MANAGING WATER SCARCITY TO FEED THE HUNGRY ASIA

6th Asian Regional Conference and
61st IEC – ICID
Jogyakarta - Indonesia
Oct 10-16, 2010

Why Asia?
For all the good reasons ……

ASIA

- 60 % of world population.
- 24% of world lands.
- 34% of world arable lands.
- 72% of world Irrigated lands.
- 34% of world drained lands.
- 20% of total world precipitation.
- 62% of the world's hungry people.

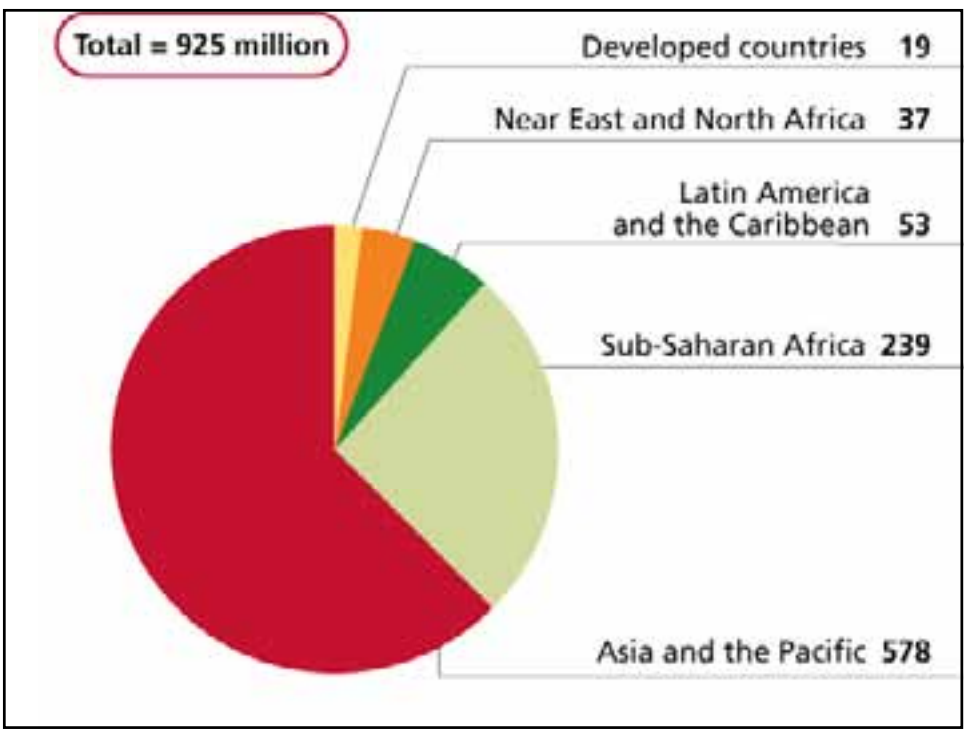


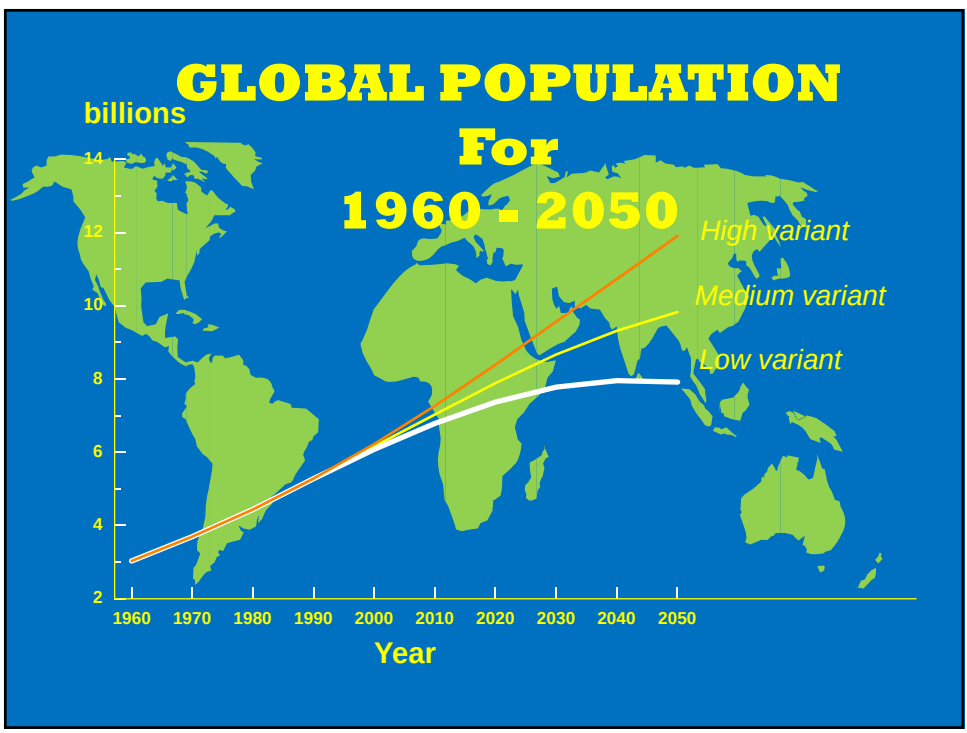
Table 10.1 **Estimates of renewable water supplies, access to renewable supplies and population served by freshwater, 2000**

Indicator	Asia	Eastern Europe, the Caucasus and Central Asia	Latin America	Middle East and North Africa	Sub-Saharan Africa	OECD	Global total
Area (millions of square kilometres)	20.9	21.9	20.7	11.8	24.3	33.8	133.0
Total precipitation (thousands of cubic kilometres a year)	21.6	9.2	30.6	1.8	19.9	22.4	106.0
Evaporative returns to atmosphere (percent of precipitation)	55	77	77	86	78	64	61
Total renewable water supply (blue water flows; thousands of cubic kilometres a year) [% of global runoff]	9.8 [25]	4.0 [10]	13.2 [33]	0.25 [1]	4.4 [11]	8.1 [20]	39.6 [100]
Renewable water supply (blue water flows accessible to humans; thousands of cubic kilometres a year) [percent of total renewable water supply]	9.1 [95]	1.8 [45]	8.7 [66]	0.24 [96]	4.1 [93]	5.6 [69]	29.7 [75]

Note: Means computed based on methods in Vörösmarty, Lévêque, and Revenga (2005). Estimates are based on climate data for 1950-96, computed using estimates of population living downstream of renewable supplies in 2000.
Source: Fekete, Vörösmarty, and Grabs 2002.

WWDR, 2009

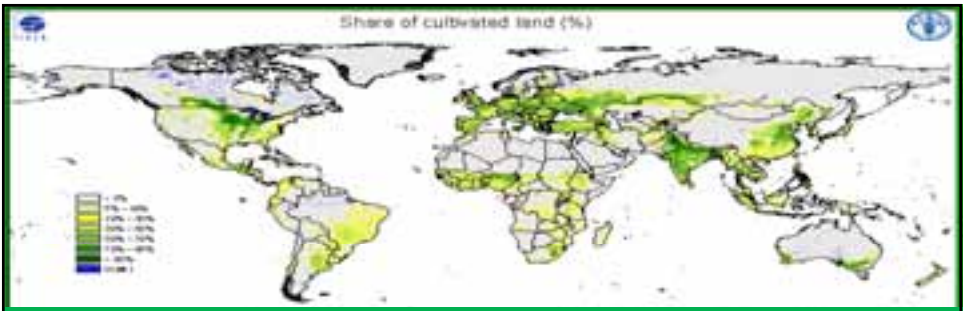

Global Setting


GLOBAL POPULATION
For
1960 - 2050
billions
14
12
10
8
6
4
2
1960
1970
1980
1990
2000
2010
2020
2030
2040
2050
Year
High variant
Medium variant
Low variant

World Land use and Population for each Continent

Region	Population Million in 2050	Total Lands Mha	% of World	Arable Lands Mha	Irrigated Lands Mha	Drained Lands Mha	Population Density Person / Sq km
Asia	5231	3094	24	470	208	69	164
Africa	1998	2964	23	223	14	5	66
Europe	691	3307	17	277	23	54	30
N. America	448	1865	4	216	30	62	21
L .America	729	2024	16	149	12	3	35
Australia	34	795	6	44	3	2	4
World	9149	13003	100	1360	287	195	67

-ICID Annual Report, 2010
-FAO Stats, 2010
-UN Population, 2010

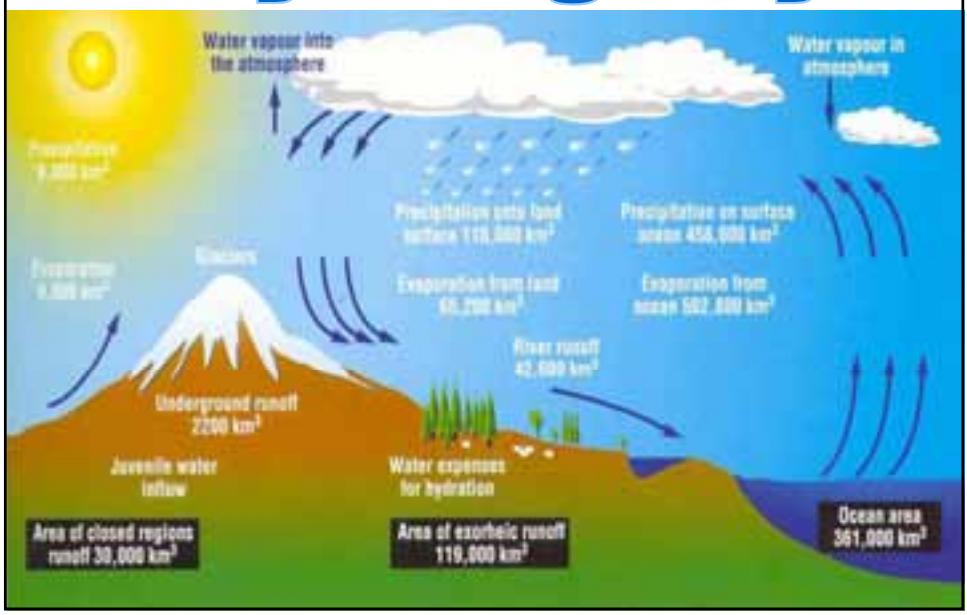


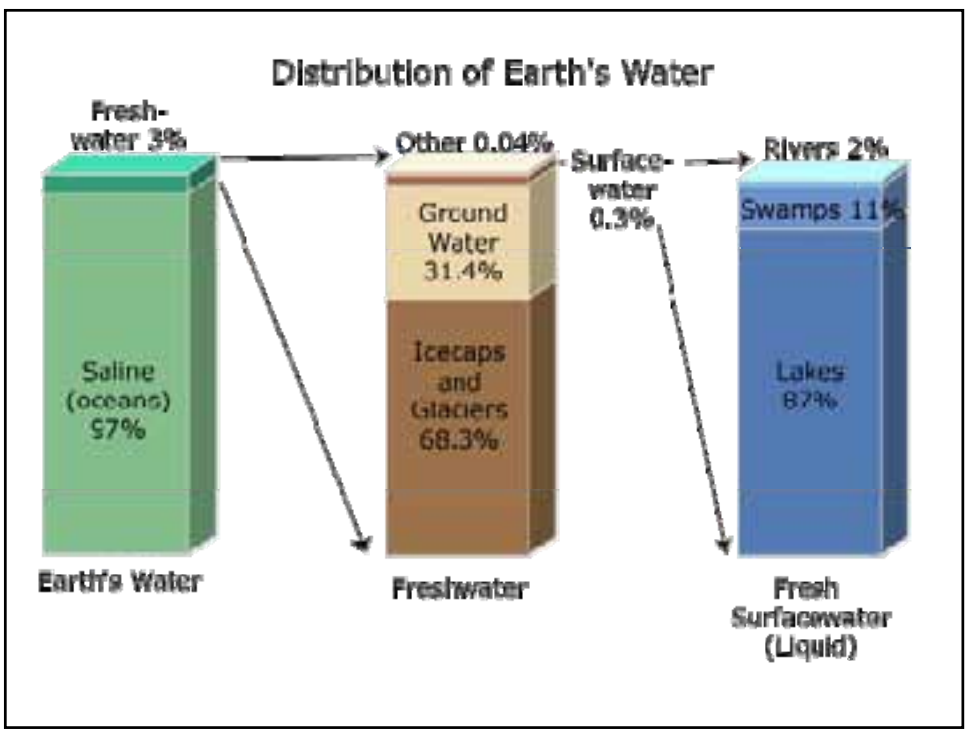
State of Land Use in the World (FAO Stats 2010)

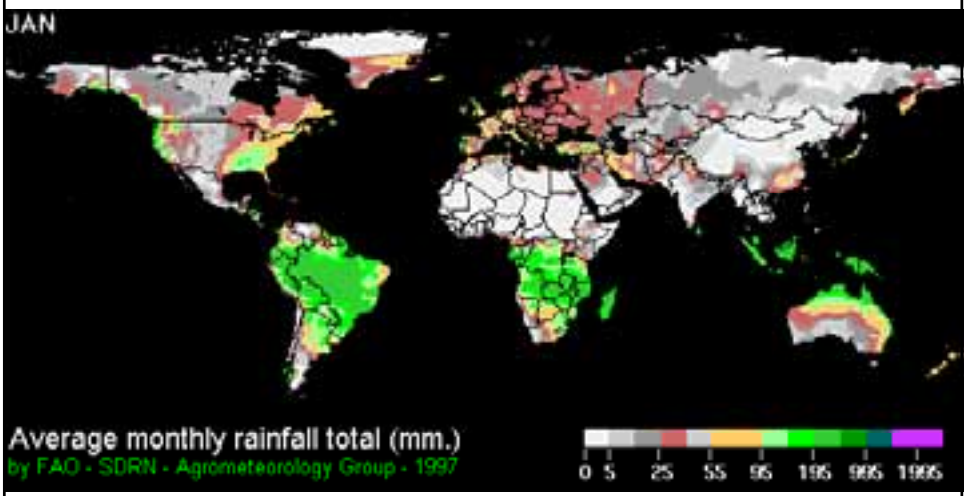
1. Total Lands, Mha 13003
2. Forest Lands, Mha 4044
3. Agricultural Lands, Mha 4884
    1. Permanent crops, Mha 147
    2. Pasture and grass lands, Mha 3357
    3. Arable lands, Mha 1380
        1. Rainfed, Mha 1093
        2. Irrigated, Mha 287

Water Resources

The Hydrologic Cycle



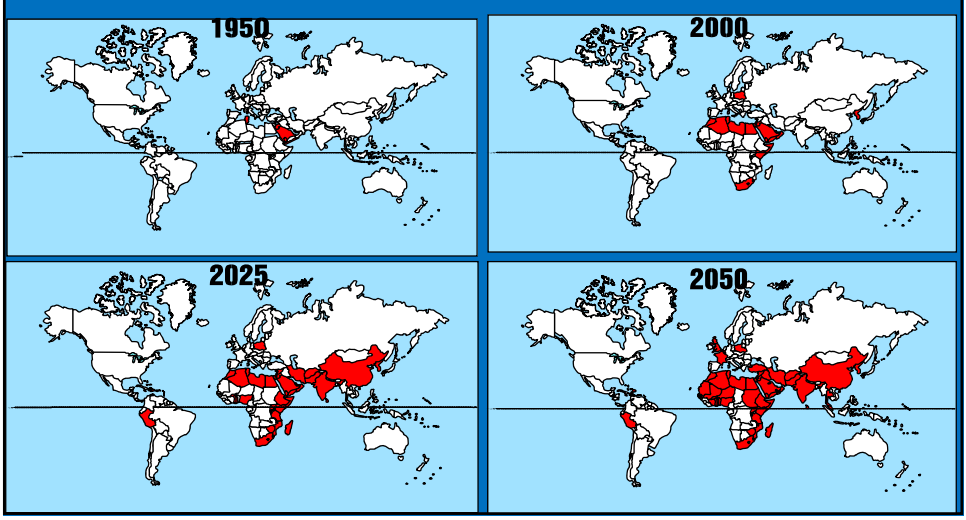




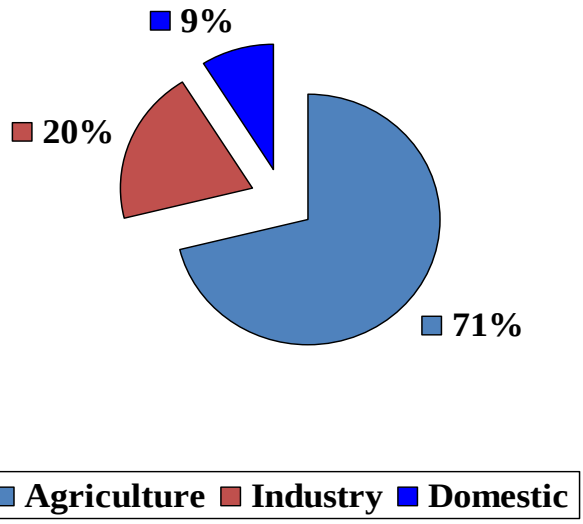
Seasonal and long term climate change is the rule, affecting temporal and spatial distribution of precipitation.

Water scarcity

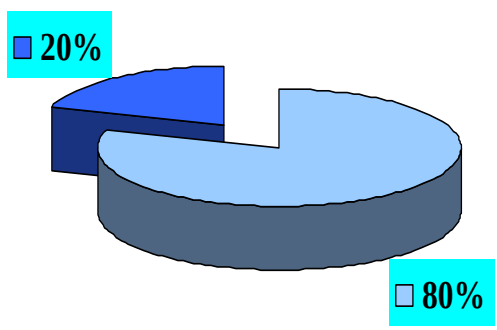
Evolution of water shortages over 100 years



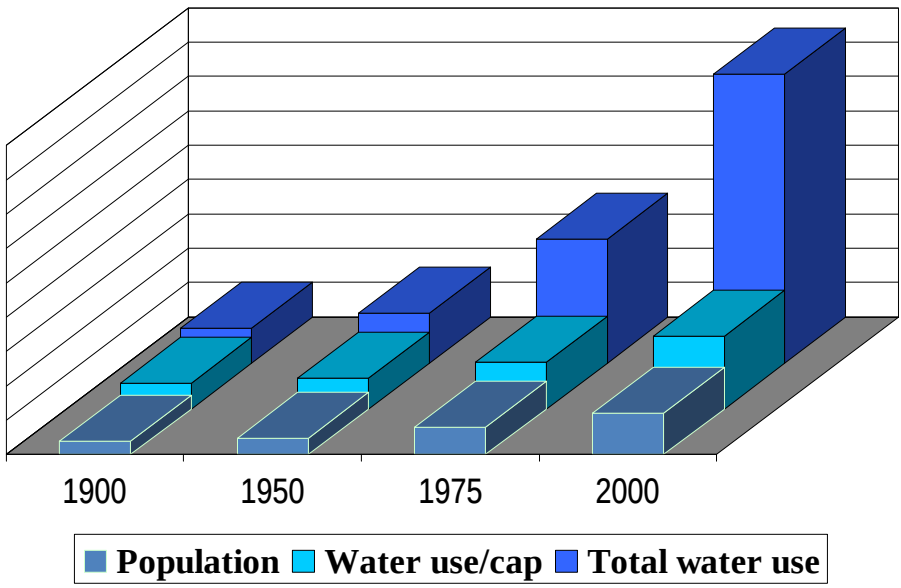
Water use by sector, 2000



Water for human consumption

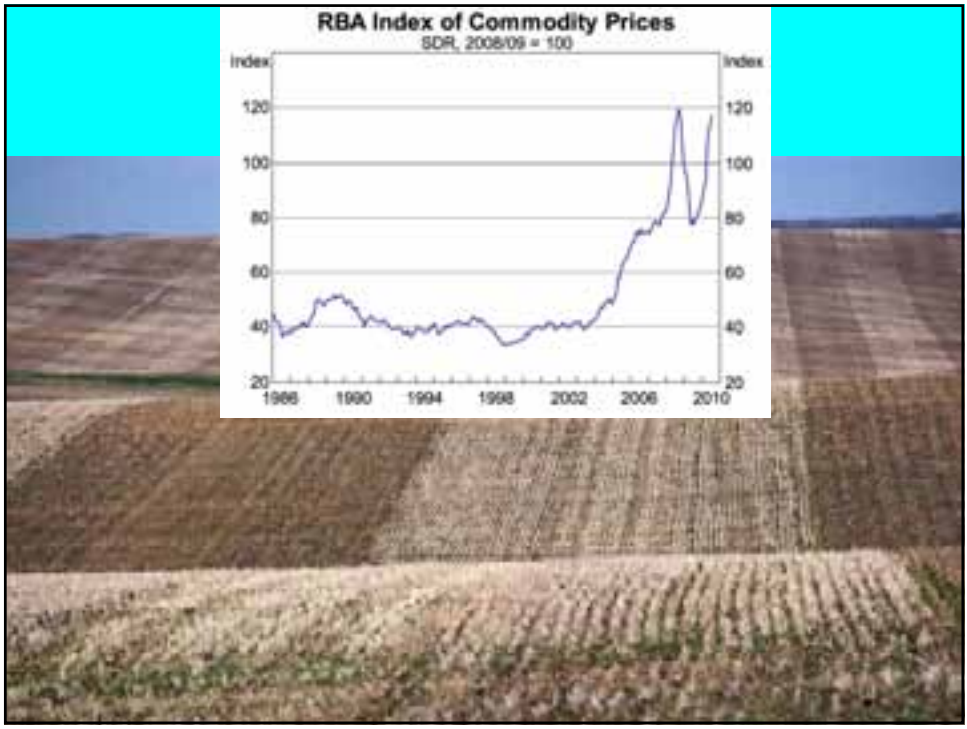


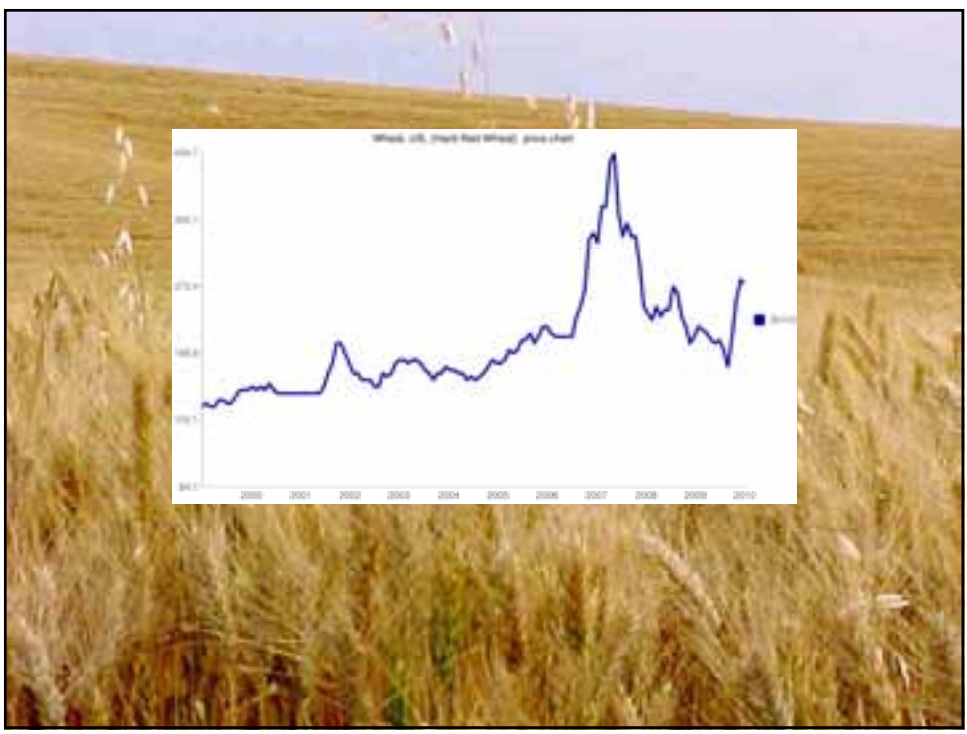
Global Water Use Trends 1900-2000

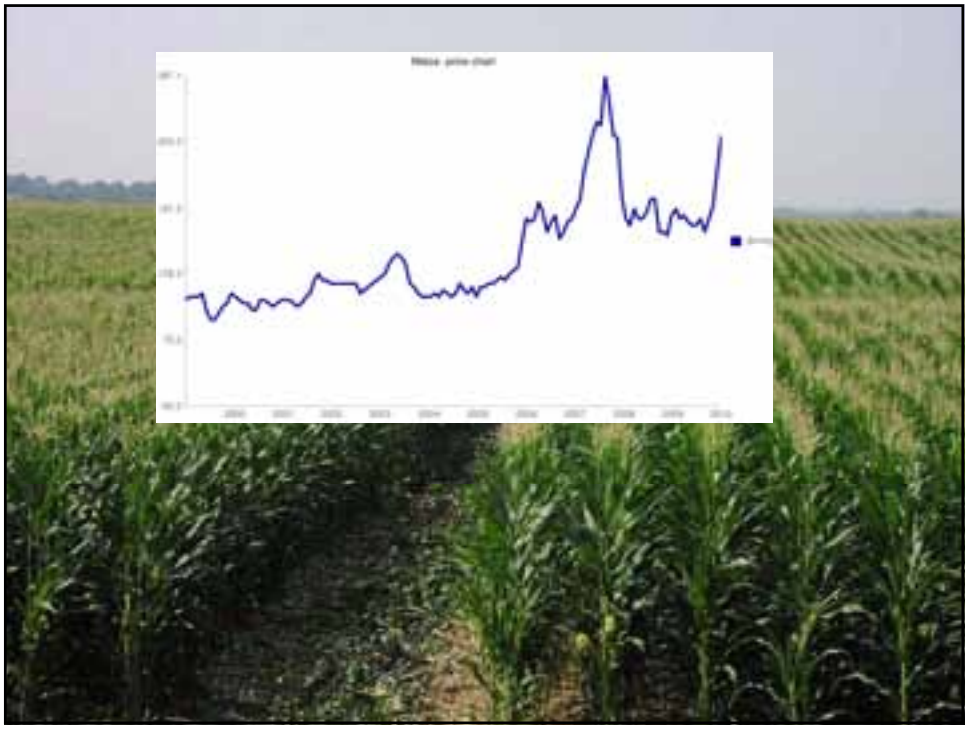


WORLD FOOD CRISES AT THE START OF THE 21ST CENTURY

Sharp rise in the main food prices
after a long period of continuing decline.


RBA Index of Commodity Prices
SDR, 2008/09 = 100
Index
120
100
80
60
40
20
1986
1990
1994
1998
2002
2006
2010




Maize price chart


Rice, Thailand, 5%, price chart

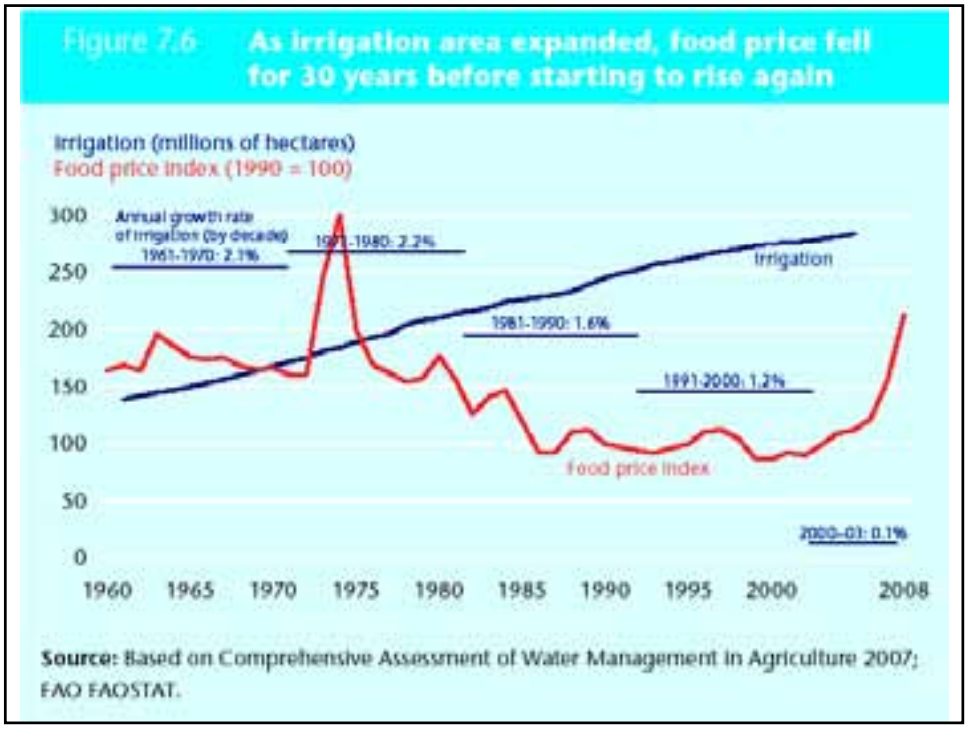


Figure 7.6 As irrigation area expanded, food price fell for 30 years before starting to rise again
Irrigation (millions of hectares)
Food price index (1990 = 100)
300
250
200
150
100
50
0
Annual growth rate of irrigation (by decade)
1961-1970: 2.1%
1971-1980: 2.2%
1981-1990: 1.6%
1991-2000: 1.2%
2000-03: 0.1%
Irrigation
Food price index
1960
1965
1970
1975
1980
1985
1990
1995
2000
2008
Source: Based on Comprehensive Assessment of Water Management in Agriculture 2007; FAO FAOSTAT.


The International Commission on Irrigation and Drainage
Water for Food and Rural Development
ICID·CIID
www.icid.org
La Commission Internationale Des Irrigations et du Drainage

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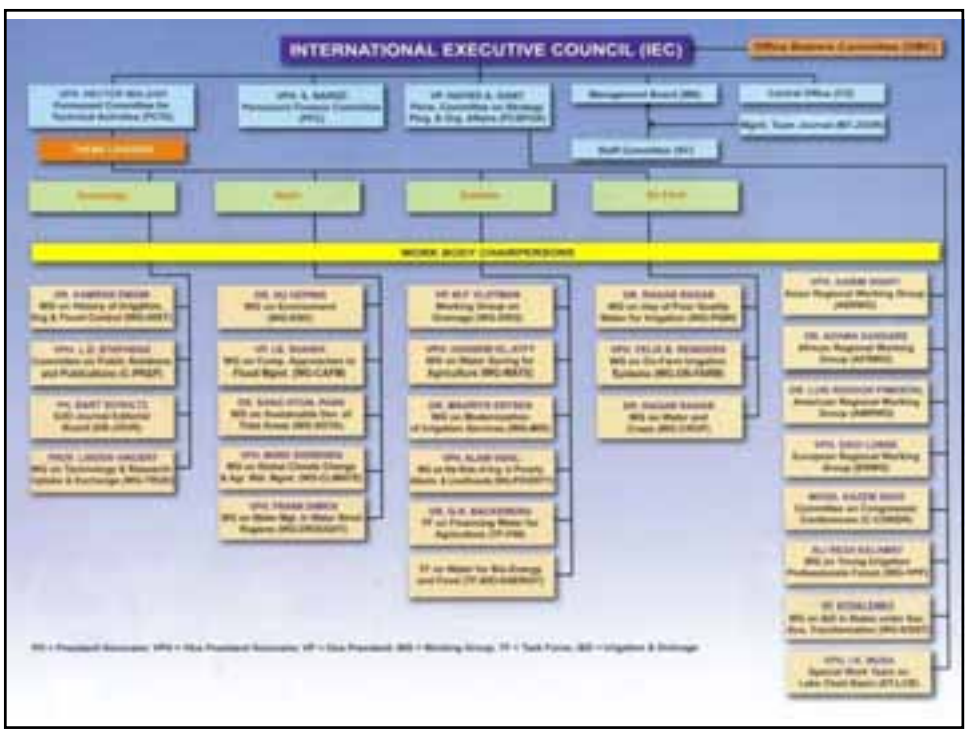
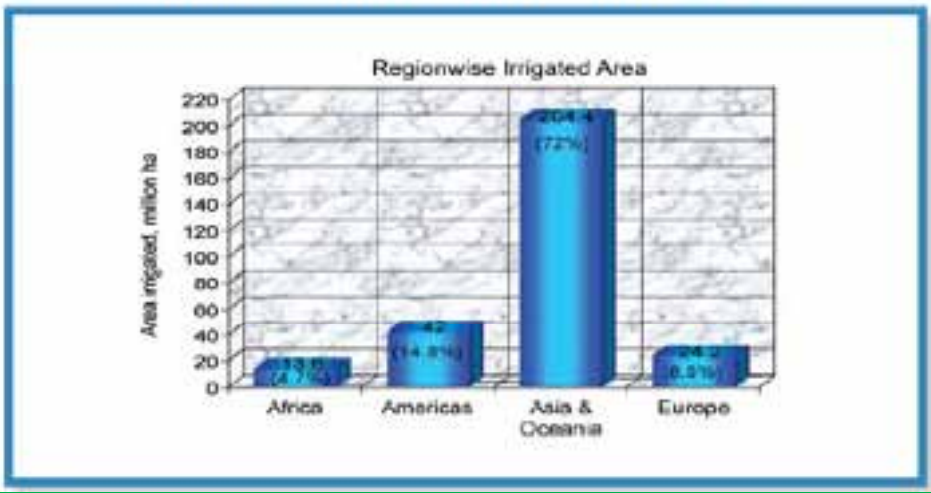
ICID Membership Network
ACTIVE MEMBERS (65)
NETWORK COUNTRIES (40)
NON-MEMBERS


INTERNATIONAL EXECUTIVE COUNCIL (IEC)

World Irrigated areas, 2008

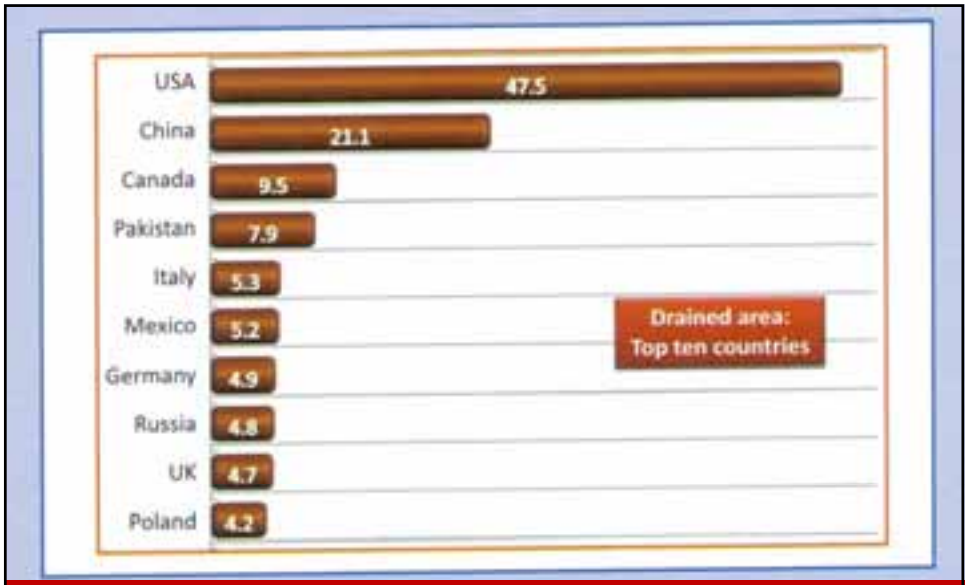
(World Irrigated Area: 284 million ha, 2008)



ICID annual report, 2010

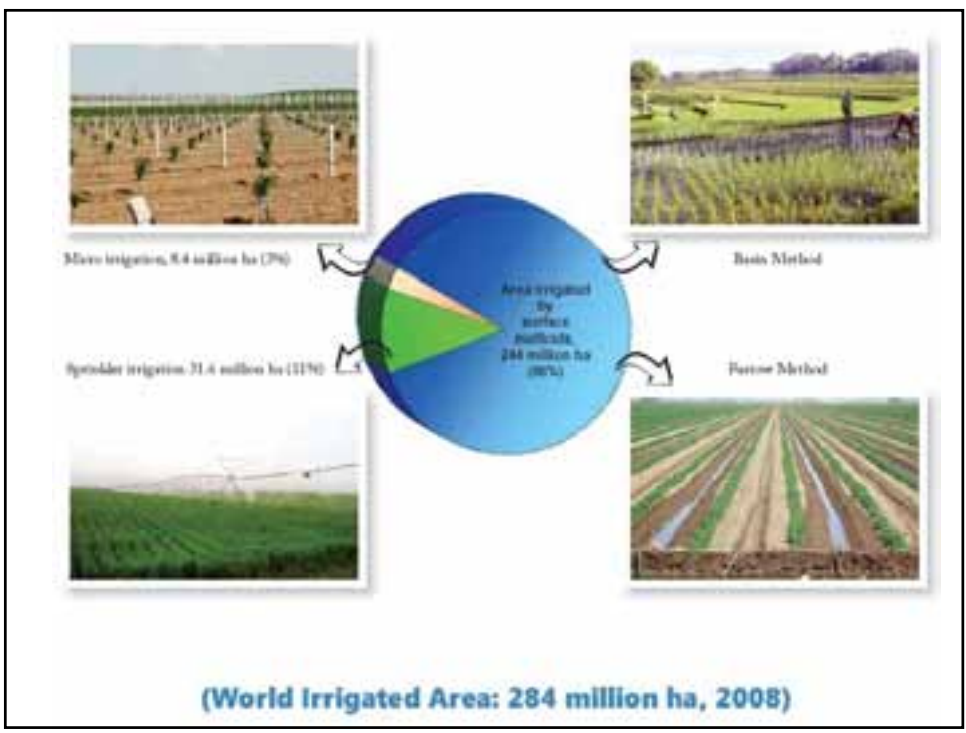
Areas served with irrigation facilities in million ha.

ICID, 2010



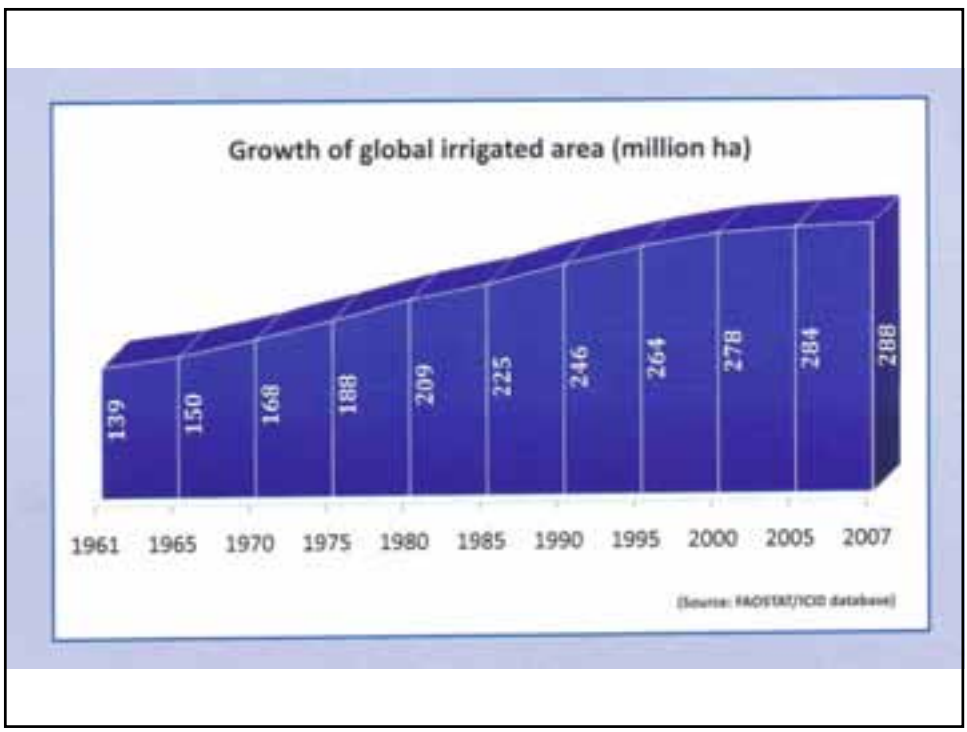
Areas served with surface and subsurface drainage facilities in million ha.

ICID, 2010



(World Irrigated Area: 284 million ha, 2008)

PRECISION CULTIVATION FOR BETTER WATER PRODUCTIVITY AND CROP YIELD




ONFERENCE
ATION AND DRAINAGE
ICID·CIID
Land Holding Condition
, 14 - 16 OCTOBER 2010


PADDY - - - RICE
(Oryza Sativa)

The Theme

“Improvement of Irrigation and Drainage Efficiency under the Small Land Holding Conditions”.

THE SUB-THEMES

1.Irrigation under the Escalating Water Scarcity and the Issues of Agricultural Land Conversion and Agricultural Land Fragmentation.

2.Challenges for Irrigated Agriculture under the Small Land Holders in the Approaching Decades:

a. Irrigation Water for Food Security
b. Irrigation Water for Supporting Human Living
c. Irrigation Water for Supporting Environment

3.Improvement of Irrigation and Drainage Efficiency through Participatory Irrigation Development and Management under the Small Land Holding Conditions.

4.Multifunctional Roles of Irrigation Water and the Role of Sustainable Balance of Ecosystem under the Small Holder conditions.

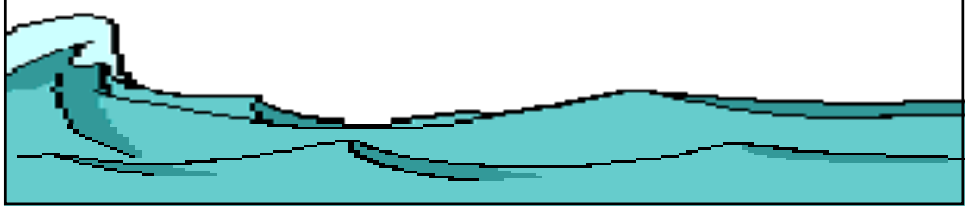
5.Synergizing of the Small and the Large Holder Irrigation under the rapid development of Rural and Urban areas.

SUB-THEME 1

IRRIGATION UNDER THE ESCALATING WATER SCARCITY AND THE ISSUES OF AGRICULTURAL LAND CONSERVATION AND AGRICULTURAL LAND FRAGMENTATION

QUESTION

What are the measures and best practices to address the impacts of escalating water scarcity, land conversion and fragmentation of irrigated land?



Reuse of drainage water with different degrees of treatment to improve the water balance of the area and the environmental conditions.

- Filtering through natural carbonate sapropel, in the accumulation tanks (ponds-accumulators).
- Treating grey water by planting aesthetic aquatic plants.
- Irrigation water reuse planning should consider total irrigation return flow, distribution of irrigation, drainages, land use, the stability of quantity and quality of return water, and the demand for water users.

Improving productivity and resilience to cope with water scarcity and climate change.

- Growing crops that are well adapted to the changing environments where farmers may face a complete crop failure due to moisture stress.
- Increase of water-holding capacity in soil by changing the distribution structure of soil particles.
- Development of agricultural adaptive technology for treating water deficiency. Variety of crops adaptive to flood, water harvesting. (Indonesia)
- Introduction of new water conveyance and distribution technology, and cooperation over redefinition of water rights and to share excess water.
- *Capacity building* to deal with adaptation to climate change based on current individual, community and institutional behavior.

Improving irrigation system performance assessment and optimization.

- The application of comprehensive methodology for analyzing modernization of canal operation.
- Applying appropriate method to determine paddy water demand.
- Optimization of water balance for water supply from the storage reservoir and demand for irrigation.
- Application of the quantitative assessment model to describe the actual condition of irrigation performance.

Using new technologies to cope with water scarcity, to achieve productivity gains in agriculture.

- Using accurate method to have reliable estimation of current and future water demand, evapotranspiration estimation and effective rainfall for highest water productivity.

The Gaps

- No detailed discussion concerning the influence of agriculture land fragmentation on water distribution and its efficiency.

- The participants proposed a deep discussion on water governance, effects of climate change on small holder and water valuation.

Conclusions

- The population growth and global climate change has affected the use of water especially in developing countries.
- The population growth in developing countries will lead to competition for agricultural water use, industrial and domestic use, that will escalate water scarcity in the next few years.
- The use of existing and new technologies to cope with water scarcity, to achieve productivity gains in agriculture in developing countries, still need to be developed.

SUB-THEME 2

Challenges For Irrigated Agriculture Under The Small Land Holders In The Approaching Decades: Irrigation Water For Supporting Human Livelihoods

The key question

How to ensure economically viable food security, livelihoods and a healthy environment in smallholder of irrigated areas under population growth, economic development and climate change?

CONCLUSIONS AND RECOMMENDATIONS:

- **System of Rice Intensification to increase productivity, water efficiency and reduce methane gas emission still requires further development for up-scaling.**

- **Needs to develop new 'weed-rampant' technology for eco- friendly canal erosion protection.**

CONCLUSIONS AND RECOMMENDATIONS:

- The government policy in poverty alleviation is the key issue to support the development in smallholder irrigation areas.
- Collaboration of public sector and private sectors in promoting socio-economic conditions in smallholder irrigation areas is very important.
- Topography, water availibility and poverty forces limited access to irrigation and are common challenges in many countries.
- Small areas require a simple but efficient irrigation technology.

CONCLUSIONS AND RECOMMENDATIONS:

- Applying Drip Planner Chart (DPC) for irrigation scheduling, to small holdings . Such irrigated plots can be cultivated and optimized to fulfill each households need for vegetables.

- Adaptation to water scarcity and climate change:
  - ✓ Make better use of rainfall and supplement with surface water
  - ✓Decreasing wastes in the agricultural sector
  - ✓ Increasing food production by applying poor quality or reuse of drainage water
  - ✓ Changing Diet

CONCLUSIONS AND RECOMMENDATIONS:

- System of Rice Intensification to increase productivity, water efficiency and to reduce methane gas emissions still requires further development for up- scaling.
- New 'weed-rampant' technology for eco-friendly canal erosion protection.

GAPS in knowledge and practices:

- Adoption of poverty alleviation by the government as the national priority.
- Population growth has been putting pressure on the scarce land and water resources.
- Inefficient and unreliable water use of the existing facilities.
- Natural constraints in developing irrigation facilities.
- Lack of access to irrigation as major factor for rural poverty.
- Micro-irrigation program utilizing micro-irrigation technologies to cope with inefficient and high cost irrigation.
- The role of private sector in smallholder irrigation market.
- The use of computer model to analyze irrigation systems for the improvement of irrigation efficiency.
- Improvement of local irrigation technology, such as Subak, to increase its irrigation efficiency and to promote its application.

SUB-THEME 3

Improvement of Irrigation and Drainage Efficiency through Participatory Irrigation Development and Management under the Small Land Holding Conditions

Questions

Question 1:

- **What are the approaches and lessons (successes and failures) learned in development and application of effective service partnerships between government irrigation agencies and water users associations and their federations (WUA/WUAF) under the small Land Holding Conditions**

Question 2:

- **What are their respective rights and obligations, how are they embedded in agreements, what enforcement mechanisms are in place and how practical is their implementation?**

FINDINGS

- Participatory approach can be applied in all stages of development and management of irrigation systems.
- Participatory approaches have wide spectrum and perspective from construction to O & M, from very simple irrigation to relatively sophisticated and complex.
- The involvement of local community in the design, construction and management, is very important for the sustainability of the system development.

FINDINGS

- The technological approaches adopted were: scientific crop management and improved irrigation system, and participatory approaches were the key elements.
- Participation in designing the on-farm irrigation and drainage network increases willingness of farmers to participate in project funding, expedite project implementation and better distribution of efficiency.
- Participation in Water Management Service Fee: Willingness of farmers to pay fee increases as long as they benefit directly from water management service and a clear demarcation role of local water management and WUA/WUAF.

FINDINGS

- Implementation of participatory concept in large irrigation scheme shows better performance indicators.
- A lot of discussion on the values of introducing technologies such as application of mathematical models, SRI, sprinkler and drip irrigation method . Such methods can help the farmer to have a better understanding about water allocation and distribution as well as water demand.

FINDINGS

- Several organizations such as Universities, and NGO's should be involved in the implementation of the participatory process in irrigation management.
- In some cases these institutions work as facilitator in conflict resolution resulting from improper irrigation water management.
- Knowledge management can be applied as basic concept in development of WUA and traditional organization such as Subak.

Conclusions

- Implementation of participation approach in irrigation management yields better understanding to farmer and leads to active involvement in the project, having better performance indicators, and higher mobilization of local resources .
- Implementation of participatory concept shows better results if a large number of parties such as Universities and NGO's are involved in the actions;
- In some cases implementation of participatory concept leads to wider spectrum and perspective in concept development and implementation processes;

Conclusions

- The government plays the dominant role in the promotion of participatory concept in irrigation management; lack of field staff can hamper the process.
- Participatory approaches in irrigation management are still focused in terms of local resources mobilization.
- Empowerment stage as further step of participation process can be achieved with involvement of some institutions like universities and NGO in the implementation process.

SUB-THEME 4

Multifunctional roles of irrigation water and the role of sustainable balance of ecosystem under the small holder conditions

QUESTIONS:

How is multi-functionality of smallholder irrigation system defined and how has this been translated into practical measures for infrastructure and water management?

What are the experiences in ecological measures in such system?

Economic aspects:

- The increase of production in the irrigated areas proves the important role of small holder in economic function, however, the farmer's income is still low and needed to be augmented from sources of the added value activities belonging to farmers.
- Some technologies are reported for better crop production, such as intermittent and sub surface irrigation, provide better crop production.

Social aspects:

- There are culturally based water management and traditional structures that provide sustainable performance of both water management and infrastructure maintenance such as reported in Subak, Bali and West Sumatra, Indonesia.
- Better farmer participation and maintenance of the irrigation system provided in some social structures of the small holder system.

Landscaping aspects:

- Irrigation area is a part of rural region, the sustainable land use and the beautiful terrace field give attractive panorama for tourism.
- Preservation measures in each spatial component of the integrated system in reclamation area (water resources development project) are required in order to provide proper quality of irrigation water.
- Improvement of the field layout by farmer participation on land consolidation program is required for the future.

Ecological aspects:

- Conservation and good agricultural production (GAP) are important components in an ecological point of view. Some analysis and tools for assessing pollution and evaluate ecological parameter, technologies including water treatment were reported.
- Integrated pest management and organic fertilizer applications that are adopted can be an important component of the GAP.

Specific measures (discussion):

- Analyses for assessing ecological aspect were discussed such as TMDL evaluation, DRAINMOD, and Water Quality Aptitude (WQA). Application of volumetric basis water supply equipment, and economical use of water and installation of open subsurface drainage (OSSD) systems for solving the water logging and salinity problem.

- Some contaminants are leached from the irrigated areas and also preservation measures in the integrated system in reclamation project are required in order to provide proper quality of irrigation water were as practiced. Moreover, an environmental flow analysis is important to achieve optimal ecological values.

Specific measures (discussion):

- Local wisdom of small holder system is also reported in providing better equitable and fair water distribution using water distribution structure called “paraku”. This kind of technology also is found as “tek tek” in Subak System of Bali.
- System of Rice Intensification (SRI) practice includes more use of organic fertilizers to substitute chemical fertilizer. This practice could be the better GAP in contributing to a better ecological aspect of the multi-functionality.

The Gaps and Concluding Remarks:

- There is a gap in the proper understanding of multi-functionality due to limited papers focusing on multi-functionality substances. Spatial and multidisciplinary approaches are required for analyzing economical, social, landscaping and ecological aspects for explaining multi-functionality of small holder systems.
- Tools, technologies and farmer's participation in dealing with the improvement of environmental problems were discussed. This needs to be continued in order to have a better role in the multifunctional irrigation system and sustainable balance of ecosystems under the small holder.
- In the future, It is necessary to address the eco/landscape management, farmer participation for consolidation of a fitting profitable size and integration to the landscape system in rural regions.

SUB-THEME 5

Synergizing of the Small and the Large Holder Irrigation Under the Rapid Development of Rural and Urban Infrastructures

QUESTION

What are the best practices and experiences in synergizing irrigation for small and large holders under the rapid development of rural and urban infrastructures?

RESPONSE

The twelve papers in Sub-theme 5 have presented the response to the above question with various solutions in different situations.

Small and large holders are facts that cannot be avoided in any country. Basically, each country tries to find the best way for building collaboration amongst themselves and synergizing irrigation for a better social welfare of farmers.

In some countries, urbanization does not mean the end of agricultural activities, because farmers with support from government agencies have creatively developed agribusiness by selecting the most valuable crops and implementing modern irrigation technology, such as micro irrigation.

FINDINGS

- Rapid development of rural and urban infrastructures have positive impacts as well as negative impacts to farmers.
- The development of rural infrastructure has been crucial for facilitating farmers in selling their agricultural products, increasing their income, and resulting in a better quality of life for farmers and their family.
- However, the development of urban infrastructure as a result of urbanization and industrialization, in most cases, has a negative impact to farmers. It has shifted the land ownership from farmers to industries and the urban citizen, while farmers are left to find non-agricultural jobs.
- In addition, land use changes from agriculture to residential and industrial areas requires reallocation of water resources, which significantly changes the characteristics of the hydrological cycle, and may result in water quality degradation.

FINDINGS

- Farmers who are small land holders in most cases cannot support the livelihood of their families. To survive, they should find other jobs in urban areas and leave agricultural activities, which means increasing the rate of urbanization. Sometimes, land ownership of small farmers has shifted to “urban farmers,” who do not necessarily practice agriculture.
- Urban development in low land areas has created inundation problems, due to increasing land coverage by housing, buildings, and infrastructures, and decreasing open areas to store storm water. Strong efforts have been made in solving the problems using structural as well as non-structural approaches, and by involving local communities. These efforts, however, have not completely solved the problems.

CHALLENGES

- High rate of population growth, especially in urban areas, needs a greater support of food supply. Unfortunately, existing agricultural areas with technical irrigation systems are decreasing due to urbanization and industrialization.
- It is a challenge for all countries to keep their existing agricultural areas, and even extend them to fulfill the food demand.

RECOMMENDATIONS

- Irrigation infrastructure is an expensive investment, in terms of the amount of money to be invested. This is an opportunity for massively developing agricultural activities, which needs support from human resources, soil condition, agriculture technology, chain of agribusiness, etc. Therefore, sustainability of the existing irrigation system should be maintained.
- Small land ownership has created a fragile condition towards the social welfare of farmers and their families. Therefore, governments in developing countries should evaluate and formulate policies on the minimum land ownership for viable agricultural activities.

RECOMMENDATIONS

- In some areas, an irrigation system has the potential for development of hydropower. Different technologies are available to utilize this potential for the benefit of farmers and rural communities.
- Cities in low land areas need to develop a comprehensive drainage system, by developing an urban polder system. For that purpose, urban areas should allocate enough open space for water retention and sufficient pumping capacity to control water levels. Involvement of local people in the management of the system is an essential requirement for the sustainability of the system.

THEME CONCLUSIONS

Conclusions and lessons learned

- The population growth and global climate change have affected the use of water especially in developing countries.
- The population growth in developing countries will lead to competition for water use for agricultural, industrial and domestic use, that will escalate water scarcity in the next few years.
- The use of existing and new technologies to cope with water scarcity, to achieve productivity gains for agriculture in developing countries, still needs to be developed.

Conclusions and lessons learned

- System of Rice Intensification to increase productivity, water efficiency and reduce methane gas emission still requires further development for up-scaling.
- Efforts for new 'weed-rampant' technology for eco-friendly canal erosion protection should be intensified.
- The government policy on poverty alleviation is the key issue to support the development of smallholder irrigated areas.
- Collaboration of public sector and private sector in promoting socio-economic conditions in smallholder irrigated areas is very important.
- Topography, water availibility and poverty forces limit the access to irrigation and are common challenges in many countries.
- Small areas require a simple but efficient irrigation technology.

Conclusions and lessons learned

- Applying Drip Planner Chart (DPC) for irrigation scheduling of small holdings is promising . Owners of small irrigated plot can cultivate and optimize water use to fulfill each households needs for vegetables.
- Adaptation to water scarcity and climate change may include:
  - ✓ Make better use of rainfall and supplement with surface water;
  - ✓ Decreasing wastes in the agricultural sector;
  - ✓ Increasing food production by applying poor quality or reuse of drainage water;
  - ✓ Changing diet;
  - ✓ System of Rice Intensification to increase productivity, water efficiency and reduce methane gas emission still requires further development for up-scaling;
  - ✓ Acceleration of development of new 'weed-rampant'

Conclusions and lessons learned

- Implementation of participatory approach in irrigation management yields better understanding for farmers, leading to their active involvement in the project resulting in better performance ndicators, and higher mobilization of local resources;

- Implementation of participatory concept show better results if additional number of parties such as Universities and NGO's became involved in the actions;

- In some cases implementation of participatory concept lead to a wider spectrum and perspective

Conclusions and lessons learned

- Tools, technologies and farmer's participation dealing with the improvement of environmental problems were discussed and need to be continued in order to have a better understanding of the role in the multifunctional of Irrigation system and sustainable balance of ecosystem under the small holder.

- In the future, it is necessary to address eco/landscape management and farmer participation on land consolidation for profitable holding size and integration into the landscape system in the rural region.

Conclusions and lessons learned

- Irrigation infrastructure is an expensive investment, in financial terms, but it creates the opportunity for massive development of ing agriculture, which needs additional support from human resources, soil condition, agriculture technology, chain of agribusiness, etc. Therefore, sustainability of the existing irrigation system should be maintained.
- Small land ownership has created a fragile condition to the social welfare of farmers and their families. Therefore, governments in developing countries should evaluate and formulate policies on the minimum land ownership for viable agriculture.

Conclusions and lessons learned

- Tools, technologies and farmer's participation dealing with the improvement of environmental problems were discussed and discussions need to be continued to have better understanding of the role of the multifunctionality of Irrigation system and sustainable balance of ecosystem under the small holder conditions.

- In the future, It is necessary to address the eco/landscape management and farmer participation on land consolidation for profitable holding size and integration into the landscape system of the rural region.

SUM UP - CALL FOR ACTION

ICID
JOGYAKARTA DECLARATION

Jogyakarta Declaration

"….call on Government To:

- •Direct agriculture policies and support programs towards generation of more sustainable off-farm employment by developing local agro-industries, provide affordable credit systems, and access to markets;
- •Facilitate the development of WUAs (Water User Associations) and WUAFs (Water User Association Federations) towards becoming integrated water, agriculture and eco-system managers, and make them the guardians of the environment;
- •Develop a vision and facilitate the transition process from the present smallholder systems to commercial farming entrepreneurs. "

Jogyakarta Declaration

"Call on Knowledge Institutions to :

- •Analyze experiences and develop best practices and approaches for scaling up of integrated WUA/WUAFs as water, agriculture and eco-system managers;
- • Analyze experiences of other countries and develop best practices and approaches, for managing the medium to long term transition for smallholder based farming to commercial large farming and agro-based enterprises;
- •Develop and introduce new affordable, water efficient, climate resilient, and eco-friendly technologies to enhance smallholder productivity and improvement of smallholder livelihoods."

Jogyakarta Declaration

".. Call on: Agricultural services, irrigation and drainage management agencies to:

- •Act as service providers which effectively engage the smallholders' WUA/WUAFs as partners in all aspects of development and management, in a coherent and coordinated way, especially with adaptation to urbanization, industrialization, land conversion and climate change;
- •Welcome entrepreneurial activity that increase rural participation in the value chain and addresses the discrepancies in rural-urban livelihoods. "

Jogyakarta Declaration

".. Call on International organizations and financing institutions" to:

- **Stimulate information exchange, research, technology transfer, and facilitate international dialogue in the challenges of, and options for irrigators and smallholders undertaking agriculture in rapidly urbanizing and industrializing societies."**

Highlights of 61st IEC meeting

- Review of progress and selection of new venues for Future Conferences.
- Presentation and discussion on Broadbasing of ICID Membership.
- Presentation and discussion on Conduct of ICID Business – WG meetings and Web conferencing.
- Preparation for ICID Inputs to WWF-6, Marseille, France, 2012.
- Selection of a new Secretary General.
- Presentation and discussion and approval of the Secretary General's Report.
- Review results and outcome of 60th IEC Meeting and 5th Asian Regional Conference.
- Submission, discussion and Approval of the ICID Annual Report, ICID Journal and Other Publications.
- Review of Active Members of ICID.
- Admission of new members to the Workbodies.

- Submission, discussion and approval of the Report of the Permanent Committee on Strategy Planning and Organizational Affairs (PCSPOA).
- Submission, discussion and approval of the Report of the Permanent Committee for Technical Activities (PCTA)
- Submission, discussion and approval of the Report of the Permanent Finance Committee (PFC)
- Presentation and approval of Report of the Management Board (MB).
- Discussion of the report on Amendments to Constitution and By-laws.
- Signing of Memorandum of Understanding between ICID and UN-Water Decade Program on Capacity Development (UNW-DPC) on Capacity Development for Water in Agriculture.
- Signing a MOU for cooperation between ICID and China, and west Africa.
- Election of Three Vice Presidents .

THE END

THANK YOU – MERCI

SHUKRAN – TRIMAH KASEH

International Commission on Irrigation and Drainage (ICID)