



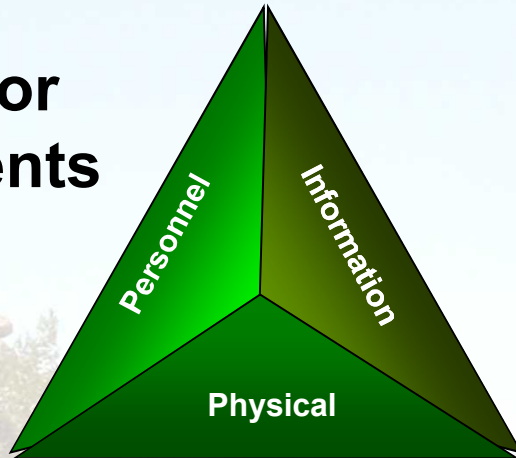
INTERNATIONAL BORDER MANAGEMENT SYSTEMS

Managing Security Risks at International Borders

April 2008

Border Management Systems Model

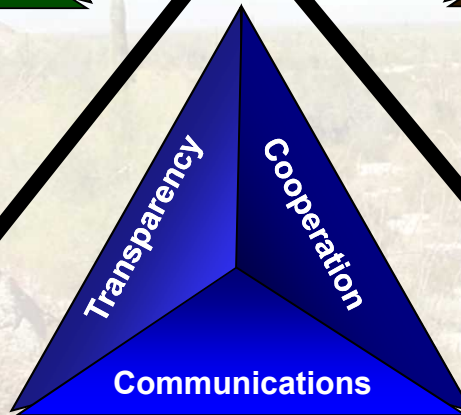
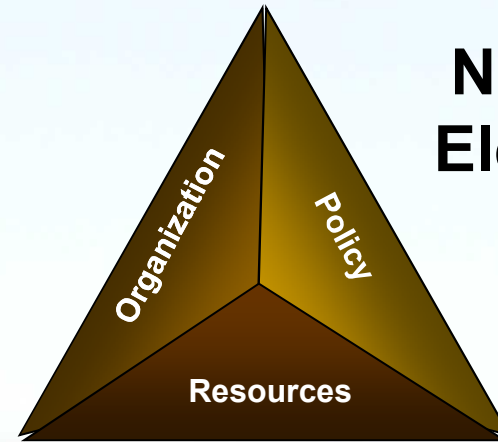
Sector Elements



Points of Entry
and areas in
between in the
domains of

- Land
- Water
- Air

National Elements



Global/Regional Elements

Challenges

Human Challenges

- **Normal, Routine**
 - Tourists, Traders
 - Nomadic, Tribal, Cultural, Familial
- **Abnormal**
 - Refugees, Illegal Immigration
- **Criminal**
 - Smugglers, Traffickers
- **Malevolent**
 - Terrorists, Insurgents
- **Military**

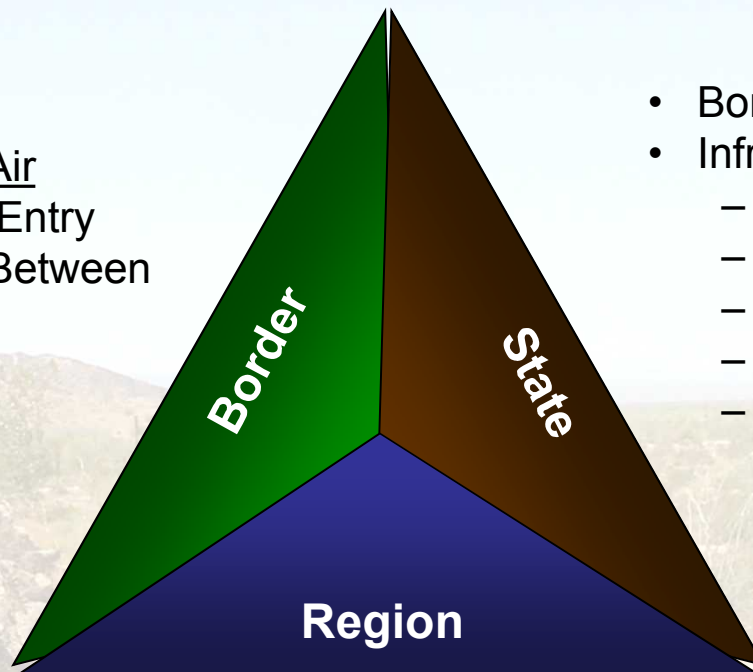
Commodities of Concern

- **Weapons of Mass Destruction/Disruption**
- **Conventional Weapons**
- **Tariff/License Avoidance Products**
(Cigarettes, Autos, Counterfeit Goods)
- **Contraband**
(Drugs, Literature, Precious Gems/Metals, Stolen Goods)
- **Currency**

Border Management Systems

Land, Sea, Air

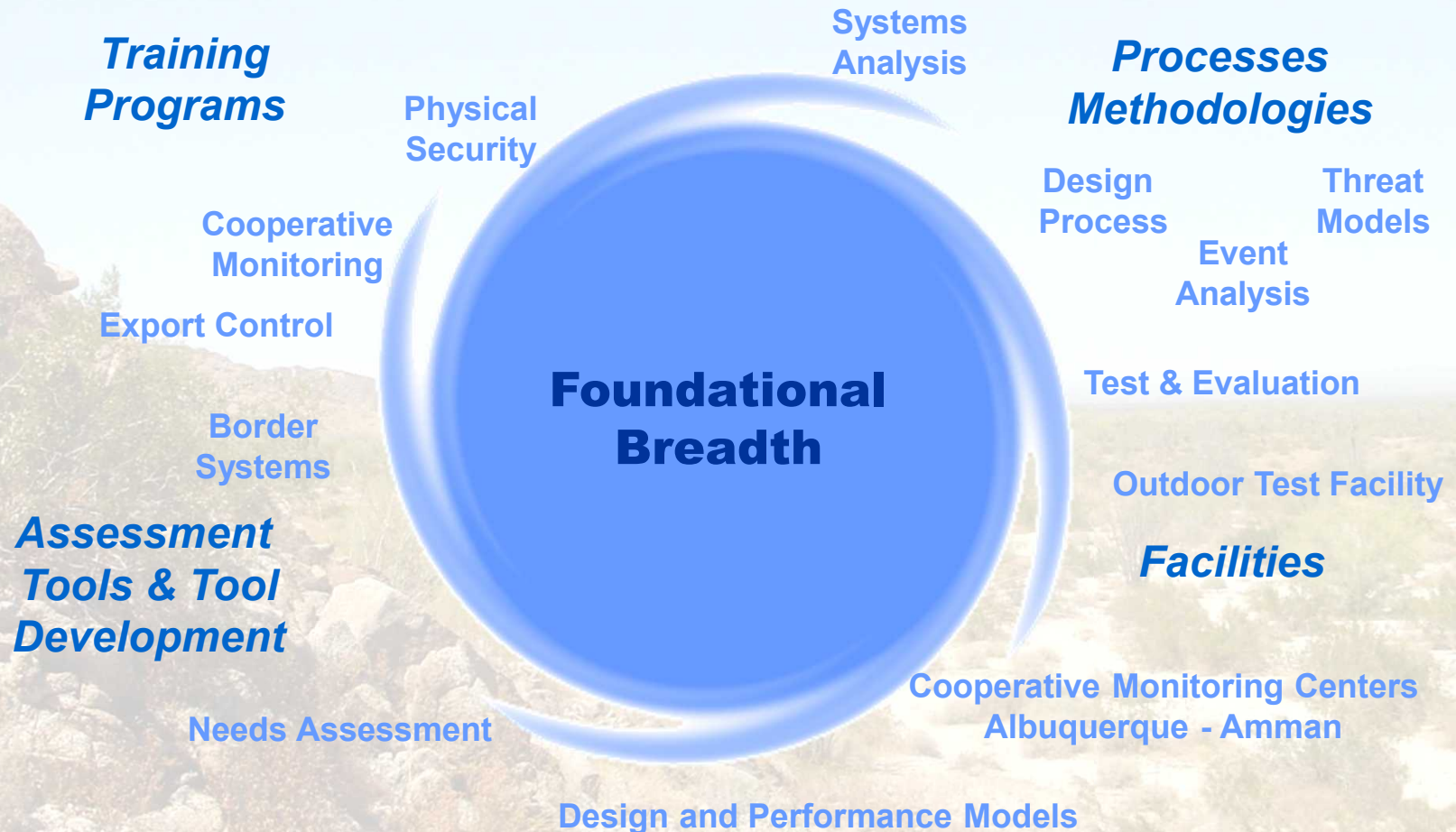
- Points of Entry
- Areas in Between



- Border Doctrine & Policies
- Infrastructures
 - Legal
 - Organizational
 - Personnel
 - Equipment
 - Technology

- Relationship with Neighbors
- International Agreements/Treaties

Border Capabilities



BORDER MANAGEMENT SYSTEMS ANALYSIS



Cooperative Monitoring Centers

Albuquerque - Amman

Technology testing and demonstration



Technology integration and operation



Technology training courses and workshops



Visiting scholars program, research, and analysis



Outdoor Test Facility

Sensor, camera, and communications array at the SNL Outdoor Test Facility, Albuquerque



DHS Test and Evaluation in the Field at the US-NM Southern Border



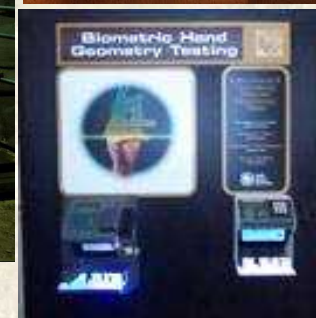
Border monitoring technologies evaluations

Objectives

- Evaluate, deploy, and demonstrate border security technologies and systems in realistic outdoor environments
- Enable the gathering of performance parameters for analysis
- Provide infrastructure for testing unattended ground sensors and cameras

Other Sandia's Unique Facilities

- Outdoor Sensor Test Range
- Robotics facilities
- TEAMS site
- Area III sensor test facility
- Explosive detection laboratories
- Delay laboratory
- Super computing facilities
- Biometrics laboratory
- Satellite Imagery and Analysis
- Outdoor Test Facility



INTERNATIONAL BORDER MANAGEMENT SYSTEMS PROGRAM

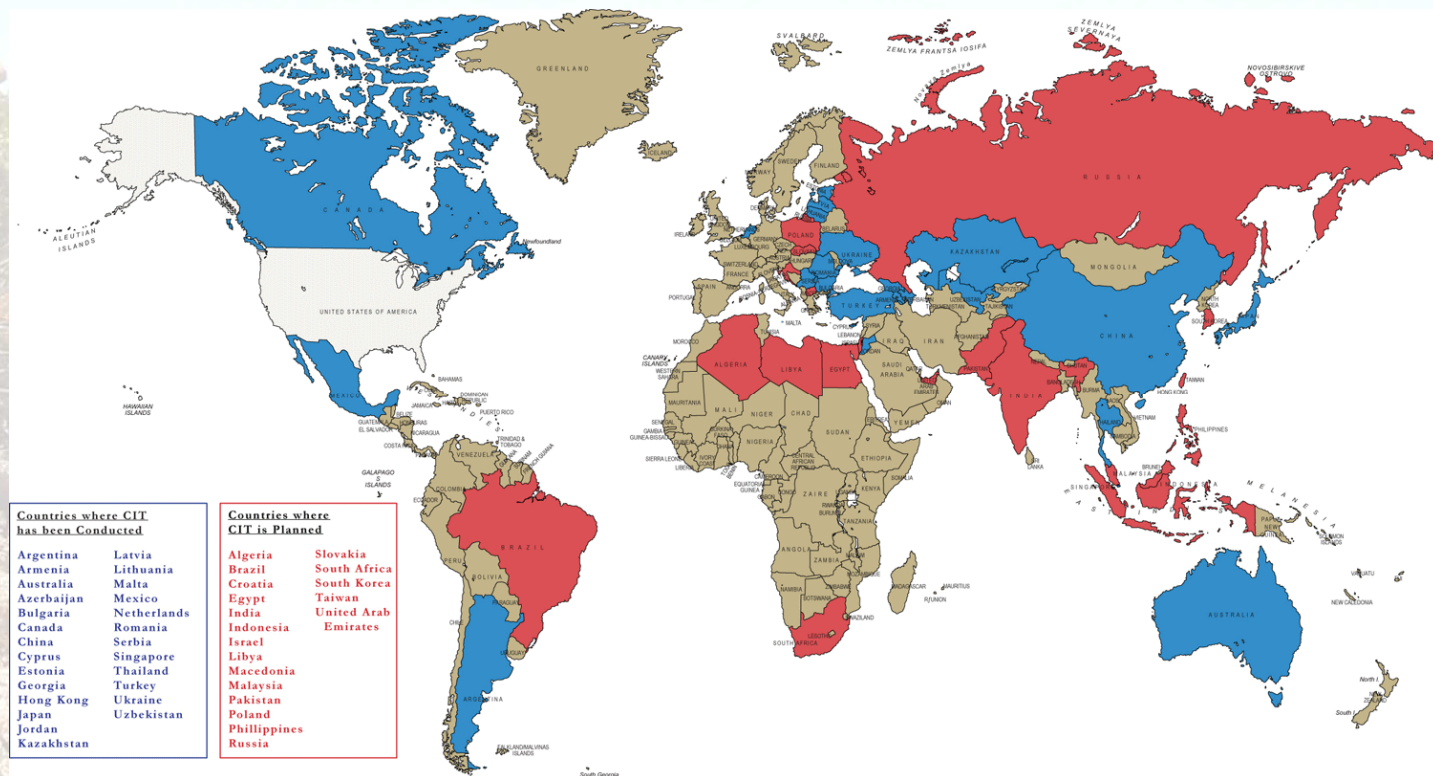


Strategic Partnerships

- **National Defense University**
 - Integration of concepts into curriculum
- **Regional Network of Strategic Studies Center**
 - US Co-chair for Border Security & WMD Working Group
- **Defense Threat Reduction Agency**
 - Possible Test & Evaluation of Sensor Technologies, Analyses Partner
- **International Boundaries Research Unit**
 - Curriculum Development/Implementation for Workshop on “Strategies and Tools for Effective Border Management”

Export Control

- International Nonproliferation Export Control Program (INECP)
 - Commodity Identification Training (CIT)
 - CIT and End Use/End User



Objective

Provide and install integrated, sustainable radiation detection systems at international crossing points and ports to minimize the risk of nuclear proliferation and terrorism



Rail monitor



Vehicle and Pedestrian monitor



Vehicle monitors

Megaports Equipment

- Types of equipment provided:
 - Fixed
 - Vehicle monitors
 - Rail monitors
 - Advanced Spectroscopic Portals
 - Handheld
 - Personal Radiation Pagers (PRDs)
 - Radioisotopic Identifiers (RIIDs)
 - Radiation Survey Meters
 - Mobile Units
 - Straddle Carrier
 - Mobile Radiation Inspection Detectors Systems (MRIDS)



TSA Survey Meter



ORTEC Detective



Personal Radiation
Detectors (paggers)



Thermo
IdentiFINDER



International Seaport Security Initiatives

DOE/NNSA Megaports Initiative

Scans as many containers as possible regardless of destination

Focus on Special Nuclear Material (SNM) or other radioactive material of proliferation concern

Data evaluated and maintained by host Government with specific modifications per MOU

DHS Container Security Initiative (CSI)

Utilizes Automated Targeting System to identify high-risk shipments to the U.S.

Focus on Weapons of Mass Destruction (WMD) and/or implements of terror

Scanning is conducted by host nation and data on targeted containers is shared with CSI

NNSA/DHS Secure Freight Initiative (SFI)

Migration of Megaports and CSI for scanning and identifying US-bound high-risk containers

Focus on WMD, implements of terror, and SNM or other radioactive material of proliferation concern

All data to host country; data on US-bound containers to host government, CSI, and to the US National Targeting Center

Summary of Capabilities

- **Assessments, Analysis, and Implementation Guidance on Border Management Systems**
- **Export Control**
- **Field and Environmental Testing of Technologies**
- **Modeling and Simulation**
- **Visiting Scholars Program**

Ports of Entry and Open Area Surveillance for

- Land
- Water
- Air

Border Management Systems



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**INTERNATIONAL BORDER
MANAGEMENT SYSTEMS**

Other Regional Engagements

Iraqi & Libyan Engagement

Two Active Projects with Libya

- **Analytical Water Quality Lab**
- **Sea Water Desalination**

Objective

To engage Libyan scientists in cooperative S&T projects that utilize Libyan expertise and address needs in Libya's S&T community



Objective

Engage Iraqi scientists to develop S&T projects to rebuild key elements of the Iraqi infrastructure, and develop new business opportunities that capitalize on Iraqi expertise

- Current Activities
- Funding small scale projects in energy, water, materials, public health, agriculture, radiation safety, and the environment
- Connecting Iraqi scientists and engineers to regional events and activities
- Training
 - Emergency response
 - Environmental sampling and laboratory analysis
- S&T Business development
- Ibn Sina silicones production

Confidence Building and Engagement in the Middle East

- **Middle East Policy Dialogue**

- Participate in track II regional security meetings organized by UCLA Burke Center
 - Lead a working group focused on technical cooperation
- Conduct analytical studies
 - Iranian Constitution
 - Stability of the Iranian Regime

- **Radiation Measurements Cross Calibration (RMCC) Project**

- Develop a network of scientists to address issues such as proliferation monitoring, environmental assessments, emergency response, and radioactive materials smuggling
- Partnered with the IAEA, CTBTO, DOE/MAPEP
- Worked with Kuwait Institute for Scientific Research (KISR) to conduct the first RMCC workshop
- Worked with the Supreme Council for the Environment and Natural Reserves (SCENR) to conduct the second workshop held in Doha, Qatar
- Worked with the Ministry of Regional Municipalities Environment & Water Resources (MRMER) to conduct the third workshop held in Muscat, Oman



First RMCC Workshop, Kuwait, October 2004



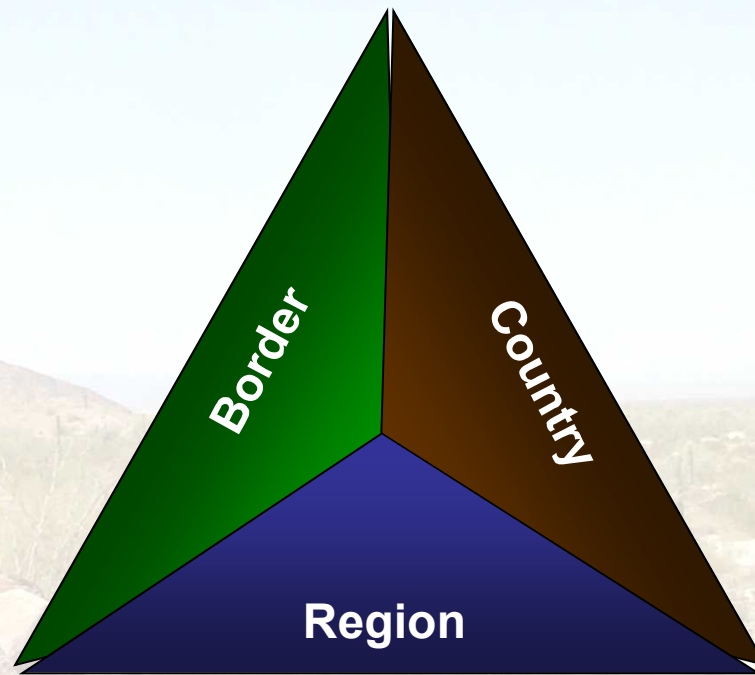
Second RMCC Workshop, Doha, Qatar,
November 2005



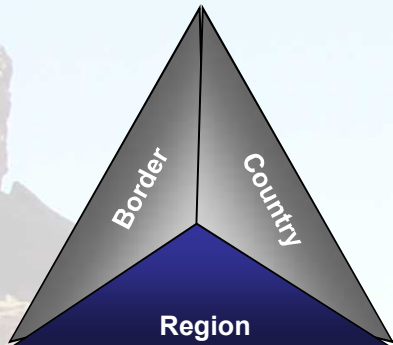
**INTERNATIONAL BORDER
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Systems Model

Border Management Systems



Regional Layer

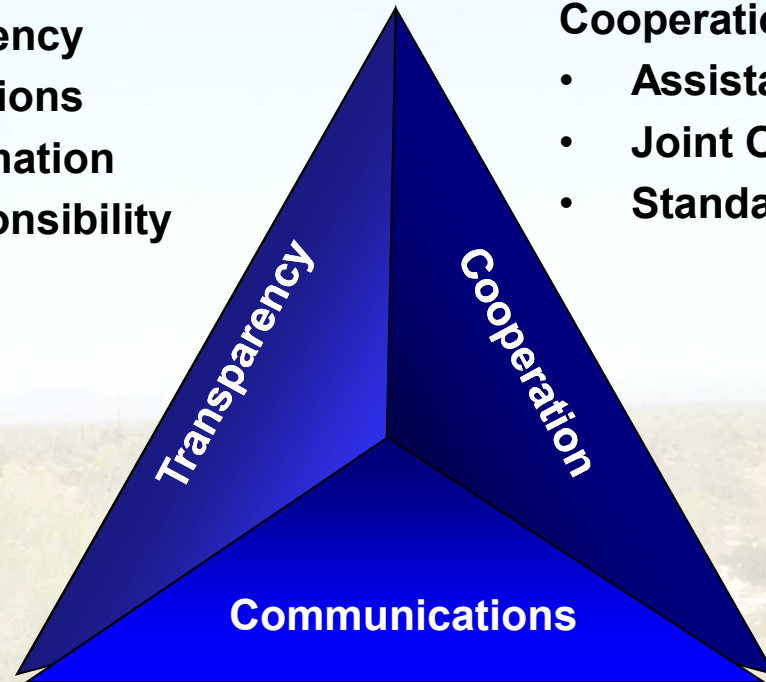


Transparency

- Intentions
- Information
- Responsibility

Cooperation

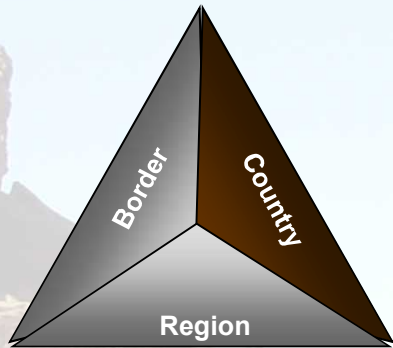
- Assistance
- Joint Operations
- Standards



Communications

- Operational
- Bilateral
- Multilateral

National Layer

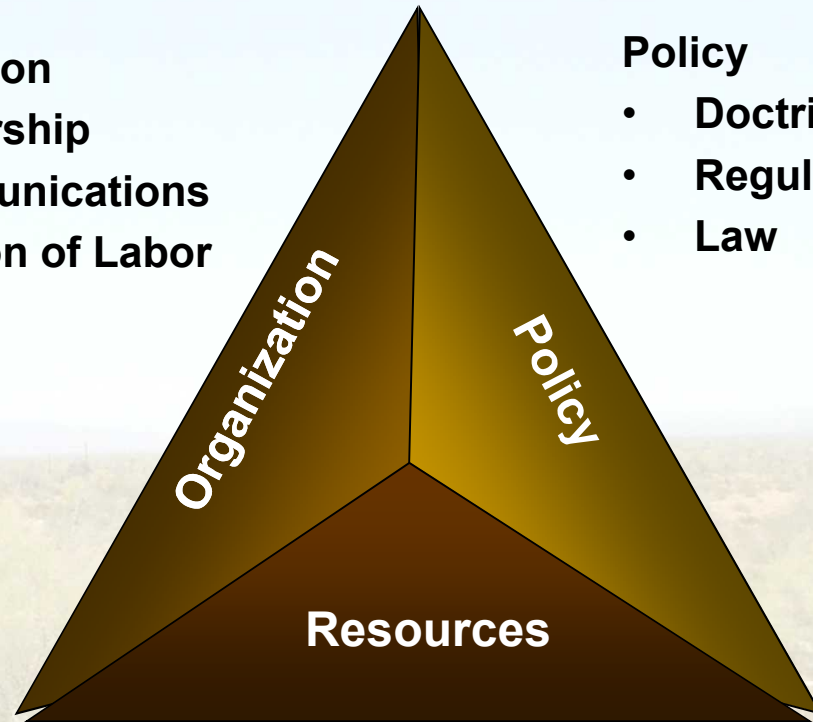


Organization

- Leadership
- Communications
- Division of Labor

Policy

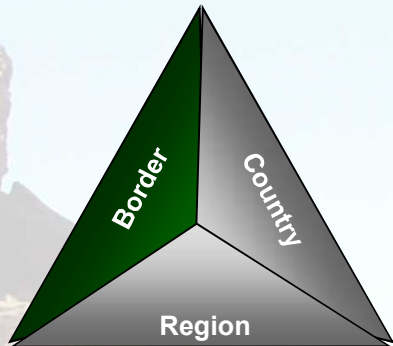
- Doctrine
- Regulations
- Law



Resources

- Financial
- Technical
- Human

Border Layer

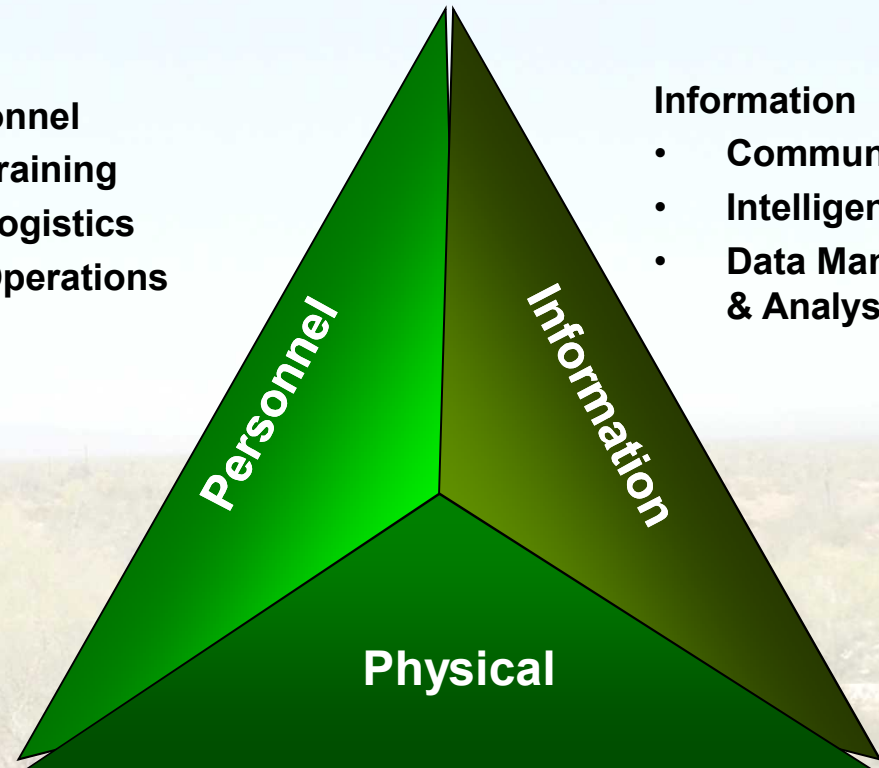


Personnel

- Training
- Logistics
- Operations

Information

- Communications
- Intelligence
- Data Management & Analysis



Physical

- Infrastructure
- Equipment & Technology
- Logistics