

# Shelter Design Forum

#CH1DR6



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AIA/CES Provider # G495

*“Is it not to share your food with the hungry and to provide the poor wanderer with shelter— when you see the naked, to clothe him, and not to turn away from your own flesh and blood?” – Isaiah 58:7*



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# Learning Objectives

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- Define and explain the concept of transitional shelter
- Establish a set of parameters for effective transitional shelter design
- Collaborate on transitional shelter concepts



# Transitional Shelter

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“Emergency shelter is temporary and is intended just to provide shelter for survival. Transitional implies something that is longer-term and gives you space to carry out livelihood activities rather than just surviving.” – Elizabeth Babister, shelter advisor (quoted from Architecture for Humanity)



# Transitional Shelter Characteristics

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- More than emergency shelter, less than permanent housing
- Materials can be re-used for permanent housing
  - Can provide shelter on temporary sites (without waiting for land-use issues to be resolved)
  - Can help defray families' construction costs



# Hurricane Stan Relief



eMi Designed Housing in Guatemala



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# Innovative ideas



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Oxfam transitional shelter design in Tangalle, Sri Lanka

# Innovative ideas

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**Pakistan shelter – built by MRDS**

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# Innovative ideas



Cal Earth sandbag and barbed-wire  
“superadobe” shelters



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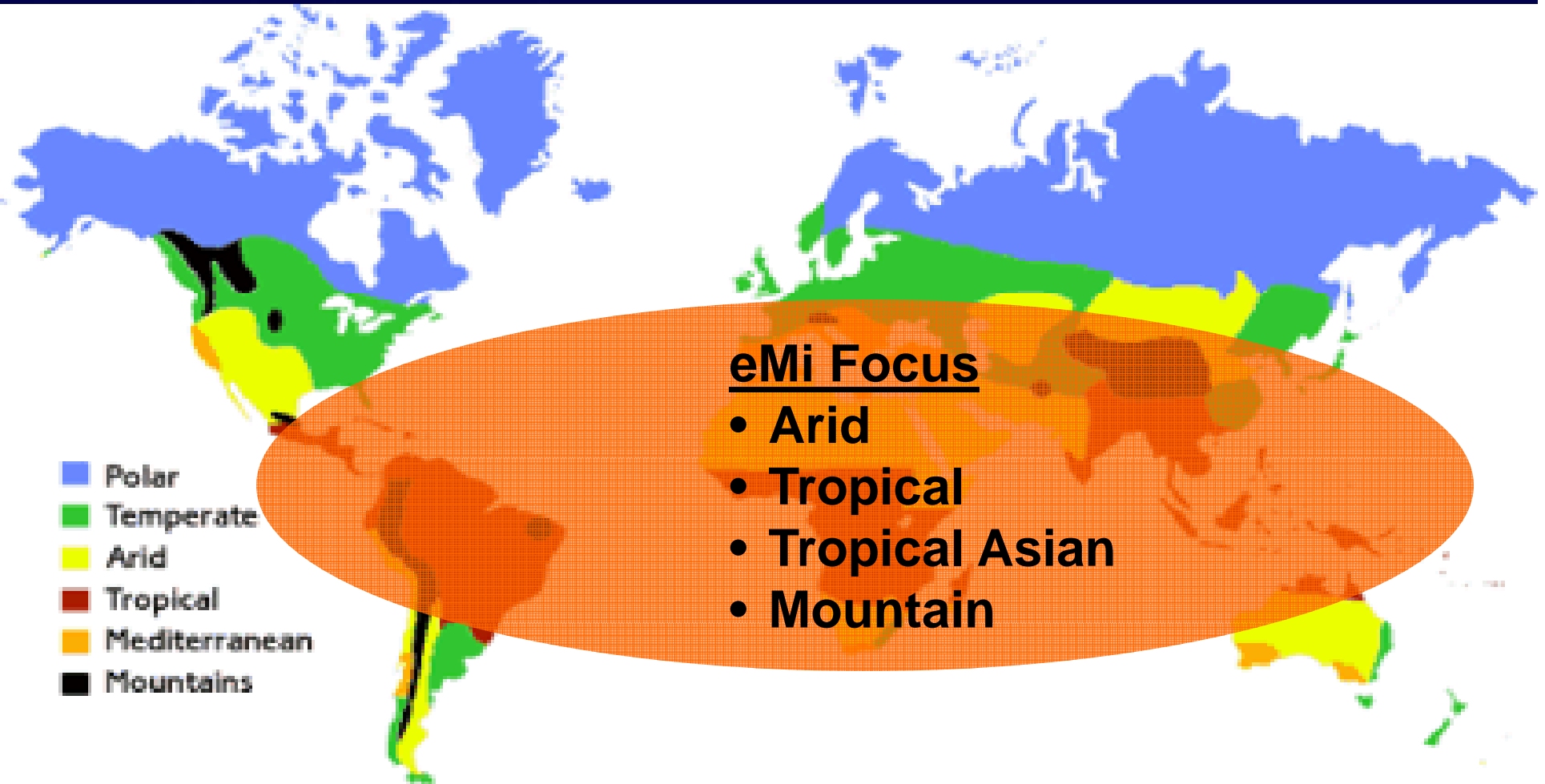
# Shelter Best Practices

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- Community involvement
- Encourages livelihood
- Locally-available materials
- Locally-understood technology
- Meets Sphere Standards
- Implements hazard mitigation



# Climate Zones



# Performance Specifications

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- architecturally attractive to the local population
- good interior air quality
- comfortable in extreme temperatures with minimal use of external energy sources (e.g. highly energy efficient)
- inexpensive to build (goal is less than \$1,000 per home – reasonable?)
- inexpensive to maintain (no deterioration from moisture, heavy use)



# Performance Specifications cont'd

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- minimal imports
- minimal (preferably no) use of wood
- employ people with locally available skills
- minimal or no proprietary technology
- 3.5 m<sup>2</sup> per person (from Sphere Handbook)
- materials can be reused for permanent shelter

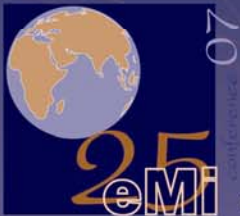


# Performance Specifications cont'd

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Additional specs depending on location:

- seismically stable (which zone?)
- secure in high winds (what speed?)
- flood-resistant (to what depth?)



Now let's hear from the experts



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# Let's hear from the experts

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- What kinds of coordination exist between evangelical groups in a response?
- What engineering/consultant needs do disaster response ministries have?
- What practices have worked well/not-so-well in the past?





# Let's hear from the experts

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- How can eMi meet critical engineering/design needs?
- What hesitations do you have about using volunteers in a disaster response?
- What key things should responders know before arriving to reduce their learning curve?



# Open forum

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# Questions?

This concludes the American Institute of Architects Continuing Education Systems Program.



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