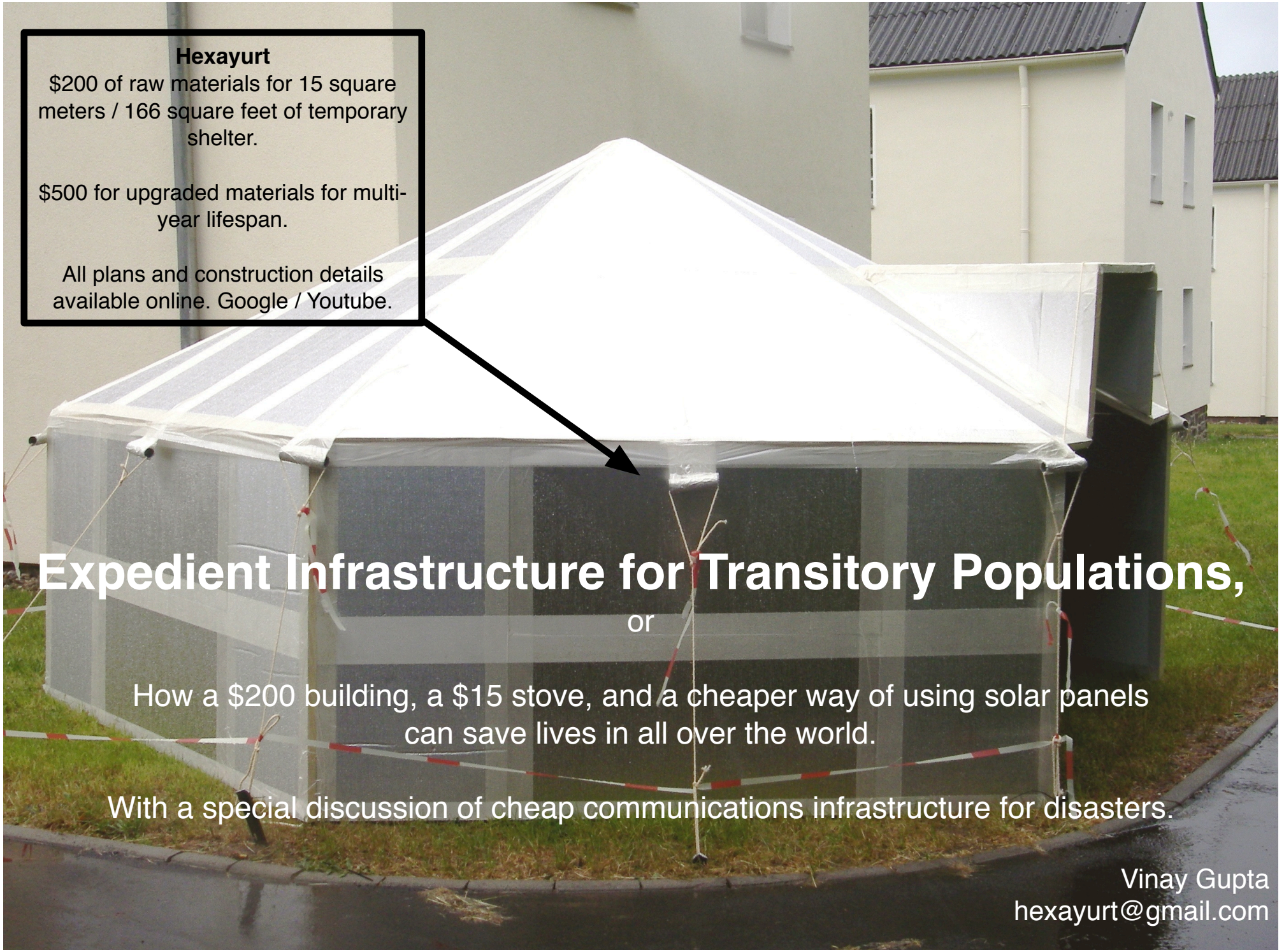

Expedient Infrastructure for Transitory Populations,

or

How a $200 building, a $15 stove, and a cheaper way of using solar panels can save lives in all over the world.

With a special discussion of cheap communications infrastructure for disasters.

Vinay Gupta
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Expedient Infrastructure for Transitory Populations, or *How To Keep People Alive Cheaply*

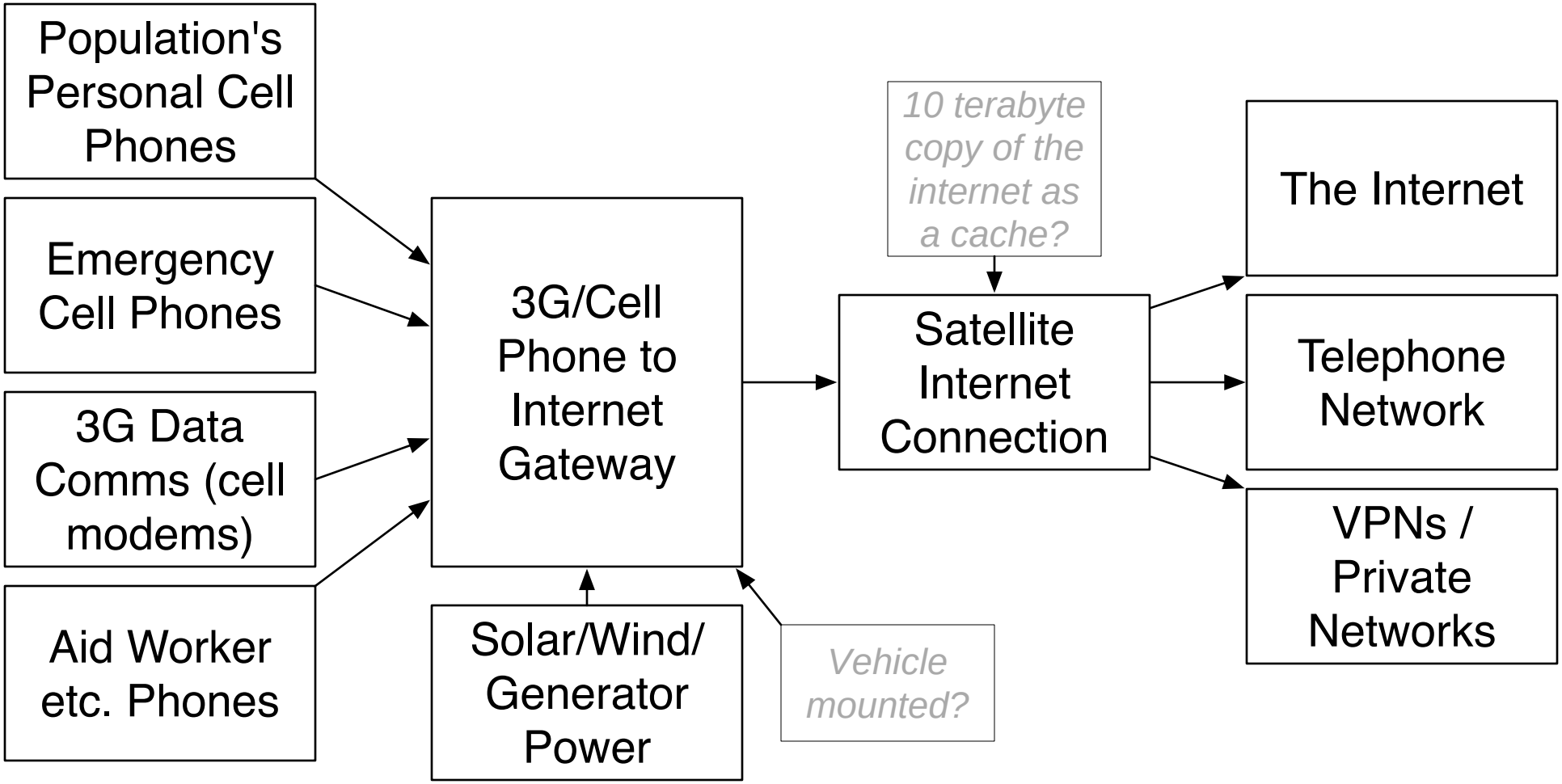
	Construction	Supply Chain	Ownership	Cost
Civilian Infrastructure	Systems (power stations)	Pipes and Wires (national grid)	Individual and Company	Cheap (lowest cost)
Military Infrastructure	Objects from Factories (generators)	Trucks and Planes	Government	Expensive (highest quality)
Expedient Infrastructure	Objects from factories (solar panels)	NO SUPPLY CHAIN	Individual	Intermediate (no support)

Expedient infrastructure has to work in places that neither civilian nor military infrastructure is available. Civilian fails because it is not robust, military fails because it is too expensive. Expedient can work 90% of the time and still be called a success, and this is how we make it work.

Replacing Pipes and Wires?

Pipe/Wire	Traditional Infrastructure	EITP Infrastructure Examples	Cost per family for EITP Solution Sets
Electricity	National grid	Solar	<$30
Gas	Natural gas system (pipelines, terminals)	Wood Gas	<$20
Water	Water treatment plants, viaducts	Solar Pasteurizers	<$5
Sewage	Sewer system, sewage treatment plants	Composting toilet	<$20
Communications	Wired telephones, exchanges, cell towers	$100 computers? Cell phones?	<$10 to $100
Stormwater	Storm drains	Drainage ditches	Labor investment
(Transport)	Roads, rail	Improvised Roads	Labor investment

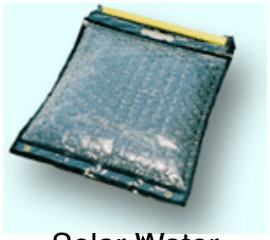
Emergency Cell / Data Communications Concept



Not reliable like a military system. Not cheap like a civilian system.
Somewhere in between.

Emergency Housing with Expedient Infrastructure

Household	Village	Region	Nation



Solar Water Pasteurizer $10

CCFL Lighting System (Eveready Double Bright) $12

Regional product distribution networks - shops, traveling sales trucks, etc.

Import/Export Infrastructure Ports, etc.

Drinking Water

Lighting

Solar AA 15 Minute Battery Charger one per village $500

Hexayurt/shelter

Comms/ Data

Cheap Cell Phone $10

Note that we have not specified a national electricity grid.

Regional centers like universities & hospitals. Where possible, self power these facilities.

Cooking/ Heating

Spenton Wood Gas Stove $15 in bulk

Sewage

Composting Toilet $20?

Cheap Computers $100?

3G

3G Cell Phone Towers

Voice/Data Backhaul

Expedient Infrastructure for Transitory Populations
Project Status & Getting Involved

The EITP Project is a working group of military, NGO, civilian and vendor groups working together to produce a better approach to handling transient populations, including displaced persons, refugees, and disaster victims.

The EITP Project builds on the work done at the Strong Angel demonstrations, and the Rocky Mountain Institute Sustainable Settlements Charrette.

EITP Project has support and involvement from the US Marine Corps, American Red Cross, Appropedia, Hexayurt Project, and a variety of vendors (Spenton, SleepBreeze, SafeWater Systems and others.)

The first step is to produce a set of documents showing how to deploy and test systems using these new approaches.

The EITP Project is open to volunteers from all walks of life, and official involvement from any group that wishes to participate in the project.

We need help testing ideas, working with military and NGO groups to stage field trials, and solving new problems.

There is a lot to learn, a lot to teach.

For additional information, please contact:

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hexayurt@gmail.com
(Vinay Gupta, Hexayurt Project, EITP Solutions Team Coordinator)

Upcoming events:

Demonstration at National Defense University
Demonstration at the Pentagon
Long term test in Virginia
Demonstration at African Endeavor
Demonstration at Burning Man