

The consideration on the international trend of illicit trafficking of nuclear materials

150

1991
가 (IAEA)
1995
가 . , 9.11
가
. IAEA

Abstract

Since the incident of the illicit trafficking of nuclear materials was increased with the collapse of the former Soviet Union and the birth of Newly Independent States in 1991, the international community as well as International Atomic Energy Agency (IAEA) developed a Illicit Trafficking Database Program(ITDP) to prevent the illicit trafficking worldwide and requested the member States to participate it. Also, with occurrence of September 11th terrorism in USA, the international community perceived the significance of the physical protection of nuclear facilities and radioactive materials and the illicit trafficking of nuclear material has been eventually considered as a threat against

the nuclear facilities. In this circumstances, IAEA State members have been discussing the countermeasures against the illicit trafficking. This study suggests a countermeasures through the analysis of the incidents with respect to the illicit trafficking in the past 10 years.

1.

9.11 , , ,
 . ,
10 . , 1991
가 가 가 10
50 가가
 .
 (IAEA)
1993
Illicit Trafficking Database Program(ITDP)
가 . 2000 , , 69
ITDP . IAEA 2000 9
330 .[1]

2.

가.
1950 , , , , , ,
 , , 가 가

가 . 1953
 “Atoms for Peace”
 가
 . , , 가가 가
 가 , 가
 43 가
 .[2]
 IAEA , 74 가 283 , 가 가 270
 , 가 50% .[3]
 DOE 58 가
 20,000kg .[4]
 가 1978

(RERTR program: Reduced Enrichment for Research and Test Reactors)

, , , , , , , ,
 , , , , , , , , , , , ,
 , 가 , , , , , , , , 13 가
 가
 가
 가 .[5]

. 9.11 dirty bomb
 . 가 , 가
 . , , 가
 .[6]
 1991 , 가가
 , 가 가
 가 .

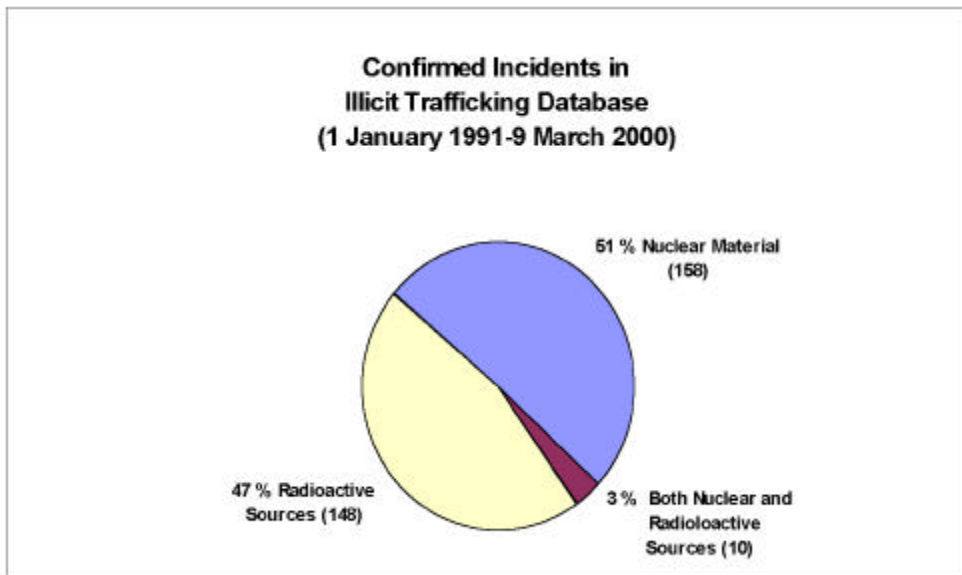
가 370 가
 가 .[7]
 10 가 가
 IAEA ITDP(Illicit Trafficking
 Database Program) 가
 MPC&A(Nuclear Material Protection, Control and Accounting)

. Illicit Trafficking Database Program
 IAEA 1995 3 “ (Measures
 against illicit trafficking in nuclear materials & other radioactive sources)”
 IAEA
 IAEA 8 ITDP
 1996
 IAEA database
 1999 2
 2000 가 69
 , 1998 4 가 IAEA
 .[8]

. Material Protection, Control and Accounting(MPC&A)
 1992
 CTR(Cooperative Threat Reduction)
 MPC&A
 , MPC&A
 .[8]

3. ITDP

IAEA ITDP (Interpol)
 (WCO:World Customs Organization)



1. (316 , IAEA-ITDP)

가

IAEA

IAEA

2000 9

ITDP

10 316

1

2

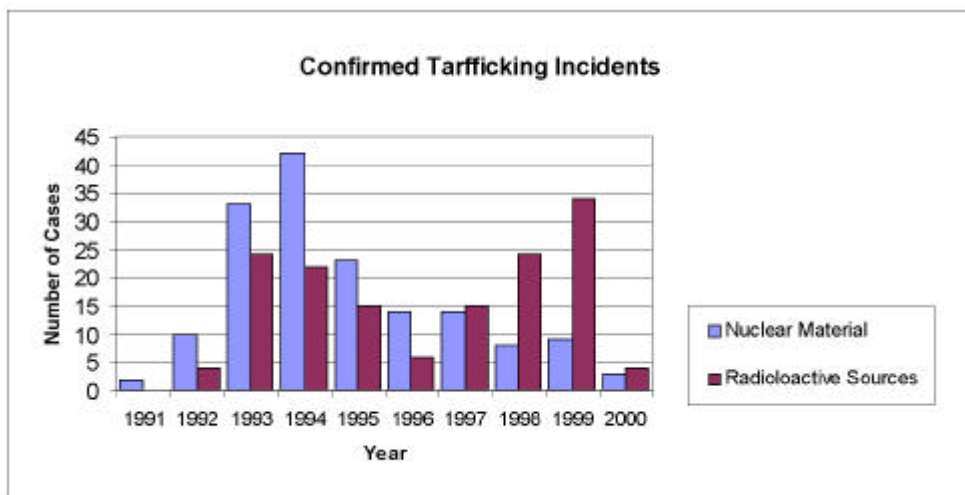
(1991 2000)

1993 1994

가 1996

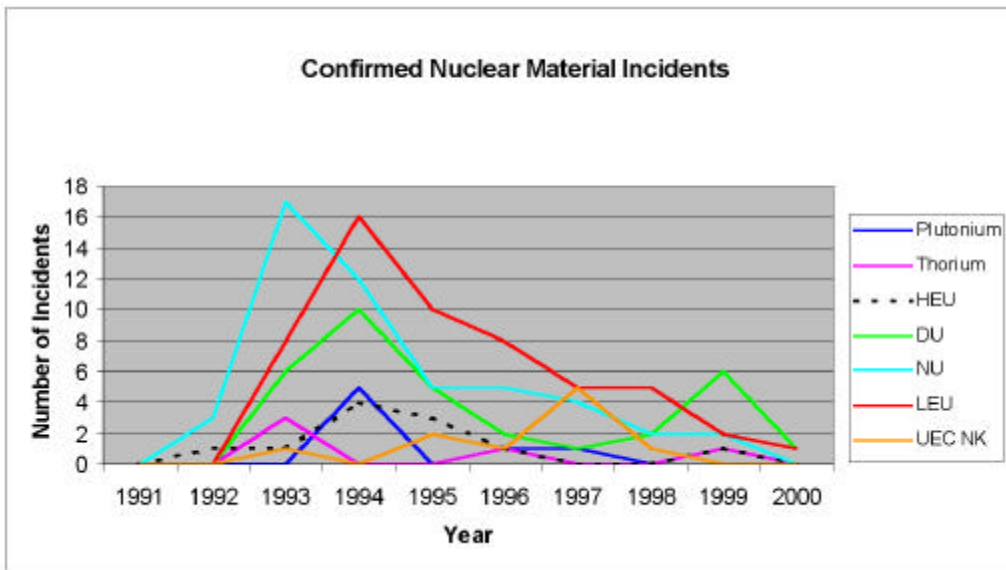
, 1990

가 가



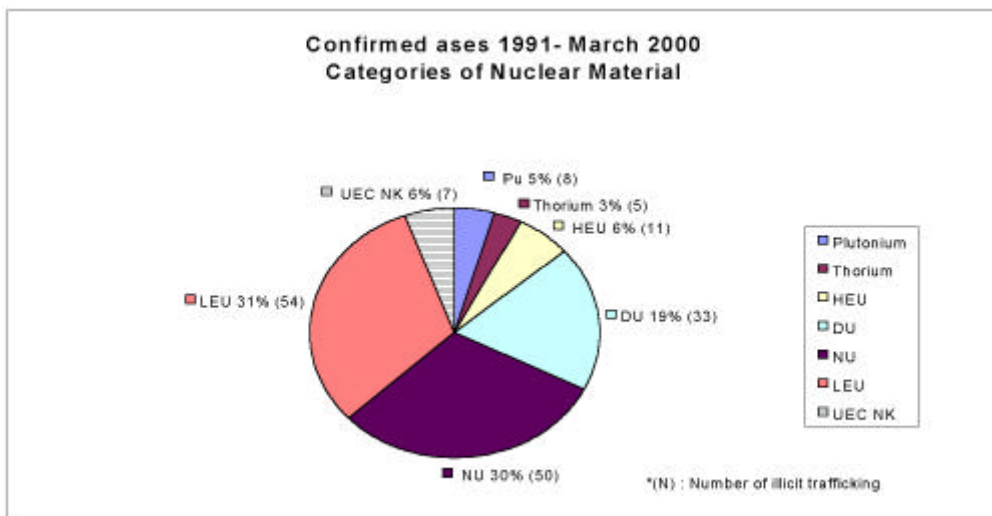
2.

(IAEA-ITDP)

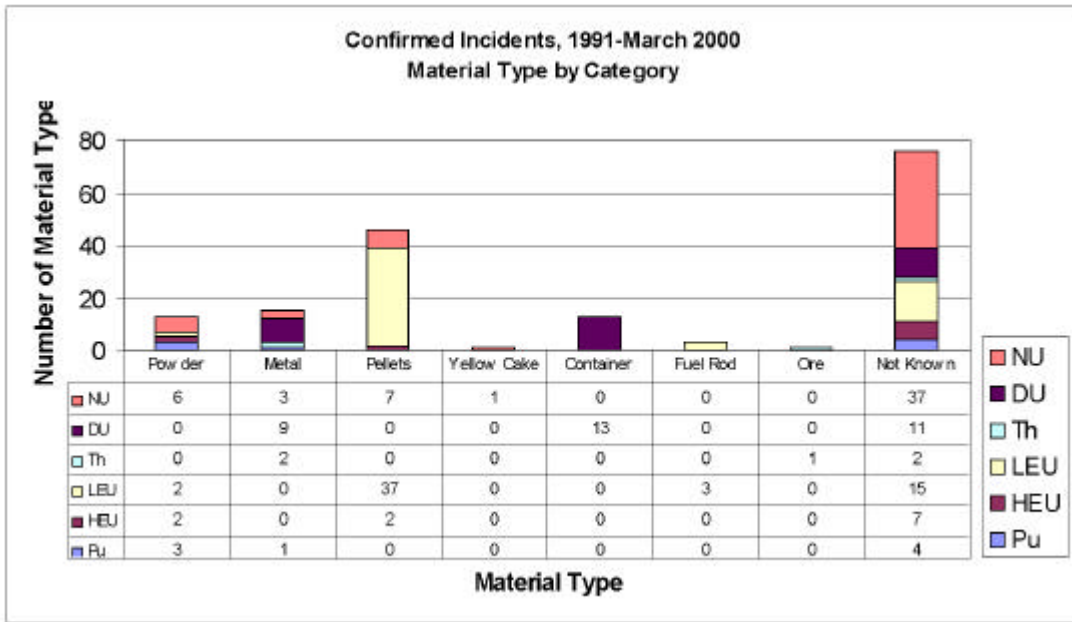


3. (IAEA - ITDP)

가 , 19 가 (HEU) 3
 가 , 3 가 80%
 , 4 , 1993 , 1994
 1999 , , 5
 가 , 가 50%
 가 가



4. (IAEA - ITDP)



5.

(IAEA-ITDP)

· pellet , yellow cake
 pellet 가
 가
 pellet ,
 가 5 .[8]

4.

1993 1994
 IAEA가 ITDP
 , 1998 2 ,
 (TRIGA II)
 1997 가 IAEA
 .[7] Financial Times

shinkolowe

.[9]

가

CPPNM 가

International Physical Protection Advisory Service
 (IPPAS) . IPPAS

IAEA가

가

(INFCIRC 225 rev.4)

, 1992 8

111kg

7m,

270kg

가

Ignalina

LEU

2002

80kg

[7]

10

가

가

5.

- [1] "Statement to the Forty-fourth Regular Session of the IAEA General Conference 2000" by IAEA Director General Dr. Mohamed El Baradei, Sep. 2000.
- [2] U.S. "Atoms for Peace" Proposal: Address of President Eisenhower to the General Assembly, Dec. 8, 1953, in Dept. of State, Documents on Disarmament, 1945- 1959, p.393.
- [3] IAEA, Nuclear Research Reactors in the world, Ref. Data Series 3(Sep. 2000)
- [4] U.S. Dept. of Energy, FY 2003 Budget Request: Detailed Budget Justification: Defense Nuclear Nonproliferation(Feb. 2002) <http://www.cfo.doe.gov/budget/03budget/content/defnn/nuclenonpl.pdf>.
- [5] Armando Travelli, "Status and Progress in the RERTR program in the year 2000", the 2000 International Meeting on RERTR, Las Vegas, Nevada, October 1-6, 2000.
- [6] George Bunn , "Nuclear Terrorism Potential: Research Reactors vs. Power Reactors?", Austrian Military Periodical special edition 2003, p15-p23.
- [7] Database on Nuclear Smuggling, Theft and Orphan Radiation Sources (DSTO), Center for The International Security and Cooperation, Institute of International Studies, Stanford University, 2002(restricted access).
- [8] KAERI/AR-576/2000, [II], Nov. 2000, p136-p144.
- [9] The Shinkolobwe mine, located near the southern Congolese town of Likasi, provided Uranium for the nuclear bombs dropped on Hiroshima and Nagasaki in 1945. It is currently under strict military control of Zimbabwean forces allied to the government of Joseph Kabila, president and son of the former Congolese leader. See Mark Huband, "Congo 'sought US help on Uranium", Financial Times(Londn), Sep. 26, 2002, p.10.