Developing an Army Water Security Strategy

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**Developing an Army Water Security Strategy**

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17. **LIMITATION OF ABSTRACT**

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19a. **NAME OF RESPONSIBLE PERSON**

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AEPI’s Interest in an Army Water Security Strategy

• Outgrowth of AEPI’s groundbreaking work on sustainability
• Integrate different analytical perspectives
• Holistic and long-term opportunities
• Actionable recommendations
Army Water Security Strategy: Motivators

**Institutional / Training**
- Future imbalances between supply and demand
- Uncertainties concerning future availability, quality, and cost
- Uncertainties related to climate change and demography
- Renewable energy increases water demands
- More realistic training scenarios to match deployment water situation

**Operations**
- Vulnerabilities associated with extended use of bottled water
- Use of integrated watershed management
- Uncertain duration makes optimal choice for water delivery less clear
- Complex interagency and international coordination requirements
- Integration of Army civil works expertise

**Supply Chain**
- Spatial and temporal risk associated with embedded water
- Use Army market power to increase sustainability of suppliers
Linkages with Leadership Initiatives

Institutional
- Net Zero Installations Initiative
- Army Campaign Plan
- Army Sustainability Campaign Plan

Operations
- Army Contingency Basing Strategy & Campaign Plan
- Army Base Camp ICDT
- Army Campaign Plan

Supply Chain
- Green Procurement
- Fully burdened cost of fuel and water
Engaging Army and Non-Army Stakeholders

7: Strategy Finalization

1&2: Issue and Stakeholder Identification

5: Risk and Intersection Analysis and Taxonomy Refinement

3&4: Taxonomy Development and Stakeholder Outreach

Project begins and ends with a focus on the critical stakeholders

6: Strategy Review

Marstel-Day’s Methods

Project begins and ends with a focus on the critical stakeholders
The capacity to ensure that water of suitable quality is provided at a sustained rate sufficient to support all current and future Army missions as needed. Army water security should

- include deliberate efforts to minimize direct costs
- minimize associated energy and transportation costs
- mitigate occupational and combat-related risks
- avoid damage to the environment (at home and in host nations)
- ensure long-term, sustainable access
- engage other users of shared water resources to plan for future water needs
Growing pressures outside fence line
• Water rights questions

System integrity
• Vulnerabilities to natural disaster/attack

Need system integrity to secure reuse and repurposing

Lack of reliable use data to guide investment
• Not planning for future demand

Water-Related Vulnerabilities for Army Installations

Water Security

Sources

Production

Distribution

Use

Disposal
Water Resource Vulnerabilities in Army Overseas Operations

- Lack of oversight on waste water disposal
- Water bottle waste; volume/hazards
- Local source unavailable or outside fence line
- Source of friction with local community
- Dependence on bottled water
- Hydration during bio/chemical event
- Costs and risks of transporting bottled and bulk water
Intersection with Other Resources

Energy / Power Generation

- **Water intensive**: Fuel production (conventional, renewable, biofuels) and power generation
- **Energy intensive**: Pumping, treating, and transporting water; desalinization

Agriculture/Environment/Ecosystem Services Resources

- **Increased competition**: Agriculture and local communities needs
- **Water quality concerns**: on and off the installation
- **Changing water patterns**: Impacts on raw water source, T&E habitats; challenges to and imperative for preservation of natural infrastructure
Initial General Insights

• Policy is compliance-driven; i.e., how to treat water entering and being discharged from an installation
• Little focus on quality, volume, and sustainability of offbase or shared water sources
• Long-term water projections not used
  – Base Realignment and Closure
  – Stationing
• Embedded water in supply chain; not identified as policy, security, or procurement issues
• Water supply in operations more coordinated and focused
Initial Key Insights: Institutional

- A unified water management program at the Secretariat and installation levels is needed
- Protecting Army water rights is vital
- Quality and type of information collected is questioned
- Municipal utility model may offer approach to comprehensive coordination, planning, management
- Attention to infrastructure tends to be reactive; long-term investment a challenge
Initial Key Insights: Institutional (2)

• Privatization can provide compelling savings and investments in infrastructure, but security issues

• Conservation planning done for compliance; long-term water security planning, as broadly defined here, is not included

• Conservation may not result in water security

• Water security issues not factored into land conservation programs

• Among installation, more action is taken where the water security problems are more severe
Initial Key Insights: Operational

• Institutions, organizations, personnel, and processes dedicated to improving solutions for meeting warfighter water needs

• Key concerns remain
  – Operator skill
  – Packaging and treatment technologies

• Rebuilding and sustaining Army skill sets in key capabilities is necessary
  – Civil engineering design (not just assembly)
  – Well drilling
  – Master planning
  – Integrated water resources management regionally
Initial Key Insights: Operational (2)

• Split Warrant Officer responsibilities into energy and water

• Diverse perspectives on bottled water; requires a hybrid solution
  – Proponents—benefits of soldier hydration; transportability
  – Opponents—focus on waste, life cycle cost, and operational vulnerabilities

• Best practices for contingency bases
  – Siting and planning access to local water sources
  – Leadership preparation (e.g. “Mayoral Cell” concept)
  – High sensitivity to host nation community perceptions / needs
Next Steps

• Translating the key findings into goals and objectives in a draft strategy document
• Circulating draft strategy for review
• Hosting review workshop in summer timeframe
• Finalizing and publishing strategy in fall timeframe
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Questions