TIDES

T ransportable

I nfrastructures for

D evelopment &

E mergency

S upport

Overview

July 2008

*A project under a broader initiative called Sustainable Technologies, Accelerated Research (**STAR**)

What is STAR-TIDES ?

Affordable, Sustainable, Support to Stressed Populations

- Post-war, post disaster, impoverished
- Domestic & foreign, short & long term, military involved or not

International, largely volunteer network, made up of business, government, academia and civil society participants from Iceland to Singapore

Promote **unity of action** among diverse organizations where there's no unity of control

Build bridges across institutional boundaries between business, government and civil society participants

What is STAR- TIDES ?

3 Main Goals

Build trust and develop social networks

Improve information sharing and situational awareness

Identify and promote effective, **low cost logistic solutions**

1. Shelter
2. Water
3. Power
4. Integrated Solar and Combustion Cooking
5. Heating/ Lighting/ Cooling
6. Sanitation
7. Information & Communications Technology (ICT)

Why STAR-TIDES?

Emerging Missions for US Department of Defense

- Humanitarian Assistance, Disaster Relief (HADR)
- Stability, Security, Transition & Reconstruction (SSTR)
- Economic Development (Building Partnership Capability)

Several recent high level policies and statements emphasize these kinds of operations

STAR-TIDES provides reach-back support to decision-makers and those doing field work:

Knowledge on demand for capacity building

All information is made available in the public domain via wiki
www.star-tides.net

Why STAR-TIDES?

WE CAN SUPPORT STRESSED POPULATIONS BETTER!

- Effective response requires broad coalitions
  - No one has all answers or responsibilities
  - Non-CLASSIFIED info sharing is needed

- Communications, lift and power
  - Situational awareness, and communications to share it, are **critical enablers for effective responses!**
  - Need to arrive fast, be independent of power grids

- “Whole systems” thinking & acting; not stovepipes
  - Integrated cooking, water pasteurization, and heating as an example

Shelters

8’ High Hexayurt and Roof Panel

Assembling a 12’ High Hexayurt

ShelterBox Distributed by Rotary Clubs

Two UniFold Accordion Shelters

Integrated Cooking, Water Pasteurization, Heating

Simple Cardboard-Backed Solar Cooker

High Efficiency Thermal Stoves

Solar Water Pasteurization

Parabolic Solar Cooker

Energy, ICT

80 W Solar Panel Charging AA Batteries

Commercial Generators

Inflatable SATCOM Dish & Comms Vehicle

Inside 12'Hexayurt with Site Imagery

Exposure Trials

Taping roof section to walls for 12’ hexayurt

Completed 12’ High Hexayurt

6’ Hexayurt & Stretch in Honduras

Results

- Exposed STAR-TIDES to many, diverse visitors
- Made info more discoverable thru tagging
- Significantly reduced fuel use
- Generated over $800K in private sector engagement from less than $20K in government funds
- Provided follow-on support to Southern California fires and Bangladesh/Myanmar relief
- Also examined low-cost shelters for FEMA and Canadian Arctic
- Completed six-month exposure testing of shelters
- Presence at conferences and exercises has generated significant interest by operators

The way ahead:

- Work to institutionalize proposed policy changes
  - Bandwidth
  - UNCLASSIFIED imagery sharing
  - Information management
- Future events
  - Support to Central American crisis management events
  - Data gathering to support analyses of specific situations
  - Demo at National Defense University, Oct 08
- Keep building communities of interest
  - Links to US government agencies, NGOs, International organizations, academia, commercial partners and others
- Seek best practices, match solution sets to scenarios, and disseminate information

www.star-tides.net

Afghanistan Example

- Jalalabad and San Diego are sister cities
  - Builds on ties established through Rotary Clubs
  - These ties have enabled many other efforts
- Nangarhar Province schools and other ops
- Fab Lab in Jalalabad(www.reachback.org)
  - 6 Afghan women come to the compound in Burkas. Inside a US female MIT graduate student teaches them to operate the “classic” fab lab machines — the mini-mill, the vinyl cutter, and the laser cutter. Using computer aided deign and manufacturing they’ve made vinyl stickers, plotted designs on various materials, silk screened, cut cardboard and acrylic with lasers, made rubber stamps and circuit boards, and soldered components to circuit boards. They return to their villages to teach other Afghanis.
  - From an Afghan Deputy Chief of Police: “I'm not speaking as a police man now, I am speaking as an Afghan. I thank you and your organization peoples for bringing this to our Afghan people. All the time we say that we should send our children to the schools and university in America but here you've brought everything to the Afghans, and connected the Afghans to the university….”

Rotary-Inspired Connections

ShelterBox supports 10 people

GATR Inflatable SATCOM Dish provides bandwidth

Afghan Women at Fab Lab

Afghan Women soldering at Fab Lab

For more information, please contact

Lin Wells, wellsL3@ndu.edu, 202 436-6354

Or

Walker Hardy, hardyw2@ndu.edu, 202 685-3046