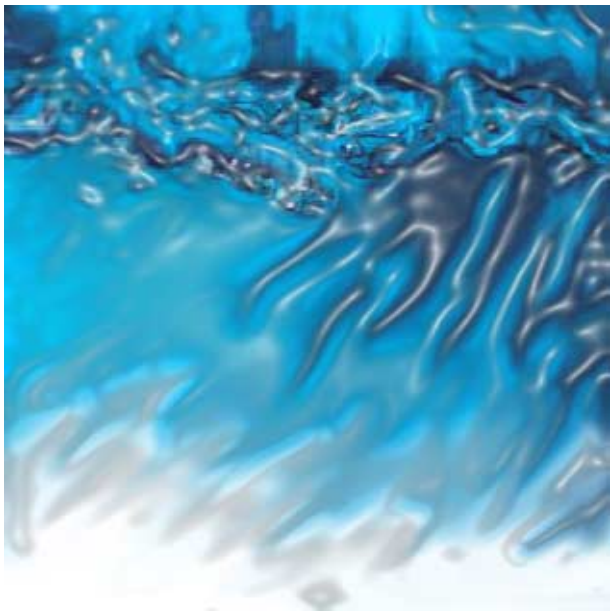
国際協力事業団

No.

第2次水資源プロジェクト研究計画調査

最終報告書
（関連国際会議　資料編）



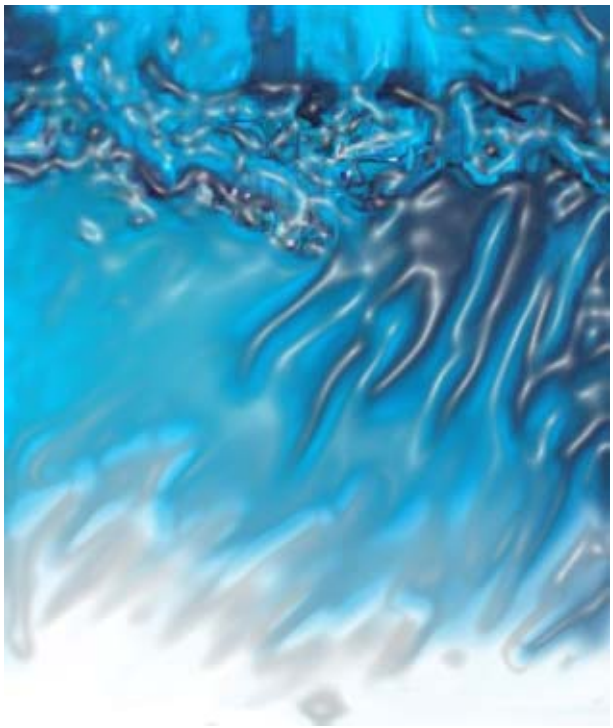
平成 15 年 3 月
（2003 年）

株式会社　建設技研インターナショナル

社調二
JR
03-87

第２次水資源プロジェクト研究計画調査

最終報告書　（関連国際会議 資料編）



平 成 １５年 ３月

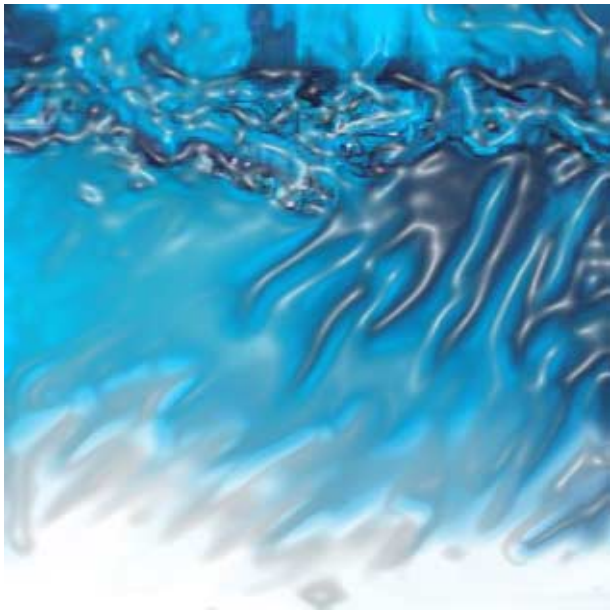
目　次

I. 地域会合
1. 地域会合概要
1.1 持続可能な開発に関する世界首脳会議 （ヨハネスバーグ）
1.2 水と貧困（ダッカ）
1.3 洪水と貧困（マニラ）
1.4 都市と水（マニラ）
1.5 貧困と洪水（中国）
1.6 貧困と洪水（ヴェトナム）
2. 地域会合発表資料

II. 第 3 回世界水フォーラム
1. セッション「貧困と洪水」
1.1 主報告書
1.2 発表資料
(1) 議長冒頭挨拶
(2) ケーススタディ
(3) 議長まとめ
(4) パネリストのコメント
1.3 セッション記録
(1) セッションプラン
(2) セッションレポート
(3) パネリストや聴衆からの主なコメント
1.4 その他資料
(1) JICA の洪水関連活動
(2) 「洪水貧困」セッション宣伝チラシ
(3) 写 真
(4) ポスター
2. セッション「水道に関する海外技術協力の 課題と今後の展望」
3. セッション「共通の水資源である地下水の 管理手段としての所有権」

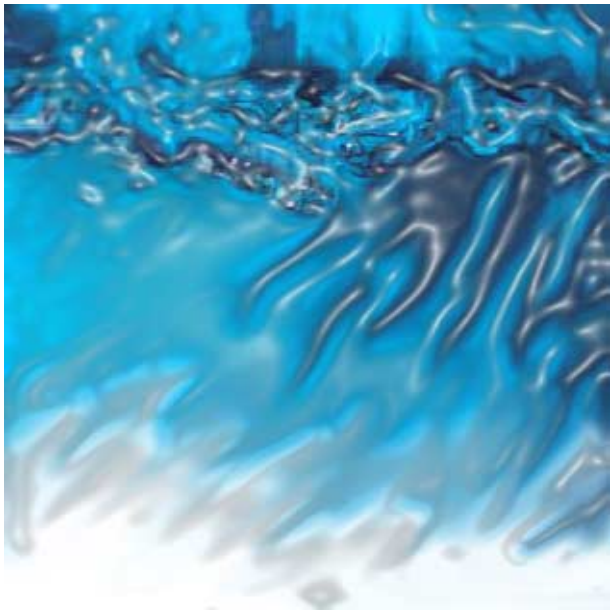
III. 収集資料・ビデオ・写真・ 録音テープ

I.　地域会合



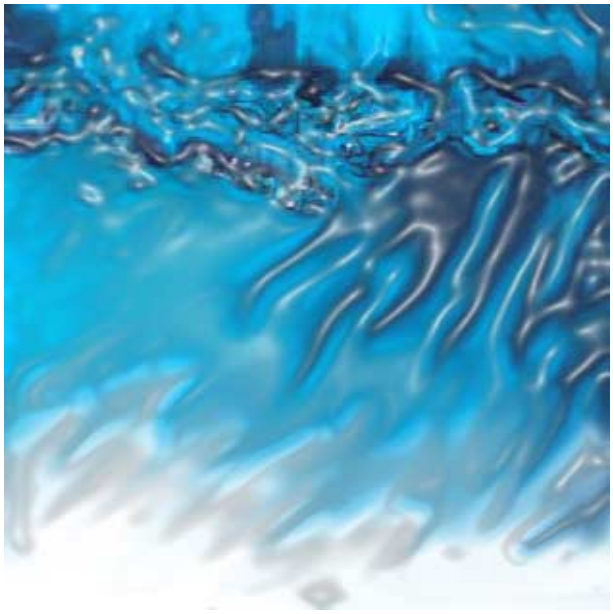
第 2 次水資源プロジェクト研究計画調査

1.　地域会合概要



第 2 次水資源プロジェクト研究計画調査

1.1　持続可能な開発に関する世界首脳会議（ヨハネスバーグ）



第 2 次水資源プロジェクト研究計画調査

「持続可能な開発に関する世界首脳会議」
参加報告書

（WSSD: World Summit on Sustainable Development）

2002 年 9 月

株式会社　建設技研インターナショナル

目　次

1.　持続可能な開発に関する世界首脳会議（WSSD） **1**

1.1　持続可能な開発に関する世界首脳会議（WSSD）の概要 1

1.2　地球サミット後の様々な決定事項 2

2.　行程 **3**

3.　日本パビリオンでのイベント **14**

3.1　セミナー「水・人・持続可能性（WATER-PEOPLE-SUSTAINABILITY）」 14

3.2　TICADワークショップ 15

3.3　JICAワークショップ 17

4.　国際洪水ネットワーク（IFNET） **20**

4.1　NWP（NETHERLANDS WATER PARTNERSHIP）と「川と水」委員会事務局との共同ワークショップ 20

4.2　国際洪水ネットワーク（IFNET）設立事前会合 28

5.　WATERDOMEでの関連セッション **34**

5.1　キーノートセッション: "TAKING UP THE CHALLENGE OF WATER AND FOOD SECURITY . 34

5.2　URBAN SANITATION MEETING 38

5.3　パラレルセッション：ECOSYSTEM FUNCTIONS AND POVERTY REDUCTION 39

5.4　オープンニングセレモニー：WORKING TOGETHER ON WATER, ENERGY AND CLIMATE FOR SUSTAINABLE DEVELOPMENT 42

5.5　パラレルセッション：WATER RELATED DISASTERS 46

5.6　パラレルセッション：AGRICULTURAL WATER AND POVERTY 49

5.7　パラレルセッション：WATER AND GOVERNANCE: HOW TO REDUCE POVERTY 50

5.8　パラレルセッション：WATER, POVERTY AND CHILDREN 50

6.　第3回世界水フォーラム（WWF3）関連 **54**

6.1　MULTI STAKEHOLDERS DIALOGUE: BRAINSTORMING FOR THE 3RD WORLD WATER FORUM 56

6.2　第３回世界水フォーラム閣僚級国際会議キックオフ会合 58

7.　WWF３事務局報告（NEWSLETTER第95号より） **63**

1. 持続可能な開発に関する世界首脳会議（WSSD）

1.1　持続可能な開発に関する世界首脳会議（WSSD）の概要

国連が主催する「持続可能な開発に関する世界首脳会議（WSSD: World Summit on Sustainable Development）―ヨハネスブルグ・サミット」は、各国首脳や代表、NGOのリーダー、ビジネス界ほか主な団体から約6万人もの参加者が集まり、人類が抱える困難な課題に世界の関心を向け、解決を目指して世界的な行動を促すための会議で、2002年8月26日から9月4日まで、南アフリカのヨハネスブルグで開催された（図 1参照）。人口の増加にともない、今日の世界では、食糧、水、住居、衛生、エネルギー、医療サービス、経済的安定に対する要求は増加の一途をたどっており、この会議では、世界中の人々の生活向上と自然資源の保全をはじめ、様々な重要課題について協議された。

また、今回の会議は、1992年のブラジル・リオデジャネイロで開催された「国連環境開発会議（地球サミット）」が人類共通の目標として掲げた「アジェンダ21」の実現を促すことを使命としており、最終的な成果として、①政治宣言、②実施計画、③約束文書が採択された。

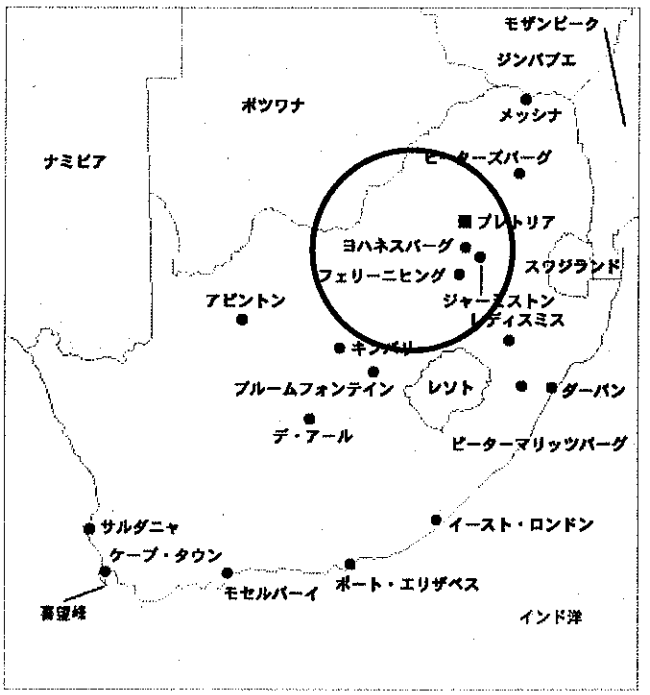


図 1　ヨハネスブルク位置図

1.2　地球サミット後の様々な決定事項

1992年にブラジル・リオデジャネイロで開催された「国連環境開発会議（地球サミット）」後の10年間には、環境と開発に関して、様々な国際会議やサミットが開かれ、重要な決定が行われた。

1995年にデンマーク・コペンハーゲンで開催された「国連社会開発サミット」では、貧困撲滅が最大のテーマとなり、1996年のリヨン・サミット、翌1997年のデンバー・サミットでは「グローバル化」が中心テーマに据えられ、アフリカへの開発援助問題等が話し合われた。同年には、京都で開かれた地球温暖化防止の京都会議で、先進国の温室効果ガス削減義務を定めた京都議定書が採択された。

さらに2000年の「国連ミレニアムサミット」では、貧困撲滅のための「ミレニアム開発目標」が決定され、2001年11月、カタール・ドーハで開かれた世界貿易機関（WTO）閣僚会議では、最貧国からの産品輸入に関しては「関税非課税・無枠」とすること等、「途上国配慮」が閣僚宣言に盛り込まれた。

また、2002年3月には、メキシコ・モンテレイで「国連開発資金会議」が開かれ、先進国がODA増額に努めること等を明記した「モンテレイ合意」が採択された。

なお、国連ミレニアム開発目標については、以下の通りである。

① 2015年までに1日1ドル未満で暮らす人口、飢餓に苦しむ人口の比率をそれぞれ半減する。
② 2015年までに男女の差別なくすべての児童が初等教育課程を完全に修了する。
③ あらゆる教育段階で男女の均等な機会を確保する。
④ 2015年までに5歳以下の子供の死亡率を3分の2削減する。
⑤ 2015年までに妊産婦死亡率を4分の3削減する。
⑥ 2015年までにHIV・エイズ感染、マラリア等のまん延を止め、減少に転じさせる。
⑦ 各国の政策に「持続可能な開発」を組み入れ、環境資源の破壊を阻止する。飲料水へのアクセスがない人口割合を半減する。2020年までに最低1億人のスラム居住者の生活を顕著に改善させる。
⑧ 政府開発援助を増額させる。市場へのアクセスを拡大する。債務を長期的に持続可能なものとする。

2. 行程

「持続可能な開発に関する世界首脳会議（WSSD）」の本会議が行われたサントンシティの他、その南側に位置するウブントゥ村（Ubuntu Village）では日本パビリオンを含む様々な展示会場で文化行事等が行われ、ナズレック（NASREC）ではNGOグループが主体となったイベントが開催された。また、以上の国連主催サイドイベント会場以外に、サントンシティの北西に位置するノースゲートでは、国連機関、アフリカ政府、オランダ政府や世界水パートナーシップ（GWP）等で構成されたアフリカ水タスクフォース主催の水関連サイドイベント「WaterDome～No Water No Future～」が開催された（図 2参照）。

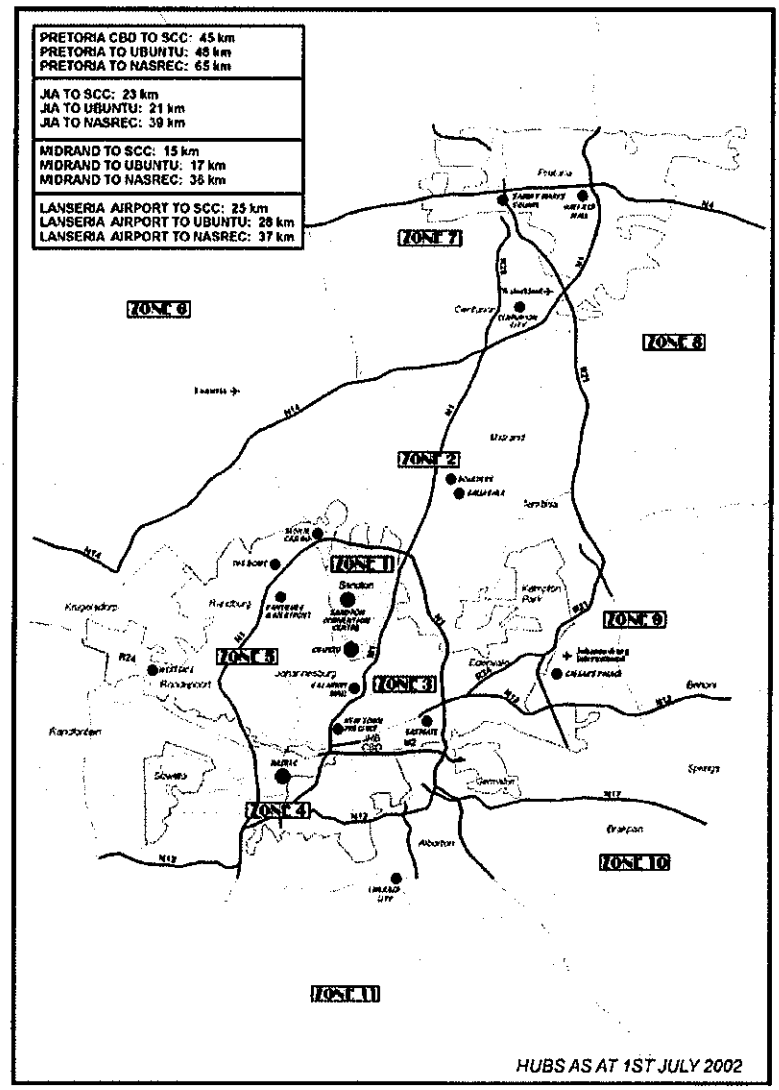
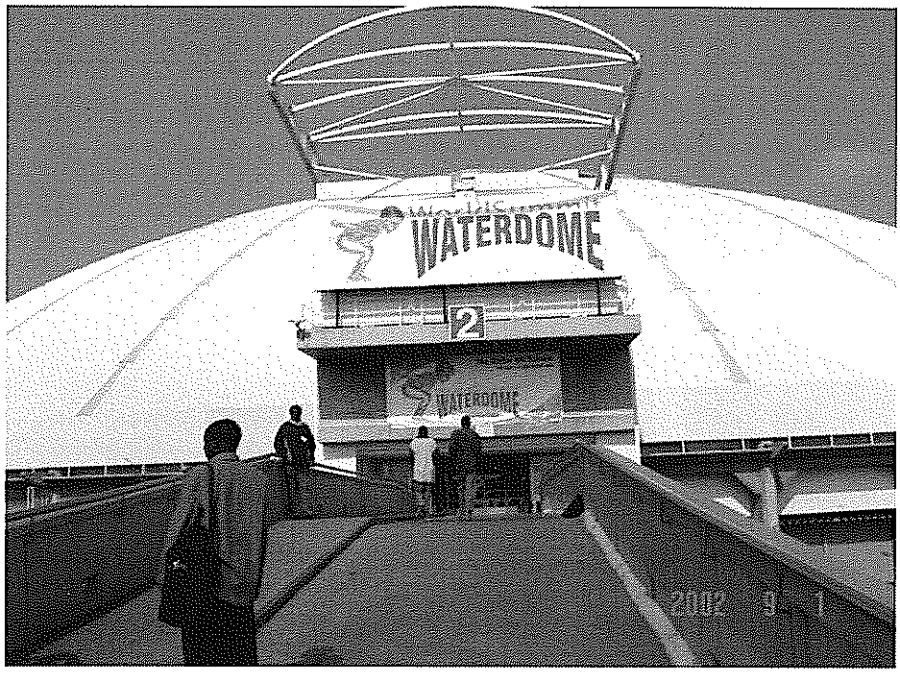


図 2　ヨハネスブルク近郊図



Water Dome入り口

ウブントゥ村日本パビリオン入り口

表 1　行程

月日	行動	備考
8月28日（水）	移動：東京(18:55)－香港(22:55) 香港発（23:25）	JL739 CX1749
8月29日（木）	Johannesburg着（6:50） JICA南ア事務所訪問（今村氏） ウブントゥ村日本パビリオン ① ﾜｰｸｼｮｯﾌﾟ「水・人・持続可能性」（13:00－15:00） Water Dome	
8月30日（金）	Water Dome テーマ：Water & Food Security ① ｷｰﾉｰﾄｾｯｼｮﾝ: Taking Up the Challenges of Water & Food Security（ステージ；10:00－11:30） ② 蘭国NWP・川と水委員会の共同ﾜｰｸｼｮｯﾌﾟ（ｵﾗﾝﾀﾞﾊﾟﾋﾞﾘｵﾝ；11:00－12:30） ③ 第2回 IF Net会議（11月）の準備会合（ｵﾗﾝﾀﾞﾊﾟﾋﾞﾘｵﾝ：14:00-15:30） ④ 会議"Urban Sanitation"（Amazon会議室；16:30-17:30）	本会議場開催の予定を急遽変更。
8月31日（土）	ウブントゥ村日本パビリオン ① TICADワークショップ（10:30-11:30） Water Dome　テーマ：Water & Nature ① ﾊﾟﾗﾚﾙｾｯｼｮﾝ"Ecosystem Functions Contributes to Water Resources Sustainability and Poverty Reduction"（Yangtze会議室；14:00-16:00）	
9月1日（日）	Water Dome テーマ：Water, Energy & Climate ① ｵｰﾌﾟﾆﾝｸﾞｾﾚﾓﾆｰ"Working Together on Water, Energy and Climate for Sustainable Development"（Indus会議室；10:00-12:00） ② ﾊﾟﾗﾚﾙｾｯｼｮﾝ"Water Related Disaster"（Mekong会議室；14:00-17:00）	
9月2日（月）	Water Dome テーマ：Water, Health & Poverty ① ﾊﾟﾗﾚﾙｾｯｼｮﾝ "Agricultural Water and Poverty"（Indus会議室　10:00－11:30） ② ﾊﾟﾗﾚﾙｾｯｼｮﾝ "Water and Governance: How to alleviate Poverty"（Amazon会議室 12:15－14:15） ③ ﾊﾟﾗﾚﾙｾｯｼｮﾝ "Water, Poverty and Children"（Indus会議室　14:45－16:45）	
9月3日（火）	JICA南ア事務所訪問（高橋所長） 移動：Johannesburg（17:00）発	 CX1748
9月4日（水）	香港（12:15）着 香港（14:45）－東京（19:45）	 JL732

なお、日本パビリオンとWater Domeにおけるプログラムを次ページ以降に示す。

ＷＳＳＤ「日本パビリオン」時間割案

平成１４年８月６日現在

（日時：準備時間を含む）		プロジェクト（タイトルは仮置き）、主体※
８月２６日（月）		
８月２７日（火）		「地球環境の保全と実践①」
	１０：３０～	バナナ・グリーンゴールド・プロジェクト
	１１：３０	（外務省カリブ室）
	１２：４５～	科学技術に基づく環境政策形成
	１４：４５	（環境省）
	１５：００～	生物多様性の保全
	１７：００	（環境省）
	１７：３０～	持続可能な熱帯林経営
	２０：００	（開発途上地域課（ＩＴＴＯ））
８月２８日（水）		「地球環境の保全と実践②」
	１０：３０～	バナナ・グリーンゴールド・プロジェクト
	１１：３０	（外務省カリブ室）
	１１：３０～	産業技術による持続可能な開発と日本
	１３：３０	（ＮＥＤＯ）
	１３：３０～	地球温暖化
	１５：３０	（環境省）
	１６：００～	アジア太平洋環境開発フォーラムの提言の発表
	１８：００	（環境省（ＡＰＦＥＤ））
	１８：３０～	統合コミュニティ開発と貧困削減のためのグリ
	２０：００	ーン生産性アプローチ（アジア生産性機構）
８月２９日（木）		「ジャパン・デー」
	１０：３０～	日本の公害体験と克服への道
	１２：３０	（ＧＥＡ；　経産省、環境省、企業）
	１３：００～	~~水との共存~~　水・人・持続可能性
	１５：００	（~~ＧＥＡ；~~　ＧＬＯＢＥ　Ｊａｐａｎ、国土交通省、水フォーラム）
	１５：３０～	持続可能な森林経営
	１６：５０	（ＧＥＡ；　外務省、農水省）
	１７：００～	愛・地球博
	１７：３０	（ＧＥＡ；　経産省、愛知万博事務局）
	１７：４０～	ヴァーチャルグローブ事業　国際諮問委員会
	１８：４０	（ＧＥＡ）
	１９：００～	ＵＮＥＰ親善大使　加藤登紀子コンサート
	２０：００	

8月３０日（金）		「ジャパン・デー２日目」「資金と成長」
	１０：３０～	日本の地球環境に関する科学技術の貢献
	１１：３０	（ＧＥＡ；　文部科学省）
	１１：３０～	持続可能な開発のための教育１０年
	１２：３０	（ＧＥＡ；　外務省、文科省、環境省）
	１３：００～	アジアにおける持続的開発のための貧困削減と
	２０：００	成長戦略（ＪＢＩＣ）
8月３１日（土）		「アフリカ・デー」
	１０：３０～	ＴＩＣＡＤについてのイベント
	１１：３０	（外務省アフリカ第二課（ＵＮＤＰ））
	１１：３０～	ＮＥＲＩＣＡ米についてのイベント
	１３：３０	（外務省国際機構課（ＵＮＤＰ、（ＦＡＯ）））
	１４：００～	アフリカにおける持続可能な開発とガバナンス
	１８：００	（外務省調査計画課　（日本国際問題研究所））
9月　１日（日）		「開発の日」
	１０：３０～	東アジア型開発アプローチの発信　～ＩＤＥＡ
	１２：３０	の成果報告～　　（外務省国際機構課）
	１３：００～	貿易・投資・経済協力を通じた成長
	１５：００	～東アジアの経済開発・協力経験
		（経済産業研究所・経産省）
	１５：３０～	貿易投資促進に関する多元的アプローチ
	１７：３０	（ＪＥＴＲＯ）
9月　２日（月）		「科学技術」「技術協力」
	１０：３０～	宇宙からの地球観測と地球環境変動予測による
	１２：３０	持続可能な開発への貢献（文部科学省）
	１４：００～	日本の技術協力：南南協力支援
	１８：００	（ＪＩＣＡ）
9月　３日（火）		「地球地図」
	１５：３０～	地球地図パートナーシップ　ー持続可能な開発
	１７：３０	と地理情報ー（国土交通省）
9月　４日（水）		

※主体名は、取り纏め担当

Tentative Programme for the WaterDome

This is the tentative programme for the WaterDome as it was available at the IWMI WaterDome Secretariat on August 2002. Many organisations are still working on this programme and on securing the confirmation of high level speakers as well as a host of exciting events. The final programme, as well as the location of all events within the WaterDome building, will be printed in the Final Programme - available as a separate handout at the WaterDome.

In the programme below there are four types of events:

1 the Keynote event of the day: the highlight of that day's theme - generally taking place on the main stage in the WaterDome;
2 parallel sessions that jointly form the thematic programme of the day, generally taking place in the conference rooms one floor below the exhibition floor;
3 other events organised by WaterDome exhibitors as well as other water organisations, also in the conference rooms;
4 entertainment events, organised throughout the program - generally taking place on or around the main stage - not described in this program (see page 12).

In addition to the program described here, many of the exhibitors are also organising events in their pavilions.

Wednesday, 28 August 2002 Official Opening

Time	Event	Organisers
10h00 – 17h00	AMCOW (African Water Ministers Conference)	DWAF (AMCOW)
17h00 – 18h00	Opening: Mr Nelson Mandela, HRH Prince Of Orange and HE Salim A Salim (Invitation only, Media and Exhibitors)	WaterDome Organising Committee
18h00 – 19h00	Opening of African Water Village and other Pavilions	Africa Water Task Force

Thursday, 29 August 2002

Theme: Water, Regional Integration and Finance Co-ordinator: Stephen Donkor (Donkor@WaterDome.net)

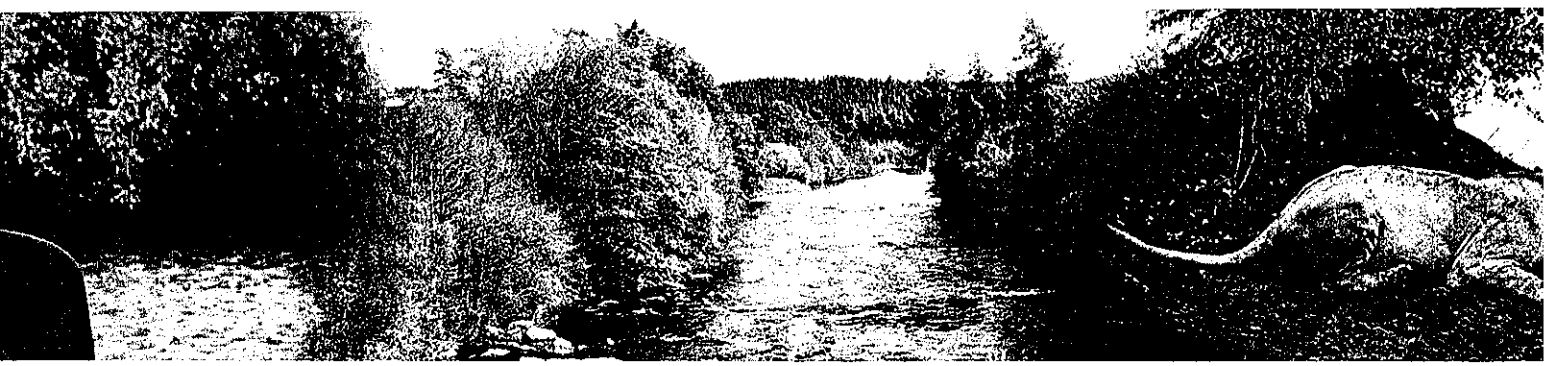
The theme of the day focuses on how water sharing can serve as an instrument of regional integration. In addition the day will feature sessions on innovative approaches to financing water resources development and management.

10h00 – 11h30 | Keynote: Launch of Africa Water Facility | Africa Water Task Force

On behalf of the Africa Water Task Force, HE Salim A Salim, Africa water Ambassador, will launch the Africa Water Facility in the presence of African water leaders representing the African Ministerial Conference on Water.

Parallel sessions:

11h30 – 13h00	High level panel dialogue: Debate on Water as an Instrument of Regional Integration
14h00 – 16h00	Parallel Session 1: How Water Sharing can Serve as an Instrument of Regional Integration



14h00 – 16h00	Parallel Session 2: Innovative approaches to Financing Water Development	
14h00 – 17h00	Solving water problems: finding the finance.	Global Water Partnership

Other events:

10h00 – 17h00	AMCOW (African Water Ministers Conference) Meeting (Invitation only)	DWAF (AMCOW)
10h00 – 11h00	Presentation of "World Water Action" Study	World Water Council
10h00 – 12h00	Event on national programs of action for the protection of the marine environment from land-based activities.	UNEP-GPA
10h00 – 14h00	Hydrosolidarity- tomorrow's life saver. Journalists' seminar.	Swedish Pavillion organisers
14h00 – 16h00	"Management of Transboundary River Basins: Tools for IWRM" Conference	French pavilion organisers
11h00 – 16h00	Meeting: Multi Stakeholder Event	European Union (EU)

Friday, 30 August 2002

Theme: Water and Food Security Co-ordinator: Doug Merrey (Merrey@WaterDome.net)

The day will focus on how different stakeholders can come together to increase water productivity in agriculture in a manner that ensures food security for all and poverty alleviation in the rural areas.

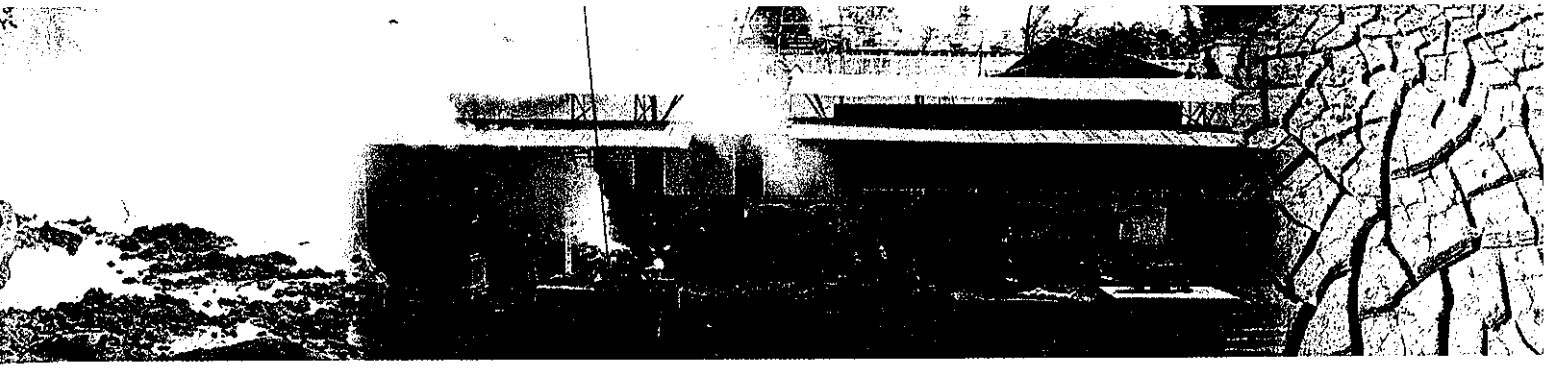
10h00 – 11h00	Keynotes: Taking Up the Challenge of Water and Food Security	IWMI
10h00	Opening, HE Salim A. Salim (Chair of the event), Water Ambassador for Africa and former Secretary General OAS.	
10h05	The Water and Food Challenge, HRH the Prince of Orange, crown prince of the Netherlands and water advisor to Secretary General Annan.	
10h15	The CGIAR and the Water and Food Challenge, Mr Ian Johnson,Chair of the CGIAR and Vice-President of the World Bank.	
10h25	The importance of Water and Food for Africa, Senior leader from Africa.	
10h35	High-level Panel on the water and food challenge chaired by HE Salim. Participants from South Africa, the Netherlands, Germany and Japan.	

Parallel sessions:

11h30 – 12h30	Panel dialogue: Debate on the Water Needs of Communities in Rural Areas	
14h00 – 16h00	Parallel session 1: Community Empowerment in Basin Management	
14h00 – 16h00	Parallel session 2: Water Productivity	
14h00 – 16h00	Parallel session 3: Opportunities for Affordable Technologies	
14h00 – 16h00	Parallel session 4: Markets for Food Security	
14h00 – 16h00	"Water for Agriculture: Demand Driven Management" Conference	French Pavilion Organisers
19h00 – 23h00	Symposium on Greening Asia SMEs	Asian Development Bank

Other events:

09h00 – 11h00	African Breakfast	UMGENI Water
10h00 – 13h00	"Dams and Development" Presentations on National Follow-on-processes to the World Commission on Dams (WCD) and Panel Discussion on Key Challenges	UNEP – Dames and Development project



10h00 – 11h00	Presentation of "World Water Action" study	World Water Council
12h30 – 16h30	"Making Water Governance Effective" Meeting	Global Water Partnership (GWP)
13h00 – 17h00	"Sustainable Cities (a Type 2 Initiative)": Presentation of Swedish Foreign Ministry/Swedish	Swedish Pavilion organisers
14h00 – 16h00	Government of Kyrgistan: Bishkek Mountain Summit Facilitated by UNEP/International year of the Mountain	UNEP/GPA Pavilion organisers
14h00 – 16h00	"Global Legislators for Improved Ocean Governance and Improved Coastal Zone Management" Seminar	UNEP/GPA Pavilion organisers
16h30 – 17h30	"Urban Sanitation" Meeting	UN-Habitat/SULABH

Saturday, 31 August 2002

Theme: Water and Nature Co-ordinator: Tabeth Matiza (Matiza@WaterDome.net)

The focus of the Water and Nature day will be on showcasing current actions and challenges with respect to water resources protection, restoration and sustainable management.

10h00 – 11h00	Keynote Panel Discussion: Water resource protection and restoration: Its Reality	Africa Water Task Force

Panel discussion facilitated by Yemi Katerere, Director of IUCN ROSA, with participation of Dr Klaus Toepfer, Executive Director, UNEP, HE Ronnie Kasrils, Minister Water and Forestry Affairs, South Africa, Mr Gerard Mestrallet, CEO of Suez-Lyonaise, Gerd Leipold, Executive Director Greenpeace, and high level representatives of African governments as wells as other stakeholders.

Parallel sessions:

10h00 – 12h00	"UCC Water and Environment (DHI Copenhagen)" & "Water for the Future: World Water Day 2003/International Year of Fresh Water" Seminars	UNEP/GPA Pavilion organisers
10h00 – 13h00	Roundtable Discussion: GEF Experiences Linking Freshwater Basins with Large Marine Ecosystem Management	IW: LEARN/GEF-UNIDO
11h30 – 12h30	Panel discussion: Working on water resources protection and sustainable management: major existing and new initiatives.	
14h00 – 16h00	Parallel Session1: Ecosystems Functions Contributes to Water Resources Sustainability and Poverty Reduction	
14h00 – 16h00	Parallel Session 2: Public Private Partnerships in Freshwater Ecosystems Development and Management	
14h00 – 16h00	Parallel Session 3: Sustainable Management of Water Resources-Lessons from the Past, Visions of the Future	

Other Events:

10h00 – 14h00	"Water as a Public Good": Presentation of Swedish Foreign Ministry's Project on Transboundary Water Management as an International Public Good.	Swedish Pavilion organisers
10h00 – 11h00	Presentation of "World Water Action" study	World Water Council
10h00 – 11h30	A Launching of the Forum of Associated Organisations	Dialogue on Water, Food and Environment
13h00 – 15h00	Water for African Cities	UN-Habitat Pavilion/Asian Development Bank
14h30 – 17h30	Youth Meeting	Secretariat of the 3rd World Water Forum
14h30 – 17h30	"Action Through Partnership" Meeting	Global Water Partnership (GWP)

Sunday, 1 September

Theme: Water, Energy and Climate Co-ordinator: Mohamed Tawfik (Tawfik@WaterDome.net)

The day will focus on the impacts of flooding and other water-related disasters, as well as water storage management and water and climate change. In addition there will be a number of presentations related to special environmental issues related to climate change and desertification.

10h00 - 12h00	Keynote summary of the Messages and addresses of decisionmakers on water, climate and energy	Arena Water talk show

Two individuals affected by floods will tell their story, followed by messages from HE Prof Obasi, Secretary General of the World Meteorological Association, HE Dr Mahmoud Abu Zeid, Minister of water Egypt and president of the World Water Council, HE Jan Pronk, Ambassador of the UN SG for the WSSD, and Mr Bill Cosgrove, Chair of the Dialogue on Water and Climate.

Parallel sessions:

14h00 - 17h00	Parallel Session 1: Water Related Disaster	
14h00 - 17h00	Parallel Session 2: Water Storage Management	
14h00 - 17h00	Parallel Session 3: Special Environmental Issues	
14h00 - 17h00	Parallel Session 4: African Situation on Water and Climate	

Other events:

10h00 - 13h30	"The Lake Victoria Initiative (a Type 2 Initiative)": Presentation of SIDS-sponsored Projects Building Water Sustainability in the Lake Victoria Region	Swedish Pavilion organisers
12h30 - 14h30	Multi Stakeholders Dialogue: Brainstorming for the 3rd World Water Forum	Secretariat of the 3rd World Water Forum
13h00 - 14h00	Presentation of "World Water Action" Study	World Water Council
13h00 - 15h00	International Coral Reef Network (ICRAN) and International Coral Reef Initiative (ICRI)	UNEP/GPA Pavilion organisers
15h30 - 17h30	The First International Preparatory Meeting on Ministerial Conference	Secretariat of the 3rd World Water Forum
16h00 - 18h00	Partnership for the Development of Environmental Law and Institutions in Africa (PADELIA) Event	UNEP/GPA Pavilion organisers
18h00 - 19h00	"Water Voice" event	Secretariat of the 3rd World Water Forum

Monday, 2 September

Theme: Water, Health and Poverty Co-ordinator: Piers Cross (Cross@WaterDome.net)

The day on water, health and poverty is at the heart of the WSSD objectives. The day is a major advocacy opportunity on the many linkages between water, health and poverty. These range from the links between water and economic growth in general,and hence the lives of the poor, to more specific linkages between water and other sectors.

10h00 - 11h00	Keynote: Future of Children's Well-being	Arena Water talk show
	Briefing and Announcements	
11h00 - 13h00	Keynote: Launch of the New Water Sustainability and Poverty (WASH) Advocacy Initiative	Arena Water talk show

Ms HE Clare Short, Secretary of State for International Development of the UK will be joined on stage by dignitaries and world water leaders to draw attention to the importance of water in poverty reduction. The leaders involved in the WASH advocacy campaign will draw attention to the importance of handwashing.

Parallel sessions:

10h00 - 11h30	Parallel Session 1: Water Resources and Poverty	
10h00 - 11h30	Parallel Session 1: Current Trends in Pro-poor Sector Reform and Partnerships	BPD W & S
10h00 - 11h30	Parallel Session 1: Agricultural Water and Poverty	IWMI
10h00 - 11h30	Parallel Session 1: How Ecological Sanitation Can Help Solve the Global Water and Sanitation Crisis	SANRES
10h00 - 11h30	Parallel Session 1: Improving Access to Basic Services: Urban Water and sanitation in Africa	pSeau
12h15 - 14h15	Launch of the Euro-Mediterranean water and Poverty Facility	GWPmed
12h15 - 14h15	Parallel Session 2: Utility Reform and Poverty	WUP
12h15 - 14h15	Parallel Session 2: Water, Poverty and children	UNICEF
12h15 - 14h15	Parallel Session 2: Water, Land Management and Poor	FAO
12h15 - 14h15	Parallel Session 2: Water and Governance	(BNWP/WBI/WSP)
12h15 - 14h45	Parallel Session 2: High-level WASH Campaign Meeting	WSSCC
14h15 - 14h45	Launch of French Pavilion, Launch of Swedish Pavilion and Launch of Blue Gold Series	
14h45 - 16h45	Parallel Session 3: Gender, Water and Poverty: Building institutional Capacity for Gender Mainstream	Gender Alliance
14h45 - 16h45	Parallel Session 3: Do DRA Approaches Tackle Poverty	MIT
14h45 - 16h45	Parallel Session 3: Water Rights and Poverty	WaterAid
14h45 - 16h45	Parallel Session 3: Politics, Civil Society, Water and Poverty	ISW
14h45 - 16h45	Parallel Session 3: Public-Private Hand-Washing Partnerships	(LSHTM/WB/WSP)
16h45 - 17h30	Display of Advocacy Messages from Each Session; Participatory Quiz on Water, Health and Poverty and Children's Water Art Auction for Nelson Mandela's Children Fund	
17h30 - 19h30	Video Programme on Water and Poverty	ETV/WBI
17h30 - 19h30	Parallel Session 4: Capacity Building for Water and Sanitation in Africa	ITN-Africa
17h30 - 19h30	World Water Action Study	WWC

Other events:

10h00 - 17h00	Coordinators' Meeting of the 3rd World Water Forum	Secretariat of the 3rd World Water Forum
10h00 - 11h30	Friends of the Global Programme of action for the Protection of the Marine Environment from Land-based activities Consultative Meeting	UNEP/GPA Pavilion organisers
12h15 - 14h15	The Mediterranean Eco-region: The First Firm Steps Towards Sustainability	Monaco
13h00 - 15h00	"Water Education in Cities" Meeting	UN-Habitat Pavilion organisers
19h00 - 22h00	"Oceans" Event at the main stage with participation of Leonardo DiCaprio and Jacques Cousteau	UNEP/GPA Pavilion organisers

Tentative Programme

Tuesday, 3 September

Theme: Water and Globalisation Co-ordinator: Mike Muller (Muller@WaterDome.net)

The day will focus on the impact of key globalisation processes on the water sector. These will range from the impact of inter national trade regimes on the water sector to the role of the private sector in water service delivery, water and corruption, and water resources information as an international public good.

10h00 – 11h00	Keynote: Global Imperatives to Tackle our Environmental and Development Challenges	Africa Water Task Force

The keynote will be delivered by HE Mikhail Gorbachev, President of Green Cross International: From Potential Conflict to Cooperation Potential: Water for Peace. The keynote will be followed by a Panel debate.

Parallel sessions:

10h00 – 12h00	Parallel Session 1: Water and Trade	
10h00 – 12h00	Parallel Session 2: The Role for the Private Sector in Water Services Delivery	
10h00 – 12h00	Parallel Session 3: An International Organisation for Water	
10h00 – 13h00	"Financing Water Sector for the Poor: A Global Challenge" Meeting	French Pavilion organisers
11h30 – 12h30	Water and Regional Cooperation	SADAC Water Sector
13h00 – 16h00	Panel Discussion: "International Trade Regimes and the Liberalisation of Water Services (Implications for Human Rights and the Environment – A Legal Perspective)"	Center for International Environmental Law CIEL
13h30 – 15h30	Youth Debate	DWAF
14h00 – 16h00	"Financing Water by Water: Ethics and Perspectives for a Global Water Solidarity" Conference	French Pavilion
14h00 – 16h00	Parallel Session 1: Water and Corruption	
14h00 – 16h00	Parallel Session 2: Monitoring Global Progress	UNESCO/WWAP

Other Events:

10h00 – 11h00	Global Water Cycle Theme	National Space Development Agency of Japan (NASDA)
10h00 – 16h00	Celebrities Reception	UNEP/GPA Pavilion organisers
10h00 – 12h00	Launching Ceremony: Major themes and draft programme of the 3rd WWF	Secretariat of the 3rd World Water Forum
12h30 – 13h30	Presentation of "World Water Action" study	World Water Council
15h30 – 16h30	3rd World Water Forum announcement. Closure ceremony	3rd World Water Forum Secretariat
17h30 – 20h00	Launch of the Africa – EU Water Initiative (Invitation only)	European Union (EU)

3. 日本パビリオンでのイベント

3.1　セミナー「水・人・持続可能性（Water-People-Sustainability）」

1）開催日時：2002年8月29日（木）13:00～15:00

2）開催場所：ウブンツ村、日本パビリオン

3）主　催：日本政府、GLOGE Japan、WWF3事務局

4）目　的：開発途上国における水問題に対する取り組みについてアピールし、ヨハネスブルグ・サミット及び今後の展望を議論する。

5）アジェンダ：

① 議長挨拶:：谷津　義男（衆議院議員、GLOBE Japan事務総長、元農林水産大臣）

② 基調講演：橋本　龍太郎（衆議院議員、元内閣総理大臣、GLOBE Japan会長、事務総長、元農林水産大臣）＜世界の水問題について事例をまじえ紹介し、その問題解決（特に途上国）に向け日本の取り組みについて強調した。＞
（予定されていたモンゴル環境大臣による基調講演はキャンセル。）

③ ケーススタディ報告－”Rural Community Development through Water Management”：Mr. Madio FALL, Director of Hydraulic and Sanitation, Ministry of Mining, Energy and Hydraulics （セネガル）

④ ザンビア国環境大臣挨拶：＜日本の援助－Integrated water use project（1983年）－を評価。ただし、施設のリハビリとディーゼル発電をソーラシステムに変換に関し要請。＞

⑤ コメント：

- 小杉タカシ（GEA理事）＜地球環境の保全には政治家がイニシアティヴ的役割を果たすことを強調。＞
- 堀（World Chlorine Councilのメンバー、産業界）＜水とテーマに５年前から活動。産・官・市民の対話の場が必要。＞
- 石川（国会議員、GLOBEのメンバー）＜森林保全・森林経営の危機について新たな施策が必要。＞

⑥ 京都市長の挨拶＜京都で開催されるWWF３への招待。＞

セミナー「水・人・持続可能性（Water-People-Sustainability）」

3.2 TICADワークショップ

1）開催日時：2002年8月31日（土）10:30～11:30
2）開催場所：ウブントゥ村、日本パビリオン
3）主　催：日本政府、UNDP
4）位置付け：2003年10月に開催されるTICAD IIIに向けた準備会合。（TICAD IIは、1998年に開催。）
5）目　的：過去10年間のTICADのプロセスを振り返り、その実績・フォローアップ活動ならびにアフリカの発展への貢献について意見を交換する。
6）アジェンダ：

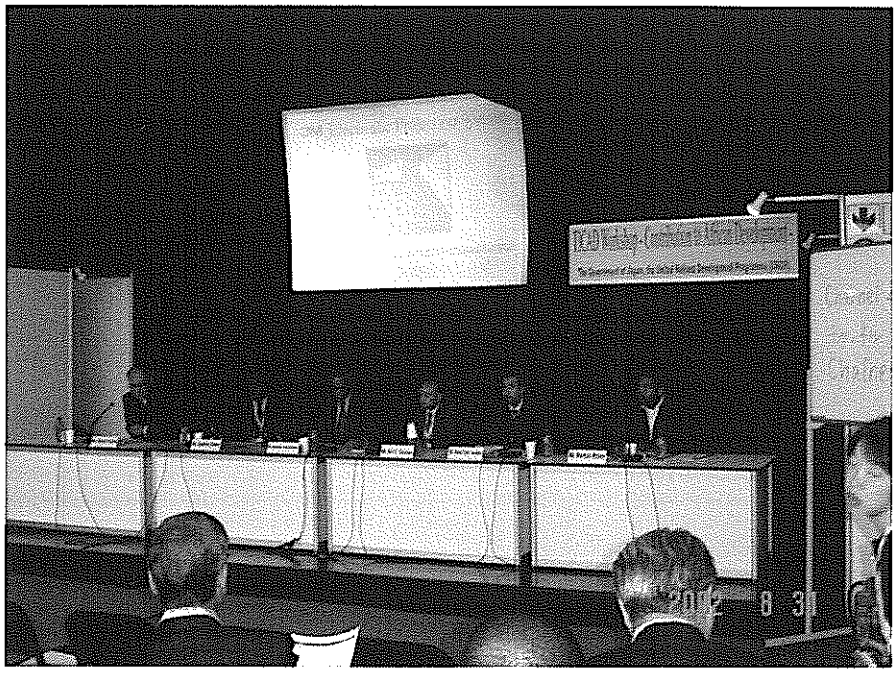
- 議長挨拶:：Mr. Kimio Fujita（Special Assistant of the Minister for Foreign Affairs of Japan, Former JICA President）＜挨拶文（英文）は参考資料参照＞
- 講演（1）：Mr. Zephinrin Kiabre（Associate Administrator, United Nations Development Programme; UNDP）＜共催者としてのUNから見たTICADの役割について＞
- 講演（2）：Mr. Ahmedou Ould-Abdallah (Executive Secretary 、Global Coalition for Africa; GCA) ＜TICADとNEPADの連携強化。TICAD IIIで「貧困の撲滅」を目標に掲げていることを評価。ネットワークのメンバ

ーにネパールが新たに加わったことを表明。＞

- 講演（3）：Mr. Kul C Gautam (Deputy Executive Director, UNICEF) ＜高い死亡率に苦しむアフリカの子供をTICADとNEPAD（the New Partnership for Africa’s Development）活動の中心に置くことを強調。具体に以下の４点にプライオリティを置く。--- HIV・エイズ蔓延の阻止／女性の教育／内戦などの暴力から子供を守る／健康と栄養の確保＞
- 講演（４）：Mr. Mohd.Tahir Jamhari (Director, Asia-Africa Investment and Technology Promotion Center; AAITPC or Hippalos Center) ＜Hippalos Centerの役割とアジア・アフリカ間の連携の重要性を強調。持続可能なネットワークが持続可能なビジネス展開に繋がる。＞
- 講演（５）：Mr. Markus Moses (Managing Director, Ndawo Consulting) ＜アフリカの開発における民間セクターの役割について。NEPADとの連携を評価。＞

7）Q&A：

- Q1.（ナイジェリアの男性）現在AAITPCのネットワークには、アフリカでは７カ国（ガーナ、コートデゥボアール、モザンビーク、セネガル、タンザニア、ウガンダ、ジンバブエ）であるが、ナイジェリアもメンバーになり得るか。
- A1.（Mr. Mohd.Tahir Jamhari）メンバー対象国は、増やす方向にあり、１，２年の間にナイジェリアが加わる可能性は十分にある。
- Q2.（NGOメンバー、女性）国境を越えた移民・難民に対する支援は考えられないか？
- A2.（Mr. Kimio Fujita）これは、TICADでも取り組んでいる課題のひとつでもあり、日本に持ち帰る宿題とする。



TICADワークショップ

3.3 JICAワークショップ

1） Capacity Development based on Ownership and Partnership（８月３０日 10:30-14:45、ウブントゥ村会議センター）

2） JICA's support for South-South Cooperation（９月２日 14:00-16:55、ウブントゥ村日本パビリオン）

両ワークショップのアジェンダを次ページ以降に示す。

JICA WORKSHOP

Capacity Development based on Ownership and Partnership

Date: Friday, 30 August 2002
Time: 10:30 – 14:45
Venue: Room "Arum Lilly", Conference Centre, Ubuntu Village, Johannesburg

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OPENING SPEECH / 10:30 – 10:40

Mr. Takao KAWAKAMI, President, JICA

SESSION 1 / HEALTH: Primary Health Care /10:40 – 11:30

1. **Introduction of JICA's Technical Cooperation**
   Prof. Yasuhide NAKAMURA, Osaka University, Japan
2. **JICA Project / Ensuring the Quality of Maternal and Child Health (MCH) Services through MCH Handbook in Indonesia**
   Video presentation
3. **Presentation of "Ensuring the Quality of MCH Services through MCH Handbook in Indonesia"**
   Prof. Azrul AZWAR, Director General for Community Health, Ministry of Health, Indonesia
4. **Comments and Open Discussion**

Refreshments / 11:30 – 11:40

SESSION 2 / EDUCATION: Mathematics and Science / 11:40 – 12:30

1. **Introduction of JICA's Technical Cooperation**
   Prof. Yumiko ONO, Naruto University of Education, Japan
2. **JICA Project / Mpumalanga Secondary Science Initiatives (MSSI) in South Africa**
   Video presentation
3. **Presentation of "Mpumalanga Secondary Science Initiatives (MSSI) in South Africa"**
   Mr. M. MALAZA, Deputy Director, Mpumalanga Department of Education, South Africa
4. **Comments and Open Discussion**

Light lunch / 12:30 – 13:30

SESSION 3 / ENVIRONMENT: Environmental Protection / 13:30 – 14:30

1. **Introduction of JICA's Technical Cooperation**
   Mr. Senro IMAI, Senior Advisor, JICA
2. **JICA Project / Sino-Japan Friendship Center for Environmental Protection in China**
   Video presentation
3. **Presentation of "Sino-Japan Friendship Center for Environmental Protection in China"**
   Mr. Zhao FENG, Director, Sino-Japan Friendship Center for Environmental Protection, China
4. **Comments and Open Discussion**

SESSION 4 / JICA's Initiatives for Sustainable Development (Type II) / 14:30 – 14:45

Closing / 14:45

JICA WORKSHOP

JICA's Support for South-South Cooperation

Date: Monday, 2 September 2002
Time: 14:00 – 16:55
Venue: Japan Pavillion, Ubuntu Village, Johannesburg

OPENING SPEECH / 14:00 – 14:10

Mr. Takao KAWAKAMI, President, JICA

SESSION 1 / Key Note Speech / 14:10 – 14:30

Regional Cooperation and Thailand-Japan Partnership
Dr. Krasae CHANAWONGSE, Minister, Prime Minister's Office, Thailand

SESSION 2 / JICA's Support for South-South Cooperation / 14:30 – 14:45

Dr. Shinsuke HORIUCHI, Special Assistant to the Foreign Minister, Ministry of Foreign Affairs, Japan

SESSION 3 / Introduction of Successful Projects / 14:45 – 16:05

Case in Africa and Middle East
Third Country Training Programme for Reproductive Health in Tunisia
Prof. Nabiha GUDDANA, Director General, National Office for Family and Population, Tunisia

Case in Latin America
Partnership Programme in Chile
Mr. Arturo Vergara MORENO, Director, Chilean Agency for International Cooperation, Chile

Refreshments

Case in Asia
Third Country Training Programme for Primary Health Care in Thailand
Dr. Krasae CHANAWONGSE, Minister, Prime Minister's Office, Thailand

Case in Africa
African Institute for Capacity Development in Kenya
Prof. Ratemo W. MICHIEKA, Vice Chancellor, Jomo Kenyatta University of Agriculture and Technology, Kenya

SESSION 4 / Panel Discussion on South-South Cooperation / 16:05 – 16:55

Facilitators: Dr. Hafiz A. PASHA, Director of Regional Bureau for Asia and the Pacific, UNDP
Mr. Koichi MIYOSHI, Senior Advisor, JICA
Mr. Kunihiro TOKIDA, Senior Advisor, JICA

Closing / 16:55

4. 国際洪水ネットワーク（IFNet）

4.1 NWP（Netherlands Water Partnership）と「川と水」委員会事務局との共同ワークショップ

1）開催日時：2002年8月30日（金）11:00～12:30
2）開催場所：WaterDome、オランダパビリオン
3）主　催：NWP、「川と水」委員会事務局
4）目　的：IF NetとSpid'O紹介。
5）アジェンダ：
　①　IF Netの紹介：菊池部長
　　＜PP、カタログ添付＞
　②　Spid'Oの紹介：Spid'Oとは、European Network on Spatial Development and Water Managementを表し、そのゴールは、欧州の湿地帯・氾濫域における持続可能で安全な都市（再）開発を、水管理と都市計画を統合することにより、達成し得る戦略・政策について情報交換・作成・促進することである。
　　＜カタログ添付＞

NWPについて：
The Netherlands Water Partnership (NWP) is an independent body set up jointly by the Dutch private and public sector. NWP acts as national coordination and information point and aims to harmonize initiatives aimed at international activities concerning water-related issues. Through its Water Information Network (WIN) NWP provides access to the entire range of its member's expertise and initiatives. Currently NWP has 120 members.

IF Netのプレゼン

International Flood Network (IFNet)

Background of proposal for establishing network
Contents and tentative schedule of IFNet

IFNet Preparatory Unit
"Water In Rivers" Secretariat

- Overview of Flood Damage -

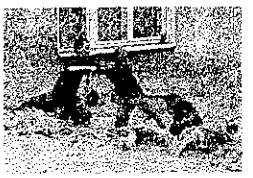
Flood Damage of Europe on This August

<Russia>

- Heavy rain burst dike and reservoir at the coast of Black Sea. (13 Aug. AP)
- 400 houses destroyed, 12,000 flooded. (13 Aug. AP)
- 59 people killed. (14 Aug. AP)

<Czech>

- 50,000 people evacuated in Prague. (14 Aug. CNN)
- 8 people killed in Czech. (14 Aug. Mainichi)

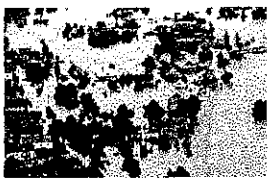


Boys help their comrade in Novorossiisk, Russia

<Germany>

- 120,000 people evacuated. (16 Aug. Reuter)
- Four million affected, over 100,000 evacuated. (19 Aug. BBC)
- 15 people killed in Saxony. (19 Aug. Mainichi)
- Estimated damage to be at least 15 billion euro. (19 Aug. Mainichi)

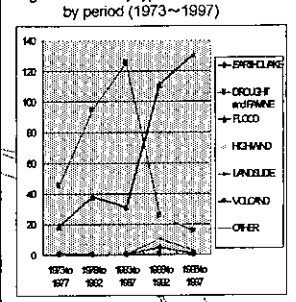
<Total in Europe>
Evacuee: over 300,000
Victims: 111



Town of Glauchau in Saxony, Germany

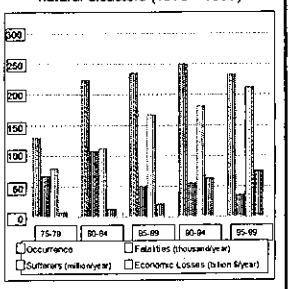
Recent Natural Disaster

Fig.-1 Affected by type of disaster and by period (1973~1997)



Source : CRED, "World Disasters Report 1999"

Fig.-2 Average occurrence and damage of natural disasters (1975~1999)



Source : Asian Disaster Reduction Center, "Data book of Asian Natural Disasters in the 20th Century"

- Flood related Activities・Organizations -

- MLIT, Japan
- WMO/ESCAP Typhoon Committee
- WMO・GWP : Associated Program of Flood Management (APFM)
- Mekong River Committee : Flood Strategy
- ADB・JICA : Flooding and Poverty

- Necessity of Establishing Network -

- It is necessary to consolidate the suggestions among flood-related activities so as to be adopted as the international agenda on WWF3.

Idea of IFNet

< Objectives >

- Establishing floods high on the international agenda.
- Assisting activities to break the vicious circle of poverty and environmental degradation caused by floods and lead to a safe and secure life from a global viewpoint.

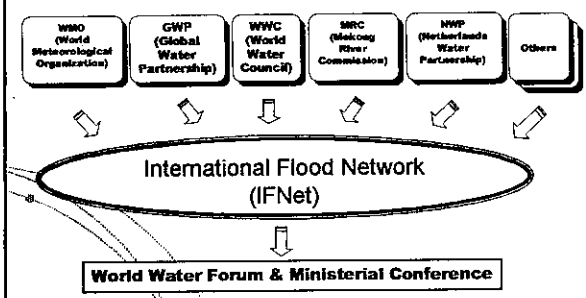
< Activities >

- **Exchanging information**, experience, technical knowledge and future plans among international organizations, national governments, the private sector and non-governmental organizations.
- **Raising public awareness of floods** by compiling and disseminating information and views on such as health, ecology, food production, culture, education, gender etc.
- **Feeding the recommendations of "Floods" group through to the Ministerial Conference** of World Water Forum to establish floods high on the international agenda.

< Participation >

- There will be **no pre-requisite for participation** in the Network.
- It will be open to representatives of local and national governments, research and educational institute, individuals involved in flood-related activities, etc.
- It is desirable that prospective participants have an established policy and programme of activities related to floods.

International Flood Network Image

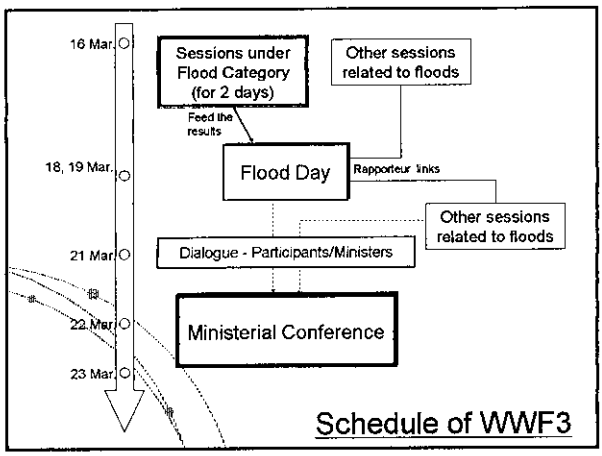


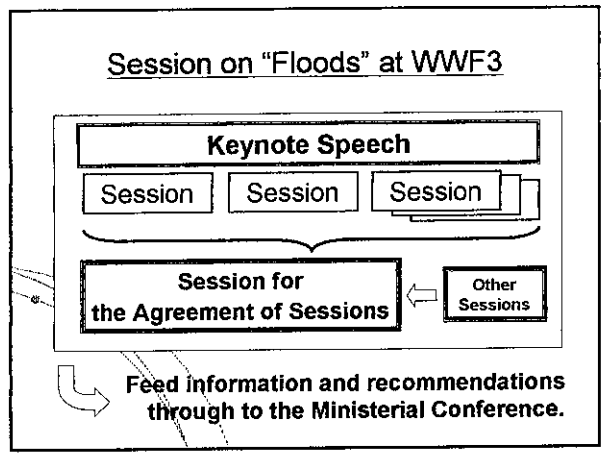
Schedule for Establishment of IFNet

20 & 21 May 2002 (The Hague)	The 1st Preparatory Meeting
30 August 2002 (Johannesburg)	IFNet Pre Meeting in WSSD
10-13 September 2002 (Beijing)	Second International Symposium of Flood Defense
22-26 September, 2002 (Dhaka)	Workshop on Water and Poverty
October 2002 (Manila)	Regional Workshop by JICA & ADB
November 2002 (Kyoto)	The 2nd Preparatory Meeting
March 2003 (Kyoto)	Session on "Floods" at the WWF3 Establishment of IFNet

"Floods" group in WWF3

	Session Title	Convener
1	International Flood Network	Mr. Ryosuke KIKUCHI
2	Integrated Flood Management	Mr. Arthur ASKEW
3	Cities and Flood Risks	Mr. Mihir BAHATT
4	Dialogue on Mitigation on Recurrent Floods in Cities	Mr. Carlos TUCCI
5	Flood Mitigation in Urban Areas	Mr. San Hwang JIN
6	Flood Vulnerability Reduction and the People	Dr. Q. K. AHMAD
7	Poverty and Flooding	Mr. Yosuke AMANO Mr. Eiji OTSUKA / Mr. Ian FOX
8	Integrated Flood Management in Vulnerable Delta Regions	Mr. Anne va Urk Mr. Dick de Bruin
9	Flood Mitigation	Mr. Ryosuke KIKUCHI
10	Flood Warning Dissemination	Mr. Hans C. AMMENTORP
11	Sediment-related Issues	Mr. Masao OKAMOTO





Logo Contest

Theme: Choose one of the followings;
1. Design reflecting flood or water
2. Design reflecting IFNet's objectives or activities

Design: Color (within 15 × 15cm), Works unpublished, Explanation of your design within 100 words.
*Your designs will not be returned.

How to send: by air-mail post or e-mail with your name, address, telephone number, and e-mail address.

Copyright: The copyright of design chosen will belong to Infrastructure Development Institute (IDI).

Deadline: **October 31, 2002**

Announcement: The winner will be informed and announced on the website.

Prize: ***US$ 1, 000—(One prize only)***

[Schedule]

- ▶ 20, 21 May 2002 1st Preparatory Meeting in The Hague
- ▶ 22-25 July 2002 Workshop on Risk Management by TCS in Manila
- ▶ August 2002 Side Event at WSSD in Johannesburg
- ▶ September 2002 Regional Workshop by JICA in Manila
- ▶ November 2002 2nd Preparatory Meeting in Tokyo
- ▶ March 2003 Session on 'Floods' at the WWF3 in Kyoto
  Establishment of IFNet
- ▶ September 2003 Follow-up Meeting to WWF3
- ▶ March 2004 1st Preparatory Meeting for WWF4
- ▶ March 2005 2nd Preparatory Meeting for WWF4
- ▶ Summer/Autumn 2005 Regional Consultation Meeting
- ▶ November 2005 Advance Meeting for WWF4
- ▶ March 2006 WWF4

[IFNet Secretariat]

5-3-23 Kojimachi, Chiyoda-ku, Tokyo,
102-0083 JAPAN

"Water in Rivers" Secretariat
c/o Infrastructure Development Institute (IDI)

TEL: +81-3-3263-7986
FAX: +81-3-3230-4030
HP: www.idi.or.jp/vision
E-mail: river@mail.idi.or.jp

International Flood Network

[IFNet]

[What is IFNet ?]

The International Flood Network (IFNet) has as its objective to facilitate international cooperation in flood management.

- to reduce the loss of life and damage caused by floods
- to promote policies and practices which can break the vicious circle of poverty and environmental degradation and lead to a safe and sustainable future

[Background]

- There must be a shift of emphasis from reactive to proactive action.
- Flooding is often a very local problem that can benefit from natural and international assistance if this can be mobilized.
- IFNet facilitates the identification and solution of problems, without imposing on the rights of the local and national authorities concerned.

[Activities]

1. The exchange of information, experience, technical knowledge and future plans with the aim of enhancing co-operative concrete action.
2. Raising public awareness of floods by compiling and disseminating information and views on such aspects as health, culture, education, gender and so on.
3. Establishing floods high on the international agenda, and producing periodic newsletters and reports on flood-related activities and commitments.

[Prospective Topics]

1. Floods and the natural environment
2. Flood disasters and preparedness
3. Floods and floodplains as resources
4. Floods, poverty and gender issues
5. Flood-related technology
6. Flood research education and public awareness
7. Floods and land use
8. Other flood related topics
9. International cooperation

[Significance of the Participation]

IFNet will be open to everybody. It is desirable that prospective participants have an established policy and programme of activities.

The participants can comprehend their own activities from global viewpoints. The overall efforts would be more efficient and appropriate to maximize global output.

[Discussion in the Virtual Forum]

The Virtual Forum, as a component of the Third World Water Forum, is open to the public through the Internet. Free discussion tables are being prepared by "Water in Rivers".

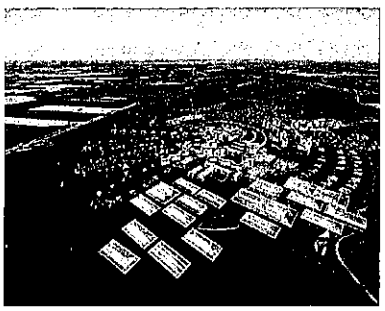
We are looking forward to your participation.

Please visit the website below.

http://www.worldwaterforum.org/eng/index.html

European Network on Spatial Development and Watermanagement

Goal
The overall aim of SPID'O is to exchange, develop and promote strategies and policies in Europe that ensure sustainable and safe urban (re)development in wet areas and areas prone to flooding by integrating water management with urban planning.
There are already several regional and international initiatives underway, focused on various aspects ofwater resources management. By working in close co-operation with these, SPID'O will seek to raise greater awareness of the issues relating spatial development to water.
The outcome will help to reduce risk of flooding and to minimise damage in urban areas through building guidelines and regulations, new construction methods and planning procedures.

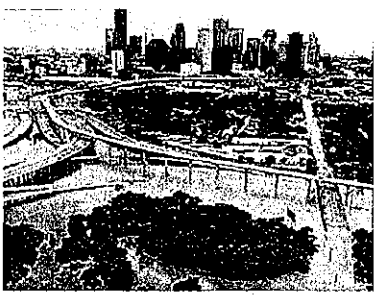


Background
Flood damages has risen substantially in recent years. One of the main reasons is the increase in precipitation. Studies at many sites in Europe indicate a rise in precipitation in recent decades (e.g. Engel (1995), Mansell (1997)). In most European countries, the number of facilities and assets that are affected by floods is increasing. This specifically holds for the more densely populated regions along the coast and main rivers such as Nordrhein-Westfalen (Germany), the Randstad (Netherlands), East Sussex and Kent (England), along the Elbe and Vistula rivers in Poland and along the Po River (north-western Italy). In these regions population pressures have lead to areas being used for urban development that were previously part of the floodplain an acted as buffers against flooding further inland. Hence, the increasing need for space for urban development and water management ask for intensive and combined use of space in these densely populated areas.

Many regions of Europe are faced with the challenge to develop integrated solutions in which spatial development allows for absorption or "moving with" the flow of excess water, reducing the risks to an acceptable level, minimising the damage in case of flooding, safeguarding sustainable urban (re)development and conserving the environment at the same time.
SPID'O has been set up to bridge the existing gap between water management and spatial development and is intended to be the platform for exchange of information. It will increase the potential of innovative solutions that are sustainable, will promote socio-economic development and answer the need of housing in urban areas.

Objectives
The SPID'O network brings together a variety of public, private and scientific partners from several European countries covering the complete range of stakeholders and regional and geographic differences within Europe. The network objective is to initiate, facilitate and coordinate the exchange of experience and the transfer of knowledge.
The specific objectives of SPID'O are:

-to develop a knowledge base (expert centre);
-to offer a harmonised approach for assessment, planning and design methodologies;
-to stimulate co-operation between water management authorities and municipalities;
-to present a positioning paper on the 3rd World Water Forum, which will be held in Kyoto in 2003;
-to develop an open network that will have a long-term existence including beyond the period funded by the European Commission.
-to strengthen the world-wide competitive edge of European construction firms, developers, and suppliers on the future world market for waterfront development, etc.



Organisation
Dura Vermeer Groep N.V. is the coordinator of the project supported by Kolpron and Advin B.V. So far, partners are involved from United Kingdom, Denmark, Sweden, Poland, The Netherlands, Italy, Greece and Austria. The organisations range from architects, urban and regional planning offices, universities, construction companies, energy companies, hydraulic research institutions, municipalities, ministries, banks and network organisations.
There are six working groups (technological-architectural, spatial-economic, environmental, social, legal-institutional and financial). The steering group consists of the co-ordinator and the working group leaders. There is also an advisory board consisting of network organisations such as ECOSERVE, NWP and IFHP.

If interested
The network will be open to all professionals of the building industry and water sector, i.e. local and national authorities, housing companies, consultancies, project developers, designers, contractors, academia, research institutes, water boards, etc. who have interest and involvement in the issue addressed by SPID'O.

Contact
Chris Zevenbergen
+31-23-5692380, +31-6-53599654
e-mail: c.zevenbergen@duravermeer.nl

4.2　国際洪水ネットワーク（IFNet）設立事前会合

1）開催日時：2002年８月30日(金)　14:00－15:30

2）開催場所：WaterDome、オランダパビリオン

3）内　容：

2002年8月30日、日本の国土交通省と「川と水」委員会事務局IFNet準備室は、ヨハネスブルク近郊のウォータードームにおいて国際洪水ネットワーク(IFNet: International Flood Network) 設立事前会合を開催した。会合参加者については、世界気象機関（WMO）、メコン委員会、第3回世界水フォーラム（WWF3）事務局、山梨大学、オランダ水パートナーシップ（NWP）、デンマーク水理研究所、バングラデッシュ政府、オランダ政府等の11機関が参加した（表 2参照）。

会合では国際洪水ネットワーク（IFNet）の組織体制、第3回世界水フォーラム（WWF3）に向けての洪水グループとしてのステートメントペーパー（提案書）の取りまとめ方法等について検討され、2002年11月には第2回準備会合を京都市で開催し、組織体制を確定するとともに第3回世界水フォーラム（WWF3）での洪水関係セッションの調整を行うことが決定された。

なお、国際洪水ネットワーク（IFNet）とは、日本の国土交通省河川局が中心となって2003年3月に設立を目指している組織であり、その組織の目標は、世界的視野での洪水被害の軽減と洪水問題を重要な問題であると提起した上で幅広く流布し、世界的なネットワーク網を駆使して情報交換および情報発信を行うことを目的としている。

表 2　設立事前会合参加者リスト

	Name	Organization	Country
1	Dr. Q. K. Ahmad	Bangladesh Unnayan Parishad	Bangladesh
2	Mr. Claudio Caponi	World Meteorological Organization (WMO)	Switzerland
3	Mr. Peck Sokhem	Mekong River Commission	Cambodia
4	Mr. H ans Guttman	Mekong River Commission	Cambodia
5	Mr. Ryosuke Kikuchi	Water in Rivers Secretariat	Japan
6	Mr. Toshio Okazumi	WWF3 Secretariat	Japan
7	Mr. Satoru Ooishi	Yamanashi University	Japan
8	Dr. M. A. Quassem	Ministry of Water Resources	Bangladesh
9	Mr. Akira Sasaki	Water in Rivers Secretariat	Japan
10	Mr. Toshihiro Sonoda	MLIT	Japan
11	Mr. Borge Storm	Danish Hydraulic Institute	Denmark
12	Mr. Anne van Urk	Ministry of Transport, Public Works and Water Management	Netherlands
13	Mr. Chris Zevenbergen	NWP	Netherlands

国際洪水ネットワーク（IFNet）設立事前会合

なお、本事前会合についてのプレゼン資料を次ページ以降に示す。

Pre Meeting
on
International Flood Network
(IFNet)

August 30, 2002

IFNet Preparatory Unit
The "Water in Rivers" Secretariat
The Infrastructure Development Institute
Japan

Agenda

1. Opening
2. Special Speech - Flood in Europe
3. Plans for Kyoto
4. Introduction of the result of the 1st Preparatory Meeting held in the Netherlands
5. Establishment of an International Flood Network (IFNet)
6. Others

Opening

Special Speech

Flood in Europe

Plans for Kyoto

Presentation by 3rd WWFS

Introduction of the results of the First Preparatory Meeting held in The Netherlands

INTRODUCTION

- Nearly 300 sessions proposed for WWF3
- Many relate to various aspects of floods
- The Hague meeting organized on 20-21 May 2002 by WinR secretariat and chaired by Dr Arthur Askew of WMO
- Purpose of the meeting; to make proposals for the coordination of sessions and related activities

"Floods" group in WWF3

	Session Title	Convener
1	International Flood Network	Mr. Ryosuke KIKUCHI
2	Integrated Flood Management	Mr. Arthur ASKEW
3	Cities and Flood Risks	Mr. Mihir BAHATT
4	Dialogue on Mitigation on Recurrent Floods in Cities	Mr. Carlos TUCCI
5	Flood Mitigation in Urban Areas	Mr. San Hwang JIN
6	Flood Vulnerability Reduction and the People	Dr. Q. K. AHMAD
7	Poverty and Flooding	Mr. Yosuke AMANO Mr. Eiji OTSUKA / Mr. Ian FOX
8	Integrated Flood Management in Vulnerable Delta Regions	Mr. Anne va Urk Mr. Dick de Bruin
9	Flood Mitigation	Mr. Ryosuke KIKUCHI
10	Flood Warning Dissemination	Mr. Hans C. AMMENTORP
11	Sediment-related Issues	Mr. Masao OKAMOTO

Prospective Sessions who need to link with Flood Group

	Category	Session Title	Convener
1	B-3	Water for Asian Megacities - 21st Century Options & Actions	S. Ghosh (?)
2	E	World Water Assessment Programme (WWAP)	G. Young (WWAP Secretariat)
3	B-5	Water and Forests	T. Ota (Japan)
4	B-5	Managing human impacts on water resources and the water environment	A A Jones / Woo (?)
5*	A-4	International River Basin Management - Sustainable Development in the Mekong	J. Kristensen (MRC)
6*	A-4, B-3	Cities and Flood Risks	M. Bhatt (?)
7*	B-4	Sustainable and Secure Water Delivery and Flood Control Systems	T. Tomaru (Japan)
8*	B-3	Integrated River Basin Environment Assessment	T. Kojiri (Japan)

A-4 : Integrated Water Resources Management(IWRM), River Basin Management and People's
B-3 : Water and Cities B-4 : Water Supply, Sanitation, Hygiene and Water pollution
B-5 : Water, Nature and Environment B-6 : Floods E : Special Programs

LIST OF PARTICIPANTS

- Bangladesh Unnayan Parishad
- Bank for International Cooperation (JBIC)
- Danish Hydraulic Institute
- Asian Development Bank
- Dutch Ministry of Foreign Affairs
- GWP/WMO Associated Programme on Flood Management
- Japan International Cooperation Agency (JICA)
- Kyoto University
- Mekong River Commission
- Ministry of Land, Infrastructure and Transport Japan (MLIT)
- Netherlands Water Partnership (NWP)
- US Army Corps of Engineers
- Water in Rivers Secretariat
- World Meteorological Organization
- World Water Assessment Program
- World Water Council (WWC)
- WWF3 Secretariat

< Activities >

- **Exchanging information,** experience, technical knowledge and future plans among international organizations, national governments, the private sector and non-governmental organizations.
- **Raising public awareness of floods** by compiling and disseminating information and views on such as health, ecology, food production, culture, education, gender etc.
- **Feeding the recommendations of "Floods" group through to the Ministerial Conference** of World Water Forum to establish floods high on the international agenda.

< Participation >

- There will be **no pre-requisite for participation** in the Network.
- It will be open to representatives of local and national governments, research and educational institute, individuals involved in flood-related activities, etc.
- It is desirable that prospective participants have an established policy and programme of activities related to floods.

CONSOLIDATED OUTPUT

Consolidated output should:

- clarify the issues and the implications of flood management taking full account of its various aspects;
- provide recommendations for feasible strategies;
- appeal to the general public, in particular as regards the importance of structural and non-structural measures against flooding.

Draft proposals for the Ministerial Conference

Proposed Sub-topics

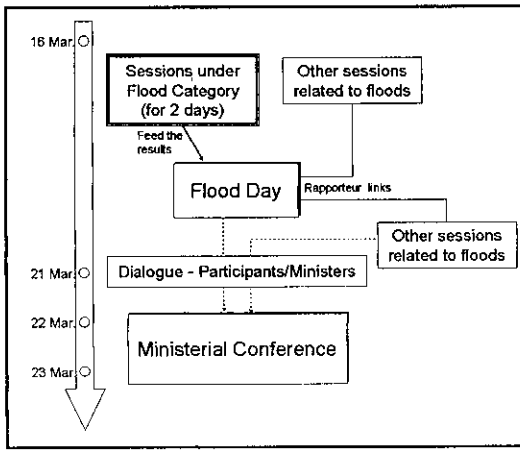
1. Floods and the natural environment
2. Flood disasters and preparedness
3. Floods and floodplains as resources
4. Floods, poverty and gender issues
5. Flood-related technology
6. Flood research education and public awareness
7. Flood and land use
8. Other flood related topics
9. International cooperation

Preparatory Steps for WWF3 ~Flood Group

20-21 May, 2002	First International Preparatory Meeting with Donor Meeting for WWF3-The Hague, The Netherlands
15 July, 2002	Deadline for session registration
end-July, 2002	Questionnaire sent to potential participants
27 August, 2002	Side event at WSSD – Johannesburg, South Africa
September, 2002	Draft outputs for WWF3
July, 2002 – Feb, 2003	Publicity/Discussion of the International Flood Network (IFNet)
November, 2002	Second International Preparatory Meeting and Conveners Meeting for WWF3 – Japan
March, 2003	Session on 'Floods' at the 3rd World Water Forum Establishment of IFNet Recommendations/commitments on floods for the Ministerial Conference

Preparatory Opportunities for WWF3 ~Flood Group

22-25 July, 2002	Workshop on Risk Management by TCS – Manila, The Philippines
30 September, 2002	Pre-Meeting in Johannesburg
22-26 September, 2002	Workshop on Water and Poverty – Dhaka, Bangladesh
October, 2002	Regional Workshop by JICA – Manila, The Philippines



Tentative Schedule after Establishment

September, 2003	Follow-up Meeting to WWF3
March, 2004	The 1st Preparatory Meeting for the WWF4
March, 2005	The 2nd Preparatory Meeting for the WWF4
Summer/Autumn 2005	Regional Meeting
November, 2005	Advance Meeting for WWF4
March, 2006	WWF4

Establishment of IFNet

●Function of INFet●

Enhancing international cooperation in flood management

- **Exchanging information, experiences, technical knowledge and future plans**
- **Raising public awareness of floods**
- **Establishing floods high on the international agenda**

●Discussion●

- Name
- OBJECTIVES
- ORGANIZATION
  - CHAIRPERSON
  - SECRETARIAT
  - MEMBERSHIP
- FUNDING RULES AND PRINCIPLES
- GENERAL MEETING

Others

Logo Contest

Theme: Choose one of the followings;

1. Design reflecting flood or water
2. Design reflecting IFNet's objectives or activities

Design: Color (within 15 × 15cm), Works unpublished, Explanation of your design within 100 words.

*Your designs will not be returned.

How to send: by air-mail post or e-mail with your name, address, telephone number, and e-mail address.

Copyright: The copyright of design chosen will belong to Infrastructure Development Institute (IDI).

Deadline: **October 31, 2002**

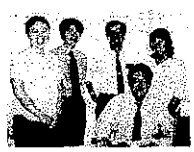
Announcement: The winner will be informed and announced on the website.

Prize: ***US $ 1, 000— (One prize only)***

The "Water in Rivers" Secretariat

The Infrastructure Development Institute Japan

Address: New Kojimachi Bldg. 5-3-23
Kojimachi, Chiyoda-ku
Tokyo, 102-0083, Japan
TEL: 81-3-3263-7986
FAX: 81-3-3230-4030
E-mail: waterinrivers@idi.or.jp
URL: http:// www.idi.or.jp/vision/



5. WaterDomeでの関連セッション

5.1 キーノートセッション: "Taking up the Challenge of Water and Food Security

2) 開催日時：2002年８月30日(金)＜Water and Food Security Day＞10:00－11:00
3) 開催場所：WaterDome、ステージ
4) 主　催： IWMI（International Water Management Institute）
5) 目　的：開発途上国における水問題に対する取り組みについてアピールし、ヨハネスブルグ・サミット及び今後の展望を議論する。
6) アジェンダ：
   ① オープンニング：HE Mr. Salim A. Salim (Chair of the event), Water Ambassador for Africa
   ② 基調講演 "The Water and Food Challenge"：HRH the Prince of Orange, Crown Price of the Netherlands and water advisor to Secretary General Kofi Annan
   ＜オランダ皇太子オレンジ公は、第２回世界水フォーラム議長を務めた。講演原稿（英文）は参考資料参照。＞
   ③ 講演 "The CGIAR and the Water and Food Challenge"：Mr. Ian Johnson, Chair of the CGIAR and Vice-President of the World Bank

> CGIARについて：
> CGIAR **(Consultative Group on International Agriculture Research)** is an **informal association** of 58 public and private sector members form countries worldwide and is **co-sponsored by FAO, UNDP, UNEP and the World Bank.** It supports a network of 16 international agricultural research Centers.
> The mission of the CGIAR is **to contribute to food security and poverty eradication in developing countries** through research, partnership, capacity building, and policy support. The CGIAR promotes sustainable agricultural development based on the environmentally sound management of natural resources.

   ④ 講演 "The Importance of Water and Food for Africa"：Senior leader form Africa
   ⑤ 高官パネル："The Water and Food Challenge"：chaired by HE Salim, Participants from South Africa, the Netherlands, Germany and Japan.(Deputy Minister for Development Cooperation, HE Mrs. van Aardenne, Netherlands / Director General

Swiss Development Cooperation, Ambassador Fust / Vice Minister Agriculture, HE Endo, Japan / High-Level Official, Ministry of Agriculture, South Africa)
＜日本からは、農林水産省の遠藤副大臣が参加。IWMIとCGIARの活動について高く評価。日本からの今後の支援を表明。（日本はIWMIへのドーナー国のひとつ）＞

IWMI（国際水管理研究所）について：

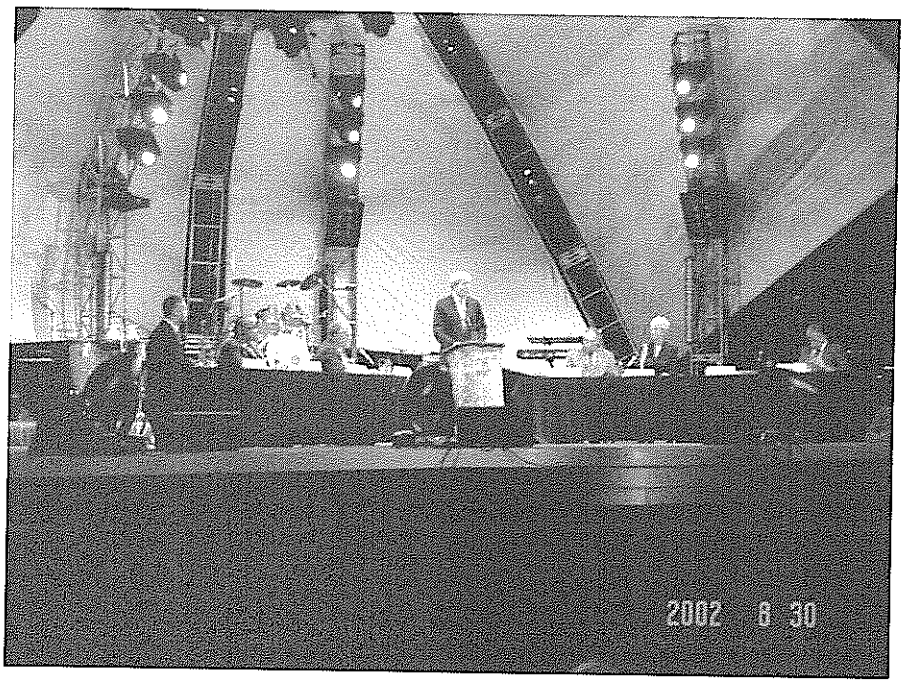
IWMI **(International Water Management Institute)** is a **nonprofit scientific research organization** focusing on the sustainable use of water and land resources in agriculture and on the water needs of developing countries. IWMI works with partners in the South to develop tools and methods to help these countries eradicate poverty through more effective management of their water and land resources. The mission is **to improve and land resources management for food livelihoods and nature.**

IWMI has research projects running in 21 countries in Asia and Africa. Work is coordinated through regional offices located in **India, Pakistan, South, Africa, Sri Lanka and Thailand.** The Institute has sub regional offices in China, Nepal, Ghana, Kenya, Senegal and Uzbekistan.

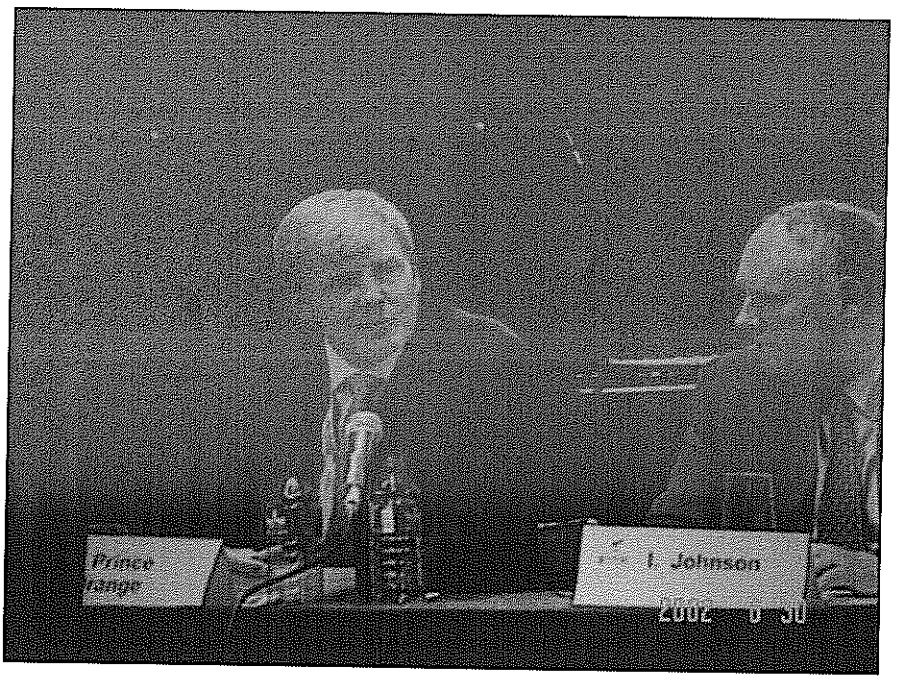
IWMI is a member of the Future Harvest group of agricultural and environmental research centers. It receives its **principal funding form 58 governments, private foundations, and international and regional organizations known as the Consultative Group on International Agricultural Research (CGIAR)** which contribute to poverty eradication.

（その他の情報）

Prof. Frank Rijsberman（第２回世界水フォーラムにおいて発表された「世界水ヴィジョン」の執筆者のひとり）は、IWMIのBoard of Governorsのメンバーであり、IWMI Sri Lanka本部のDirector Generalを務める。



オランダ皇太子オレンジ公の基調講演



オレンジ公と. Ian Johnson氏

遠藤農林水産副大臣

5.2 Urban Sanitation Meeting

1) 開催日時：2002年８月30日(金)＜Water and Food Security Day＞16:30－17:30
2) 開催場所：WaterDome、Amazon会議室
3) 主　催：UN-Habitat／SULABH International Social Service Organization（インドのNGO）
4) 内　容：開発途上国の低所得層に対し、低コストで適用可能な衛生施設の紹介と、関連技術の普及活動の報告。

UN-Habitatについて：

UN-Habitat Headquarters, Nairobi

History

The United Nations Human Settlements Program, UN-Habitat is the **agency of the United Nations responsible for housing and urban development**. The Center undertakes research, makes policies, gives training, carries out development projects and advises governments and the civil society. In 1996, the second United Nations Conference on Human Settlements adopted the Habitat Agenda which is a **global plan of action to improve the housing situation in cities, towns and villages worldwide**. The United Nations General Assembly made UN-Habitat the focal point for the implementation of the Habitat Agenda.

Mission

The Center focuses on the following priority areas:

Shelter and social services
Urban management
Environment and infrastructure
Assessment, monitoring and information

5.3 パラレルセッション：Ecosystem Functions and Poverty Reduction

1) 開催日時：2002年８月31日(土)＜Water and Nature＞14:00－16:30
2) 開催場所：WaterDome、Yangtze会議室
3) 主　催： IUCN The World Conservation Unit
4) ファシリテータ：Dr. Richard Friend, Mekong River Ecosystem Management Advisor, IUCN
5) 内　容：湿地帯でのエコシステムを保全することにより、貧困の軽減（食料確保、雇用増、現金収入などによる）に繋がった事例（ザンビア、ウガンダ、南アフリカなど）紹介。さらに、英国のCEH (Center for Ecology & Hydrology) Wallingford で研究されている**Water Poverty Index**の紹介。＜資料添付＞
6) 議論：「エコシステムの保全」「河川流域管理」「貧困の軽減」は互いに異なる分野であり、どのように関連させるかが課題。むしろ政策的解決策を考えるべき。

IUCN (International Union for Conservation of Nature and Natural Resources) について：

IUCNの目的と歴史

ＩＵＣＮ-国際自然保護連合は、１９４８年に設立されました。７８の国々、１１２の政府機関、７３５のＮＧＯが会員となり、１８１ヶ国からの１００００人の科学者、専門家が、独特の世界規模での協力関係を築いている**世界最大の自然保護機関**です。その地球的・地域的プログラムの枠組みの中で、地球規模の自然保護会議の支援を通じて、ＩＵＣＮは持続可能な社会を実現し、自然保護および生物多様性に関する国レベルの戦略を準備し、実行するため、７５以上の国々を手助けしてきました。ＩＵＣＮは、１０００人のスタッフが、４２の国々に滞在する多文化、多言語の機関です。本部は、スイスのグランにあります。

ＩＵＣＮは、"自然を尊び、保全する、公平な世界"を目指しており、その使命は、**"自然の健全性と多様性を保全し、自然資源のいかなる利用も公平であり、生態学的に持続可能であることを保証するため、世界中のあらゆる社会に影響を及ぼし、勇気づけ、支援する**こと"です。

Using the

Water Poverty Index

to monitor progress in the water sector

Monitoring progress in the water sector requires an interdisciplinary approach that may involve both qualitative and quantitative techniques. The Water Poverty Index aims to provide a simple and easy to use indicator that allows policy makers, particularly in developing countries, to monitor progress at the national, basin and community scale.

Phase 1 of the project is now completed and has resulted in the derivation of both a national level index and one which can be applied at the community level. A management primer to help water managers use the WPI effectively has also been produced and is currently at the consultation stage.

The Composite Index Structure of the WPI

This approach to the calculation of a Water Poverty Index is based on the formulation of a framework, which incorporates a wide range of variables. This is a holistic approach to water resource evaluation, in keeping with the Sustainable Livelihoods Approach used by many donor organisations to evaluate development progress. The scores of the index range on a scale of 1 to 100, with the total being generated as a weighted additive value of five major components. Each of the 5 components are also scored on a scale of 1 - 100, and they are:

- **Resource:** This is measure of ground and surface water availability, adjusted for quality and reliability.
- **Access:** This indicates the effective access people have to water for their survival.
- **Use:** This captures some measure of how water is used, including sectoral shares.
- **Capacity:** This variable represents human and financial capacity to manage the system.
- **Environment:** This tries to capture an evaluation of ecological integrity related to water.

By incorporating these five components into a framework, we provide a means for comparative measurement. While the components of the framework are constant, there is built-in flexibility in the weighting given to the individual components, and the choice of sub components. These sub-components can be identified after consultation with local stakeholders, and appropriate variables can be defined. Each of these variables must then be positioned on a scale from 0 to 100, in order for them to be combined. To be most useful, the WPI can be applied at a variety of scales. An illustration of how this approach can be applied is shown in Figure 1.

Applying the Water Poverty Index to a Community or Region

Applied at the local scale, the WPI can help local water managers to evaluate their own progress, and to prioritise expenditure according to most need, therefore acting as an important input into the decision-making process. The first step to constructing the WPI would be to carry out a scoping study with local institutions to identify what data currently exists on household welfare and water.

Once complete, key data is selected from whatever sources are available, and the most suitable of these is then selected to represent the variables suggested in the WPI framework. If appropriate, a panel of experts could be consulted on which variables would be most suitable. Data gaps would thus be identified and appropriate questions could be incorporated into forthcoming surveys as the opportunity arose. This would mean that over time, an appropriate and standardised framework would be developed which would not only be built on local information and preferences, but

When water allocation systems fail, poor people often have to use insecure or polluted sources, and conflicts over water use can arise. By making water management decisions more equitable and transparent, the WPI can contribute to the eradication of conditions like this which strengthen the poverty trap.

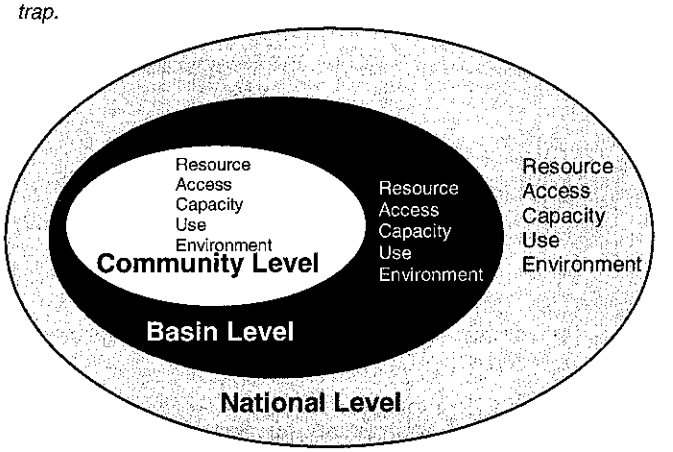
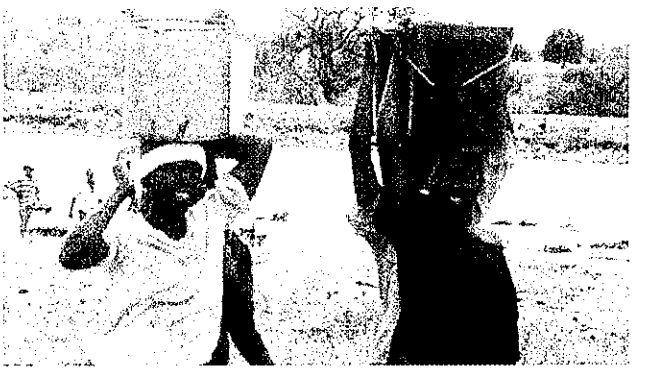


Figure 1: How the WPI can relate to different management scales



Girls spending a lot of time collecting water cannot benefit fully from school attendance. Understanding what causes situations like this helps policy makers to make decisions with cross-cutting impacts.

could be used for the purpose of international comparison. In the application of the WPI, it would be important that data used is clearly identified so variations could be taken into account when comparisons are made.

The selection of appropriate variables is an important process, which would need to be developed as part of the consultation and capacity building that would be needed prior to any implementation of the WPI tool.

When local variables are identified, they must be scaled from 1 to 100, and then combined mathematically. In this way, a WPI index score of between 1 and 100 will be generated for the specific site. The application of this methodology will enable local level water managers and other policy makers to identify weaknesses in water provision and its relation to household welfare, and to prioritise investments to target those communities most in need.

WPI Pentagrams

WPI Pentagrams can be used to display the five component parts of the WPI to stakeholders. These Pentagrams provide a clear representation of how the five components have contributed to create the final WPI score and allow the strong and weak points of each community to be identified. Similarly, WPI pentagrams can be used to show the national level WPI. An example for the community level is shown in figure 2:

Application of the Water Poverty Index framework at the national level.

To demonstrate the capability of the WPI framework to be applied at a range of different scales, a national level assessment has been carried out. Component scores for 141 countries have been identified, using currently available data from published sources, and a calculation of national level WPI scores made. A summary of this national approach to the WPI calculation is shown in figure 3, which provides a preliminary international comparison of how countries score on the Water Poverty Index. This methodology can be used to compare nations with each other, as long as the variables used in the framework are the same. By using variables from publicly available datasets, international comparisons between countries can be made.

Conclusions

The WPI tool can provide decision-makers with a transparent framework on which their decisions can be based. It can be used in a number of ways, such as:

- a tool for prioritisation according to a standardised transparent method
- a way of understanding more about the complexities of water management
- a tool for monitoring progress over time (assuming the tool is implemented and updated at reasonable periods such as 3 to 5 years),
- a tool to empower communities and decision-makers by giving them confidence in the rationale behind water management decisions.
- an evaluation tool to be applied at a variety of scales, including the national scale and at the community level, enabling more informed decisions to be made.

In many cases, significant improvements in household conditions can be achieved with only a small reduction in the allocation to other sectors.

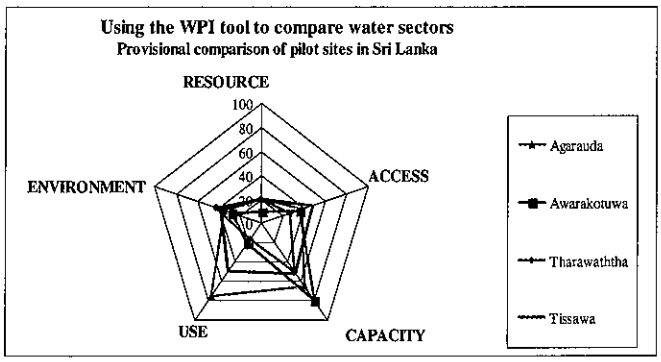


Figure 2: WPI Pentagram

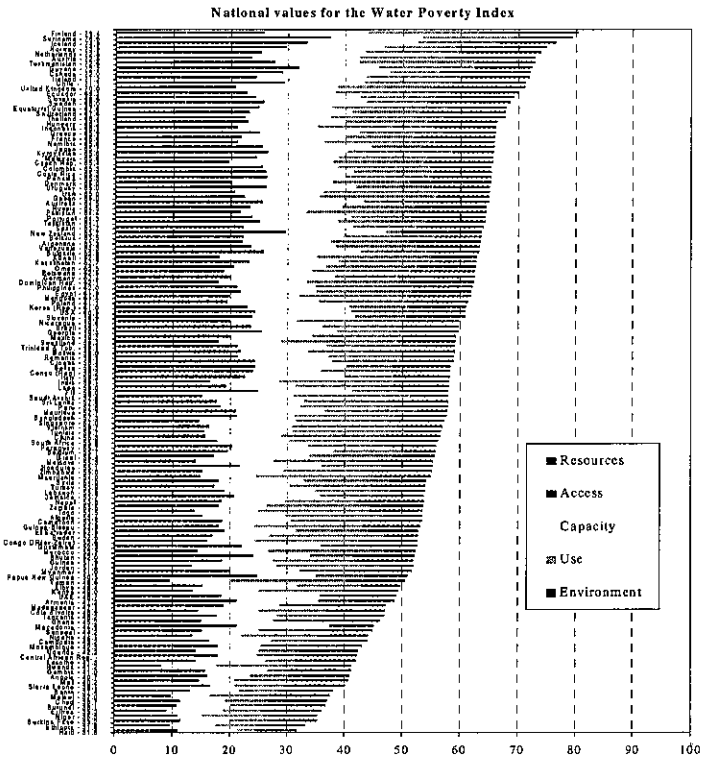


Figure 3: National Level WPI Values

This document is an output from the project entitled *The Derivation and Testing of the Water Poverty Index,* funded by the UK Department for International Development, contract number IUDDC24. The views here do not necessarily represent those of DFID. For more information see; Sullivan, Meigh & Fediw (2002).

DFID Department For International Development

For further information, please contact:
Dr Caroline Sullivan
Centre for Ecology & Hydrology, Wallingford. UK
Tel: +44 +1491 +692457 Email: csu@ceh.ac.uk

Centre for Ecology & Hydrology
NATURAL ENVIRONMENT RESEARCH COUNCIL

5.4 オープンニングセレモニー：Working Together on Water, Energy and Climate for Sustainable Development

1) 開催日時：2002年９月１日(日)＜Water, Energy & Climate＞10:00－12:00
2) 開催場所：WaterDome、Indus & Ganges会議室
3) 主　催：WMO
4) アジェンダ（講演）：
   ① HE Prof. G.O.P. Obasi (Secretary General of the World Meteorological Organization and Chair of the event) ＜講演原稿（英文）は参考資料参照。＞
   ② HE Roniie Kasrils (Minister of Water Affairs and Forestry, South Africa)
   ③ HE Alhaji Muhtari S. Shagari (Chairman of AMCOW and Minister of Water Resources, Nigeria)
   ④ HE Dr. Mahmoud Abu Zaid (Minister of Water Resources and Irrigation, Egypt and President of the World Water Council)
   ⑤ HE Dr. Salim Ahmed Salim (African Water Ambassador)
   ⑥ Dr. Rajendra Pachauri (Chair of Intergovernmental Panel of Climate Change; IPCC)
   ⑦ Mr. Hama Arba Diallo (Executive Secretary, United Nations Convention to Combat Desertification; UNCCD)
   ⑧ Mr. Bill Cosgrove (Chair of the International Steering Committee of the Dialogue on Water and Climate; DWC)
5) プレスコンファレンス：＜プレス発表文添付＞

オープンニングセレモニー：Working Together on Water, Energy and Climate for Sustainable Development

Media Alert

WORLD METEOROLOGICAL ORGANIZATION
A SPECIALIZED AGENCY OF THE UNITED NATIONS

FOR USE OF THE INFORMATION MEDIA – NOT AN OFFICIAL RECORD

Placing Water High on the Global Agenda

All journalists are cordially invited to a **press conference by Prof. G.O.P. OBASI, Secretary-General of WMO,** about **Water, Energy and Climate,** on **1 September at 4.30 p.m.** in the press conference room at the Water Dome.

JOHANNESBURG, 31 AUGUST 2002 (WMO) - The amount of fresh water available per person in Africa today is about one-quarter of what it was in 1950, while in Asia and South America, it is about one-third of the 1950 amount. This trend will only become more pronounced in the near future: according to recent assessments, some 1.4 billion people will experience water scarcity by 2025.

Much of this increased water stress will be in developing countries where the economic impact of the necessary adjustments will be significant. Demand for water will continue to rise as populations grow and per capita consumption rates increase. Water pollution is likely to compound this problem even further. Water problems can jeopardize all efforts to secure sustainable development and to alleviate poverty, and could even lead to social and political instability in some cases.

Water and sanitation are among the five areas the Secretary-General of the United Nations, Mr. Kofi Annan, has identified as priorities for the World Summit on Sustainable Development. To ensure that water will be at the forefront of the WSSD, the "Water Dome" has been set aside as the central venue for water-related events held in parallel with the Summit.

In order to help placing water resources assessment and management high on the global agenda, the World Meteorological Organization (WMO) will be co-ordinating a full day event on the theme of "Water, Energy and Climate", on 1 September at the Water Dome. Discussions will focus on the need to improve the capability of water managers to deal with increasing climate variations and climate change. Water issues of concern to all will be addressed, with a special emphasis on Africa.

The "Water, Energy and Climate Day" will bring together Ministers of several African countries, senior government officials, representatives from

international institutions, intergovernmental and non-governmental organizations, academic circles and from the private sector. The exchange of views among the participants is expected to result in a set of proposals that should contribute to the achievement of tangible results at the WSSD.

The event will be opened (at 10 a.m.), and chaired, by Prof. G.O.P. OBASI, Secretary-General of WMO. The following eminent persons will address the morning session: H.E. Mr Ronald Kasrils, Minister of Water Affairs and Forestry, South Africa; H.E. Alhaji Muhtari S. Shagari, Minister of Water Resources, Nigeria and Chair of the African Ministerial Conference on Water (AMCOW): H.E. Dr. Mahmoud Abu Zeid, Minister of Water Resources and Irrigation, Egypt and President of the World Water Council; Dr Salim Ahmed Salim, African Water Ambassador; Dr. Rajendra Pachauri, Chairman of the Intergovernmental Panel on Climate Change (IPCC); Mr. Hama Arba Diallo, Executive Secretary of the United Nations Convention to Combat Desertification (UNCCD); and Mr. William Cosgrove, Chairman of the International Steering Committee of the Dialogue on Water and Climate (DWC).

In the afternoon four parallel sessions will be devoted to water-related disasters, water storage management, special environmental issues, and the African situation on water and climate.

For further information, please contact:

at the WSSD in Johannesburg:

Mr. Mohamed TAWFIK
Scientific Officer
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Sandton Convention Centre
Tel: +27 (0) 82 379 57 58
E-mail: tawfik_m@gateway.wmo.ch

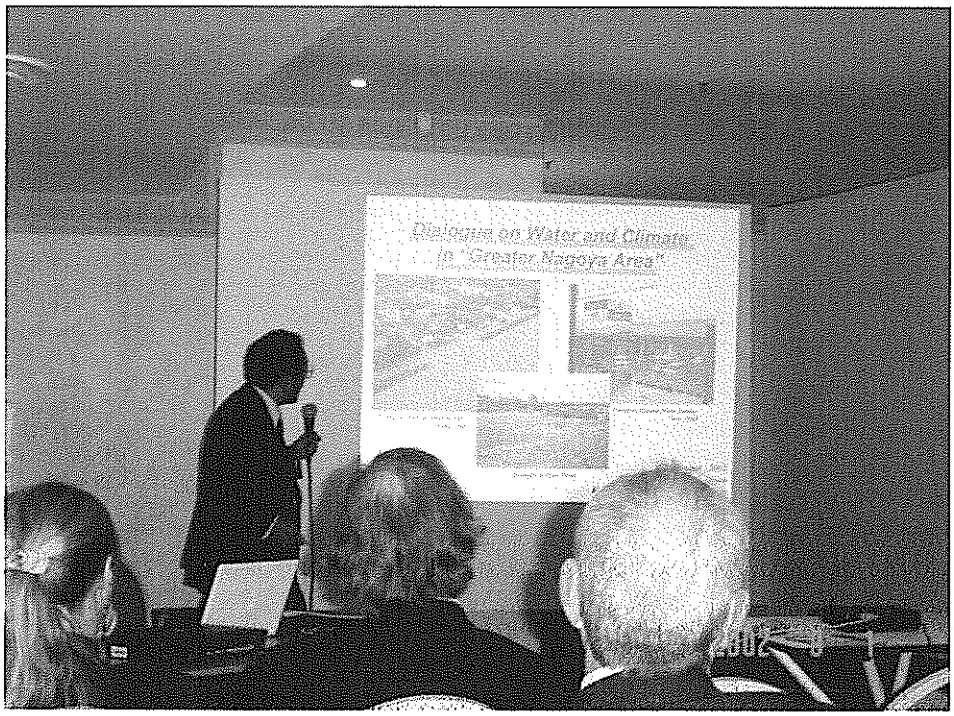
or

Ms. Carine RICHARD-VAN MAELE
Chief, Information and Public Affairs
World Meteorological Organization
Sandton Convention Centre
Tel: +27 (0) 82 858 33 42
E-mail: vanmaele@gateway.wmo.ch

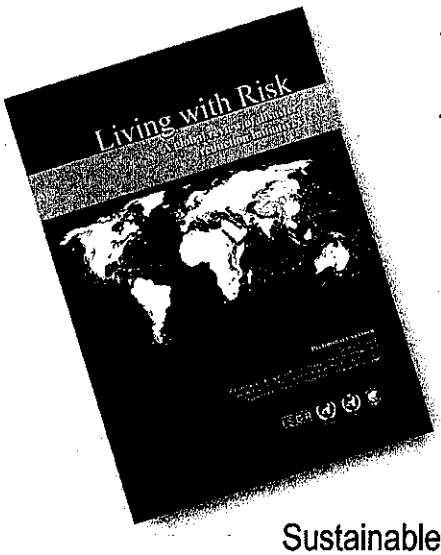
Website: http://www.wmo.ch

5.5 パラレルセッション：Water Related Disasters

1) 開催日時：2002年９月１日(日)＜Water, Energy & Climate＞14:00－17:30
2) 開催場所：WaterDome、Mekong会議室
3) 議　長： Dr. J.R. Mukabana, Director Kenya Meteorological Department (KMD) and Permanent Representative of Kenya with WMO
4) アジェンダ（講演）：
   ① Flood Implications and Drought prediction, Dr. J.R. Mukabana
   ② Nagoya Case Study – Nagoya Floods, Dr. Tetsu Oishi（山梨大学）
   ③ Climate Change and Climate Variability Impact on Water Resources, P. Kabat/Robert Lenton (DWC/IRI)
   ④ Disaster Reduction, Helena Molin Valdes (ISDR)＜書籍"Living with Risk"の説明添付＞
   ⑤ Re-insurance, Dr. Gerhard Berz



Dr. Tetsu Oishi（山梨大学）のプレゼン



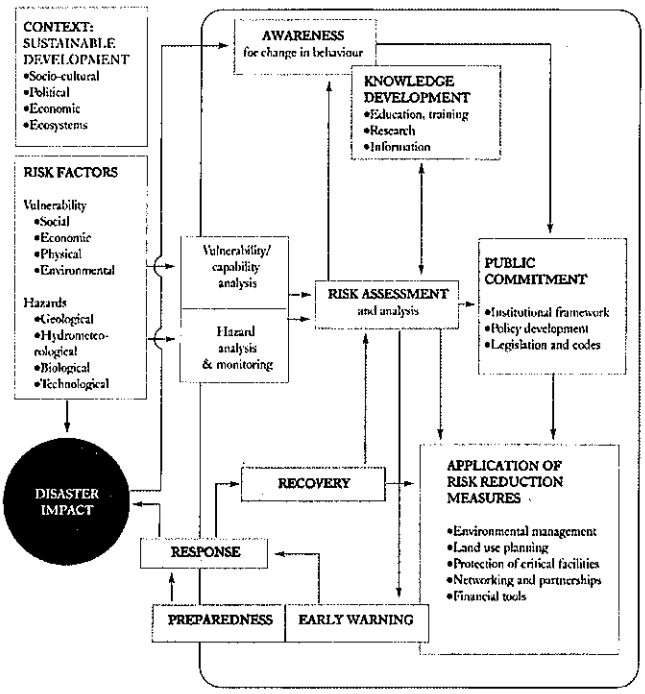
Living with Risk

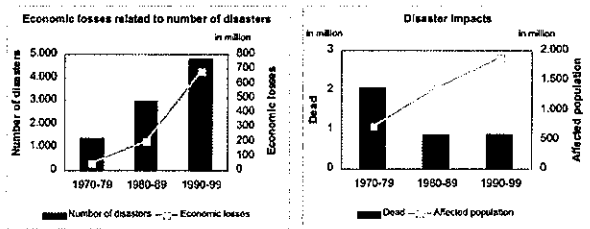
A global review of disaster reduction initiatives

International Strategy ISDR for Disaster Reduction — United Nations — WMO

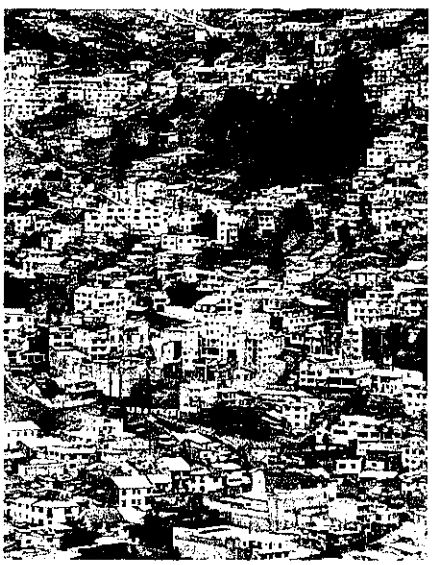
Sustainable development requires the reduction of human, social, economic, and environmental vulnerability to natural and technological hazards.

FRAMEWORK FOR DISASTER RISK REDUCTION





Source: OFDA/CRED International disaster database, 2002
Includes: drought, earthquake, epidemic, extreme temperature, famine, flood, industrial accident, insect infestation, miscellaneous accident, landslide, transport accident, volcano, wave/surge, wild fire, wind storm



Growing cities, demographic pressure, poverty, fragile infrastructure, environmental degradation and climate change increase vulnerability to disasters

OUTSTANDING CHALLENGES

include mobilizing local, national and international cooperation and partnerships to:

- **Increase understanding of disaster risk**, promote policy integration to reduce vulnerability to disasters as part of sustainable development policies and plans at all levels.
- **Increase understanding of disaster risk**: promote policy integration, in particular land-use planning, to reduce vulnerability as part of sustainable development policies and plans at all levels.
- **Bring the ecological sphere into disaster risk reduction:** develop and apply sound technologies and environmental criteria to reduce risk in the management of watersheds and river basins, wetlands, forests, mountains, coral reefs and mangroves.
- Strengthen capacities for disaster risk reduction to be implemented primarily as a **national and local governmental responsibility.**
- **Decentralize risk management effectively** to enhance community participation.
- **Increase education, information, networking and research** on hazards, vulnerability and risk management.
- **Develop improved early warning systems,** global, national and local, and wide dissemination of warnings to people at risk.

International Strategy ISDR for Disaster Reduction

International Strategy for Disaster Reduction
(ISDR) Secretariat
UN, Palais des Nations, CH-1211 Geneva, Switzerland
www.unisdr.org www.eird.org

The United Nations has just launched the preliminary version of Living with Risk: A global review of disaster reduction initiatives. Published by the Inter-Agency Secretariat of the International Strategy for Disaster Reduction (ISDR), "Living with Risk" is a 400 page study of the lessons learned by experts and communities to reduce vulnerability and risks to hazards presented by natural forces such as volcanoes, fires, hurricanes, tsunamis, landslides and tornadoes as well as technological accidents and environmental degradation.

It focuses on how risk reduction, as part of sustainable development, is put into practice in different parts of the world.

The report also looks at the ways in which political imagination and better communication has already begun to save lives and build hope for developing countries and examines the intricate links between economic development and environmental insecurity. The report presents valuable examples as well as outlines the challenges and recommendations for the future.

Please download the full text of Living with Risk: A global review of disaster reduction initiatives from our websites: www.unisdr.org www.eird.org

Send your comments to: GRisdr@un.org

United Nations Inter-Agency Secretariat
International Strategy for Disaster Reduction (ISDR)
Palais des Nations, CH - 1211 Geneva 10, Switzerland
Tel: +41-22-917-2759, Fax +41-22-917-0563

5.6 パラレルセッション：Agricultural Water and Poverty

1) 開催日時：2002年９月２日(月)＜Water, Health & Poverty＞10:00－11:30
2) 開催場所：WaterDome, Yangtze会議室
3) ファシリテータ：Dr. Barbara van Koppen, IWMI Africa Office
4) アジェンダ：

①Limpopoの現状報告ビデオ＜水不足の深刻度を示す。＞

② スピーチ（マーガレットさん、南アの農村より）＜水不足による農作物の不作・子供の健康に悪影響、さらに政府からの支援が無いことで、村が孤立した状況であることを強調。）

③ 講演（地域レベルに応じた灌漑技術について）：Dr. Paul Polak, International Development Enterprise (NGO)

④ 講演：Should Africa Protect its Farmers to Revitalize its Economy? Prof. Niek Koning, IIED (International Institute for Environment and Development) Sustainable Agriculture and Rural Livelihoods Program

＜Economic growth requires agricultural development as a starting engine. Farm-gate prices should allow farmers to invest in sustainable land water management. This may require protection against cheap imports.→農村地域においては、国内生産・消費が必要。＞

Prof. Niek Koningのプレゼン

5.7　パラレルセッション：Water and Governance: How to reduce Poverty

1) 開催日時：2002年９月２日(月)＜Water, Health & Poverty＞12:15－14:15
2) 開催場所：WaterDome, Amazon会議室
3) 主　催：BNWP, World Bank Institute and GWP
   (BNWP: The Bank-Netherlands Water Partnership)
4) 議　長：Albert Wright, Chair of the African Water Task Force
5) パネリスト：
   ① Hon. Yaw Barimah, Minister for Works and Housing, Ghana
   ② Jean Louis Blanc, Suez, France
   ③ Houria Tazi Sadeq, Alliance Maghreb Machrek pour l'Eau, Morocco
   ④ Alan Hall, Global Water Parnership
   ⑤ Jamal Sagnir, World Bank

パラレルセッション：Water and Governance: How to reduce Poverty

5.8　パラレルセッション：Water, Poverty and Children

1) 開催日時：2002年９月２日(月)＜Water, Health & Poverty＞14:45－16:45
2) 開催場所：WaterDome, Indus会議室
3) 主　催：UNICEF
4) モデレータ：Mr. Jean-Michel Cousteau, Ocean Futures Society

5) 講演者：

① Mrss. Nane Annan（アナン国連事務総長夫人）

② Ms. Christine Todd, Whitman, Administrator, Environmental Protection Agemcy, the United States

③ Ms. Lena Sonmestad, Minister of Environment, Sweden

④ Mr. Shizuo Sato, 国土交通省副大臣
＜第３回世界水フォーラムで子供世界水ファーラムを開催することを表明。カタログ添付＞

⑤ Sir Richard Jolly, Chairman, Water Supply and Sanitation Collaborative Council (WSSCC)

⑥ Dr. David Nabarro, Executive Director, sustainable Development, WHO

⑦ Mr. Kul Gautam, Deputy Executive Director, UNICEF

⑧ Mr. Ryan Hreljac, President, Ryan's Well Foundation 'child water activist)

⑨ Mr. John Gichane, Managing Director, Living Water International - Kenya

パラレルセッション：Water, Poverty and Children

Children's World Water Forum

Kyoto, Shiga and Osaka, Japan
16 - 23 March 2003

Every year, nearly two million children die – 6,000 each day – of diseases caused by lack of access to safe water, inadequate sanitation and poor hygiene. Young children are vulnerable to a host of diseases and infections that are related to poor hygiene and a lack of clean water and decent sanitation. Those diseases include diarrhoea, worm infections, trachoma and many others. Although some progress has been made over the past decade in increasing people's access to water supply and sanitary means of excreta disposal, the former rose from 77% to 82% and the latter from 51% to 61%, the latest assessment shows that 1.1 billion people still lack access to improved drinking water and 2.4 billion lack access to improved sanitation. By using the word "improved", the water and sanitation professionals really mean that the standards used to assess the coverage rates are far less ideal and much lower than what we generally enjoy, a public standpipe or a tube well, and a simple pit latrine are counted as improved water supply or improved sanitation. With increasing water shortages and rising water quality problems in many parts of the world, reaching universal access to safe, sufficient and affordable water for all remains an enormous challenge.

Keywords

Disaster, Poverty, Environment, Hygiene and Sanitation, Water Quality, Management of Water, Water and Culture, etc

When will the Children's World Water Forum be held?

16 - 23 March 2003

Where will it take place?

The Kyoto International Conference Hall, Kyoto
Shiga, Osaka

Organizers

United Nations Children's Fund (UNICEF)
Steering Committee for the Children's World Water Forum

Supporting Organizations

Ministry of Land, Infrastructure and Transport of Japan, Ministry of Education, Culture, Sports, Science and Technology of Japan, Ministry of the Environment of Japan, Kyoto Prefecture, Shiga Prefecture, Osaka Prefecture, Japan Committee for UNICEF

Agenda

Cultural Exchange Programme (Shiga, Osaka, Kyoto)
Participants will meet each other in advance of the Forum on the boat "Uminoko" on Lake Biwa, the largest lake in Japan located in the Shiga Prefecture. Welcome party and other cultural exchange programmes will take place with participation of children from various areas in Japan. Selected participants will visit sessions of the 3rd World Water Forum as "Young Journalists".

Children's World Water Forum (Kyoto)
Children will discuss and exchange views on water issues at the Forum. Representatives of children will convey the outcomes of the Forum to the Ministers.

Panel Exhibition
During the Forum, panel exhibition and other cultural events will also take place at the venue.

Who can apply?

Children's World Water Forum

Age : 12-18 years

Language : English and Japanese will be the official languages of the Forum, and multilingual volunteers will help ensure an enjoyable stay in Japan for participants of other languages.

Essay : Applicants are requested to submit an essay on an issue of their particular interest. Essay should be written in English or Japanese. Participants will be selected based on the essay.

Cost : Participants are requested to bear the airfare from their own countries to Japan. (Sponsorship is being sought for participants from developing countries.) Participants are free to look for own sponsors. Cost of accommodation, meals and transport in Japan will be born by the organizers. There will be a charge for the optional tours.

Panel Exhibition
Children below the age of 18 years are welcome to display their posters, paintings, etc at the Forum.

How to apply?

Applicants to the Children's World Water Forum and Panel Exhibition should send an application form in advance. Application form is available at the Secretariat of the Steering Committee for the Children's World Water Forum.

By when?

31 October 2002

世界子ども水フォーラム
Children's World Water Forum

unicef
United Nations Children's Fund

www.cww-forum.com

For Further Information:
Secretariat of the Steering Committee for the Children's World Water Forum
45-213, 6-10 Akasaka, Minato-ku, Tokyo, Japan 107-0052
Tel:81-3-5777-8600 Fax:81-3-5574-7183 E-mail:info@cww-forum.com

Cover Photos:UNICEF/John Isaac, UNICEF/95-0356/Charton

World Water Council
3rd World Water Forum

6. 第3回世界水フォーラム（WWF3）関連

ヨハネスブルク近郊で開催された水関連サイドイベント「WaterDome～No Water No Future～」において行われた第3回世界水フォーラム関連のイベントは以下の通りである。

- Solving Water Problems: Finding the Finance（8月29日：世界水会議（WWC）主催）
- Youth Meeting（8月31日：第3回世界水フォーラム事務局主催）
- Multi Stakeholders Dialogue: Brainstorming for the 3rd World Water Forum（9月1日：第3回世界水フォーラム事務局主催）
- The Kick-Off Meeting on the Ministerial Conference on the occasion of the 3rd World Water Forum（9月1日：日本政府主催）
- "Water Voice" event（9月1日：第3回世界水フォーラム事務局主催）
- Coordinators' Meeting of the 3rd World Water Forum （9月2日：第3回世界水フォーラム事務局主催）
- Launching Ceremony: Major themes and draft programme of the 3rd World Water Forum（9月3日：第3回世界水フォーラム事務局主催）
- The 3rd World Water Forum announcement（9月3日Closing Ceremonyにて：第3回世界水フォーラム事務局主催）＜全体プログラム添付＞
- "World Water Actions" study（8月29～31日、9月1～3日：世界水会議（WWC）主催）

Water Dome内WWF3事務局パビリオン

2003	3/16 (Sun)	3/17 (Mon)	3/18 (Tue)	3/19 (Wed)	3/20 (Thu)	3/21 (Fri)	3/22 (Sat)	3/23 (Sun)
			Osaka Day		Shiga Day			
Venue	Kyoto	Kyoto	Kyoto	Kyoto	Kyoto	Kyoto	Kyoto	Kyoto
			Osaka	Osaka	Shiga	Shiga		
Forum								
Major Themes	Water and Climate (Kyoto)		Water and Cities (Osaka)		Integrated Water Resources Management (IRWM) and Basin Management (Shiga)			
	Water Supply, Sanitation, Hygiene and Water Pollution (Kyoto)		Water and Information (Osaka)					
	Water and Culture (Kyoto)		Groundwater (Osaka)					
	Water and Energy (Kyoto)	Water, Food and Environment (Kyoto)		Agriculture, Food and Water (Kyoto)		Financing Water Infrastructure (Kyoto)		
		Water for Peace (Kyoto)			Water and Poverty (Kyoto)			
		Water, Nature and Environment (Kyoto)			Water and Education (Kyoto)			
			Water and Governance (Kyoto)					
			Floods (Kyoto)					
Topics			Public Private Partnership (Osaka)		Dam and Development Partnership (Kyoto)			
Special Programs	World Water Actions					Water and Parliamentarians (Kyoto)	World Water Assessment Programme (Kyoto)	
						Agricultural Ministerial Meeting on "Water, Food and Agriculture" (Shiga)		
Major Groups		Water Journalist Panel (Kyoto)		CEO Panel (Osaka)		Children's World Water Forum (Kyoto)		
		Gender and Water (Kyoto)	Union Panel (Osaka)			Water Development Partners Panel (Kyoto)		
			Youth World Water Forum (Kyoto)	Science, Technology and Management Panel (Kyoto)				
Regional Days (Kyoto)		Day of Africa	Day of Asia and Pacific	Day of the Americas	Day of the Middle East and the Mediterranean	Day of Europe		
						Dialogue between Participants and Ministers		
Ministerial Conference (Kyoto)				Senior Officials Meeting			Ministerial Conference	

6.1 Multi Stakeholders Dialogue: Brainstorming for the 3rd World Water Forum

1) 開催日時：2002年9月1日
2) 開催場所：WaterDome Ganges会議室
3) 主　　催：第3回世界水フォーラム事務局
4) 目　　的：第3回世界水フォーラムに向け、今後水に関連する重要なテーマや運営に関する課題を抽出することを目的としたブレーンストーミング手法を使ったワークショップを開催した。
5) アジェンダ：
6) オープニング：議長挨拶　尾田榮章（第3回世界水フォーラム事務局長）
7) 講　　演：第3回世界水フォーラム開催までの取り組み
　　廣木謙三（第3回世界水フォーラム事務局次長）
8) ブレーンストーミング：Jerome Delli Priscoli（米国陸軍工兵隊）

【内容】

■ブレーンストーミングの進め方

① 参加者（70-80名）が7-8名づつの円卓に分かれる。
② ファシリテーターのプレスコリー氏より以下の質問が出された。

How should we move from Johannesburg to Kyoto? What are your 1-3 most important suggestions?

③ 質問に答える形で、円卓ごとに議論が行われた。
④ 円卓ごとに、議論してまとめられた2-3の案が選ばれた代表によって発表され、同時に前方のスクリーンに、その内容をタイプしたものが映し出された。
⑤ 類似する意見は、ファシリテーターが選別した。
⑥ 映し出された内容は後日、第3回世界水フォーラムのバーチャルフォーラムの中に掲載され、そのアウトプットは以下のとおりである。テーマの「ヨハネスブルグから京都に向け、今後どのような活動をするべきか」という問いに対する様々な意見は、今後水フォーラムに向けた活動に反映される。

各国からの出席者による積極的な議論の風景

【Opinions】

1. Meet people, learn from each other and exchange the new knowledge gained (take the message back home).
2. Find the way to prioritize.
3. Need to simplify (Limit the parallel sessions to the essential).
4. We need Output (make sure the conclusions will be disseminated)
5. Review of the type II documents, so we have something to work with.
6. Balance / equal participation of all people. Real involvement of all stakeholders.
7. Need for a massive media publicity (bring journalist interested in water)
8. Stressing human/personal responsibility
9. Financing NGO/developing countries
10. Move beyond problems, Address concrete solutions.
11. Address important issues: Food and water, Youth and young children
12. Too many dialogues/organizations: chaos/confusion
13. Focus on regular people not ministers
14. Achievements should be addressed in one example (funding of academics)
15. Quality, Quantity for the poor.
16. 1 subject missing: the voice of water (water needs conditions)
17. Reinforcement of the political will + ACTIONS
18. Capacity building for all.
19. Financing through partnership.
20. Focus on the achievements/solutions that we can apply to developing countries.
21. Each theme should result in a framework for action.
22. * Show & review the promises and commitments already made at the previous water conferences (The Hague, Bonn, Johannesburg).
23. Bridging the gap between debates among ministers and all stakeholders.
24. Talk about failures and reasons for failures.
25. We have to act now.
26. Involve more local people coming from Kyoto, Shiga and Osaka.
27. Create/disseminate list of participants: Network
28. Mobilizing information, human, financing, technology, resources on the global/regional/local level to stop drying up landscapes, etc…
29. Use games & simulations in Kyoto.
    ---*Ministers to participate
30. Registration procedure (simplify) and Sponsorship needed by the Japanese government for the developing countries
31. Encourage the participation of international organizations during the process
32. See water not only as an economic good, but more from a social, cultural, human right approach
33. Conclusions of the sessions should be categorized – need concrete outputs
34. find/discover the shared interest between the different water users.
35. global water redistribution among the abundant and scarcity of water.
36. Restore native hydrologic cycles?
37. Introduce a film festival (educational & artistic awareness format)
38. Get a different type of input by asking the ministers to involve stakeholders in the ministerial process.
39. Should focus on anti-privatization as a central theme and water as a planetary public resource.
40. *Bring not only water Ministers but also Ministers of Finance to bridge the gap between finance and water
41. Bringing higher level: Prime ministers
42. People experiencing the way water behaves.
43. The rich pollutes more than the poor, so if we could tax the rich and invest the revenues in sanitation services (water supply and collect and treatment of sewage), we would be likely to solve the problem of lack of these services. A tax of US$ 1.00/petrol barrel and collect that revenues in an international Fund to provide the water programmes in poor regions of the world. That could provide the Fund with something like US$ 30 billion/year. After 10 year time it should be enough to help solving the deficit of water supply and sanitation services.

6.2　第３回世界水フォーラム閣僚級国際会議キックオフ会合

1) 日　時：2002年9月1日(日)　15：30～17：30

2) 場　所：南アフリカ共和国・ヨハネスブルグ・Water Dome内会議室「ガンジス」

3) 出席者：世界各国・国際機関等から約100名
(内訳：28の国と地域から54名、20の国際機関から23名、その他オブザーバーとして、NGO等から27名が参加)

4) 概　要：

WSSDで大きな関心が寄せられた水問題について2003年3月に開催される第3回世界水フォーラムおよび閣僚級国際会議においてフォローアップし、世界の水問題の解決に資することを目的として、第3回世界水フォーラム閣僚級国際会議キックオフ会合が日本主催、小林国土交通省水資源部長議長の下、開催された。キックオフ会合の概要は、以下のとおり。

(1)開会挨拶

佐藤国土交通副大臣より、世界の水問題は依然として深刻な状況にありその問題のためには世界の知恵を結集し、具体的な行動をとること、特に水管理に関する基本的責任を有する政府の意思決定者としての閣僚が政治的リーダーシップを発揮することの重要性について発言があった。また、日本政府として、第3回世界水フォーラムおよび閣僚級国際会議においてWSSDで提示された行動を着実にフォローアップすること、日本の具体的な行動として小泉構想を展開することが提示された。

(2)持続可能な開発の理念

石川外務省NGO大使・国社部審議官より、持続可能な開発の理念として「グローバル・シェアリング」を提示する中で、「水」は持続可能な開発に欠かせない要素であること、途上国自身がオーナーシップを確立する過程において国際社会がパートナーシップに基づき支援することが重要であることについて発言があった。日本がこれまで水管理において果たしてきた実績、特に女性の役割、台所、こどもの教育等に着目した生活レベルの改善から取り組んできている事例を紹介し、今後とも対等なパートナーシップに基づく連帯の形成のために、途上国と同じ目線にたった「友達」として行動していきたいとの意見表明があった。

(3)第3回世界水フォーラムおよび閣僚級国際会議の概要説明

第3回世界水フォーラム事務局より、その準備状況と今後の方針について、国土交通省より、閣僚級国際会議の議論内容(案)、期待される成果(案)、開催・準備方針等について説明した。

(4)質疑応答

南アフリカ共和国より、国際準備委員会(IPC)の位置づけ、参加国の構成、コミ

ュニケーション手段等について質問があった。これに対し国土交通省よりIPCは閣僚級国際会議で具体的な成果を出すためのプロセスであり、第1回(2002年11月に開催予定)では、近年の世界各国でコミットされた議論を評価し、閣僚宣言案について議論する、第2回(2003年1月に開催予定)では水に関する各課題の中で何を優先すべきかを議論し、閣僚宣言案の内容を詰めることになることを説明した。また、参加国の構成については第2回世界水フォーラムのIPCと同じような構成を考えていることを説明し、地域によって水の状況は違うので地域的なバランスにも配慮したいことを伝えた。IPCの結果を各国に伝達する手段としては、外交ルート、ウェブサイト等を考えていると回答した。

(5)閣僚級国際会議において期待される成果に関する意見交換

イラン国より、地域的なアプローチの重要性が指摘された。

イタリア国より、キャパシティ・ビルディングの重要性と共に技術移転に力点を入れていることが報告され、世界に貢献したいとの意志が示された。

トルコ国より、エネルギーについてはその効率的な利用についての議論がなされているのに対して水の効率的な利用についての議論が不十分であるとの認識の下、水の効率性に関する課題を議論すべきである、との提案があった。

ESCAPより、効果的な水資源管理のためのガイドラインづくりに取り組んでいるとの報告があった。学校の教育を通して各受益者の参加を促進させるアプローチを確立していく必要がある、との意見が出された。

イタリア国より、ヨハネスブルグで出される行動実施計画を京都の閣僚級国際会議の成果に結び付けることが重要であり、タイプ2のプロジェクトも利用可能との意見が出された。議論ばかりするのではなく、実際には具体的な措置を取ることが重要であるとのコメントがあった。これに対して国土交通省より、WSSDの実施文書においては誰がいつどのように実施するのかという具体的行動計画については示されていないため、第3回世界水フォーラムおよび閣僚級国際会議においてはタイプ2文書を含む具体的な行動計画の策定に向けて取り組みたいと回答した。

南アフリカ共和国より、各国の行動のコミットメントの確認とその内容の見直しも閣僚級国際会議の成果に加えることを提案する、との意見が出された。これに対して国土交通省より、ヨハネスブルグのコミットメントをフォローする重要性は十分に認識していることを伝えるとともに、数値目標ではない形で捉えるのではなく具体的なアクションをどのように展開するかについてよく考えていきたい旨回答した。

ギリシャ国より、EUの議長国として大きな関心を持っていることが伝えられ、閣僚宣言は具体的なものにして頂きたいとのコメントがあった。

メキシコ国より、今年10月8日～11日にメキシコシティに米州の閣僚が集い、

21世紀の米州の水資源管理について話し合う場を設けることの説明があった。第3回世界水フォーラムに向けて米州のスタンスを閣僚宣言にまとめ、米州のビジョンとして提起したい旨、発表があった。

(6)閉会

石川外務省NGO大使・国社部審議官　基調講演

国土交通相　木下課長　閣僚級会議の概要説明

質疑応答

7. WWF３事務局報告（Newsletter第95号より）

◇◆◇

ウォーター・ドームでのサイドイベントが終了しました

第３回世界水フォーラム事務局長　尾田栄章

ウォーター・ドームで開かれていた水イベントが昨日（日本時間９月３日）幕を閉じました。この水イベントは、ヨハネスブルグで開かれている「持続可能な開発に関する世界サミット」に合わせて開催されたもので、大きな円形の建物「ウォーター・ドーム」を会場としたものです。最終日に「ヨハネから京都・滋賀・大阪へ」を合言葉とする閉会イベントを主催しました。和太鼓の演奏と獅子舞を背景に、第２回世界水フォーラム議長を務められたオランダ皇太子オレンジ公、アブザイド世界水会議会長を始めとする関係の方々による鏡割りをおこない、ヨハネスブルグで生まれた水の連帯を第３回世界水フォーラムに向けて繋げていくことを出席者一同で確認しました。

これに先立って開いた「第３次のご案内」の発表式で、同時通訳のブースの設置が間に合わないという事態が発生し、御挨拶のアブザイド世界水会議会長、基調講演の橋本会長、プレゼンテーションの千野アジア開発銀行総裁を始め、参加いただいた方々に大変な御不便をかけることになってしまいました。それでもアブザイド会長を始め多数の方々に最後まで残っていただけたことは、望外のことでした。御参加いただいた多くの方々に、この場を借りて心よりお礼とお詫びを申し上げます。

不測の事態が起こりうることを事前に充分予測しておきながら防げなかったことになります。厳しく見直し、しっかりと受け止めて次につなげたいと思います。

すべてが終わり、外に出ると夜空に稲妻が光っていました。

春雷や　ヨハネの雨に　洗われし　　栄

◆◇◆◇◆◇◆◇◆◇◆◇◆◇◆◇◆◇◆◇◆◇◆◇◆◇◆◇◆◇◆◇◆◇◆◇◆◇

今週の特集：　ウォーター・ドーム　イベント速報（報告：伊藤）

巻頭言にもあるように、８月28日から９月３日にかけて「持続可能な開発に関する世界サミット（ヨハネスブルグサミット）」が開かれたヨハネスブルグにおいて、世界中の水関係者によるイベントがウォーター・ドームにて開催されました。この、ウォーター・ドームでのイベントは、ヨハネスブルクサミットで最重要課題の一つとし

て掲げられている、

「水と衛生」について、世界中の水関係者が一致協力して、より明確なメッセージを世界に向けて発信するために開催されました。

第３回世界水フォーラム事務局では、世界水会議(WWC)、世界水パートナーシップ(GWP)と共同して、展示ブースを出展して、世界水フォーラムのPRを行いました。我々の出展ブースには、７日間を通じて、数多くの方が来場され、橋本第３回世界水フォーラム運営委員会会長、アブザイドWWC会長をはじめとする来賓の方々や、世界中からの参加者、そしてヨハネスブルグの地元の小中高校生など数多くの方に立ち寄っていただきました。地元の小中高校生には、数多くの彼らの“水の声”を寄せて頂くことにも協力していただきました。

展示と併せて、水フォーラムに関する、“ユース・ミーティング”、“ヨハネスブルグから第３回世界水フォーラムに向けたブレーンストーミングセッション”、“閣僚級国際会議のキックオフ会議”、“第３回世界水フォーラムにおける主要テーマのコーディネータ会議”、“第３回世界水フォーラムの概略プログラムの発表式”、と様々な会議が開催されました。

また、最終日には「ヨハネスブルグから京都・滋賀・大阪へ」をテーマとした閉会イベトを主催し、橋本会長、アブザイド会長を始め、第２回世界水フォーラム議長を務められたオランダ皇太子オレンジ公、マギー・カールソンGWP会長、千野アジア開発銀行総裁、松浦ユネスコ事務局長といった方々により鏡割りを行い、世界の水問題への貢献と第３回世界水フォーラムへの誓いを新たに、ウォーター・ドームが閉会となりました。

次号のニュースレターにおいて、ヨハネスブルグサミット、ウォーター・ドーム等の情報を詳しく紹介いたします。

参　考　資　料

① Koizumi Initiative (Concreter Actions of Japanese Government to be taken for Subtainable Development – Towards Global Sharing) <Provisional Translation>

② Policy Speech by Ms. Yoriko Kawaguchi, Minister for Foreign Affairs of Japan at the United Nations Conference Center (Addis Ababa, 26 August 2002)

③ Remarks by Mr. Kimio Fujita, Special Assistant to the Minister for Foreign Affairs of Japan, on the Occasion of the TICAD Workshop at the WSSD

④ Keynote of the Price of Orange on the Water and Food Challenge, August 30, Water Dome

⑤ Opening Statement on the Occasion of the Theme Day --- Water, Energy and Climate at the Water Dome, by Professor G.O.P. Obasi, Secretary-General of WMO (Johannesburg, 1 September 2002)

⑥ World Water Actions 2000-2003、World Water Council, 3rd World Water Forum（プレゼン用Power Point）

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⑧ Summit Star 新聞記事（８月29日）－Japan's global banana village

(1)

(Provisional Translation)

Koizumi Initiative
(Concrete Actions of Japanese Government to be taken for Sustainable Development - Towards Global Sharing)

21 August 2002

[INDEX]

1. Basic Concept
2. Important Areas and Concrete Measures
   1) People and Hope (Human Resources Development)
      a) Investing in People
      b) Knowledge
      c) Science & Technology
   2) Ownership and Solidarity - Development -
      a) Trade & Foreign Investment
      b) Energy
      c) Agriculture & Food
      d) Development Assistance
      e) Africa
   3) Today's Complacency, Tomorrow's Plight - Environment -
      a) Environment-related assistance for developing countries
      b) Climate Change
      c) Forest
      d) Biodiversity
      e) Water
      f) Environment-related Treaties

1. Basic Concept

○ In order to realize sustainable development, simultaneous achievement of development and environmental protection is indispensable.

○ All governments, organizations and stakeholders should share their understanding, strategies, responsibility, experiences, and information.
⟹ "Global Sharing" (Equal Partnership)
It is important to pursue concrete action in order to implement the existing agreements based on Doha, Monterrey, etc. towards achieving the Millennium Development Goals.

○ Japan will implement the following concrete measures in order to assist the self-help efforts of developing countries (ownership), while seeking to expand partnership within the international community.

2. Important Areas and Concrete Measures

- ● Japan's Own Initiative (New)
- ● Japan's Own Initiative (Continued)
- ☆ Initiatives based on partnership (New)

1) People and Hope (Human Resources Development)

- In order to realize sustainable development, it is indispensable that the ordinary people of the world are motivated with hope to make full use of their ability under good governance.
- To that end, human resources development (in the fields of education, health and gender) is an area of the greatest importance. In other words, investing in people and sharing knowledge and technology are the keys to sustainable development.

a) Investing in People: "Human resources development is the basis of nation building"

- Education
  - ● Propose " the Decade of Education for Sustainable Development"
  - ● Provide assistance totaling more than ¥250 billion (approx. $2 billion) over the next five years for education in low income countries. Promote "Basic Education for Growth Initiative (BEGIN)" (assistance for girl's education, for teacher training, and for science and mathematics education, etc.)
- Health
  - ● Reinforce efforts to combat infectious and parasitic diseases with the target of allocating a total of $3 billion over a five-year period beginning in FY2000 (Okinawa Infectious Diseases Initiative)

b) Knowledge

- ● Share Japan's experiences on tragic pollution and its recovery therefrom as well as its successful experience of cooperation with other Asian countries, with Africa and other regions
- ☆ Promote the Initiative for Development in East Asia (IDEA) and share East Asia's successful experience of development with other countries and regions

c) Science & Technology: As a Breakthrough for Sustainable Development

- ☆ Promote Global Environment Monitoring through the Integrated Global Observing Strategy (IGOS) Partnership and Global Mapping
- ☆ Implement environmental science & technology cooperation

2) Ownership and Solidarity - Development -

- Mobilization of various resources (Solidarity) is essential in order for developing countries to promote sustainable development and poverty reduction through self-driven economic growth (Ownership).

a) Trade & Foreign Investment: Promote trade and private investment to realize sustainable development. (Japan's imports from developing

countries amount to about $150 billion per year.)

- Expand support for trade-related technical assistance and capacity building by JICA and other bodies
  (Hold Japan-WTO Joint Seminars in Geneva. Expand Japan's initiative, announced at UNCTAD X, to provide 2,500 persons from developing countries with trade- related capacity building training in the five-year period from FY2000, to cover 4,500 persons for the same period (2,000 persons added). (including capacity building by AOTS))
- Work towards the objective of duty-free and quota-free market access for all least developed countries' products
  (Immediately examine to expand coverage under duty-free and quota-free treatment for LDC's products by the revisions of tariff-related laws for the next fiscal year which begins on 1 April 2003.)
- Make efforts toward establishing multilateral investment rules
  (Establishing multilateral investment rules is crucial for creating an international environment in which investment in developing countries can increase. Japan will take a leading role in establishing such rules.)
- Encourage African countries to participate in multilateral trading systems (WTO)
  (Welcome the announcement of the intention of African countries to promote the regional integration through the African Union (AU), support such integration by such means as capacity building support, and encourage Africa's further participation in multilateral trading systems (WTO).)

b) Energy: Promote efficient and environment-friendly use of limited energy resources, which forms the very basis of economic activities.

- Host the 8th International Energy Forum in Osaka towards the end of September (to promote dialogue between energy-producing and consuming countries)
- ☆ Propose and promote the Energy Literacy Initiative

c) Agriculture and Food: Contribute to improving food security through Green Technology Innovation

- Promote the development and dissemination of NERICA (New Rice for Africa)
- Extend approx. $30 million grant aid to tackle the food crisis in the southern Africa

d) Development Assistance: Over the past ten years, Japan, as the largest donor country, has provided approximately $120 billion - one fifth of the total ODA contributions of all DAC countries. Japan has extended $4.8

billion - one fourth of the G8 contributions to the enhanced HIPC initiative. Japan continues to play a positive role as a leading donor, while ensuring effective and efficient implementation of ODA.
(It is worth noting that East and Southeast Asian countries, which were poorer than African countries in the 1960's, have experienced rapid growth since then.)

e) Africa: "There will be no stability and prosperity in the world in the 21st century, unless the problems of Africa are resolved." Support NEPAD (New Partnership for Africa's Development) as a clear indication of Africa's Ownership.
- Steadily implement "Solidarity between Japan and Africa - Concrete Actions" -and endeavor to follow up the "G8 Africa Action Plan"
- Further strengthen support for Africa through TICAD III

3) Today's Complacency, Tomorrow's Plight - Environment -
- The 21st century will be a time of apocalypse unless the issues of global environmental degradation, which are serious threats to the continued existence of humankind, are tackled now.

a) Environment-related Assistance for Developing Countries: In addressing environmental issues, further enhance environmental cooperations, mainly through ODA, including capacity building in the field of environment.
- Establish and announce "Environmental Conservation Initiative for Sustainable Development (EcoISD)"
- Implement environment-related human resources development for 5,000 persons in the five-year period beginning in FY 2002
- Host "the 2005 World Exposition, Aichi, Japan", which has as its theme "Nature's Wisdom"

b) Climate Change: For effective action against global warming, it is important to seek a set of common rules for the future by which all countries, including developing countries, will abide.
- Take a leading role for the entry into force of the Kyoto Protocol (Japan became a party to the Kyoto Protocol on 4 June 2002.)
- ☆ Aid capacity building in human resources and sharing of information to promote Clean Development Mechanism (CDM)

c) Forest: Promote sustainable forest management, including tackling illegal logging, in recognition of the many benefits of forests (e.g. preservation of ecology, prevention of global warming, conservation of water, provision of forest products)
- ☆ Propose and promote Asia Forest Partnership (AFP)

☆ Cooperate on forest conservation and other activities in the Congo Basin area

d) Biodiversity: Contribute to full enjoyment of gifts from natural environment through protection of living organisms in danger of extinction as well as conservation of "hotspots" in various regions.
   ☆ Intensify the initiative towards conservation of "hotspots"
   ● Work towards early ratification of the Cartagena Protocol on Biosafety to the Convention on Biological Diversity

e) Water: Progressively work on the issue of water resources from various viewpoints such as drinking water, public health, agriculture, economic activities, natural environment protection and disaster prevention.
   ● Assist in creating safe and stable water supply and development of hygienic facilities
     (Japan which has provided safe and stable supply of drinking water and access to hygienic sewage for more than 40 million people in the past five years, continues such efforts. Moreover, promote model projects exploiting water resources, including ground water supplies, and promote the transfer of technology to neighboring countries.
   ● Strengthen co-operation with NGOs and Women
     (Support the capacity building for appropriate water resource management (management in cooperation with NGOs, establishment of the management systems by local people, promotion of technical cooperation taking women's role into considerations, etc.)
   ● Convene "the Third World Water Forum" and its International Ministerial Conference in March 2003

f) Environment-related Treaties
   ● Take a leading role for the early entry into force of the Stockholm Convention on Persistent Organic Pollutants
   ● Work toward early ratification of the Rotterdam Convention on Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade

(2)

Policy Speech by Ms. Yoriko Kawaguchi Minister for Foreign Affairs of Japan At the United Nations Conference Center (Addis Ababa, 26 August 2002)

1. Introduction

Your Excellency, Mr. Amoako, Executive Secretary of the United Nations Economic Commission for Africa (ECA),

Your Excellency, Ambassador Antonio, Acting Interim Chairperson of the Commission of the African Union (AU),

Excellencies,
Distinguished Guests,
Ladies and Gentlemen,

It is my greatest honor to have the opportunity to speak to you today. As all of you know well Japan co-hosted the 2002 FIFA World CUP a couple of months ago, in which African teams showed their brilliant performance every day. All people, from small children to grown-ups living in the cities where African teams stayed for the pre-World Cup training, became friends of the teams. Of course, TV showed the communication that was going on between African teams and people receiving them. I think it was wonderful that lots of Japanese people felt so much closer to Africa through the World Cup.

It is no coincidence that I have started my visit to Africa in Addis Ababa. This beautiful city is the home to the headquarters of the AU, which symbolizes the move toward the integration of Africa, and also the headquarters of the ECA, which plays an important role in the development of Africa. Japan, as a true friend of Africa, has been working with you for the integration and development of Africa for many years. And today, I would like to take this opportunity to talk about Japan's policies on its cooperation with Africa.

2. Japan's basic policy: Tokyo International Conference on African Development (TICAD) process

Ladies and Gentlemen,

There will be no stability and prosperity in the world in the 21st century unless the problems of Africa are resolved. The problems Africa is facing are great challenges for not only the region itself but also for the international community as a whole. Next year will mark the tenth year since Japan, which recognized the sense of

urgency over these problems, started the TICAD process in 1993. It was also the year when the international community showed signs of "aid fatigue," just after the end of the Cold War. The TICAD process initiated by Japan has continued unabated, including TICAD II in 1998 and the TICAD Ministerial-level Meeting in 2001. Japan will convene TICAD III at the summit-level in October next year, which as mentioned is the tenth anniversary of the TICAD process.

All this while, Japan has been consistently advocating the importance of Africa's own initiatives and self-help efforts, which we call ownership, and the partnership of the international community, which supports such African efforts.

Development cannot be sustained for long unless the beneficiaries address the challenges as their own. African development has to be initiated and led by Africans themselves. And for such efforts to bear fruit, the international community should respect the initiatives of Africa and support its efforts from an equal position.

Responding to Japan's idea, Africa clearly demonstrated its ownership through the elaboration of NEPAD and the establishment of the AU. The international community, including Japan, highly appreciates these efforts and achievements.

The G8 Africa Action Plan adopted at the G8 Summit Meeting at Kananaskis is a response to NEPAD from the international community as a partner that regards African challenges as global issues. The growing momentum of the G8, culminating in the Action Plan, originated in the Kyushu-Okinawa Summit Meeting in 2000, where Japan, as the G8 chair, invited leaders of developing countries including African countries to an outreach session held in Tokyo. Through the Action Plan, G8 countries are to vigorously support countries pursuing good governance, economic growth and poverty reduction. Japan intends to take its own initiatives in implementing the Action Plan, with a view to contributing to the successful implementation of NEPAD.

All African stakeholders, not only governments but also civil society and the private sector, need to share the ideals of NEPAD and work together in the coming years to achieve them. In this context, Japan welcomes the decision of African countries to introduce the African Peer Review Mechanism (APRM) in order to ensure the steady implementation of NEPAD by themselves. We believe that the rich experience of the Organization for Economic Co-operation and Development (OECD) on peer review can provide useful references to Africa, and Japan announced that it was ready to make a financial contribution amounting to 100,000 euros for utilizing this experience at the OECD Council Meeting in last May. We also believe it is important to make effective use of the ECA's expertise in this kind of cooperation.

3. Japan's efforts toward TICAD III

Ladies and gentlemen,

I would now like to turn to Japan's efforts concerning the upcoming TICAD III. Japan has designated the period up to TICAD III as the "Year for Soaring Cooperation with Africa." The ownership of African countries is reaching its new high point in the form of NEPAD. Under these circumstances, I firmly believe that the TICAD process can continue to play a unique catalytic role as a framework through which Africa and its partners promote comprehensive dialogue and cooperation with each other. I would like to make further efforts with African countries for the success of TICAD III.

In particular, Japan would like to give priority to the following three areas in the TICAD process: (i) Asia-Africa cooperation; (ii) "human-centered development," which is an important tenet of Japan's development cooperation; and (iii) efforts to consolidate peace as a precondition of development.

(Expanding the circle of partners for African development: linking Africa and Asia)

Firstly, Japan has been making efforts to expand the circle of partners for African development through the TICAD process. We believe that Asia's experience and expertise in development may also be useful for African development in the 21st century, because Asia, in the latter part of the 20th century, approached development challenges that are similar to Africa's situation from a somewhat different angle and with some remarkable results.

NERICA (New Rice for Africa) is a symbol of this new type of Asia-Africa cooperation. NERICA, a hybrid rice of African and Asian species that is pest- and disease-resistant with a high yield, has been developed and disseminated in parts of Africa. Japan has been cooperating in the NERICA project in the hope that it will strengthen the agricultural sector, an important economic fundamental of Africa, and improve the situation surrounding food security in Africa.

Talking about food security, I am deeply concerned by the serious food shortage in the southern part of Africa. Japan has decided to extend its food aid amounting to approximately $30 million to support African people facing this emergency.

It is also important to make an effective use of private resources for developments such as investment and technology. Asia-Africa cooperation is becoming increasingly multi-layered by involving the private sector in Asian countries. The Asia Africa Investment and Technology Promotion Center (Hippalos Center) aims at both capacity-building to attract private investment and provision of information on investment conditions in Africa, while the Africa Asia Business

Forum, aims to increase business opportunities between Africa and Asia. These activities are good examples of Asia-Africa cooperation in the TICAD process.

In August, I chaired "the Initiative for Development in East Asia (IDEA) Ministerial Meeting" in Tokyo. Actually, it was only two weeks ago. One of the main objectives of IDEA is to make an intellectual contribution to international discussion on development by sharing the development experiences of East Asia, which accomplished successful economic development called "East Asian miracle" during the period from the 1960s to the 1990s. I will introduce the results of this meeting at the WSSD. In preparation for TICAD III next year, Japan intends to deepen discussion of this framework so that we might be able to better utilize the findings of the meeting for African development in the common interests of Asia and Africa.

(Field- and human-oriented development assistance for Africa)

Secondly, Japan attaches great importance to "human-centered development" as we recognize that human resources development is the foundation of nation-building. From this point of view, Japan has been making consistent efforts in such sectors as education and health in every site of development cooperation on the ground. This will be one of the big pillars of Japanese cooperation with Africa.

On the occasion of TICAD II in 1998, Japan announced, as one of a variety of measures it has taken to advance Africa's development, a five-year plan that included 90 billion yen of Grant Aid in the following sectors: education, health and medical care, and the supply of safe water. The total amount of the assistance Japan has already implemented since TICAD II is as much as approximately 70 billion yen. Such assistance enabled an additional 2.4 million children to go to school, an additional 2.9 million people to have access to safe water, and an additional 215 million people to benefit from improved medical conditions.

Japan attaches great importance to water supply projects, which contribute not only to the improvement of sanitation such as the eradication of worms, but also to the reduction of time and labor for drawing water. A women's group in a certain Western African country can earn their living by operating a common vegetable garden. This became possible as Japan's water supply project freed them from water drawing labor. Such projects bear good ripple effects in the promotion of women's greater participation in society and poverty reduction. These are tangible examples of Japan's development cooperation based on "human-centered development."

The field-oriented approach in development is widely supported by Japan. The total number of Japan Overseas Cooperation Volunteers (JOCV) now amounts to about 23,000. One of every three has been dispatched to African countries and there are now 26 JOCVs working in Ethiopia. I had a chance to talk with them today over lunch. Their training activities vary, including car repairs, construction, cooking and coaching volleyball. But they are delivering one common message: they are all here

full of determination and enthusiasm to work and sweat together with Africans on the ground while appreciating African culture and life. I was touched by the energy of these young men and women who will be the torch-bearers of tomorrow's Japan, and I was convinced this energy provides a backbone to Japan's cooperation with Africa. I believe that this enthusiasm is widely shared with the members of Japanese NGOs, which are expanding the range of their activities to all corners of Africa.

In addition, I would like to express that Japan will expand assistance in trade-related capacity-building in order to equip people with a better ability to seize trade and investment opportunities. Economic growth through trade and investment is an important challenge for developing countries, including those of Africa, because they have to realize poverty reduction and private sector development in the international society in which globalization is accelerated. Japan is also determined to continue to work toward the objective of duty-free and quota-free market access for all LDC products.

(Efforts toward consolidation of peace)

Finally, such efforts for development cannot bear fruit without peace. Consolidation of peace will be an important element of our cooperation with Africa in the years to come.

Recently we have seen some positive development in Africa, such as the consolidation of peace between Ethiopia and Eritrea, the restoration of peace in Angola and the remarkable progress made in the peace negotiations in the Democratic Republic of Congo and in Sudan.

In order to prevent a country in a post-conflict phase from stepping back into conflict, it is crucially important to promote social harmonization such as the promotion of dialogue among the parties in conflicts, efforts to deal with anti-personnel landmine issues that hamper restoration and reconstruction, assistance to refugees who are victims of conflicts and the reintegration of ex-soldiers into civil life. Japan has some advantages in addressing these efforts with its recent accumulation of expertise in such countries as Afghanistan. Also in Africa, Japan has already supported the activities for the demarcation of the borders between Ethiopia and Eritrea and for the removal of landmines in the related areas with a view to assisting in the final settlement of the border dispute between the two countries. Japan is also assisting for the reintegration program of ex-soldiers in Sierra Leone.

I will visit Angola tomorrow as the first ever Japanese Foreign Minister to do so. I would like to have an intensive dialogue to pursue possible ways of cooperation to enhance further consolidation of peace in Angola.

It is also important to address conflict prevention and resolution in Africa at the regional level. Japan welcomes that the AU has established the Peace and

Security Council and making further efforts in this area. Japan also intends to continue to support the AU's activities in this area through the best use of the AU Peace Fund.

4. Conclusion

Ladies and Gentlemen,

I am very much delighted that I will take part in the World Summit on Sustainable Development (WSSD) following my visit to African countries to see with my own eyes what is necessary for sustainable development in Africa. At this Summit, I will make an intensive appeal for the importance of the "Partnership of Global Sharing," which is an idea that every country should share strategies, responsibilities and experiences, and also emphasize the necessity of concrete actions. The Koizumi Initiative (Concrete Actions of the Japanese Government to be taken for "sustainable development" – toward Global Sharing), which was recently announced by Prime Minister Koizumi, is a package of various assistance measures that Japan has decided to take for the WSSD. I deeply hope that our strong determination and enthusiasm will contribute to the success of the Johannesburg Summit.

I hear "Addis Ababa" means "new flower" in Amharic. I would like to conclude my speech by expressing my sincere hope that all of you will join forces to overcome difficulties so that the new buds of the AU and NEPAD will soon grow into magnificent flowers to bear fruit to the people of Africa, and by renewing Japan's determination to advance together with Africa hand in hand.

Thank you very much.

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Remarks by Mr. Kimio Fujita,
Special Assistant to the Minister for Foreign Affairs of Japan,
on the Occasion of the TICAD Workshop at the WSSD

WSSD Side Event
31 August, 2002

Distinguished Panelists, Excellencies, Ladies and Gentlemen,

Good morning to you all, and thank you for participating in this workshop. It is really a great honor for me to chair a meeting graced with such distinguished panelists. The purpose of this workshop is to look back at decade-long history of the TICAD process and exchange views on its achievements, its follow-up activities and its overall contribution to African development. After the presentation by the panelists, active participation from the floor is welcome. We are hopeful that this workshop will provide yet another opportunity for all stakeholders to contribute to the enrichment of the TICAD process, and to successful preparations for TICAD III, which is scheduled to be held in October next year, the year 2003.

(TICAD process)

1. Before inviting the panelists to present their views, I would like to take some time to refresh your memories with a brief overview of the TICAD process. TICAD is of course an acronym for the Tokyo International Conference on African Development, which was launched as an initiative of the Government of Japan in 1993, in collaboration with the United Nations (UNDP and OSCAL) and the Global Coalition for Africa (GCA). The World Bank joined the TICAD co-organizers in 2000. The primary functions of TICAD are: promotion of high-level policy dialogue between African leaders and their partners; and mobilization of support for Africa's own development efforts.

(TICAD I)

2. The first TICAD, TICAD I, was held in October, 1993, with the participation of high level representatives from forty-eight (48) African countries, including five Heads of State, from the major bilateral donors and ten international aid related agencies. The timing of the Conference proved to be most noteworthy. The Cold

War had just ended and the focus of world attention, particularly among those involved in development, had been drawn to the historic process of countries undergoing a transition from the socialism to a market economy. TICAD I reaffirmed the commitment of the international community to African development and to mainstreaming it as an important item on the international agenda in the area of cooperation.

3. The Tokyo Declaration on African Development, issued at the conclusion of TICAD I, focused on such themes as political and economic reform, private sector development, regional cooperation and integration, and emphasized the need for " sustainable development of Africa based on self-reliance of African countries and the support of Africa's development partners.".
4. A new item that drew the attention of participants in the Conference and has had a long-lasting effect on the development process in Africa was the relevance of Asian experience to African development. Two Asia-Africa Forums (AAFs) were organized as follow-ups to TICAD I. The first was held in Indonesia in 1994 to identify specific areas where Asian experience would be relevant to Africa. The second, held in Thailand in 1997, was held to prepare inputs for the coming deliberations of TICAD II. Also, two regional workshops were organized to operationalize the key principles of the Tokyo Declaration; one in Zimbabwe in 1995 and the other in Cote d'Ivoire in 1996. Those follow-up activities succeeded in promoting active Southeast Asian participation in the TICAD process in the fields of human resources development, agricultural production and development financing.

(TICAD II)

5. After the Preparatory Conference for TICAD II in 1997, a preparatory committee was set up to draft the agenda for action for the Conference and three sessions were held in Senegal, Zimbabwe and Ethiopia. Two regional workshops followed in Burkina Faso and Namibia. This preparatory work helped to ensure that the perspectives of individual African countries were fully incorporated in the agenda.
6. TICAD II was convened in October, 1998, with the participation of eighty (80) countries and forty (40) international organizations,

thirteen(13) Heads of State and government attended. Representatives of the private sector and non-governmental organizations also participated and contributed to the deliberations.

7. Again the timing of the Conference proved to be critical. It took place just as the Asian economic crisis, triggered by the collapse of the foreign exchange market in Bangkok in July, 1997, almost engulfed the economies of Korea and Indonesia and was threatening the entire economy of East Asia. The international community was alarmed about the crisis being contagious and adversely affecting the world economy.
8. It was under the circumstances that TICAD II was organized to support the positive changes taking place in Africa, such as the significant progress being made in political and economic reform and the promotion of democratic principles and market-driven economic activities. At the same time, however, widespread poverty and inadequate policies were still impeding development. The Conference concluded with the adoption of "The Tokyo Agenda for Action," which was action-oriented and had comprehensive guidelines for measures to be taken by both African countries and their development partners on each theme of African development that the Agenda identified.
9. The Agenda, reflecting the prevailing international development thinking, states that the primary theme of African development is "poverty reduction and integration into the global economy" and its underlying principle, " ownership and global partnership".
10. Following TICAD II, the TICAD process has strengthened and expanded the promotion of South-South cooperation to encompass not only Asia-Africa cooperation but cooperation among African nations. The third meeting of the Asia-Africa Forum (AAF) was held in Kuala Lumpur in May, 2000, with a focus on capacity-building, sustainable agriculture and private sector development. The Forum also gave particular attention to the role that information and communication technology plays in the process of development.
11. The two meetings of the Africa-Asia Business Forum (AABF) were held to facilitate the creation of favorable conditions for the businesspeople of Asia and Africa to identify partners for trade and

investment in the two regions. The Forum was organized by UNDP, utilizing the Human Resources Development Fund established by Japan. The first AABF was held in 1999 in Kuala Lumpur and the second in 2001 in Durban, and at both, there were a substantial number of business representatives and a considerable number of business deals and joint venture contracts were concluded.

12. The Asia-Africa Investment and Technology Promotion Center, also known as the Hippalos Center and funded by UNIDO, has also been contributing to the strengthening of business relations between the two regions under the TICAD process. The Center provides information on economic situations, legal systems and investment opportunities. You will hear about its activities later in detail later in this session from Mr. Tahir, its director.

13. Launched in 1997, the Joint Research Project has successfully developed "The New Rice for Africa (NERICA)", another result of the TICAD process. NERICA has been developed as a hybrid between high-yield Asian rice species and disease-and-drought-resistant African rice. As you know, a workshop on NERICA will follow this session later in the morning in this room.

(Ministerial Meeting of TICAD)

14. The Ministerial Meeting of TICAD was held in December, 2001, in Tokyo with Ministers and senior officials of fifty-two (52) African countries, twenty-seven (27) partner countries and international, regional and sub-regional organizations. It provided a first-ever opportunity for the international community to meet and thoroughly discuss NEPAD (the New Partnership for Africa's Development). Through comprehensive briefings from the African delegates, especially the delegate of the Republic of South Africa, one of the driving forces behind this African-led initiative, high-level participants from Africa's development partners obtained first-hand information on NEPAD.

15. Among the area that NEPAD focused on, the participants paid particular attention to : (1) strengthening the foundation of development through the promotion of peace and good governance; (2) the importance of the human resources development, health and education sectors; and (3) reducing poverty through economic growth. Participants expressed the view that both NEPAD and

TICAD were based on the principles of ownership and global partnership.

(Dakar Preparatory Meeting for TICAD Ministerial-level Meeting)

16. The Chairman's Report of the Dakar Meeting states that the TICAD process has greatly contributed to strengthening ownership by Africa and partnership with the international community since TICAD I in 1993. The Meeting expressed strong support for the efforts of Africa and the international community to strengthen the principles of TICAD: the establishment of ownership by African countries and partnership between Africa and development partners as a means of supporting African ownership. It also stressed that it was necessary to continually endeavor to further promote the Tokyo Agenda for Action as support for NEPAD in order to achieve peace, stability and prosperity in Africa.

(Mainstreaming of African development)

17. The G-8 Summit Meeting at Kananaskis, Canada, welcomed the initiative taken by African States in adopting NEPAD as "a bold and clear-sighted vision of Africa's development." The G-8 Africa Action Plan adopted at the Summit states that NEPAD provides an historic opportunity to overcome obstacles to development in Africa, and affirms that the G-8 will match Africa's commitment with a commitment of its own.

18. Former Prime Minister Mori of Japan once said, " If Africa can overcome the difficulties it faces and open the way toward a bright future, it will probably become a driving force behind vibrant development of human society in the 21st century". Now, as Foreign Minister Yoriko Kawaguchi of Japan noted in her address, the Government of Japan has designated the period leading up to TICAD III next year as the " Year for Soaring Cooperation with Africa." Despite the severe financial constraints under which it is laboring, Japan wishes to make clear its firm determination to continue to stand by Africa.

I sincerely hope that the discussions in this workshop will yield useful advice and suggestions that will help to ensure successful preparation for TICAD III in October next year.

Thank you for your cooperation.

④

Keynote of the Prince of Orange on the Water and Food Challenge , August 30, WaterDome

When people speak about the water crisis they usually first think of access to drinking water. Today's lack of access to safe and affordable drinking water for over a billion people, and inadequate sanitation for half the world's population, are indeed a top priority for action.

But for a very large group of people supply of drinking water and sanitation is not sufficient to satisfy their water needs. They also need water for agriculture, for food security, for their incomes. This is too often forgotten. The UN specifies a minimum requirement of 50 liters of water per person per day that covers drinking, cooking and sanitation. However, the UN does not include the virtual water needed to grow the food these people have to eat. When a family consumes one kilo of rice, they consume the equivalent of about two thousand litres of water to grow that rice.

Acknowledging the need for safe drinking water and adequate sanitation I shall therefore focus now on water that is required for food production.

The majority of the 800 million poor, malnourished people live in the rural areas. The problem often is not that there is no food to satisfy their needs, but that they lack the means to buy that food. India, for instance, in recent years had a surplus of cereals in its warehouses. At the same time large numbers of people were malnourished. Only agriculture can provide hundreds of millions of poor people in rural areas with food and income. Poor people must be provided with a realistic opportunity to grow their own food. After a period of neglect it appears that many governments are now re-discovering that sustainable agriculture for smallholders is a top priority to achieve sustainable development. In Africa, in particular, agriculture can be an engine of economic development.

Sustainable agriculture that delivers a decent income to small farmers is a complex matter. Farmers need access to land, to seeds, to fertilizers, to markets -- and each of these factors can be a major constraint on the road to sustainable agriculture. It goes without saying, that a reliable government that respects land rights and entitlements is also a prerequisite for agricultural development.

But I know that many experts agree with me that water has become the most critical constraint to growing more food and achieving better livelihoods for many, many poor people. Even the poorest farmers, usually women, who have no more than a garden plot, can still get a decent income with nothing more than their own hands if access to water is secured.

That water is critical to agriculture is nothing new. It was the reason that governments and donor agencies invested

many billions of dollars in water infrastructure such as large-scale irrigation projects and dams. We all know the controversies around those projects. As a result of these controversies investments in water resources development have virtually dried up.

I am not arguing here that we should go back to the sixties and seventies and build dams in the same way we did then. The negative social and environmental impacts, the disappointing results of large-scale irrigation projects in Africa -- they are all very real and we understand these so much better now than a few decades ago. The World Commission on Dams, after all, had its base right here in South Africa.

But that does not solve the problem of the smallholder farmer in Southern Africa, who is confronted with the terrible drought that has hit the region now and who desperately needs reliable access to more water to grow food and generate income for her family.

At the same time we know that the water needs of people in urban areas, both for household and industrial uses, will go up drastically in coming decades. If we take more water for agriculture as well as more water for cities and industry from river and aquifers, then nature will pay a very heavy price.

Already we have lost more than half the world's wetlands in the 20th century. We already have destroyed the quality of water in many rivers to such an extent that they have become a source of disease rather than a source of life. We are also rapidly destroying the same aquifers that gave water, that gave life, to millions of farmers in Asia. The use of water by people has already upset the balance of ecosystems. The biodiversity of aquatic ecosystems, wetlands - these are among the richest natural systems on our globe- depends on fresh water inflows.

Often it is said that we should not waste any water by letting it flow to the sea. However, water that is not

consumed by humans, and that flows to the sea, is not wasted. It supports fisheries and coastal zones that provide very significant ecosystem services to people.

In many tropical countries agriculture uses more than eighty, ninety percent of all water taken from nature for human consumption. No wonder, then, that many see agriculture as the main target for water saving. Increase the efficiency of irrigation from 40 to 80 percent and one can solve the world water crisis, many people say.

A tempting solution, because it sounds so easy. But the water cycle is complex and water lost in the field of one farmer is often re-used downstream by another. For example, while many farmers in Egypt have irrigation efficiencies in their fields of no more than 40 percent, the total efficiency in the Nile Basin is close to one hundred percent.

This means that if the upstream farmers would become more "efficient" – letting no water entering their fields escape from it -- then the downstream farmers will simply have less. Water is not saved, the overall efficiency of the Nile basin is not affected, only the distribution is changed. The upstream farmer uses more water at the expense of the downstream farmer. No water can be saved for use in cities or industry through increasing irrigation efficiency in the Nile basin.

This reflects a terrible dilemma. How to provide water for food security and a decent income to hundreds of millions of poor farmers and at the same time increase water for cities and industry - without damaging ecosystems even more? A real catch 22 situation. Damned if we develop more water resources, damned if we don't. And indeed, the Global Water Partnership identified this conflict between water for food and water for nature as one of the most critical problems to be tackled in the early 21st century.

That is the challenge relating to water and food that I hope you will discuss today.

Of course, this is not really new. That we need "more crop per drop" is a well-known motto. IWMI, the organiser of this session, has been advocating for many years that we need to focus on increasing water productivity, rather than irrigation efficiency. I was therefore extremely pleased when this call for higher water productivity in agriculture was taken up at the highest political level. Secretary General Annan has, at more than one occasion, called for a blue revolution in agriculture that focuses on increasing the productivity of water, more crop per drop.

Can this be done? Yes, I believe so. However, it requires a concerted effort at all levels. Water users at local level should be involved in the development of approaches that enhance the sustainable use at riverbasin level. Their dialogues can be strengthened with knowledge from other levels, national and international. It will require dialogue

among all the water users. Dialogues such as presented here at the WaterDome. It will require real commitment. That is the challenge that I hope will be taken up by the next speakers in this session.

Before I ask my esteemed fellow presenters and panelists to giver their views, I would like to discuss briefly some key elements that relate to the Water and Food Challenge.

First, for political awareness, I think we need a target on water for productive purposes, for food. In 'No Water No Future' I proposed to hold the line on water that goes to agriculture. Specifically I proposed to increase water productivity in agriculture --both rain-fed and irrigated. This would enable food security for all people without increasing water diverted for irrigated agriculture over that used in 2000.

What does this mean? We would achieve the food security target -- halving the people malnourished by 2015 -- and

achieve the poverty alleviation target -- halving the people living in extreme poverty by 2015 without diverting additional water to agriculture. To monitor this, we need to establish a baseline for what our water use for agriculture is now, or was in 2000. That is difficult but it has been estimated by FAO. Those estimates could be improved to become a workable and acceptable reference. It also means that we need to get a much better instrument to measure current water productivity.

It does not mean that we halt the further development of water resources for agriculture. Actions would have to be tailored to basins. I know, for instance, that the Yellow River Conservancy Commission, the basin management authority for the Yellow River, has a target to reduce diversions to agriculture by 4 billion cubic meter, or 10%, by 2010. At the same time there will definitely be excellent economically and socially desirable investment opportunities in water resources development in African basins.

Last but not least, we need to know how to go about increasing water productivity. And we need to understand how decisions made outside the water sector, impact agriculture and the access of farmers in the south to land, fertilizers, markets, and so forth. The international trade regimes in agricultural products -- a key issue here at the WSSD -- also have an enormous impact on the water and food sector. My earlier example, that it takes at least two thousand liters of water to produce one kilo of rice, will explain to you why some people refer to the export of food as the export of virtual water.

We do know, for example, that the agriculture subsidies in OECD countries, such as the European common agriculture policy or the new US farm bill, do have a major impact on where food is grown and water is used. Agriculture subsidies are currently around a billion US$ per day, that is, many times the total amounts of development assistance. These, and other regulations that limit market access have a major impact on the export

opportunities of agricultural products from the South to the North. We should support the ambitious approach to reduce and change the nature of the European common agricultural policy and to increase access to markets, in the interest of developing countries. It is crucially important to carefully assess the impact of changes in subsidies in agriculture and in the international trade in food and fiber on the national and local demand for water for food. This should be taken into account in the Doha trade negotiations.

I am not claiming that this will be easy. But I do know that the experts have identified opportunities to increase water productivity in many areas. Some of these will be controversial because they have to do with molecular biology. In 'No Water No Future' I recommended to develop a strategy for the use of molecular biology to increase drought tolerance and water productivity of crops. Some have interpreted this to mean that I am advocating the use of genetically modified organisms. While I am not

necessarily in all circumstances against the use of GMOs - I am certainly not advocating their use since there are promising alternatives. There are also substantial gains to be derived from the use of, for example, functional genomics, that do not have to imply the use of GMOs. But, more importantly, the core of my argument is that countries should get access to the information on benefits as well as potential impacts and risks to allow them to make informed policy decisions in this area themselves.

My final recommended action in 'No Water No Future' is that the CGIAR should assess the potential for increased drought tolerance and increased water productivity in agriculture. I am therefore very pleased that the next speaker is Mr Ian Johnson, the Chair of the CGIAR.

I thank you.

OPENING STATEMENT ON THE OCCASION OF THE

THEME DAY — WATER, ENERGY AND CLIMATE AT THE WATER DOME

by

Professor G.O.P. Obasi
Secretary-General
World Meteorological Organization

(Johannesburg, South Africa, 1 September 2002)

Opening Statement on the Occasion of the Theme Day — Water, Energy and Climate at the Water Dome

by

Professor G.O.P. Obasi
Secretary-General
World Meteorological Organization

(Johannesburg, 1 September 2002)

Your Excellency, Dr Mahmoud Abu Zeid, Minister of Water Resources and Irrigation of Egypt and President of the World Water Council,

Your Excellency, Mr Ronnies Kasrils, Minister of Water and Forestry of South Africa,

Your Excellency, Dr Salim Ahmed Salim, African Water Ambassador,

Mr Jan Pronk, Member of the Panel of Eminent Persons of the World Summit on Sustainable Development (WSSD),

Mr Bill Cosgrove, Chairman of Dialogue on Water and Climate (DWC),

Excellencies,

Distinguished Guests,

Ladies and Gentlemen,

It is an honour and a great pleasure for me to welcome you all to the Water Dome today — the day which is dedicated to Water, Energy and Climate.

I welcome you in the name of the World Meteorological Organization (WMO), which has been invited to coordinate the activities within the Dome today, and of all the other governmental and non-governmental organizations that have worked with us in the realization of this important project.

I would like to take this opportunity to thank most warmly all those who have made it possible to organize these events within the Water Dome, in particular the Governments of South Africa and The Netherlands as well as other major partners. My special thanks go to His Excellency Mr Kasrils, Minister of Water and Forestry of South Africa, for his unflinching support and commitment, and to Mr Michael Muller, Chairman of the Water Dome Organizing Committee, as well as his collaborators for providing the valuable local support which has ensured the success of the Dome.

Excellencies, Distinguished guests, Ladies and Gentlemen,

The organization of the Water Dome in conjunction with the World Summit on Sustainable Development is particularly significant as the Summit is giving very high priority to water issues. Indeed, the United Nations Millennium Declaration of the Heads of State and Government of the world explicitly recognized water as an essential component of sustainable development. However, to meet the water-related target of the United Nations Millennium Declaration by the year 2015, an additional 1.6 billion people will have to be provided with access to affordable safe water, and 2.2 billion people with access to adequate sanitation facilities. In order to grow sufficient food and reduce hunger, it is estimated that by the year 2025, about 17 per cent more water will be needed.

In addition, it is recalled that the UN Millennium Summit had expressed commitment to meeting the Special Needs of Africa. I am therefore pleased that the Water Dome has given high priority to Africa's water needs as was also highlighted by the African Ministerial Conference on Water (AMCOW). The African Village within the Dome provides such a focus.

Excellencies, Distinguished Guests, Ladies and Gentlemen,

In order to address such concerns and propose implementable solutions, attention has been focused so far this week on major issues that relate to water and sustainable development, namely: on regional integration — a subject of great importance as we seek to manage more efficiently our freshwater resources; on food security — a matter of urgent concern at this time in Southern Africa and many other regions of the world; and on nature — the challenge of living in harmony with our environment. In the next two days, the emphasis will be on health and poverty and then on globalization — issues that touch us personally and the international community.

It is only right, therefore, that in the middle of this series of topics we turn our attention to the forces that drive the hydrological cycle, namely energy and climate. I would therefore like to take this opportunity to express our appreciation to the Organizing Committee for dedicating 1 September to water, energy and climate.

The links between water, energy and climate are very well demonstrated in the many exhibits that have been arranged within the Dome, especially in the Huts devoted to the theme. I will highlight only a few.

The potential energy released from the water cycle in the form of hydropower is the most obvious link between energy and water. However, the release of energy trapped in the atom or in fossil fuels often calls for large volumes of cooling water and always requires careful control to avoid the pollution of surface and ground water. In turn, the water cycle is itself intimately linked to the climate system which is primarily driven by energy from the Sun.

The climate system also largely determines other major forms of renewable energy including solar and wind energy. Such renewable energy resources are proving to be of increasing value as the energy demand rises in the face of mounting concerns over the release of greenhouse gases into the atmosphere. The climate has a major influence on the demand for energy — for heating, for cooling and for other activities.

Excellencies, Distinguished Guests, Ladies and Gentlemen,

Let me now turn briefly to the relationship between climate and water. As you are aware, the climate system is largely responsible for water distribution over the globe. However, too much or too little water can have a disastrous impact on national economies. We can recall the picture of people stranded in rooftops as floodwaters ravaged Mozambique in the year 2000. Much of the development that Mozambique had achieved since the end of the civil war in 1992 was swept away by the worst flooding in southeastern Africa in the past century. The damages due to that flooding represented 11.6 per cent of Mozambique's Gross National Product (GNP).

In recent weeks, rivers as far apart as in Venezuela, Nepal, the Philippines, India, Russia, Italy, Austria and West Africa flooded, leaving thousands of people homeless and hundreds dead. The worst occurred in the Czech Republic, where its capital Prague faced the worst flooding to hit the historic city in 500 years.

Furthermore, the El Niño and La Niña phenomena cause floods and droughts in various parts of the world. The 1997/98 El Niño phenomenon is estimated to have affected 110 million people with damages estimated at US$ 96 billion. In the late 1960s and early 1970s, unprecedented drought was responsible for the death of some 250 000 people in the Sahel. Today, Southern Africa is in the grip of another severe drought, demonstrating yet again the recurrent nature of the phenomenon and the tragic human dimension of natural disasters.

Indeed, there is much that countries can do to mitigate natural disasters, over 70 per cent of which are related to weather, water and climate. Warning services before disasters strike can and should be improved, in the spirit of the United Nations Secretary-General's call for a "culture of prevention". Today, technical means exist and others are under development from the application of the atmospheric and related sciences to reduce losses through improved observation networks, forecasting, warning and preparedness systems, safer structures and land-use zoning in areas prone to natural disasters. For instance, in Bangladesh, improved forecasts of tropical cyclones, which often bring along disastrous floods, supported by effective dissemination of warnings and wider awareness and preparedness, led to significant reduction of loss of life — about 200 deaths in 1994, compared to 13 000 in 1991 and 300 000 in 1971, for tropical

cyclones of similar intensity. Studies of the economics of disasters showed that for every dollar spent on prevention and preparedness, 100 to 1 000 dollars would need to be spent to achieve an equivalent effect after a disaster.

As we plan for the future, a major challenge is to keep in view the possible impact of climate change on water resources. The Intergovernmental Panel on Climate Change (IPCC), established by the World Meteorological Organization (WMO) and the United Nations Environment Programme (UNEP) in 1988, has projected that the global average temperature will increase by 1.4–5.8°C between 1990 and 2100 and the global mean sea level is projected to rise by 9 to 88 cm over the same period. The projected warming is expected to accelerate the hydrological cycle with severe droughts occurring in some areas and severe floods in others. The sea-level rise will have serious implications for countries with extensive coastlines and for small island developing states. In addition, the projected climate change will impact on, among others, agriculture, food production, human settlement, health and ecosystems. All of these are linked directly to freshwater and have a bearing on our efforts towards poverty alleviation and sustainable development.

Excellencies, Distinguished Guests, Ladies and Gentlemen,

For over 70 years, both WMO and its predecessor, the International Meteorological Organization, have been engaged in water resource monitoring. The data have been used for assessment of water resource, forecasting and for application to socio-economic activities. The assessment has put WMO in a key position to assist the world community to understand the extent and variability of freshwater resources. This work is, of

course, all based on the efforts of the National Meteorological and Hydrological Services which operate some 450 000 surface and ground water measuring stations as well as analysis, forecasting and research centres. In this regard, it is satisfying to see the continued expansion of WMO's World Hydrological Cycle Observing System, an up-to-date data collection and distribution system, in many regions of the world, including in particular here in Southern Africa. However, considerable efforts are still required to enhance the monitoring of water quality.

In the area of research, considerable efforts are under way to monitor, understand and predict the evolution of the water cycle. One example is the Global Energy and Water Cycle Experiment, a project that is being implemented within the World Climate Research Programme co-sponsored by WMO, the Intergovernmental Oceanographic Commission (IOC) of the United Nations Educational, Scientific and Cultural Organization (UNESCO) and the International Council for Science (ICSU). Its aim is to investigate the atmospheric and thermodynamic processes that determine the global hydrological cycle and energy budget. This Experiment provides a solid scientific foundation for the link between water, energy and climate.

Excellencies, Distinguished Guests, Ladies and Gentlemen,

As this Day progresses and attention focuses on various aspects of climate and energy, and the links with water, I would appeal to you to also include other sources of essential energy then the ones I have earlier mentioned, namely — human energy. If we are to solve the dilemma of sustainable development, we need men and women of foresight and

determination who will commit their mental and physical energy to meeting these challenges. I appeal to all those present in the Dome today to address themselves to the challenges, thus ensuring a better world for future generations.

Thank you.

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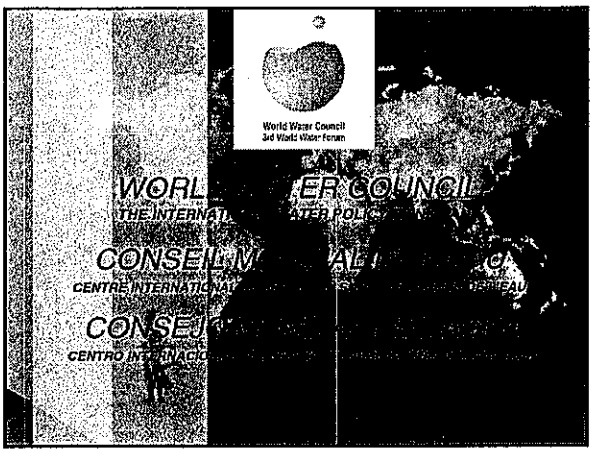
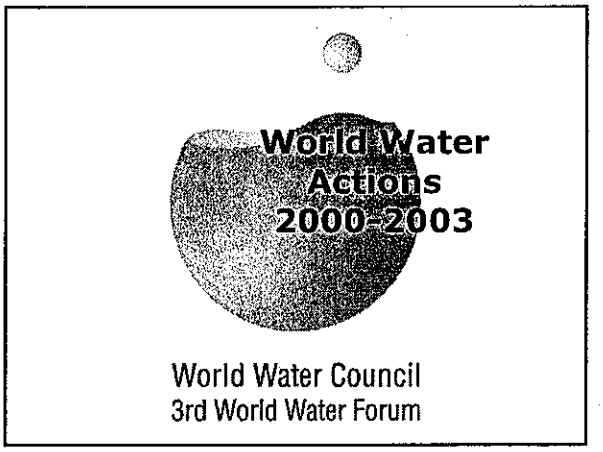
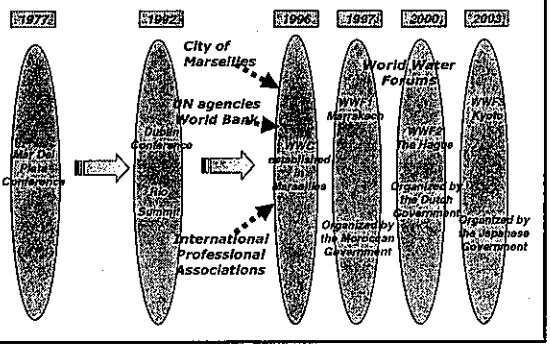




The World Water Council



2d World Water Forum
The Hague, 2000

Main themes:

Making Water Everybody's Business
From Vision to Action

- *the World Water Council committed to reporting on actions worldwide at the 3rd World Water Forum in Kyoto*

Water Action Unit Objectives

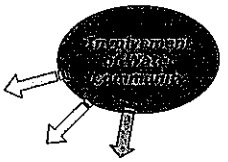
Show that the water movement worldwide is underway and demonstrate to the water community that the Vision that resulted from the Second World Water Forum can be achieved if we have the will to do so

Water Action Unit Objectives

- *Present, synthesize and analyze the multitude of actions underway to cope with water problems at WWF3*
- *Monitor commitments made in The Hague*
- *Identify recommendations for further actions*

Water Action Unit: output

- *Actions Database*



- *World Water Actions Report presented at the third World Water Forum in Kyoto in March 2003*

Your involvement

- *Help us report about Water Actions*
- *Submit your Action through internet*
  www.worldwatercouncil.org
  or by fax +33 4 91 99 41 01
- *React to the World Water Actions Report*

Time schedule

- **May 2002**
  First draft report **400 actions**
- **July 2002**
  Second draft report **1000 actions**
- **October 2002**
  Third draft report **? actions**
- **December 2002**
  Final draft report **? actions**

The Water Action Unit

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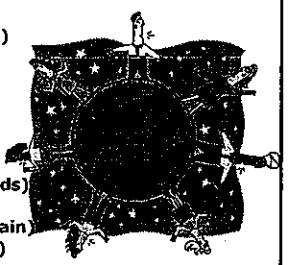
Francois Guerquin (France)
Tetsuya Ikeda (Japan)
Vedat Ozbilen (Turkey)
Tarek Ahmed (Egypt)
Mi Hua (China)
Marlies Schuttelaar (Netherlands)

Madeleine Lavastre (France/Spain)
Laetitia Chassefiere (France)



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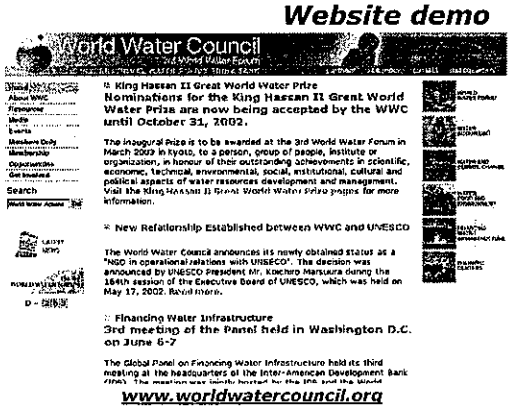
Website demo



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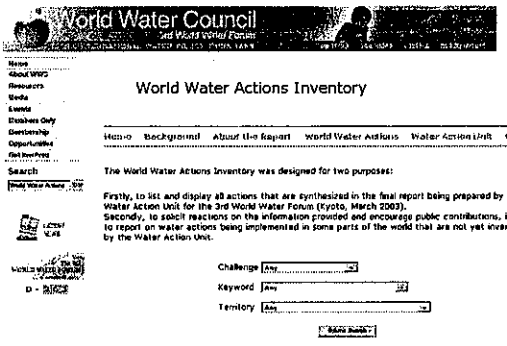
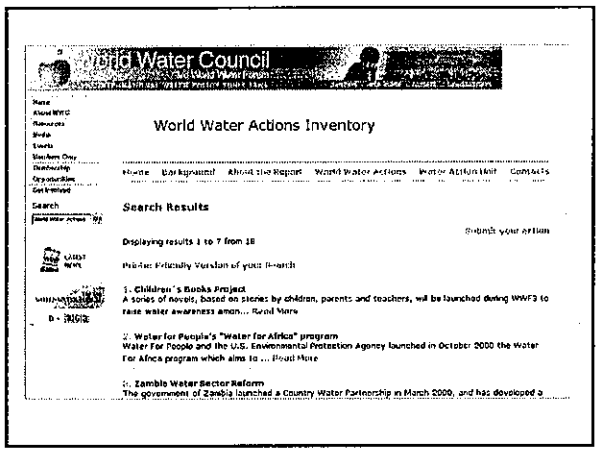
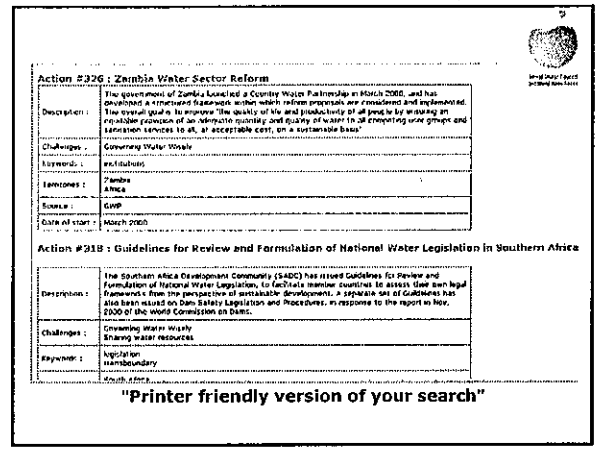



World Water Council
World Water Actions Inventory
Search Results
Displaying results 1 to 7 from 18
Printer Friendly Version of your Search
1. Children's Books Project
A series of novels, based on stories by children, parents and teachers, will be launched during WWF3 to raise water awareness amon... Read More
2. Water for People's "Water for Africa" program
Water For People and the U.S. Environmental Protection Agency launched in October 2000 the Water For Africa program which aims to ... Read More
3. Zambia Water Sector Reform
The government of Zambia launched a Country Water Partnership in March 2000, and has developed a


Action #326 : Zambia Water Sector Reform
Description :
Challenges :
Keywords :
Territories :
Scale :
Date of start :
March 2000
Action #318 : Guidelines for Review and Formulation of National Water Legislation in Southern Africa
Description :
Challenges :
Keywords :
legislation
transboundary
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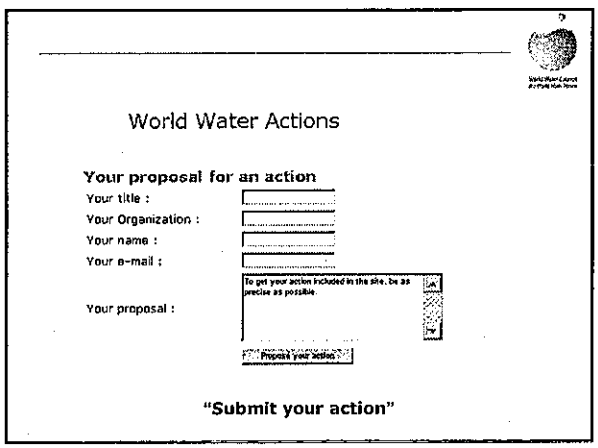
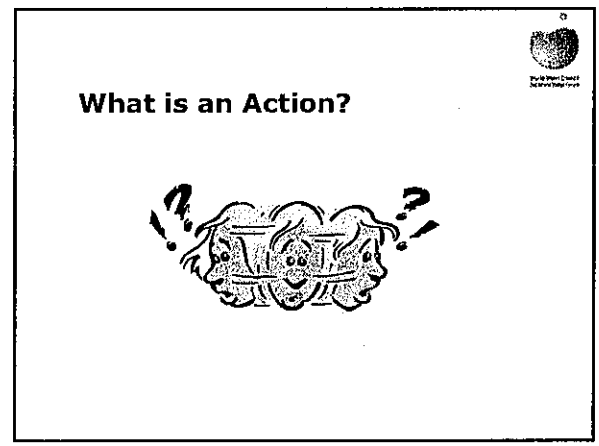
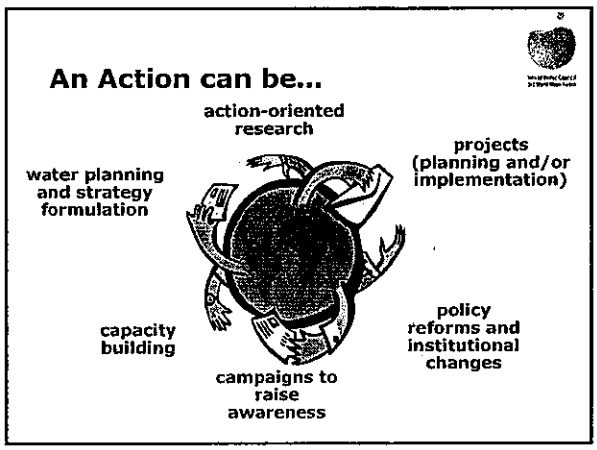
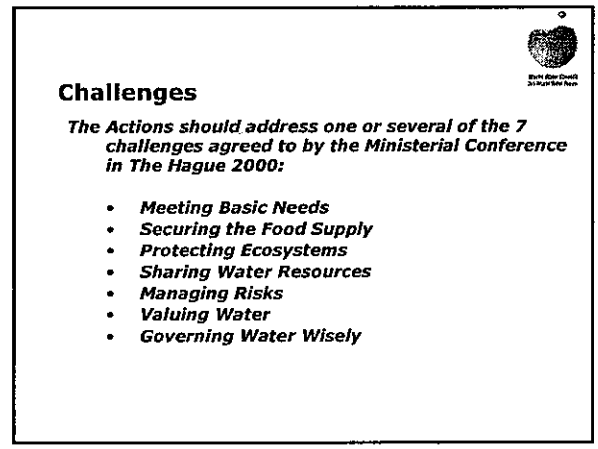
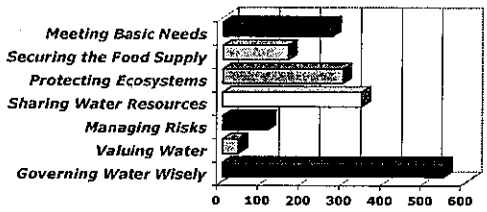

World Water Actions
Your proposal for an action
Your title :
Your Organization :
Your name :
Your e-mail :
Your proposal :
To get your action included in the site, be as precise as possible.
Propose your action
"Submit your action"


What is an Action?

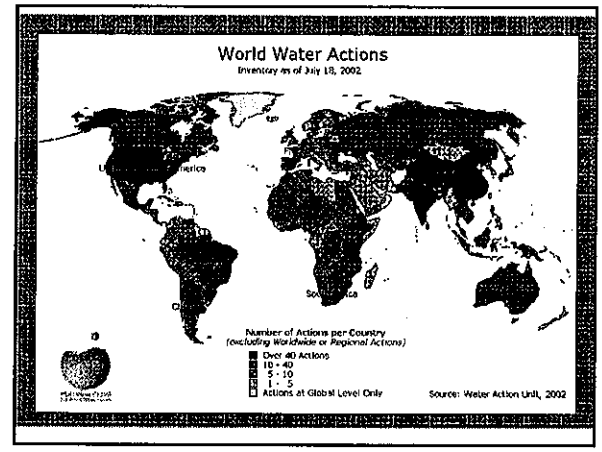

An Action can be...
action-oriented research
projects (planning and/or implementation)
water planning and strategy formulation
capacity building
policy reforms and institutional changes
campaigns to raise awareness


Challenges
The Actions should address one or several of the 7 challenges agreed to by the Ministerial Conference in The Hague 2000:
Meeting Basic Needs
Securing the Food Supply
Protecting Ecosystems
Sharing Water Resources
Managing Risks
Valuing Water
Governing Water Wisely

Water Actions collected as of July 2002



Total: 1084 Actions...



World Water Actions

Contents of the second draft

- *Introduction*
- *Scope*
- *Outcomes of WWF2 and follow-up of commitments*
- *Analysis of the Actions per challenge*

....tentative proposal for third draft:

- *Analysis of the Actions per region*
- *Recommendations*

World Water Actions

- *coming slides: analysis per challenge (details in your copy of the report)*
- *conclusions will be given in third draft*

Water Actions Report: analysis per challenge

Meeting Basic Needs

- *... to recognize that access to safe and sufficient water and sanitation are basic human needs and are essential to health and well being, and to empower people, especially women, through a participatory process of water management*

entry-point for poverty reduction

Water Actions Report: analysis per challenge

Meeting Basic Needs

Examples of Actions:

People at the center:
Vision 21, Water for People 2002, WASH Campaign

Holistic technologies:
Ecological Sanitation, Rainwater Harvesting

Good governance and synergy:
Zambia Water Resources Reform, ADB's Water for All

.....

Water Actions Report: analysis per challenge

Securing the Food Supply

- *... to enhance food security, particularly of the poor and vulnerable, through the more efficient mobilization and use, and the more equitable allocation of water for food production*
- *Water Action Report:*

the world water community is advancing through the following steps:...

Water Actions Report: analysis per challenge

Securing the Food Supply

- ***Long-term water planning and strategy formulation***
- ***Projects and water action plans***
- ***Policy reforms and institutional changes***
- ***Raising awareness and information system development***
- ***Stakeholder participation***
- ***Capacity building***
- ***Water development cooperation***
- ***Action-oriented research***

Water Actions Report: analysis per challenge

Protecting Ecosystems

- *... to ensure the integrity of ecosystems through sustainable water resources management*
- *Water Action Report:*

Actions analyzed following World Water Vision and Vision for Water and Nature

- ***4 key themes***

one Action example given here

Water Actions Report: analysis per challenge

Protecting Ecosystems

Participatory ecosystem-Based Catchment Management

Water and Nature Initiative

Leaving Enough Water in Ecosystems to Provide Services

The Snowy Water Inquiry in Australia

Controlling Pollution and Waste

National Implementation Plans for the Management of Persistent Organic Pollutants (POPS)

Reconsidering Infrastructure Development

Dams and Development Project

Water Actions Report: analysis per challenge

Sharing Water Resources

- *... to promote peaceful co-operation and develop synergies between different uses of water at all levels, whenever possible, within and, in the case of boundary and transboundary water resources, between states concerned, through sustainable river basin management or other appropriate approaches*
- *Water Action Report:*

the world water community is advancing in many ways

one action example given here

Water Actions Report: analysis per challenge

Sharing Water Resources

- *Integrated water resources management*
  Komadugu-Yobe River Basin in Nigeria
  Cities: Brisbane City Plan
- *Social, cultural and environmental functions of water*
  Chilika Lake in India
- *River basin management and aquifer management*
  Basin committees in Brazil
- *International cooperation*
  40 new programs on transboundary basins
- *Improvement of participation, dialogue and negotiation at all levels*
  Training programmes

Water Actions Report: analysis per challenge

Managing Risks

- *... to provide security from floods, droughts, pollution and other water-related hazards*

- *Water Action Report:*
- **Types of Disasters:**
  Flood, Drought, Water Pollution... & Climate Change

  - ***Core concepts***
    Examples of Actions given here

Water Actions Report: analysis per challenge

Managing Risks

- **Prevention**:
  Multi-hazard Map(USA), Flood Guide(UK)
- **Preparedness**:
  WHYCOS(WMO), Cap-Building(ESCAP)
- **Mitigation**:
  Eco-restoring(Vietnam), Super Levee (Japan)
- **Emergency Response**:
  Community based Volunteer Rescue Brigade (Peru)
- **and Climate Change**:
  Dialogue on Water&Climate / GLOF Monitoring&Warning

Water Actions Report: analysis per challenge

Valuing Water

- *... to manage water in a way that reflects its economic, social, environmental and cultural values for all its uses, and to move towards pricing water services to reflect the cost of their provision. This approach should take account of the need for equity and the basic needs of the poor and the vulnerable*

Water Action Report:
1. *Pricing and valuation*
2. *Financing and investment*

one Action example given per theme

Water Actions Report: analysis per challenge

Valuing Water

Pricing and valuation
- ***Economic value: pricing reform in Queensland***
- ***Social value: free water policy in South Africa***
- ***Environmental value: payment for environmental services in Costa Rica***

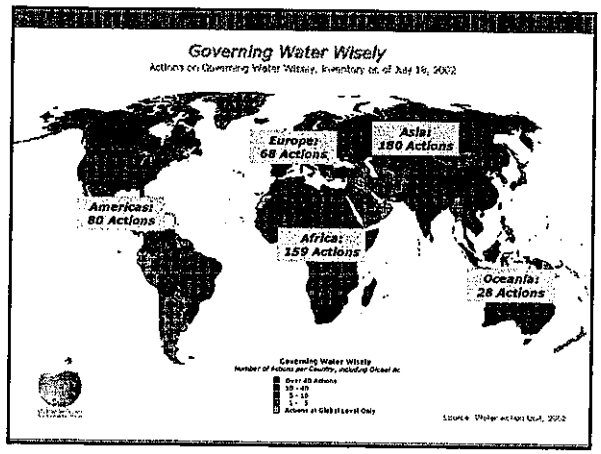
Financing and investment
- ***Private sector involvement: PRODES in Brazil***
- ***Community-based financement: FONCODES in Peru***
- ***Development funds: Water Development Partners Panel***

Water Actions Report: analysis per challenge

Governing Water Wisely

- *... to ensure good governance, so that the involvement of the public and the interests of all stakeholders are included in the management of water resources*

  - ***5 key themes***
    one Action example given here



Water Actions Report: analysis per challenge

Governing Water Wisely

- *From Development or Management to Development and Management*

  Dam and Development Project

- *From Local to Regional and International Management*

  GWP ToolBox

- *From Disputes to Cooperation*

  Lake Victoria in Africa

- *From Public to Public-Private Partnership and Community Involvement*

  Freshwater Action Network

- *From Fragmented Institutional Structure, Overlapping Decision-making Structure to Good Governance*

Water Action Report

Towards conclusions and recommendations...

- *Conclusions prepared for third draft (end of october)*
  - *feedback from the Water Community*
  - *more Actions are needed*

You will find points of discussion and first conclusions in the Draft Water Action Report

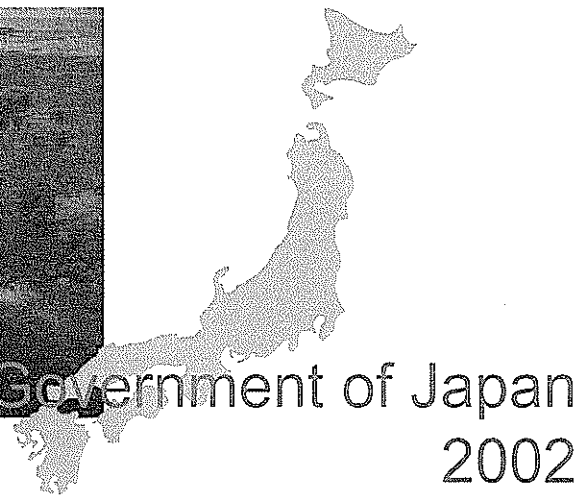
Thank you for your attention

Working session

JAPAN

Japan's Efforts through Environmental ODA

TOWARDS GLOBAL SUSTAINABLE DEVELOPMENT



The Government of Japan
2002

Printed on Recycled Paper

TOWARDS "SUSTAINABLE DEVELOPMENT"

Integrating Environment & Development in ODA

Japan's Efforts through ODA and Achievements to Date

Japans ODA Charter

- Approved by the Cabinet in June 1992
- Clarified Japan's ODA philosophy & principles
- Noted environmental conservation as a task for all humankind; identified the "pursuit in tandem of environmental conservation and development" as one of principles

Medium-Term Policy on ODA

- Published in August 1999
- "Environmental conservation" as a priority issue
- Introducing environmental aspects in various development cooperation areas
- Mentioned environmental considerations as a point to be followed in the implementation and management of ODA

ISD

- Presented to UNGASS in June 1997
- Guidelines for Japan's environmental ODA policy and programs

The Kyoto Initiative

- Announced at COP3 in December 1997
- Concrete measures to support efforts by developing countries to combat global warming under ISD

Country Assistance Program

Chart: **Environmental Conservation within the Japanese ODA framework**

- Major contributor to economic take-off of developing countries (Japan's ODA was US$13.5B (¥1,456.2B) in 2000) US$13.5 billion
- Financial* and technical support for the self-help efforts of developing countries in "pursuit in tandem of environmental conservation and development" Self-Help
- Cooperation through hardware (infrastructure, equipment supply) and software (human resources, policy planning) development Hard & Soft

* Japan has had a unique type of yen loans with consessional terms available internationally to fund environmental projects

•Environmental Considerations

Promoting ODA in environmental conservation is not enough; it is important to reduce the negative impacts on environment caused by development itself.

Japan has integrated environmental considerations in its ODA implemtnation process. JICA & JBIC have drawn up guidelines to this end.

In addition, Japan undertakes environmental impact assessment, where necessary, and considers discontinuing the projects concerned if serious environmental impacts are identified.

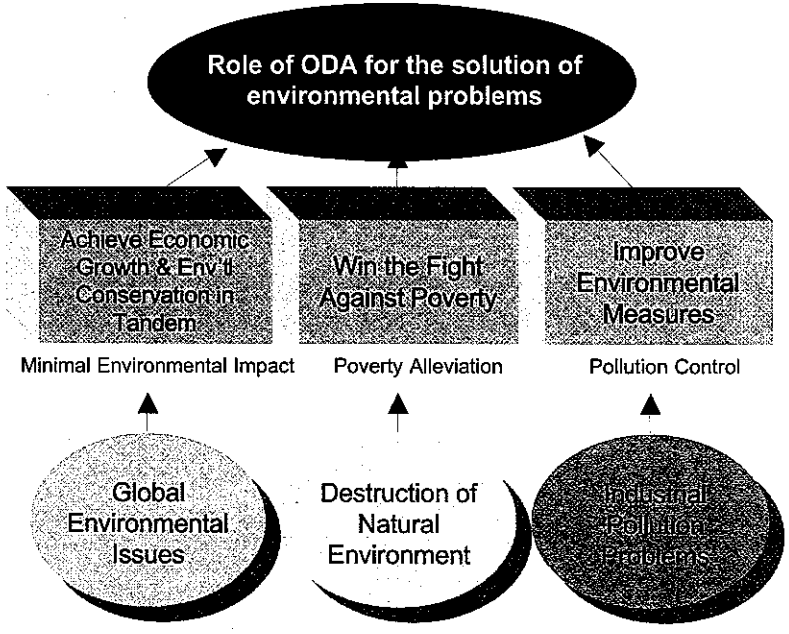
◆ Japan's Active Efforts for Global Environment Conservation through ODA

Protecting Global Environment through Aid to Developing Countries

Areas of Assistance

- Air & Water Pollution, Waste Management
- Energy Conservation
- Water Supply and Sewage Systems
- Nature Conservation, Forestry & Fishery Resource Management
- Flood Control
- Environmental Laws, Institutions & Systems, Environemntal Monitoring
- Global Warming, Desertification etc.

30% of total ODA



Achievements to Date

- Provided a total of US$13.3B (¥1,440B) for environmental ODA over five years since the 1992 Earth Summit (UNCED) exceeding the amount pledged at Rio.
- Japan continues to demonstrate its commitment to the environment after UNGASS
- In FY 2000, US$4.3 bil.(30% of total ODA)was provided for environment-related projects

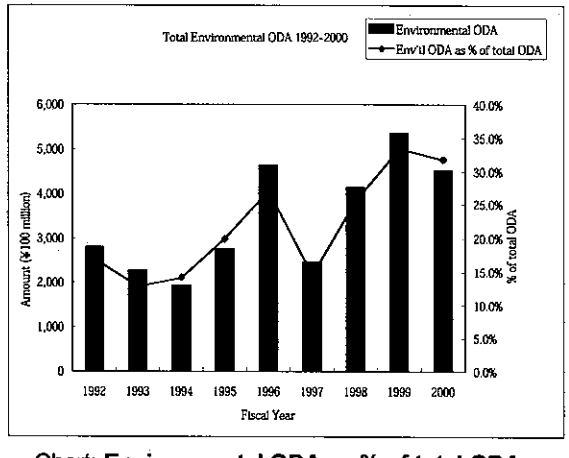


Chart: **Environemntal ODA as % of total ODA**

◆INITIATIVES FOR SUSTAINABLE DEVELOPMENT TOWARD THE 21st CENTURY (ISD)

On the occasion of the UN General Assembly Special Session on the Environment and Development (UNGASS) gathering in June 1997, Japan announced its "Initiatives for Sustainable Development toward the 21st Century (ISD)," a comprehensive package of Japanese guidelines for ODA-led environmental policy and programs in the years ahead. Japan has since been working in earnest to implement the initiatives. (*See the next section on "Good Practices"*)

Regarding the issue of global warming, Japan announced "the Kyoto Initiative" at the 1997 third session of the Conference of the Parties to the UNFCCC (COP3) met in Kyoto.

Three Key Fronts of "the Kyoto Initiative"

(1) Human resources development in combating global warming (3,000 personnel over a five-year span starting in FY1998)

(2) Expanded application of special yen loan terms to projects aimed at addressing global warming

(3) Transfers of the technology and know-how amassed by Japan in the process of tackling its own domestic issues of pollution and energy saving

The Philosophy of ISD

(1) GLOBAL HUMAN SECURITY:

Environmental issues threaten the human existence, and constitute a security issue under the broad meaning of the term.

(2) OWNERSHIP:

Developing countries assume the primary responsibility for addressing environmental issues, with developed countries providing assistance to such self-help efforts.

(3) SUSTAINABLE DEVELOPMENT:

The objective of assistance should be to realize sustainable development, with particular attention paid to the different economic and social situation of each developing country.

Program of Actions

1. Air and Water Pollution, & Waste Disposal
2. Global Warming (The Kyoto Inititaive)
3. Nature Conservation, Afforestation
4. "Fresh Water" Issues
5. Assistance in Enhancing Environmental Awareness
6. Promotion of Global Environmental Strategues

EXAMPLES OF ACTIVITIES (1997-2002)※

※include projects starting before 1997

EAST ASIA

① Japan-China Friendship Environmental Protection Center (China) ●

② Acid Deposition Monitoring Network in East Asia (EANET) ●

③ Japan-China Environmental Model Cities Plan (Chongquing, China) ● ○

④ Loess Plateau Afforestation Projects in Shaanxi Province, Shanxi Province and the Inner-Mongolia Autonomous Region (China) ● ○

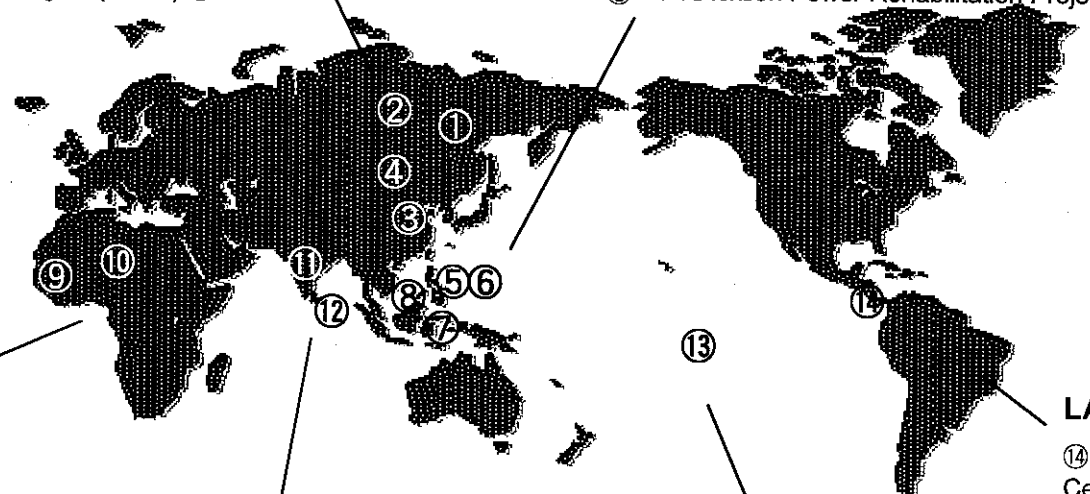
SOUTHEAST ASIA

⑤ Sustainable Environmental Management Project in Northern Palawan (Philippines) ●

⑥ Project for Prevention of Illegal Fishing (Philippines) ●

⑦ Biodiversity Conservation Project Cooperation (Indonesia) ●

⑧ Port Dickson Power Rehabilitation Project (Malaysia) ●



AFRICA

⑨ Green Promotion Project (Senegal) ●

⑩ Project for Clean Water Supply for the Eradication of Guinea Worm (Niger) ●

SOUTH ASIA

⑪ Yamuna Action Plan Project (India) ● ●

⑫ Environmentally Friendly Solutions Fund Program (Sri Lanka) ●

OCEANIA

⑬ South Pacific Region Environmental Program (SPREP) Training and Education Center Construction Project (West Samoa) ● ●

LATIN AMERICA

⑭ Project of the International Center for Environmental Training (ICET) - a Sustainable Development Alternative for the Panama Canal Watershed (Panama) ● ●

ISD Program of Actions
- ● Air and Water Pollution, Waste Disposal
- ○ Global Warming (the Kyoto Initiative)
- ● Nature Conservation, Afforestation
- ● "Fresh Water" Issues
- ● Environmental Awareness/ **Global Environmental** Strategy

Air and Water Pollution, Waste Disposal (Brown Issues)

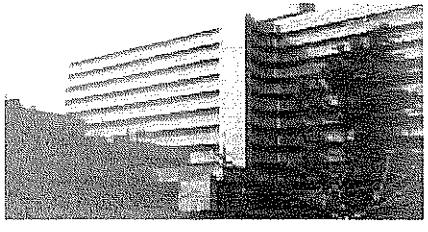
CHINA: The Japan-China Friendship Center for Environmental Protection

General Grant Aid / Project-type Technical Cooperation*

Capacity Development for Environment Management

A key factor for environmental cooperation to developing countries is to promote project ownership by the recipient government thus fostering the country's ability to take its own course on environmental protection measures. To this end, and as one of several steps aimed at strengthening China's administrative structure for environmental protection, Japan has been pursuing an environmental center-oriented approach. This approach combines the construction of center facilities (grant aid) with various undertakings in project-type technical cooperation* that require greater participation from the recipient's side, conforming to Japan's underlying "self-help" approach to international cooperation.

Since 1990, Japan has conducted a series of environmental center projects in countries such as Thailand, Indonesia, Chile, Mexico and Egypt. Japan anticipates that each of these centers once built enough confidence and capacity will enlarge and enhance its role as a regional center of excellence to train environmental administrators and engineers from other neighboring countries on environmental protection in the near future.



The Japan-China Friendship Center for Environmental Protection

* *Project-type Technical Cooperation* is a type of technical support under which 3 elements - acceptance of trainees, dispatch of experts, and provision of equipment & materials - are organically linked.

Acid Deposition Monitoring Network in East Asia (EANET) Training Program

Multilateral Cooperation / Technical Cooperation

Strengthening the Capacity for Controlling Transboundary Acid Deposition

Recognizing that East Asia, as a result of rapid industrialization and urbanization, is facing increasing risks of problems related to acid deposition, the Acid Deposition Monitoring Network in East Asia (EANET) started its preparatory-phase activities from April 1998 for about two years followed by regular-phase from January 2001. The objectives are to: 1) create a common understanding of the state of the acid deposition problem in East Asia; 2) provide useful inputs on the environment caused by acid deposition; and 3) contribute to cooperation on the issues related to acid deposition among the participating countries. As of May 2002, 11 countries (Cambodia, China, Indonesia, Japan, Korea, Malaysia, Mongolia, Philippines, Russia, Thailand and Vietnam) in East Asia are participating in this regional collaborative monitoring network.

Japan has been contributing towards the strengthening of national capacities of EANET participating countries through transferring technologies on monitoring acid deposition, etc.

EANET Training

Photo: ADORC

Global Warming (The Kyoto Inititaive)

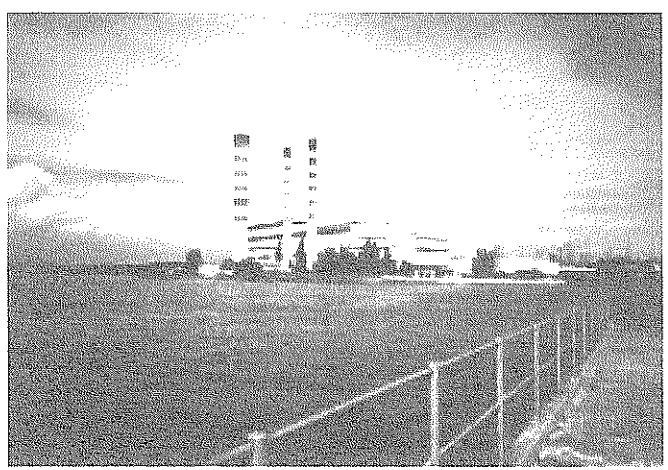
MALAYSIA: Port Dickson Power Rehabilitation Project

Yen Loan

Towards Sustainable Development via Environmental Impact Reduction and Energy Diversification

In keeping Malaysia's energy policy, this Project involves taking down the dilapidated and environmentally burdensome power plant in the Port Dickson Power Station in Negeri Sembilan State and replacing it with a combined-cycle thermal power plant. This subsequently minimizes the power station's impact on the environment, and is expected to reduce emissions of CO2, NOx and Sox per unit of generation by approximately 60%, 90% and 100% respectively. The new system, to be fueled by natural gas, will not only improve the efficiency and safety of the facility but will also contribute to the goal of diversifying the use of energy sources.

The loan is used for the procurement and construction of the thermal power plant, and consulting services (e.g., the detailed design study with an emphasis on the environmental impact assessment, construction supervision, etc.).



Port Dickson Power Rehabilitation Project
(before implementation)

Photo: JBIC

Nature Conservation, Afforestation

China: Series of Loess Plateau Afforestation Projects(Shaanxi Province, Shanxi Province and the Inner-Mongolia Autonomous Region)

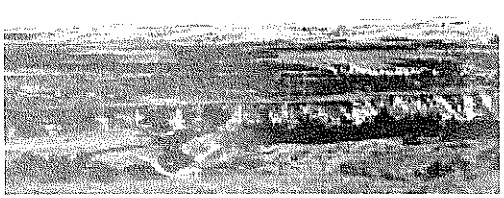
Yen Loan · NGO Project Fund

Multi-Stakeholder Cooperation for the Environment

This project designed to contribute to a stable socio-economic welfare of the three Loess Plateau regions, aims to improve the living standards and protect China's natural environment. These goals are to be achieved by improving the region's forestation rate, preventing soil erosion, and raising agricultural income through planting and cultivating 100,000ha of protected forests, timber forests and fruit tree groves.

Japan's environmental cooperation with china extends beyond the conventional government-to-government interface to different levels of intervention involving various stakeholders from the private sector, local government, academia, NGOs and industries. Simply looking at ODA (e.g., NGO Project Fund) to afforestation projects alone shows the extensiveness and diversity of stakeholders involved.

The provided financial resourecs are used to procure seedlings, fertilizer, vehicles, labor, etc.



Loess Plateau before the implementation of the Project

Photo: JBIC

SENEGAL: Green Promotion Program

Japan Overseas Cooperation Volunteers

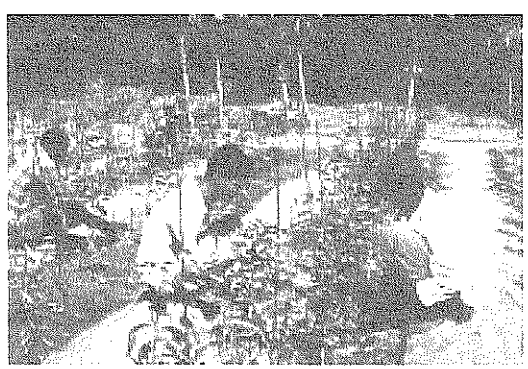
From Combating Desertification to Improving Community Livelihoods

To respond to the widespread pattern of desertification transforming the Sahelian region, the Program through the dispatch of Japanese Overseas Cooperation Volunteers (JOCV) and JICA experts supported community-based afforestation activities in Senegal as a contribution to combat desertification. The Program was not limited to promoting tree planting but rather focused on developing practical measures to improve the livelihood of the villagers that contribute to sustained socio-economic development in the region (e.g., introducing agroforestry and production of fruit tree seedling).

Similar participatory afforestation programs were also initiated in Niger and Tanzania.

Green Promotion Program

Photo: JICA



Nature Conservation, Afforestation

INDONESIA: Biodiversity Conservation Project Cooperation

General Grant Aid / Project-type Technical Cooperation

Working towards better environmental policy

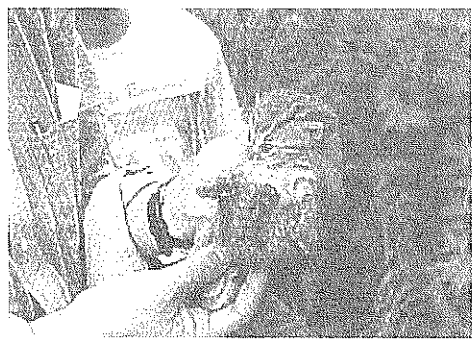
As part of an effort to facilitate effective implementation of the National Biodiversity Action Plan, Japan is assisting the Indonesian Government by means of ODA for biodiversity conservation project.

The Project is implemented through collaborative work with two counterpart institutions, namely the Research & Development Center for Biology of the Indonesian Institute of Sciences and the Directorate General of Forest Protection and Nature Conservation within the Ministry of Forestry & Estate Crops. Its approach is to: 1) help advance the capacity for effective research; 2) establish an effective national park management system modeling on the case of the Gunung Halimun National Park; and 3) develop an information system on biodiversity.

The Zoological Institute/Biodiversity Information Center (BIC) of the Research & Development Center for Biology in Cibinong, the Nature Conservation Information Center (NCIC) in Bogor, and the administration office and research stations in the Gunung Halim National Park were constructed with Japan's grant aid. These facilities were also installed with computer equipment and electron microscopes.

In July 1995, the Biodiversity Conservation Project was launched as part of Japan's technical cooperation effort. The first phase ended in June 1998, during which period the project introduced advanced research techniques on biodiversity such as taxonomy, drafted a management plan, as well as, conducted staff training of the Gunung Halim National Park, and examined ways to develop an effective database containing information on specimens and other documentary records maintained by BIC.

The Nature Conservation Information Center (NCIC) in Bogor runds as the national focal center (and a model project) of Japan's effort in launching a biodiversity information network in Indonesia, collecting and sharing information on biodiversity in the country via database network, as well as, organizing regional workshops and third-country research cooperation.



INDONESIA:
Biodiversity Conservation

● "Fresh Water" Issues

NIGER: Project for Clean Water Supply for the Eradication of Guinea Worm

General Grant Aid

Clean Water for Sustainable Development

Epidemia of guinea worm, a type of parasitic insects carried by the water flea inherent in unsanitary water is a major health concern in much of West Africa. Over the years, Japan has actively assisted developing countries through grant aid and technical cooperation to improve the health of those affected by parasitic disease. Japan kicked off a program to eradicate guinea worm in FY 1989 and over US$80 million in grant aid have since been extended to nine different countries like Niger, Burkina Faso and Mauritania.

Landlocked Niger is an arid country typified by its Sahel climate and seldom rainfall. Much of the rural population has limited or no access to clean water thus putting them at high risk of waterborne diseases such as guinea worm. The objectives of this grant aid project were two-folds: 1) to construct deep wells to provide a stable source of sanitary drinking water; and 2) to educate and raise awareness amongst villagers about hygiene utilizing social marketing techniques such as poster campaign to promote long-lasting livelihood improvements.

● Environmental Awareness / Global Environmental Strategy

PANAMA: Project for the International Center for Environmental Training (ICET) - a Sustainable Development Alternative for the Panama Canal Watershed

Grant Assistance for Grass-roots Projects

Japan-US-Panama Tripartite Partnership in Promoting Community-Based Environmental Protection

The Project was implemented through a grass-roots grant aid to the National Association for the Conservation of Nature (ANCON: a Panamanian NGO) to remodel ICET. ICET has an objective to educate and promote sustainable resource management and conservation to community organizations, local environmental NGOs and also people from neighboring countries. The Project's approach focuses on building local ownership and extending project benefits to other countries. ICET will carry out programs in: 1) natural resources management; 2) sustainable economic development; 3) regional community activity development; 4) public health; and 5) natural disaster prevention. The cooperation such as training will be conducted by ANCON, OISCA (a Japanese NGO), The Nature Conservancy (an American NGO), etc.

GUST 29

INCORPORATING THE EARTH Times

Summit Star

johannesburg world summit 2002 people, planet and prosperity

tries to a set of principles without compromising some of its allies in the war on terrorism and subjecting its environmental record to more scrutiny. Critics say the US does not agree with anything that might hurt American business.

"It will be unfortunate if the obsession with this terror war and America's record of environmental rights abuses cost the summit concrete clauses on this principle," a European delegate said.

Members of the British delegation said the European Union regarded environmental justice – combining human rights with environmental protection – as a cornerstone of sustainable development.

"It is vital that the summit confirms this link and some of the core rights which are vital for achieving sustainable development on the ground," a UK official said.

"Human rights protection is a powerful tool in achieving better environmental protection. If people can exercise their civil and political rights, such as freedom of expression, they can demand cleaner air and water."

aside and make the reduction of greenhouse gases a reality."

At a news briefing yesterday the two organisations said it had taken 10 years and "a lot of emission" to get to the position where they could make a joint statement.

Parmentier said he met the founder of the business council in Rio 10 years ago.

"Greenpeace and the council were fighting like cats and dogs in Rio. We invented the word greenwash in a report on the environment impact study done by companies belonging to the council. We will continue to have disagreements, we will continue to argue and have campaigns. Sometimes they will call the police when our activists get too close, and sometimes we will file legal action against them. But we were able to find common ground with them.

"It's very good to be able in this instance to put aside our differences and call for action, for governments to be responsible, and to ask them to do what they must do. We hope heads of state will listen."

... but see Page 4

THIRST... WATER HAD ITS DAY YESTERDAY AS THE MORNING TOPIC AT THE PLENARY SESSION, AND WITH THE OPENING OF THE WATER DOME. *MIKE HUTCHINGS*

Japan's global banana village

Banana paper, banana clothing and banana shopping bags might soon be available worldwide if Japan gets its way.

The world's third-largest paper-consuming nation has developed a technique of turning banana waste into paper and cloth, which it hopes to export to some 100 countries by the end of the decade to help stem deforestation and alleviate poverty.

The "Banana Green-Gold Project", the brainchild of Nagoya City University's professor Hiroshi Morishima, 58, is the star of the Japanese pavilion at Ubuntu Village, the cultural hub of the world summit.

Morishima said some 170 million tons of paper, 95 percent made from wood pulp, were used worldwide every year and, according to UN estimates, this would increase fivefold by 2010 – which could devastate tropical rainforests and woodland areas.

A billion tons of banana stem waste which are left to rot each year could be turned into 100 million tons of pulp to make paper – equal to half the paper used worldwide.

The project, sponsored by the Japanese government, kicked off in August last year with the establishment of two pilot plants to make banana paper in impoverished villages in Haiti, the poorest nation in the Americas.

The technique marries the traditional Japanese art of paper-making, using manual labour dating back to the 17th century and new tools designed by Morishima.

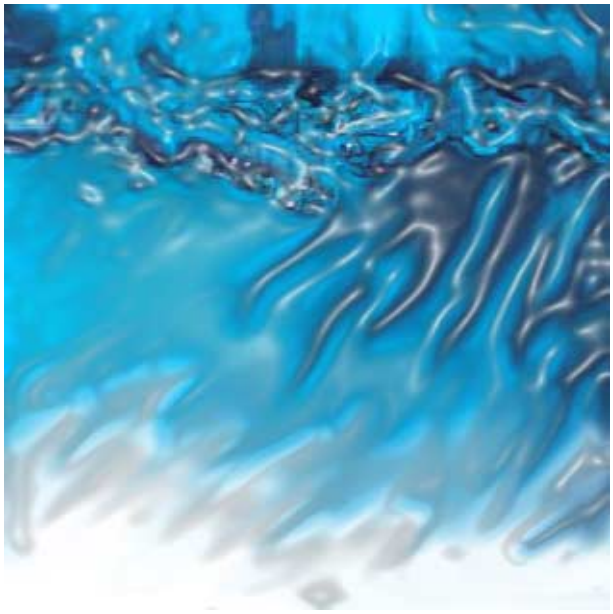
"We are working on bringing the project to Uganda and Tanzania by the end of this year and we hope to export it to some 100 banana-producing countries by 2010," Morishima said.

India, Cambodia, Colombia, Cuba, Papua New Guinea, Peru and the Philippines have expressed interest in the project. – AFP

IN TODAY'S EARTH TIMES

- Rio + 10, or Rio – 20?
- Landless and homeless in Johannesburg
- Voices of the children
- NGOs don't see eye to eye
- Business raises its profile at summit

1.2　水と貧困（ダッカ）



第 2 次水資源プロジェクト研究計画調査

「水と貧困」アジア太平洋地域会合ワークショップ
参加報告書

ASIA-PACIFIC CONSULTATION WORKSHOP ON WATER AND POVERTY
Dhaka, 22-26 September 2002

2002 年 9 月

株式会社　建設技研インターナショナル

本報告書の構成

2002 年 9 月 22－26 日、アジア開発銀行（ADB）の主催する「水と貧困」アジア太平洋地域会合ワークショップが、バングラデッシュ・ダッカのバングラデッシュ・中国友好会議場にて開催された。JICA は、第 3 回世界水フォーラムやマニラ「洪水と貧困」地域会合へ向けての情報収集と JICA 事業の情報発信のため、同ワークショップに参加した。

本会合の主たる目的は、２００３年３月に京都開催される第３回世界水フォーラムの準備会合であると同時に、会合のタイトルが示しているように、水と貧困のかかわりを、様々なステークホルダーと討論するところにある。また、貧困とのかかわりの大きいジェンダーの課題も本会合の主要テーマの一つである。

この目的に共鳴して、JICA は、本会合において、貧困やジェンダーをテーマにしたケーススタディの発表を行った。また、本会合に引き続いて、JICA が ADB らと共催で開催を予定している「マニラ貧困洪水会合」の準備という意味も併せて、貧困問題に深くかかわった洪水テーマ案件のケーススタディの発表を行った。

このような目的や参加実績から、本報告書の構成は次の 4 部に分けて報告するものとする。

I　全般的報告
II　貧困関係報告
III　ジェンダー関係報告
IV　災害防止と緩和　－水に係わる災害と貧困－関係報告

「水と貧困」アジア太平洋地域会合ワークショップ

ASIA-PACIFIC CONSULTATION WORKSHOP ON WATER AND POVERTY
Dhaka, 22-26 September 2002

Ⅰ　全般的報告

Ⅰ　全般的報告

1. JICA 参加者

同ワークショップへの JICA からの参加者を以下に示す。

JICA社会開発調査部社会開発調査第二課	課長	木邨洗一	(9月24－25日)
同　ジュニア専門員		本多裕美子	(9月22－26日)
同企画評価部環境女性課ジュニア専門員		山本恵美	(9月22－26日)
同専門技術嘱託		水田加代子	(9月23－25日)
同第二次水資源プロジェクト研究	担当(総括、水資源／	川上俊器	(9月22－26日)
コンサルタント	水環境)		
同	担当（ジェンダー）	青木憲代	(9月22－26日)
同	担当（貧困）	谷口美代子	(9月22－26日)
同	担当（業務調整）	前田利蔵	(9月22－26日)

（敬称略､以下同様）

2. 同ワークショップ開催の背景

- 第 3 回世界水フォーラムが 2003 年 3 月 16 日－23 日に京都で開催される。
- JICA は、同フォーラムの開催を積極的に支援する中で、日本の国土交通省や ADB と共催して「貧困と洪水」セッションや世銀・ADB・JBIC と共催して「World Development Partnership Panel」を開催する他、様々なセッションに参加する予定である。
- 一方、ADB は同フォーラムの開催を積極的に支援する中で、独自に「Water and Poverty Initiatives」（ＷＰＩ）という計画を 2002 年 2 月から開始している。同計画は、「水と貧困」をテーマに、アジア各地において地域会合を開催して、第 3 回世界水フォーラムに向けて、全てのステークホルダーの意見を結集しようとするものである。
- ADB は、このような計画の一環として、ダッカにおいて、「水と貧困」地域会合を実施した。
- JICA は、2002 年 10 月 17－19 日マニラにおいて、ADB や国交省と共催して、「貧困と洪水」の地域会合を開催する。
- このような、JICA・ADB の第 3 回水フォーラムに向けての動向の中で、JICA は、第 3 回世界水フォーラムやマニラ「洪水と貧困」地域会合へ向けての情報収集と JICA 事業の情報発信のため、ダッカ「水と貧困」地域会合に参加した。
- なお、JICA は、2002 年 10 月 14－16 日にマニラ「貧困と洪水」地域会合に先立っ

て開催される ADB 主催の「水と都市」地域会合にも、参加する計画である。

3. 同ワークショップ概要

3.1 目的

同ワークショップの目的は、ＡＤＢが、ＷＰＩ計画の活動の一環として、来年 3 月に京都で開催される第 3 回世界水フォーラムの準備会合として開催したものである。

本会合の目標は、「水と貧困」に係わる様々なステークホルダーが一堂に会し、次に掲げる事項を進めるため、相互理解を深めようとするものである。

・ 水資源管理の成功事例の提示
・ 地方レベルでの貧困層に対する水の確保の促進
・ 貧困削減のための、水事業に係る国際機関の協調の促進

（詳しくは、**添付資料－１**、「水と貧困」アジア太平洋地域会合ワークショップ計画書　参照）

3.2 参加者数

同ワークショップへの参加者は次のとおりである。

参加総数：	バングラディシュ	158名
	外国	142名
	計	300名
	アジア諸国	14カ国
	国際機関	22機関

（詳しくは、**添付資料－２**、「水と貧困」アジア太平洋地域会合ワークショップ参加者一覧表　参照）

3.3 同ワークショップの日程概要

同ワークショップは、次に示す日程で実施された。

第１日目　：　総理大臣を迎えて開会式
全体会議、テーマ別分科会（問題提起）
第２日目　：　テーマ別分科会（解決策の検討）とその取りまとめ
第３日目　：　パラレルセッション（ケーススタディ発表）、閉会式
第４日目　：　現地見学会
第５日目　：　フォローアップ会議

（詳しくは、**添付資料－３**、「水と貧困」アジア太平洋地域会合ワークショッププログラム　参照）

3.4　全体会議の概要

全体会議風景

全体会議では、ワークショップ全体のプログラムの説明があり、本会合のファシリテーターである John Soussann 氏より貧困削減に対する 1) 国際的な合意、2) 水の権利に対する行動志向型アプローチ、3) 南アフリカの環境サミットで合意されたように持続可能な開発のために水と衛生の向上が不可欠であることーなどが指摘された。特に、安全な水の供給は子供の健康維持のために必要であり、環境保全の観点からも注意を払わなければならないとした。その他、国際社会は開発のアジェンダであるミレニアム開発目標を達成するべく、貧困削減に向け、水に関するプログラムを通じて、セクター間にまたがる統合水管理を実施することの必要性が述べられた。

主催者である ADB からは「水と貧困イニシアティブ」が明示された。ADB の水と貧困への基本方針は、ミレニアム開発目標や国別の貧困削減戦略ペーパー(PRSP: Poverty Reduction Strategy Paper)に沿ったものであるが、さらにジェンダーへの配慮が強調された。女性は水資源管理の役割を担っており、効果的・効率的な水管理をするためにも女性に配慮した政策でなければならないことが述べられた。貧困に対する政策にはジェンダー不平等の是正が不可欠であるとしている。水と貧困に対する ADB の方針は以下の通りである。

- 政策の枠組みにジェンダーの視点を取り入れ、政策の形成プロセスに市民レベルの参加を促進
- 貧困層へのターゲティング（コンサルテーションや代表者の参加型アプローチを通して具体的な行動をとる）
- 組織制度の改革による各ステークホルダーへの意思決定の委譲（特に女性の参加を伴うが、同時に女性の権利に対する啓蒙や能力向上も必要である）。
- 汚職のない「よい統治(Good Governance)」
- 男女の参加の必要性とモニタリングのシステムの構築
- 適正技術の促進

3.5 分科会の概要

分科会は次の 7 つのテーマごとに開催された。

- Pro-Poor Water Governance
- Improved Access to Quality Water Services-Domestic Supply
- Improved Access to Quality Water Services-Food Security
- Pro-Poor Economic Growth and Livelihood Improvement
- Community Capacity Building and Empowerment
- Disaster Prevention and Mitigation
- Management of the Environment

討議の結果、各分科会に共通して、次の事項の重要性が検討・提起された。

- 透明性：政府・実施機関の説明責任、情報公開の促進
- モニタリング（組織、事業、意思決定の過程など）の強化
- 地方分権の促進
- 政府の意思決定(Government Will/Political Will)と実施に向けてのコミットメントの要求
- 住民参加と教育の促進
- 資源の共有・分配の公正化
- 流域総合計画の立案
- ジェンダー課題
- Poor Mainstreaming

3.6　パラレルセッションにおける JICA 関連ケーススタディ発表

パラレルセッションとして、前項に示した 7 つのテーマに関して、ケーススタディの発表が開催され、JICA は次の発表を行った。(詳しくは、**添付資料－４**、「水と貧困」アジア太平洋地域会合ワークショップ　JICA 関連発表概要　参照、括弧内は発表者、敬称略)

- **Theme 2 Improved Access to Quality Water Services-Domestic Supply:** The Study on Groundwater Development For Altai city in Mongolia（谷口）
- **Theme 4 Pro-Poor Economic Growth and Livelihood Improvement:** The Improvement of Living Standard by Community Drinking Water Pumping System in East Sumba of East Nusa Tengara, Indonesia（山本）
- **Theme 5 Community Capacity Building and Empowerment:** The Study on Rural Water Supply and Sanitation Improvement in North-west Region in Lao PDR（水田）
- **Theme 5 Community Capacity Building and Empowerment:** The Study on Groundwater Development in Cambodia (青木)
- **Theme 6 Disaster Prevention and Mitigation:** Rural Development Focusing on Flood Proofing, Bangladesh （Zahangir, LGDE / JICA）

3.7　閉会式における全体のまとめ

第 3 日目には、第 1、2 日目の分科会討議、同日行われたケーススステディの結果を踏まえ、総括的な取りまとめが行われた。その概要を次に示す。

閉会式における総括会議風景

(1)　「水と貧困」問題解決の前提条件

- 政府の意思決定 (Government Will/Political Will)、住民のコンセンサスを得ること
- 透明性の確保：政府･実施機関の説明責任、情報公開、情報の共有
- 住民参加の促進、住民代表者との協議の推進

(2)　「水と貧困」問題解決のアプローチ

- 政府と住民がパートナーシップを築くこと
- 現状分析
- 漸進的アプローチ、実現可能な目標を立てること、社会的にまた地理的に優先順位をつけること、柔軟な対応をとること
- 住民の能力向上、女性の開発への参加を促進すること
- 地方分権、民間への権限譲渡、貧困層への補助
- 住民レベルからの政策決定、住民及びコミュニティレベルでの実施
- 実践的な手段の選択、指標の設定

(3)　「水と貧困」問題解決の手段

- 行動計画の策定
- 貧困層の救済、能力向上
- 住民レベルから国家レベルまでのパートナーシップの構築
- 国際的な支援
- 既存の政策や実施機関を有効利用すること
- 知識の共有、伝播
- 住民の意思を尊重した政府の意思決定
- 住民の能力向上を図るために選択の幅を与えること
- 話し合いよりも行動に重点を移すこと

(4) 「第3回世界水フォーラム」に向けて

- フレームワークの強化（ワークショップの内容の整理、他機関との連携）
- 経験の集積（より多くのケーススタディの集積とその伝播、合成）
- 行動に移すこと（既存の計画の上で、国家及び地方レベルで）
- 地方水行動計画の実施（需要重視、貧困削減、パートナーシップの構築）
- 活動を縦断的に広げること（水問題の認識を広げること、政策の国家的連携）

3.8 その他の会議等参加

- 9月23日 JICA・ADB 打合せ（マニラ「貧困と洪水」地域会合準備）
- 9月23日 JICA・ADB 打合せ（第3回世界水フォーラム／WDPP）
- 9月24日 JICA・ADB・国交省打合せ（マニラ「貧困と洪水」地域会合準備）
- 9月26日 JICA・ADB 打合せ（第3回世界水フォーラム／WDPP の準備）

「水と貧困」アジア太平洋地域会合ワークショップ

ASIA-PACIFIC CONSULTATION WORKSHOP ON WATER AND POVERTY
Dhaka, 22-26 September 2002

II　貧困関係報告

II 貧困関係報告

1. 全体会議（貧困との関連性）

1.1 概要

主催者である ADB からは「水と貧困イニシアティブ」が明示された。ADB の水と貧困への基本方針は、ミレニアム開発目標や国別の貧困削減戦略ペーパー(PRSP: Poverty Reduction Strategy Paper)に沿ったものであるが、さらにジェンダーへの配慮が強調された。女性は水資源管理の役割を担っており、効果的・効率的な水管理をするためにも女性に配慮した政策でなければならないことが述べられた。貧困に対する政策にはジェンダー不平等の是正が不可欠であるとしている。水と貧困に対する ADB の方針は以下の通りである。

- 政策の枠組みにジェンダーの視点を取り入れ、政策の形成プロセスに市民レベルの参加を促進
- 貧困層へのターゲティング（コンサルテーションや代表者の参加型アプローチを通して具体的な行動をとる）
- 組織制度の改革による各ステークホルダーへの意思決定の委譲（特に女性の参加を伴うが、同時に女性の権利に対する啓蒙や能力向上も必要である）。
- 汚職のない「よい統治(Good Governance)」
- 男女の参加の必要性とモニタリングのシステムの構築
- 適正技術の促進

また、本ワークショップは第３回世界水フォーラムに向けて「水と貧困」に関する下記の７つのテーマに分かれて特定の課題を共有し、課題に対する行動のためのアプローチを明確にする旨の説明があった。

- 貧困層と水のガバナンス（Pro-Poor Water Governance）
- 質の高い生活用水へのアクセスの向上(Improved Access to Quality Water Services- Domestic Supply)
- 質の高い飲料水へのアクセスの向上(Improved Access to Quality Water Services- Food Security)
- 貧困と経済成長と生計(Pro-Poor Economic Growth and Livelihood)
- 能力向上とエンパワーメント(Community Capacity Building and Empowerment)
- 災害防止と緩和(Disaster Prevention and Mitigation)

- 環境マネージメント(Management of the Environment)

さらに、22 日午後、23 日午前のグループディスカッションの後に各グループのファシリテーターが全体会合にてその結果を発表し､24 日に各ケースのプレゼンテーションの結果も踏まえて全体をとりまとめて、本地域会合での合意事項とした。

1.2 全体会議のまとめ

３日間のワークショップ（全体会議、７つの分科会）の結果をまとめた合意事項は下記の通りである。

(1) 「行動」への重視
- 既存の政策の実施
- より適切なターゲティングと参加
- 達成可能なものを重視
- 生活や生計に対して貧困層の基礎的なニーズを保障
- 共通性、多様性を配慮した責任分担の明確化
- 利用・活用できる機会にフォーカス
- 貧困層の需要主導（Demand-led）のアジェンダを設置

(2) 基礎的な必要条件
- 政治的なコミットメント
- 情報の透明性の向上とステークホルダーの相互理解の促進
- 意思決定への貧困層の代表参加のメカニズム
- 貧困層を受動的にとらえる創造力のあるアダプター(Creative Adapter)として認識

(3) アプローチ
- すべてのステークホルダー間のパートナーシップを構築
- 状況分析(Situation Analysis)
- 段階的なアプローチ
- 主流化（ジェンダー、異なる社会グループ間の水の公正な分配、PRSP や地方分権などのその他の開発政策への社会的な弱者を取り込む）
- 能力向上(Capacity Building)
- 柔軟性
- 貧困層の生活に水の全ての恩恵を反映
- 地方分権と補助制度
- 社会・地理的な優先順位の明確化
- 社会的に底辺の層からニーズを引き出し、水に関する政策・プログラムなどをコミュニティを含む全てのレベルで実施

- 貧困層への投資
- 実践的な手法・指標
- 楽観主義

(4) まとめ
- 行動プログラムの開発
- 貧しい女性・男性のエンパワーメント
- 地方・国レベルでのパートナーシップの構築
- 国際社会の支援（必要性の高い国、セクターを明確化する）
- 水に関する国別の法律、PRSP など既存の政策の実施とイニシアティブの発揮
- 知識の向上と情報の普及
- 啓蒙を通しての政治的なコミットメント
- 需要主導の開発プロセス
- 適応力のある段階的なプロセス
- 柔軟性・適応性
- 達成可能な目標
- 貧困層の生活における選択の幅を拡大
- 能力向上

1.3 全体の所感 （谷口）

「水と貧困」がテーマであったこともあり、全体会議でも分科会においても貧困層に対する水の問題に関して一貫して議論された。分科会では７つのグループに分かれて、問題を共有化した後に、課題に対するアプローチをまとめた。全体的に、国際社会の中で貧困層に対する水の問題が長年議論されているにも関らず、実際の成果は不十分であることが指摘され、終始、実施可能な「行動」について議論された。政府、中央政府、コミュニティー、貧困層という縦のつながりで、中央政府から下の各レベルに対する権力の委譲が必要であり、下の各レベルの能力向上と意思決定への参加、情報へのアクセスが伴わなければならないことが強調された。国家、市民社会、マーケット（民間セクター）の相互な協力関係の構築の必要性についても指摘された。また、ジェンダーは中心課題ではなかったが、社会的な弱者の中でも男女間の格差が指摘され、女性は生活用水の供給を行っているだけでなく、衛生面・栄養面でも家族の健康維持の役割を担っていることが指摘され、ジェンダーと「水と貧困」の関りについて強調されるものとなった。

アジア太平洋の地域会合であり、NGO 活動が活発なバングラデシュで本会合が行われたせいか、バングラデシュやアジア地域の NGO からの出席者が多く、分科会でのディスカッションやケース・スタディの発表も小規模で貧困層を直接の受益者としてターゲティングしている案件の例が多かった。その結果として、住民参加や貧困者

の需要主導型、ニーズに基づいた協力、ドナー、公的機関、政府機関との対話、パートナーシップの構築の必要性が重視されたものとなった。また、情報公開と行政の透明性と説明責任の確保が市民社会に対して必要であり、より効果的・効率的な行政サービスの提供を促進するとしている。

2. 分科会

先に示したテーマ別の枠組みの中で特定の課題について問題を共有し、課題に対してとるべき行動についてグループで話し合われた。ここでは、担当分野であった、1）「貧困と水のガバナンス」についての議論の内容、２）「質の高い生活用水へのアクセスの向上」のケース・スタディの内容を述べる。

2.1 貧困と水のガバナンス(Pro-poor Governance)

2.1.1 分科会概要

(1) 参加者
バングラデシュ約半数、その他パキスタン、ネパール、スリランカ、フランス、カナダ、アメリカ、インドーなど約 30 名

(2) 日時
9 月 21 日、午後 14：00～16：00、9 月 22 日、午後 14：00～16：00

(3) 要旨
本グループディスカッションでは、ガバナンスの定義がされた後に、国家(State)と社会とマーケットの関連性を考慮に入れ議論された。水のガバナンスを下記の３つの側面（①政策、法律、地方分権、②組織制度, 規制、外部のガバナンス、③透明性、説明責任、能力向上）から問題分析を行った後に、優先順位をつけ、各課題に対する必要な行動を提案した。議論の基軸は、政府、中央政府、コミュニティー、貧困層という縦のつながりにおいて、中央政府から下の各レベルに対する権力の委譲が必要であり、下の各レベルの能力向上と意思決定への参加、情報へのアクセスが伴わなければならないなどであった。

2.1.2 分科会討議の内容

(1) ガバナンスの定義
- ガバナンスとは政治的な力のバランスがとれ、我々全ての人々が影響を受ける行政制度のことである。
- 水のガバナンスとは、社会の各レベルで水供給サービスや水資源を開発・運営管理するための政治的、社会的、行政的な制度のことである。

- 貧困層への効果的なガバナンスは、脆弱層の生活に有益な政策や意思決定を必要とする

(2) 効果的なガバナンスのための３つの側面

- 政策、法律、地方分権
- 組織制度(Institution), 規制、外部のガバナンス
- 透明性(Transparency)、説明責任(Accountability)、能力向上(Capacity Building)

加えて、すべての側面に共通なものは財政源（特に政府予算の配分）や女性など特別な社会グループをターゲットにすること。人々をエンパワーすることが重要であり、貧困層の声が効果的な水のガバナンスには不可欠である。

(3) 「政策、規制、地方分権」について

- セクター別の政策が必要であるが、**セクター間の調整**が必要である。また、各政策が矛盾もしくは、貧困層の利益に反するものでないようにするために、政策形成には対話が必要であり、貧困層の声を反映するためのプロセスが重要である。
- 貧困層は優先的に**水利用権**を与えられるべきである。そのためにターゲットグループを特定し、水へのアクセスを向上するための方法を明確にするべきである。
- 政策は貧困層に対し長期的な結果だけでなく、**短期的な利益**を含むべきであり、配分、費用、分配に関して明確にするべきである。
- 政策はあるが必ずしも実行されているとは限らない。政策は必要であるが、充分ではなく具体的に時間制限・資金源が明確な**戦略**をもつことによって実行可能となる。
- 真の**パートナーシップ**は、貧困層からの代表や参加により政策形成のために築かれるべきである。
- ドナーに先導された政策形成は、トップダウンではなく国に対して妥当なものでなければならない。ドナー間はドナーと政府間の**ハーモニー**を確保しなければならない。
- 各国は、貧困に対する政策・戦略に関する進捗状況をモニタリングするための**指標**を設定するべきである。
- **水の料金**制度は貧困層に対して支払い可能な料金やメカニズムに改訂しなければならない。

(4) 「組織制度(Institution), 規制、外部のガバナンス」について

- 全てのレベルで**組織改革**が必要であり、貧困層を支援するため組織の役割、既存の機能をより理解し、貧困層の支援を促進するための有効的な改革が必要である。水に関る人々は都市の土地利用計画やエネルギー、産業のような

水以外の機関との調整が必要である。

- 中央政府は、地方政府、他の公的セクター、コミュニティーと**権力や資源を分担**すべきである。しかし同時に**地方自治体の能力向上**にも努める必要がある。意思決定はステークホルダーや受益者により近いレベルで行われるべきである。
- 地方自治体が規則にしたがい、汚職を軽減するために新たな**監査**メカニズムを設置、または既存のメカニズムを強化する必要がある。同様に、チェックアンドバランスのシステムは政府機関、民間セクター、NGO など開発のパートナーに対しても設置されなければならない。
- 国際金融機関は、地方自治体やコミュニティーに直接支援を行うために、地方分権を支援する規則やメカニズムを設置すべきである。また、政府は**地方分権**を推進するための予算を配分すべきである。
- 政府は近隣諸国と国境を超えた地域での協力を行うべきである。
- 水に関するインフォーマルな草の根レベルでの対話は、国境を超えた共通の課題に対する理解を促進し、いかなるフォーマルなプロセス（政策、プロジェクトなど）に対しても有益である。

(5) 「透明性(Transparency)、説明責任(Accountability)、能力向上(Capacity Building)」について

- より貧しいコミュニティーに対して情報のアクセスを高める必要がある。これに関し、情報や透明性に対する国際規約を設置することを提案する。水サービス（公的・私的）の提供者の監査・財務に関する情報公開がされるべきである。
- プロジェクト実施前や変更があった場合に、コミュニティーに対して公的なヒアリングや対話が行われるべきであり、貧困層もこれらに参画させるべきである。効果的なガバナンスを促進するために、社会インパクトアセスメントが実施されるべきである。
- 行政や政治家の貧困の問題に対する認識を深め、貧困層のニーズを理解する必要がある。マスメディアは、貧困層と政治家に貧困問題に対する啓蒙を行うべきである。

2.2 「質の高い生活用水へのアクセスの向上」のケース・スタディ

2.2.1 JICA 案件のケース・スタディ

本案件の選定理由

JICA の取り組みとして、モンゴル国・アルタイ市地下水開発計画調査を取り上げ発表した。本案件を選定した理由は次の２点である。まず、JICA の過去の水に関す

る案件の中でも貧困対策・配慮案件と位置付けられている案件についてその内容・手法などを検討した結果、アジア地域で実施されたほとんどの案件の場合、「貧困地域である[1]」とされただけで貧困層に積極的に配慮している例として対外的に説明しがたい。これはJICAの案件が相手国の政府を対象にした技術協力の案件が多く[2]、直接的・短期的に貧困層に裨益するものが少ないことが起因している。次に、案件によっては貧困層が直接的な便益を受けている場合があるが、貧困削減に対する社会インパクト調査があまり実施されていないことから、貧困削減に寄与したとは客観的に示しにくいことなどが挙げられる。

本案件は、貧困対策・配慮案件として位置付けられていないが、貧困層へのターゲティングが適切に行われ、社会調査の結果がマスタープランに反映されている案件として評価できる。具体的には、参加型調査手法であるフォーカスグループディスカッションなどを用いると同時に、質問表による調査では統計的な有意性（各種検定を使った統計解析も行われている）も確保されており、定量的・定性的な調査手法が組み合わされた数少ない案件であることから本案件を取り上げた。

[1] 貧困地帯という場合の選定基準が明確にされていない。
[2] 社会開発協力部の案件の場合であり、他の開発福祉支援などNGOへの直接的な支援を除く。

2.2.2 ケース・スタディの概要

1. 案件名：モンゴル国・アルタイ市地下水開発計画調査	
2. 協力形態：開発調査	**3. 協力機関：**国際協力事業団
4. 相手国実施機関：モンゴル国インフラ開発省	**5. 実施期間：**1996 年 9 月～1999 年 3 月
6. 対象地域： 調査対象地域は、600ｋｍ^{2}で、Kharzat, Sukhyn Khooloy の 2 地域について詳細に検討するとともに、代替水源として Tsagaantkhoy, Taishy の 2 地域について概略検討を行う。	
7. 調査対象者：調査地域のアルタイ市住民 約 17,800 人	
8. 案件の背景： モンゴル国政府は、1993 年にゴビアルタイ県を含む西部５県開発計画を、また１９９５年７月にはゴビアルタイ県開発計画を策定した。しかし、水不足、水質の悪いことが西部５県およびゴビアルタイ県の発展を阻害していると問題提起している。モンゴル国政府は、ゴビアルタイ県の県都であるアルタイ市の水問題の改善を優先し地域開発の促進を目指している。近年アルタイ市は施設の老朽化に伴う断水にしばしば見舞われ、この改善を中央政府に要請している。しかし、中央政府はこれに対処できず、日本国政府に技術協力を要請してきた。本調査は、ＪＩＣＡの調査団がモンゴル国インフラ開発省および関連機関と協力して実施したものである。	
9. 事業全体の開発目標： アルタイ市民の生活水準を向上する。	
10. 調査の目標： 1) 2015 年を目標年としたアルタイ市の水資源開発のマスタープランを策定する。 2) マスタープランで抽出された優先プロジェクトに対して 2005 年を目標としたフィージビリティ・スタディを実施する。 3) モンゴル側カウンターパートに対する技術移転を行う。 4) 水質に関する正しい認識、衛生意識の改善を目標とした教育などを実施する。	
11. 調査の実施内容： 調査は、1)基礎調査、2)マスタープラン・スタディ、3)フィージリティ・スタディからなっている。詳細は以下の通りである。 基礎調査の実施 (現状把握のために下記の調査が実施され、その結果、社会・衛生教育、アルタイ市の経済、気象・水文、地形・地質、水理地質、生態系と環境、水質、水道施設などについて調査結果がまとめられた。) マスタープランの策定 (調査結果を基に基本方針、水資源、人口・水需要予測、開発計画、維持管理計画、モニタリング計画、事業費概算、実施計画、衛生改善計画、マスタープラン評価、優先プロジェクトの選定についてまとめられた。) フィージビリティスタディの実施 (設計条件、開発計画、維持管理計画、モニタリング計画、事業費概算、実施工程、年次別実施計画と事業費、維持管理費、衛生改善計画、優先プロジェクトの事業評価が策定された。)	
12. アルタイ市と貧困： ▪ アルタイ市はゴビアルタイ州の州都であるだけでなく、遊牧民と・定住民の社会・経済生活の中心地であり、西部地域の将来的な経済開発の基点である。 ▪ 市は居住様式とインフラストラクチャーの特徴により、中心部とゲル地区に分かれている。中心部は様々な公共施設、商業・産業ビルやアパートなどが建っており、ゲル地区は中心部を囲んでおり、約 3,000 世帯が居住している。 ▪ 貧困人口はアルタイ市の人口の 23%である。 ▪ アルタイ市に居住している 3,149 世帯のうち 2,661 世帯、14,516 人、82 %は配水車から水を購入しており、ゲル地区の住民が多数を占め、残りはアパートに居住しており水道水を使用している。 ▪ 世帯の家族数は平均 5.6 人（アパート世帯 6.6 人、ゲル世帯 5.5 人）で、貧困世帯で 6.3 人となっている。 ▪ 働く女性は水の運搬や洗濯や家事の役割を担っており、二重の負担となっている。 ▪ 水の運搬は女性や子供の仕事であり、85%の世帯が 200m 以内、7%が 500m以上の距離を歩いて水を運搬している。	

13. 案件と貧困対策との関連：

本調査はアルタイ市民をターゲットにしているが、社会分析をするための調査を実施した結果、アパートの住民とゲル[3]の住民に経済的な格差、支払い能力・意志、水に対するニーズの違いがあることが明らかになった。具体的には、アパート住民は経済的に収入が多く、水道サービスに関しては、断水の解消、水質の改善、老朽化した施設の改善を望んでいる。一方で、ゲル住民は、移動式の水販売所で水を購入しており、サービスに関しては、欲しい時に水が使えないこと、水質が悪いこと、水供給所まで遠いことを問題視している。特に、水道サービスの改善による便益、つまり、ゲル地区における水販売所の設置は、住民の水入手に対する時間と距離を短縮させ、加えて水汲み置き水の長時間放置が少なくなり、汚染の機会も少なくなると考えられる。この調査結果を反映させ、マスタープランの基本方針をゲル区の給水事業を優先することとした。したがって、本案件は貧困層の中でもさらに貧しい層をターゲティングした貧困対策案件であると位置付けられる。

14. 貧困削減のための調査方法：

社会分析をすることを目的として、衛生・水利用に関する知識について、世帯調査とグループディスカッションが実施された。現地の調査員に調査手法のトレーニングを行い、無作為抽出により、1251 世帯のうち 200 サンプルを得た。加えて、衛生教育のプログラムを作成することを目的として、人々の水質に対する意識についての調査も実施した。調査内容は、1) 世帯調査、2）世帯の特徴、3）社会経済プロファイル、4）水利用・サービス、5）水消費パターン、6）社会的な格差と水・健康の関連性ーなどである。

15. 貧困削減への調査結果：

ターゲティング（貧困層の特定）

- アルタイ市では人々は文化的、民族的に均質で社会的な格差はない。しかし、水供給に関しては、ゲル住民とアパート住民の間に大きな違いがあり、前者は配水所で水をリットル単位で購入、運搬しているのに比べて、後者は水道水を利用している。
- インタビュー調査の結果では、アルタイ市の人々の平均月収は約 Tg.24,995（約 US=$28.1）であった。一方平均支出は、ゲル住民 Tg. 44,500, Tg. アパート住民 58,810 US $ =50.0～66.1）であった。また、水の消費量もゲル住民（7.9 リットル）とアパート住民（150 リットル）の間に格差があり経済的、生活環境の格差があることが分かった。この結果、ゲル住民を優先的にマスタープランが策定された。

問題の特定

- 水道サービスに関して、アパート住民は断水の解消、水質の改善、老朽化した施設の改善を望んでいる。ゲル地区住民のうち 53%は、ほしい時に水が使えないこと、水質が悪いことおよび水供給所まで遠いことを問題視している。
- 上記調査結果に見られるように、アルタイ市の約 60%の住民は水道の水質、特に水の硬度と肝障害や心臓病など慢性的な病気との因果関係があると信じている。アルタイ市および中央の公衆衛生専門はカルシウムとマグネシウムの比が健康障害の原因としている。
- ゲル住民は購入した水を長期間放置しており、これが水質汚染の一因であると考えられる。
- 水の消費量に関して、所得に応じて水の消費量が異なることが分かった。一人あたりの水の消費量は高所得者層(上位 75%)で 9.3 リットル、ゲル住民（下位 25%）で 7.9 リットルと経済的な格差により水の消費量も異なる。また、ゲル住民の中で定期収入がある世帯の消費量（9.5 リットル）と定期収入がない世帯の消費量（6.4 リットル）でも格差がある。いずれにしても、モンゴル国基準の 30 リットルとはかけ離れている。

ニーズ・アセスメント

- ゲル住民の 71%が共同水栓を望み、水販売所の設置希望 26%を大きく上回る。同地区住民が選択肢の中で各戸給水を第一位としなかったことは、現実的な改善を望んでいることが伺える。だたし、共同水栓は冬場に凍結するなど技術的な課題もある。
- 人々はアルタイ市の水道水は硬度が高いと信じ、水道水の軟化装置の導入を希望している。

社会分析の結果

- ゲル住民のうち、高所得者層は現在の水道料金から 161%の値上げを認めているが、低所得者層は 80%の値上げを認めるに留まっている。過去 2 年間で 100%の値上げが行われており、低所得者層の値上げへの認識は、それを超えるものではない。また、低所得者層は値下げを望んでいる人も存在するので水道料金の設定に際してはこれらを考慮するべきである。
- 水道サービスの改善による便益：ゲル地区における水販売所の設置は、住民の水入手に対

[3]ゲルとはモンゴルの遊牧民の暮らす住居のことである。

する時間と距離を短縮させ、加えて汲み置き水の長時間放置が少なくなり汚染の機会も少なくなる。
- ただし、約 20%のゲル地区住民は水販売所から 250 メートルより遠く、女子の水汲み労働負担の解消にはならないので、キャリアー普及など付随した施策が必要である。
- ゲル地区住民とアパート地区住民の水道料金の差を公表し、当面はゲル地区住民の収入に対する水料金の比較を下げる必要がある。
- 低所得者層である休職者、女性世帯に対する水道料金の減免、据え置き制度は貧困評価に基づいて毎年修正されるべきである。
- 本計画の中で、ゲル地区に水販売所を設けることはゲル住民が欲しい時に水が買える事になり水消費量の増加にもつながる。ゲル内の汲み置き水の減少は、汚染の機会も減ることになる。

住民の問題意識に対する水質分析の結果

- 水道水の水質分析の結果では、マグネシウムの含有量がモンゴルの水道水質基準を僅かに超えているのみで他は全て基準値以下である。したがって、調査の結果、カルシウムとマグネシウムの比が健康に負の影響を与える報告は見当たらなかった。

16. 貧困削減のための実施活動:

- これらの調査結果を踏まえ、“水と健康”と題してアルタイ市で 47 名の参加者を得てセミナーを実施し、世界の水質水準を紹介しながらアルタイの水が飲料水として適正を欠いていないことを説明した。また、水の硬度と慢性的な病気との因果関係については単に水質だけでなく禁煙、飲酒、食生活、性別、年齢、遺伝子などに影響を受けるので水質と健康を結びつけるのは困難で不適切であるとことを説明した。
- アルタイ社会保健センターの主催でトレーナーに対する衛生教育を 7 回実施した。同セミナーは、社会調査・社会分析の方法を技術移転するものであった。参加者は合計 909 名にのぼり、ポスター、教材などは有効に配布された。
- 公衆保健センターが中心となり、保健ボランティア、生徒、16群のリーダーと市民の代表、議会の 17 人の代表からなるワーキンググループが構成され、同グループが衛生教育の実施計画を作成した。

17. 調査結果:

- アパート地区の各戸給水に比べて、ゲル地区は欲しい時に水が入手できない。2 日～3 日 に一回の給水車による水販売で、水道サービスは前者に比べて著しく劣る。したがって、ゲル地区の水道サービスの改善が優先されるべきである。
- アパート住民とゲル住民の水道料金の差は、情報公開しながら改めるべきである。
- アルタイ市の人々は、水質に対する認識を改めるべきで、硬度は高くなくむしろ大腸菌汚染、特にゲルの汲み置き水の汚染が高い。したがって、アルタイ市民を対象にテレビ、ラジオを使った保健所による広報活動、保健所の直接指導、および学校の授業で次の衛生教育を実施することを提案する。また、フィージビリティ・スタディーの中では、地域の衛生員のボランティアを募り、同活動を実施した(衛生訓練と水消費、汲み置き水の適切な管理と水消費、水と健康)
- 1998 年から始められた疫学調査を今後も継続し、慢性病の原因を究明すべきである。
- 有限な地下水資源を守るために取水井戸の運転水位低下は 6m 程度に抑えることが望ましい。
- 漏水率を段階的に低下させるべきである。給水ポンプ場、アパートの各建物、公共施設、各戸に水道メーターを設置し、漏水個所を特定し施設を改修する。また、メータの検診が重要で、水道局に担当部局の設置と職員の訓練が必要である。
- 全ての情報は官報、新聞、テレビ、ラジオを通して公開し、住民に地下水は有限な資源であることを認識させ、節水意識、環境保全意識を向上させる。

18. 留意すべき重要なポイント:

本案件は、もともとゲル住民を対象とした案件ではなかったが、調査の結果を社会分析し、アパート住民よりも国際基準に比べても水の消費量が少なく、経済的により厳しいゲル住民をターゲットとする調査結果と導き出している。社会調査の結果が十分に生かされた結果と言える。

2.2.3 その他のケース

発表されたケースは以下の通りである。（タイトル、発表者、国分け表）

1. The Role of the Department of Public Health Engineering in Poverty Reduction (Department of Public Health Engineering, Bangladesh)
2. Replication Potentials GFS and IFG in CHT (Green Hill, Bangladesh)
3. International Development Enterprises: The Shapla Arsenic Removal Filter: A Low-cost, House Hold Solution (IDE Canada, Bangladesh)
4. Improved Access to Quality Water –Cases from Ukraine (Gender and Water Alliance, Canada)
5. Pakistan: Role of the Traditional Water Supply Schemes in Poverty Alleviation in Turbat, Buluchistan (NRSP)
6. Piped Water Supply to Urban Poor Settlement in Dhaka: A Close Insight of DSK Model (DSK, Bangladesh)
7. Groundwater development in Altai City in Mongolia (JICA, Japan)
8. DWASA: Initiative for the Urban Slum Dwellers in Making Piped Water Provision (Dhaka Water Sewerage Authority, Bangladesh)
9. Water for the Poor (Manila Water Company, Philippines)
10. Impact of Arsenic on Rural Poverty (WPP, Bangladesh)
11. Partnership Approach for Water and Sanitation (WPP, Bangladesh)

上記の通り、11 のケース・スタディのうち 6 つがバングラデシュのケースであり、公衆保健省の取り組み、都市スラムの水供給、安全な水供給とヒ素との関連について発表された。バングラデシュにおいて特にヒ素の問題は深刻な問題であることが述べられた。その他、ウクライナの女性グループの安全な水に関する例、パキスタンでの NGO のプロジェクトの例、フィリピンの水供給の民営化ーなどが述べられるなど NGO のプロジェクトの概要が多く発表された。NGO は小規模なプロジェクトを実施しており、貧困層を直接的なターゲットとしていることからターゲティングや貧困層の特定に関する手法・方法論については特に議論されなかった。

時間的な制約もあったせいか全体的に実績を述べるに留まり、教訓として応用できる手法・アプローチがあまり発表されていなかった。また、案件の評価やインパクト調査を実施していないので持続発展性の検証や定量的な成果の測定までは行われていない。本分科会では時間の制限から発表の後に質疑応答の時間が全く与えられなかったことから、JICA のケース・スタディについての反応が把握できなかった。しかし、発表後、個人的に数人の NGO スタッフから調査手法についての質問があり、詳細な資料を送って欲しいという要望があった(International Development Enterprise, Canada, IWMI, Dr. Sarath Abayardana)。また、JICA の水と貧困分野に関する政策面での質問があった。

3. フィールド視察

3.1 プログラム概要

(1) プログラム名
低コスト灌漑・シャプラヒ素除去フィルター

(2) 訪問場所
International Development Enterprise (IDE), Bangladesh, House #15, Road #7, dhanmondi, Dhaka, Bangladesh (ダッカ中心部から 7km)、デモ農園、技術開発センター

(3) IDE について
IDE は 1981 年に設立され、アメリカ・コロラドに本部を置く非営利団体であり、世界各国で活動しており、1984 年からバングラデシュで活動を開始している。同団体のミッションは、民間セクターの供給システムを通して地域で製造、公正な市場価格で販売し、マーケティングが可能な技術を開発することにより、世界の最貧困層の社会・経済・環境に係わる状況を向上することである。IDE の他の NGO と異なる戦略は、開発に対してマーケット主導のアプローチを取っていることである。この戦略を通して、小規模農家、水不足、農村の貧困を中心として数多くの貧困層の所得向上や生活改善に貢献してきた。プログラムを成功させるコンポーネントは以下の通りである。

- 適正技術 (Appropriate)－農村の消費者の特性やニーズに応じた製品の開発をするために利用者のフィードバックを反映する
- 低価格(Affordable)－多数の農家が購入可能であり、ローカルの供給者が利益を得ることが出来るように、地域で購入可能な材料・原料や労働力を使いながら技術を開発する。
- 利便性(Available)－製品が小規模で遠距離の村を含む大多数の農家に提供できるように製造者を訓練し、販売ネットワークを確立することを目的としている。
- 持続性(Sustainable)－ローカルの民間セクターの供給網が独自のプロセスを維持するような技術や知識をもつことを支援する。質の高い製品が製造され販売され、アフターサービスも充実している。

特にバングラデシュでは、ヒ素中毒の問題に取り組み、安全な水を確保するためにヒ素除去の技術の開発に努めてきた。IDE が重視する点は以下の通りである。

- 世帯レベルの製品の供給

- 貧困層の購買力に見合ったもの製品開発
- 信頼性と高い効果
- 世帯レベルを対象にし、全ての製品にジェンダー配慮

3.2 安全な飲料水の確保のための技術開発

(1) 背景

バングラデシュのほとんどの地域で地下水のヒ素含有量が危機的なレベルにあることが近年報告され、800 万人がヒ素中毒、ひいては致命的な状況に危機にさらされていることが明らかになった。地下水井戸の 25-50%は飲料可能な限度量 0.05ppm 以上のヒ素を含んでいるとされており、ほとんどの地域の井戸でヒ素汚染が発見された。

(2) 目標

IDE は、ヒ素除去に即急に対応するために、1997 年から下記の 3 つのゴールを設定している。

- 教育を通してヒソ汚染に関する人々の意識を高める
- 井戸のヒ素レベルのテストを行う
- 購買可能な家庭の水の洗浄フィルター器具、雨水を利用した給水器具の開発を含む低コストのヒ素除去装置の開発

(3) 開発技術・製品

(a) ヒ素除去フィルター (Shapla Arsenic Removal Filter)

ラジャヒ(Rjshahi)大学のイスラム博士の協力により、開発されたものであり、実験室とフィールドで既に試行されている。このフィルターの成分は、鉄、塩と砕いたレンガを合わせたものでできている。バングラデシュの一世帯あたりの安全な水の量は平均で 20-30L であるのに対して、このフィルターは 12 時間に 50-60L の水を供給することが出来る。環境にも配慮しており、使用されたフィルターの物質を捨てても有毒物を発しない。メインナンスも特に必要なく、汚染された水を入れるだけで安全な飲料水を得られる。一世帯当たりの費用は、中に入れるフィルターとして使われる 20kg の粉末は、平均で 4-6 ヶ月間使用でき、かかる費用は 170 タカ(US2.8 ドル)である。また、フィールドでの試行は、UNICEF, DANIDA, World Vision, BRAC, グラミンなどと共同で行われている。

(b) 低コスト雨水取り込みシステム (Low Cost Rain Water Harvesting Systems)

バングラデシュではほとんどの場合地下水に依存しており、雨水を利用することは少ない。しかし安全な水を確保するためには雨水の利用が必要であり、本システムが開発された。この利点は、屋根にたまる雨水をセメント、レンガ、土でできたタンクにフィルターを通して貯め、より多くの

量を保存して置けることである。開発当初（2000 年)、3000L の水を貯めることのできるタンクが 5,100 タカ[4]であり、1 リットル当たり 1.7 タカであった。研究センターでは製品開発を行い最新式のもので 3000L の水を貯めることができ、建設費用が 3,700 タカ、1 リットルあたり 1.23 タカとよりよい品質でより低価格で提供する開発を進めている。屋根の無い家のために、シートに雨を貯めてタンクに水を貯めるシステムもある。その他、より低価格なものとして､PVC という特別な布地でできた袋式のものなど、経済レベルに応じて製品を選ぶことが出来る。

ヒ素除去フィルター

低コスト雨水取り込みシステム

3.3 低コスト灌漑施設の技術開発・普及

(1) 背景

本技術は IDE で開発したもので、インド、カンボディア、ヴィェトナム、中国、ザンビアなどでも普及しており、1984 年よりバングラデシュで普及している。IDE バングラデシュでは、バングラデシュの条件に合わせた技術開発、低コスト化への研究も行っている。

(2) 目標

低コストで適正な灌漑施設を供給することにより、所得向上を目指す。

(3) 開発技術・製品

(a) 家庭菜園用の放水システム (Drip Irrigation System)

他の国でみられるようにバングラデシュの農村ではほとんどの世帯が家庭菜園をもっており､瓶に水を入れて運ぶ仕事は女性の仕事とされている。この灌漑施設は雨水をバックに溜め、バックの横にある蛇口をひねるだけで、地面に這わせた小さなホースから放水するというシステムであり、女

[4] 1 タカ≒2.1 円

性の水運びの労力・時間を省略することが可能である。このシステムの設置には US10.17 ドルかかり、この貯水バッグに 300-350L の水を貯め、40 ｋ㎡の菜園をカバーすることができる。

(b) ペダル式灌漑ポンプ(Treadle Pumps)

このポンプは、ペダルを踏むだけで水を汲み上げることが出来る材料に竹を使うなどして、現地で低コストで調達できるものを利用している。現在までに、145 百万個のパイプが民間セクターを通して販売されており、過去 12 年間で年間平均一世帯当たり US100 ドル以上の付加的な収入となっている。価格は約 US15 ドルで、最貧困層でも購入可能である。

家庭菜園用の放水システム

ペダル式灌漑ポンプ

3.4 所感（谷口）

上記にもあるように、IDE の特徴的な戦略は、開発に対してマーケット主導のアプローチを取っていることである。また、IDE は適正技術と購買可能な低価格のための技術開発を行い、能力のあるローカルの民間セクターに技術を移転し、消費者に対するモニタリング、そのフィードバックを商品開発に生かす研究も行っており、アプローチとそのメカニズムが画期的である。NGO でも貧困層を受動的にとらえ、無償や補助金でモノ・サービスを提供することが多い中（特に飲料水の供給の場合）、IDE は、貧困層も必要なものに対する購買力・意欲を持っていること、またそのマーケットは多大であるとしており、実際に販売結果がそれを証明している。受益者負担の原則は、コスト効果(cost effectiveness)が高まるだけでなく、オーナーシップの観点からも重要である。また、民間セクターに技術を移転することで、民間セクターの能力向上にも貢献しており、適正技術の普及や持続発展性を確保することができる。JICA の今後の協力として考えられる点は、以下の通りである。

- バングラデシュのヒ素の問題は深刻であり、JICA としてもバングラデシュにおいて NGO と連携または NGO への財政支援をすることにより、世帯レベルでの安全な水に関する協力が考えられる。
- 安全な水への意識を向上するために、学校教育を通じて啓蒙活動を実施する

ことが効果的である(IDE では学校で男子生徒にはヒ素に関する注意が書いてある凧、女子生徒には日よけ帽子を配布している)。

- NGO や政府関連機関への灌漑・生活用水の供給に関する適正技術の開発への支援は、貧困削減を達成するために、また普及の観点からも重要である。

4. JICA への今後の提言[5]

効果的に貧困削減に貢献するには、協力機関として組織的に取り組むには、政策面、制度面、実施面における整備とその実施が不可欠である。すでに JICA の中で「水と貧困」の関連において取り組みが行われていることもあるが、前記の各側面から本会合を通してさらに必要だと思われることを下記の通り提言する。この提言の前提条件は JICA が貧困削減の一つの戦略として水供給を位置付けていることとする。

4.1 JICA の水と貧困に対する基本方針・政策の明確化

水を通しての貧困削減に対する強いイニシアティブを示し、制度的に貧困削減に貢献するには、JICA の「水と貧困」に向けての基本姿勢・政策とコミットメントを示す必要があると考えられる。この政策は、ミレニアム開発目標に沿ったものであり、地域、アプローチ、手法、重点配慮事項など具体的な内容を含むものとする。例えば、アジア開発銀行（ADB）の場合は、水に対する政策("Water for All: The Water Policy of the Asian Development Bank")の中で水、貧困、環境との関連性を明確に示しており、水政策と貧困削減に関する戦略を打ち出している。水政策の主な項目は以下の通りである。

- 水セクターの改革を促進（政策、改革、貧困層へのターゲティング）
- 統合的な水資源管理を促進（河川域の計画・運営管理、水の配分、環境保護と社会的な配慮、洪水制御）
- 水供給サービスの改善・拡大（地方分権、民間セクターの参加、官民のパートナーシップ、参加、水供給と衛生、灌漑と配水）
- 水保全の促進とシステムの効率性を向上（費用回復、規制、意識向上と教育）
- 地域の協力の促進と国内外での水資源の受益者間の分配（相互理解の促進）
- 水セクターの情報・経験の共有を促進（概念、戦略、ジェンダー）
- ガバナンスの改善（中心概念、能力向上）

水政策に関して、ADB の貧困削減に対する重点戦略は、１）貧困層への持続可能な成長、2）社会開発、3）よいガバナンスーである。貧困層の持続的な成長を支援するには、貧困削減戦略が環境や資源の生産性や質を高める政策や行動が伴わなければ

[5] 本提言の内容は、資料を入手した範囲で各分科会でのケース・スタディを再検討し、全体会議での合意事項や質疑応答の内容などを反映したものである。

ならないとしている。第一段階として、貧困層が社会参加するための機会を増やす社会関係資本の開発のための戦略は資源管理などのコミュニティー活動の促進を含んでいる。また、水・衛生、環境保全の観点からも女性の参加が不可欠である。また、よいガバナンスは参加型、貧困層への政策の実施を促進し公的資金の透明性を高め、公共サービスの有効的な供給を促進するものであるとしている。

4.2 国別アプローチと「水と貧困」の位置付けの明確化

国別アプローチはセクターや援助スキームの枠組みを越えて、国を単位に総合的な支援を行うことである。ワークショップでも指摘されたとおり、既存の法律・政策を実施することが行動への第一歩としている。特に、各国の水に関する法律、地方分権関連の法律、開発計画の実施が必要である。これらの法律、また被援助国の開発計画や PRSP との整合性を取りながら、相手国政府との相互対話の中で JICA の国別援助指針と国別事業実施基本計画の策定をし、水と貧困についての関連性を明確にし、基礎的な人間ニーズの観点から同分野に対する協力の優先順位を高くし、協力内容を具体化する必要がある。水に関する貧困対策事業は地理的な広域性とセクター横断的な（衛生、教育、インフラなど）性格が顕著な事業であるので国別アプローチを強化することは効果的である。

4.3 パートナーシップと連携の促進

会議でも指摘されたように、地域内、各ドナー間、被援助国とドナー間、国内（地方自治体や市民社会）などあらゆるレベルでのパートナーシップと連携の醸成は効果的・効率的に水供給を通して貧困削減を達成するために重要である。その場合に、ステークホルダー間の対話と受益者の意思決定への参加を促進する必要がある。特に開発の流れにおいて、被援助国でも地方分権が急速に進んでいるので、中央政府機関のみならず地方自治体への協力も必要となってきている。地方分権化を促進し、住民に効果的な水供給のサービスを提供するためにも地方自治体とのパートナーシップや連携、さらに能力向上への支援も必要となってきている。また、援助関係や政府機関のみならず、民間企業やＮＧＯを含め開発に参加できる個人や団体との連帯を広く持ち、プロジェクトの進展に従って、必要に応じて協力関係を形成できるような柔軟な体制を作ることも重要である。そのためには、幅広いステークホルダーとの対話と情報公開が必要である、

4.4 住民参加の促進

JICA の水供給の事業といってもスキームによって直接的な受益者層が異なるが[6]、本会合で繰り返し強調されていたように、いかなるレベルにおいても最終受益者のニーズに見合ったものであり、受益者からの需要主導型(Demand-led)でなければならな

[6] 例えば、技術協力（旧プロ技）の場合、政府機関が直接的な対象者となったり、開発調査の場合に政府機関であったり、直接的に住民であったりすることを指す。

い。これらは受益者のプロジェクトに対するオーナーシップを高めるだけでなく、持続発展性を高めることが可能である。具体的には、政府や援助機関が計画しているプロジェクトについて、対象地域の住民に意見を述べる機会が与えられ、さらに住民の意見が計画に反映するシステムが備わっていることである。もう一段高いレベルは、住民が受け身でプロジェクトに対応するのではなく、その形成、実施、運営管理などに実際に参画できることである。最も望ましいのは、住民のイニシアティブでプロジェクトが形成され、プロジェクトサイクルの各段階において住民との共同作業が十分に確保され、プロジェクト評価についても住民が中心になって行うケースである。

4.5 貧困削減のための手法

(1) 貧困対策案件の基準の設定

貧困削減を促進するためには、貧困対策案件の基準を設定する必要がある。OECD の DAC が中心になり、貧困対策援助の本格的な強化および援助機関や援助国の間での貧困対策援助の統計上の標準化を目的として、貧困マーカーが定められた。DAC 貧困マーカー自体は簡単なものであり、一般に貧困対策プロジェクト（貧困層をターゲットグループとし、その旨プロジェクト計画書に明記され、説明されているプロジェクト）とよばれる案件のうち、プロジェクトの主たる目的が貧困対策である場合に 2 点、複数の重要目標を持っているプロジェクトにあって貧困対策がそのうちの一つである場合に 1 点をカウントするものである。貧困マーカーを正式な指標として導入し、要望調査書や案件検討書に記載することを義務付けることにより貧困削減の積極的な取り組みが可能となる。しかし、これらは政策とともにオペレーションのためのガイドラインが必要となる。

(2) ターゲティング

会議の中でも強調されていたが、ターゲティングまたは貧困層の特定は貧困対策プロジェクトを実施するために最も重要な手法である。ターゲットグループの特定が必要なのは、開発途上国の現状を考えても、貧困層が膨大な数に上るために、単に「貧困層を支援する」とか、「貧困層を対象にした」というような一般的な表現が多く、プロジェクトがどのような人々に向けられた援助なのか解らないためである。同時に、ターゲッティングは援助に向けられる貴重な経済資源が貧困層以外に流出するのを防ぐという目的を持っている。草の根レベルの小規模なプロジェクトの場合、また対象地域全体が絶対的・相対的にも貧困地域であるとみなされる場合もあるが、貧困層といっても多様な社会経済構造を含んである。モンゴルのアルタイのケース・スタディに見られるように、同じ市内の住民であっても社会経済レベルに応じて水に対する問題やニーズが異なるので、水供給システムも生活様式に応じたものでなければならない。

(3) 社会分析

適切なターゲティングを行うためには、対象地域の選定のみならず受益者の特定を行う必要がある。この場合、社会調査による社会分析を行う必要がある。JICAが1992年にまとめた、「開発調査事業における社会分析ガイドライン」では、社会分析の役割を以下のように述べている。

- プロジェクトによって影響をうける住民を特定する。（ターゲットグループ）
- プロジェクトの実施可能性を向上させるため社会的なリスクに備える。（錯綜する社会的利害関係を把握する。）
- プロジェクトの受容性を高め、便益の実現可能性を向上させる。
- プロジェクトの便益の公平な分配を可能にする。
- 地域社会に対する社会文化的なネガティブ・インパクトを最小化する。
- プロジェクトの持続可能性を向上させる。
- プロジェクト評価の一環として、社会効果を明らかにする。

JICA の中でも各協力スキームで社会分析は浸透しているが、問題なのはその調査結果が現状の把握ということに留まり、異なったニーズが全体の水供給事業の計画に反映されにくいことである。調査には住民のニーズをよりよく把握し、問題解決のためのオーナーシップを高めるために PRA や RRA を使った定性的な参加型調査手法も必要である。同時に、JICA 事業の場合、対象受益者層数が多いこともあり、質問表による調査により統計的な有意性も確保する必要がある。これは、あらゆる社会分析をより効率的・効果的に行うことに役立つだけでなく、ベンチマークとしても利用でき、プロジェクトの実施中のモニタリング、評価にも活用でき、プロジェクトの貧困削減の効果・インパクトを定量的にも測定することが出来る。

(4) 組織アセスメント

本会議でも指摘されたように、各ステークホルダーの能力向上はプロジェクトやプログラムの持続発展性を確保するために必要である。そのためには、協力する実施機関だけでなく、関連するいくつかの組織について組織の持つ能力を正しく把握しておく必要があり、これを組織アセスメントと呼ぶ。組織分析の手法には、オランダの経営コンサルティング会社の MDF が開発した IDOS (Institution Development Organization Strengthening)がある。これは、組織の SWOT (Strengthes, Weaknesses, Opportunities, Threats： 強み、弱み、機会、恐れ)に基づいて分析をするものである。

組織の能力は貧困対策プロジェクトに限らず、どのようなプロジェクトであっても正しく把握していなければならないが、水関連プロジェクトにおいては、運営維持管理が必要な場合が多く、組織の能力が直接的なプロジェクトの効

果・成果、ひいては持続発展性にも大きく影響する。水供給事業の場合、複数の関連機関がある場合が多いので、協力機関だけでなく、関連機関の組織の能力を把握し、プロジェクトとの関連を明確にしなければならない。また、水利組合を設立・強化する場合にも長期的な組織開発は必要であり、リーダーシップやチーム強化、財務管理能力の向上などのトレーニングも必要であり、組織のモニタリングも重要である。

(5) 参加型のモニタリングと評価

モニタリングと評価はどのようなプロジェクトでも必要であるが、特に貧困層自身のモニタリングや評価への参加がプロジェクトの効果の発現や持続発展性に貢献することが指摘された。モニタリングでは、プロジェクトや調査を実施する前に予測できなかったことに対して柔軟に対応し、適宜プロジェクトを修正することができる。しかし、そのためにはベースライン調査をプロジェクト実施前に行い、定量的な指標を設定することが必要である。また、プロジェクトの実施後の評価や社会インパクトアセスメントは有益な今後の教訓を得るためにも必要である。

「水と貧困」アジア太平洋地域会合ワークショップ

ASIA-PACIFIC CONSULTATION WORKSHOP ON WATER AND POVERTY

Dhaka, 22-26 September 2002

III　ジェンダー関係報告

III ジェンダー関係報告

1. 全般

1.1 概要

(1) ワークショップの背景

ADB は、2002 年 2 月に Water and Poverty Initiative を打ち出し、第 3 回世界水フォーラムに向けて、「水と貧困」をテーマにアジア地域のステークホルダーの意見をとりまとめている。今回のワークショップは、このような計画の中で開かれた。今回は、ジェンダーに関わる特別なセッションはなく、広く全般的にジェンダーの視点を取り入れる形をとっている。ジェンダーに関する事例報告は、それぞれの属している分科会内部で行われた。

(2) 参加者概要

今回のワークショップ参加者は、参加総数 300 名の内、バングラデシュの参加者は、158 名であり(男　132 名、 女　16 名)、外国からの参加者は、142 名で男 99 名、 女 43 名であった。その内訳は、以下の通りである。

内訳		総数	男女別
アジア諸国政府機関および関連機関			
	バングラデシュ	58名	(男54名、女4名)
	キルギスタン	1名	(女1名)
	ダジキスタン	1名	(男1名)
	パキスタン	1名	(男1名)
	スリランカ	3名	(男3名)
	ミャンマー	4名	(男4名)
	タイ	1名	(男1名)
	モルディブ	2名	(男2名)
	ラオス	4名	(男3名、女1名)
	ネパール	5名	(男4名、女1名)
	カンボディア	4名	(男2名、女2名)
	ヴィエトナム	3名	(男2名、女1名)
	インドネシア	4名	(男3名、女1名)
	中国	4名	(男2名、女2名)

国際機関			
	世界銀行	6名	(男5名、女1名)
	WHO	1名	(男1名)
	ADB	18名	(男14名、女4名)
	JICA	18名	(男12名、女6名)
	JIBIC	3名	(男3名)
	CIDA	1名	(男1名)
	UNICEF	1名	(女1名)
	ESCAP	1名	(男1名)
	メコン委員会	2名	(男1名、女1名)
	大使館関係、その他	6名	(男3名、女3名)
水関連の専門家、大学機関、報道機関			
	バングラデシュ	34名	(男29名、女5名)
他の機関　NGOなど			
	バングデシュNGO	44名	(男37名、女7名)
	GWA	11名	(女11名)
	GWP	17名	(男16名、女1名)
	IDE	4名	(男4名)
	Water Aid	6名	(男4名、女2名)
	その他	32名	(男28名、女4名)

出所:第一日目配布参加者リストによるもので、実際の実績とは異なり、目的は参加者の男女別指標の抽出である。

1.2　分科会

(1)　分科会討議内容

第１日目と第２日目の分科会討議内容（概要）を次の一覧に示す。

分科会	水関連問題と解決のための戦略	貧困に関する水政策
1. Pro-Poor Water Governance	・制度と行政の改革 ・公平な水の普及 ・貧困層に合わせた政策の確立 ・財政の地方分権化 ・住民のエンパワメント ・法制度の整備	<政策レベル> ・透明性の確保 (政府・実施機関の説明責任、情報公開の促進) ・モニタリングの強化 (組織、事業、意思決定の過程など) ・地方分権の促進、財政面での支援 ・政治的意思の表明 ・住民参加の制度化 ・資源の共有と公平な配分 ・ジェンダー配慮の貧困政策 ・草の根レベルでのPRSPの作成 ・貧困者男女に対する情報の共有 ・ジェンダー・フォーカルポイント配置 ・行政におけるメインストリーミング等 <実施レベル> ・政策の制度化 ・法整備 ・TOTの強化 ・住民参加 ・Incrementalな実施 <コミュニティ・レベル> ・意識化の強化 ・能力とBargaining Powerの強化 ・集団行動と結束 ・教育、技術教育の強化 ・金融へのアクセスの強化 ・男女別指標によるコミュニティの資源のデータ化 ・NGOsによる貧困者の声の代弁 ・案件実施における貧困男女
2. Improved Access to Quality Water Services-Domestic Supply	・アクセスが不公平、貧困女性と子供が使用する権利を確立する必要性 ・ジェンダーと貧困へのインパクト調査の必要性 ・調査結果を計画にフィードバック ・需要に対する水供給計画の実施 ・住民組織化強化 ・環境配慮	
3. Improved Access to Quality Water Services-Food Security	・農業灌漑の普及 ・インフラの未整備	
4. Pro-Poor Economic Growth and Livelihood Improvement	・水汲みが女性や子供に負担 ・貧困者に適正な技術の不足 ・貧困者に可能なコスト負担の技術不足 ・ジェンダー配慮の必要 ・貧困者に配慮した政策の確立	
5. Community Capacity Building and Empowerment	・住民が声をあげて、選択する必要性 ・グループ結成 ・能力強化、Bargaining Power確保 ・情報の共有、教育の向上 ・トレーニングへのアクセス ・適切な技術へのアクセス ・金融へのアクセス ・意思決定への参加 ・自信の確立	
6. Disaster Prevention and Mitigation	・水関連の災害のインパクト調査を都市と農村別で行う。 ・男女別の災害状況調査を行う。	
7.Management of the Environment	・土壌劣化 ・法制度の整備 ・住民への教育	

(2) 分科会まとめ

以上の事例発表を踏まえて、Summarization of Outcome and Identification of Discussion Thames for Final Working Groups では、取りまとめが行われた(第 3 日目、9 月 24 日)。この時には、前提条件として、政府による政策的意思の表明、透明性の確保、住民参加がこれらの行動と政策に必須であるとされた。

2. JICA からの発表と参加

2.1 ケーススタディでの発表

9 月 24 日のパラレルセッションでは、水とジェンダーの関連で各グループにおいて各案件のケーススタディの報告がなされた。

タイトル	ラオス国北西部村落給水・衛生改善調査(開発調査)
発表者	水田加代子 (JICA専門技術嘱託)
発表内容	調査、計画、実施、モニタリングに住民が参加し、給水事業のオーナーシップを高め、ジェンダーのメインストリーミングをどのように達成したかを報告

タイトル	インドネシア国東ヌサテンガラ州スンバ県における地域住民参加型飲料水揚水計画による生活環境改善 (開発福祉支援事業)
発表者	山本恵美 (JICA企画部・評価部　環境・女性課　ジュニア専門員)
発表内容	給水事業をきっかけにした生活改善、住民参加による実施、所得向上やインフラ改善による効果的村落開発の事例を報告

タイトル	カンボディア国南部地下水開発計画調査(開発調査)
発表者	青木憲代 (第二次水資源調査団員、コンサルタント)
発表内容	経済社会の変化により、男女の役割が変化し、給水の維持管理にもジェンダーメインストリーミングが必要であることが教訓として残ったカンボディアの事例を報告

2.2 ブースでの展示

今回ケーススダディの発表関連のポスターと JICA のジェンダー関連の活動パネルが展示された。(具体的内容と写真)

3. その他のセッション

(1) Mufti-Stakeholder Dialogue on Pro-poor Policies (第 2 日目、9 月 23 日)

同セッションにおける議論の概要を以下に示す。

- 女性を組み入れるためにプロジェクトレベルでどのように実施するかが問題。
- 国家や各分野政策に Gender Mainstreaming が必要。
- 女性は Invisible になりやすい、すべてのプロセスに女性が参加することが必要。
- 男女共に意思決定に参加することが必須。
- 水は貧困から抜け出すために重要な手段であることをドナーが認識することが求められている。
- ジェンダーは男女の問題である。
- 指標を使って女性の参加を促進する

(2) Agenda and Discussion Issues – Steering Group Meeting 26th (第 5 日目、9 月 26 日)
同セッションにおける議論の概要を以下に示す。

- 第３回世界水フォーラムにおける貧困と水に関する論議の概観
  第３回世界水フォーラムにおける目的の明確化と今後の行動の具体化
  (問題点) 予算の限界と大会議の支出を正当化する困難さ。
- 第３回世界水フォーラムにおける行動の焦点
  テーマ別枠組みを通してのケーススタディを基礎として貧困者への安全な水供給の改善における行動の分析と統合
  将来の貧困対策に向けての行動に関するコミットメント

4. ジェンダー関連団体の発表と参加

4.1 GWA (Gender and Water Alliance)の動き

GWA は、ヨハネスブルグの会議ではブースを設けていたが、今回は、特にブースを設けず、他の WSSCC (Water Supply and Sanitation Collaborative Council)や Water Aid とともに今回、開催協力者(Partner)として準備の協力をした。GWA の代表 Ms. Jennifer Francis は、ワーキンググループのモデレーターや最終セッションのとりまとめを行うなどに関わった。 GWA からは 11 名のメンバーが今回の会議に出席し、各ワーキンググループに入り、各課題の中でジェンダー配慮やメインストリーミングの必要性を述べた。

(1) 参加メンバー

GWA の代表 Ms. Jennifer Francis はオランダから参加しており、インドから 5 人(そのうち 3 人は SEWA)は、フィリピンから 1 人、ネパールから 1 人、パキ

スタンから 1 人、バングラデシュから 1 人、カナダから 1 人が参加した。このうちほとんどのメンバーが、各分科会でそれぞれジェンダーと水関連の発表を行った(次の項目を参照)。本年 10 月に開かれるマニラ会議には、出席の予定はない。

GWA 参加者の出身国と所属

出身国	人数	所属
Netherlands	1	International Resource Center
India	3	SEWA, Self-employed Women's Association
India	1	Asia Consortium of Interdisciplinary Studies in Water
India	1	Consultant, Habi com International
Philippines	1	G& D Focal Point for Planning Dept of Environment and Natural Resources
Nepal	1	Development Alternatives Nepal
Pakistan	1	Rasta Development Consultants
Bangladesh	1	Gender and Development Specialist, Local Government Engineering Dept.
Canada	1	Consulting and Women's Network For Sustainability
合計	11	

(2) ケーススタディでの発表

以下がジェンダー関連の発表の題目である。配布資料としては、*のついたものを収集している。

- Gender and Economic Benefits from Domestic Water Supply in Semi Arid Area: SEWA in India by Gender and Water Alliance
- Women in Pro-poor Policy-planning Water Issues of Bangladesh by WAPRO (Water Resources Planning Organization)
- From Survival to Sustainability in West India, A Case Study in Resources Management by Women's Effort in Bharanagar District, Gujarat, India by WSSCC and UTTHAN
- Pro-Poor Water Supply and Sanitation Project (RWSSP Experience from Nepal) by Dr.Rajendra Shrestha, DAN (Development Alternatives Nepal)*
- Gender, Water, and Poverty –Experiences from Water Resource Management Projects in Bangladesh by, Ms Begum SHhamsun Nahar, LGED, Bangladesh*
- MAMA-86 and the Drinking Water Campaign in the Ukraine by Prabha Khosla, Pronto Canada*
- Engendering Environment and Natural Resources Management: The Experience of the Department of Environment and Natural resources in Mainstreaming Gender and development by Yalanda B. Gomets, Department of Environment and Natural Resources Manila, Philippine *

- Addressing Water and Poverty at the Grassroots: A Case Study of Area Water Partnerships and Women and Water Networks in South Asia by Ms. Simi Kamal, Jasveen Jairath*等

(*この発表の資料のコピーは、環境女性課山本ジュニア専門員とアイ・シー・ネット青木が保管)

4.2 GWA の水関連事業に関する Gender Mainstreaming の見解

GWA のメンバーが各セッション等で発言・主張した内、Gender Mainstreaming に関する見解をまとめたものを以下に示す。

(1) 飲料水

給水事業においては、一般的に職員や地方当局が男性であることが多いが、実際、女性は給水改善事業に関心が高く、それを維持しようという動きが高い。給水の施設の設置位置については、男女の意向とニーズが異なることが多い。給水事業においては、女性の方が維持管理に意欲的であるにもかかわらず、実際には、トレーニングは男性中心であり、女性はボランタリー 的な衛生向上や維持予防の役員として、男性は、有給の維持管修理者として位置づけられることが多い。

(2) 環境衛生

衛生施設は、安全な水供給に大きな影響を与えているが、実際は、世界人口の半数は、改善された衛生施設にアクセスがなく、途上国においては、飲料水の汚染の原因となっている。飲料水確保は、高い優先度で進められるが、衛生は、低い優先度に位置づけられる。しかし、実際は、女性にとって、衛生施設がないことは、行動距離、安全性やプライバシーの欠落を意味し、生産活動や世帯での暮らしで大きな影響を与えている。 また、施設が設置される際にも、異なるニーズを持つ女性もその選択に参加することが肝要である。また、設置後の管理についても、女子のみが掃除や管理者とならないように注意する必要がある。

5. 現地実施プログラムの訪問と示唆

第４日目には、バングラデシュ首都ダッカでの水関連プロジェクトへの訪問がなされた。ここでは、NGO が実施するダッカ都市スラムにおける給水、衛生改善のプロジェクトを紹介する。（分の量をふやす）

5.1 実施団体概要

<名称>

DSK (Dustha Shasthya Kendra 、貧困者のための保健改善センター)

<諸活動の特徴>

- 費用回収コストの観点からコミュニティが維持管理可能な水供給を実現化
- 女性の積極的参加
- コミュニティ主体の維持管理
- 水因性病気の減少

<活動の背景>

都市スラムにおける水事情の悪化と衛生の改善のために、DSK は、行政当局の認可を得て、住民参加型の給水・衛生改善事業を実施した。DSK は、ダッカ市内 20 箇所のスラムにおいて、プロジェクトを実施している。

5.2 訪問地域

実際の訪問地では、すでに水供給がなされ、衛生施設は共同で管理され、女性は、これらのプログラムの恩恵を受け、実際の維持管理費用の集金、ルールの監視、ルールの見直し、定期的水管理委員会の実施などを行っていた。また、池に面してバラックに住んでいることから、水の汚染を防ぐ非浸透式の衛生施設の管理を行っていた。

ダッカ市内におけるダウニアバードスラムの

5.3 他のプログラムへの示唆

- 衛生プログラムは、都市スラムの女性にとっての便益が大きく、トイレ設置により、時間が軽減され、生産や家事に従事する時間が増えたという報告があった。
- 維持負担コストの削減を前提とした施設を選択し、女性グループを中心に低コストな持続的な管理にあたっていた。

「水と貧困」アジア太平洋地域会合ワークショップ

ASIA-PACIFIC CONSULTATION WORKSHOP ON WATER AND POVERTY
Dhaka, 22-26 September 2002

Ⅳ　災害防止と緩和　－水に係わる災害と貧困－

Ⅳ　災害防止と緩和　－水に係わる災害と貧困－

1　全体討議の概要

JICA が国交省・ADB との共催で実施を予定している「貧困と洪水」地域会合ワークショップと最も関連の深い分科会「災害防止と緩和」の討議のまとめの要約を次に示す。(原文は、**添付資料－５**、「水と貧困」アジア太平洋地域会合ワークショップ　災害防止と緩和のまとめ(原文)　参照)

同セッションのまとめ発表風景（ADB　Silver 氏）

はじめに、グループは、洪水に焦点を当てて議論をはじめたが、参加者はテーマを水に係わる災害全般とすることとし、次のような意見があった。

- 洪水と渇水：特に、国境を越えて流れる国際河川の人工的な災害が強調された。
- 流域環境の悪化：上流域の森林破壊が下流の水に係わる災害の原因となり、また、洪水流量が短時間で増加する原因となっている。
- 河岸侵食：貧困層の多くが河岸沿いに住み、河岸侵食の進行で住む場所を失っている。
- 地下水汚染：バングラデッシュのほぼ全土にわたって、地下水井戸がヒ素で汚染されている。
- 海岸災害：サイクロンや、高潮、塩水遡上、海岸侵食などの海岸沿いの水に係わる災害が報告された。

このような、水に係わる災害の多くは貧困層を襲い、また、貧困層は貧困ゆえに益々災害のおき易い場所に居住する傾向にあることが指摘された。

- 水に係わる災害の対策戦略についての議論においては、政治的意志決定、利

益者とその他のステークホルダーとの協調、そして、維持可能な事業や計画に対する大規模な投資の必要性が強調された。

- 以上のような議論の結果、次に示す基本方針が提案された。

既存の政策・方針を活用するにあたっては、水に係わる災害の貧困層に対する影響を緩和することに焦点をあてる。

全ての新しい政策・方針の採用にあたっては、貧困に対する影響を必ず検討する。

ジェンダーを考慮する。

運営（ソフト面）の強化

構造物・非構造物対応のバランス

国際的な解決と協調

水に係わる災害の現状を的確に把握する。

的確な水文・社会現象のモニタリングシステムを採用し、流域環境の変化の把握

- さらに、貧困層に対する水に係わる災害を効果的に緩和する方策として、次のような提案があった。

水に係わる災害の緩和が基本であること。

住民参加方式は、底辺層から始まって、上位のレベルに向かうこと。

政治的意志決定

政治的意志を第３回世界水フォーラム閣僚会議に伝えること。

ソフト面の強化のための、人材育成。

地方レベルに対する支援の強化

ジェンダー重視

水に係わる災害に関する的確な現状把握

的確な水文・社会現象のモニタリングシステムの採用

2　パラレルセッション

災害防止と緩和をテーマとするパラレルセッションには、下記に示す論文の発表があった。

(Water) Disaster Prevention and Mitigation セッション

（グループ６）発表論文一覧表

	表題	国名
1	IT for Good Governance in Flood Disaster: Lessons Learnt from the late Monsoon Flood of 2000	Bangladesh
2	Riverbank Protection in the Lao PDR	Lao PDR
3	Cyclone Surge Modeling in the Coastal Area of Bangladesh	Bangladesh
4	Monitoring, Implementation and Maintenance of Existing and Future River Training Works for Control of Erosion	Bangladesh
5	Water and Poverty: Impact of FCDI intervention on women	Bangladesh
6	Women in water management during disasters: Experience of Gonoshasthaya Kendra	Bangladesh
7	Community Based Disaster Risk Mitigation: A Case Study in the Semi-Arid Areas of Gujarat	India
8	Rural Development Focusing on Flood Proofing in Bangladesh	Bangladesh

(各発表論文の内容については、資料編「水と貧困」アジア太平洋地域会合ワークショップ　災害防止と緩和における発表論文配布資料　参照)

災害防止と緩和　－水に係わる災害と貧困－分科会発表風景

（1）　生計向上型洪水対策計画

このセッションの中で、ＪＩＣＡが実施した「生計向上型洪水対策計画調査」に関してカウンターパートであるバングラデッシュ国地方政府エンジニアリグ局の Zahangir 氏から発表があった。その概要を下表に示す。

バンクラデッシュ国生計向上型洪水対策の発表概要

バングラディッシュ政府の要請に基づき、洪水氾濫域に位置し、その地理的特性から洪水被害が特に大きいチャール、ハオール地域にすむ住民（150 万人）を対象として、洪水被害を最小限に止めつつ、同地域の生計向上を図ることを目的として調査対象地区に対する洪水適応のマスタープランを作成し、優先計画に対してフィービリティ・スタディーを実施する。また、調査を通じてカウンターパートに対して技術移転を実施する。
本案件は、大きく 2 つのコンポーネント（河川・水分野における分析、対象村落の生活実態等にかかわる現地調査）に分けられ、雨季と乾季にわたり調査が実施されている。第一次調査では対象村落の生活実態等に関る現地調査を乾季・雨季とに分かれて実施している。
その内容は、1)女性生活実態調査、2)市場・流通調査、3)家内産業実態調査、4)村落インフラ調査、5)教育関連調査、6)村落住民組織調査、7)NGO 活動調査である。これらの調査により生活状態の実態を把握し、調査対象地域における制約・問題を分析し、貧困の根本的な原因とその悪循環について分析し、その要素の軽減を図った。

討議において、本案件の貧困対策に配慮する洪水対策の方法が評価された。

（２）　日本の伝統的水制工法である粗朶沈床

また、ラオスからは、日本の伝統的水制工法である粗朶沈床を使用した河川護岸工の適用の報告があった。この報告の中で、現在、JICA が実施中であるメコン河護岸計画調査が紹介された。討議の中で、この工法は、材料が雑木の小枝であることから、低価格であること、技術さえ習得すれば、大型機械を使用することなく施工ができることなどから、発展途上国に適した工法であるとして、評価された。その一方、維持管理や耐久性の面からの検討の要望もあった。

（３）　バングラデッシュでの洪水対策に関するジェンダー

バングラデッシュにおける二つの小規模な洪水・排水・灌漑事業の紹介があり、その中で、女性が男性に較べて、家事のみならず、農作業、それ以外の労働に多くの時間を費やしていること、洪水などの災害の影響も大きいことなどの紹介があった。
そして、次のような必要性を指摘した。

- 洪水・排水・灌漑事業をよりプロプアで親ジェンダーとするよう見直す。
- 同事業のプログラムを女性のニーズに合わせて立案する。
- 女性の働く時間を短縮し、レジャーの時間を増やす対策。
- 事業レベルや政策レベルでの制度的発展をより親ジェンダーとすることで同事業を福祉型にする。

（４）　女性訓練センターの能力開発

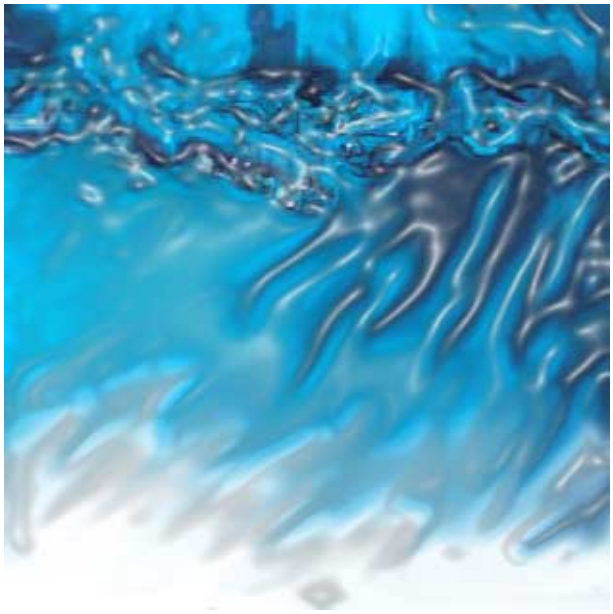
Nari Kundra 女性訓練センターは、バングラデッシュの女性の健康対策と非伝統的な技術の習得を目的として、１９７３年に設立された。非伝統的技術とは、金属加工・溶接、金網作成、大工、プラスチック加工、配管工、梱包、印刷、自動車運転、ポン

プ運転・維持管理等々である。
その習得した技術を活用して、灌漑・飲料水の管理を実施すると共に、災害時には避難所に対する水供給を行っていることの紹介があった。
最後に、このような技術の習得によって、女性が自身もって男性と共に働くようになり、女性が災害時における水管理をも行うようになったことから、女性に対する能力開発が災害の軽減と貧困削減に貢献すること示して発表を結んだ。

3 所感 （川上）

洪水という観点からみた貧困対策へのアプローチについては、発表者・参加者とも明確な実践や考え方を示すことができず、災害防止と緩和をテーマとするパラレルセッションにおいても、唯一、JICA／LGED の「生計向上型洪水対策計画調査」にかかわる発表が、貧困対策に取り組む洪水対策であった。
バングラデッシュからジェンダーから見た災害時の取り組みが紹介され、能力開発が災害支援にも有効に働くことが示された。これは、ジェンダー視点からばかりでなく、一般的な視野に立っても有効であることは、「生計向上型洪水対策計画調査」においても示されている。
また、発表課題も技術的なものが多く、このため、パラレルセッションの進行役は、同セッションの取りまとめを放棄したほどである。
これは、バングラデッシュの発表で示された洪水対策をもっとプロプアにするよう提案にもあるように、これまでの洪水対策が、人命・財産・土地を対象とし計画されてきたことにも原因はある。また、その反面、洪水対策における貧困対策を、貧困削減を直接的な目的、第一義的な目的とする事業に限定して考えられていることにも起因している。
貧困の解消に向けては、単に、収入を増やすことのみがその解決とはならない。教育や技術取得の機会、健康を維持するための栄養や衛生の課題など様々である。また、計画を貧困層のニーズに応じたものとすることも重要である。このような総合的な課題をセクターごとに分担しあい、その結果の総合として、貧困対策が実現できるものある。したがって、今後は、洪水対策にあっては、貧困層が甘受してきた洪水被害の緩和が第一の目標とすると共にその方法については多様性をもって対応すべきである。そのような観点からのも、JICA 調査「生計向上型洪水対策」で示された方式は、洪水被害の緩和を貧困層自らの自助努力を織り込んでいるところに、その斬新さがある。また、構造物を作って与えるというような形式ではなく、貧困層自らの参加によることで事業の依属意識の向上という面も重要である。
今回の「貧困と水会合」に参画して、改めて、生計向上型洪水対策の有効性を強く確認した。

1.3　洪水と貧困（マニラ）



第 2 次水資源プロジェクト研究計画調査

JICA・国交省・ADB 共催による
マニラ貧困洪水ワークショップ参加運営報告書

目　次

1. マニラ貧困洪水ワークショップ概要 1
1.1. ワークショップの目的と位置付け 1
1.2. 共同開催の分担 1
1.3. ワークショップの実施内容 2
1.3.1. プログラム 2
1.3.2. 開会式 4
(1) 議長挨拶（JICA 大井国際協力専門員） 5
(2) 主催者挨拶（ADB　Von der Linden 氏） 5
(3) 主催者挨拶（国交省河川局塩島次長） 6
(4) 基調演説（JICA 泉理事） 6
1.3.3. セッション別討議 7
(1) 非構造物による洪水対策
（議長: ADB Mr. Marshall, レポーター: ADB Mr. Ian Fox） 7
(2) 構造物による洪水対策
（議長: MLIT 松井健一氏, レポーター: JICA 川上俊器氏） 8
(3) 情報技術と洪水対策
（議長: Mr. Emanuel de Guzman,
レポーター: MLIT 中尾忠彦氏） 9
(4) 総合治水対策
（議長: JICA 大井英臣氏, レポーター: MLIT 菊池良介氏） 11
1.3.4. 全体会議 12
1.3.5. 閉会式 12
(1) 同ワークショップのまとめ（JICA 大井国際協力専門員） 13
(2) 第 3 回世界水フォーラムに向けて （ADB コンサルタント Marshall Silver 氏） 15
(3) 第 3 回世界水フォーラム「貧困と洪水」へ向けて （国交省河川局塩島次長） 16
(4) 主催者代表挨拶（Mr. Ian Fox） 16
1.3.6. 現地見学 16

1. マニラ貧困洪水ワークショップ概要

1.1. ワークショップの目的と位置付け

マニラ貧困洪水ワークショップは、国際協力事業団（以下JICAという）が、国土交通省（以下 MLITという）及びアジア開発銀行（以下 ADBという）との共催で、2002 年 10 月 17 日－19 日に実施したものである。

一方、第 3 回世界水フォーラムは、2003 年 3 月 16 日-23 日に実施された。その一つのテーマである「洪水」のセッションは 3 月 18-19 日に開催され、「貧困と洪水」はそのサブセッションとして、JICA、ADB、国土交通省の共催で実施された。マニラ貧困洪水ワークショップは、上記サブセッションの準備会合として計画実施された。

マニラ貧困洪水ワークショップは、貧困層に対する洪水の悪影響を軽減する方策を検討し、また、洪水と貧困層との関係の理解を深めるために、アジア諸国での洪水対策の経験を持ち寄り、意見を交換することにある。

1.2. 共同開催の分担

マニラ貧困洪水ワークショップは、JICA が発表論文の準備支援、発表者の招待、ワークショップの運営を、MLIT は発表論文の準備と発表者の招待、そして、ADB がワークショップの会場と施設の提供を分担するという協力関係の中で開催された。

JICA は、アジア諸国 8 カ国からの発表の支援と発表者の招待を実施した。

同ワークショップの参加者は、日本を含むアジア諸国 12 カ国から合計 118 人、内、ADB が実施した「水・都市」ワークショップからの参加者は 30 人、であった。

国別参加者の内訳は次のとおりである。

国 名	参加者数	国 名	参加者数
Bangladesh	5	Laos	4
Cambodia	2	Malaysia	3
China	3	Nepal	3
Indonesia	4	Philippines	64
Iran	1	Sri Lanka	3
Japan	25	Thailand	1

また、発表件数合計 31 のうち、JICA の支援によるものが 11 件、MLIT によるものが 19 件、その他 1 件であり、ADB の支援による発表はなかった。

さらに、JICA は現地見学会の準備から実施までの費用・手続きの一切を分担した。

1.3. ワークショップの実施内容

1.3.1. プログラム

ワークショップのプログラムを次に示す。

Day 1 - 17 October 2002 (MORNING SESSION)			
08:00 –09:00	Registration of Participants		
09:00 – 12:00	OPENING SESSION (Venue: Auditorium Zone D)		
09:00 – 09:15	Opening Remarks	JICA (Mr. Hidetomi Oi)	Subject: Conference organization and announcements
09:15 – 09:30	Welcoming Address	ADB (Mr. Von der Linden)	*Theme: Importance of poverty and floods to the ADB*
09:30 – 09:45	Welcoming Address	Deputy Director-General, River Bureau, MLIT (Mr. Takao Shiojima)	*Theme: Importance of poverty and floods to MLIT*
9:45 – 10:15	Coffee Break		
10:15 – 10:45	Keynote Address	Vice President of JICA (Mr.Kenjiro Izumi)	*Theme: Poverty and Floods*
10:45 – 11:15	Progress Report on Preparation for Third World Water Forum	Chief Officer, The Secretariat of the 3rd World Water Forum (Mr.Masanao Harada)	*Progress report on status of planning for the 3rd WWF*
11:15 – 11:30	Instructions for the sessions	MLIT / JICA / ADB	Subject: Description of the sessions
11:30 – 13:00	***Lunch in Private Dinning Room 2 – 4***		
Day 1 - 17 October 2002 (AFTERNOON SESSION)			
13:00 – 17:00	**Session 1 - Non-structural methods of flood mitigation and their impacts on poverty and the poor** **(Venue: Auditorium Zone D)**		
13:00 – 17:00	**Session 2 - Structural Methods of flood mitigation and their impacts on poverty and the poor** **(Venue: Auditorium Zone B)**		
13:00 – 17:00	**Session 3 - Workshop on Information & Indigenous Technology to Resolve Water Issues** **(Venue: BPHR mini-theater)**		

Day 2 - 18 October 2002 (MORNING SESSION)		
9:00 – 12:00	**Session 3 (continued from Day 1) - Workshop on Information & Indigenous Technology to Resolve Water Issues (Venue: BPHR mini-theater)**	
9:00 – 14:30	**Session 4 - Comprehensive Flood Management for Poverty Reduction (Venue: Auditorium Zone D)**	
12:00 – 13:30	***Lunch in Executive Dining Room of ADB***	
Day 2 – 18 October 2002 (AFTERNOON SESSION) (Venue: Auditorium Zone D)		
14:30 – 15:00	**Plenary Discussion**	
15:00 – 15:30	Coffee Break	
15:30 – 16:10	**Closing Session**	
15:30 – 15:40	Summary of results of the workshop	Mr. Hidetomi Oi (JICA)
15:40– 15:50	Preparation plans for 3rd WWF in Kyoto	Prof. Marshall Silver (ADB)
15:50 – 16:00	Preparation plans of Poverty and Floods for 3rd WWF in Kyoto	Mr. Takao Shiojima (Deputy Director-General, River Bureau, MLIT)
16:00 – 16:10	Closing remarks	ADB Mr. Ian Fox

Day 3 - 19 October 2002	Field Excursion

（セッションの詳細プログラムはセッション別討議の項に掲載した。）

1.3.2. 開会式

(1) 議長挨拶（JICA 大井国際協力専門員）

貧困と洪水の軽減に向けて、これまで世界的に多くの努力が払われてきた。これらの問題は、2003 年 3 月に京都で開催された第 3 回世界水フォーラムの主要課題の一つである。ワークショップでは、2 日間に渡り議論を行ない、3 日目には現場視察を行なう。

このワークショップの目的、貧困と洪水の悪循環のメカニズム、議論のポイント、ワークショップの構成（4 つのセッションと最終全体討論）に関し説明を行なった。特に、議論のポイントとして、以下の 5 つの点を上げた。

- 非構造物治水対策の重点化
- 事業や計画を成功させるための参加型アプローチ
- 組織や人の能力開発
- あらゆる関係者とのパートナーシップ
- 事業におけるジェンダーや平等意識の重視

(2) 主催者挨拶（ADB　VON DER LINDEN 氏）

何百万人という洪水被災者の大多数は、1 日 1 ドル以下の低所得者層であり、このため、洪水にたいする脆弱性はさらに悪化し、貧困サイクル（Cycle of Poverty）からの脱却を難しくしている。ADB は、洪水緩和・管理事業(Flood Mitigation and Flood Management Projects)の計画・実施には、貧困コミュニティーが充分に参画する必要があると、確信している。

洪水は必ずしも災害だけをもたらすだけでなく、肥沃な土の供給、地下水の涵養、生態系の保護などに貢献していることも理解する必要がある。このため、現在の考え方は、都市部は大洪水からフィジカルに防護する必要があるが、全洪水流を河道に閉じ込めることは、地方において非現実的で望ましいものではない、というものである。現在の試みは、頻度の高い中小洪水を防御し、同時に大洪水による深刻な影響を緩和するものである。

(3) 主催者挨拶（国交省河川局塩島次長）

洪水に賢明に対処し、洪水による社会への悪影響を最小限に押さえるためには、流域住民をはじめとする様々な関係者が協力してその役割と責任を分担すること、つまり、ダムや堤防、遊水地などの施設を整備することとあわせて、情報提供、水防活動や避難活動等の危機管理を行うこと。そのためには、住民の知識の向上、人材の育成、諸機関の能力強化が必要である。

また、このワークショップの成果は、第３回世界水フォーラムにおける「洪水」セッションのほか、共催者であるアジア開発銀行がコーディネーターとなる「水と貧困」セッションや、「水と情報」セッションの成果に着実に反映するよう提案した。

(4) 基調演説（JICA 泉理事）

近年、世界の洪水被害がアジアモンスーン地域に集中している。特に、洪水被害の危険性の高い地域には、貧困層が多く居住しており、その人口増加により、被害に対する脆弱性が益々増加している。一方、貧困の軽減が世界の開発援助における主要課題となっている。このような状況から、貧困と洪水の軽減に関する JICA の取り組みを事例報告と共に紹介した。事例報告では、①インドネシア国ブランタス川流域を対象とした総合流域開発の事例、②フィリピン国オルモック市治水事業を対象とした洪水災害後の復旧事業の事例、③バングラデッシュ国洪水適応型生計向上計画調査による貧困層を対象とした洪水災害軽減対策の事例を紹介した。さらに、洪水被害と貧困の軽減に向けて、次に示す視点が重要であること指摘した。

- 総合的流域開発
- 構造物による治水対策
- 構造物対策と非構造物対策の効果的組み合わせ
- 小規模な治水対策と貧困軽減対策の統合事業
- 地域住民の参加
- 貧困層に対する生計支援

最後に、JICA は今後とも開発途上国に対し、経済開発や生活環境の改善、貧困の軽減を促進するため、関係政府機関、他の援助機関、NGO、民間団体などと益々協力していくことを伝えた。

1.3.3. セッション別討議

(1) 非構造物による洪水対策

（議長: ADB MR. MARSHALL，レポーター: ADB MR. IAN FOX）

1) プログラム

Day 1 - 17 October 2002 (AFTERNOON SESSION)		
13:00 – 17:00	**Session 1 - Non-structural methods of flood mitigation and their impacts on poverty and the poor** **(Venue: Auditorium Zone D)**	
13:00 – 13:10	Key Note Speech	Mr. Roman Kintanar
13:10 – 13:40	Rural Development Focusing on Flood Proofing in Bangladesh	Case study: Bangladesh (Mr. Md. Zahangir Alam, LGED)
13:40 – 14:10	Typhoon Committee; Harard Mapping Project and Practice in Japan	Case study: Japan (Mr. Ryosuke Kikuchi)
14:10 – 14:40	Flood Hazard Mapping Project of San Juan River, Quezon City	Case study: Philippines (Mr. Oskar D. Cruz)
14:40 – 15:10	The Flood and Flood Forecasting in Yangtze River	Case study: China (Ms. Cheng Lin)
15:10 – 15:40	Coffee Break	
15:40 – 16:10	Flood Hazard Mapping in the Caribbean and the Latin America	Case study: Caribbean and the Central America (Mr. Hidetomi Oi)
16:10 – 17:00	Discussion on Non-structural methods of flood mitigation and their impacts on poverty and the poor	

2) まとめ

集約された質疑･討論の結果の概要を次に示す。

- バングラデッシュにおいては、Flood-proofing が唯一、現実的な洪水対策である。Flood-proofing は、参加型と、NGO･行政間協力が必要である。
- ハザードマップは、住民が洪水の危険度をしり、転地などを促進するのに有効である。
- 遊水地の活用は既存の洪水調節機能を高め、洪水域住民の安全性を確保する働きがある。

(2) 構造物による洪水対策

（議長: MLIT 松井健一氏，レポーター: JICA 川上俊器氏）

1) プログラム

Day 1 - 17 October 2002 (AFTERNOON SESSION)		
13:00 – 17:00	**Session 2 - Structural Methods of flood mitigation and their impacts on poverty and the poor (Venue: Auditorium Zone B)**	
13:00 – 13:40	Flood Control Projects and Poverty in Urban Area in the Philippines	Case study: Philippines (Mr. Emil K. Sadain, DPWH)
13:40 – 14:20	Development of the Brantas River Basin, East Java Province, Indonesia	Case study: Indonesia (Mr. A. Rusfandi Usman, M.Eng.)
14:20 – 15:00	Riverbank Protection in the Lao PDR	Case study: Laos (Mr. Bounthieng VENVONGSOTH, MCTPC)
15:00 –15:30	Coffee Break	
15:30 – 16:00	Flood Control Projects Contribution to Basin Development in Japan	Case study: Japan (Mr.Toshihiro Sonoda)
16:00 – 16:30	Report in Eradication Poverty, River, Storm-water Management and Flooding Issues in Malaysia	Case study: Malaysia (Mr. Mohamed Roseli Bin Zainal Abidin, DIDM)
16:30 – 17:00	Discussion on Structural methods of flood mitigation and their impacts on poverty and the poor	

2) まとめ

集約された質疑･討論の結果の概要を次に示す。

- 構造物による対策は、洪水対策について、有効な手段である。
- 河川流域開発は、地域経済発展に貢献している。
- 持続可能な、構造物や施設の維持管理の方法論は、事業計画時に真剣に検討されなければならない。
- 貧困対策のためには、事業計画時における社会･経済的解析が重要なアプローチとなる。

(3) 情報技術と洪水対策

（議長: MR. EMANUEL DE GUZMAN，レポーター: MLIT 中尾忠彦氏）

1) プログラム

Day 1 - 17 October 2002 (AFTERNOON SESSION)		
13:00 – 17:00	**Session 3 - Workshop on Community Disaster Management and Information Technology (Venue: BPHR mini-theater)**	
13:00 – 13:10	Key Note Address (Dr. Tadahiko Nakao, FRICS, Japan)	Information and Indigenous Technologies to Resolve Water Issues
13:10 – 13:20	Report on the WS in Dhaka	Dr. Tadahiko Nakao, FRICS, Japan, (Mr. Giasuddin Ahmed Choudhury, WARPO)
13:20 – 15:00	Flood Forecasting and Warning Response System	Case study: Bangladesh (Mr. A.N.H. Akhtar Hossain, BWDB)
	Community Based Flood Management in Bangladesh - A Pilot Project in Bangladesh	Case study: Bangladesh (Mr. Muhammad Saidur Rahman, Bangladesh Disaster Preparedness Centre)
	The Recent Bangladesh Flood Sector Projects of ADB	Case study: Bangladesh (Mr. Kenichi Yokoyama, ADB, Philippines)
	Flood Warning and Typhoon Forecast in Japan	Case study: Japan (Mr. Tatsuya Kimura, MLIT)
	The Study and Perspective on Flood Fighting Activity Using River Information Technology in Japan	Case study: Japan (Mr. Masanao Harada, MLIT, Chief Officer, The Secretariat of the 3rd World Water Forum, Japan)
	Key Note Address (Dr. Tadahiko Nakao, FRICS, Japan)	Information and Indigenous Technologies to Resolve Water Issues
	Report on the WS in Dhaka	Dr. Tadahiko Nakao, FRICS, Japan, (Mr. Giasuddin Ahmed Choudhury, WARPO)
15:00 –15:30	Coffee Break	
15:30 – 16:30	Discussion on Flood Forecasting and Warning System and Community Disaster Prevention	

Day 2 - 18 October 2002 (MORNING SESSION)		
9:00 – 12:00	**Session 3 (continued from Day 1) - Workshop on Community Disaster Management and Information Technology**	
9:00 – 10:00	The Present State and Future Policy on Flood Forecasting and Warning System in the Philippines	Case study: Philippines (Ms. Susan R. Espinueva, PAGASA)
	Small-Scale Flood Mitigation Project; an NGO Experience	Case study: Philippines (Mr. Lim A. Alberto, CNDR)
	Regional Cooperation in Flood Forecasting and Information Sharing	Case study: Nepal (Ms. Mandira Shrestha, ICIMOD, Nepal)
	Flood Forecasting - Warning System and IT Application in Malaysia	Case study: Malaysia (Mr. Mohd Zaki Mat Amin, DID)
	The Present State and Future Policy on Flood Forecasting and Warning System in the Philippines	Case study: Philippines (Ms. Susan R. Espinueva, PAGASA)
10:00 – 10:40	Discussion on Flood Forecasting and Warning System and Community Disaster Preparedness	
10:40 – 11:10	Coffee Break	
11:10 – 12:00	Discussion on Community Disaster Management and Information Technology	

2) まとめ

集約された質疑･討論の結果の概要を次に示す。

- 情報の源は常に住民であること
- 洪水対策システムはコミュニティレベルに適応できるよう変換すべき。
- 科学的解析に基づいた情報が、洪水対策の基本であること。

(4) 総合治水対策

（議長: JICA 大井英臣氏, レポーター: MLIT 菊池良介氏）

1) プログラム

Day 2 - 18 October 2002 (MORNING SESSION)		
9:00 – 14:30	**Session 4 - Comprehensive Flood Management for Poverty Reduction (Venue: Auditorium Zone D)**	
9:00 – 9:30	Impact of Flood Control on Poverty and Land Use	Case study: JBIC (Mr. Kenichi Matsui)
9:30 – 10:00	Flood Management and Poverty in Rural Area (Philippines)	Case study: Philippines (Ms. Rebecca T. Garsuta, DPWH)
10:00 – 10:30	River Basin Management in China: Actuality and Issues	Case study: China (Mr. Cheng,Xiaotao, IWRHR;
10:30 – 10:45	Coffee Break	
10:45 – 11:15	Flood Disaster and the Specified Flood Detention Areas in China	Case study: China (Mr. Wang, Xiang; SFCDRH)
11:15 – 11:45	Poverty and Floods – The Nepalese Context	Case study: Nepal (Mr. Damodar Bhattarai, MWR)
11:45 – 12:15	Land Degradation, Natural Disasters and Poverty ; A Comprehensive Approach to Break the Vicious Cycle in Arid Region	Case study: Iran (Dr. Forood Sharifi, MJA)
12:15 – 13:30	***Lunch in Private Dinning Room 2 – 4***	
Day 2 – 18 October 2002 (AFTERNOON SESSION) (Venue: Auditorium Zone D)		
13:30 – 13:50	Integrated River Management in Japan	Case study: Japan (Mr. Toshihiro Sonoda, MLIT)
13:50 – 14:10	IF Net (International Flood Network)	Case study: Japan (Mr. Akira Sasaki, IDI)
14:10 – 14:30	Discussion on Comprehensive Flood Management	

2) まとめ

集約された質疑･討論の結果の概要を次に示す。

- 洪水対策について、構造物対策と同様、非構造物対策の必要性が

高まっている。

- 気象･水文データのような情報の共有が必要である。
- 衛星利用の河川水位観測システムは、開発途上国について、有効であること。
- 洪水に関する国際ネットワークの構築（IFネット）の必要性が認められる。

1.3.4. 全体会議

前項で述べた各セッションのまとめが、それぞれのレポーターから、全体会議の議長団に対して報告があり、質疑討論が、ブランタス川開発の経験から、1河川、1計画、1元管理の必要性や国際河川問題を解決するためのコミュニケーションの重要性が訴えられた。

1.3.5. 閉会式

(1) 同ワークショップのまとめ（JICA 大井国際協力専門員）

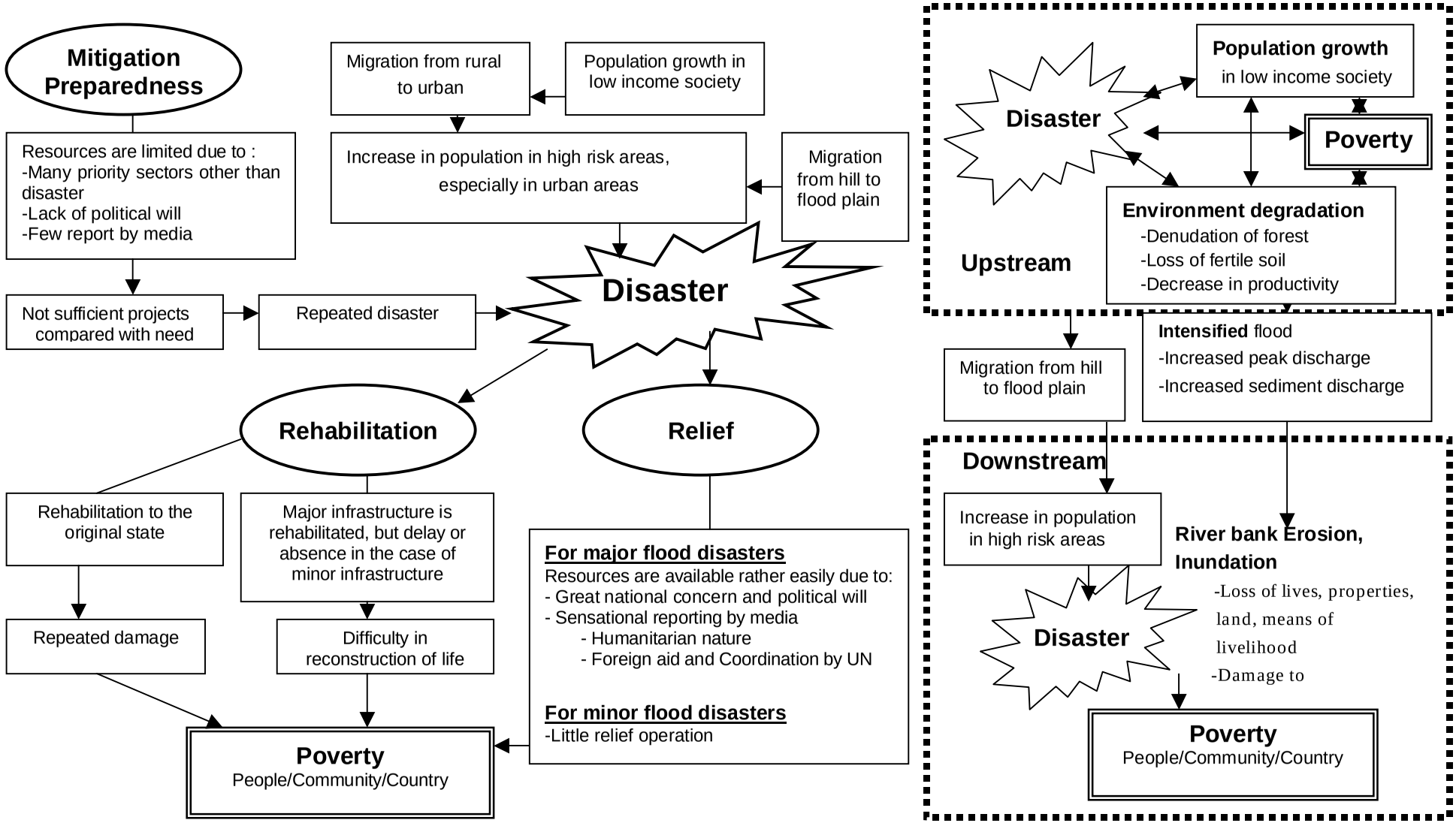
貧困と洪水災害に関するメカニズムをワークショップのまとめとして紹介した（図参照）。そのリンケージの概要は以下の通りである。

- 人口増加、環境悪化、災害、貧困といった上流域での永続的な悪循環。
- 上記悪循環による上流の高台から下流の低平地への移住、そして上流域の環境悪化による洪水流出の集中、等々が起因する下流低平地の洪水に対する脆弱性の増大。
- 地方から都市への移住、急激な都市化、上記の上流域と下流域の洪水災害に関連する問題、等々による都市及びその周辺での洪水に対する脆弱性の増大。
- 繰り替えされる洪水災害と悪化する貧困などの原因である洪水災害後の不十分で不適当な洪水軽減・監理（FMM: Flood Mitigation and Management）

さらに、ワークショップのケーススタディーをもとに得られた主な知見として以下の点を挙げた。

- 洪水災害は洪水常習地域における根本的課題であり、適切な FMM なしでは貧困軽減に対する努力は実らない。

Flood Disasters and Poverty



- 構造物による治水対策は、その事業効果により社会経済状況を改善する上で非常に効果的である。さらに、裨益住民に対して最大限の便益を生むためには、① FMM に対して、ハード・ソフト対策、利水、環境保全、等々を組み合わせた総合的アプローチ、② 国際河川はもとより単一流域として取扱い、全流域やあらゆる関係者を対象とした流域的アプローチ、などの 2 点を考慮するよう提案する。
- FMM をさらに効果的に実施するためには、① 社会調査計画を可能な限り事業に取り込むか、あるいは、事業の主目的として貧困軽減を直接とりあげる。② 事業対象地域を選ぶ場合、貧困地域を優先的に取り上げる。③に貧困問題をさらに効果的に検討するため、社会経済調査を実施する。

これらの知見から得られた教訓として以下の点を指摘した。

- 関係政府および援助実施機関における FMM へのアプローチは、経済開発を主目的とした従来の事業から貧困層を対象とした事業に移行しつつある。
- 洪水災害の軽減と経済開発の達成のための FMM の実施にもかかわらず、貧困指数は軽減されていない。そこで、FMM は、必要条件であるが、貧困軽減に対しては十分条件ではない。

さらに、貧困軽減に対し FMM を実質的に効果のあるものとするためには、以下の量的・質的改善を必要とする。

- 質的には、上記のワークショップのケーススタディーで得られた知見を実施する。
- 上記の貧困層重視のアプローチを進める一方、さらに事業の量的拡大を図る。
- 経済開発効果に加えて、FMM において人道的見地が重要であることが政府や援助機関により広く認識されるべきである。
- フィリピンのオルモック治水事業のように、洪水災害後、可能な限り早急に復旧事業を実施すべきである

以上の点から、第 3 回世界水フォーラムは、FMM を国際的課題として取り上げる絶好の機会と考える。

(2) 第 3 回世界水フォーラムに向けて
（ADB コンサルタント MARSHALL SILVER 氏）

第 3 回世界水フォーラムに向けた準備活動についてプレゼンが行われた。特に ADB、JICA、MLIT 等の主な取り組みである Regional Consultation Workshop について、以下の説明が行われた。

- 9 月 22-23 日、バングラデッシュのダッカにおいて、「水と貧困」のテーマで開催された。ADB はスポンサーのひとつであり、MLIT と JICA と共に 3 つの分科会に参画した。
- 本マニラ会合は、第 2 回の Regional Consultation Workshop となり、「貧困と洪水」のテーマの下で 10 月 17-19 日、ADB 本部にて MLIT、JICA、ADB の共催で実施された。
- 今後の中国の北京（11 月）ならびにベトナムのホーチミン市（12 月）で同種の Workshop を開催する予定であり、ADB は現地関係機関と共催する。MLIT、JICA の参画も期待される。
- これら 4 回の Workshop における議論の結果を第 3 回世界水フォーラム「水と貧困」「貧困と洪水」のセッションに反映させる。

(3) 第 3 回世界水フォーラム「貧困と洪水」へ向けて（国交省河川局塩島次長）

塩島氏は、挨拶の中で、この地域会合で得られた成果は、来年 3 月の第 3 回世界水フォーラムに次に示すように、反映されることを指摘した。(1)この地域会合の直接的な続きとなる「貧困と洪水」分科会では、洪水がもたらす貧困への対処方法をより広く深く分析し、洪水セッション全体の重要なアウトプットを提案する。(2)このアウトプットは、洪水セッションから閣僚級国際会議に提出される提案書に盛りこまれる。(3)また、共催者であるアジア開発銀行がコーディネーターとなる「水と貧困」セッションにおいても、洪水の切口から貧困問題を分析した本会合の成果が生かされる。(4)さらに、洪水被害に対処するための有効な情報技術の活用は、国土交通省と（財）河川情報センターが「水と情報」セッションで共催する「情報技術と防災の融合」分科会にも生かされる。

(4) 主催者代表挨拶（MR. IAN FOX）

閉会式の最後に、主催者を代表する形で、ADBFox 氏が、参加者に感謝の念を伝えると共に、閉会を告げた。

1.3.6. 現地見学

現地見学会は、19 日、マニラ首都圏内の内水対策事業の一環であるポンプ排水施設（Tripa de Gallina Pump Station）、同首都圏を流れるパッシグ･マリキナ川の洪水調節施設であるナピンダンゲート（Napindang Hydraulic Control Structure）やマンガハン放水路(Mangahan Floodway)とこれらの施設を有効に操作するための EFCOS（Effective Flood Control Operation System）を対象に実施された。

参加者は、合計 42 人であり、大型バス1台と先導車で見学会を実施した。また、マンガハン放水路沿いの人口密集地の見学時には、EFCOS 事務所のパトロールカーの先導を受け

た。

また、マニラ洪水調節関連施設の操作･維持･管理が、最近、DPWH（Department of Public Works and Highways）から MMDA (Metro Manila Development Authority)に移管されたことで、連絡指示系統など混乱も心配された。しかしながら、JICA フィリピン事務所から MMDA への依頼により、これら関係施設見学はスムーズに実現した。

トリパデガリーナポンプ場では、都市問題の一環であるゴミ問題に参加者の興味が集中した。また、EFCOS の施設説明では洪水調節ばかりでなくその情報伝達機能にも関心が集まった。さらに、マンガハン放水路に沿いの不法占拠者地帯の実態に関して、参加者は、自国の実情も踏まえて、共通の都市問題として捉え、関心が集まった。

なお、現地見学会の計画･準備･実施にあたっては、JICA 派遣専門家（DPWH）香川氏から多大な協力を得た。

Preparation for
The Third World Water Forum
Kyoto, Shiga and Osaka, Japan
March 16-23, 2003

Regional Consultation Workshop on

Poverty and Floods

17-19 October 2002, Manila Philippines

Organized and Sponsored by:
The Ministry of Land, Infrastructure and Transport, Japan (MLIT)
Japan International Cooperation Agency (JICA)
Asian Development Bank (ADB)

SUMMARY RECORDS OF THE KEY PRESENTATIONS AND LESSONS LEARNED FROM THE CONSULTATION WORKSHOP

Ministry of Land, Infrastructure and Transport, Japan (MLIT)
Japan International Cooperation Agency (JICA)
Asian Development Bank (ADB)

REGIONAL Consultation Workshop on POVERTY AND Floods

17-19 October 2002, Manila Philippines

EXECUTIVE SUMMARY

A Regional Consultation Workshop on *Poverty and Floods* was held in Manila, Philippines, on 17-19 October 2002. Workshop inputs included case studies and thematic discussions. The process involved presentations, plenary discussion sessions, and field visits to flood management projects. Outputs provided the basis for presentations and discussions at the 3WWF. Participation was sought from within and outside the water sector, with participants being drawn from many countries. The Regional Consultation Workshop was organized and sponsored by The Ministry of Land, Infrastructure and Transport, Japan (MLIT), Japan International Cooperation Agency (JICA) and The Asian Development Bank (ADB).

After a brief introductory speeches by representatives of The Ministry of Land, Infrastructure and Transport, Japan, Japan International Cooperation Agency and The Asian Development Bank, a keynote address was presented by Mr. Kenjiro Izumi, Vice President, Japan International Cooperation Agency on *"Activities of JICA on Poverty Alleviation and Flood Disaster Mitigation".*

The participants split into four parallel sessions and discussions were held on the following topics:

1. Non-structural methods of flood mitigation and their impacts on poverty and the poor
2. Structural methods of flood mitigation and their impacts on poverty and the poor
3. Community disaster management and information technology
4. Comprehensive flood management for poverty reduction

The discussions and the recommendations of the workshop can be summarised as follows:

1. World wide, Asian countries have been suffering the most in recent years from flood disasters: 40 to 50 percent of flood disasters and 70 to 90 percent of flood related deaths occur in Asian countries. This high damage and loss of life is due in part to the monsoon and other natural conditions; coupled with rapid urbanization and other social factors in the Asian region. The flood risk situation is worsening as flood vulnerability grows due to concentration of poor populations in areas with high-risk of flooding. The impact of global climate change must also not be overlooked as a causal

factor for increased poverty and flooding in Asian countries.

2. In many Asian countries, rural poor migrate into cities in search of employment; and many poor households set up their shelters on river banks or in river flood plains. Even if these poor households are aware of the flood hazard, they have no choice of where they live because they cannot afford to buy land in flood-free areas.
3. Poverty reduction is one of the contemporary World's greatest concerns. Therefore "floods and poverty" is an important and proper topic for the 3rd World Water Forum, which is being held for the first time in Asia.
4. Flood disasters are a recurring event in flood prone areas where many poor people live. That is why effective flood mitigation and management is a fundamental need of sustainable development if poverty is to be significantly reduced in Asia.
5. However, flood mitigation and management, except for emergency relief after major flood disasters for which foreign assistance is usually available, is an extremely difficult task.
6. Poverty is a result of a complicated process involving population growth, environmental degradation, disasters, etc. Flood mitigation and management alone cannot solve the issue of poverty effectively. An integrated approach is necessary.
7. Structural measures for mitigating flood impacts on the poor are most often positively effective in contributing to the enhancement of the socio-economic condition of people benefiting from a structural flood mitigation project. Improving socio-economic conditions permanently against the negative impacts of floods generates improvement in the living standard of poor households and is fundamental for sustainable development.
8. Harmonization and balance between structural (construction) methods of flood control; non-structural (planning training and warning) methods of flood control; and conservation of flood prone environments (natural wetlands) is one of the pivotal factors in planning sustainable river basin development projects that positively impact the poor.
9. Any completed water resources structure needs to be properly managed to sustain its desired purpose. This means that a flood mitigation project does not end when the construction is complete or when the first round of community flood disaster preparedness is given. A continuing program for the proper operation and maintenance of the flood mitigation structure has to be stringently implemented and grassroots disaster preparedness must be repeated. Otherwise, lack of proper operation and maintenance and lack of practice in using disaster preparedness training will negate the flood disaster mitigation purpose the structure or the training was designed for. Therefore, life cycle costs, including construction and operation and maintenance costs, must be considered in the decision making process for

project implementation.

10. All possible approaches to alleviate poverty caused by water disasters have to be tested; and their impact assessed locally by the people who are being protected from negative flood impacts. Accordingly, socio-economic analysis is an important requirement for the project formulation if a flood mitigation project is to contribute successfully to poverty reduction.
11. People in developed countries like Japan believe in TV commentary and water disaster warnings. On the other hand, grassroots populations in developing countries more often trust and take action for protection against water disasters if the warning comes from local religious leaders, from government officials, or from non-government organization leaders.
12. Distribution of accurate and understandable water disaster information is important and fundamental to the protection of the poor against the negative impacts of flooding.
13. People living in disaster prone areas know a great deal about traditional coping mechanisms for protection against water disasters such as flooding. In many cases, NGO's can effectively re-activate knowledge of these traditional coping mechanisms and re-establish the confidence of a community to again use these traditional flood management coping measures.
14. Value of life must be taken into consideration when configuring a disaster mitigation system on the community level.
15. Any effective flood mitigation solution targeting poverty reduction must use appropriate structural flood mitigation technologies along with appropriate non-structural flood mitigation technologies. The composite flood mitigtion system must be harmonized using both information technology and local indigenous flood coping mechanisms. Knowledge based on science should be the basis of coping with floods using structural measures. Knowledge based on the will of the people should be the basis of coping with floods using non-structural measures.
16. In community based disaster management activities, the role of women is both important fundamental in order to disseminate water disaster coping information and to make decisions on when and how to evacuate from flood threatened areas to flood water safe areas.
17. The role of the woman in the recovery stage after flooding is also important, but often overlooked. Women based knowledge of community decision making processes are needed for effective flood recovery decision making by the flood impacted community.
18. It is necessary to develop a flood mitigation strategy that uses a whole of river basin approach sometimes called a "one river-one organization scheme".
19. It is often important to adopt non-structural flood mitigation measures such as hazard mapping, public participation, and integrated river basin

management for low impact, yet efficient protection of the poor against the negative impacts of flooding.

20. There is an indication of the increasing need for the use of non-structural flood mitigation measures as well as structural flood mitigation measures; both working together in tandem.
21. For dealing with international river flood issues - the cooperation among neighboring countries is needed for the sharing of water disaster information such as meteorological and hydrological data.
22. Satellite based river gauging technology is proving useful for flood prediction in developing countries.
23. It is beneficial to set up an international network for sharing of flood mitigation information, such as envisioned for the International Flood Network (IFNet)

REGIONAL CONSULTATION WORKSHOP ON POVERTY AND FLOODS
17-19 October 2002, Manila Philippines

Draft Summary Report

Table of Contents

Executive Summary – Lessons learned to be brought to the 3WWF

REGIONAL Consultation Workshop on POVERTY AND Floods 1

EXECUTIVE SUMMARY 1

1. BACKGROUND TO THE REGIONAL CONSULTATION - Preparation for the Third World Water Forum 1

2. POVERTY AND FLOODS – Fundamental Cross-Cutting Theme for the 3rd WWF 4

3. REGIONAL CONSULTATIONS ON POVERTY AND FLOODS - Bangladesh, Manila, Beijing, Ho Chi Minh City 8

4. REGIONAL CONSULTATION ON POVERTY AND FLOODS - Manila, Philippines 10

5. PROGRAM 11

6. OPENING REMARKS - Objective of the Workshop - Mr. Heditomi Oi, JICA 12

7. WELCOMING ADDRESS - Importance of Poverty and Floods to the ADB - Jerry Vonderlinders, ADB 16

8. WELCOMING ADDRESS - Importance of Poverty and Floods to MLIT - Takao Shiojima, MLIT 20

9. KEYNOTE ADDRESS - Activities of JICA on Poverty Alleviation and Flood Disaster Mitigation - Kenjiro Izumi, JICA 23

10. SESSION REPORT 33

10.1 Session 1: Non-structural Methods of Flood Mitigation and their Impacts on Poverty and the Poor 33

10.2 Session 2: Structural Methods of Flood Mitigation and their Impacts on Poverty and the Poor 36

10.3 Session 3: Information & Indigenous Technology to Resolve Water Issues 38

10.4 Session 4: Comprehensive Flood Management for Poverty Reduction 40

11. SUMMARY AND CONCLUSION 44

11.1 Flood Disasters in Asia 44

11.2 Objectives of the workshop 44

11.3 Linkage between floods and poverty 45

11.4 Findings from Case Studies 47

11.5 For a more substantial contribution of flood mitigation and management to the reduction of poverty: qualitative improvement and quantitative increase 49

11.6 Preparation for the 3rd World Water Forum 50

Regional Consultation Workshop on Poverty and Floods 17-19 October 2002, Manila Philippines

1. BACKGROUND TO THE REGIONAL CONSULTATION - Preparation for the Third World Water Forum

Promoting Interaction

The 3rd World Water Forum will not be a platform for presenting technical papers, defining theoretical concepts, or discussing research design, instead, the Forum will invite participants to share their experience with proven ACTIONS and best practices—supported by sound research, science, and theory—that have facilitated sustainable solutions to water problems. A priority will be to promote dialogue and interaction among the numerous stakeholders in integrating the knowledge and experience gained thus far, appealing to the world through potential solutions and providing information crucial to making a commitment to sustain those actions and solutions.

Articulating Solutions

Participants will be challenged not simply to define problems but to absorb the rich information presented at the Forum and draw on synergies in articulating sustainable solutions. The strategy is to define solutions in terms of good policies entailing comprehensive actions and to separate the success stories from the failures with credible data to support the findings. The enthusiasm and momentum generated in the past few years will culminate in "Water Voices" that will exclaim not "what needs to be done" but rather "WHO needs to do WHAT, HOW, and WHEN?"

Developing Tools for Action

Many tools were developed to maintain the momentum from the 2nd World Water Forum during the long wait for Kyoto. These tools have provided many opportunities for stimulating discussions and initiating active dialogue. The tools (such as the "Virtual Water Forum") have made it possible to bring people together from all over the world on to a virtual to share their interests and concerns about common water issues—technology helping to break barriers of time and distance—making the impossible virtually possible! Another tool, the "Water Voices" Projects, by the People.for the People," has given voice to often neglected—and most often afflicted by the water crisis—grass-root groups,

channeling their voices to the Forum. And so now it is time, on behalf of all these people, to convey their messages to the world for action and commitment at the highest level.

Making Water Everybody's Business

Whether a researcher, manager, administrator, policymaker, service provided, financier, or consumer, "water is everybody's business." Everyone has equal responsibility for mitigating the water crisis and contributing to solutions. Whether the problem is groundwater depletion, weak governance, low productivity of water in agriculture, or climate variability, whether it is regional or thematic, it concerns the same scarce resource, water. What really matters is that billions of people are still deprived of the basic right of access to a continuous supply of fresh water. Something needs to be done NOW. If water is everybody's business, then making a commitment during the Forum and pledging to fulfill it is also everyone's business.

Making Commitments

The challenge to all Forum participants will be to collectively define "commitment"—a commitment to a unanimously agreed plan of actions. To agree on a plan with short-term, time-bound targets and long-term goals. To define a conductive environment for implementing the plan, with an effective monitoring and evaluation system with tested and proven indicators. The milestones en-route to Kyoto—Rio (Millennium Declaration), Dublin (Dublin Principles), Marrakech (the mandate to prepare a "Vision"), The Hague (the "Vision," the "Framework for Actions", and the "The Seven challenges"), Bonn ("The Bonn Keys"), and Johannesburg ("Political Declaration")—have provided ample rhetoric and motivation. Now it's time to act.

Moving from Rhetoric to Action

We have heard both sides of the story on many issues. The appeal for more reliable data before actions can be taken, and the claim that action is a prerequisite for reliable data. In some regions people clamor for funds to initiate projects, while in others they complain that the funds are available but not the good projects to spend them on. Some argued that water is an economic good for which everyone, even the poor, should pay, while others assert that even though there is a willingness to pay there is no willingness to charge. The time for rhetoric is over. Whether it be the green to blue revolution or green to blue water, all the issues have been hypothesized, researched, discussed, and deliberated. Over the decades all the elements for sustaining development in the water sector—technology, community

involvement, capacity building, private sector, institutional arrangements partnerships, and financing—have been modeled not only individually but in combination. And we even have documented examples of actions that prove these theories right. So, all elements in the big picture seem to have been adequate addressed. Yet despite all this knowledge, something still seems to be missing in the equation. It is "commitment" or something else? The Forum will strive to identify this missing element.

Carrying to Torch

Many who have carried the "Kyoto Torch" during its long and arduous journey will finally be able to light the flame. During the eight days of the Forum the flame will remind all of us of the demand for water to quench our thirst—a thirst for sustainable solutions to the water crisis. ALL of us must return from the Forum personally committed to doing our part to mitigate today's crisis to ensure water security for the world tomorrow.

2. POVERTY AND FLOODS – Fundamental Cross-Cutting Theme for the 3rd WWF

Water and Poverty

Better water management can make a key contribution to poverty reduction, as is recognized in the Millennium Development Goal on halving the number of people without access to drinking water and improve sanitation by 2015. This will reduce the burden of disease, as it will the huge costs in time (and, for the urban poor, money) that gaining access to safe water entails. But this just part of the story. Improving the water security of poor people will help eradicate poverty and support sustainable development indirect and material ways. Water is essential for the food security of the poor, not just from agriculture but also from trees and home gardens, from fish and other food collected from aquatic ecosystems, and from livestock. Water is an essential input into many livelihood activities, including manufacturing and services, and improved access to water for both urban and rural poor can create livelihood opportunities that can break the cycle of poverty. A more complete understanding of the relationship between water security and poverty reduction is needed to improve the management of water resources and the delivery of water services.

The Asian Development Bank is a coordinating the Water and Poverty Initiative, along with a wide range of other partners. The initiative is generating case studies that capture on-the-ground-realities, success, and lessons learned. Stakeholder consultation involving poor people are organized to draw out lessons and to forge new partnerships for action to improve water security. Direct dialogue with poor people is a major objective of the Forum, to get a clearer understanding of the mechanisms of water and poverty to present findings and proposals for action program to policymakers and development partners.

Floods

It can be argued that floods are the cause of the most devastating natural disasters. They are, of course, natural phenomena, to occur again and again, with varying severity. The disasters they cause are the result of rapid population growth, excessive concentration of population and property in flood-prone areas, and changes in upstream land use that lead to greater, more rapid runoff. The threat of flooding is projected to increase as a result of rising sea levels and the changing climatic conditions accompanying global warming. Counter-measures to reduce floods threats and damage must reflect each region's geographic features, climate conditions, and social parameters and

must include both structural and non-structural measures. To increase our knowledge about what works and where, information on flood prevention and mitigation measures that have been successfully applied in various parts of the world needs to be collected and shared widely.

Many flood related activities have been undertaken around the world. The World Meteorological Organization (WMO) and Water in River Secretariat, together with other partner organizations, have already begun a dialogue on methods of mitigating flood damage. Results from these activities will be coordinated by International Flood Network (IFNet, a consortium of WMO, Water in Rivers Secretariat, and other key organizations in flood mitigation networking) to structure the registered sessions within this theme at the 3rd World Water Forum. The key issues to be addressed in the flood session are concerned with the integrated flood management and flood mitigation but also cross-cutting issues like poverty, with the aim of intensifying the international exchange of information and interaction among a network of United Nations organizations, research institutions, government agencies and other stakeholders.

Gender and Water

The "World Water Vision" declared that every woman, man, and child must have access to safe and adequate water, sanitation, and food, while also bearing responsibility for ensuring maintenance of the ecosystem. Governments were urged to involve interest groups in all levels of decision-and-policy-making and to establish and strengthen mechanisms at national, regional and international levels to facilitate participation by all stakeholders.

Optimizing development implies recognizing that women and men have different requirements, and often unequal opportunities, for domestic and productive uses of water and catchment areas. Women and poor people generally have fewer opportunities to share in and benefit from development and management. More effective mobilization of human resources and institutional capacities is needed to achieve more logical and equitable sharing of burdens, benefits, and responsibilities between women and men.

In activities leading to the 3rd World Water Forum, the Water and gender Panel is addressing the positive effects on integrating the interests, needs, and experiences of women and men in policies, planning, implementation, monitoring and evaluation of integrated water resources management (IWRM) programs and projects in ensuring water security for all.

Day of Asia & Pacific

As a awareness of the looming water crisis in Asia continues to grow, efforts are under way to find lasting solutions that will bring relief to all, especially poor people, who are the most affected. Water and poverty is a central theme for the region. Water is recognized as a basic need, and integrated water resources management is being promoted through international conferences and dialogues to address problems of access of fresh water and sanitation. Several organizations have embarked on a plan of action in the region to harness knowledge for resolving water problems and to share experiences at the 3dr World Water Forum. The collaborative partnerships and networks in the region are actively involved in addressing a range of issues, including water and poverty, water governance, water in small island countries, water in cities, regional cooperation for shared water resources, flood management, paddy field irrigation in monsoon areas, dams and development, hydropower pricing, and groundwater management.

Also addressed are such sub-regional issues as transboundary conflict and security concerns in the Aral Sea area and sustainable development in the Mekong. The outputs of these activities, conducted through numerous regional awareness programs, consultations, workshops, and sub-regional forums, will be presented in Kyoto. Leading up to Forum, efforts will also be made to follow up on actions for implementing the Southeast Asia Water Vision and the Asia and Pacific Water Vision presented at the 2nd World Water Forum. Asia takes pride in the fact that the 3rd World Water Forum will be the first to be held in the region and will make every effort to use this opportunity to share the knowledge and experiences of the region with the rest of the world and to win active stakeholder commitment to alleviate poverty in the region.

Poverty and Floods

Flooding, as occurs annually in many parts of the Asia-Pacific region, has both positive and negative impacts on the poor. When the duration and depth of flooding are not excessive, floods bring natural sediments and nutrients that are beneficial to agriculture and rejuvenate wetlands forming the natural breeding grounds of diverse aquatic, plants, fish and animals.

On the other hand, flash floods and floods of long duration cause widespread suffering and severe losses. Such flooding exacerbates poverty through disruption of livelihoods, environmental degradation, destruction of vital infrastructure and services, and loss of economic investment in agriculture, aquaculture, and personal property. Discussion of the thematic issue of Poverty and Floods contributes to our ability to take

action to mitigate by giving particular attention to the needs, aspirations, problems, and constraints of the poor and less-advantaged segments or rural and urban communities in relation to floods.

The Ministerial Conference held in the Second World Water Forum in The Hague in March 2000 discussed the following seven challenges to achieve water security, which are listed in the Ministerial Declaration of The Hague. (http://www.worldwaterforum.net/Ministerial/declaration.html)

1. Meeting basic needs
2. Securing the food supply
3. Protecting ecosystems
4. Sharing water resources
5. Managing risks
6. Valuing water
7. Governing water wisely

All of these challenges are closely linked with Poverty and Floods. Therefore, poverty and Floods is a cross-cutting theme involved in these challenges and is being more and more recognized as one of the core themes for the Third World Water Forum scheduled to be held in Kyoto Japan in March 2003. (http://www.worldwaterforum.org/eng/index.html)

3. REGIONAL CONSULTATIONS ON POVERTY AND FLOODS - Bangladesh, Manila, Beijing, Ho Chi Minh City

As part of the consultation process for poverty and floods in preparation for the 3rd WWF, regional consultation workshop will be held in the major regions of the global south. The consultation schedule for floods and poverty is as follows:

Workshop No. 1: The Asia-Pacific regional Conference on Water and Poverty was held in Dhaka, Bangladesh during 22-23 September 2002. The Asian Development Bank was another major sponsor of this workshop. One of the major sub-themes of Water and Poverty is Disaster Prevention and Mitigation. Two discussion sessions and one case study presentation session on Disaster Prevention and Mitigation, Poverty and Floods, were held at Dhaka. The Ministry of Land Infrastructure and Transport, Japan (MLIT), Japan International Cooperation Agency (JICA), jointly organized these three workshop sessions with the Asian Development Bank.

Workshop No. 2: The Asia-Pacific Regional Consultation workshop on Poverty and Floods was held in Manila, Philippines, during 17-19 October 2002. The Ministry of Land, Infrastructure and Transport, Japan (MLIT), Japan International Cooperation Agency (JICA), Asian Development Bank (ADB) jointly organized and sponsor the workshop.

Workshop No. 3: The Chinese Regional Consultation Workshop on Poverty and Floods will be held in Beijing, China during 19-20 November 2002. The research Center on flood and drought minister of water resources, PRC and the Asian Development Bank (ADB) will jointly sponsor the workshop.

Representatives from Ministry of Land Infrastructure and Transport, Japan and the Japanese International Cooperation Agency (JICA) where presently working on Poverty and Floods issues in China will be invited to attend the workshop.

Workshop No. 4: The Making Regional Consultation workshop and Poverty and Floods will be held in Ho Chi Minh City, Vietnam during

December 2002. The Disaster Management Center (DMC), Ministry of Agriculture and Rural development (MARD), the Asian Development Bank will jointly sponsor this workshop.

Representatives from the ministry of Land, Infrastructure, and Transport, Japan, and the Japanese International Cooperation working in the areas of poverty and floods will be invited to participate in the workshops.

4. REGIONAL CONSULTATION ON POVERTY AND FLOODS - Manila, Philippines

The Regional Consultation Workshop on Poverty and Floods was held at the Asian Development Bank's headquarters in Manila, Philippines on 17-18 October 2002. An accompanying field visit was organized on 19 October 2002. The Workshop was organized in preparation for the 3rd World Water Forum (3WWF) to be held in Kyoto, Japan in March 2003.

The Workshop was organized jointly by Japan's Ministry of Land, Infrastructure and Transport (MLIT), Japan International Cooperation Agency (JICA), and Asian Development Bank (ADB). The Workshop brought together government and non-government stakeholders to review regional initiatives aimed at reducing the vulnerability of the poor to the adverse impacts of floods. The Workshop helped build a better understanding of the linkages between floods and poverty in the region, and offered a dynamic and interactive process designed to:

- Highlight good practices for flood mitigation and management in the Asia-Pacific region;
- Promote further action at the local level for flood preparedness to ensure the attainment of flood security, especially for the poor; and
- Strengthen the regional network of development agencies working on various facets of flooding and poverty reduction.

Workshop inputs included case studies and thematic discussions. The process involved presentations, plenary discussion sessions, and field visits to flood management projects. Outputs provided the basis for presentations and discussions at the 3WWF. Participation was sought from within and outside the water sector, with participants being drawn from many countries.

5. PROGRAM

The program of the Workshop was as follows:
(See Annex 1 for details)

Day 1 - 17 October 2002:

Opening Session:
- Opening Remarks
- Welcoming Addresses

Session 1: Non-structural methods of flood mitigation and their impacts on poverty and the poor

Session 2: Structural Methods of flood mitigation and their impacts on poverty and the poor

Session 3: Workshop on Information & Indigenous Technology to Resolve Water Issues

Reception in EDSA Shangri-la Hotel

Day 2 - 18 October 2002:

Session 3: Workshop on Information & Indigenous Technology to Resolve Water Issues (continued from Day 1)

Session 4: Comprehensive Flood Management for Poverty Reduction

Plenary Discussion

Closing Session

Day 3 – 19 October 2002:

Field excursion:

The following flood control structures in Metro-Manila Area:

- Tripa de Gallina Pumping Station
- Napindan Gate
- Flood Control Operation System (FCOS)
- Mangahan Floodway

6. OPENING REMARKS - Objective of the Workshop - Mr. Heditomi Oi, JICA

OPENING REMARKS

REGIONAL CONSULTATION WORKSHOP
ON POVERTY AND FLOODS
October 17-19, 2002, Manila PHILIPPINES

By

Mr. Hidetomi Oi
Senior Advisor
Institute for International Cooperation
Japan International Cooperation Agency

Most Honorable Officials of MLIT, JICA and ADB;
Workshop Presenters and Participants;
Ladies and Gentlemen:

Poverty and floods is a topic touching on many challenges and is one of the core themes for the Third World Water Forum to be held in Kyoto, Japan in March 2003. In preparation for the Forum, we are here today at this Regional Consultation Workshop.

This workshop is the second in a series in Asia. The first one was held in Dhaka, Bangladesh 22-26 September. Other workshops will be held in China in November and in Vietnam in December.
This regional consultation workshop in Manila is held for three days starting today. Asian Development Bank, The Japan's Ministry of Land, Infrastructure and Transport and Japan International Cooperation Agency sponsor this workshop.

(Objective of Workshop)

(1) To build a better understanding of the linkages between floods and poverty in the Asia-Pacific region
(2) To highlight good practices for flood mitigation and management
(3) To make proposals on more pro-poor approaches in implementation of flood mitigation and management projectsTo strengthen the regional network of development agencies working on various facets of flooding

and poverty alleviation

(Poverty and Floods)

As the 3rd World Water Forum calls for concrete actions and commitments, the conclusion of this workshop should be realistic and practical through discussions based on on-the-ground realities. To do so, let me take this opportunity to summarize briefly what are really happening, how we have been coping with and what is the reality as a result, referring to the paper entitled "Flood Disasters and Poverty". The paper will be used for reference at each session and will be revised with comments from the participants at the end of the workshop.

(1) Happening-how floods are exacerbating poverty

In the upstream watersheds

- Persistent vicious cycle of population growth, environmental degradation, poverty, and disaster

In the downstream flood plains

- Growing vulnerability due to concentration of population, especially the poor, in high-risk areas
- Repeated and intensified flooding and riverbank erosion

(2) Coping-how we have been coping with flood disasters before and after, satisfactory?

- Relief
- Rehabilitation
- Preparedness
- Mitigation

Though varying from country to country, mitigation and management are not very satisfactory and even sluggish in contrast with the enormous needs and the growing vulnerability, except for the relief operation immediately after major disasters.

(3) Reality as a result

- Increase in flood damage
- Majority of flood victims is the poor

(Point of Discussion in Workshop)

In discussion on more pro-poor approaches, each session will focus on several important issues including those discussed at the Bangladesh Workshop:

(1) Softer non-structural flood control measures
(2) Participatory approach for project and program success
(3) Institutional and human capacity building
(4) Partnership with all stakeholders

(5) Equity, with a gender sensitive in project

(Structure of Workshop)
The Workshop will consist of four (4) sessions:
Session 1 is to focus on non-structural methods of flood damage mitigation;
Session 2 is to cover the presentation of structural methods to mitigate flood damage;
Session 3 is to be the workshop on information and indigenous technology to resolve water issues; and
Session 4 is to cover the subject of comprehensive flood management.
The results of deliberation in each session will be reported in a plenary session for review and discussion. The outputs of the plenary session will provide the basis for presentations at the Third World Water Forum to be held in Kyoto, Japan, March 2003.

In these sessions, presenters will explain the result of case study of projects that involved the latest technology and perspectives based on presenters' experiences. In each session the participants will make discussions on how they work for the poor and participate in poverty reduction.

The results of each session will be reported at the plenary session for review and discussion. The outputs of the plenary session will provide the basis for presentations at the Third World Water Forum to be held in Kyoto, Japan, March 2003.

(Expected Outcomes)
(1) **Humanitarian aspect** of flood mitigation and management projects to alleviate poverty will be duly recognized.
(2) Flood mitigation and management projects will be improved **qualitatively** by incorporating pro-poor approaches as much as possible
(3) Flood mitigation and management projects will be increased **quantitatively** so as to contribute more substantially to poverty reduction

(Conclusion)
As I mentioned earlier, this workshop is held to prepare for the 3rd World Water Forum, which has a slogan **"Moving from rhetoric to action"**. At the same time and more importantly, this workshop should be for ourselves: the findings and conclusions should be put into practice for the more effective poverty reduction in Asia. The discussion should be made based on realities so that the results may be as practical as possible.

This workshop may be able to produce useful proposals in addition to those made at the Bangladesh workshop and other occasions. It is important to

make the menu richer, but more important is to step further towards implementation. We should avoid to merely repeat what was said in the past. We should think seriously why a number of excellent proposals in the past have not been realized.

I am certain, however, in view of the participants who are well experienced in a key position of the government and, above all, are familiar with the on-the-ground reality, that this workshop will be a workshop for action, not merely showing a menu.

I would conclude my opening remarks by repeating “Moving from rhetoric to action.”

Thank you.

7. WELCOMING ADDRESS - Importance of Poverty and Floods to the ADB - Jerry Vonderlinders, ADB

WELCOMING ADDRESS

REGIONAL CONSULTATION WORKSHOP
ON POVERTY AND FLOODS
October 17-19, 2002, Manila PHILIPPINES

by

Jerry Vonderlinder
Head

"Importance of Poverty and Floods to the ADB"

Distinguished Guests, Participants, Ladies and Gentlemen,

On behalf of the Asian Development Bank, I warmly welcome you all to this Regional Consultation Workshop on Poverty and Floods.

We are very pleased to co-host this event with our partner organizations and joint sponsors, Japan's Ministry of Land, Infrastructure and Transport, the Japan International Cooperation Agency, the Secretariat of the 3rd World Water Forum, and the Government of the Netherlands. Thank you all for helping to bring us together for this important workshop.

I want to extend a special welcome to the community representatives and case study presenters who will share good news and lessons learned about actions taken in their localities around the region to improve flood management. And to the rest of you participants, welcome.

In August this year, floods deluged Eastern Europe in a disaster that was historically catastrophic. The fact that such floods are rare occurrences in Europe was little comfort to families who lost their homes, farmers who lost their crops, museums that lost art treasures, and the many enterprises whose activities were severely disrupted.

But elsewhere in the world, such as here in the Philippines and in other parts

of Asia, floods are part of the normal weather cycle. Floods in Bangladesh typically inundate large parts of the country every year, and the major floods in 1987, 1988, submerged most of the country and affected tens of millions of people.

Asians are used to recurrent floods and have adapted their lives to cope with such events. Nevertheless, their suffering should never be underestimated. They pay a large price in days of lost employment, the damage to houses and property, loss of livestock, and destruction of crops. In many instances, they also pay dearly in terms of ill-health and sometimes they pay the ultimate price: loss of life.

The vast majority of the millions of Asians affected annually by floods have incomes of less than $1 dollar a day. This level of income exacerbates their vulnerability to floods and gives no opportunity for them to break out of the cycle of poverty. They cope as best they can. Some communities have developed ways of life that are well adapted to the situation of small recurrent floods These are floods that result in slow, predictable rises in water level…. And equally slow receding waters after the peak flood has passed. If incorporated into flood management projects, these indigenous coping mechanisms, offer opportunities for minimizing the disruption caused by floods. Hence, we at ADB believe that poor communities need to be fully involved in planning and implementing flood mitigation and flood management projects.

Now it is important to understand that floods are not necessarily disasters. For example, the floods that cover large parts of Bangladesh every year are essential to the farming system because they bring water and nutrients to regenerate soil fertility, replenish groundwater, and rejuvenate wetlands forming the natural breeding grounds of diverse aquatic plants, fish, and animals. Flooded areas provide a habitat for the fish that are so important in Bangladeshi diets. The livelihoods of boatmen, professional fishermen, jute processors, and many others who own little or no land are directly related to the annual cycle of flooding.

Floods have often been considered only in terms of the threat they present to people and economic opportunity, and a large amount of money has been spent building costly barriers to keep water inside the river channels and out of the way of people and infrastructure. This old thinking was the era of engineering solutions based on flood containment. The thinking was that if a small amount of flood containment is good, then a large amount must be even better.

Current thinking suggests that urban areas do need such physical protection from massive inundation. On the other hand, total flood containment is neither realistic nor desirable in rural areas where expensive flood control embankments prevent the frequent replenishment of nutrients in flood plains and interfere with the ecosystems of wetlands. River embankment systems built that aim to contain large floods are detrimental to the livelihoods of poor people. In addition, such embankments on parts of a river system often have unintended negative impacts on other parts of the river. These include the worsening of floods in areas previously not affected and the placing at risk of large numbers of people living in the shadow of high embankments.

The challenge is to capitalize on the benefits of frequent low-intensity floods while at the same time relieving the impact of catastrophic events. Modern technology allows us to predict severe weather and give advance warning to people under threat. New thinking on the design of infrastructure shows promise that effective design can enhance positive aspects of flooding while also preventing sudden unpredictable rises in water or other life-threatening outflows from rivers. Furthermore, by involving vulnerable people in awareness and planning, emergency evacuation can be achieved efficiently.

There is enormous scope in Asia to make houses less vulnerable to floods, to provide shelters from both storm surges and unusually deep floods, and to establish a network of evacuation roads for people and livestock. There is also potential to develop effective and affordable flood damage insurance for crops and property that can be financed entirely from beneficiary contributions.

With flood management, as with all other measures to make water an asset rather than a liability for the poor, no single intervention should be made in isolation. The starting point must be a better understanding of all aspects of affected people's livelihoods and not just solutions based on the assumption that outsiders know better than local people how to manage rivers and their waters. We must work to integrate all uses of water—including the maintenance of ecosystems—within the natural flows of river basins, which in many regions includes annual flooding.

Floods in Asia have recently become more frequent and with every new flood, higher levels are measured. More and more people are affected through homelessness, injury, disease, loss of property, and death. Poverty itself creates conditions that result in greater damage from these natural disasters, as destitution removes choice. The poor live where no one else will build and they often live with the certainly of annual flooding. This prevents them from saving and from investing in more permanent income-earning activities or

fixtures of any sort. Floods often cause marginally better-off people to descend into poverty as a result of flood-related losses, and the sad cycle continues.

Attention to improving flood management actually eases the cycle of poverty and makes good fiscal sense. A commonly used estimate is that one dollar spent on prevention avoids three dollars lost to flood-related relief, especially if efforts are made to incorporate integrated structural and non-structural flood control measures.

The issue of poverty and floods will also be discussed during the 3rd World Water Forum in Kyoto next March, and much of what you do here over the next two days will be shared there. How do floods affect the poor? How can flood management projects optimize indigenous coping mechanisms while reducing the negative environmental and social effects of flood control structures, such as embankments or dikes? At this workshop you will look at some examples of successful social protection measures to soften the negative impact of unpredicted flooding.

The poorest in society are hardest hit by all water problems, not the least among them are floods… yet access to water also brings great improvement to their lives. This is one of the great ironies of this vital resource. We need water for life….. yet in excess, water also has the power to destroy life and severely disrupt livelihood.

Focusing on the needs and potentials of the poor in flood management will be at the heart of your discussions. I wish you an extremely productive two days and I look forward to seeing your plan for bringing this important topic forward at the Third World Water Forum in Kyoto early next year.

8. WELCOMING ADDRESS - Importance of Poverty and Floods to MLIT - Takao Shiojima, MLIT

WELCOMING ADDRESS

REGIONAL CONSULTATION WORKSHOP
ON POVERTY AND FLOODS
October 17-19, 2002, Manila PHILIPPINES

by

Takao SHIOJIMA
Deputy Director-General, River Bureau
Ministry of Land, Infrastructure and Transport
Government of Japan

Thank you for introducing me. My name is Takao Shiojima. I am Deputy Director-General of the River Bureau in the Ministry of Land, Infrastructure and Transport.

As a host of the "Regional Consultation Workshop on Poverty and Floods," I would like to welcome government officials, donors, experts and members of NGOs coming from many parts of the world including the Asia-Pacific.

East Asia and South Asia experience floods caused by heavy rains every year due to frequent monsoons. We saw great flood damage in many countries this year. For example, China, Korea, Thailand, Vietnam, India, Nepal and Bangladesh all suffered human and material damages. Floods not only damage property and human life, but also prevent stable land use and economic activities.

Japan is located in the east end of the monsoon region in Asia. Let me explain how we deal with poverty and floods in Japan. Japan has mountains 2,000-3,000m high in the center of the archipelago, which is 2,000-3000km long and 200-300km wide with an area of 370,000km^2. The mountains occupy 75% of the total land. Half of the population and third quarter of the country's assets are concentrated in river basins and flood-prone areas. This

concentration is continuously increasing. The Japanese archipelago includes the subtropical zones in the south and the frigid zones in the north. Approximately 1,700mm of rain falls every year, twice as much as the global average. The most heavily populated Pacific side of the islands has much rain in the rainy season in June and July and the typhoon season in August through October. Japanese cities are very fragile against flood due to such topographical and geographical conditions. Subsequent to the devastation caused by the Second World War, we often experienced disastrous floods caused by large-scale typhoons in which many lives were lost. To eliminate such disasters, we endeavored to improve safety against floods by adopting nine terms of Five-Year Flood Control Program. As a result of these efforts, while thousands of lives were lost by floods in the 1950s, we were able to reduce the number to dozens in the 1990s. The achievement is important as a basis for stability of the people's lives in Japan. Nevertheless, about 80% of the municipalities were damaged by flood in the past decade. Due to the concentration of assets as a result of urbanization, reduction of inundation area does not directly translate into less damage. The flood in Nagoya in the Chubu region in September 2000 recorded the largest amount of damage in terms of damage to general assets. Accordingly, we are endeavoring even now for defense of the land from floods as an important national goal.

While we have 1,700mm of rain annually, twice as much as the world average, the per capita rainfall is 20% of the world average due to the large population density. As rainfall is uneven depending on area and season, it is very important to stably secure water resources to meet demand including that from agriculture, the largest source of demand.

Amid rapid urbanization in recent years, we are trying to improve safety against floods for stable development of expanding towns. However, the water retention function of river basins has lowered due to changes in land use, and the runoff during floods is increasing and the potential damage from floods is larger than ever.

Flooding is closely related to conditions of use of water resources in each river basin, environmental conditions and land use conditions. We think we can achieve sustainable and balanced development in river basins by striking an overall balance between flood control, water use and environmental protection. The River Law as the comprehensive river management legislation was first enacted in 1896 and the current policy is reflected in the 1997 version of the law after two major amendments.

In recent years, the following things have become quite important. To wisely deal with floods and minimize their adverse effects, not only river

administrators but also the residents in river basins and other related parties should cooperate and share responsibilities and roles. In other words, crisis management such as provision of information, flood fighting activities and evacuation activities are important in addition to development of dams, dikes and retarding basins. We believe we can develop more effective flood fighting measures based on a desirable state of river basins worked out by the administration, the residents, firms and other related parties. For this purpose, it is necessary to improve residents' knowledge, develop human resources and strengthen capability of various organizations.

To advance the fight against floods, it is also very effective to develop cooperation between residents of different river basins and international cooperation. We can discover better solutions by widely exchanging valuable knowledge and experience held by individuals and organizations, and discuss common challenges.

At this two-day regional consultation workshop, we will discuss how to deal with poverty caused by floods from four angles: non-structural methods, structural methods, information and indigenous technology and comprehensive flood management, focusing on case studies from each country.

The results will be surely reflected in the "flood" session of the 3rd World Water Forum to be held in Kyoto, Shiga and Osaka in March next year, the "Water and Poverty" session coordinated by the co-host, the Asian Development Bank, and the "Water and Information" session.

I hope this regional consultation workshop will be helpful for all participants.

Thank you very much.

9. KEYNOTE ADDRESS - Activities of JICA on Poverty Alleviation and Flood Disaster Mitigation - Kenjiro Izumi, JICA

KEYNOTE ADDRESS

REGIONAL CONSULTATION WORKSHOP
ON POVERTY AND FLOODS
OCTOBER 17-19, 2002, MANILA, PHILIPPINES

By

Kenjiro Izumi
Vice President
Japan International Cooperation Agency (JICA)

ACTIVITIES OF JICA ON POVERTY ALLEVIATION AND FLOOD DISASTER MITIGATION

Introduction

The Master of Ceremonies;
Distinguished Guests
Workshop Presenters and Participants; Guests;
Ladies and Gentlemen!

It's a great honor and privilege for me to be among you at this Regional Consultation Workshop on Poverty and Floods.

Firstly, let me thank the Asian Development Bank and Japan's Ministry of Land, Infrastructure and Transport, including their staffs, and also our JICA staff, for their hard work and dedication in bringing this Workshop to realization. This is a preliminary meeting for the 3rd World Water Forum to be held in Kyoto, Japan, in March 2003.

I sincerely appreciate the friendship that has been so kindly extended to all of us by officials and the people of the Philippines.

Further, I would like also to extend a warm welcome to the representatives of our development partners, including multilateral and bilateral institutions,

members of the financial community, government officials, civil societies and NGOs, and our friends in the media.

It is pleasing to see so many participants at this Workshop. Your presence here gives us the confidence to challenge and overcome issues on poverty and floods in the 21st century.

Topics of Presentation

In these years, poverty alleviation has become one of the major issues on development assistance in the world. Firstly, then, I will present the current status of poverty in the world and the performance of JICA to reduce poverty.

Secondly, I will present JICA's performance on flood disaster mitigation in the aspect of regional sharing of development assistance and the trend of expansion of non-structural flood control measures, together with flood disaster situation in the world.

JICA has hardly had the chance to directly provide cooperation in flood control projects focusing on poverty reduction, although JICA has been providing assistance to many flood control programs contributing to poverty alleviation.

Poverty alleviation is predicted to increase the necessity of development assistance throughout the world. Thirdly, therefore, I will present three (3) cases of JICA studies/projects concerning flood control programs contributing to poverty alleviation.

Finally, I will present some recommendations for future flood control programs that would contribute to poverty alleviation, as well as the goal of flood disaster mitigation.

What is JICA

Japan's Official Development Assistance (ODA) program presently stands as the major donor to 25 developing countries to assist them in their socio-economic development. Japan's provision of economic cooperation is based on the concepts of "humanitarian and moral considerations" and "the recognition of interdependence among nations."

There are three main categories of Japan's ODA, namely:
(1) Contribution and subscription to multilateral donor organization;
(2) Bilateral Loan (generally known as "Yen Loan"); and

(3) Bilateral Grant.

The major portion of bilateral grants is undertaken by the Japan International Cooperation Agency (JICA), which was established in 1974. JICA is responsible for studies as well as the implementation of technical cooperation and grant-aid cooperation programs of the Japanese Government.

JICA has been providing assistance in poverty alleviation and flood disaster mitigation to developing countries through **technical cooperation** and **capital grant assistance.**

Poverty in the World

There are currently 1.3 billion people **living in poverty in the world.** This amounts to 1 person in 5 of the world's population as a whole, and 1 person in 3 in developing countries. Statistics compiled by the World Bank reveal that 520 million of these people in Southeast Asia.

In 1996, the Development Assistance Committee (DAC) of the Organization for Economic Cooperation and Development (OECD) issued a strategy entitled "Shaping the 21st Century", which established the specific goal of "reduction by one-half in the proportion of people living in extreme poverty by 2015".

Poverty Alleviation by JICA

Since the beginning of the 1990's JICA has conducted some events to support poverty reduction.

In order to expand direct anti-poverty measures, JICA established in FY1997 the "Community Empowerment Program or Grassroots Technical Cooperation Project" to serve as the framework for cooperation in poverty reduction that would benefit local residents. Under this initiative, JICA and NGOs cooperate at the regional level. Through this collaboration with NGOs, JICA has implemented a large number of projects designed to meet the needs of communities. Furthermore, at any given time, some 2000 members of the Japan Overseas Cooperation Volunteers (JOCV) are dispatched throughout the world. These volunteers are engaged in a variety of grassroots activities with the local residents.

Flood Disaster in the World

Flood disasters from 1987 to 1997 account for one-third of the natural

disasters in the world. Deaths due to natural disasters is estimated at about 390,000 for the past 10 years, and 60% of these were mainly caused by floods. Socio-economic conditions therefore have seriously suffered from floods. Forty (40) to fifty (50) percent of floods and 70 to 90 percent of deaths occur in the Asian countries.

Furthermore, flood vulnerability has aggravated in these days and, additionally, poverty population has increased in flood hazard areas. The vicious circle of population growth, environment deterioration, poverty and the widening cleavage between rich and poor have become causes of perennial flood disasters.

While no country is entirely safe against any flood disaster, developing countries in particular lack the capacity to prevent and prepare for it. Floods bring miseries to many developing countries, especially in Asia and specifically to the poorest and marginalized people who live in vulnerable flood disaster prone areas.

There are some reasons why Asia is dominant in flood damage, as follows:
(1) Geological conditions are unstable due to the frequent earthquakes, volcanic movements and faults in topography;
(2) Monsoon and typhoon rains trigger adverse disastrous events like floods and landslide;
(3) Many rivers in Asia are short and steep, which cause flush floods;
(4) Rapid urbanization causes the increase of flood runoff volume and peak discharge; and
(5) Increase and concentration of population in flood prone areas.

Flood Disaster Mitigation by JICA

JICA has been extending grant-aid and technical cooperation through economic and social infrastructure development projects to support the economic growth efforts of developing countries, because economic growth is necessary for poverty reduction. Technical cooperation aims at the transfer of technology and knowledge to boost the socioeconomic development of these developing countries.

Since 1974, JICA has carried out 292 flood-related studies/projects under the schemes of development study, support for grant-aid program, and project-type technical cooperation. The figure shows the 5-year trend of these schemes in regions of Asia, Central/South America, Africa and other countries. All schemes show an increasing trend due to the increase of flood disasters around the world. The 5-year trend presents a higher performance

in Asia, while the schemes in Central/South America and Africa cover 30% in the latest 5 years from 1996 to 2000.

On the other hand, the number of technical cooperation on flood-related issues has increased due to the increase of flood disasters in developing countries. In developing countries, flood disasters have increased because of some reasons:

For example, many urban families, especially the urban poor, stay in flood prone areas such as unstable steep land, river valleys regularly hit by flash floods, low-lying floodplain, and malaria-infested marshes.

Furthermore, flood disasters force people further into poverty, and poverty leads to chronic vulnerability to flood disasters in developing countries. Flood disaster mitigation is thus closely concerned in poverty alleviation.

Trend of Non-structural Flood Control Measures

Flood control measures are classified into structural and non-structural measures. Typical structural flood control measures are dam and storage reservoirs, embankment of levee, channel improvement, floodway bypass, and so on. Non-structural measures include land-use control, flood forecasting and warning, evacuation drills, publication of hazard maps, relief activities, flood insurance, and so on.

Non-structural measures are required in the following cases:
Firstly, the structural measures would be costly or are not feasible, considering the Benefit-Cost ratio;
Secondly, financial constraint of local government; and
Thirdly, structural measures are time-consuming.

Ideally, a combination of structural and non-structural measures is required for an effective flood control. JICA has been adopting both structural and non-structural measures to mitigate flood disasters. From 1975 to the 1980's, structural measures accounted for more than half of the flood-related projects implemented.

On the contrary, non-structural measures prevailed in the 1990's and they cover more than half of the flood-related projects recently implemented. The annual average number of structural measures has not changed since the 1980's, so that the increase in the total number of projects is attributed to the increase of non-structural measures.

Case-1: Comprehensive River Basin Development

The comprehensive river basin development project in Brantas, East Java, Indonesia, is a case study on economic development that contributed to poverty alleviation. JICA had provided assistance for the development of the target area for more than 40 years since the period of OTCA, the former name of JICA. A local counterpart engineer from Indonesia will later explain the details of this case study.

The development project consisted of multipurpose dams, river improvement works, irrigation systems, drainage systems and so on, which can be defined as structural measures. However, the focus of projects shifted to non-structural measures in these years. For example, JICA has undertaken the integration and improvement of river basin management systems and the implementation of flood forecasting and warning systems to prevent flood disasters.

During the long history of implementation, the projects have produced benefits; namely, safety level against a flood of 50-year return period, electricity production of about 1.0 billion kWh per year, irrigation of 340,000 hectares of land, raw water supply of around 300 million m^3 per year for drinking water and industries, tourism, and so on. These economic growth activities have tremendously contributed to poverty alleviation.

Case-2: Post-Disaster Restoration Project

A flood control project in Ormoc City in the province of Leyte, the Philippines, is a typical case of post-disaster restoration project. The project's objective was to develop the area by providing protection from floods larger than the one that took place in Ormoc in November 1991 accounting for 8,000 deaths and missing.

Prompt relief activities were initiated by the Ormoc City Government, which was later joined by other agencies of the central government, several Red Cross units, private entities, and many countries including the Government of Japan. As reported, donations from these agencies reached US$ 5.8 million in total.

However, the threat of disastrous floods has not been removed, and people living along the rivers as well as poverty have remained exposed to flood hazards. Therefore, from 1993 to 1994, a feasibility study was conducted by JICA for the flood control project in Ormoc City that would provide protection against a flood larger than the one in 1991.

With financial assistance from the Government of Japan, basic and detailed design works were carried out through JICA, and all construction works were completed in August 2001. Ormoc residents now enjoy relief from the threat of flood disasters, contributing to the development of the regional economy and poverty alleviation as well.

Case-3: Flood Disaster Mitigation Focusing on Poverty

A case study on a rural development project through flood-proofing was conducted in perennially flooded areas in Bangladesh with assistance from JICA. The project was especially directed to alleviate poverty in these areas.

Flood is a recurring phenomenon in Bangladesh. People in Bangladesh practically live with floods. Since farmers have no other means of livelihood apart from farming, they are very vulnerable to flood damage.

Flood mitigation projects in these areas require small-scale flood control programs due to financial constraint. Also, they require social approaches such as **support to generate other means of income** through training and education, **improvement of living conditions** through primary health care promotion, promotion of the idea of **self-reliance and participation** in the projects and so on. Thus, the JICA study team formulated an integrated rural development plan targeting small-scale flood mitigation and poverty alleviation.

Furthermore, to ensure the sustainability of the proposed project, **participatory approach, self-managed savings and credit programs, cost-sharing and institutional building** were proposed.

Goal of Flood Disaster Mitigation Program

Flood is still a major concern in the world, especially in Asia as I mentioned beforehand. Furthermore, poor people dwelling in flood-prone areas and flood hazard riverbanks encounter the threat of disastrous floods.

Two (2) major goals of a flood disaster mitigation program are economic development and living condition improvement for the people. Relieving people living in the river basin from the threat of devastating flood damage will consequently contribute to the development of the regional economy, and thus improve living conditions contributing to poverty alleviation.

Flood Disaster in Japan

To realize the goal of flood disaster mitigation in developing countries, I will introduce the effectiveness of flood control in Japan.
This diagram shows that the total flood areas in Japan has been decreasing every 5 years due to the flood control projects implemented since 1981

The next diagram presents the 5-year trend of Number of Missing and Deaths and Gross Domestic Product (GDP) per Capita in US dollars. The number of deaths or missing due to floods has been decreasing since 1960 due to serious efforts on flood control. Moreover, flood control projects have contributed to the stability of life and socio- economic development, which caused the increase of GDP per Capita from 1970 as shown in the diagram.

I suppose that growth of GDP per capita contributes the investment of flood proofing.

Implementation Methods of Flood Disaster Mitigation Program

I recommend some **Implementation Methods of Flood Disaster Mitigation Program** contributing to poverty alleviation, as follows:

Comprehensive River Basin Developments ranging from flood control to hydropower development, supply of water for domestic and industrial uses, and irrigation, such as the case of river basin management in Indonesia, are effective measures for development of the regional economy.

Structural Flood Control Measures, such as the case in the Philippines, are still in great demand and produce direct effects to the socio-economic activities in the flood hazard areas.

These projects are typical or conventional measures so far adopted to meet the demand of developing countries, and they promote economic development as well as the improvement of living conditions and thus further contributing to poverty alleviation.

Furthermore, structural flood control projects by riverbank improvement are getting uneconomical and unrealistic, considering the financial constraints in developing countries and also the resettlement issues on many dwellers on the riverbanks due to the widening of river channels.

Comprehensive flood control projects or **the effective combination of structural and non-structural flood control measures** should be proposed and implemented.

Challenge to New Type of Flood Disaster Mitigation Method

There is a new point of view or trend, **Integrated Small-scale Flood Control and Poverty Alleviation Project**, such as the case in Bangladesh, which focuses on poor people as the target and the main participant, as well as the recipient, of the project.

The idea of flood mitigation that allows inundation to some extent but protects essential parts of livelihood is getting to be a more preferable solution to the increasing flood damages.

Key elements of these types of projects are: **1) participation of local people to establish the sense of ownership, and 2) assistance to the poor to enable them get out of the vicious circle of widespread poverty by providing choices of means of livelihood.**

Thus, it will be required to challenge a new type of integrated development plan, in both rural and urban areas, that could handle poverty problems together with flood mitigation in the 21st century.

Report of Workshop on Water and Poverty in Dhaka

The Asia-Pacific Regional Consultation Workshop on Water and Poverty was held in Dhaka, Bangladesh, on September 22-26, 2002.

I will now present to you some recommendations on the issues of poverty alleviation taken in the workshop discussions. These recommendations are very useful and adaptable to future flood control projects that are aimed to contribute to poverty alleviation.

(1) **Demand-driven approach** should be provided for the poverty alleviation programs, where the poor themselves set the agenda and define the priorities.
(2) **Participatory approach** is an agreed mechanism to make clear the needs, interests and priorities of the poor.
(3) **Partnerships** are a key element for all stakeholders to play a role in poverty alleviation effectively.
(4) **Equity, with a gender focus**, is the core of approach, both as an objective and as a key element of the poor alleviation.
(5) **Well-planned investment** is a core component of required pro-poor actions.
(6) **Development of institutional capacities** is indispensable for the

different needs and options that could be identified and turned into practical steps for the sustainable poverty reduction.

(7) **Transparency of information and shared understanding** are essential for creating partnerships and harmonizing the potentials of different stakeholders to the common purpose of decreasing the poverty.

Conclusion

JICA's activities for flood disaster mitigation have been expanding from engineering measures such as river improvement to non-engineering measures such as pro-poor development assistance. Considering the significance and magnitude of poverty issues in developing countries, coordinated activities among multilateral and bilateral agencies, private sectors, government agencies concerned, NGOs and local communities are needed. In this regard, JICA will further cooperate with these entities to assist developing countries in promoting their economic development, improving the living environment, and reducing poverty.

Now, we can start with the presentation of a variety of case studies on poverty and floods, as well as the discussion and exchange of information among attendants. The results of this workshop will be very useful and effective for the coming 3rd World Water Forum to be held in Japan.

Thank you.

10. SESSION REPORT

10.1 Session 1: Non-structural Methods of Flood Mitigation and their Impacts on Poverty and the Poor

Parallel Session 1 was convened under the theme of "Non-structural Methods of Flood Mitigation and their Impacts on Poverty and the Poor"

(1) Keynote Remarks: Regional Typhoon Committee by Dr. Roman Kintanar

The relevance of floods and their impacts on the poor were crystallized in the comments of the keynote speaker, Mr. Roman Kintanar who said "floods are the disaster of the poor whereas earthquakes are referred to as the disaster of the rich." In many of Asia's major cities, rural poor migrate into cities in search of employment. Many of them can only survive in the city by squatting on vacant land, and often this is on river banks. Even if they are aware of the flood hazard, they have no choice because they cannot afford to buy land in flood-free areas.

The description of how the Typhoon Committee (now encompassing 14 countries) was formed in the early 1960s highlighted the importance of regional cooperation in dealing with natural disasters. There are many benefits to the poor of cooperative efforts to provide typhoon warnings and organize emergency operations.

(2) Rural Development Focusing on Flood Proofing in Bangladesh by Mr. Md. Zahangir Alam

Bangladesh is frequently inundated by major floods, covering up to 2/3 of the total area of the country. These have serious impacts on the poor. The contributing rivers (Ganges, Brahmaputra and Meghna) are transboundary rivers with a total catchment area equivalent to 10 times the area of Bangladesh itself. Bangladesh has implemented a large number of flood mitigation works comprising structural and non-structural measures.

The conclusion from the presentation is that flood-proofing is the only realistic solution for Bangladesh. Flood-proofing projects incorporate participatory approaches and coordination between NGOs and the government for optimum impact. Works implemented in neighboring countries have a strong influence on the flood situation in Bangladesh, emphasizing again the importance of regional

cooperation in water resources and flood management.

(3) Typhoon Committee: Hazard Mapping Project and Practice in Japan by Mr. Ryosuke Kikuchi

In sharp contrast with Bangladesh, Japan's rivers are short, steep, and wholly contained within the national territory. Japan has implemented many structural works on its rivers to control floods and prevent inundation of most urban areas. Nevertheless, the number of people affected by floods and the economic losses caused by floods have sharply increased in the period 1973-1997, whereas the occurrence of floods over the last 20 years has not greatly changed. Hazard or flood risk maps have been prepared to improve public awareness and promote voluntary disaster prevention activities. The maps enable local governments to make decisions to evacuate people when necessary, and also indicate the best evacuation routes and safe areas.

(4) Flood Hazard Mapping Project of San Juan River, Quezon City, Philippines by Mr. Oskar D. Cruz

The San Juan River flows through a densely populated urban area of Quezon City in Metro Manila. There are many poor people living along the river and encroaching into the river channel itself. Participatory surveys were used to derive baseline information on flood frequency and floodwater depth, and these data were incorporated into flood hazard maps.

In discussion of the situation affecting poor people, the question was asked how flood hazard maps could help the poor if they have no opportunity to improve their situation by moving to safer areas. The answer is that, although the poor may not have many choices, it is always desirable to know what the risks are in terms of organizing evacuation during floods. Hazard maps may also help convince people, as part of public awareness campaigns, not to encroach into river channels, thus paving the way for their acceptance to be resettled in other safer areas. It was agreed that the lack of employment opportunities limits the range of options available to local governments to help the poor.

(5) Flood and Flood Forecasting in Yangtze River by Ms. Cheng Lin

The Yangtze River in the People's Republic of China (PRC) has a drainage area of 1.8 million square km and is 6,300 km long, making it the 3rd longest river in the world. The river is of such a massive scale that floods arise from different types of rainfall events and combinations of these. There are about 1,016

meteorological stations along the Yangtze River, and data are transmitted by telegraph and wide area network for real-time hydrological processing. For flood forecasting and flood warning, a major problem relates to the difficulty of translating river discharge into water level.

PRC has some 290,000 km of flood control embankments and their maintenance is important to ensure the safety of people and property. As an example of a flood hazard-mapping project, the Meng Wa detention basin, covering 180 km^2, was cited. Its frequency of use is about once in 10 years on average. Greater use of flood detention basins would improve the flood capacity of the existing flood control embankments, and help make the situation safer for all persons living in the flood-affected areas.

(6) Flood Hazard Mapping in the Caribbean and Latin America by Mr. Hidetomi Oi

In view of frequency and intensity of disasters, flood hazard mapping is an overall prerequisite. The Caribbean Disaster Management Project (2002-2005) aims to establish a self-reliant institution under the collaboration of regional organizations (universities, institute of hydrology) where expertise is collectively available. It will prepare hazard maps for flood-prone areas in member states in cooperation with national teams to be set up by respective states. A manual for hazard mapping will also be prepared. The project shows how good results can be obtained by pooling the limited resources of member states and by using locally available technology where possible. The project also reinforces the value of regional cooperation, because more than half of the Central American countries share river basins. As for other case studies, a major problem for disaster management is the influx of migrants from rural areas.

Summary of Discussion

During the session on Structural Methods of Flood Mitigation and their Impacts on Poverty and the Poor, discussions were made, focusing on the following points:

- Structural measures in mitigating flood are positively effective in contributing to the enhancement of socio-economic condition of people benefiting from the project. Improving socio-economic condition means improvement in the living standard of people.
- Harmonization and balancing between construction (structural method) and conservation of environments is one of the pivotal factors in planning river basin development projects.
- Any completed water resources structure needs to be properly

managed to sustain its desired purpose. This means that completion of the project does not end there but a continuing program on the proper operation and maintenance of the structure has to be stringently implemented. Otherwise, lack of proper O&M will negate the very purpose the structure was designed for. Therefore, life cycle costs, including construction and O/M costs, should be considered in the decision making process for project implementation.

All probable approaches to alleviate poverty have to be determined and dealt with accordingly. Socio-economic analysis is an important approach for the project formulation in order to contribute to poverty reduction.

10.2 Session 2: Structural Methods of Flood Mitigation and their Impacts on Poverty and the Poor

Parallel Session 2 was convened under the theme of "Structural Methods of Flood Mitigation and their Impacts on Poverty and the Poor"

(1) Flood Control Projects and Poverty in the Urban Areas in the Philippine by Mr. Emil Sadain

Identification and analysis on how the flood control projects, which have been implemented with technical and financial assistance of Japan, may have contributed to the economic and social development in and around the project areas including some roles in the alleviation of poverty, through field survey and investigation of two flood control projects; namely, The Project for Flood Mitigation in Ormoc City funded by JICA Grant and The Mangahan Floodway Project constructed 20 years ago with OECF loan.

These flood control projects contribute to urgent restoration from disasters in a short term and economic growth in a long term.

(2) Development of the Brantas River Basin, East Java Province, Indonesia by Mr. Achmad Rusfandi Usman

The main objective of the Brantas River Basin Development is to uplift social life, economic prosperity and cultural growth within the river basin. In the past, the problems in the Brantas River Basin are: annual flood, water supply shortage, unbalanced water allocation, limited flow capacity of river, river bed

degradation, excessive river meandering, low water quality and shortage of electricity. Development of the Brantas River Basin started in 1960 and continued up to the present. Basic concept of the river basin development is: one river, one plan, and one integrated management. It means that the river basin is a unity from the spring down to estuary and development of the river basin has to include all surrounding aspect.

In order to get optimum benefit, all activities on the development cycle had to be done properly. Lack of operation and maintenance (O&M) causes benefit reduction, so that based on actual condition the project may not be feasible. In fact, lack of O&M commonly occurs on water resources development in Indonesia and without it, any completed water resources project will not last to its designed lifespan.

(3) Riverbank Protection in the Lao PDR by Mr. Bounthieng Venvonsoth

In poor countries like the Lao PDR, effective and low-cost riverbank protection techniques are absolutely necessary. Therefore, the Government of the Lao PDR (GOL) has been introducing effective, environment friendly and low-cost riverbank protection works using natural materials (*Soda* or fascine mattress) with Japanese assistance.

Sustainable riverbank protection techniques will be transferred to the GOL. The GOL, in turn, will independently use and disseminate the transferred techniques to its populace. Somehow, on way or the other, this will help alleviate poverty and uplift the socio-economic life of the people of Lao PDR.

(4) Flood Control Projects Contribution to Basin Development in Japan by Mr. Toshihiro Sonoda

Rivers in Japan are short and steep with rapid and violent flows discharging directly from mountains into the seas. Floods in Japan are normally of short duration but can be serious. As a result, the public clamored for infrastructures to mitigate flood. Measures to control flood, are among the major infrastructure components given with utmost importance in order to realize a safe and comfortable living environment. Several flood mitigating works were introduced.

Rapid urbanization has also contributed to the increase in surface runoff downstream of a basin aggravating flood damage in low-lying areas. Because of this, Japan saw the need to come up with an integrated flood control measures.

(5) Report in Eradication Poverty, River, Storm-water Management and Flooding Issues in Malaysia by Mr. Monamed Roseli bin Zainal Abidin

In Malaysia, floods occur quite often in some urban and rural areas causing some property damages. However, poverty has not been associated with flooding.

In maintaining macroeconomic stability, emphasis on eradicating poverty, income distribution and employment restructuring with the aim of building a united and equitable society become an important element. In this presentation, some of the government policies and strategies in eradicating poverty are highlighted together with the flooding issues and the current river and storm water management approach practices.

10.3 Session 3: Information & Indigenous Technology to Resolve Water Issues

Parallel Session 3 was convened under the theme of "Information & Indigenous Technology to Resolve Water Issues".

The points stressed in these presentations were as follows:

- Dissemination of information is helpful to mitigate flood damage.
- Coordination and integration is necessary not only for organization level but also project sector-level.
- Cooperation and collaboration at various levels (regional, national, and community) is important.
- To disseminate the information down to the residents in flood hazard area, both advanced IT technology and local level communication system should be applied.
- The meeting level of IT technology and local/indigenous communication system should be considered to formulate the appropriate system, however, it is difficult to find the answer.
- Obtaining the understandable information for the community people is most important. Therefore, the appropriate system should be created with both engineering and sociological components.
- Even efficient communication/dissemination is installed, indigenous flood fighting work still be necessary and important to mitigate the flood damage.

- We have to understand that the role of Government and Community is closely related, and to integrate them in appropriate system.
- Further discussions will be made in the virtual forum of 3WWF. Dissemination of information is helpful to mitigate flood damage.
- Coordination and integration is necessary not only for organization level but also project sector-level.
- Cooperation and collaboration at various levels (regional, national, and community) is important.
- To disseminate the information down to the residents in flood hazard area, both advanced IT technology and local level communication system should be applied.
- The meeting level of IT technology and local/indigenous communication system should be considered to formulate the appropriate system, however, it is difficult to find the answer.
- Obtaining the understandable information for the community people is most important. Therefore, the appropriate system should be created with both engineering and sociological components.
- Even efficient communication/dissemination is installed, indigenous flood fighting work still be necessary and important to mitigate the flood damage.
- We have to understand that the role of Government and Community is closely related, and to integrate them in appropriate system.
- Further discussions will be made in the virtual forum of 3WWF.

Discussion was made in this session, focusing on the following viewpoints:

- Whose information is trusted?
- People will listen to their intimate persons.
- Damage caused by human action and non-action.

  → What should be done? How to create information dissemination system?

  Gap of system, gap of activities…

  → *Distribution of accurate and understandable information is important*
- People living in flood (disaster) prone area know much about the disaster than people from outside.

  → In Bangladesh's case, NGO only acted to re-achieve the confidence of community decision for the flood management.
- Value of life

Should be taken into consideration to configure disaster mitigation system on the community level

- Meeting level of IT technology and local/indigenous technology
  It should be considered to formulate the appropriate system, however, it is difficult to find out the answer.
- Knowledge based on science should be the basis to cope with flood. Whose information is trusted?

10.4 Session 4: Comprehensive Flood Management for Poverty Reduction

Session 3 was convened under the theme of "Comprehensive Flood Management for Poverty Reduction".

(1) Impact of Flood Control Project on Poverty and Land Use by Mr. Kenichi Matsui

First of all, Mr. Kenichi Matsui, College of Land, Infrastructure and Transport, Ministry of Land, Infrastructure and Transport, Japan (on behalf of JBIC) presented the **Impact of Flood Control Project on Poverty and Land Use** that clearly showed the implication among the flood control, poverty and land use with the 3 case studies. Although the flood control measures contribute for the reduction of poverty, the population inflow to the urban areas affect the deterioration of the poverty rate. Therefore, the simultaneous flood mitigation works at the urban and rural areas must be very important to mitigate the poverty. The flood control measures in rural areas contribute for the decreased number of population inflow to the urban areas.

(2) Flood Management and Poverty in Rural Area in Philippines by Ms. Rebecca T, Garsuta

Secondly, Ms. Rebecca T, Garsuta , Department of Public Works and Highways - Philippines, presented the **Flood Management and Poverty in Rural Area in Philippines** that indicated the importance of the synergetic approach in addition to the structural measures (e.g. the preparation of local assembly halls as a social infrastructures). Moreover, the priority is given to the project in the poverty areas in the process of the project implementation in the Rep. of Philippines.

(3) River Basin Management in China: Actuality and Issues by Mr. Cheng Xiaotao

Thirdly, Mr. Cheng Xiaotao, Department of Water Hazard Research (IWHR), China, presented the **River Basin Management in China: Actuality and Issues**, which clearly shows the necessity of the river basin management with the full consideration of various issues such as flood control and water supply. In addition, he asserted that the enactment of the new legislation and river law and the strategies against the rapid urbanization are needed with the basic ideas of "*the living and development with flood"*.

(4) Flood Disaster and the Specified flood Detention Areas in China by Dr. Wang Xiang

The fourth presentation, namely, **Flood Disaster and the Specified flood Detention Areas in China**, was made by Dr. Wang Xiang, Office of State Flood Control and Drought Relief Headquarters, China. He referred to the importance of detention areas with the case studies of Yangtze River, Yellow River, Huaihe River and Haihe River. In addition, he expanded the idea to the environment and drought issues for the sustainable development.

(5) Poverty and Floods – The Nepalese context by Mr. Damodar Bhattarai

The next presentation was **Poverty and Floods – The Nepalese context** made by Mr. Damodar Bhattarai, Department of Water Induced Disaster Prevention (DWIDP), Nepal. During the presentation, Mr. Bhattarai indicated the necessity in establishing the policy and /or guideline for implementing the social and non-structural countermeasures at the community level. Moreover, he asserted the necessity of the integrated river basin management including the public participation in the countries of the Ganges' basin, and of the politically stable conditions.

(6) Land Degradation, Natural Disasters and Poverty - A Comprehensive Approach to Break the Vicious Cycle in Arid Region by Dr. Forood Sharift

As an end of morning session, Dr. Forood Sharift, Ministry of Jihad-e Agriculture

Iran, presented the **Land Degradation, Natural Disasters and Poverty - A Comprehensive Approach to Break the Vicious Cycle in Arid Region**. During his presentation, he indicated the necessary strategy with the full employment of the integrated river basin management for the flood damage mitigation. He asserted that the integrated river basin management could beak the vicious circle of poverty. Then, he concludes that the integrated river basin management including soil conservation, plantation, groundwater infiltration & utilization in Iran because of the arid and semi-arid soil is unavoidable.

(7) Integrate River Management in Japan by Mr. Toshihiro Sonoda

The first presentation in the afternoon session was **Integrate River Management in Japan** made by Mr. Toshihiro Sonoda, Ministry of Land, Infrastructure and Transport Japan. He presented the Integrated Flood Control Measure implemented in Japan with the case study of Tsurumi River with the full consideration of the characteristics of Japanese hydrology and River Law. In addition, the information system and organizational hazard map preparation were introduced as well as environmental better-off.

(8) International Flood Network (IFNet) by Mr. Toshihiro Sonoda

The final presentation was **International Flood Network (IFNet)** made by Mr. Toshihiro Sonoda, Ministry of Land, Infrastructure and Transport Japan on behalf of Mr. Akira Sasaki, Water in Rivers Secretariat Japan. During the presentation, he explained about the flood damages and crisis all over the world and appealed the necessity of the establishment of the new network to mitigate the flood damage at the global level. He advocated that flood damage can be mitigated by a shift from reactive (responsive: responding after events) approaches to proactive (preventive: responding before events) approaches to flooding with the full utilization of the new network. In addition, the activities during the WWF3 were explained as a coordinator of flood groups.

Summary of Discussion

During the session on Comprehensive Flood Management for Poverty Reduction, discussions were made, focusing on the following points:

- Institutional set-up such as “one river-one organization scheme.
- Importance of the non-structural measures such as hazard map, public participation, integrated river basin management, and increasing needs for

non-structural measures as well as structural measures.

- International river issues- the importance of the cooperation among related countries
- Importance of sharing information such as meteorological and hydrological data
- The Satellite river gauging system - useful for the developing countries
- Recognition of the necessity to set up an international network for flood damage mitigation --- International Flood Network (IFNet)

11. SUMMARY AND CONCLUSION

11.1 Flood Disasters in Asia

"Asian countries have been suffering the most from flood disaster: 40 to 50 percent of flood disaster and 70 to 90 percent of deaths occur in Asian countries; this is due to the monsoon and other natural conditions coupled with the rapid urbanization and other social factors; situation is worsening as the vulnerability grows due to concentration of population in high-risk areas, of which the majority is the poor" according to the keynote address made by Mr. Izumi, Vice President of JICA.

"Floods are the disaster of the poor whereas earthquakes are the disaster of the rich" is the comment made by Dr. Kintanar in his keynote remarks. He further said
"In many major cities, rural poor migrate into cities in search of employment and many of them squat on river banks. Even if they are aware of the flood hazard, they have no choice because they can not afford to buy land in flood-free areas."

Poverty being the contemporary greatest world concern, "floods and poverty" is an important and proper topic of the 3rd World Water Forum which is held for the first time in Asia.

11.2 Objectives of the workshop

Objectives of the workshop were:

- To build a better understanding of the linkages between floods and poverty in Asia and Pacific region;
- To highlight good practices for flood mitigation and management;
- To make proposals on more pro-poor approaches in implementation of flood mitigation and management; and
- To strengthen the regional network of development agencies working on various facets of flooding and poverty alleviation

11.3 Linkage between floods and poverty

Fig.11-1 shows the linkage between flood disasters and poverty. This figure has been prepared to review the real cause of poverty and to find out areas on which to focus our efforts.. This was presented at the opening of the Workshop and has been revised with comments from the participants.

The figure illustrates :

- A persistent vicious cycle of population growth, environmental degradation, disaster and poverty in the upstream areas;
- Linkage between the upstream and downstream:
- Migration from upstream hill to downstream flood plains as a result of the vicious cycle and intensified flood as a result of environment degradation in the upstream watershed, both causing the growing vulnerability in the downstream flood plains;
- A growing vulnerability in particular in and around the urban areas due to the rural to urban migration and the rapid urbanization itself, combined with the above mentioned upstream-downstream factors.
- Insufficient and improper flood mitigation and management before and after disaster (mitigation, preparedness, rehabilitation, relief), causing the repeating flood disaster and worsening further the poverty situation:

It was learnt from the figure that:

- The flood disaster is a fundamental problem in flood prone areas. Without proper flood mitigation and management, poverty cannot be reduced.
- However, flood mitigation and management, except for the relief for major disasters for which foreign assistance is available rather easily, is an extremely difficult task due to various reasons as mentioned in the figure.
- On the other hand, poverty is a result of a complicated process involving population growth, environmental degradation, disaster etc. Flood mitigation and management alone cannot solve the issue effectively. An integrated approach is necessary.
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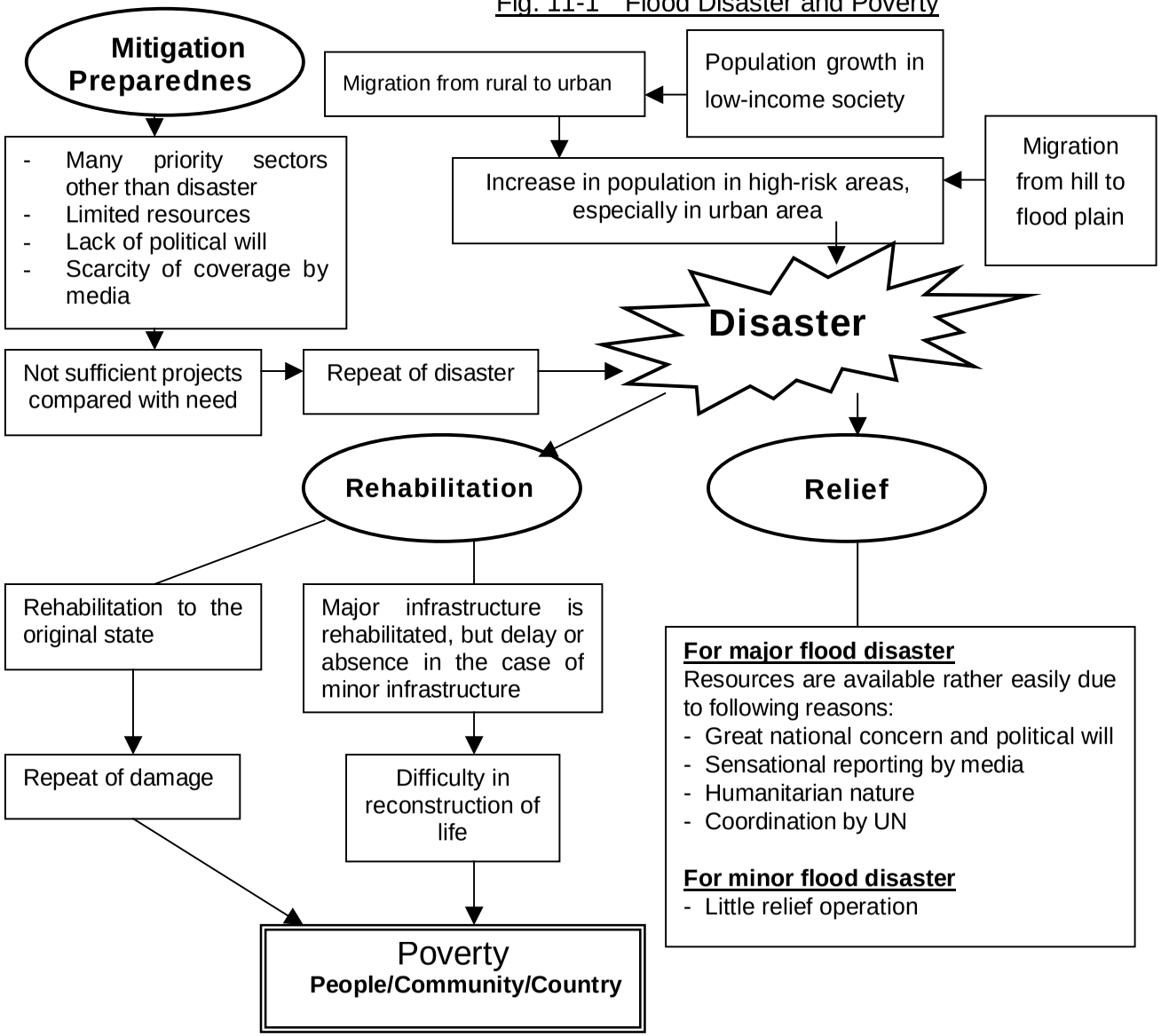
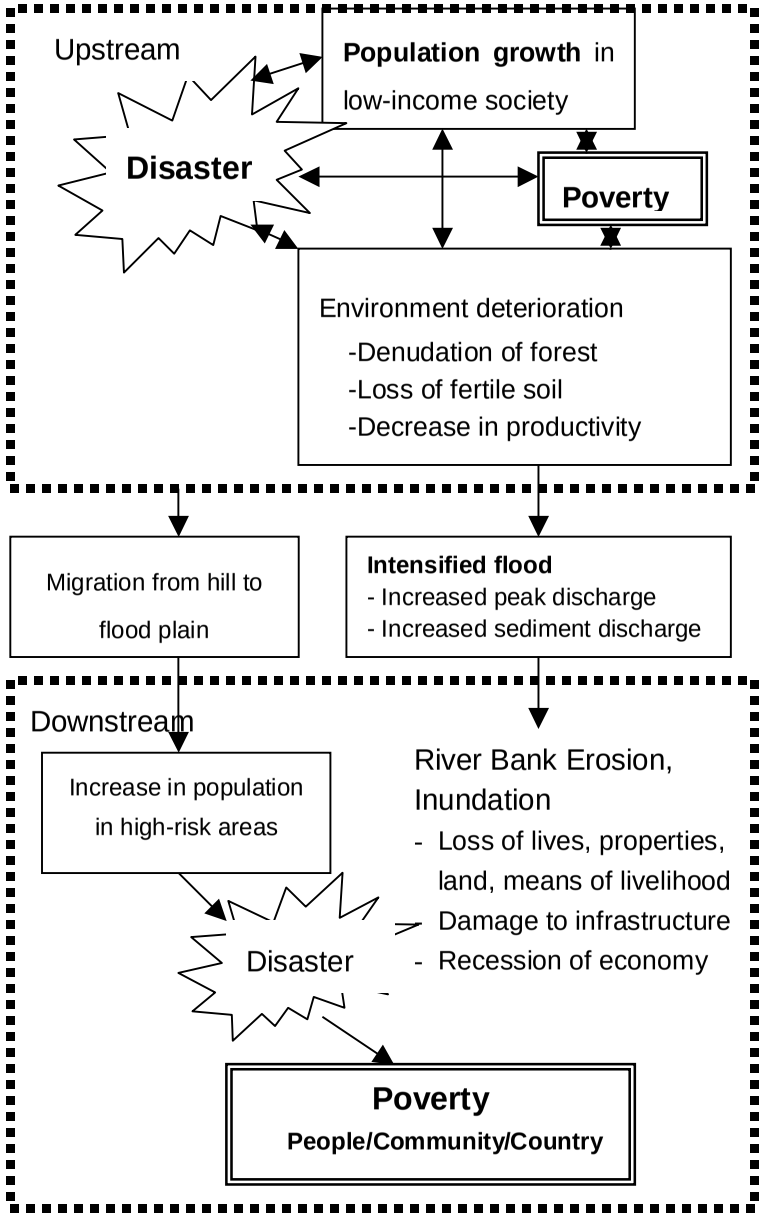
Fig. 11-1 Flood Disaster and Poverty





11.4 Findings from Case Studies

Case studies resulted in a number of findings and suggestions as given in Chapter 10 Session Report. Some are the same as the results of workshops, seminars etc. in the past but others are fresh reflecting recognition of the linkage between floods and poverty and recent experience of respective country as well.

Main points are summarized as follows:

(1) Flood disaster is a fundamental problem in flood prone areas. Without proper flood mitigation and management, any effort for poverty reduction will not be successful.

(2) Structural measures in mitigating flood are positively effective in contributing to the enhancement of socio-economic condition of people benefiting from the project. In order to obtain the maximum benefit on an equitable and sustainable basis for the people, it is recommended to:

- Adopt the comprehensive approach integrating flood mitigation and management with water use and environment conservation, and also combining hard measures and soft measures;
- Adopt the basin approach with the whole basin as a unit even for international basins, and involving all stakeholders.

(3) In order to ensure for flood mitigation and management projects to be more effective for poverty reduction, it is recommended to:

- Incorporate social programmes into the project as much as possible, or to directly target the poor with poverty reduction as the primary objective of the project;
- Give priority to poorer areas in the selection of project sites;
- Carry out socio-economic studies in order to address poverty issues more effectively.

(4) Other important issues mentioned particularly include: Importance of information in various aspects such as:

-
- Information dissemination especially at the time of disaster emergency to the bottom level who need such information the most in an understandable way through combination of IT technology and indigenous system

- Flood hazard mapping which is necessary as a prerequisite to all disaster management activities such as relief operation, preparedness and mitigation
- Topics focused at the Bangladesh workshop such as participatory approach, partnership with all stakeholders, institutional and human capacity building, gender consideration

It was learnt from case studies that:

(1) There is a tendency both in governments and donors that the approach of flood mitigation and management projects is shifting from traditional one which primarily aimed at economic development of the target area, to new one in which the project includes components in favor of or directly targeting the poor.

(2) In spite of the success of flood mitigation and management project in mitigating flood disasters and in achieving economic development of target areas, poverty incidence has not always been reduced. This indicates that flood mitigation and management project is a necessary condition but not a sufficient condition for poverty alleviation, and more over the continuous inflow of the poor into target areas.

11.5 For a more substantial contribution of flood mitigation and management to the reduction of poverty: qualitative improvement and quantitative increase

(Qualitative improvement)
Suggestions made at each session and summarized in 4. above should be implemented so that each project may be more effective for the poverty reduction in future.

(Quantitative increase)
One of the important findings of the workshop is the growing vulnerability due to concentration of population, especially the poor, in flood prone areas, and in spite of a number of projects the gap is widening. In order to fill the gap, more projects should be implemented, while further pursuing pro-poor approaches as mentioned in 11.4.

However, the recent tendency is that flood mitigation and management project is not increasing or even decreasing in many countries due to financial constraint and other reasons: The flood mitigation and management is regarded as a development project and the economic benefit is not so high as other development projects; National concern and political will are uncertain except for certain period after a major flood disaster.

Under these circumstances, humanitarian aspect of flood mitigation and management for poverty reduction should be duly and widely recognized by governments and donors in addition to the effectiveness for economic development. This aspect has not been discussed to the full at this workshop and therefore it is recommended that this will be a topic for discussion at the workshop of China and Vietnam and further at the 3rd World Water Forum.

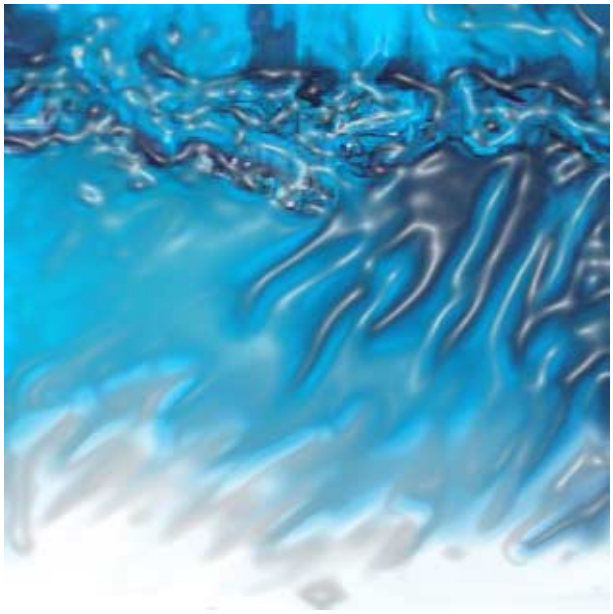
One idea is to implement rehabilitation project in combination with mitigation/ preparedness (like the Reconstruction Project for Ormoc, the Philippines) as early as possible after the flood disaster, when the national concern, political etc. still exist.

The 3rd World Water Forum will be a good opportunity to make flood mitigation and management an international agenda. It should be noted that it took about two decades for the international relief operation system to be well established with OCHA as its center; it took about one decade for the importance of the fresh water to be well recognized internationally.

11.6 Preparation for the 3rd World Water Forum

This workshop is the second in a series of the consultation workshop following the one held in Bangladesh on 22-26 of September. Other workshops will be held in China and Vietnam. Reflecting the composition of the participants, this workshop did not cover all aspects of "poverty and floods" but resulted in a number of suggestions on "mitigation" and preparedness. Each workshop will thus deal with the issue of poverty and floods from different angles and the results of the four workshops will be integrated in a paper for presentation at the 3rd World Water Forum.

1.4　都市と水（マニラ）



第 2 次水資源プロジェクト研究計画調査

ADB 主催
Regional Consultation Workshop on Water in Asian Cities (The Role of Civil Society)

参加報告書

2002 年 10 月

株式会社　建設技研インターナショナル

Regional Consultation Workshop on “Water in Asian Cities”
The Role of Civil Society

開催日時：2002 年 10 月 14 日～10 月 16 日
開催場所：アジア開発銀行(ADB)会議室、　マニラ市フィリピン国
主催　　：ADB
協賛　　：UN-Habitat, World Bank, Ondeo Services, Vivendi Water, Water Aid, and Ministry of Physical Planning & Works-Nepal
プログラム：別添
参加者：別添の通り；招待者 75 名、一般参加者 24 名、ADB 関係者 14 名

各国の NGO、水道事業者、ジャーナリストを招待している（バングラデシュ、カンボディア、香港、インド、インドネシア、日本（大阪）、ラオス、マレーシア、モンゴル、ネパール、中国、フィリピン、韓国、フィジー、スリランカ、台湾、タイ）その他建設業者、コンサルタント、オブザーバー、ADB 関係者を参加させている。JICA 関係者もオブザーバーとして招待されている。

議事次第：
10 月 14 日　第 1 日目

1. Opening Session

水を題材“Water for All”とした歌と踊りで workshop は開始された。

(1) Opening Address

ADB 副総裁 Myoung-Ho Shin　　*添付資料 1*

- ADB の水政策のテーマ：”Water for All”
- 貧困層は、水購入に支払能力も支払い意志が無いにも係らず実際には公営水道よりも高い料金で生活用水を購入している。これら貧困層に水を販売しているのは民間業者である。
- 貧困層に対する水供給は、公営水道では対処できないので民間水道事業者の発展を促し、貧困層に安全で安い水を供給すべきである。

<u>ADB のねらい</u>
水道事業体の組織を強化し、財政を健全化して民営化を検討する。

(2)　Keynote Addresses

1) Walter J. Crandall: Country Director, Care International Indonesia,　　*添付資料 2*
欠席

2) Antonio T. Aquino: Manila Water Company, Inc. (MWCI)　社長　　*添付資料 3*

- マニラ市は公営の Metropolitan Waterworks and Sewerage System (MWSS)と協調して給水施設の拡大に努めてきた。
- 1997 年の給水地域は全市内の 26%であったが 2002 年には 83%となった。
- 同じく、給水世帯は 325,000 から 449,000 となった。
- 無収水量は、63%から 54%となった。

今後は、地方政府及び Community base organization の参加を促して、更なる給水地域の拡大、貧困層に対するサービス、水源開発、衛生改善のための下水道施設の完備を目指す。また、これら事業の広報を市民社会やメディアに向けて発信する。

感想：民営化を進めるとしているが、未だに盗水、漏水、機能維持用水を含めた無収水量が 54%もあるのは健全な水道事業の運営にほど遠い状況である。従って、水道事業の民営化を進めると料金収入の確実な裕福層へのサービスに集中しないか疑問が残る。しかし、市民の声は公営水道事業のサービスに疑問が多い。この辺の問題点を改善していかなければならない。

2. Session 1: Water in Asian Cities

(1) The Challenge: Arthur C. Mcintosh of ADB *添付資料 4*

問題提起

- 東南アジア地域では、パイプ給水率が低いので水販売業者が、衛生的でない水を高い価格（パイプ給水の 10 倍以上）で売っている。
- 南アジアでは断水が多く給水塔から水を買うので、水消費量は少なくなり水運び負担が大きい。

これら原因は、水道事業の管理不足と料金収入不足にある。この二つについては市民と民間業者に意見を聞くべきである。
給水政策は、総合的で透明性を確保しながら、都市貧困層に対する給水と断水の解消に努めるべきである。
政策の実施に当たっては、市民に十分な説明を行い市民参加による流域保全及び改善に協力を求めるべきである。

(2) Presentation: “Water Utility and Civil Society Findings”

by Mr. Geoffry Bridges of Mott McDonald

- アジアの都市全体に、無収水量が 50%以上と多すぎる。
- 断水の解消：貯水施設の建設が必要。
- 小規模給水事業者を育成して貧困層に対する適切価格の給水を行う。
- 安すぎる水料金は、水道施設の O/M 不足を招き、また財務体質が低下する。
- 適切な水料金は、水源保全に役立つ（安すぎてはいけない）。
- 洪水対策にも実例を挙げて軽く触れている。
- 「水と文化」についても、1 分程度で軽く触れているが、その主旨は不明。

討論

- プノンペン水道局　Ek Sonn Chan 局長が高い水料金は貧困層の水道加入の障壁であり、貧困層が水道に加入できる程度の（安い）水料金を設定すべきである。
- バングラデシュ：発展途上国では下水処理に回す予算が無く衛生改善が出来ない。

- ネパール: 首都の人口増加率が 5%で、水道施設の増設が予算不足から不可能。
- フィリピン：ADB、NGO と協調して水道事業の発展に努めたい。
- スリランカ（NGO）: 貧困層はパイプ給水者に較べて高い水を購入している。水道事業については、民間の意見を取り入れてほしい。誰が水の持続的開発、水資源開発に責任を持つべきか。国家あるいは地方政府か。

これより第 1 日目午後のセッション

ADB の副総裁　Myoung-Ho Shin 及び Arthur C. Mcintosh は欠席。

3. Session2: Civil Society Presentation

30 分間のスリランカ人による発表の後、招待者は 5 分間づつの発表を許される。

- ネパール：カトマンズの例：29%はパイプ給水なし。漏水は 36%、有収水量はわずか 20%しかない。
- バングラデシュ：水を利用するのは人間の権利である。料金徴収の方法として水道局はプリペイドカードを採用した。
- 国名不明：給水に対して他国ではどのような方法で対処しているのか興味がある。
- 台湾：台湾では水道事業はすべて公営である。水道事業は、社会配慮が必要である。水源の汚染が問題となっている。No money no water.
- インド：都市水道では、水利用に関して水文的に微妙な問題がある（取水量と水質汚染）。
- スリランカ：水道事業には、社会的容認が求められている。
- フィリピン：総合水資源開発が必要である。
- インド：New Dheli では水不足にも係らず、40%が漏水で消失している。20 年で人口が倍増しており、これは悲劇といえる。水の最適利用計画が求められている。

4. Session 3: Case Studies Presentation

(1) Chennai in India

KRG Rainwater Harvesting Foundation：　*添付資料 5*

雨水は祖先が古い時代から利用してきた。パイプ給水が発達してきてからこれは廃れてしまった。しかし近年の水需要増大に対してインドでは効率的な水資源管理という観点から見直され、家庭から国家に至るまでこの利用を促進し、また地下水涵養に利用すべきである。

(2) Sri Lanka

(3) Phnom Penh　*添付資料 6*

発表後、議長より”Phnom Penh success story”と紹介されて質疑応答が始まった。

・ インド：融資機関の協調体制が成功のもとではないか。
・ マニラ：融資と住民の受け入れが円滑に進んでいる。また、参加型援助が成功要因であろう。
・ 大阪： 将来の組織/財政面からの問題はないか。民営化を考えているのか。
これに対して Ek Sonn Chan 局長は、下記のように回答した。
「各機関/各国から十分な組織強化策を受けており、また料金徴収班を育成し水道料金徴収率も 91%に向上しているので組織/財政面問題はない。現在は、給水及び給水事業の持続性が重要であり民営化は考えていない。」

10 月 15 日　第 2 日目

5. Session 4: Private Sector and the Urban Poor

6. Session 5: External Support Agencies' Experience

7. Session 6: Issues of Group Discussion

8. Session 7: Group Discussion

10 月 16 日　第 3 日目。午前中のみ

9. Session 8: Water and Human Values and Culture

10. 最終結論

10 月 16 日午前中は、今回会合の総括が行われ次のセッションで以下のような結論が纏められ、これらを第 3 回水世界フォーラムで提案し、議論を深めていくことになった。

Session 9: Presentation of Group Discussion Outputs
Session 10: Summary of Workshop findings
Session 11: Preparations for the 3rd World Water Forum

1) 安全な水と衛生施設の整備・運営には住民参加・民間セクターの参加が重要である。
2) 民間セクターの参入には法律、基準の整備を確立することで、公共の福祉を損なわないサービスを確保する。
3) 貧困層を重点的に支援すること。貧困層は、一般住民（パイプ給水受益者）より高い金額で水を買わされており、安全な水供給によって料金徴収は可能である。
4) 最貧困層に対しては、分割払いなどの配慮が必要である。
5) アフリカの経験から、子供や若年層に対する衛生教育が重要である。
6) 水質汚染防止には、市民の参加が重要である。
7) 節水機器の開発や利用、地下水の人口涵養などで効率的な水利用を追及する。

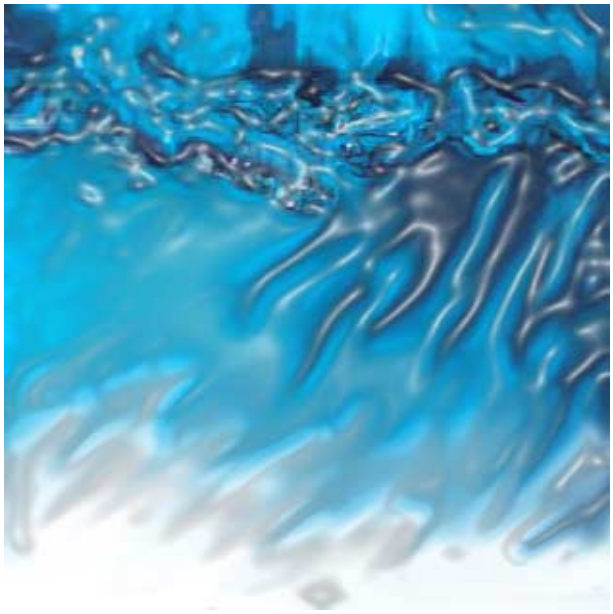
11. 第 3 回世界水フォーラム (WWF3) にむけての取り組み

今回の実績を踏まえて、山本専門員は WWF3 では下記のセッションに参加を希望している。

第 1 希望 : The trends and prospects of international cooperation in technologies of water supply system: Japan Water Research Center（水道技術センター）
先方からは、グループディスカッションに参加するよう要請されているとのこと。これに、話題提供ということで、プノンペンの事例を発表出来るか検討する。

第２希望 : Operation and maintenance network: National Institute of Public Health of Japan（国立保健医療科学院）

1.5　貧困と洪水（中国）



第 2 次水資源プロジェクト研究計画調査

「貧困と洪水」中国地域会合ワークショップ
参加報告書

(National Consultation Workshop on the Impact of Floods, Drought, and other Water Disasters on Poverty, the Poor, and Gender Equality)

2003 年 1 月

株式会社　建設技研インターナショナル

「貧困と洪水」中国地域会合ワークショップ
（National Consultation Workshop on the Impact of Floods, Drought, and other Water Disasters on Poverty, the Poor, and Gender Equality）
参加報告書

2003 年 1 月 9 日～11 日に、中国北京で開催されたＡＤＢ主催の「貧困と洪水」中国地域会合ワークショップに、川上俊器（建設技研インターナショナル）が参加したので、その概要をここに報告します。

１．背景

本会合は、ＡＤＢが、第三回世界水フォーラムに向けて、継続的に実施してきた一連の地域会合（ダッカ会合―2002 年 9 月 22－26 日、マニラ会合―10 月 17－19 日）の一環として実施されたものである。

ダッカ会合はＡＤＢ主催のバンクラデッシュを中心とした全アジア規模、マニラ会合はＪＩＣＡ、国交省、ＡＤＢの三者共催の全アジア規模であったのに対し、今回の北京会合は、ＡＤＢ主催の中国国内に限定した規模で実施された。

参加者は全体で 70 人であった。中国全土各地の自治体・中央官庁の水問題担当者が集合したほか、主催のＡＤＢから 2 人、日本からは、筆者の他、川水委員会から米田菜穂子*1 が参加した。また、その他の国際機関は、開会式のみ、ＪＩＣＡ中国事務所、世銀、ユネスコから各１人の参加があった。

*1　　敬称略（以下同様とする。）

２．概要

本会合の運営は、ADB が資金と会合趣旨を用意し、中国水利部水利水電科学研究所の洪水旱魃対策研究所が運営計画・準備・運営を行った。発表は、すべて、中国語で実施された*2。

会合のプログラムは添付―１に示すとおりである。第一日目の開会式の後、４つのセッションに分かれて検討を行った*3。

開会式では、Jia Jinseng (Vice President, China Institute of Water Resources & Hydropower Research)、Zhang Zhitong (Director-General, Office of State Flood Control and Drought Relief Headquarter)、Ian Fox (ADB)、Meng Zhimin (Deputy Director General, Dept. of International Cooperation, Science & Technology, Ministry of Water Resources) が、それぞれの立場から中国の水に係わる災害について、述べた。また、筆者は、会合参加への謝意を述べた。

また、Ian Fox (ADB)が基調演説を行い、ＡＤＢの水政策と洪水管理方針（添付資料－1）を述べた。中で、氏は、人命保護の重視、洪水と調和する Flood Proofing、人工洪水から回避、洪水保険などを強調した。

引き続き、4 グループに分かれて、第 1 日目の午後と第 2 日目の午前中に、分科会によるケーススタディの発表と討議が行われた。

グループ分けは次に示すように行われた。

第 1 グループ：全国レベルの政策・事業に係わる事項

第 2 グループ：南部 7 河川

第 3 グループ：渇水問題

第 4 グループ：西部、北部、黄河

第 2 日目の午後からは、各分科会のまとめの後、閉会式において、優秀発表者の表彰があった。後日、優秀発表者の中から、第 3 回世界水フォーラムでの発表者を選定することとなっている。

*2　開会式では、中国語は英語に、英語は中国語に、参加者の一人が逐条的に通訳した。分科会では、外国人の参加者に対しては、分科会参加者のひとりが、要旨を英語通訳した。発表論文概要が準備されているものは英語訳が用意された。但し、発表に係わる配布資料はない。また、発表はパワーポイント・OHP の用意があるものの他、口頭だけの発表も相当数あった。

*3　グループ分けは会合当日に行われたため、概要集のグループ分けまでは行われていない。

グループ 1 の討議風景

グループ 4 の討議風景

３．主な内容

（１） 開会式

- Jia Jinsheng：中国の全般的な洪水・旱魃の被害について述べ、政府は遊水計画や四水計画（貯水・引水・節水・水源涵養）を進めていることを述べた。
- Ian Fox：ADB が、第 3 回世界水フォーラムにおいて、JICA・MLIT と共催で「貧困・洪水」を開催すること、また、ADB の中国での支援概要を述べた。
- Zhang Zhitong：中国洪水の洪水対策の取り組みについて述べた。その中で、洪水対策に対する中国の基本的な方針が、洪水を完全に制御するという考え方から危険度を緩和しようとする考え方に、方向転換していることを強調した。
- Meng Zhimin：洪水対策と並行して、水資源保全・エコロジー保全の重要性について述べた。

（２） 基調講演

基調講演は Ian Fox (ADB)が行い、次のように内容を述べた。

ADB の水政策と洪水管理方針を述べ、その中で、３つの ADB の主要な考え方を述べた。それは、人命の保護と生産物損失の防止、異常気象の影響に対する対策、そ

して、構造物・非構造物による洪水対策である。なかでも洪水保険の有効性を強調した。
また、洪水対策については、Water Proofing の考え方が有効な対策であるとして、カンボジアの高床あるいはフローティング式の学校建設を紹介した。
さら、洪水保険については、中国が洪水保険の遊水池計画への適用を検討していることを高く評価した。
また、洪水対策そのものが作り出すのインパンクトに触れて、人工洪水を未然に防ぐような計画の必要性を述べた。

（3） 各分科会のまとめ

各分科会のまとめは、各分科会の議長からまとめの発表があり、Cheng Xiaotao (China Institute of Water Resources & Hydropower Research)がコメントする形で行われた。

分科会取りまとめの全体会議風景

- 第 1 グループ : 遊水計画の推進、貧困対策のための農業開発の促進、水環境保全、都市部における河川対策の促進、河川改修の促進、洪水管理の充実が必要であること。
- 第 2 グループ : 河川改修工事の促進（洪水堤防の延長が十分でない地域が多い）、主要都市の洪水対策の促進、河口部の浚渫の促進、堤防の補強・非構造物による洪水対策（Flood Risk Map の作成と利用や洪水予警報）の促進が必要であること。
- 第 3 グループ : 北西部の乾燥地帯は貧困地帯でもあり、その対策が急務であること、水不足が女性・子どもの生活を脅かしていること、小規模貯水池建設の促進・斜面洗掘対策の促進・他流域からの分水による水源確保の必要であること。
- 第 4 グループ : 黄河の洪水管理、洪水管理の改良、そのためには関係者の教育・

組織制度の充実・関係者の参加、地域経済の発展、洪水対策の非構造物対策（Flood Risk Map の作成と利用や洪水予警報の促進、洪水保険の検討）、水環境保全などが必要であること。

（４） 遊水池計画に関する議論

各分科会とも、共通して発表が多かったのは遊水池計画についてであった。現在、中国全土では、既に田畑や居住地であった地域を遊水池に転換する事業が進められている。現在、中国全土で、79 箇所、延べ湛水面積 34,500 Km2、容量 1025 億 m3 に及ぶという。遊水池は毎年水に浸かる場所と３年や５年に一度の場所など、地方によって様々なケースがある。浸水するような場合には、遊水池内の住民は一次的に生活や生計の場を奪われることとなる。これに対して、現在は国家補償を実施している。しかしながら、１９５４年に発生したような全国的な洪水が再び発生した場合には、補償額が莫大となり、国家補償では賄い切れないことが予想されている。このような事態にも対応できるよう洪水保険が検討されている。

その他、遊水池転換に伴う問題点には次の項目が挙げられている。

- 収入格差（全国の一人当たり平均年間収入 2,253RMB に対し、遊水池内では 400～500RMB）
- 教育の格差（学校の施設・教員の不足）
- 転地のための土地不足

このため、遊水池の管理運営のためには、関係省庁・機関の協調することが政府方針として掲げられている。

（５） 洪水保険に関する議論

洪水保険については、多くのケーススタディで触れられていることから、中国におけるこの問題への関心度が窺がい知ることができる。しかし、実施に至るまでには、まだ、解決しなければならない事柄が多いようである。今回の会合で提起された洪水保険の検討課題には次のようなものがある。

- 洪水緩和措置の裨益者の特定
- 一般的には自然災害について保険の適用となるが、人工災害の範囲をどう規定するか。
- 関係するいろいろのセクター間の利益・不利益をどう調整するか。
- コマーシャルベースの保険の是非
- 基金を負担するセクターをどのように規定するか。
- 世界的にはいろいろな国で実施されているが、それらの例を踏襲するのではなく、中国の国土・風土にあった制度の工夫等々。

洪水保険は、本会合の中で、最も、熱心に議論が行われた課題であった。

４．現地見学

現地見学は、2008 年の北京オリンピックに向けて整備を進めている北京市の環状水路整備計画の現状を視察するものであった。
北京市の環状水路の起源は、元朝に遡り、清の時代に現在の水路の骨格が完成したといわれている。環状水路の整備の目的は、市内の洪水制御、歴史的遺産の復活、水資源の保全、水環境の保全にある。この目的のため、水路の設計は、流水機能、景観、緑化、舟運を考慮して実施されている。
次に見学のルート順に視察結果を述べる。

（１） 南環水路の基点

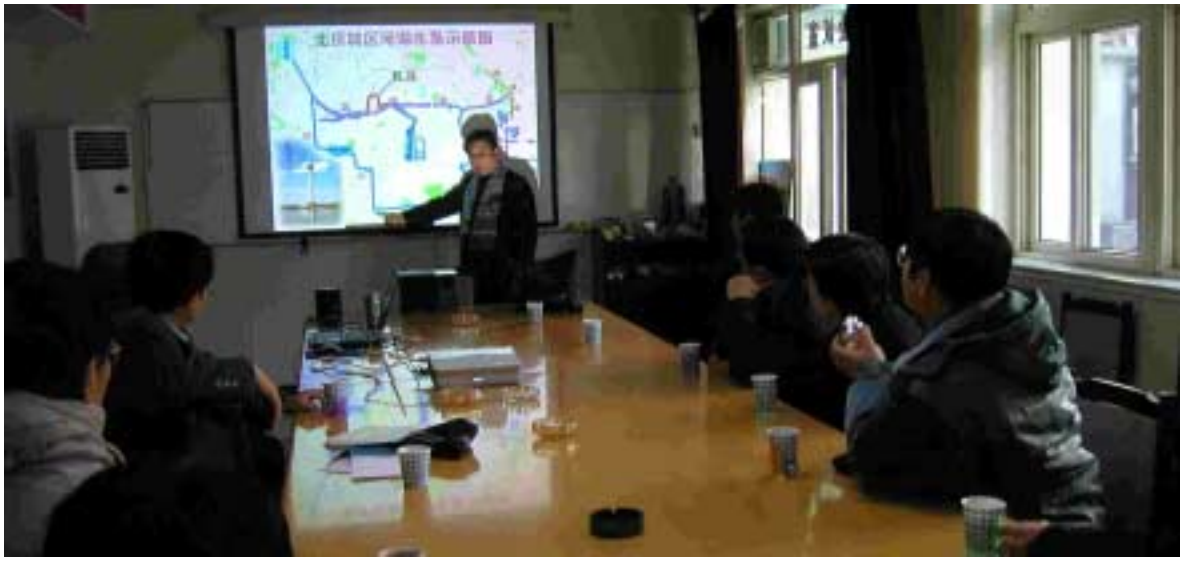
市内に洪水の侵入を防ぐ堰。洪水時にはラバーゲートを立てて、方水路に水流を切り替える。舟運のためのボート運搬装置（2 トン級のボートで、20 人乗りに対応）が珍しいものであった。

南環水路の基点にあるラバーダム
上流側に放水路があり、この堰のラバーダムによって、市内に洪水が流れ込むのを防ぐ。

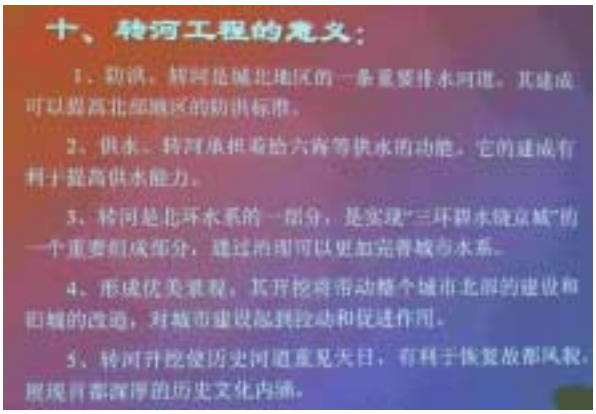
南環水路の基点にある遊覧船移動機
遊覧船が、堰を越えて、市内の環水路に移動させるための移動機。

（２） 北京北環水路総合対策事務所

北京市の環水路計画についての説明を受ける。洪水は 1／１００年確立とのこと。計画の基本は、洪水対策であると共に、古来、清の時代に始まる水辺の遊びと親水性、歴史的景観や水環境の回復と保全である。

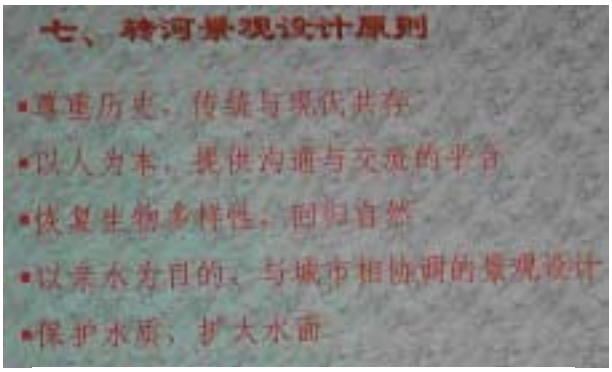


北京市環水路改修計画の説明風景



北京市環水路改修目的

洪水・利水・景観・歴史文化などの文字が読み取れる



北京市環水路改修景観設計原則

歴史・生物多様性・親水性・水環境について述べているという。

（3） 北環水路の基点

観光遊覧船の発着所（ターミナル）。冬季は市内水路の水量が少ないため、遊覧船は操業していない。右の写真では、遊覧船ターミナルの水面は氷ついている。

（４） 北環水路の旧水路からの分岐点付近

旧水路が暗渠であったのに対し、新水路は開渠とし、親水性・景観に配慮している。旧水路は市内中央の歴史的な池への送水のためそのまま残すこととなっている。舟運のための閘門が設置される。

北京市北環水路改修工事

正面にみえる暗渠部が旧水路。これを開水路として景観を取り戻す計画である。

閘門設備工事

（５） 紫水院公園

北京市の洪水対策のための遊水機能と公園の機能を併せ持つ。歴史的景観に配慮している。

紫水院公園

祠の背後に遊水池が広がる

紫水院公園

遊水池管理事務所も伝統的な建築デザインである。

（６） 紫水院公園上流側の水路

歩道の手すりのデザインや対岸に見える遺跡の保存など歴史的価値の保存に努めている。

５．まとめと提言

（１） 本会合の運営について

本会合のように、全国各地の水問題担当者が一堂に会して意見交換を行うことは、水利部においては、初めての経験であるという。これまで、地方の関係者が各地の水問題の取り組み状況を知る機会がほとんどなく、今回のように、様々な地方の取り組み・問題点を知り、意見の交換ができたことは、地方関係者にとって大変有意義であったという。

中国のような広大な国土においては、このような取り組みは、大変有意義であると考えられる。

（２） 討議内容について

１）洪水対策政策について

- 今回の発表や討議を通じて、中国の水政策は大きな転換期にあることを強く感じた。以前の洪水対策は都市部も地方部も、計画洪水を画一的に 1／100 年確立にするなど、画一的な構造物対策であったという。
- このような画一的構造物対策の弊害や 270,000Km に及ぶ既設堤防の管理などの負担増から、中国は、非構造物による洪水対策を進め、これまで農地であった土地を遊水池へ戻す計画を進めている。遊水池に転換した土地が冠水した場合には国家補償を実施する政策である。この考え方が、中国での洪水保険に対する関心につながっている。
- 一方、地方からの発表者からは、堤防の延長や堤防構造強化を求める声もあり、必ずしも、非構造物対策だけでは十分ではない事情も窺がえた。

２）都市部の河川改修

- 北京市の環水路改修計画には、中国における別な新たな取り組みが見られる。それは、河川の親水性・景観・水環境保護の考え方に基づく河川計画である。これの考え方の中には、河川の歴史的価値があることも特徴的である。これは、観光的価値の創出のほか、かつては皇帝のみの遊びであった水辺の遊びは、今や、庶民のもととなったという政治的価値もあるといい、大変興味深いものである。
- このような都市部河川の親水性・景観・水環境保護、あるいは、歴史的価値の創出のための河川整備は、遅かれ早かれ地方都市へも波及するものと考えられる。

３）地方での水問題

- 中国の経済発展は、首都や南部沿岸部において目覚ましいものがあるが、その反面、北部・西部の開発は進まず、中でも、半乾燥地帯における水不足と貧困は深刻な問題であるという印象を強く受けた。
- 地方における斜面の洗掘問題も重要な課題の一つであるという。その対策は、農業などの生産性に結びつけることが重要視されている。このことは、単なる構造物や植林の対策ではなく、農業や薬用などの副次的な価値をもつことが求められている。

（3） 今後の中国に対する水分野の支援についての提言

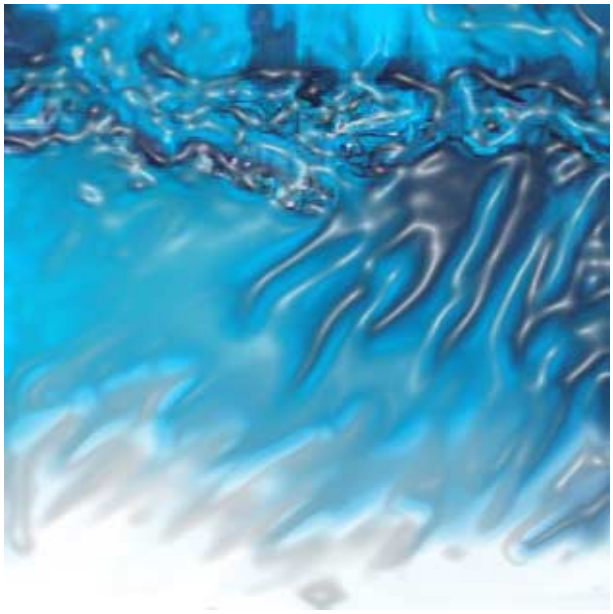
本会合における発表や討議・参加者との会話などを通して得た情報を元にして中国に対する水分野の支援の在り方検討した。その内容を次に示す。

1）都市部における水環境の整備：洪水制御のほか、特に、歴史的価値の保全・復元、観光価値の創出のための景観設計や親水機能をもつ都市型河川改修事業への技術・資金的支援。

2）半乾燥地帯の水供給と貧困対策：教育啓蒙を含む住民参加による持続可能な小規模給水計画のほか、流域を越えた分水計画などを含む水資源確保の計画への技術・資金的資金。

3）斜面保全対策：斜面洗掘に対する対策への技術・資金的支援。また、その土地の地形・地質・伝統・生産活動に見合った対策の検討・研究への協力・支援。

1.6　貧困と洪水（ヴェトナム）



第 2 次水資源プロジェクト研究計画調査

「貧困と洪水」ベトナム地域会合ワークショップ
参加報告書

(National Consultation Workshop on the Impact of Floods, Drought, and other Water Disasters on Poverty, the Poor,
and Gender Equality in the Mekong Delta of Vietnam)

2003 年 1 月

株式会社　建設技研インターナショナル

「貧困と洪水」ベトナム地域会合ワークショップ
（National Consultation Workshop on the Impact of Floods, Drought, and other Water Disasters on Poverty, the Poor, and Gender Equality in the Mekong Delta of Vietnam）
参加報告書

2003 年 1 月 20 日～22 日に、ベトナム・ホーチミン市で開催されたＡＤＢ主催の「貧困と洪水」ベトナム地域会合ワークショップに、川上俊器（建設技研インターナショナル）が参加したので、その概要をここに報告します。

１．背景

本会合は、ＡＤＢが、第三回世界水フォーラムに向けて、継続的に実施してきた一連の地域会合（ダッカ会合―2002 年 9 月 22－26 日、マニラ会合―10 月 17－19 日、中国会合―1 月 10－12 日）の一環として実施されたものである。

ダッカ会合はＡＤＢ主催のバンクラデッシュを中心とした全アジア規模、マニラ会合はＪＩＣＡ、国交省、ＡＤＢの三者共催の全アジア規模であったのに対し、前回の中国会合が中国国内に限定したのと同様に、今回も、ＡＤＢ主催のベトナム国内のメコンデルタ地帯に限定した規模で実施された。また、今回は ADB・UNDP の共催で実施された。

参加者は全体で 60 人であった。ベトナム・メコンデルタ地帯各地の自治体・中央官庁の水問題担当者が集合したほか、主催のＡＤＢから 2 人、日本からは、筆者の他、川水委員会から佐々木明*1 が参加した。また、その他の国際機関は、UNDP、UNICEF、オランダ政府、CARE（カンボディア・ベトナム）、国際赤十字の代表者が参加した。

*1　　敬称略（以下同様とする。）

全体会議（基調講演）風景

２．概要

本会合の運営は、資金は ADB・UNDP・ベトナム国農業地方開発省（MARD）が、会合趣旨は ADB が準備し、そして、ベトナム国洪水対策中央委員会が運営計画・準備・運営を行った。発表は、すべて、ベトナム語で実施された*2。

会合のプログラムは添付資料―１に示すとおりである。第一日目の開会式の後、４つのセッションに分かれて検討を行った。

開会式では、Dang Quang Thinh (MDAR)、Nguyen Ngoc Ly (UNDP)が挨拶に立ち、Ian Fox (ADB)、Do Ngoc Thien (堤防管理洪水対策局・MARD－DDMFSC)、Phan Van Thuat（首都建設局・MARD－DCC）が、基調講演を行い、それぞれの立場からベトナムの水に係わる災害について、述べた。また、Marshall Silver(ADB)から、第 3 回世界水フォーラムに対する今回ワークショップの位置付け・分科会の進め方などの説明があった。

引き続き、4 グループに分かれて、第 1 日目の午後と第 2 日目の午前中に、分科会によるケーススタディの発表と討議が行われた。

グループ分けは次に示すように行われた。

第 1 グループ：Cuu Long 川の洪水対策に係わるインフラ整備について

第 2 グループ：洪水が地方の人々の暮らしに及ぼす影響と洪水とどう向き合って生活しているかについて

第 3 グループ：洪水被害の評価方法について

第 4 グループ：洪水被害対策と救済の財政措置について

第 2 日目の午後からは、各分科会のまとめの後、閉会した。

*2　開会式では、ベトナム語は英語に、英語はベトナム語に、逐条的な通訳があった。分科会では、外国人の参加者に対しては、分科会参加者のひとりが、要旨を英語通訳した。但し、発表に係わる配布資料はない。

３．主な内容

（１） 開会式

- Dang Quang Thinh (MDAR) : メコンデルタで 1999 年から連続 3 年、大規模な洪水があったこと、政府の洪水被害に対する取り組みの概要を述べた。
- Nguyen Ngoc Ly (UNDP)：ベトナムでの UNDP の活動やメコンデルタでの持続可能な開発の必要性を強調した。

（２） 基調講演

- Ian Fox (ADB)が基調演説を行い、洪水が人々の生活の及ぼす影響（添付資料－2）ついて述べた。また、氏は、人命保護の重視、洪水と調和する Flood Proofing―カンボディアの高床式あるいはフローティング式の学校建設の事例を示して洪水と共に暮らす人々の知恵を借りると共に、人工洪水から回避、洪水保険などを強調した。
- Do Ngoc Thien (堤防管理洪水対策局・MARD－DDMFSC) : メコンデルタの洪水被害概要の紹介すると共に、大規模な堤防は局所的には効果があるものの、長期的

には被害の可能性もあるとの考えから、新たな対策の取り組みを始めていること紹介の紹介があった。（添付資料－3）

ベトナム・メコンデルタの概要

・総面積　4,000,000 Ha
・総耕地面積　2,900,000 Ha
・農業生産量　ベトナム全体の 50%
・総浸水面積　1,400,000～1,900,000Ha（総面積の約 50%）
・被害
　2000年　死者：642 人
　　家屋：800,000 棟（浸水）、50,000 棟（避難）
　　損害額：42 億 VND
　2001年　死者：407 人（うち 321 人が子ども）
　　家屋：360,000 棟（浸水）
　　損害額：16 億 VND
　2002年　死者：170 人
　　損害額：5333 億 VND

新たな洪水対策の取り組み

- 安全地区の充実
- 嵩上げ居住地区の充実
- 住居の嵩上げ
- 情報伝達システムの充実

- Phan Van Thuat（首都建設局・MARD－DCC）：メコンデルタでの洪水対策は方向転換を図っていること、その内容は、悪影響のない方法での交通手段の確保、洪水常習地帯の上水確保、住居の嵩上げ・耕作物転換・耐洪水居住地区の増設、であることを紹介した。（添付資料－4）
- Marshall Silver (ADB)：第 3 回世界水フォーラムにおいて、ADB/JICA/国交省が共催で貧困洪水のセッションを開催すること、今回ベトナムでワークショップを開催することになったのはベトナムがメコンデルタの洪水のほか山地からの急流河川の洪水等、様々な洪水に関する経験のあることでること、また、「Living with Floods」という考え方に基づいて洪水対策を進めていることなどを挙げた。また、グループ討議のグループ分けと討議の課題を示した。（添付資料－5 参照）

（3） 分科会の進め方

分科会は、ケーススタディの発表はなく、予め用意された項目について、自由討議をするものであった。議事の進行は各分科会の議長に任せられた。このため、討議の方法や項目の是非などから議論を進める分科会もあった。

したがって、今回会合の分科会の形式は、前回 3 回の会合と大きく異なるものとなった。

グループ討議の一例として、筆者が出席した第１グループ討議で交わされた議論の概要を以下に示す。

- 議題は Cuu Long 川のインフラ整備についてであった。
- 討議は予め用意された課題（添付資料－６参照）について、自由に討議する形式であった。始めに、議長からメモ用紙に検討課題ごとに各自意見を記入することが提案され、反対意見もあったが、そのような方法で討議を進めることとなった。つづいて、討議課題の内容理解のための議論があり、いくつかの項目をまとめて意見を記入することとなった。
- 提起された意見は次のとおりである。
  - インフラ整備に投入される資金が散漫的に使われていて、その効果が見えない。

  ので、もっと有効な使い方を政府は検討すべき。
  - 構造物対策に重点を置くべき。
  - インフラ整備は構造物・非構造物の両方で行われなければ、経済開発効果が発揮されない。
  - 人々の伝統に学べ。
  - 政府の上から下への方法によるインフラ整備に加えて、数千年に亘って洪水と上手くやってきた人々の知恵に学ぶ必要がある。そのためには、下から上へ、すなわち、コミュニティの人々の政策・計画立案への参加が重要である。

  ・嵩上げ居住区（Residential Cluster）の増設、各区間の連絡路・通信施設、子どもが水面に転落しないような配慮が必要。

第１グループの討議風景

第２グループの討議風景

（4） 各分科会のまとめ

各分科会のまとめは、各分科会の議長からまとめの発表があっり、R. Kuberan (UNDP)が総括し、及び Ian Fox (ADB)が本ワークショップの結論を述べて、閉会となった。

・ 第 1 グループ

議長から、グループは「Living with Flood」の考え方を支持することを表明すると共に、議論を次のようにまとめた。

メコンデルタのインフラ整備、特に、学校・道路・上水供給が必要であり、安全地区内のインフラ整備、特に、学校・病院・上水供給などが必要であること。施設は、住民が自ら操作・管理が可能なように、住民参加で計画することが必要であること。インフラ整備が地域経済の発展に役立つために、インフラ・水理構造物・洪水安全地区・自然環境の保全・上水供給・衛生施設などが、総合的に実施されることが必要であり、そのための M／P が必要であること。更に、住民の計画立案への参加・地方政府と中央政府の協調・地方における各省庁間の協調が必要であり、また、地方政府が関係法律の理解が不十分で、法律で決められたことすら実施されていないケースもあることも指摘。国内では省庁間の協調、国際的支援については関係国際機関間の協調が重要であること。

・ 第 2 グループ

議長から次のようなまとめの報告があった。

メコンデルタの洪水の影響は、その内容はプロビンスごとに、様々にことなるが、一般的には、人命損失・河岸侵食・稲作損害に及ぶ。堤防による対策は耕作地や人々を洪水から守る反面、洪水のポジティブな影響を消してしまう。このため、デルタ地帯で昔から行われてきた伝統的は方法「Living with Flood」に習って、洪水水位の深い・中間・浅い地域に分類して、対策を講じことが望ましい。その内容としては、避難と堤防の組み合わせ・安全地区の拡大・侵食対策の構造物・多角的耕作の推進・女性・子どもの健康促進への配慮、安全地区のインフラ整備の推進などである。

また、「Living with Flood」は進むべき正しい道を示しているとし、次のような項目を重視するよう指摘があった。

- 地方政府と中央政府の協調
- 農業開発
- 財政支援の実施を迅速に
- 安全地帯に対する適切のインフラ設備投資
- 住民参加・関係地方政府機関間の協調

・ 第 3 グループ

被害統計が計画の基本になることを認識し、全ての地方政府が統一された、統計的・数学的に矛盾のない調査結果を、決められたフォームに従って、被害の前・中・後の、そろぞれの目的に添って、作成することの必要性が指摘された。

・ 第 4 グループ：被害からの復旧のため、資金の適切な確保・災害復旧支援の法制度の整備・資金の適切な運営と管理・Soft Reliance Fund の有効性などが指摘された。

（５） 閉会式

・ R. Kuberan (UNDP)：ベトナムが進めようとして「Living with Floods」の考え方ついて、「高床式住居」「住居地区の新設」「避難センターの設置」「耕作カレンダーの転換」などその内容にも触れて高く評価した。また、洪水対策の構造物・非構造物対策の組み合わせ、洪水被害に関するデータ整備、さらには、各省庁間・関係部局間の協調性などの重要性を強調した。

・ Ian Fox (ADB)：今回ワークショップの成果に、多くの人々が「Living with Floods」の考え方ついて議論し、知識を共有しえたことを挙げ、また、Soft Reliance Fund についても ADB が進めようとする支援の方向に一致していることを挙げ、参加者に謝意を述べ、閉会となった。

４．現地見学

（１） 見学概要　(添付資料－７、８)

現地見学は、Vinh Hung 地区において実施中の洪水対策地を視察するものであり、ホーチミン市内からバスで約 3 時間の道のりである。Vinh Hung 地区は、カンボディア国境までおよそ 10ｋｍの地点にあり、Van Co Tay 川の上流に位置している。また、同川は、ホーチミン市の西側にあり、カンボディアを源にして北西から南東に向かって流れ、メコンデルタの東側縁部を形成している。

同地区の洪水は、この Van Co Tay 川が氾濫するというよりは、カンボディア方向（北側）から、全体的に流れ込み、洪水時期には、周辺一帯は湖と化すという。このため、農民は、昔から、家の敷地の土地を盛土して、洪水から逃れて暮らしてきたという。また、一方、道路網がホーチミン市から西の方に向かって整備されてくるのに合わせて、住民は、道路から分岐する形で盛土し、住居敷地を確保してきた。

1990 年代に入って、洪水被害が続いたため、居住地区開発が実施されることとなった。居住地区開発は居住地区開発のための一種の干拓事業である。すなわち、湿地帯の中に、洪水水位より高い面まで盛土して、居住地を確保するものである。

Vinh Hung 地区もそうした居住地開発の一環である。その規模は、地区形状の一辺が５km の正方形であり、現在は１０,０００人、将来的には５０,０００人が移り住む予定である。敷地の高さは当初１.５ｍ高程度の盛土であったが、度重なる冠水を経験して、現在は、地区全域を敷地面より３ｍ程の高さの堤防で取り囲む、いわゆる、輪中堤を設置し、内水排除のポンプ場を備えている。

現在輪中堤の外に取り残されている住民は、洪水時には、この居住地区に一次避難することになっている。

（2） 見学のまとめ

- 当該地の洪水は、当該地がメコンデルタの一部にあり、全体的に水位が上昇してくるもので、解析上から、設計洪水位を設定することが、極めて困難な条件下にある。このため、居住地の盛土高・輪中の堤防高は、幾たびかの冠水の経験を経て、堤防高さを嵩上げしながら決定してきている。
- また、発達した道路網は、流水を阻害し、元の水理条件に何らかの影響をもたらしている可能性がある。道路の流水阻害を防ぐためには、道路を横断する管路の設置が必要であるが､バス道路沿いには見当たらなかった。そのため、その影響は、洪水水位を高め、また、洪水滞留時間を長引かせる原因となっている可能性がある。
- 一方、住民の居住環境については、居住地内部の家屋に較べ、居住地外部の家屋が極めて貧弱であり、また、居住地内部においても、中心部に較べ、縁部に住む人たちの住居は貧弱である。これは、貧富の差を示しているものと考えられる。このため、UNDP やスウェーデン大使館からの参加者からは、居住地内への移住者の選定基準や移住に伴う費用負担のあり方などを調査する必要があるとの指摘があった。

注：現在、ベトナムがメコンデルタで進めている計画「Living with Floods」の重要課題である洪水常習地帯に盛土し、洪水から住民を護る地域の名称は、発表者・通訳者によっても異なり、その役割上の理由で使い分けをしているようにも思われる点があるため、ここでは、聞き取ったままの訳語を用いた。主な訳語は Resettlement Area, Evacuation Area, Shelter Cluster に対するものであり、全て、洪水対策のための盛土居住地区をさすものと考えられる。

Vinh Hung 住居地区内にある
同地区委員会建物

同地区委員会による居住地区
計画についての説明

同地区委員会から居住地区を望む

輪中堤（写真左側が堤内地で移転住
居が見える）

輪中堤（写真右側の堤外地の住民は
洪水時には居住地区に避難する）

内水排除のためのポンプ場
が設置されている。

輪中堤の一部は波浪から堤体を護るた
めリップラップで補強されている。

水路沿いの堤防は、波浪対策のため
コンクリートで保護されている。

道路沿いに開発された居住地区

道路面に接続して造られた居住地

５．まとめと提言

（１） Living with Floods について

人々が昔から、生活のために、生活に役立つ部分を生かし、生活を阻害部分には生活の知恵で繰り抜けてきた。その伝統の学ぶというのが「Living with Floods」の考え方である。しかしながら、今回の見学会で見たように、機械施工を用いるような規模で、その伝統的方法を適用した時、新たな問題に出会うこととなる。

伝統的な対策からは、今日的対策に対するヒントは生まれてくるものの、最終的には、構造物と非構造物の対策の組み合わせが必要となることは、参加者の多くもしてきたところである。したがって、今後とも、洪水対策の基本は、構造物・非構造物対策が、地形・気候・経済社会的条件で応じて、適切に適用されることが重要であることを示している。

（２） 地方技術者同士の意見・情報交換の場について

本会合のように、各地の水問題担当者が一堂に会して意見交換を行うことは、ベトナムにおいては、初めての経験であるという。特に、これまでは地方の関係者が各地の水問題の取り組み状況を知る機会がほとんどなく、今回のように、様々な地方の取り組み・問題点を知り、意見の交換ができたことは、地方関係者にとって大変有意義であったという。JICA においても、各種プロジェクトには技術移転の一環として、セミナーなどの形で、当該国各地から参加する取り組みが行われてきている。

今後の方向としては、今回や中国で実施したワークショップの形式は参考になろう。

（３） メコンデルタの当面望まれる水理構造解明

また、現在ベトナムがメコンデルタで進めている道路網の拡充と居住地設営の事業推進は、洪水の挙動を複雑にし、益々、捉えどころない水理状態となってしまうことが懸念される。現在、メコンデルタ委員会で、水理データの収集・解析に取り組んでいるところであり、メコンデルタの水理機構を解明することは難しい現状ではある。一方では、デルタ内の事業は着々と進んでいる。このため、少なくとも、特に、道路網・居住地区整備が流水条件に与える影響を最小限に抑えるための対策・調査・研究が必要であろう。