



A Different Look at the Application of Technology

Operation Enduring Freedom
2010-2011

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12th Annual Infrastructure Forum
01 December 2011

Agenda

1. Framing the Setting
2. Infrastructure/Cultural Challenges
3. Matching Technology to the Problem
4. Contractors/Construction Methods
5. Communications/Partnerships
6. Some Closing Thoughts Beyond Engineering

Goal for Today

Share with you some of my observations;
the conclusions will be yours to draw.

My Take on the Bottom Line...

- Afghanistan is truly a “problem-solvers paradise” – but there are technology lessons to be captured
- The technology/design must match the context of the problem – not the experience of the engineer or what works where you came from.
- Can the available/affordable contractors build what you design? What worked before?
- Effective communication is essential. We could stand to spend more time developing relationships.
- The message you send and how it is perceived is essential to ultimate project success – you must win the information fight. Understand the customer’s idea of what right looks like.
- The ability/willingness to fund and perform proper O&M is essential. Start here, not the capital costs.

1. Framing the Setting



The Lens Through Which I See...

- Field Grade Officer with 176th Engineer Brigade at Forward Operating Base Sharana, Paktika Province, Afghanistan from August, 2010 to July 2011 – 40 miles from Pakistan
- I primarily focused on construction effects and civil military operations
- Over 27 years military experience
- Multiple missions off the FOB and around the country, some interaction with the populace/Afghan National Army – but not kicking down doors
- Saw both good and bad

An Interesting Comparison

	Texas	Afghanistan
Population	25M	28M
Land Area	260K Sq. Miles	250K Sq. Miles
Life Expectancy	78 years	45 years
Infant Mortality	7/1000 live births	152/1000 live births
Literacy Rate	>90%	28%





TF HIPPO
Czech Air Force







Not just a desert...





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Other Factors

- Religious Practices
- Tribal Allegiances
- Region
- Climate/Elevation
- Foreign influences – Past and Present
- Gender Bias
- Unrecognized Borders

Challenges for the future...

- Small percentage of bad guys and committed coalition supporters - Large percentage of “fence sitters”
- Appointed, not elected leadership at all levels but the top
- Literacy
- Infrastructure
- Sustainable Future Revenues
- Criminal Enterprises/Corruption
- Drought/Agricultural Conditions
- Equating Afghanistan to Iraq

2. Infrastructure/Cultural Challenges





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**Add a new category to the environmental
assessment.....**



Part of the Municipal Fleet





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Roundabout Traffic Flow??



Rush Hour – Kabul Style



3. Matching Technology to the Problem





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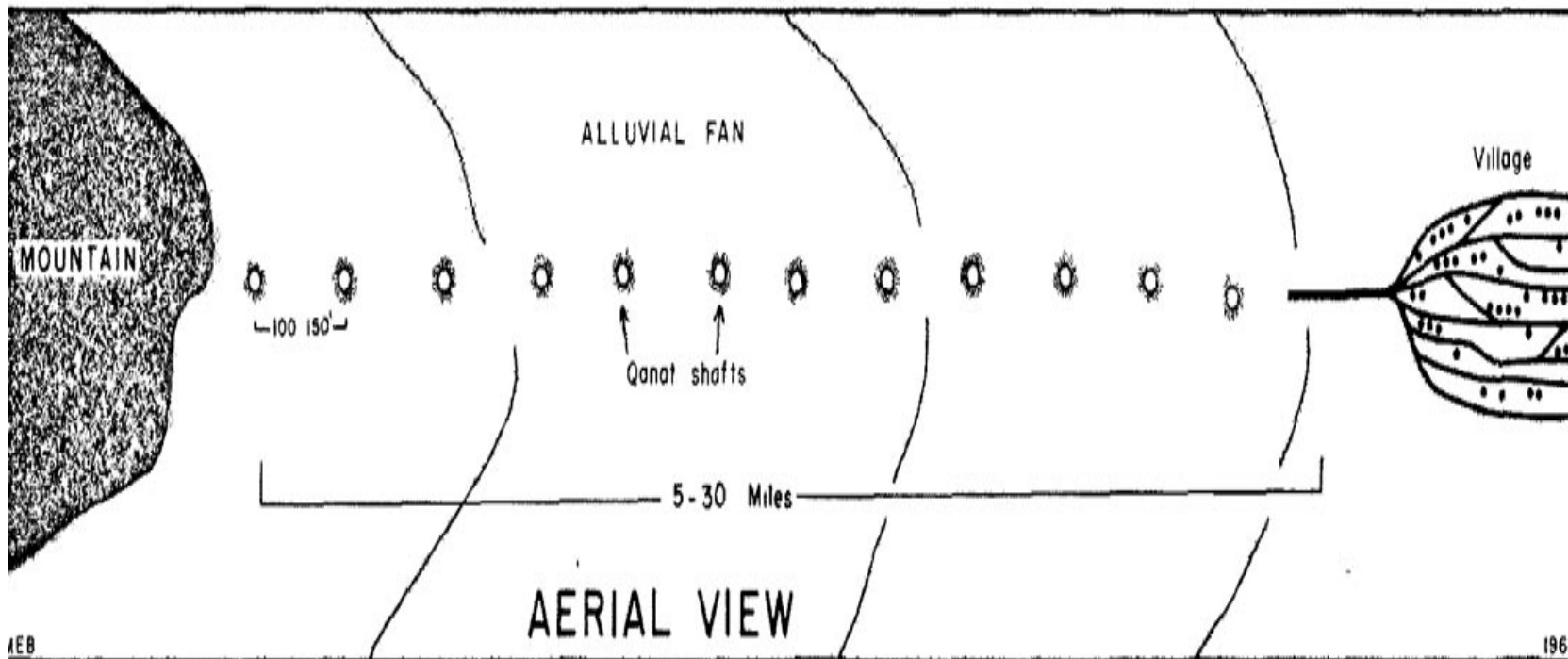
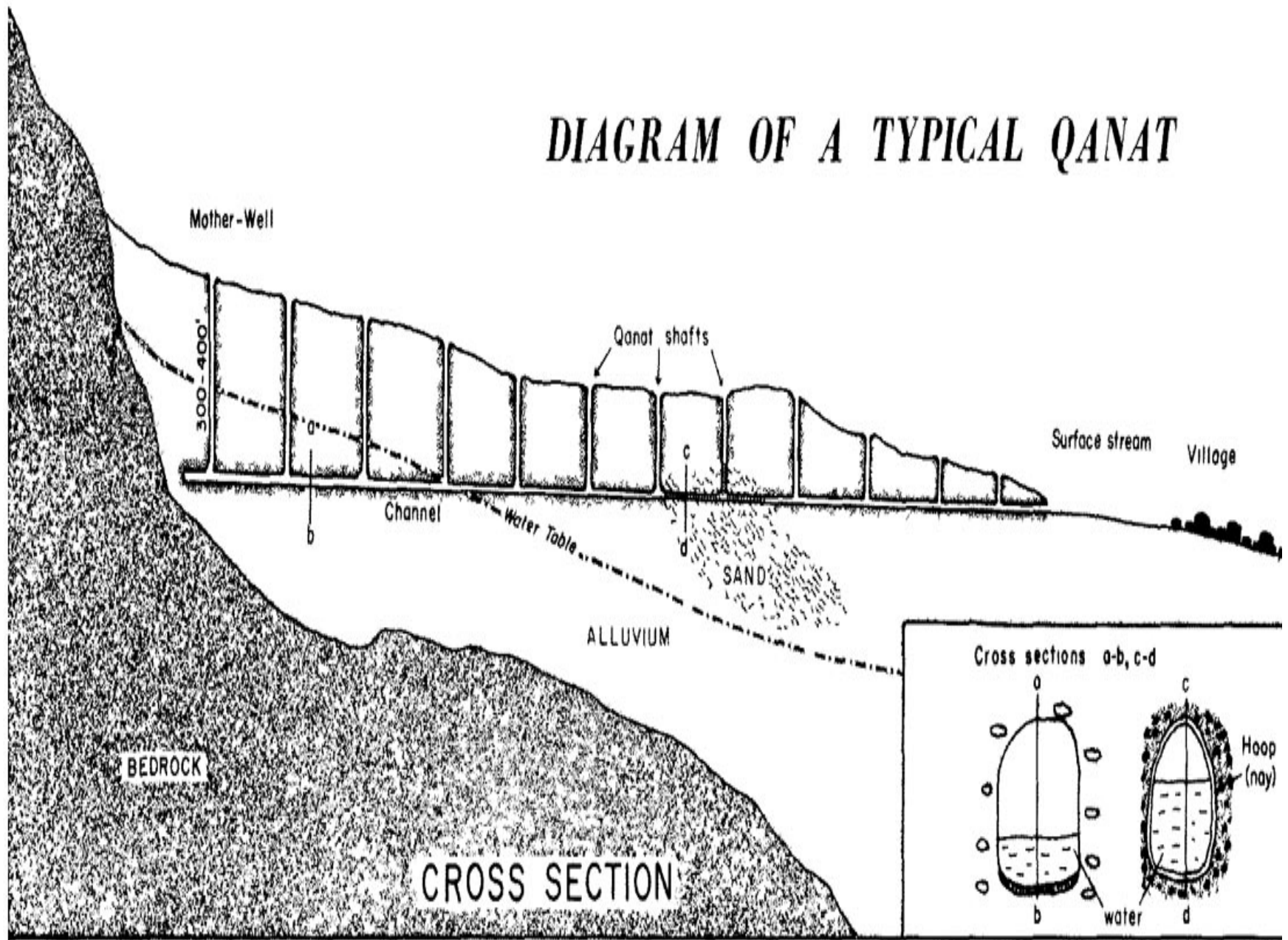


DIAGRAM OF A TYPICAL QANAT



Survey and Design



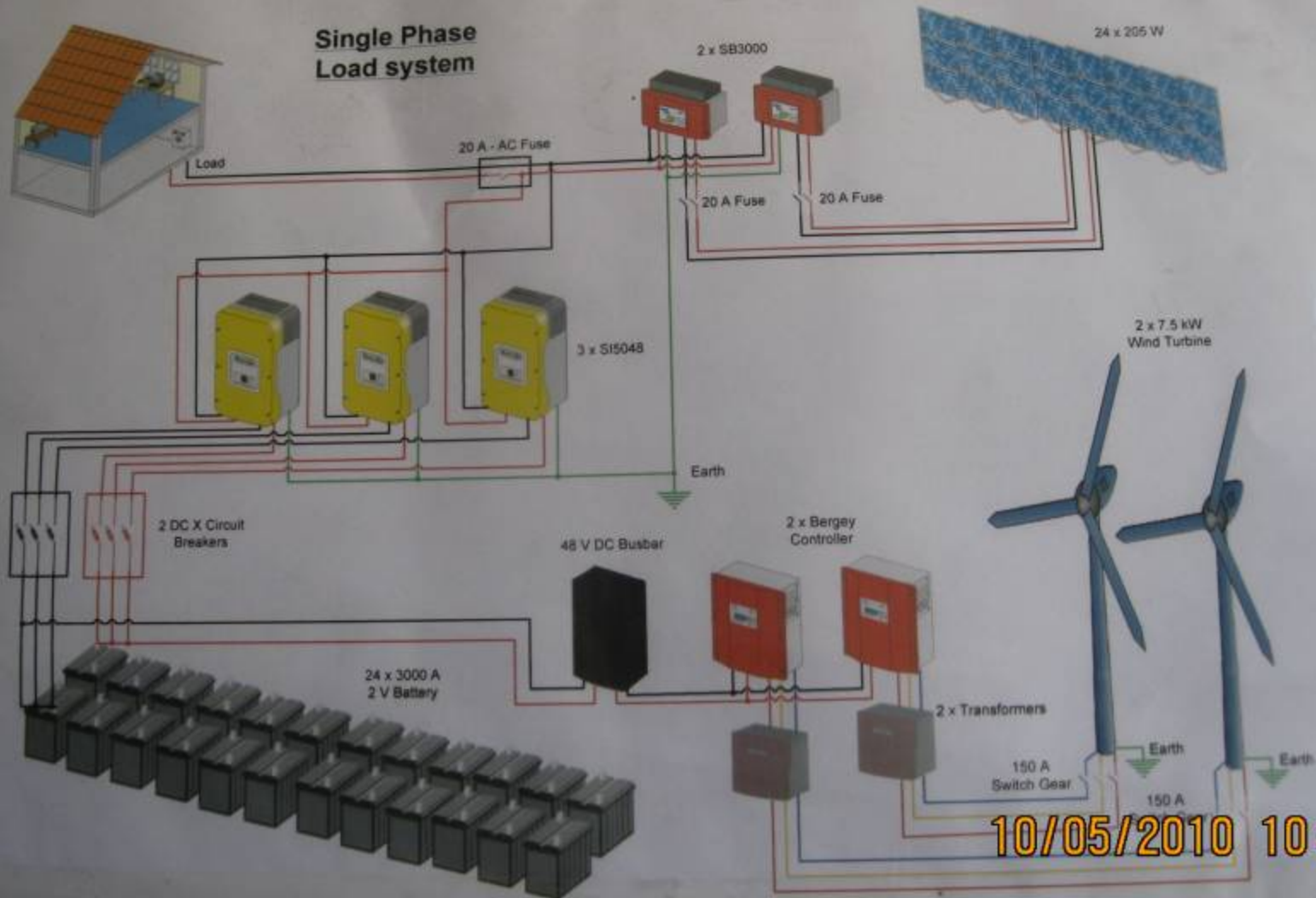
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Main Power Panel at a Regional Hospital



Sharana Hospital Wind Generation





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Shallow Well Drilling



Local National Shallow Well Drilling





Water Well Drilling – Naghlu Dam

4. Contractors/Construction Methods



Heated Sleeping Area



Equipment Failure



Excellent Use of Available Materials and Skills



Typical Masonry Construction



Nice Finished Product



Sharana Orphanage Construction



Civilian Construction Skills Training



Practical Experience - Road Construction





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Supports for Concrete Roof Construction



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Inside or Outside Dimensions?



Naghlu Dam/Reservoir





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FOB Sharana Trauma Center



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Typical Construction for Offices/Housing



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5. Communications/ Partnerships



Technical Staff who can provide the Owner – Contractor Link



Construction Partnering With Afghan Army Combat Engineers



Building Relationships



After the Ribbon-Cutting



Project Prioritization



Graduation





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6. Some Closing Thoughts Beyond Engineering



**Christmas Day
2010
FOB Sharana**

Staying true to Aggie Traditions





***“We come here to remember those who were killed,
those who survived, and those changed forever”
(Oklahoma City National Memorial)***

Thanks for the Support to us and all of our fellow Soldiers, Airmen, Sailors, and Marines

- Our Family and Friends
- Our Employers
- Churches
- Emails/Letters
- Care Packages
- DFW Airport
- Many others





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