



# International Flood Initiative/Program: **Time for Action**

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January, 2004 : Heavy rain in Indonesia

79,400 km<sup>2</sup> affected    **148 dead**    350,000 displaced





**January – March, 2004 : Heavy rain in Brazil**

**2,019,000 km<sup>2</sup> affected    161 dead    230,000 displaced**



# January – February, 2004: Heavy rain in Angola, Botswana, Namibia and Zambia

596,100 km<sup>2</sup> affected    **10 dead**    40,000 displaced





## March, 2004: Tropical cyclone in Madagascar

44,230 km<sup>2</sup> affected    **198 dead**    216,000 displaced



# April – June, 2004: Heavy rain in Mexico

18,400 km<sup>2</sup> affected    **37 dead**    3,500 displaced





**April – May, 2004: Heavy rain in Kenya**

**268,300 km<sup>2</sup> affected    50 dead    15,000 displaced**



## April – May, 2004 : Heavy rain in India and Bangladesh

29,070 km<sup>2</sup> affected    **12 dead**    50,000 displaced





# May – June, 2004 : Heavy rain in Dominican Republic, Haiti and Puerto Rico

8,900 km<sup>2</sup> affected    3,300 dead    13,000 displaced



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## Haiti flood deaths may top 2,000

Flooding unleashed in Haiti by tropical storm Jeanne is feared to have killed more than 2,000 people, the mayor of a badly-hit city has said.

Calixte Valentin, mayor of Gonaives, said bodies were still being found, 10 days after the storm.



UN troops are guarding food distribution centres in Haiti

June – July, 2004 : Heavy rain in China

92,250 km<sup>2</sup> affected    **27 dead**    168,000 displaced





# June – July, 2004 : Monsoon rain in India, Bangladesh and Burma

1,163,000 km<sup>2</sup> affected    **3,000 dead**    40,000,000 displaced



June – July, 2004 : Heavy rain in Nicaragua

29,960 km<sup>2</sup> affected    **25 dead**    18,000 displaced





## June – July, 2004 : Tropical cyclone in Philippines, Taiwan and North Korea

84,820 km<sup>2</sup> affected    **54 dead**    385,000 displaced



**July, 2004 : Heavy rain in Chile**

**4,600 km<sup>2</sup> affected    3 dead    9,000 displaced**





**July, 2004 : Brief torrential rain in Ontario, Canada**

**510 km<sup>2</sup> affected    250 displaced    \$40,000,000 in damages**



## July – August, 2004 : Monsoon rain in Nepal and Bhutan

65,200 km<sup>2</sup> affected    **185 dead**    100,000 displaced



**July, 2004 : Monsoon rain in North Korea and South Korea**

**102,900 km<sup>2</sup> affected    34 dead    160,000 displaced**





July, 2004 : Heavy rain in New Zealand

6,960 km<sup>2</sup> affected    2 dead    2,850 displaced



## August, 2004 : Monsoon rain in India and Pakistan

638,400 km<sup>2</sup> affected    **210 dead**    100,000 displaced



**August – October, 2004 : Monsoon rain in Thailand**

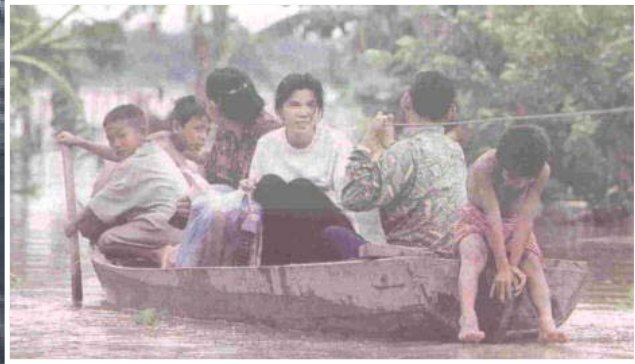
**154,400 km<sup>2</sup> affected    11 dead    60,000 displaced**





# August – October, 2004 : Monsoon rain in Vietnam and Cambodia

47,460 km<sup>2</sup> affected    **34 dead**    30,000 displaced



October – November, 2004 : Heavy rain in Colombia

159,600 km<sup>2</sup> affected    **19 dead**    187,900 displaced





## October, 2004 : Tropical cyclone in Japan

32,210 km<sup>2</sup> affected    **83 dead**    42,000 displaced





# Summary of 2004

Began	Ended	Country	Main cause	Affected Region (km²)	Dead	Displaced	Damage (US \$)
01/10/04	01/11/04	Boliva	Heavy rain	3,570		40,000	
01/10/04	03/08/04	Brazil	Heavy rain	2,019,000	161	230,000	\$117,000,000
01/14/04	02/25/04	Australia	Monsoonal rain	1,232,000		3,400	\$32,000,000
01/24/04	02/03/04	Malaysia	Heavy rain	32,620	3	6,900	
02/01/04	06/02/04	Namibia, Zambia, Angola and Botswana	Heavy rain	596,100	10	40,000	
02/13/04	02/25/04	New Zealand	Heavy rain	14,840	2	2,500	\$210,000,000
02/18/04	02/23/04	Indonesia	Heavy rain	280	5	13,000	\$60,000,000
03/05/04	03/09/04	Papua New Guinea	Heavy rain	2,000		10,000	
03/06/04	03/08/04	Brazil	Heavy rain	2,880	4	60,000	
03/07/04	03/19/04	Madagascar	Tropical cyclone	44,230	198	216,000	\$250,000,000
03/28/04	04/11/04	USA and Canada	Rain and snowmelt	30,760		1,000	\$4,500,000
04/08/04	04/18/04	Fiji	Tropical cyclone	9,450	10	2,760	\$2,600,000
04/09/04	05/11/04	Kenya	Heavy rain	268,300	50	15,000	
04/12/04	05/02/04	Bosnia-Herzegovina, Croatia and Romania	Heavy rain	105,000		1,200	\$15,200,000
04/14/04	05/03/04	Bangladesh and India	Heavy rain	29,070	12	50,000	
04/14/04	05/16/04	Russia	Rain and snowmelt	264,500	18	4,800	\$25,000,000
05/13/04	05/17/04	China	Heavy rain	10,940	7		\$53,500,000

# Summary of 2004 – cont.

05/22/04	05/26/04	USA	Heavy rain	117,300	1	150	\$32,000,000
05/23/04	06/01/04	Dominican Republic, Haiti and Puerto Rico	Heavy rain	8,900	3,300	13,000	
06/03/04	10/11/04	USA	Dam/Levy, break or release	600	0	300	\$20,000,000
06/12/04	06/15/04	Mexico	Heavy rain	420	1	350	\$3,600,000
06/20/04	06/25/04	China	Heavy rain	92,250	27	168,000	\$360,000,000
06/20/04	10/07/04	India, Bangladesh and Burma	Monsoonal rain	1,163,000	3,000	40,000,000	
06/24/04	07/20/04	Nicaragua	Heavy rain	26,960	25	18,000	\$11,200,000
06/29/04	07/13/04	Philippines, Taiwan and North Korea	Tropical cyclone	84,820	54	385,000	\$60,000,000
06/30/04	07/01/04	Chile	Heavy rain	4,600	3	9,000	
07/04/04	07/23/04	China	Heavy rain	44,800	35	26,000	
07/05/04	08/11/04	Nepal and Bhutan	Monsoonal rain	65,220	185	100,000	
07/12/04	07/15/04	USA	Heavy rain	2,440		500	\$30,000,000
07/14/04	07/27/04	China	Heavy rain	156,600	24	82,000	
07/15/04	07/17/04	Canada	Brief torrential rain	510		250	\$40,000,000
07/15/04	07/25/04	South and North Korea	Monsoonal rain	102,900	34	160,000	
07/16/04	07/30/04	China	Heavy rain	52,800		150,000	
07/17/04	07/30/04	China	Heavy rain	86,020	2	135,000	\$51,200,000
07/18/04	07/28/04	Vietnam	Heavy rain	12,020	36		\$8,300,000
07/28/04	08/02/04	Romania	Heavy rain	17,940	8	2,000	\$40,000,000
07/28/04	07/31/04	USA	Heavy rain	21,190	3		\$17,000,000

# Summary of 2004 – cont.

07/31/04	08/13/04	Philippines	Heavy rain	2,440		80,000	
08/01/04	09/08/04	India and Pakistan	Monsoonal rain	638,400	210	100,000	
08/06/04	10/03/04	Thailand	Monsoonal rain	154,400	11	60,000	
08/07/04	08/09/04	South Africa	Heavy rain	199		15,000	
08/08/04	08/10/04	Nigeria	Heavy rain	510		15,000	
<b>11,699 dead</b>			Tropical cyclone	16,660	164	30,000	\$2,200,000,000
			Heavy rain	141		150	\$1,000,000,000
08/24/04	09/12/04	Philippines and Taiwan	Tropical cyclone	38,800	67	1,058,849	\$23,500,000
08/24/04	10/21/04	Vietnam and Cambodia	Monsoonal rain	47,460	34	30,000	
08/30/04	08/31/04	<b>45 million displaced</b>		2,660	13	5,900	\$124,000,000
08/30/04	09/01/04			3,710	7		\$62,000,000
09/03/04	09/09/04	China	Heavy rain	72,280	196	500,000	\$470,000,000
09/08/04	09/21/04	Caribbean and USA	Tropical cyclone	363,500	100	20,000	
09/15/04	10/01/04	Caribbean and USA	<b>US \$ 5.3 Billion in damages</b>				
09/17/04	09/19/04	Panama					
10/07/04	10/18/04	India and Bangladesh	Heavy rain	161,700	210	100,000	
10/07/04	11/04/04	Togo	Heavy rain	110		300	
10/11/04	11/22/04	Colombia	Heavy rain	159,600	19	187,900	
10/20/04	10/24/04	Japan	Tropical cyclone	32,210	83	42,000	
12/10/03	01/23/04	Indonesia	Heavy rain	79,400	148	350,000	
12/19/03	01/07/04	Philippines	Heavy rain	12,920	200	97,500	\$3,000,000



# On average

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- 25,000 lives annually
- \$ 60 billion
- plus damage caused to cultural and natural resources

# Presentation outline

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- Challenges
- Opportunities - IFI/P
- Preparatory process
- Time for action

# Challenges

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- 2002 World Summit on Sustainable Development (Johannesburg)
- 2003 3<sup>rd</sup> World Water Forum (Kyoto)
  - Necessity to improve risk management measures, technologies and capacity building relevant to water-related disasters

# Challenges

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- How to reduce the loss of life and property damage and in the same time obtain the social, environmental and economic benefits from the floodplains.
  - Urban areas
  - Rural areas



# Challenges

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- How to develop area-specific adaptation strategies
  - Living with water-related disasters
  - Capacity building
  - Local knowledge
  - Participation of all stakeholders

# Challenges

- How to improve our knowledge base
  - Prediction of hazardous events
  - Assessment of risk and vulnerability
  - Integrated use of structural and non-structural protection measures
  - Enhancement of preparedness
  - Evaluation of impacts
  - Knowledge sharing
  - Climate change impacts

# Challenges

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- How to take advantage of the new technologies
  - Monitoring hazardous events
  - Data sharing

# Challenges

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- How to implement interdisciplinary approach
  - Disciplinary thinking
  - Educational barriers
  - Lack of funding

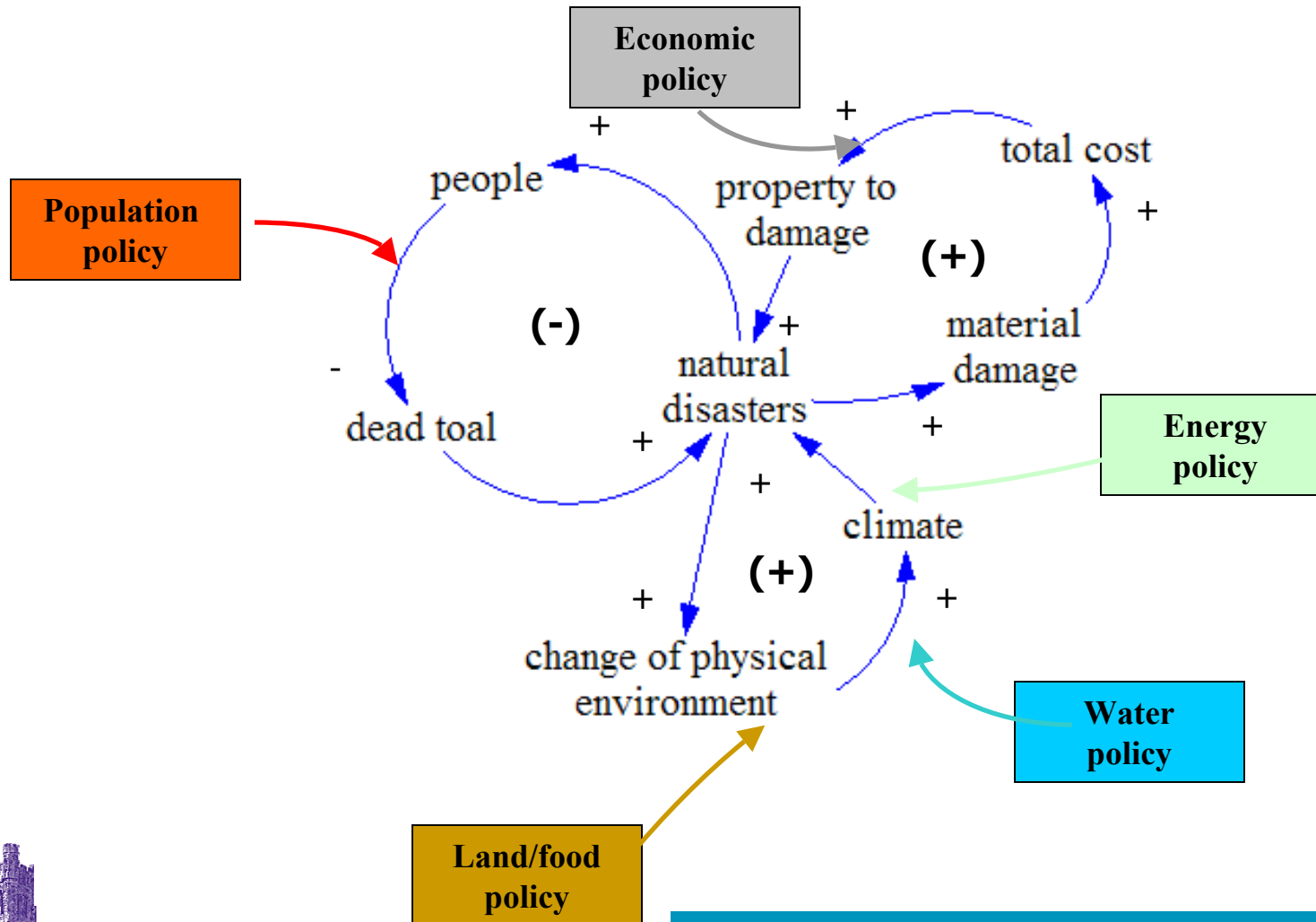


# Challenges

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- How to find appropriate financial mechanisms for those in need
  - National policy
  - International assistance

# Systems view of the problem



# Opportunities – IFI/P

## ■ Mission

*The International Flood Initiative/Programme promotes an integrated approach to flood risk management in order to reduce fatalities, property losses, environmental effects and other hardships that result from floods and at the same time consider the long-term benefits from floods and the use of flood plains.*

# IFI/P

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- Guiding Principles
  - Living with floods
  - Equity
  - Empowered participants
  - Interdisciplinarity
  - Trans-sectorality
  - International and regional cooperation



# IFI/P

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- Strategic Activities
  - Research
  - Training
  - Information networking
  - People networking for good governance
  - Technical assistance

# IFI/P

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- Focal areas
  - People-centered early warning and emergency management
  - Flood risk assessment
  - Vulnerability
  - Governance and participation
  - Capacity building and technical assistance
  - Education

# IFI/P – Time for action

## ■ Schedule

- 1<sup>st</sup> preparatory meeting – Tsukuba, Japan (June 2004)
- 2<sup>nd</sup> preparatory meeting – London, Canada (December 2004)
- WCDR, Kobe (January 2005) - launch
- Implementation (2006)
  - The planned International Centre for Water Hazard and Risk Management (CHARM) under the auspices of UNESCO - hosted by the Public Works Research Institute (PWRI) in Tsukuba, Japan

# Instead of conclusion

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