

# **Situation of Industrial Activities and Related Environmental Problems in Ukraine**

- 1. Introduction: what is Ukraine?**
- 2. Legacy of Soviet Period: First-Hand  
Experience**
- 3. New Developments and Nuclear Energy  
Industry in Ukraine**

# **1. Introduction**

- **Ukraine in modern Eurasia**
- **Current economic situation**
- **Outline of Ukrainian history**

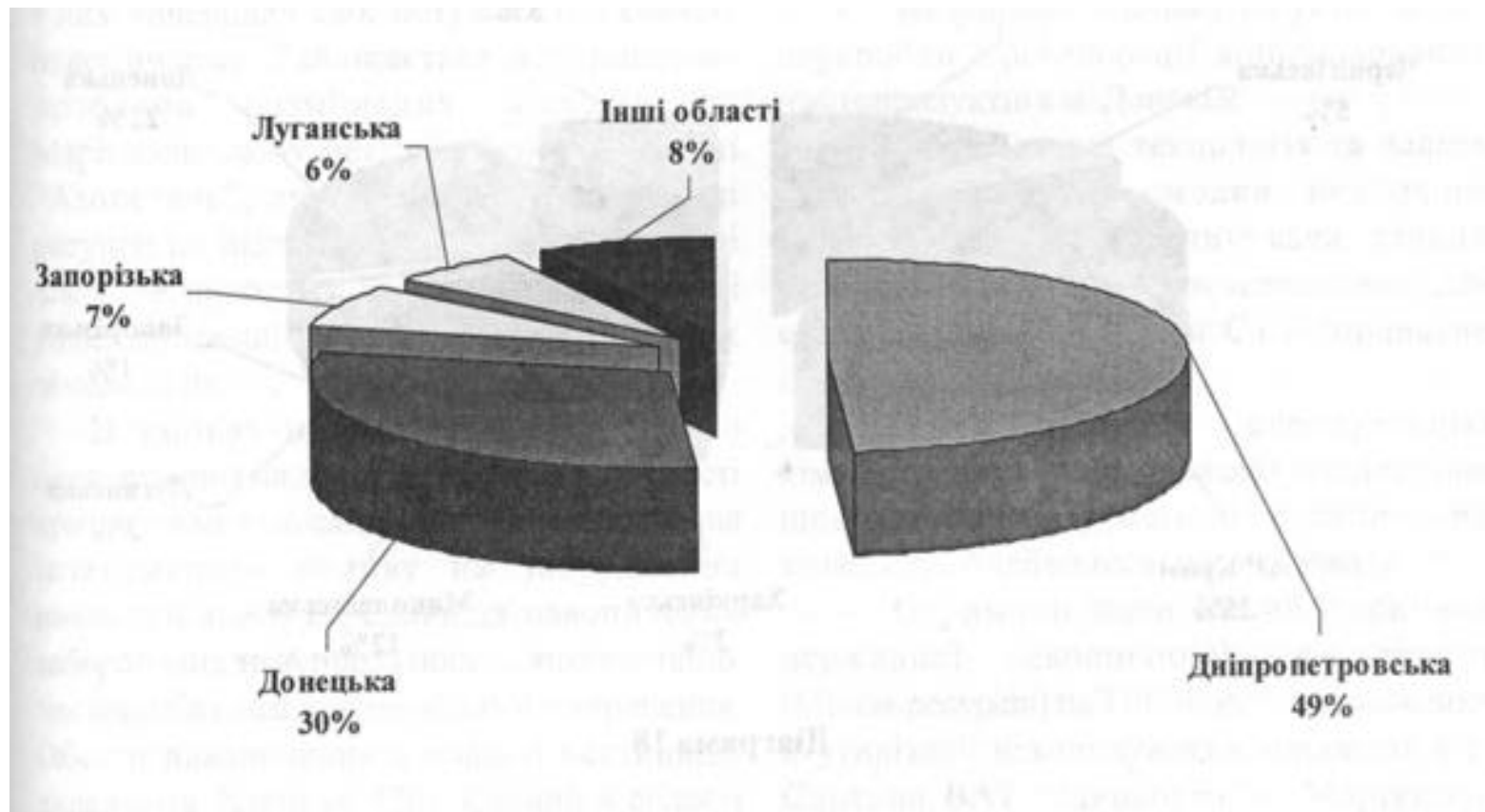




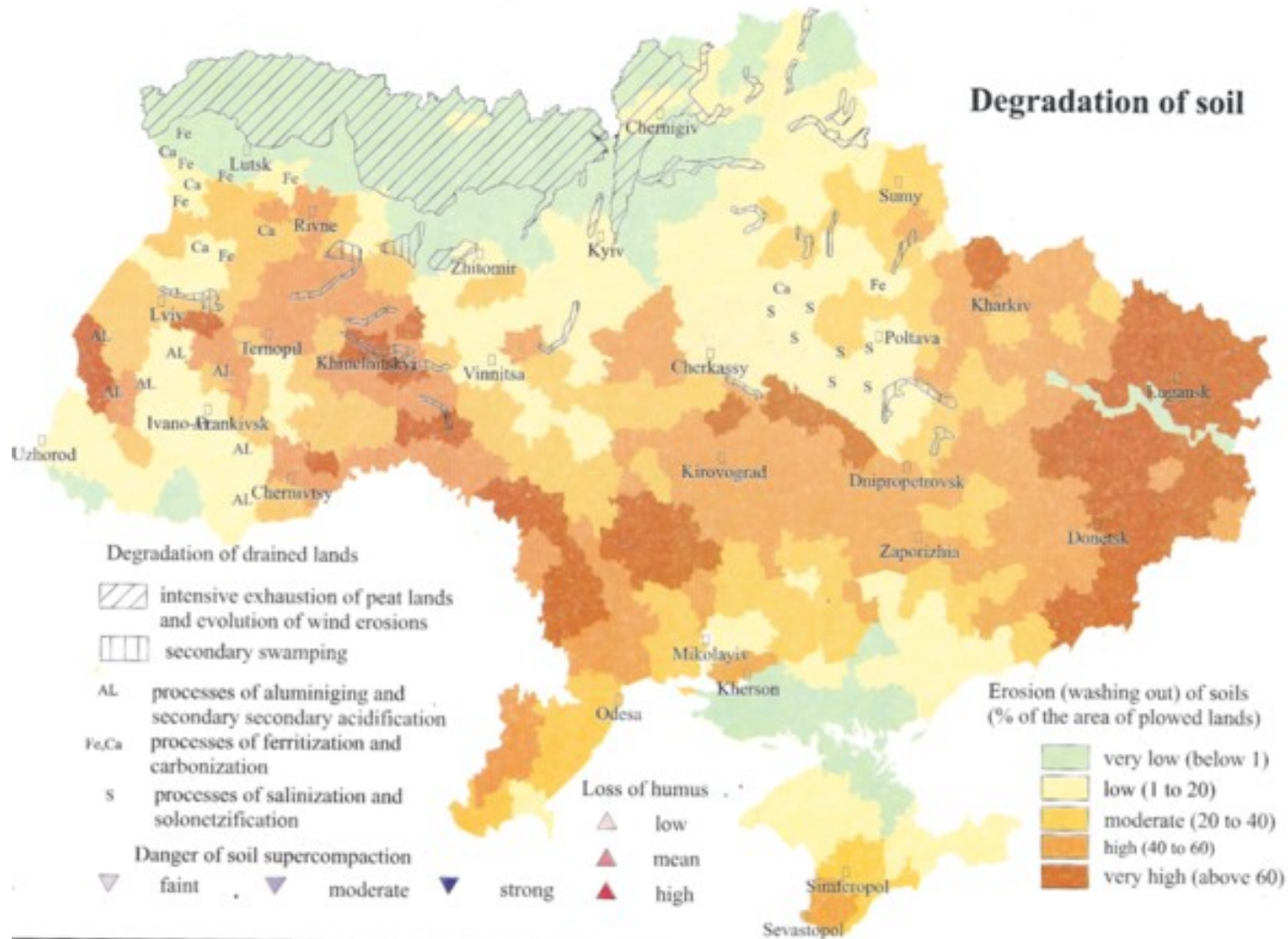




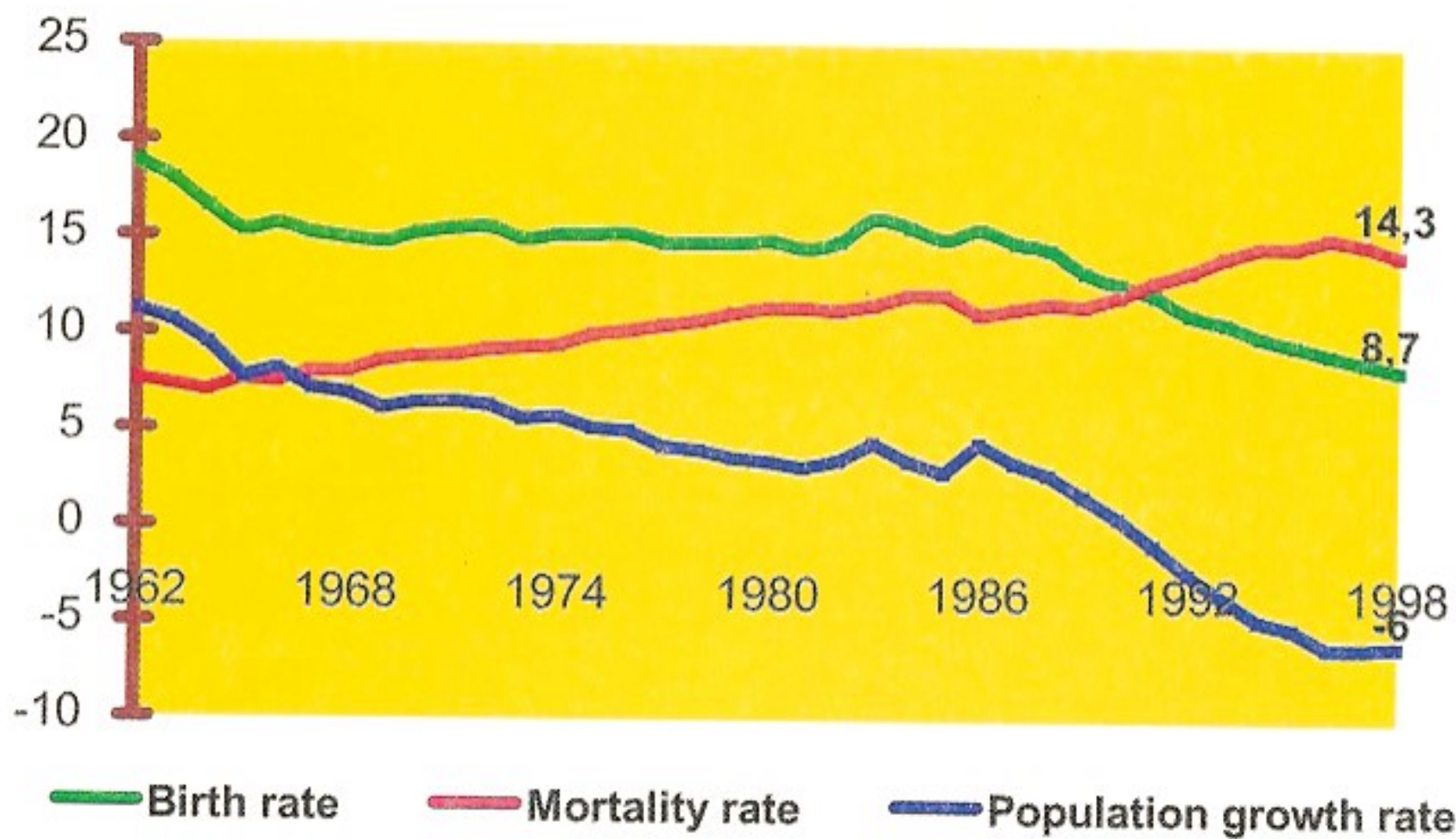
# Generation of toxic wastes in Ukraine in 2000 (total 4.2 bln t)



# Degradation of soil, 1998







# **Outline of Ukrainian History**

<b>IX-XIII</b>	<b>Kiev Rus period</b>
<b>XIII-XVII</b>	<b>Galytska Rus, Lithuania, Golden Horde, Moscow State</b>
<b>XVII</b>	<b>Short period of Ukrainian State</b>
<b>XVII-XX (b)</b>	<b>Russian Empire, Poland, Austria, Turkey (Tatars)</b>
<b>XX (1918-19) -</b>	<b>Very Short period of Ukrainian State</b>
<b>XX (1920-91)</b>	<b>Soviet Empire</b>
<b>1991</b>	<b>Independent Ukraine</b>

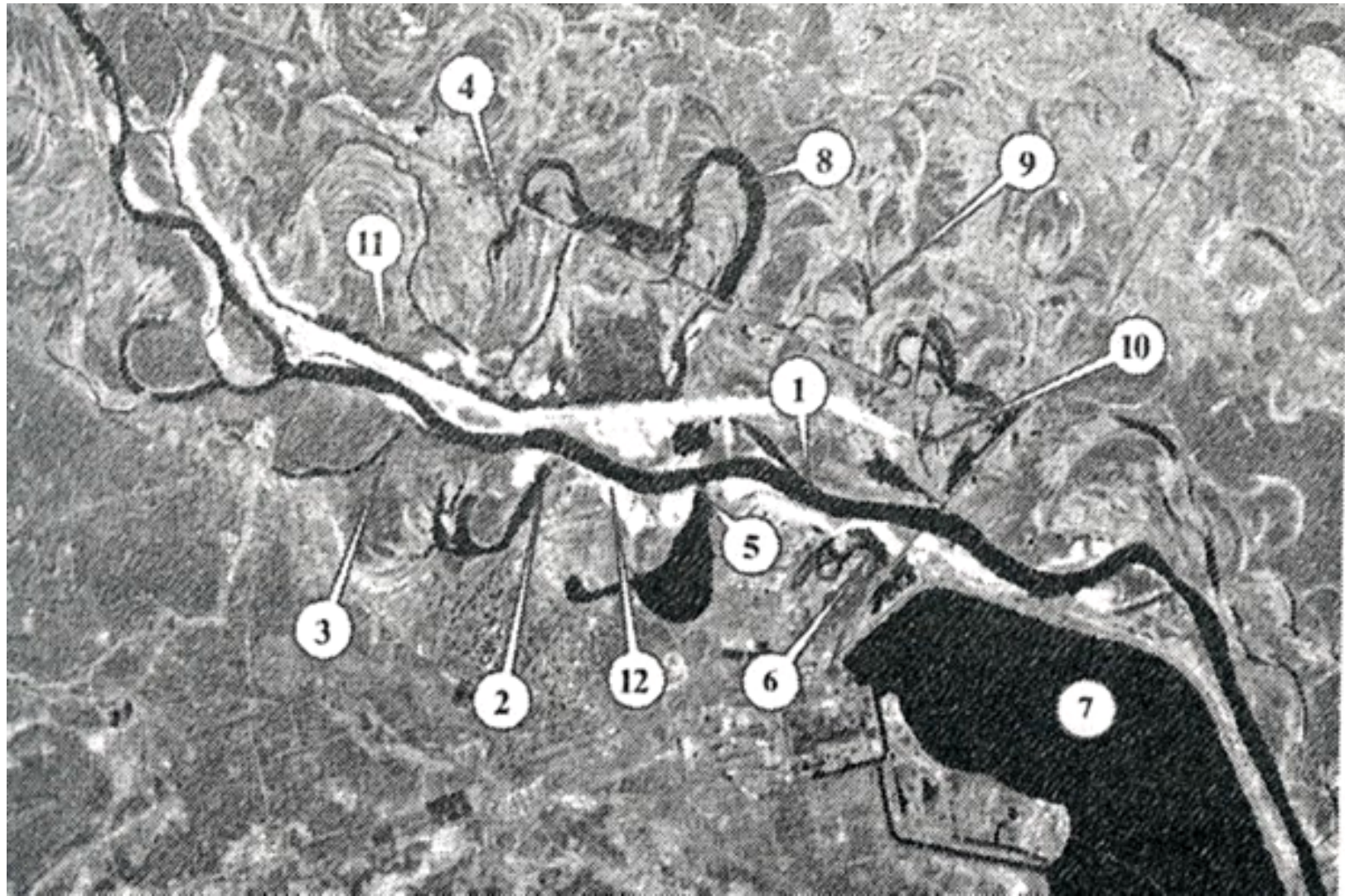
## **2. Legacy of Soviet Period: First-Hand Experience**

- Chernobyl Catastrophe: Ordinary Physicist
- Senior Researcher at the Water Research Institute: Dnieper and the 30km zone
- Environmental Problems: 1990
- Greenpeace Ukraine: a Move toward Independent Science



# Cascade of Reservoirs on Dnieper River









# Article in «Znanie-Sila» Magazine, April 1990

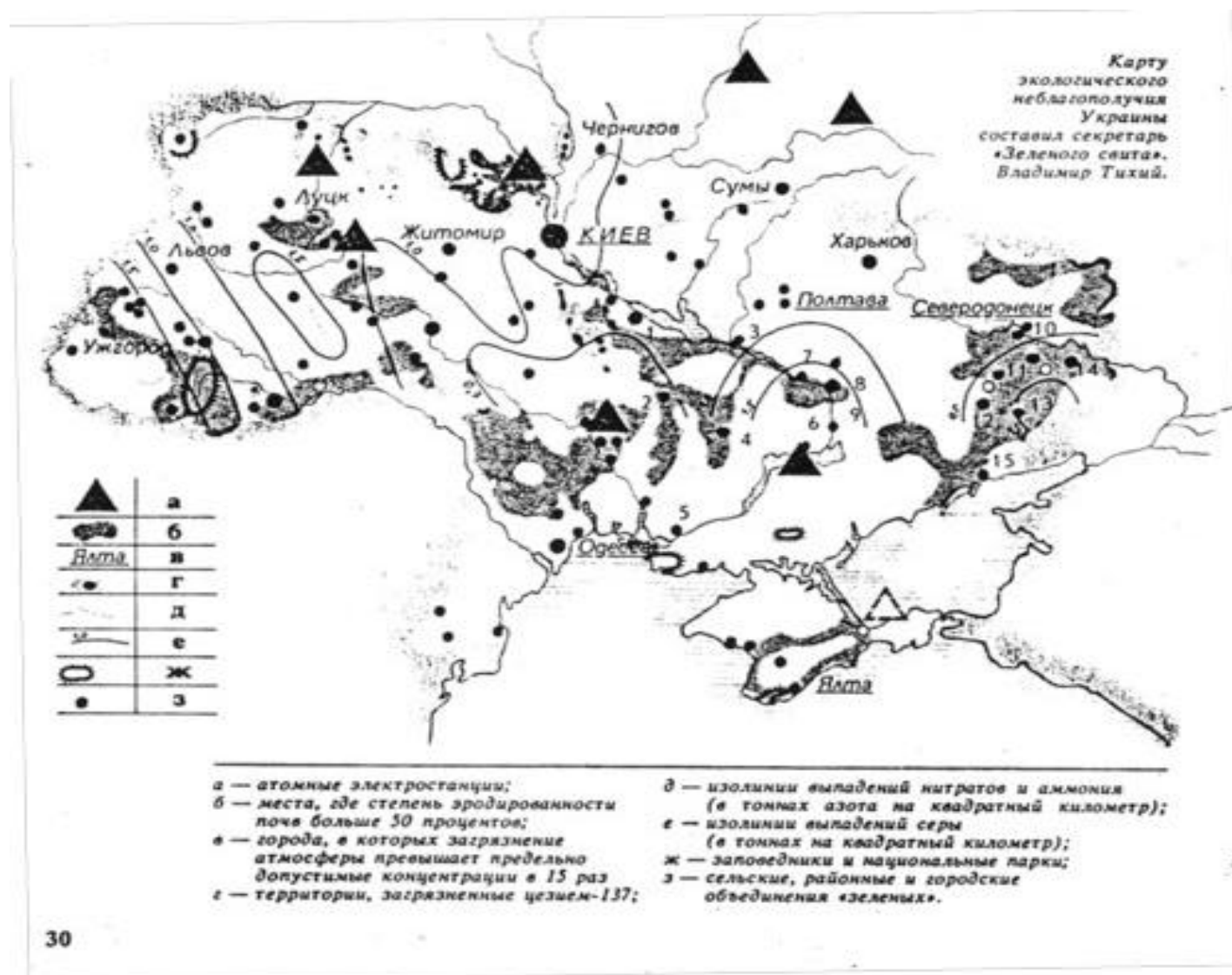




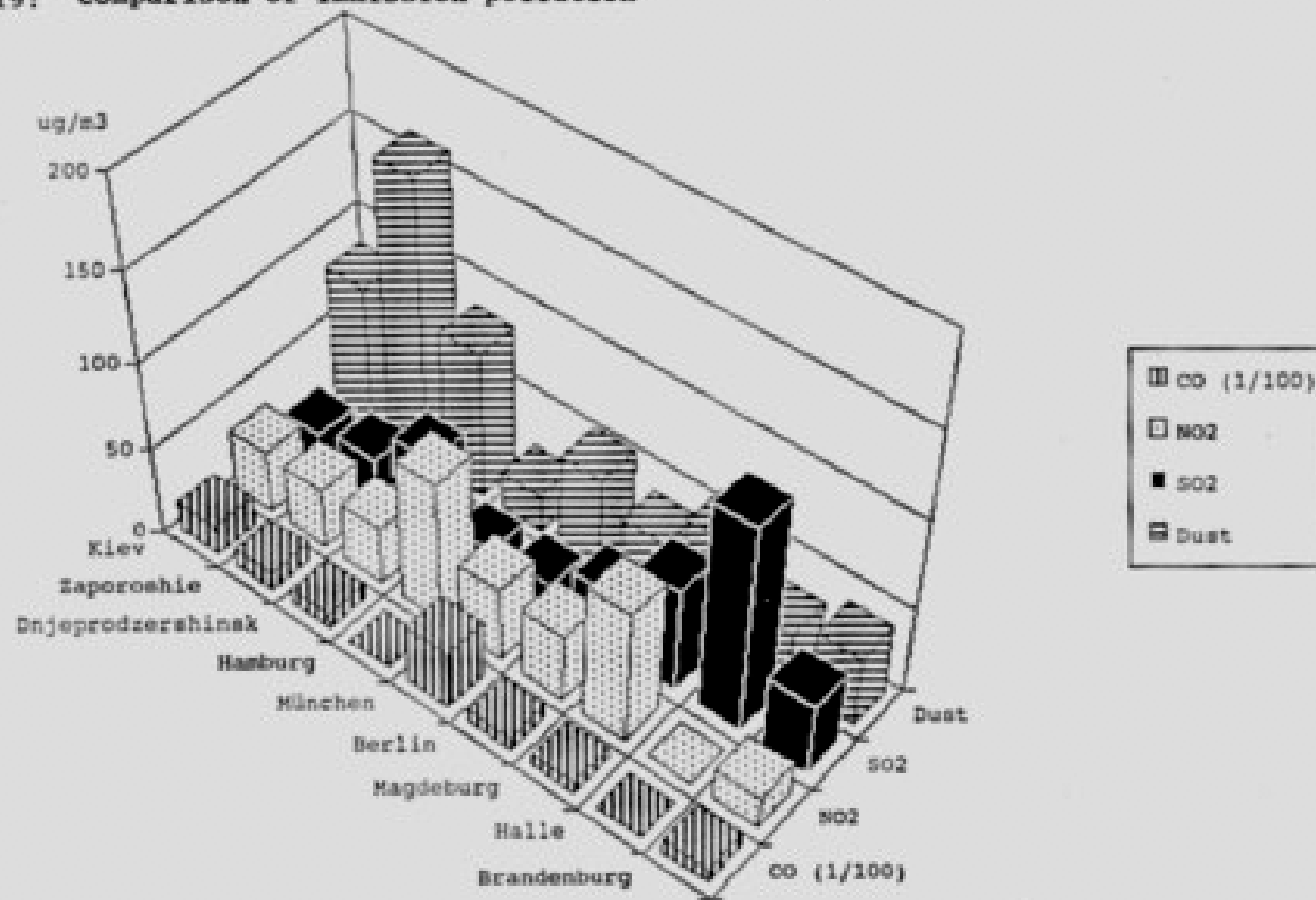








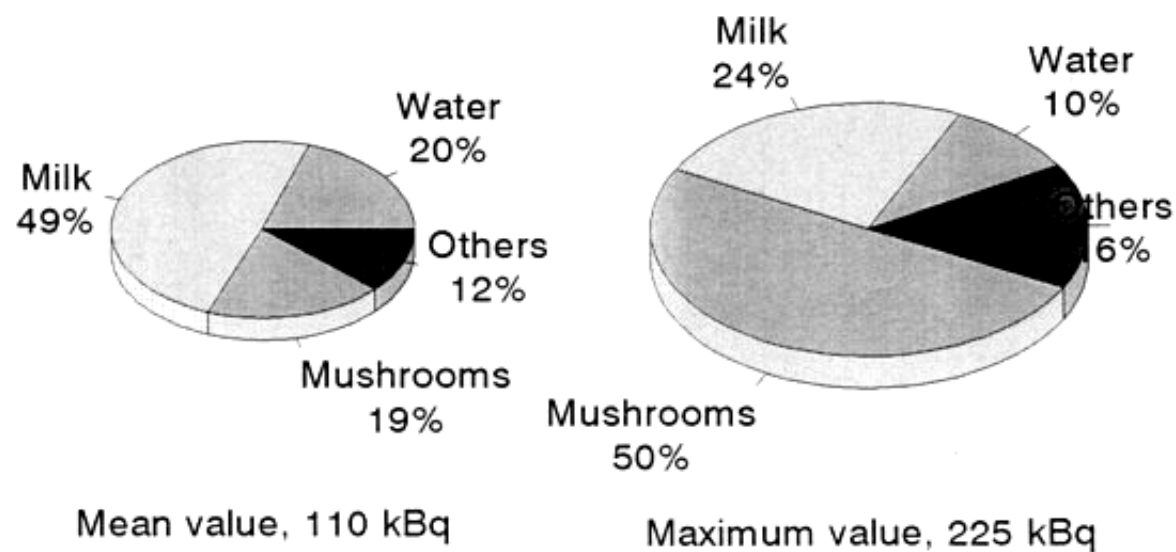
Fig. 19: Comparison of immission pollution



# ANNUAL INTAKE OF CESIUM, kBq

Village Stepanivka, 1992

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### **3. New Developments and Nuclear Energy Industry in Ukraine**

- **Chernobyl: "Shelter" and other problems**
- **Oil, Gas and Transport corridors**
- **Recent History of Nuclear Energy in Ukraine**
- **Current status of nuclear industry: energy generation, financial stability, fuel and fuel cycle**
- **Likely development: K2/R4, Tashlyk reservoir; fuel production and waste disposal**

# **Chernobyl NPP problems**

- **"Shelter": \$758 million/next 8 years**
- **Permanent personal 800 +1200**
- **Decommissioning of 3 reactors EURO793 million**
- **Infrastructure (Western donors only)**
  - **dry storage for waste fuel EURO 66.1 million;**
  - **facility for processing solid R/A wastes EURO 40.8 m;**
  - **facility for processing liquid R/A wastes EURO 19.7 m**





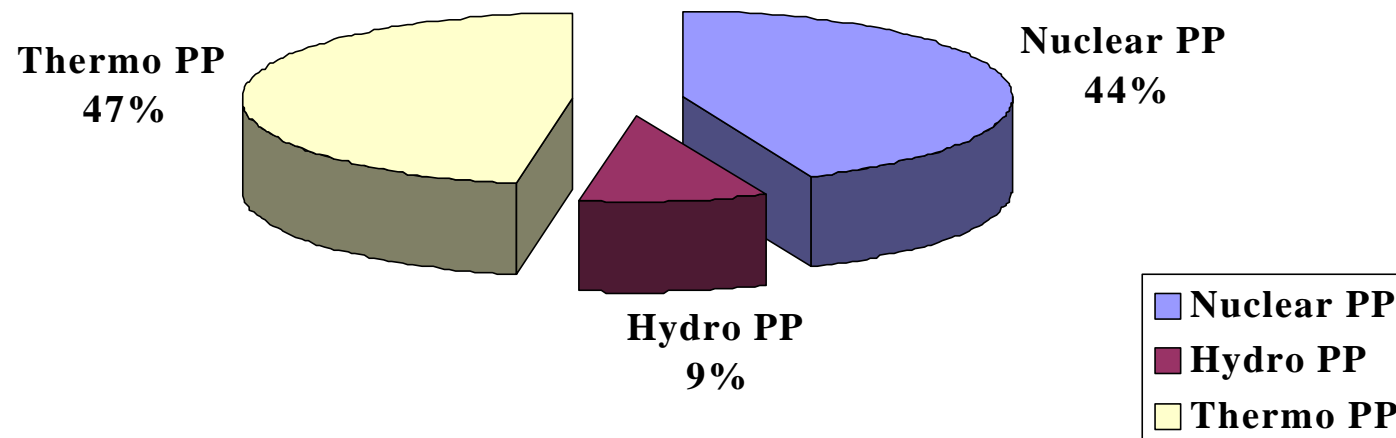




<b>Name</b>	<b>Number of units</b>	<b>Years of operation</b>	<b>Under construction</b>	<b>Under decomissioning</b>
<b>Zaporizka</b>	<b>6</b>	<b>1984-1995</b>		
<b>Pivdenno-Ukrainska</b>	<b>3</b>	<b>1982-1989</b>		
<b>Rivnenska</b>	<b>3</b>	<b>1980-1986</b>	<b>1</b>	
<b>Khmelnyska</b>	<b>1</b>	<b>1987</b>	<b>3</b>	
<b>Chernobylska</b>				<b>3</b>

# Electricity generation in Ukraine in 1998

Total 173 TWh



Министерство энергетики Украины  
НАЭК "ЭНЕРГОАТОМ"

**Хмельницькая АЭС**

## **КАРМАННАЯ КНИГА**

к одиннадцатой  
перегрузочной кампании



1998г.

Pocket book  
for personnel  
of  
Khmelnytska  
NPP