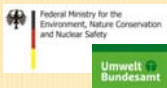


Umweltschutz  
ist Gesundheitsschutz

# Germany's contribution to the work of the International Birth Cohort Group

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## GERMANY – A DIVIDED COUNTRY AFTER WW II

- Federal Republic of Germany (West Germany, BRD)
- German Democratic Republic (East Germany, DDR)
- Reunification in 1990



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## IN COMPARISON: EAST AND WEST

- ✗ In **West** Germany, environmental policy started in the late 60s/early 70ies triggered by serious air and water pollution due to industrial activities.
- ✗ In **East** Germany, environmental problems were ignored until reunification in 1990. Officially, the environment was perfectly protected.
- ✗ As of 1982 (Ministerratsbeschluss), all official environmental data was considered a state secret.

## FACTS VS. FICTION

- ✗ Only 3% of the **rivers** and only 1% of the **lakes** were ecologically intact.
- ✗ The main river **Elbe** was „ecologically dead“.
- ✗ **Drinking water** was heavily polluted.
- ✗ **Sewage** was mostly untreated or not properly treated.
- ✗ There were 13.000 **waste sites**; 10.000 of them considered „wild“.
- Per capita **SO<sub>2</sub> emissions** were the highest in the world. One single power plant (Jänschwalde) emitted as much SO<sub>2</sub> as Denmark and Norway combined.

## HEALTH EFFECTS...

.....were huge and clearly visible,  
but only poorly investigated - if at all.

Result: Environmental groups were a major  
force in the citizen's movement that brought  
the GDR down.

## HOW IT WAS .....





## „SILBERSEE“ IN BITTERFELD

Then:

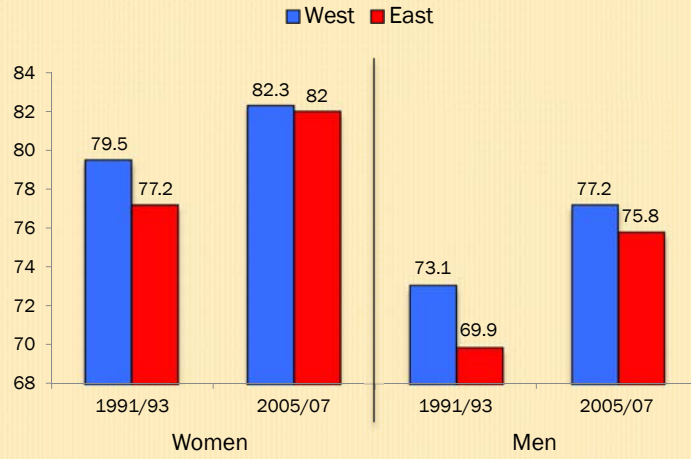


Now:



Source: A. Kreuss, 2009

## AVERAGE LIFE EXPECTANCY IN GERMANY



Source: RKI, 2009

## GERMAN ENVIRONMENTAL SPECIMEN BANK – A FEDERAL CRYO-REPOSITORY



Run by Fraunhofer-IBMT on behalf of the Federal Environment Agency



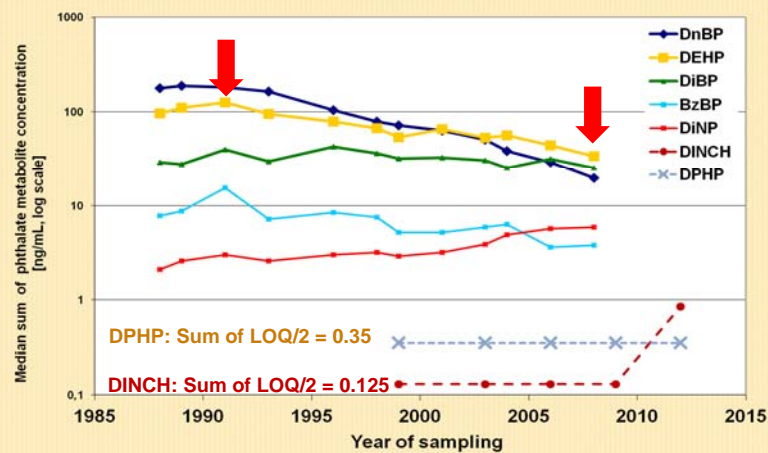
## POPULATION REPRESENTATIVE DATA AND TIME TRENDS

### German Environmental Survey (GerES)

Survey	Period	Sample size
GerES I	1985 - 1986	2,700 adults
GerES II	1990 - 1992	4,000 adults 730 children
GerES III	1997 - 1999	4,800 adults
GerES IV	2003 - 2006	1,790 children
GerES V	2013 -	2,800 children

167 sampling locations of GerES V

## INTERNAL EXPOSURE TIME TRENDS: PHTALATES AND DINCH



## TRACKING DOWN NEW CHEMICALS

- ✘ No HBM method for DINCH up to now - as well as for many other modern chemicals with relevance for the general population
- ✘ Project: Cooperation between German MoE and German Chemical Industry Association (VCI) 2010 - 2020 to develop new HBM methods
- ✘ 20 chemicals chosen so far
- ✘ 8 methods developed so far

## HBM METHODS DEVELOPED SO FAR

Substance	Use	Finished
DINCH 1,2-cyclohexane dicarboxylic acid diisononyl ester CAS 166412-79-6 (Isomere mixture)	Plasticiser and phthalate substitute used e. g. in toys, food contact materials and medical devices	Finished Oct. 2011. Accepted by the German Research Foundation (DFG)
DPHP Di(2-Propyl Heptyl) phthalate CAS 53306-54-0	Plasticiser, mainly used for technical applications (PVC and other vinyl chloride polymers); „new“ phthalate	Finished Oct. 2011. Accepted by the German Research Foundation (DFG)
NMP N-methyl-2-pyrrolidone, CAS 872-50-4	Solvent	Finished Sept. 2013
NEP N-ethyl-2-pyrrolidone, CAS 2687-91-4	Solvent	Finished Sept. 2013
4-nonylphenol, CAS 104-40-5	Tenside production	Finished June 2013
4-tert-octylphenol, CAS 140-66-9	Antioxidant/ stabilizer in technical oils	Finished June 2013
2-MBT Mercaptobenzothiazole, CAS 149-30-4	Vulcanization accelerator (rubber production)	Finished June 2013
MDI Methylenediphenyldiisocyanate, CAS 101-68-8 and 26447-40-5	Production of polyurethane, special plastics, adhesives	Finished December 2012

## NEW POPULATION REPRESENTATIVE DATA AND TIME TRENDS

### 5th Environmental Survey



- 167 sampling locations
- Children and adolescence aged 3 to 17 years
- Field work 2014-2016
- Close co-operation with the health survey KIGGS of the Robert Koch-Institut
- Population representative with regard to age, gender, community size
- Humanbiomonitoring, ambient monitoring, questionnaires → levels, sources, measures
- Follow up of well known chemicals of concern
- First investigation of „new“ chemicals of concern with methods developed in the framework of our cooperation with the German Chemical Industry Association

## A WORTHWHILE EFFORT

- ✗ Japanese initiative to create International Birth Cohort Group
- ✗ Birth cohort studies are extremely valuable and extremely difficult to do well
- ✗ Group members and their cohorts are benefitting from exchange
- ✗ Comparable data as goal



THANK YOU VERY MUCH  
FOR YOUR KIND ATTENTION!