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WATER – IS THERE A CRISIS ?

6 May 2008

By

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Chairman PT Glendale Partners

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BRITISH CHAMBER OF COMMERCE IN INDONESIA

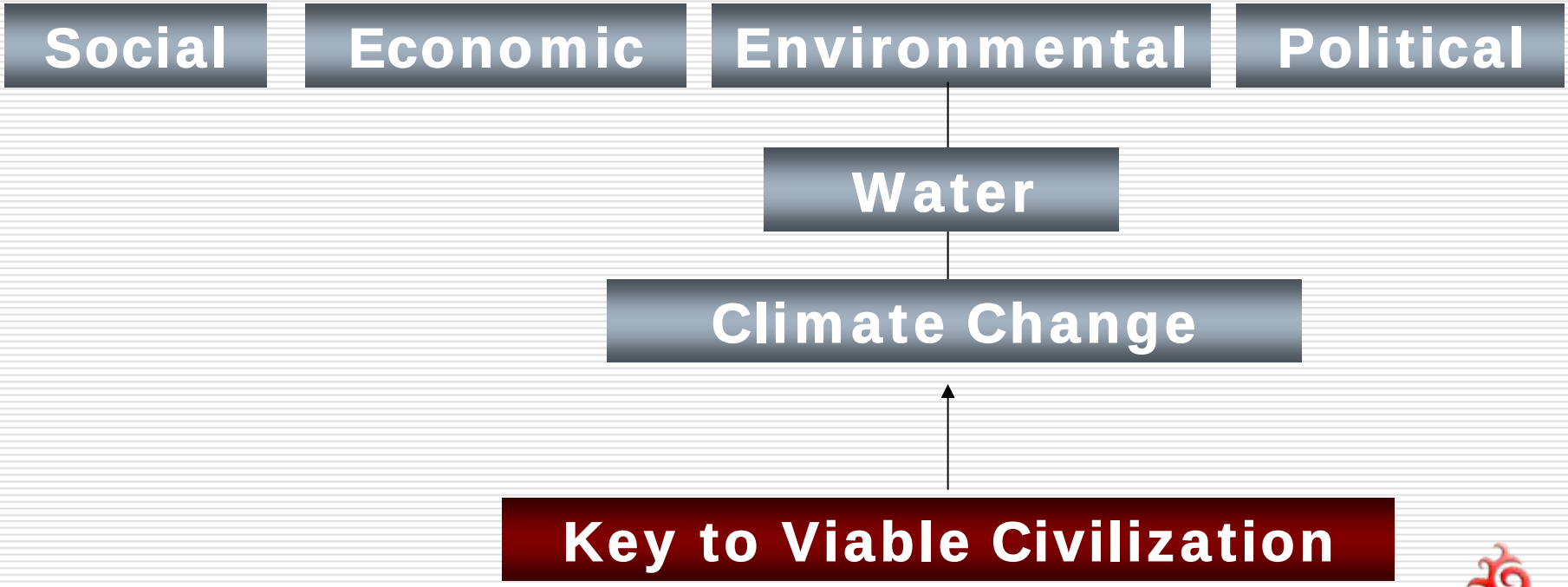
Definition of Sustainable Development

The utilization and development of natural resources for economic growth with the utilization of those resources held compatible with sensible conservation of the environment such that future generation are not impoverished

Dr Scott Younger

Sustainable Development

The Four Factors



INDONESIA

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12 Babies Born per minute

General Features

- 17,000 islands. Around 6,000 of the islands are inhabited.
- 5,000 km Archipelago from East to West
- Java is main centre with 83% industry and 60% of Rice Production.

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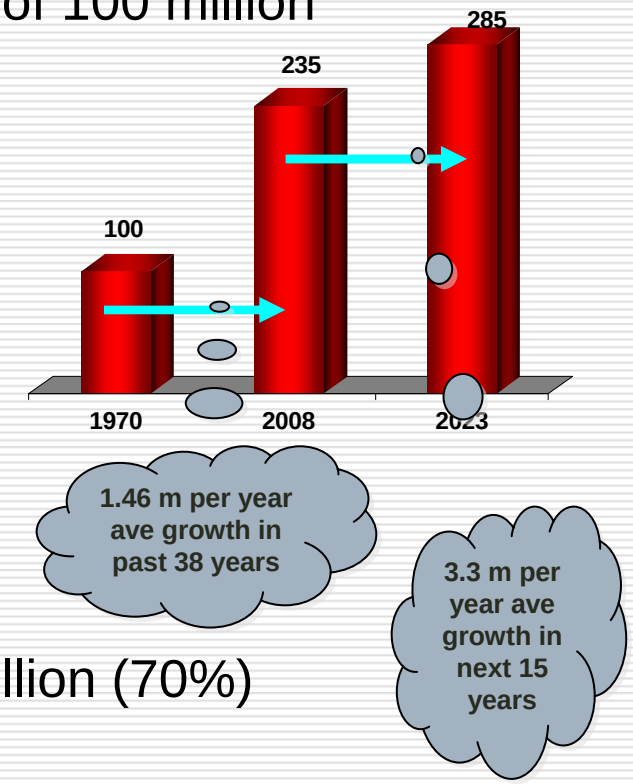
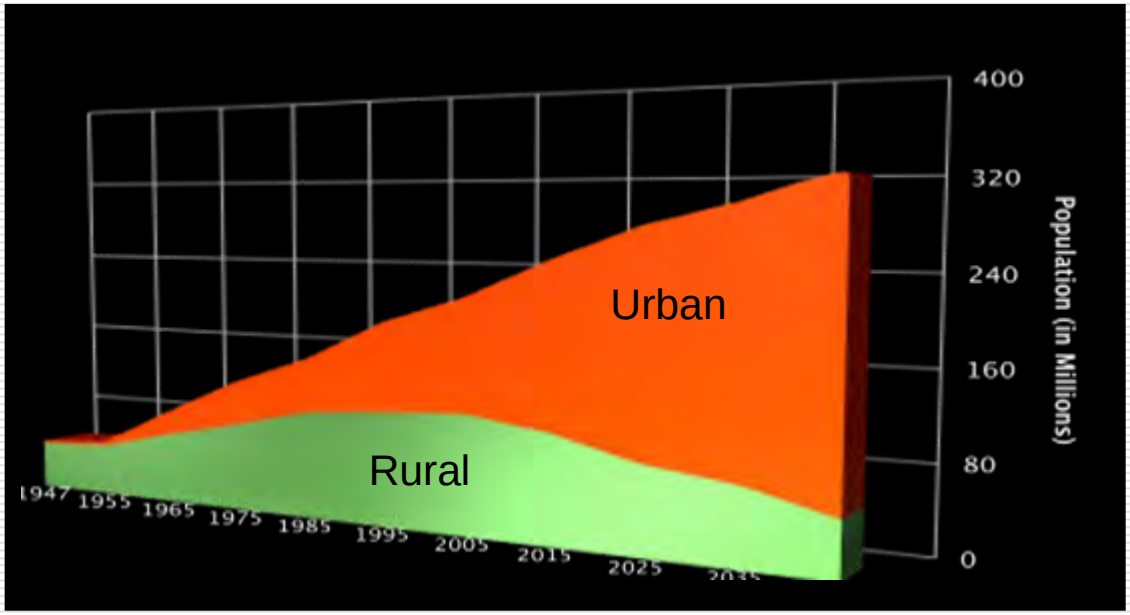
GENERAL – COUNTRY PROFILE

- Population ~ 235 million; c.f. 1970 population of 100 million
- Population by 2023 ~ 285 million
- Population growth rate ~ 1.3%; Urban ~ 4%
- Current urban population ~ 110 million (50%)
- Projected urban population by 2023 ~ 199 million (70%)
- 40 Million Urban in Java



Source: ADB

GENERAL – COUNTRY PROFILE



Population Growth with time

Today : Urban / Rural ratio ~ 50/50

2020 : Urban / Rural ratio ~ 70/30

- Steady and increasing urbanization
- Change in water demand profile
- Smaller long-term farming community as economy grows; especially Java

GENERAL – COUNTRY PROFILE

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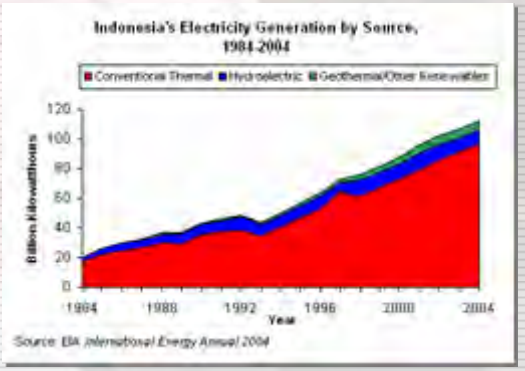
- Total water available ~ 3,085 billion m3/yr
- Percentage water resources developed ~ 0.55%
- Water use: agriculture 89%; domestic municipal 11%; many industries use groundwater without license.

- Pop' access to clean water 74%; urban 89%, rural 64% (UN, 2004)
- Pop' access to sanitation 59%; urban 74%, rural 52% (UN 2004)

Hydro-Electricity:

- Potential >50,000MW
- Installed capacity 3,267MW
- Average annual production: 10,540 GWh
- Share of total electricity production: <7%



Source: ADB

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JAVA

2010 : 125m People : 75m Urban.

2020 : 155m People : 110m Urban.

- Today : Produces 60% of all rice on 37% of Irrigated land, with 6% of total water. Supports 83% of national industry (50%m W. Java/ Banten)
- Moving away from agriculture.
- Need to develop different and more efficient forms of agriculture.
- Dramatic increase in DMI Water Supply
- Environmental Stress
- Flooding

WATER STRESS

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Island	River Basins	Condition
Java	22	10 Stressed, 7 Badly
Sumatra	47	2 Marginal
Kalimantan	18	No Problem
Sulawesi	23	3 Stressed; 2 Badly
NTT, NTB, Bali	9	2 Badly Stressed
Maluku & Papua	12	No Problem
Total	131	17 Stressed; 11 Badly

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WATER CONSUMPTION

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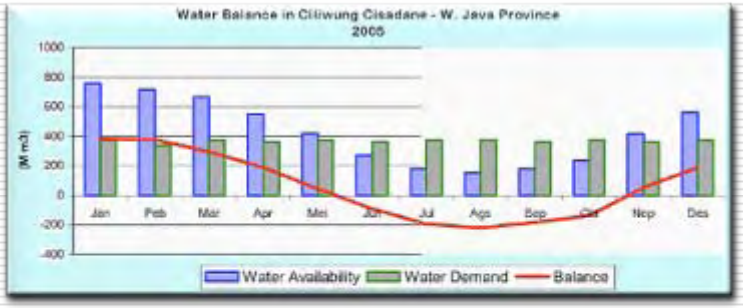
Standards :

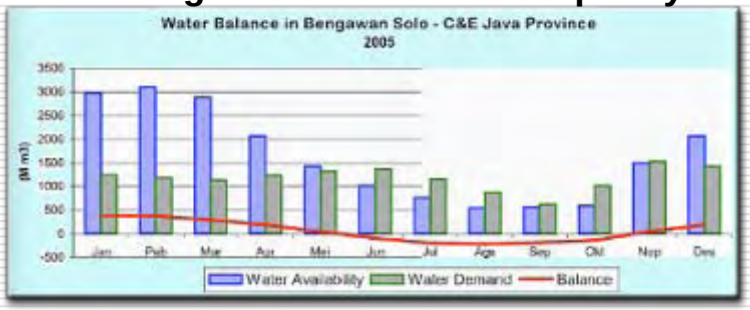
14,000 m^3/pers/yr : min safe

5,000 m^3/pers/yr : critical

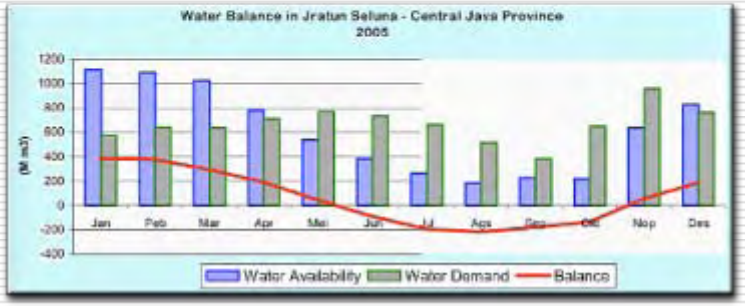
1000 m^3/pers/yr : very serious



Ciliwung – Cisadane : 504 m^3/pers/yr



Bengawan Solo : 1,810m^3/pers/yr



Jratun Seluna : 880m^3/pers/yr

Sumber data:
Kajian Komprehensif Alokasi Air Untuk Kebutuhan Multiguna di Pulau Jawa, 2007

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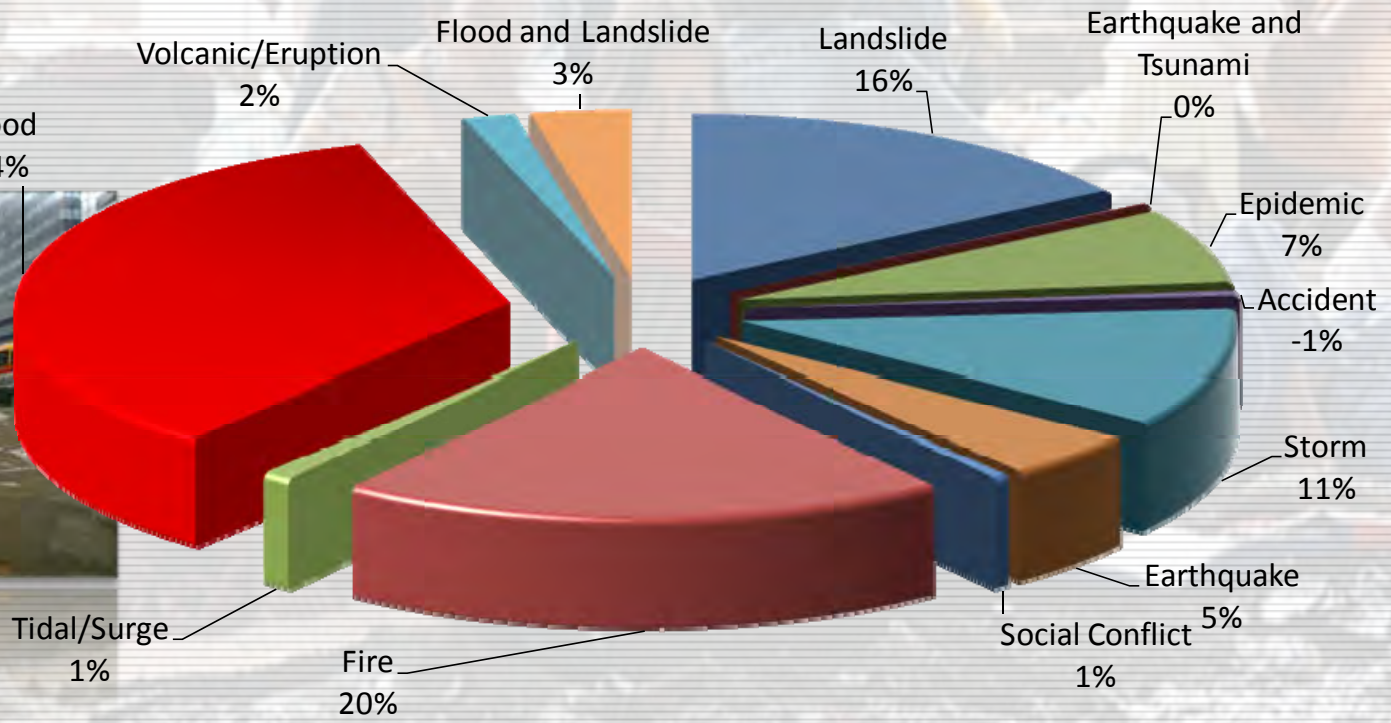
NATIONAL DISASTERS IN INDONESIA

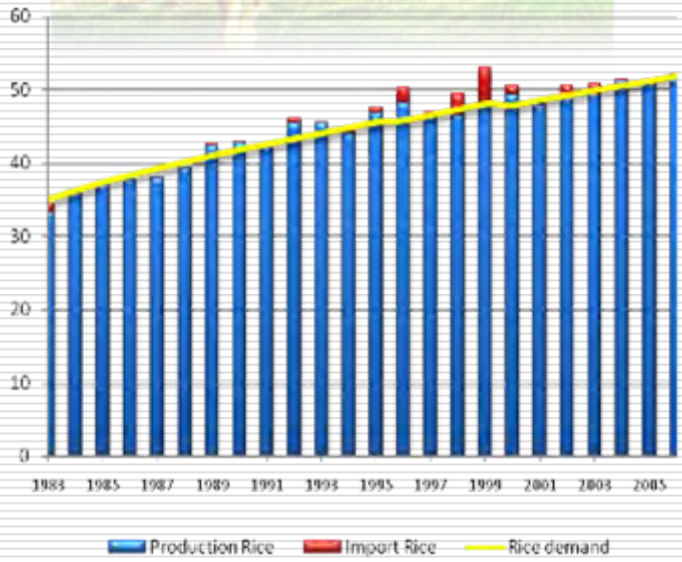


Does not include Aceh Tsunami 2004

Summary of Flood Disasters in Indonesia (2002-2005)

Event	Death	IDP's	Houses
488	773	1,339,664	83,541

RICE PRODUCTION VS DEMAND



- Need higher rice yields and intensities needed off Java
- Loss of 1 Billion tonnes production in Java in next 5 years
- Expansion and experimentation with SRI; lower calls on water and fertilizer
- Swamp schemes. MODERNISE NOT EXPAND
- No expansion; upgrading of existing schemes - higher yields
- People will leave unsatisfactory areas ; wasteland.

WATER SUPPLY

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Urban (Particular emphasis on Java)

- Demand will dramatically increase
- Investment in replacement piping and expanding distribution; reducing NRW. (Problem of theft in Major Cities)
- Restraining use of groundwater in distressed areas – eg. Jakarta, Bandung, Semarang (No action yet – but needed)
- Improving collection of usage fees – both surface water supply and groundwater.
- Desalination for some coastal areas where surface water and groundwater cannot serve; desalination costs reducing.
- Overhauling PDAM's; resolving financing and depoliticizing
- Debundling raw water and distribution

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WATER SUPPLY

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RURAL

- Rationalizing number of PDAMs
- Increased community asset management
- Better health programs
- Improving groundwater schemes or new surface water supply, as appropriate.
- Seeking and developing integrated infrastructure (water supply and power).

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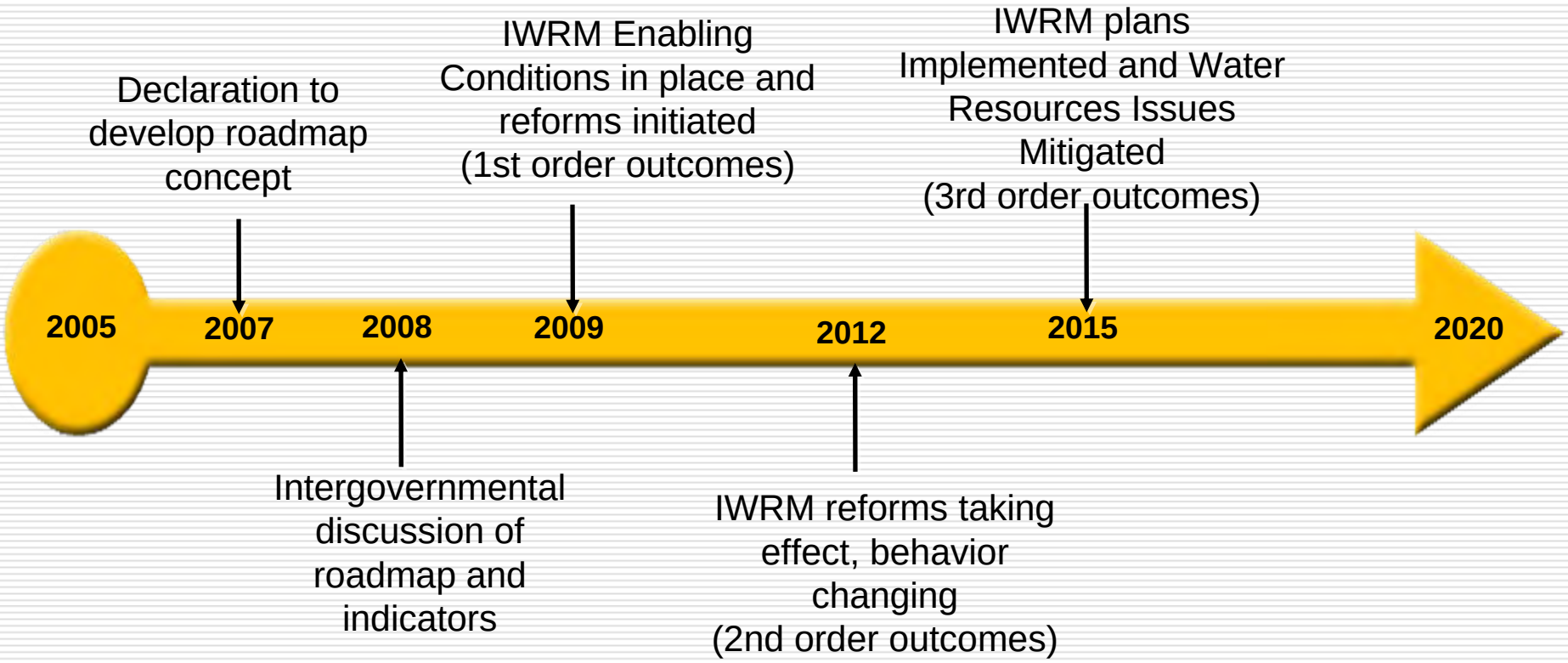
SANITATION

- Coverage nationally very poor
- Huge investment in both urban and rural required ~ ADB funding rural project in 4 provinces; started 2006
- Solid waste point and non-point pollution solutions not financially viable but economic
- Role for NGOs
- Environmental issues
- Innovative schemes for financing and constructing toilets in rural areas.

IWRM ROADMAP TO THE MDGS



The global IWRM roadmap

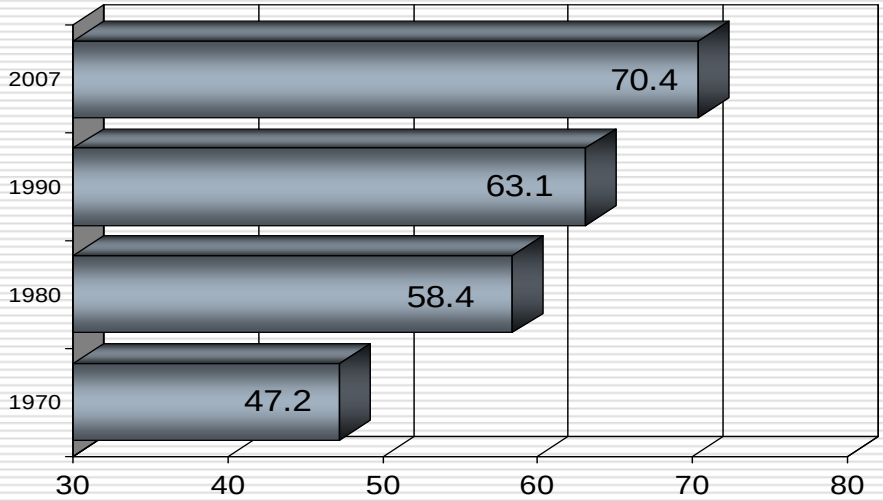
CAPACITY BUILDING

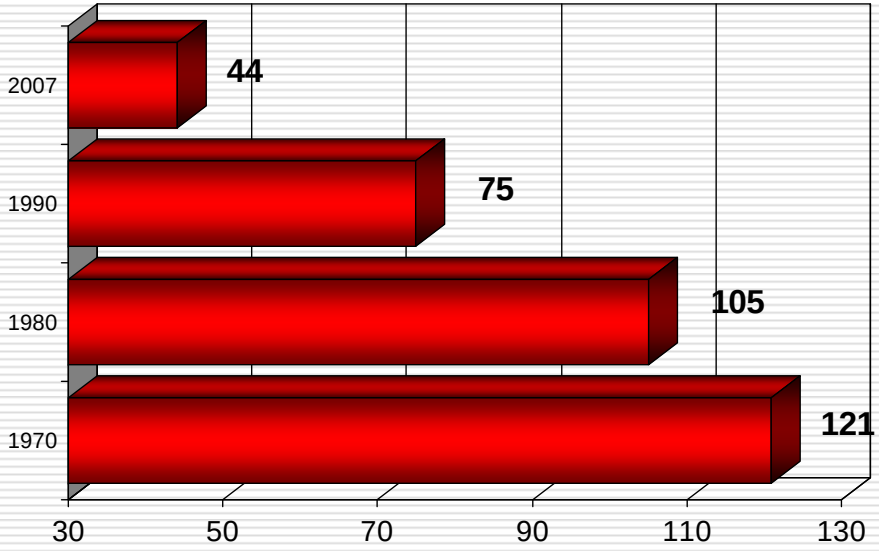
- Major dramatic investment in education and training at all levels.
- Human resources development
- Need to establish and apply comprehensive training with heavy emphasis on OJT

Corporate social responsibility.

- To develop guidelines for water sector

HEALTH CONDITION





Life expectancy improved 50% from 1970 (23.2 Years). Compared to a developed nation like Australia at 80.3, Indonesia still has much improvement to achieve in it's health standards. Indonesia ranks 131 out of 217 nations surveyed

From the 1990's in particular, major improvements have occurred however again compared to a developed nation like Australia where mortality rates are around 5/1000 births, Indonesia has a long way to go.

WHO Health report on Indonesia + Indonesian Health Department Stats

FUNDING

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Water Sector Investment Needs
Medium Term Development Plan (2004-2009)

INVESTMENT NEEDS	
Water Resources (WR)	US$ 7.2 Bills
Water Supply (WS)	US$ 1.7 Bills
Total	US$ 8.9 Bills

SOURCE OF FUND	
Cumulative Government Budget 2004-2009	
WR	US$ 3.6 Bills
WS	US$ 0.9 Bills
Total	US$ 4.5 Bills (51%)

- Financial Gap WR+WS US$ 4.4 Billions (49%)
- Investment needs as required by Central Government
- On average, the investment in water resources will require US$ 1.8 billions/year during 2004-2009
- Government budget is not sufficient to meet the water resources investment requirements

BAPPENAS – National Development Planning Agency

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FUNDING

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Water Sector Investment Needs
Medium Term Development Plan (2010-2015)

INVESTMENT NEEDS

Water Resources (WR) US$ 10 Billions
Water Supply (WS) US$ 2.5 Billions

Total **US$12.5 Billions**

SOURCE OF FUND

Estimated Government
Budget 2010-2015 WR
US$ 5.0 Billions WS
US$ 1.3 Billions (50%)

- Investment needs as required by Central Government
- On average, the investment in water resources will required US$ 2 billions/year during 2010-2015
- Government Budget is not sufficient to meet the water resources investments

BAPPENAS – National Development Planning Agency

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OUTSTANDING LOAN FOR WATER RESOURCES

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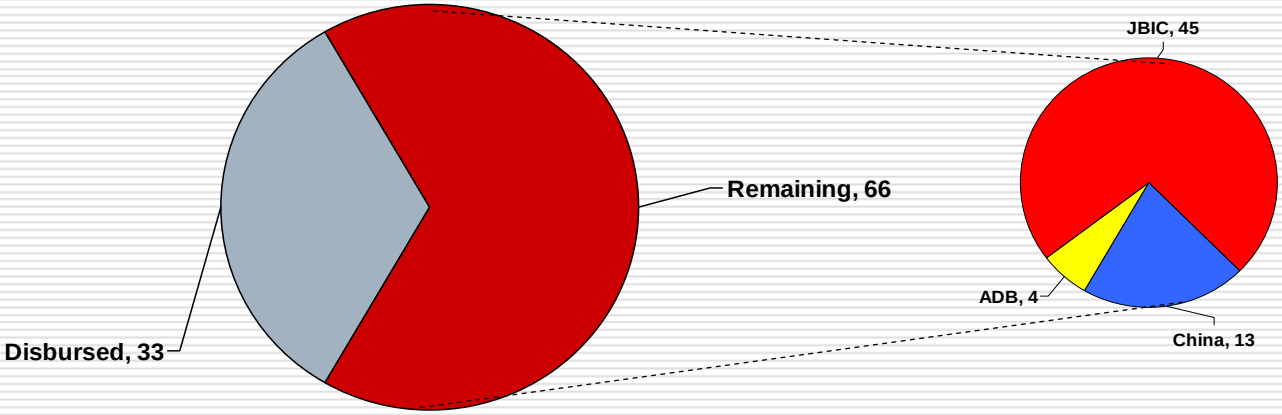
	TOTAL	DISBURSED	REMAINING
IBRD	71,400.0	12,682.1	58,717.9
ADB	73,800.0	4,370.3	69,429.7
IBIC	1,270,275.9	539,227.7	731,048.2
CHINA	215,615.0	0.0	215,615.0
TOTAL	**1,631,090.0**	**556,280.1**	**1,074,810.8**

Represents only 18% of medium funding requirements



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SUMMARY KEY POINTS

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- Steady and dramatic increase in urban population
- Big impact on Java
- Basins already stressed
- Land use changes away from irrigation
- Serious investment plan for DMI & urban sanitation
- Upgrade irrigation infrastructure ; attention off Java
- Rural water supply & sanitation; innovative financing
- Rationalization of PDAMs
- Monitor IWRM v MDGs
- Funding – Shortfall and growing demands

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Thank You

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