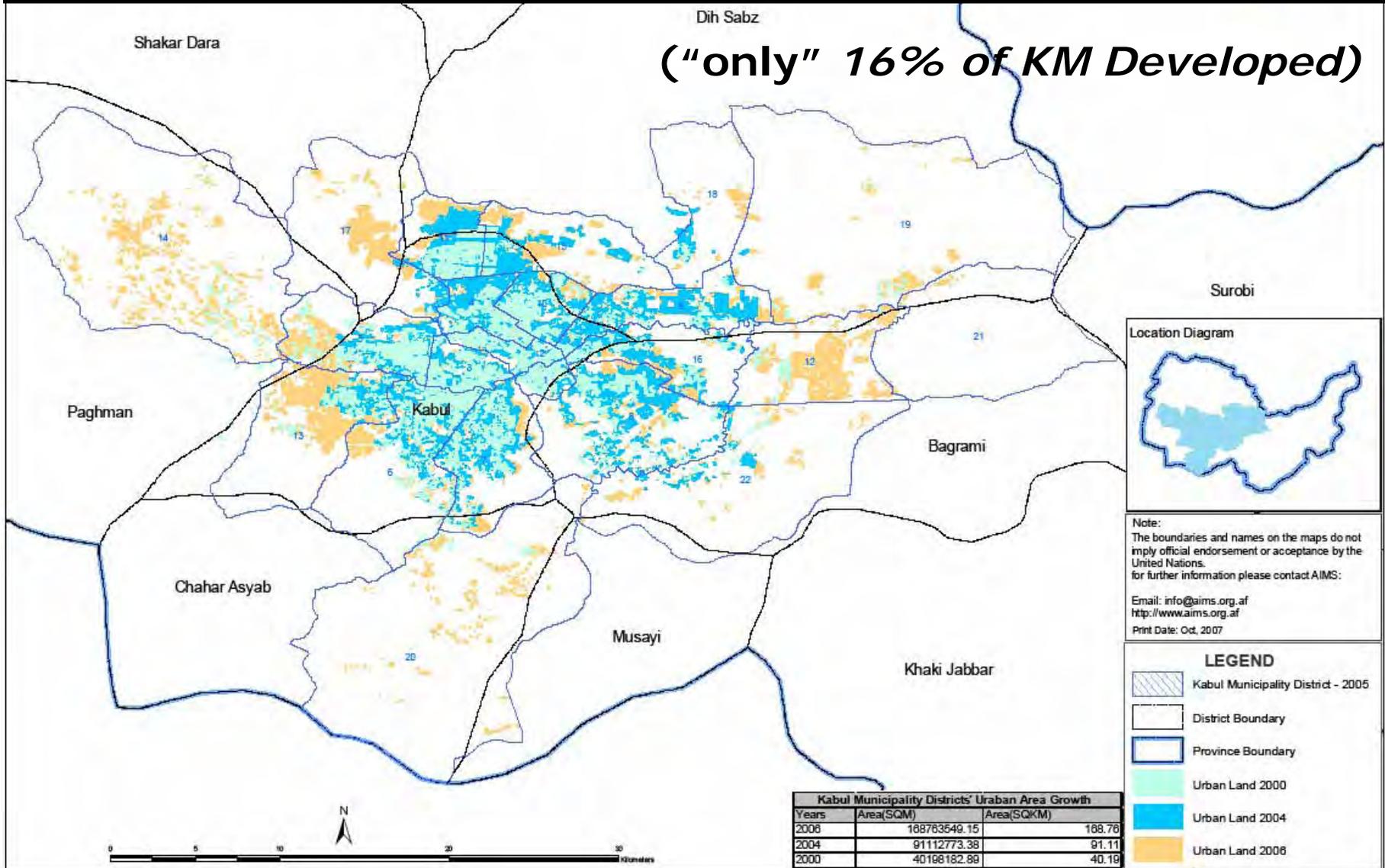
**IDP Tent Occupants,
Central Kabul, Last
Winter**



**The "Third Box":
Vulnerables; Neither IDPs
or Returnees**

Driving 4X Physical Growth, '00-'06

("only" 16% of KM Developed)



A Response: "KASS"

- **\$4.4 million project featuring shelter assistance, "shelter opportunities survey" (SOS), and seismic preparedness & mitigation**
- **Based, in part, on OFDA's 2004 shelter activities in Kabul (18,234 families assisted over 8 months, @ approx. \$4.5 million)**
- **Located in and near existing neighborhoods, at notable scale, preferably in informal areas**
- **Informed by "City Hall" (Kabul Municipality)**

T-Shelter; Latest Version with Steel Replacing Wood





**Minor
Repair
and
Upgrading**

Host & Guest Family Support

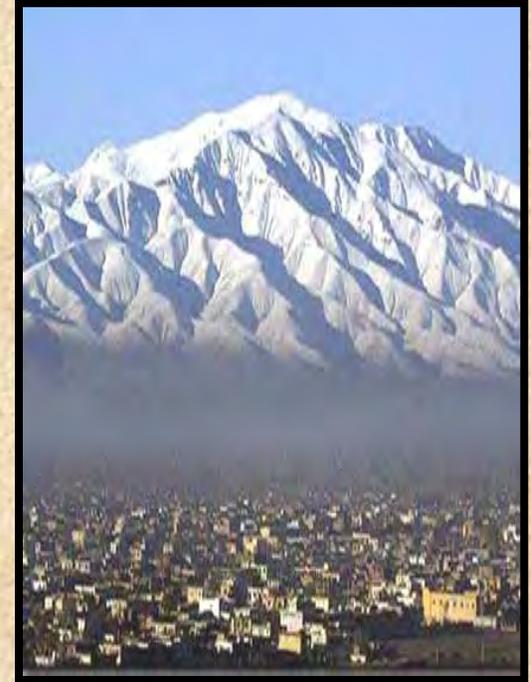


Settlements Components



Why Is This Important?

- Afghanistan is one of world's most seismically active regions
- Asia's fastest growing cities during the 90s
- One of the world's most rapidly urbanizing countries at present
- Kabul is currently perhaps the world's fastest growing city; pop. is approx. 4.5 million, up from 1.5 million in late '01; regional cities are also growing fast
- Urban pop. will at least triple in size by 2020; recent events will likely accelerate rate, and
- Current needs adding to backlog of needs



And...

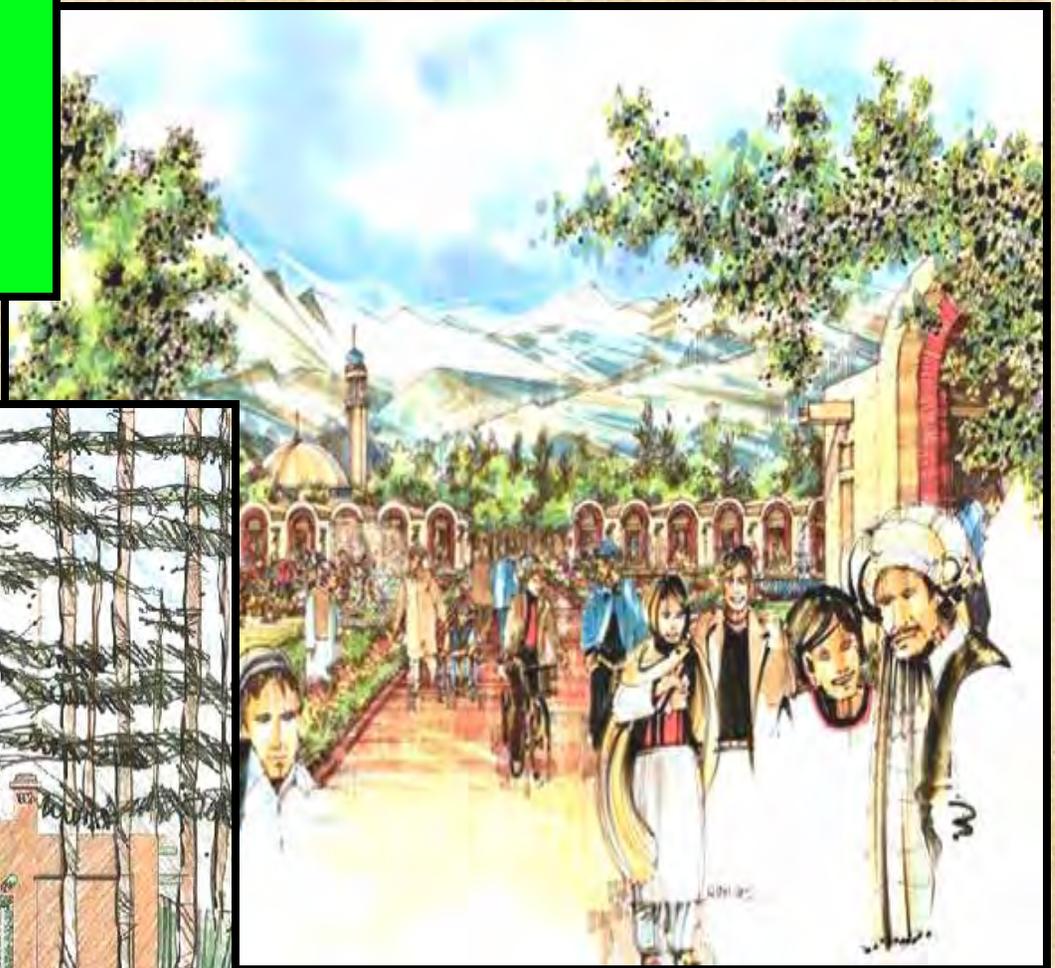
- Security Conditions Declining; one effect is departure or reduced footprint of Humanitarian Community actors
- Humanitarian Conditions Declining; growth and needs outstripping services and housing supply
- Afghan institutions remain weak; urban governments all but neglected.



Strategy Evolves Further: KASS-2 Up and Running

- **Could be 4-5X size of KASS**
- **Builds on success and lessons of KASS by concentrating assistance to promote “notable impact”**
- **Greater emphasis on settlements component to provide services and generate livelihoods, and**
- **Provision of TA to KM promote “urban recovery management”.**

**We're Not
Here Yet,**



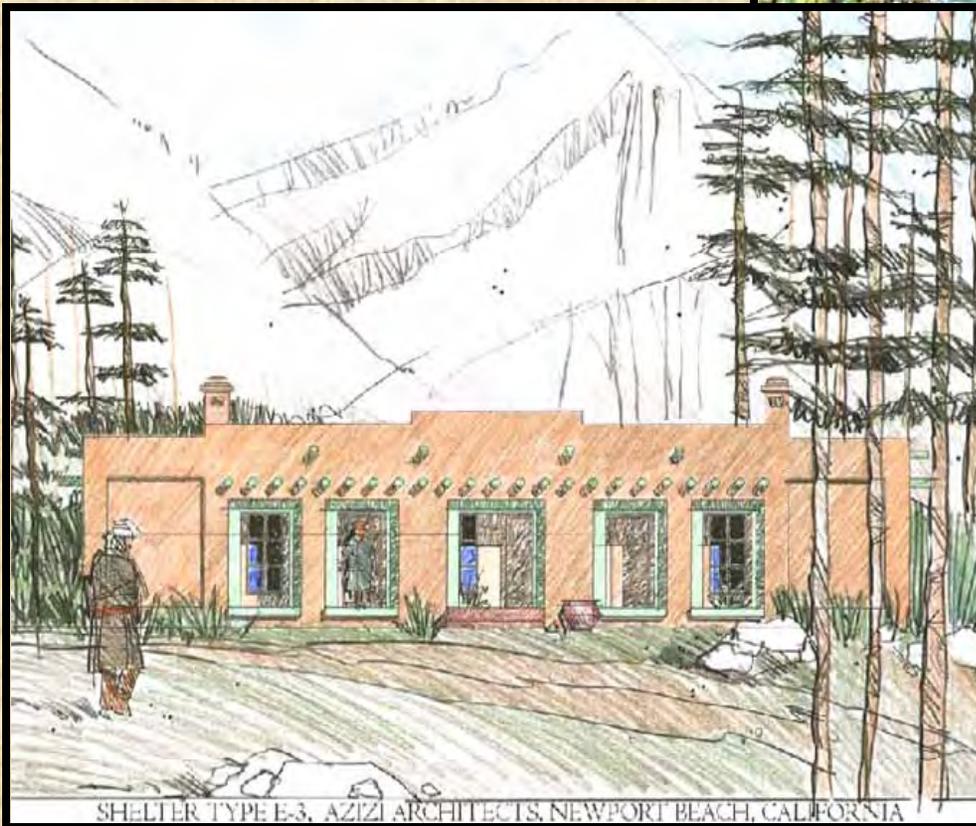
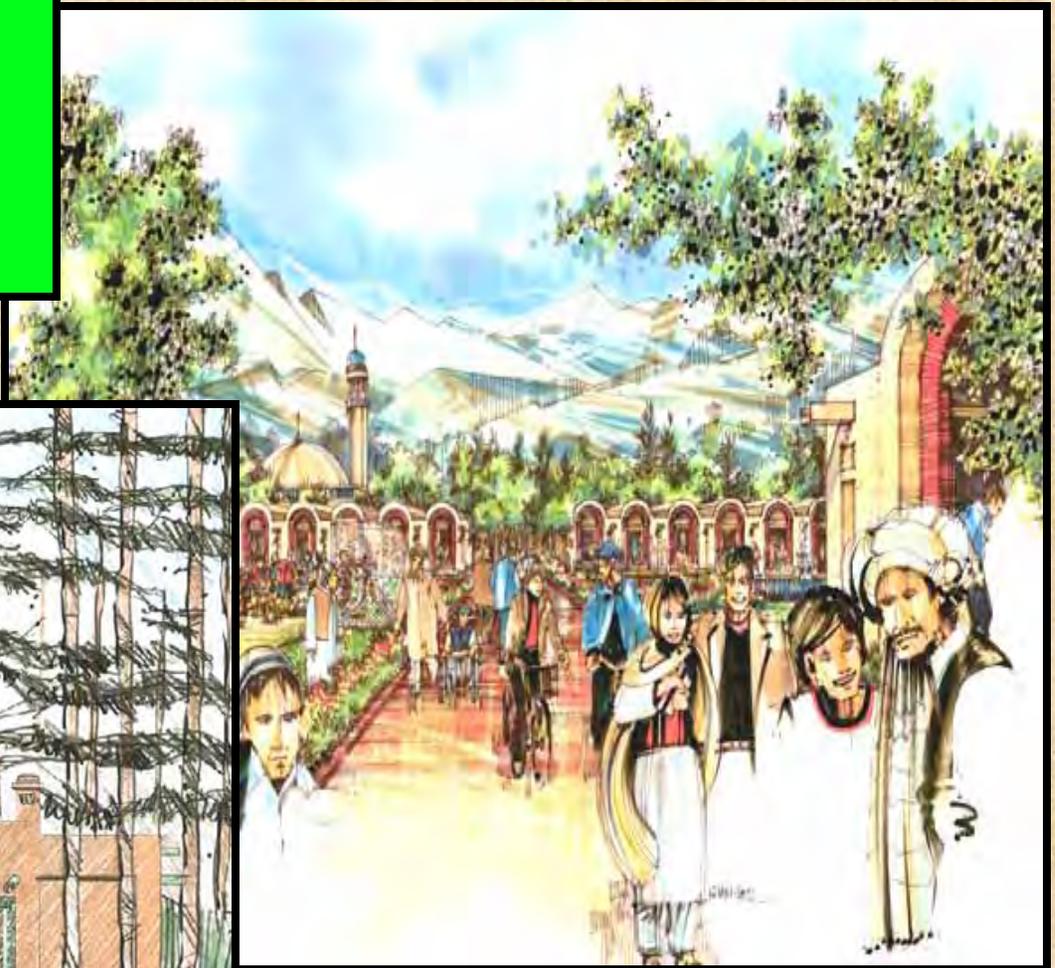
SHELTER TYPE E-3, AZIZI ARCHITECTS, NEWPORT BEACH, CALIFORNIA

but...

SESSION 2.4: ***Making S&S Strategies Work***



**We're Not
Here Yet,**



SHELTER TYPE E-3, AZIZI ARCHITECTS, NEWPORT BEACH, CALIFORNIA

indeed...

**WHILE LIVING IN FLOOD-
WRACKED BANGKOK IN
1992, I READ THE
FOLLOWING NEWSPAPER
HEADLINE:**

***“Singapore: Engineering
Society Announces
Country Flood-Free”***

Could it be that the combination of planning, provision, and management of land and services to support settlements had resulted in the elimination of...

“HARM’S WAY”?

In a word, ...

***“YES”*!!**

Even though it's "only" Singapore...

RECALL THE IMPACTS OF "HYDROMET" DISASTERS NOT BEING TRIVIAL...

- From '98-'07, 2.77 billion affected, or 98.5% of total affected by natural disasters
- 2.77 billion = approx. 41% of global pop.!
- 867,000 people killed, or 84% of total killed by natural disasters
- \$805 billion in damages, or 85% of total caused by natural disasters

Source: WDR 2008, IFRCC

**LAND & WATER MANAGEMENT
ADDRESSES NOT JUST FLOODS,
BUT MANY OTHER NEEDS *(Bamako)***



Yet Land Issues, in Particular, Are Often A Major Impediment to Assistance

- In many countries, the land management system (e.g., planning, measuring, recording, documenting, regulating, taxing) is ineffective, and
- Policy makers know steps “A and Z”, but not steps B, C, and D. Problems are so complex that they overwhelm existing capacities.

A KEY QUESTION: HOW TO CONCEIVE THE SECTOR?



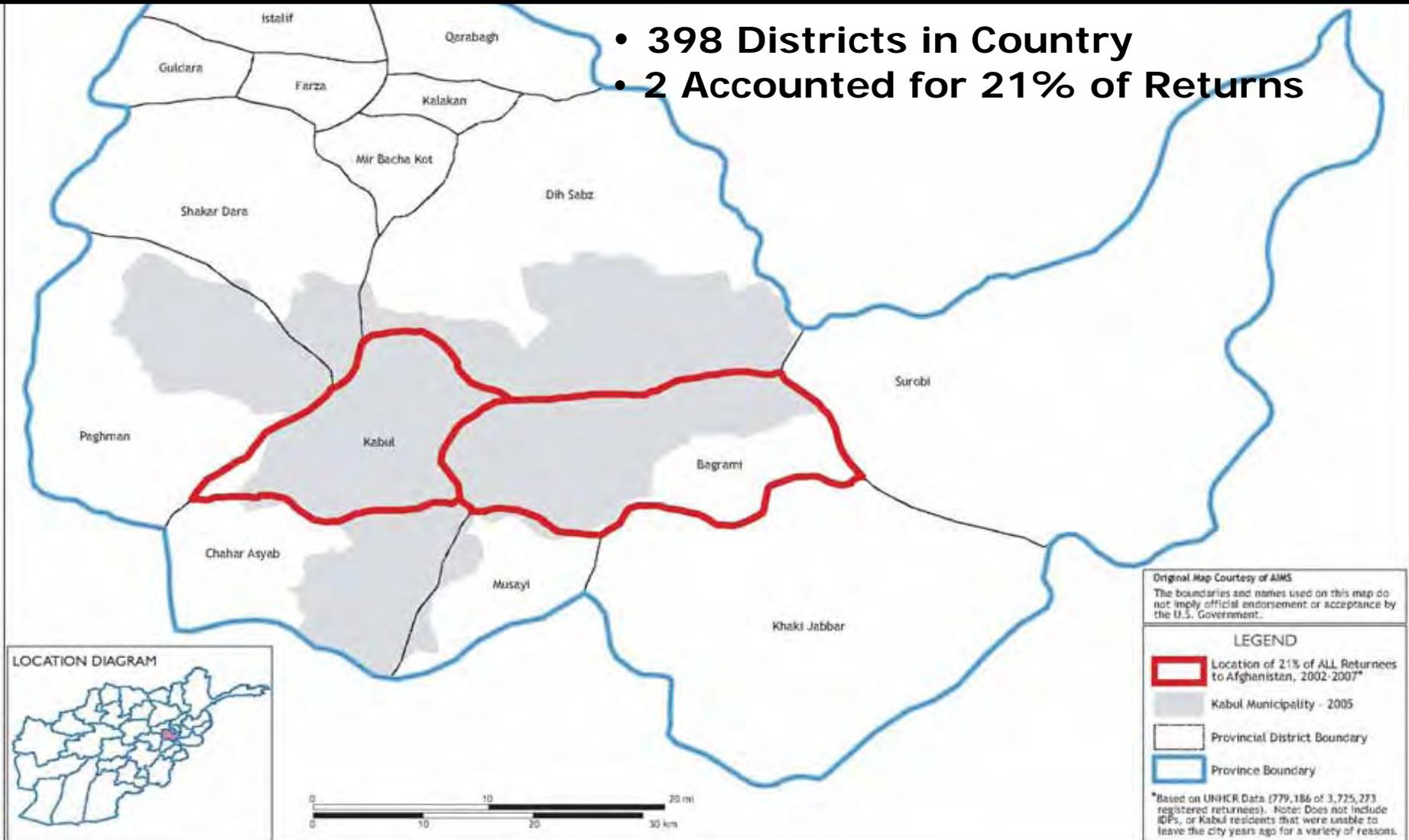
**Ambulance Chasing... or
"Market" Analysis?**

CONCEIVING THE SECTOR: Thinking Broadly...

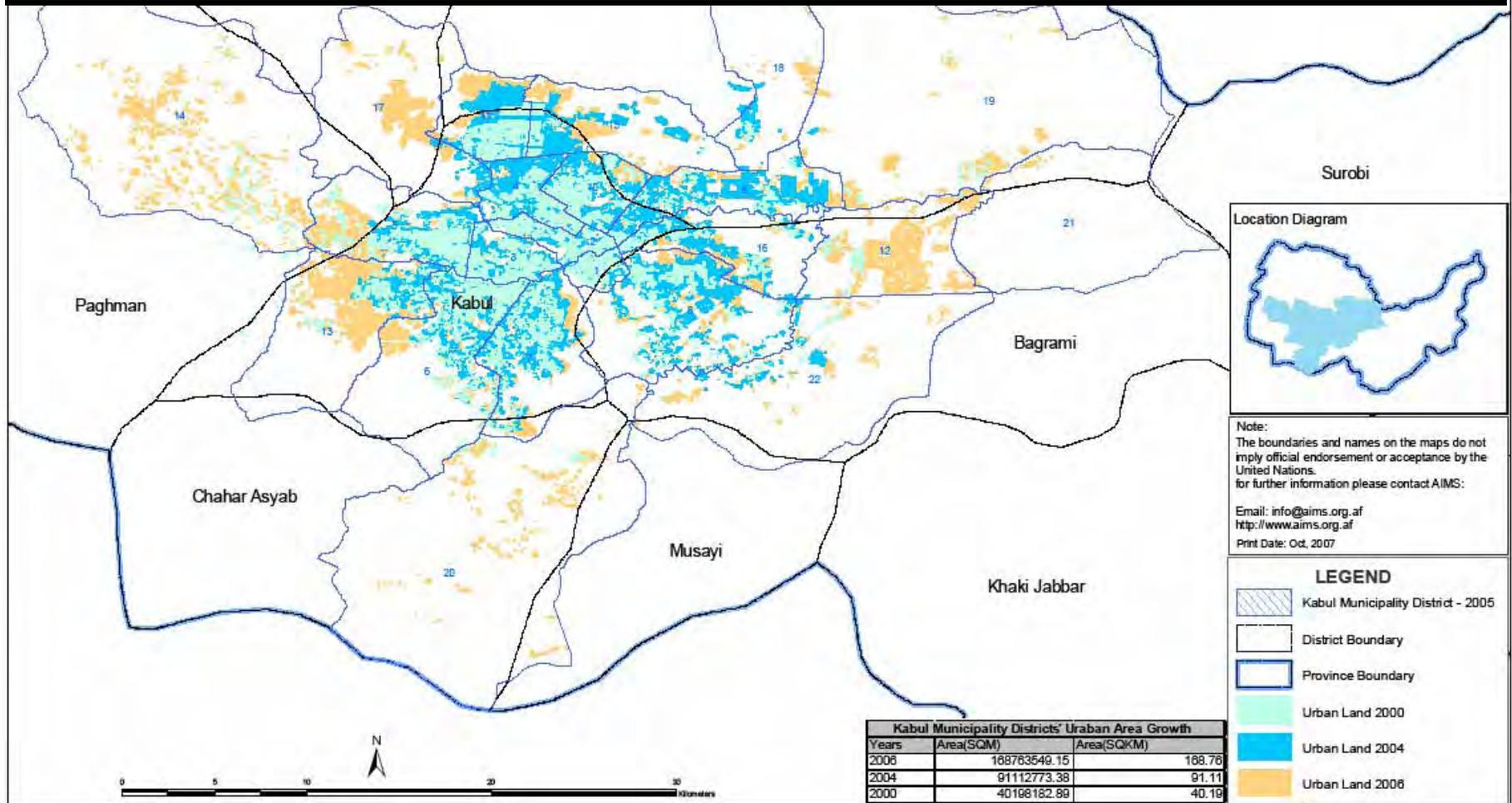
- **Looking beyond the rubble will yield new resources, new options, and new opportunities for responding effectively and appropriately to identified needs**
- **This includes assessment of land, labor, and materials markets in affected settlements**
- **"SOS" Concept/Tool permits a systematic examination of capacity in many places.**

MAPPING AND UNDERSTANDING NEEDS A KEY TO DISPELLING MYTHS

- 398 Districts in Country
- 2 Accounted for 21% of Returns

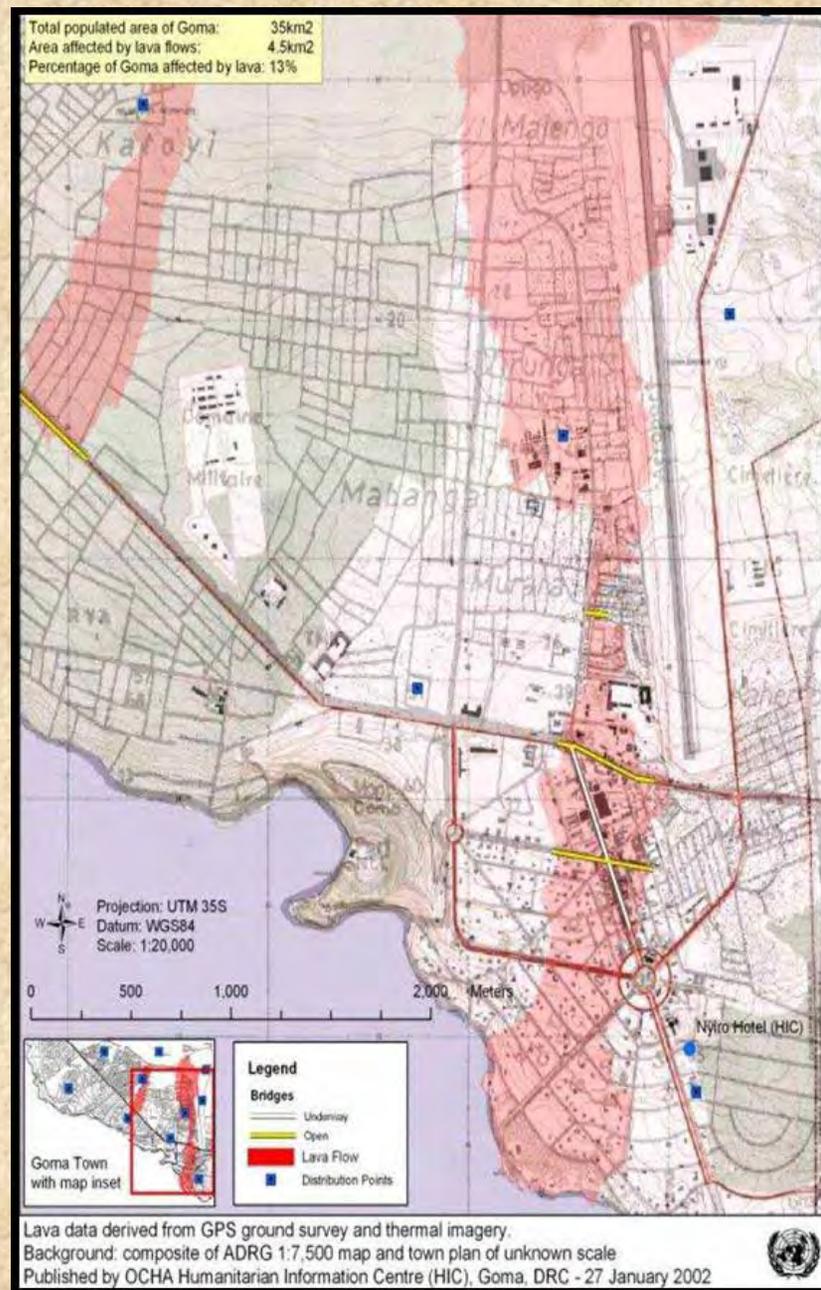


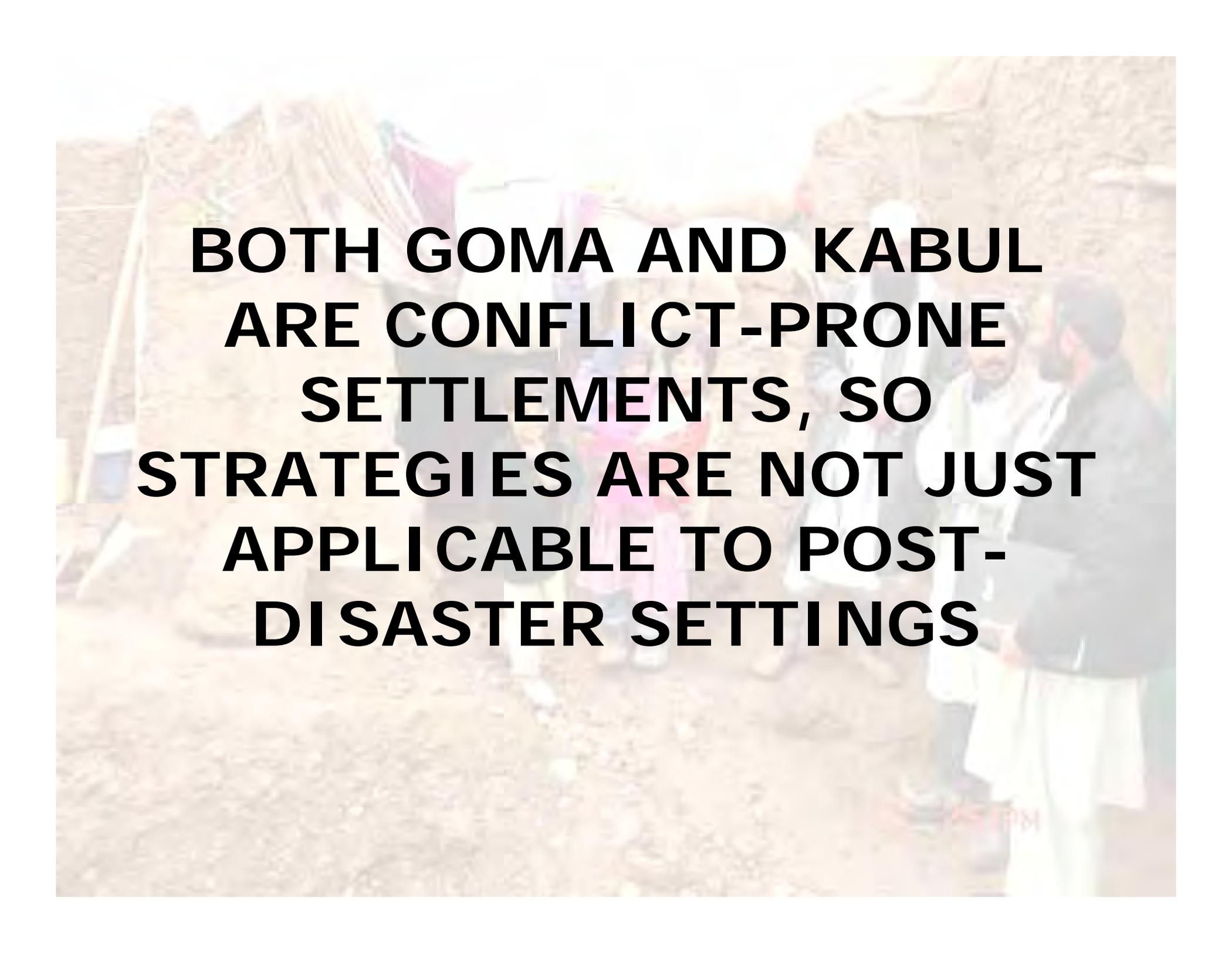
Kabul: 4X Physical Growth, But Only 16% Developed; Undermines "No Land" Myth



**GOMA: 13% of
the city covered
by lava, but 87%
NOT!**

**“SOS” Finds
Strong Social
Networks (75% of
IDPs hosted) and
LOTS of vacant
and underutilized
land**

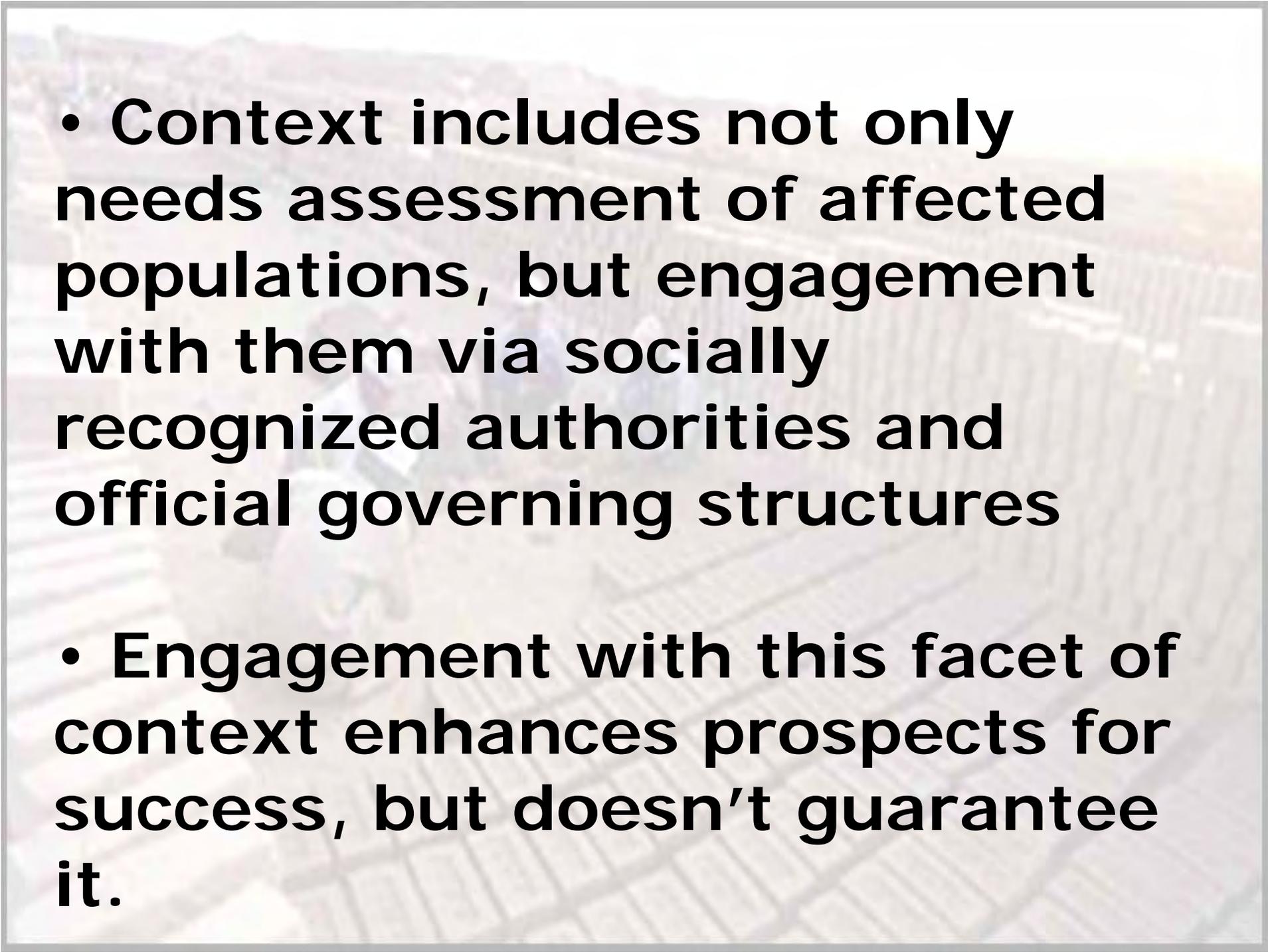




**BOTH GOMA AND KABUL
ARE CONFLICT-PRONE
SETTLEMENTS, SO
STRATEGIES ARE NOT JUST
APPLICABLE TO POST-
DISASTER SETTINGS**

SECTOR LINKAGES A KEY TO RESPONDING TO CONTEXT LINKAGES

- **Shelter-led yes, but**
- **Multi-sectoral, reflecting multi-faceted character of context**
- **Overcoming “stove-pipe” approaches begins at home, among & between humanitarian actors.**



• Context includes not only needs assessment of affected populations, but engagement with them via socially recognized authorities and official governing structures

• Engagement with this facet of context enhances prospects for success, but doesn't guarantee it.

Finally...

- Even though humanitarian, recognize that S&S strategies are inherently developmental
- Recognize that engagement with affected populations might be first time they've participated in developmental activity, and
- Recognize that developmental activity may be only game in town, may thus be perceived as development, and thus may present new opportunities & challenges.



SESSION 2.5: *Linking S&S Strategies to Reconstruction & Development*





**AGAIN, If You Don't
Think Shelter Is
Important...**

Heretofore, S&S Discussion Confined Largely to Humanitarian Arena

- Focus until now has been identifying needed changes in thinking and practice within the S&S sector
- Examples have included not “running to the rubble,” not resorting to tents and camps as default responses, thinking about livelihood generation, thinking about DRR, and integrating other sector activities (e.g., WASH)

Yet...

- **Conditions in settlements are increasingly complex, and vulnerabilities are increasing**
- **Development policy itself almost seems a mega-hazard in need of risk reduction**
- **“Mainstreaming” DRR into development policy may be necessary, but not sufficient**

More...

- Given the developmental nature of S&S activities, focus should shift from relief “phase” and reconstruction “phase” to the “process” of transition from relief to reconstruction, with donor and other institutional support shifting accordingly
- Facilitating this shift will require making new alliances within the humanitarian community, and between the humanitarian and development communities, recognizing that concerns are shared, and not in competition.

And More...

- S&S sector actors will thus have to increasingly interact with reconstruction and development officials, specifically those in planning, housing, services, and social agencies, to promote humanitarian objectives, and
- This is best done prior to the onset of disasters and crises so that all actors can identify and understand issues and make needed changes in existing protocols.

And Even More...

- **On reconstruction/development side, rapid changes are causing planning time frames to shorten for policies to be responsive and relevant**
- **At the same time, the longer, “over the horizon” view of more and more humanitarian actors may result in greater overlaps of time frames and perspectives that enhances both communities.**

Some Common Objectives...

For both the "HA" and "DA" communities, key S&S objectives will likely be:

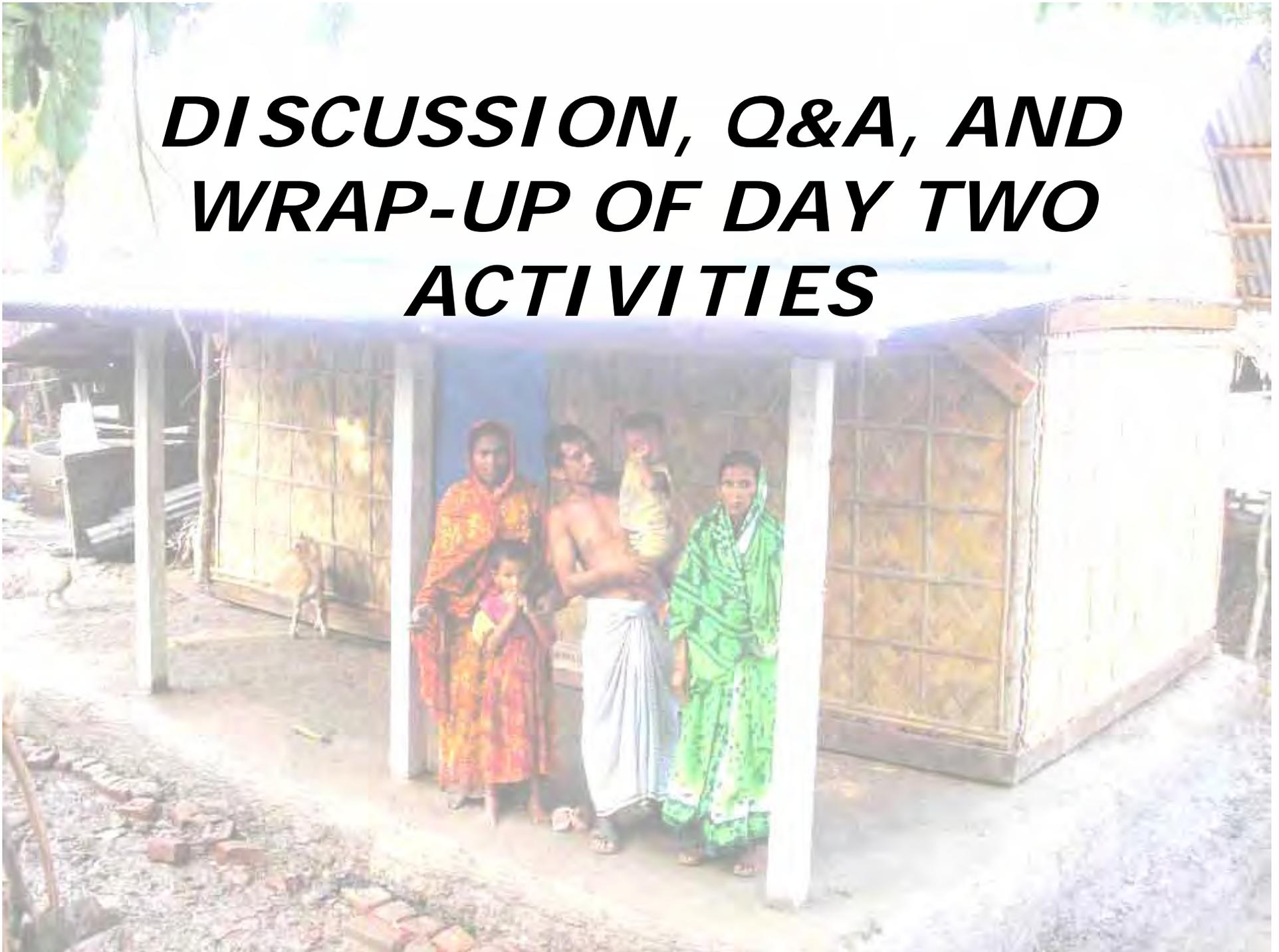
1. Jointly identifying "Harm's Way" in at-risk, disaster- and crisis-prone settlements
2. Creating mechanisms and incentives to reduce or prevent occupancy of "Harm's Way"
3. Reducing risk for those unable to move out of "Harm's Way," and
4. Responding to those affected by disasters and crises in "Harm's Way" in a creative, appropriate, and cost-effective manner that reduces risk over time.

GROUP ACTIVITY:

Elements of an Effective S&S Sector Strategy



***DISCUSSION, Q&A, AND
WRAP-UP OF DAY TWO
ACTIVITIES***



***THANK YOU FOR YOUR
TIME, PATIENCE, AND
PARTICIPATION!!***

