Why Control Arms?

- **Treat threats at level of “capabilities”**
  - Less capacity for attack
  - Helps determine intent
  - Increases transparency and predictability
    - Early warning
  - Mutual security/benefit

- **Risk to self of excess weapons**
  - Accident and miscalculation
  - Environmental

- **Reduce expenditures**
  - Avoid arms race

- **Non-proliferation**
  - Less access by others

- **Creation of norms**
  - “International control regimes”
  - Rule of law
  - Non-discriminatory
Types of Arms Control

- Weapons of mass destruction (WMD)
  - Nuclear, chemical, biological, radiological
- Conventional Weapons

- Unilateral
- Bilateral
- Multilateral
  - Regional or Global

- Disarmament
- Confidence-building measures (CBMs)
Treaty Process

1. Negotiation
   - GA endorsement

2. Signature
   - Opening

3. Ratification
   - Implementing legislation

4. Entry into force (EIF)

Example:
Comprehensive Nuclear Test Ban Treaty (CTBT)
TREATIES
Hiroshima

15 kT
50 Megaton

Largest nuclear weapon test
"Tsar Bomba“, Novaya Zemlya
October 30, 1961, yield 50 megatons

(www.answers.com/topic/tsar-bomba)
Testing Control

Partial Test-Ban Treaty (PTBT)
- 1963
- Bans nuclear weapon tests in atmosphere, outer space and underwater

Comprehensive Nuclear-Test-Ban Treaty (CTBT)
- 1996
- CTBT Organization (CTBTO) Preparatory Commission
NUCLEAR DISARMEMENT IN THE POST-COLD WAR ERA

PUGWASH NOVA SCOTIA
1957 CONFERENCE
Status as of 4 September 2007

TOTAL STATES 195

SIGNATORY STATES 177

RATIFYING STATES 19

NON-SIGNATORY STATES 15

44 STATES LISTED IN ANNEX 2 TO THE TREATY

For further information please visit our website: http://www.ctbto.org
Mitigating Nuclear Proliferation

Nuclear Non-Proliferation Treaty (NPT)

- Two types of states
  - Nuclear Weapons States (NWS)
    - Fr, PRC, UK, US, USSR/R, UK only
  - Non-Nuclear Weapons States (NNWS)
- Grand bargain
  - NWS agree to share peaceful nuclear technologies
  - NNW states agree not to develop or acquire NWs
NPT Article VI

“Each of the Parties to the Treaty undertakes to pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms race at an early date and to nuclear disarmament, and on a Treaty on general and complete disarmament under strict and effective international control.”
NPT Implementation

- 189 parties
  - Non-signatories: India, Pakistan, Israel & N. Korea

- International Atomic Energy Agency
  - Full-scope nuclear safeguards
  - Peaceful Uses
IAEA Safeguards

- Over 900 facilities in 71 countries under inspection
- 250 inspectors, $70 million per year
- Accountancy and physical inventory of materials
- Containment and surveillance
- Non-discriminatory approach
  - 79% spent in Canada, Europe and Japan
- Limited to declared materials and facilities
- Additional Protocol
Bilateral Nuclear Agreements

**Strategic Arms Limitation Treaty (SALT) I**
- 1972
- Froze number of strategic ballistic missile launchers

**Anti-Ballistic Missile (ABM) Treaty**
- 1972
- 2002 US withdrawal

**SALT II**
- 1979

**Intermediate-Range Nuclear Forces (INF) Treaty**
- 1987
- 500-5,500 km range
- 2,692 destroyed (846 US, 1,846 Soviet Union)
- 2007: Putin threatens to withdraw
Strategic Arms Limitation and Reduction Treaty (START I)
- 1991
- 6,000 deployed warheads (WH)

START II
- 1993
- WH ceiling 3,000–3,500
- U.S. ABMT withdrawal, Russia not bound

Strategic Offensive Reductions Treaty (SORT)
- Signed 2002; EIF 2003
- "Moscow Treaty"
- Deployed WH to 1,700-2,200 by 2012
- Expires 2012
Nuclear Weapon-Free Zones

Treaties: Antarctic (1959); Tlatelolco (1967); Rarotonga (1985); NZ (1987); Palendaba (1996); Bangkok (1995); CANWFZ (2006)
North Korea

- **1994 Framework Agreement**
  - Freezes graphite-moderated reactor and related facilities/fuel; IAEA monitoring
  - $4 billion incentives
    - Heavy fuel oil and two proliferation-resistant nuclear reactors

- **Withdrawal**
  - 2002 US announces N. Korea admitted to covert uranium enrichment program
  - Korean Peninsula Energy Development Organization (KEDO) cut off fuel oil shipments
  - IAEA inspectors ejected in 2002; withdraws from NPT
  - Restart nuclear reactor (>50 kg HEU)

- **2006 Nuclear Test**

- **2007 Agreement**
  - Six nation talks
  - Second summit
Outer Space

- 1963 Partial Test-Ban Treaty
- 1967 Outer Space Treaty

“Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies”

- No WMD in orbit or on celestial body
- Moon only for peaceful purposes, no national claims
- 1979 Moon Treaty expanded OST but unratified by any major space-faring power
Chemical Weapons

Geneva Protocol

- Signed 1925
- Prohibits the use of biological & chemical weapons in war

Chemical Weapons Convention (CWC)

- Signed 1993; EIF 1997
- Organisation for the Prohibition of Chemical Weapons (OPCW)
  - The Hague
Bioweapons

Biological and Toxin Weapons Convention (BTWC or BWC)

- EIF 1975
- Small pox, anthrax, plague, botulism
- Prophylactic (defensive) research allowed
- No verification provisions
  - Proposed Verification protocol
Conventional Arms Control

- Main conventional weapons
- Small arms and light weapons
- Anti-personnel mines (APM)
Early Arms Control (Naval)

Rush-Bagot Treaty (1817)
- First US arms control treaty
- Limits naval vessels on Great Lakes

Washington Naval Treaty (1922)
- Five-Powers: US, British Empire, Japan, France, Italy
- Limited tonnage
Small Arms & Light Weapons

- Real weapons of “mass murder”
- Estimated 639 million small arms and light weapons (SALW) in circulation worldwide.
- 49 major conflicts in 1990s, 47 small arms weapons of choice
- 300,000 killed every year by SALW
SALW (Cont’d)

- United Nations Conference on the Illicit Trade in Small Arms and Light Weapons in All Its Aspects will take place
  - 2001 and biennially
  - SALW Programme of Action
- Practical Disarmament Measures
  - Trust Fund for the Consolidation of Peace through Practical Disarmament Measures
UN Conference and Beyond

- Encourage greater transparency: “lessons learned” on SALW Programme of Action
  - SALW reporting mechanisms
- Norms of behaviour against illicit SALW
- Controls on brokers of SALW
- Engage/assist civil society
- Momentum on the international agenda
Anti-Personnel Mine Treaty

- Ottawa Process / Convention
  - Ottawa 1997; EIF 1999
  - Expands Protocol II of the Convention on Certain Conventional Weapons
- 122 original signatories, currently 156
  - 39 countries have not joined yet
- Producing countries from 50 to about dozen
- Trade almost non-existent
- Only Burma and Russia use APM
- 40 million stockpiled mines destroyed
- $400 million spent globally per year on mine action
- Victim assistance
UN Transparency Measures (Voluntary)

- **Register of Conventional Arms**
  - Annual reporting since 1992
    - battle tanks, armoured combat vehicles, large-calibre artillery systems, combat aircraft, attack helicopters, warships (including submarines), missiles and missile-launchers
  - 170 Member States reported one or more times

- **System for the standardized reporting of military expenditures**
  - Introduced 1980
  - World-wide platform for nations on defence spending

- **Comparison of military data**
  - Among nations
  - Of nations over time

- **Incentive for dialogue among nations**

- **Creation of an atmosphere of openness and trust**

- **Eventually lowering of military expenditures/arms**

Source: Colonel (GS) Gerhard Schepe, Deputy Commandant, NATO School
## Transparency in Military Expenditures

<table>
<thead>
<tr>
<th>FORCE GROUPS</th>
<th>LAND FORCES</th>
<th>NAVAL FORCES</th>
<th>AIR FORCES</th>
<th>OTHER COMBAT FORCES</th>
<th>CENTRAL SUPPORT ADMINISTRATION AND COMMAND</th>
<th>PARAMILITARY FORCES</th>
<th>UNDIST.</th>
<th>TOTAL MILITARY EXPENDITURES</th>
<th>CIVIL DEFENCE</th>
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<td>2.2.12 LAND</td>
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<td>2.2.13 OTHER</td>
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<td>3. RESEARCH AND DEVELOPMENT</td>
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<td>4. TOTAL (1+2+3)</td>
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<td>20,151</td>
<td>42,651</td>
<td>31,354</td>
<td>5,609</td>
<td>13,530</td>
<td>22,465</td>
<td>201,748</td>
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</tbody>
</table>

*Fiscal year: 2000*
Established 1979 as disarmament negotiation forum
- BTWC, CWC, CTBT
- 65 Member States

Current issues:
- Nuclear disarmament
  - Fissile material cutoff treaty (FMCT)
- Negative security assurances (NSA)
- Prevention of nuclear war
- Prevention of an arms race in outer space (PAROS)
- Transparency
- Deadlock
  - PAROS
Cluster Munitions Ban

- Convention on Cluster Munitions (May 2008)
- Norwegian lead (Ottawa process)
- Signing ceremony (Dec 2008)
Regional Disarmament & Confidence-building Measures (Europe)
Conventional Armed Forces in Europe (CFE) Treaty

- Signed 1990; Adapted 1999
- 30 participating states (22 Allies + 8 Partners)
- Land Areas “From Atlantic To Urals”

Goals:
- Establish a secure & stable balance of conventional armed forces at lower levels
- Eliminate capability for surprise attack & large scale offensive action
- Establish new pattern of security relations
Accomplishments:

• 60,000 TLE reduced
• 4,000+ on-site inspections
• CFE demonstrated viability in peacetime and during crises
• New pattern of European security relations has been established
• Threatened 2007
  • BMD
  • Russia suspend treaty
Vienna Document (VD-99)

- 54 states in Organization for Security and Cooperation in Europe (OSCE)
- CSBMs to increase transparency and predictability

Sharing info
- Holdings, organization, doctrine and supporting defence budgets
- Constrains size of specified military activities
- Intrusive inspection and observation regime. Provides measures to reduce risk and assist in crisis management

Series of CSBM documents (VD90 and VD94) part of Helsinki process dating to 1975

Signed 1999 as a **politically binding** document
Open Skies

- Unarmed aerial surveillance flights over entire territory of participants
- From “Vancouver to Vladivostok”
- Negotiations started in Ottawa (1990)
- Signature in Helsinki (1992)
- Depositories: Canada and Hungary
- EIF 2002
- 34 States Parties
Open Skies Consultative Commission (OSCC), Vienna

Aircraft: observing or observed party ("taxi option")

Sensors

- Video, optical panoramic and framing cameras
- Infra-red line scanners
- Synthetic aperture radar

- Commercially available to all
- Recognize major equipment (tank/truck)
- 30 centimetres resolution (limit)
- Imagery available to any State Party

Canada

- CC-130
- "SAMSON" sensor pod (converted fuel tank)
- Consortium (Belgium, Netherlands, Luxemburg, Canada, France, Greece, Italy, Norway, Portugal, and Spain)
- Shared flights with US
OS Quotas

- Accept proportion of its quota
  - US annual passive quota for US: 31 observation flights a year (first three-years)
  - Two flights requested over US in 2005: Russian Fed. & Belarus Group
- US entitled to 8 of the 31 annual flights available over Russia/Belarus.
Counter-Proliferation
Reducing the SALW Threat: Physical Security & Stockpile Management

- **Goal**
  - Improve Security and Accountability
  - Focus: Man Portable Air Defence Systems (MANPADS), Ammunition and High Explosives

- **Method**
  - Assessments
  - Executive & Technical Seminars

- **Bottom Line**
  - “Supports War on Terrorism”
  - “Big Return, Small Investment”
MANPADS Storage Conditions

- Often poorly secured
- No fences, lighting or security
- Homes located 100m away

- Usually SA-7, 14 or 16 missiles
- All moisture barrier seals broken
- Propellant deteriorated

Antique lock securing bunker
Physical Security and Stockpile Management Mission
Republic of the Congo
Controlling Non-State Actors:
UN Security Council Res 1540

- Adopted April 2004
- Prohibits supporting non-state actors
  - in developing, acquiring, possessing, transporting, transferring or using WMD
- Mandatory domestic legislation and controls
- 1540 Committee to monitor compliance
G8 Global Partnership

- Informal partnership of G8 countries
  - France, Germany, United States, United Kingdom, Italy, Japan, Canada, Russia
- Kananaskis Summit, 2002
  - G8 “Global Partnership Against the Spread of Weapons and Materials of Mass Destruction”
Canadian Forces
Arms Control Verification
Operations

Images in separate file
showing
ACV-SJS, CFE, VD99, OS, DPA, CWC,
GEMI, SALW/PSSM/MANPADS
Conclusion
Global Arms and Proliferation Control

APM
BWC
CD
CWC
MANPADS
NPT
SALW
Regional Arms Control and Confidence Building (OSCE Area)

CFE
OS
OSCE—CSBM
VD
etc
On Hold

- PAROS
- BTWC Verification Protocol
- CFE

Fixing the “leaking roof”
- Most needed when hardest to do
- Easiest when least needed
Future “Arms Trade Treaty”?

- UK-led Dec 2006 GA res (151:1:24)
- Regulated arms trade
  - Illicit brokers: “Merchants of death”
- Right of all states to participate in arms trade
- Global standards (human rights and IHL), sustainable development & good governance
- All int. transfers
- Info sharing, monitoring & enforcement mechanisms
- Group of Experts
Future Nuclear Arms Control?

- Fissile Material Cutoff Treaty (FMCT)
- No-First Use Treaty
- Further Nuclear-Weapons Free Zones (Arctic, Middle East, Europe, etc.)
- More steps: Deep cuts, de-alerting, sequestration
- Nuclear Weapons Convention
  - Proposed by civil society
  - Submitted by Costa Rica to the UN General Assembly in 1997
THE END
Syndicate Discussion and Questions
The End
IF I SEE ONE MORE POWER POINT SLIDE, I’LL SHOOT!!!