APN CAPaBLE

- Making a Difference –

Scientific Capacity Building & Enhancement for Sustainable Development in Developing Countries

Institutional Dimensions of Global Environmental Change: Water, Trade, and Environment

Final Report for APN CAPaBLE Project:

CBA2006-07NSY-Lebel

AOA2006-01NSY-IHDP

Project Leaders: Louis Lebel and Lis Mullin

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NRF

Institutional Dimensions of Global Environmental Change

M-POWER Mekong Program on Water Environment and Resilience

IHDP International Human Dimensions Programme on Global Environmental Change

IAI

CBA2006-07NSY-Lebel / AOA2006-01NSY-IHDP

Final Report submitted to APN

www.apn-gcr.org

Overview of project work and outcomes

Non-technical summary

The 5th biennial IHDW of IHDP encompassed 41 participants, taking place October 13th to 26th in Chiang Mai, Thailand. This IHDW was done in partnership with APN, which given its physical location in Asia and strong involvement of Asian-Pacific participants, trainers and case studies, was a huge benefit to the workshop. IHDW 2006 was organized by IHDP (its Secretariat), its core project on institutions (IDGEC), and Louis Lebel, head of USER at Chiang Mai University. The overall theme of IHDW 2006 was "Water, Trade, and Environment – the Institutional Dimensions of Global Environmental Change".

The two main components of the IHDW 2006 were plenary sessions and working groups, consisting of up to 8 people. The main focus of attention was "institutional analysis", complemented by discourse analysis, rights based approaches as well as scenario building and negotiation games. In addition a "participants' seminar series" took place, in order to develop individual or group-based research proposals. A "trainer's table," a Science-Practice Dialogue, and 4 field trips to water related sites were important components. Finally, several side-talks and meetings took place throughout the workshop. The final session was organized by the participants, who presented the outcomes of the 2 weeks' work and the evaluations.

Objectives

The present project aimed:
1) to enhance awareness and understanding of the human dimensions of GEC, particularly within the social sciences research community;
2) to establish new or strengthened contacts and networks between researchers working in the field;
3) to facilitate the participants' own efforts to develop national and regional research programmes and activities related to the HDGEC;
4) to increase the international visibility of the importance of HDGEC;
5) to promote communication between policy and scientific communities and to identify policy needs and priorities related to further development of IHDP science agendas and activities;
6) to promote the use of scientific information into the policy and decision making planning process.

Amount received and number years supported

The Grant awarded to this project was:

- US$ 60,000 for 2006

Work undertaken

The primary goal of the workshop was to strengthen the analytical skills of participants in institutional and political analysis, with a secondary goal to expand IHDP's and APN's network of institutional scholars working on water and trade. A tertiary goal was to work closely with the regional policy and practitioner community dealing with water and trade issues. The Science-Policy Forum was intended to gain greater insight and knowledge on regional issues and realities.

Particularly thanks to the excellent networks and abilities of the local organizer and host, all of these goals were achieved to a greater or lesser degree. A detailed (anonymous) evaluation form was filled out by each of the participants.

The topics outlined above as well as the methodological tools applied reflected not only the priorities listed in the new IHDP Strategic Plan, but also the goal of APN to enhance our understanding of GEC, and strengthen the link between the research

and policy communities. The workshop concept enabled continuous feedback between these two communities.

Results

The outcomes of IHDW are numerous, and most of them will continue to be followed up upon and harvested in the future.

a) 5 working groups were formed in order to develop participants' existing research proposals further and initiate new ones. Both individual and group-based research ideas were presented on the last day. Particularly promising are (partly collective) research effort on drylands, transboundary water management, water and climate change, and water needs for biofuels as well as virtual water flows.
b) Several other bilateral research ideas are currently being explored, such as joint articles and several kinds of future collaboration and cross-fertilization. It is fair to conclude that an "IHDW 2006 community" and several sub-communities were established in Chiang Mai - an important condition for effective future research on global environmental change issues.
c) Trainers who had not been in touch with IHDP so far are now linked to IHDP's network as well. Future collaboration was pursued with Jan Lundqvist from SIWI at the World Water Week in Stockholm in 2007. There was a partial follow-up meeting at the 2007 WWW (in August) for the above- mentioned research projects and their leaders.
d) IHDP as a Programme and IDGEC as well as GWSP were able to expose themselves to a broader community than was previously the case, many of whom were not (yet) affiliated with their research. Thus, both IHDP and the projects broadened their network, which was particularly useful for IDGEC's synthesis conference in December 2007, and for GWSP with its governance. Some participants are very active and promising and should therefore be further bond to IHDP. Other projects which are of particular interest for these participants are: GECAFS, LOICZ, GLP, UGEC, and GECHS.
e) A 100% bottom-up driven "African initiative" on how to further strengthen IHDP related networking in Africa (and its particularly difficult conditions) was established. This group demonstrated a high level of determination, consensus and constructive suggestions as well as a positive attitude towards IHDP. A member of the organizing committee for the IHDP Uganda Workshop 2006 was present as well and his report was of great value and the best "advertisement" for IHDP.
f) The decision (for the first time) to include self-paying participants (their local costs were covered) from the "global North" was a very positive one. It was essential for networking between the participants and contributed to the truly "global" nature of the group.
g) IHDP has further strengthened its ties to APN, also an important sponsor of the upcoming 7th OM. A concrete proposal for immediate APN support for IHDP's work towards the 7th OM was explored and is definitely another very positive outcome. Generally, engaging with scholars from the APN region will certainly be of growing importance in the near future.

Relevance to the APN CAPaBLE Programme and its Objectives

The workshop theme and the Science Policy Forum were clearly relevant to a range of different foci laid out in the Second Strategic Plan, primarily those listed under section 4 "Use of resources and pathways for sustainable development", 5 "Crosscutting" and 6 "Science Policy Linkages". Capacity Building was the main objective of the workshop. The topics being covered during the workshop were central to sustainable development of many regions being represented at the workshop.

Self evaluation

IHDP's series of capacity developing workshops is a learning process that seeks to improve on each workshops' failings and learn from its successes. Without any doubt, IHDW 2006 was a success and broke new grounds, both content-wise and as far as its size and variety is concerned. A look at the evaluations forms from participants (in Annex) shows very positive feedback. However, a close look at its shortcomings and problematic aspects is needed as well. Below is a gathering of some of the critical evaluations/ lessons learned gathered by the organizers of this workshop.

a) Size: approximately 40 participants are still a workable size, but pretty much on its edge. Financially, this amount was very difficult to fund, especially for participants from Africa and Eastern Europe. But as far as the dynamics of the workshop are concerned, the size was no major problem. Having almost 20 trainers is both a big advantage and a problem (funding, coordination). One possible conclusion is: It would have been better, at least much easier, if each day had been organized fully by one trainer, instead of having several trainers competing for a scare resource: time. Due to active management and consultations, the situation remained manageable (a daily de-brief was a tool that demonstrated its necessity quickly), but not always optimal.
b) Largely as a result of this, not enough time could be allocated for discussions in plenary, which was criticized by several participants (This was fixed at later stages of this workshop, largely at the expense of other envisaged sessions).
c) The feedback from the participants shows they would have preferred a "deeper" discussion on many of the topics instead of the very "broad" one of this workshop. The "brainstorming" or "free space for thinking" aspect (perhaps a cultural bias by some of the trainers?) led partly to "alienation" and some "opt-out" of some participants, especially during the last days on trade.
d) We should again re-think the criteria for being a "young scientist". Given that too strict of a linkage to age is not useful, it remains a fact that someone at the age of 23 is hardly comparable with someone in their mid 40's. Especially the evaluation and perception of/on the workshop vary significantly related to the age of the participants; a possible source for "frustration". We might use the "5 year criteria", combined with "not older than 40" (or 38) in the future.
e) Many participants, trainers, organizers mentioned that 2 weeks is too long! In combination with the very diverse agenda items and the fact that just half a day free-time was provided, some people opted out in order to gain some free time, largely at the expense of the trade segment. Starting on a Thursday, finishing on the Sunday of the next week (10 days) might be a better future timeframe.

Be that as it may, IHDW 2006 was certainly a success, as the mentioned outcomes clearly demonstrate. Many participants are now involved in institutional dimensions related research initiatives and linked to the trainers of the workshop. However, some follow up should be organized by the Secretariat as well, in order to keep those who are interested within our network. The currently incoming responses from the participants demonstrate clearly that the IHDW 2006 was a good workshop!

Potential for further work

Contact is still being upheld with the participants and their research groups; results will feed into the next (6th) IHDW in Delhi, India, in October 2008.

The participants from the 5th IHDW may try to have a follow up nearly a year later, for example a good opportunity could be at the Stockholm Water Week on 11 – 18 August 2007. A further reflection of the importance of the Asian-Pacific region to IHDP's activities is the venue of the next **7th Open Meeting**, to be held in 2008 in

New Delhi, India, with TERI (The Energies and Resources Institute) taking the lead in organizing. Exact date TBA in November 2008. Much as with the last Open Meeting in Bonn, there will be a series of week-long parallel pre-Open Meeting training seminars which will follow up on issues and events started at the 5th IHDW.

Publications

A CD-ROM was distributed to the participants

Acknowledgments

Many thanks to the active participation and involvement of APN representative Andrew Matthews at the workshop, as well as attendance and representation of Maricel Tapia. Also to the trainers, who agreed to do this work without pay and several others on their own or their institution's expenses. Local organizer Louis Lebel and the USER team were indispensable to the success of this event and were excellent hosts. Many thanks to IHDP intern Sibylle Seubert for her hard work in supporting the Secretariat throughout the selection and notification process, and to intern Julia Richter for making travel arrangements.

Technical Report

Abstract

The 5th biennial training workshop/ IHDW of IHDP encompassed 41 participants, taking place October 13th to 26th in Chiang Mai, Thailand. This IHDW was done in partnership with APN, which given its physical location in Asia and strong involvement of Asian-Pacific participants, trainers and case studies, was a huge benefit to the workshop. IHDW 2006 was organized by IHDP (its Secretariat), its core project on institutions (IDGEC), and Louis Lebel, head of USER at Chiang Mai University. The overall theme of IHDW 2006 was "Water, Trade, and Environment – the Institutional Dimensions of Global Environmental Change".

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1.0 Introduction

The 5th biennial International Human Dimensions Workshop (IHDW) took place from October 13th to 26th in Chiang Mai, Thailand. It is IHDP's flagship capacity-building activity, targeting young scientists, mainly from developing countries. IHDP has a demonstrated ability in carrying out such events and has created a path for a long-term and sustainable investment in order to broaden its network and particularly to reach out to scientists from the developing world.

IHDW 2006 was organized by IHDP (Secretariat), IDGEC, and Louis Lebel, head of USER at Chiang Mai University. The overall theme of IHDW 2006 was "Water, Trade, and Environment – the Institutional Dimensions of Global Environmental Change". Such a composition of actors has had proven effectiveness, particularly since the decision made for the last IHDW in 2004 in Costa Rica to take the IHDW's outside of Germany and hold them in a developing country where the issues discussed can be demonstrated first-hand.

The **division of labour between the three organizing bodies** was as follows:

a) The Secretariat was mainly responsible for administrative matters, such as orchestrating the application process, including the selection of participants, arranging flights and other travel requirements, contact with participants and trainers, and last but not least fundraising and reimbursement procedures. The follow up activities for IHDW 2006 will also mainly remain with the Secretariat. Lis Mullin and Falk Schmidt as well as Julia Richter (part-time) from the Secretariat attended the workshop.
b) IDGEC took the scientific lead, since the themes of this IHDW were of central interest to this project. IDGEC assured that the agenda as well as the composition of trainers for the IHDW 2006 were balanced. Throughout the workshop there was a strong focus on institutional dimensions. With Oran Young, Leslie King and Heike Schröder, IDGEC was well represented, accompanied by other members of the IDGEC family such as Frank Alcock and Simon Tay.
c) Louis Lebel, a member of the (broader) IDGEC community himself, acted as the local host and had the overall responsibility for the operations in situ. He was supported by his USER team, which managed all organizational issues. Louis was the main contact person for the trainers

and the participants during the workshop, supported by Falk Schmidt. Louis Lebel was also heavily involved in fundraising (APN) and he will be pursuing parts of the reporting.

The **content of the workshop** was ambitious and tried to capture several things at once:

a) Water: Water as a topic for Global Environmental Change research has gathered more and more attention in the recent past. GWSP is a rather new joint project and still in the initial phase as far as social science issues are concerned. Parallel to this, IDGEC devoted some attention to this theme in the second phase of its implementation process. Thus, water proved a promising choice for an IDGEC-framed IHDW.
b) Trade: Trade is an even less mature topic within IHDP-related research, but it has also gotten more attention in the IDGEC community recently. Beside this strategic component, i.e. exploring two upcoming, promising research issues further, there are several inter-linkages between trade and water which raise important research questions that are worthwhile to explore.
c) Environment: this topic is self-explanatory in the IHDP context. Thus it served as the "anchor" for the above-mentioned topics, i.e. their environment-related questions were at stake within the workshop.

Composition of **participants and trainers**:

a) On participants: more than 140 young scientists from all over the world applied. An expert panel of eight reviewers chose 41 participants. 13 came from Asia/Pacific, 8 from Latin America, 8 from Africa, 4 from Eastern Europe, 9 from "the global North" (the latter had to secure their own funding for travel but had local expenses covered). Besides the regional balance, gender was also balanced - about 30% were women (while just about 25% of the applicants were women). The age ranged from 22 to mid 40s, given the criteria that the last degree (up to PhD) had to be completed within the past 5 years.
b) Trainers had been invited by all three organizers. Almost 20 people, about half of them from the region, were present in Chiang Mai, most of them for about 3 to 4 days. A mixture of people familiar with IDGEC research, more practice-oriented trainers as well as real experts in the fields of water and trade, provided the participants an impressive array of knowledge and expertise. The trainers gave plenary lectures, convened topic-specific working groups and interacted with participants on a bilateral basis, which was highly appreciated by the participants (a so-called trainer-table was "institutionalized", taking place at the end of each day). Given the facts that
    a. the trainers' commitment was purely voluntary,
    b. some came from well known institutes (and travelled quite a distance),
    c. some secured in-kind contributions from their own institutes, and
    d. some committed themselves to follow up with participants' research, both as "mentors" and "research colleagues",

    IHDW 2006 has clearly demonstrated its potential and its brand-like reputation.

Composition of **sessions, methods, and "tools"**

The two main components of the IHDW 2006 were plenary sessions and working groups, consisting of up to 8 people. The main focus of attention was

"institutional analysis", complemented by discourse analysis, rights-based approaches as well as scenario building and negotiation games. In addition a "participants' seminar series" took place, in order to develop individual or group-based research proposals. The already mentioned "trainer's table" was another component as well as 4 field trips to water-related sites in and around Chiang Mai. Finally, several side-talks and meetings took place throughout the workshop. The final half-day long session was organized by the participants themselves which presented both the outcomes of the 2 weeks' work and comprised participant evaluations. A further special segment within the two-week workshop was a Science-Practice Dialogue.

Collaborating countries

Participants from the following Asia-Pacific countries were funded to attend the event: the Philippines, India, Thailand, Singapore, China, Indonesia, Cambodia. In total, 31 nationalities were represented among the 41 participants. For all candidates there was a competitive call for participants. In their applications the potential candidates were asked to provide a proposal in which they lay out their specific interest in the workshop theme and how their ongoing work relates to the topics covered during the workshop. They were also asked to provide evidence of institutional support as part of the application package in order to increase probabilities for longer-term support and collaboration. The selection of participants was finalised by the end of April 2006, and the break-down saw the largest group from the Asia-Pacific Region (13), Africa/ Middle East (8), Latin America/ Caribbean (8), North America and Europe (9) and Eastern Europe/ Russia (4). Participants and speakers in the Science Policy Forum were selected based on their expertise and effective engagement with regional water resource development and management issues. A strong effort was made to ensure a diverse representation as this was important to the deliberations in roundtable sessions.

Non-Scientific Abstract

The 5th biennial IHDW of IHDP took place from October 13th to 26th in Chiang Mai, Thailand. It is IHDP's flagship activity in the field of capacity building, targeting young scientists, mainly from developing countries. IHDP has demonstrated its ability in carrying out such events and has created a path for a long-term and sustainable investment in order to broaden its network and particularly to reach out to scientists from the developing world.

This IHDW was done in partnership with APN, which given its physical location in Asia and strong involvement of Asian-Pacific participants, trainers and case studies, was a huge benefit to the workshop. IHDW 2006 was organized by IHDP (its Secretariat), its core project on institutions (IDGEC), and Louis Lebel, head of USER at Chiang Mai University. The overall theme of IHDW 2006 was "Water, Trade, and Environment – the Institutional Dimensions of Global Environmental Change". Such a composition of actors has proven its effectiveness, since the comparative advantages of the three actors are necessary to make IHDW a success. However, some challenges are inherent to these kinds of partnerships as well.

The two main components of the IHDW 2006 were plenary sessions and working groups, consisting of up to 8 people. The main focus of attention was "institutional analysis", complemented by discourse analysis, rights based approaches as well as scenario building and negotiation games. In addition a "participants' seminar series" took place, in order to develop individual or

group-based research proposals. A “trainer’s table” was another component as well as 4 field trips to water related sites in and around Chiang Mai. Finally, several side-talks and meetings took place throughout the workshop. The final half day long session was organized by the participants themselves which presented both the outcomes of the 2 weeks work and comprised participant’s evaluation. A special segment was a Science-Practice Forum.

2.0 Conference Outputs

Outputs were for some participants and trainers, participation in the IDGEC Synthesis Conference in December 2006; a special edition of the IHDP Newsletter; a workshop report and science-policy forum report; a workshop webpage; a list server.

Several participants and trainers also met again a few weeks later in Bali and once again the next month in Beijing. However, for many who were interested in attending, there was a lack of funds to bring people back to these events. Regarding publications, there was an IHDW report in the GECHS newsletter (Human Security project), as well as reports in IHDP’s eZine 1/2007, and IHDP’s Update newsletter from end of 2006. Workshop webpage and list server are still up and running.

Please see links to the two conference organizers: www.ihdp.org and http://www.sea-user.org/

3.0 APN-Funded Participants

The funds were used to cover international and local travel to attend the event, local costs, fieldtrips, accommodation, meals, per diems, airport tax/ transfer (where applicable), the Thai visa or exit fees (where applicable), and health insurance for the following participants:

Allan Abayao (Philippines

Herminia Caringal (Philippines)

Gavin Chua (Singapore) – partial funding, the rest self-supplied

Gao Jian-Hua (China)

Dyah Marganingrum (Indonesia)

Ramesh Honnasiddaiah (India)

Phann Sithan (Cambodia)

Srinivasan, Jeena (India) – partial funding, the majority from IFS/ Sweden

Fang Sun (China)

Kashinath Vajpai (India)

Ya Wang (China)

Wei Xiong (China)

The following **feedback documents** are included with this final report:

1) Individual essays from the funded participants

2) A powerpoint presentation giving the results of the evaluation forms

4.0 Conclusions

The IHDW was a successful event, particularly given its scope and the sheer number of participants and trainers (60 in all) to be accommodated. See more detailed description of outcomes above.

The next (**6th IHDW**) will be held back-to-back with the 7th Open Meeting in October/ November in Delhi, India (date TBC).

APN-Funded Participants

(1) Allan ABAYAO

THEME: Institutional Dimensions of Global Environmental Change; Water, Trade, and Environment

- a written essay (up to a 1000 words) describing how the applicant's research and policy interests relate to the broad theme of the workshop and to one or more of the Institute topics

Water is one of nature's most important gifts to mankind. A person's survival depends on safe drinking water. Access to potable water is a basic right (as cited in the Lisbon Principle and ADP's policy).

Today, there is a growing global concern on access to safe drinking water. Although water covers more than 70% of the Earth (World State of the Water Report, ADB), only 3% of the Earth's water resources are freshwater, of which .5% are available, and only .003% of this available freshwater is potable and fit for human consumption. . Yet, we continue contaminating the very source of freshwater. We pollute the water basins and ground water due to poor sanitation, improper waste disposal, leakage from sewer pipelines and tanks.; Unregulated smoke emitting activities cause too much pollution to the air that contaminate rain water; Urbanization and limited space for housing are causing pressure on the remaining watersheds as people encroach into these protected areas just to find a living in the city. The threat to the availability of safe water is growing caused by increasing demand, over-abstraction of ground water, aggravated by global warming.

The threat of inadequate safe water is real. Water security is imperative for human development and survival. Who is then in a better position to take the responsibility to secure safe and quality water? It is in this regard that the role of institutions in mitigating these man-made and global environmental problems. This is possible through the institution of mechanisms that can mobilize all sectors to be involved particularly in the aspect of governance at the local level. UNDP defines water governance as "a range of political, social, economic and administrative systems that are in place to develop and manage water resources and the delivery of water services, at different levels of society." But improving water governance is not only meeting the water needs of all users but most specifically doing this in a more integrated and equitable system that maintain the integrity of the environment.

With urbanization, good local water governance emerges as a necessity to cope with the increasing demands for steady supply and access to safe water, both for the immediate and long term. A twin responsibility of urbanizing local governments is efficiently managing water demand (a) to ensure equitable access of different users across sectors (e.g. the poor, the business community), and (b) to sustain investments in water infrastructure through viable cost-recovery and financing schemes, while (c) protecting the integrity of water resources (SWIM).

Local governments have both direct and indirect responsibility for the water security of their communities. They are the right venue in setting Local Water Agendas to action. These cumulative water actions contribute to global water sustainability.

The accountability to protect this common well - water, is at the heart of governance. Water is a nature's gift but when not secured, nature never forgives.

- a 1-pager describing how the applicants research interest could be turned into a concrete research project

Baguio City is one of the highly urbanized cities in the Philippines located at 1,500 meters above see level in the northern part of the archipelago. It generally enjoys a cooler climate compared to the rest of the country with a mean normal temperature of 18 degrees Celsius, making it the country's "Summer Capital". Its

cool breeze oozing from its pine cover serves as a pull factor for its thriving tourism and making it very conducive as an educational and trade center in the north.

The influx of tourists and students from neighboring places and nations add to the projected 275,472 household population growth by year 2005(City Planning Office). Combining all of this populace would make an estimate of more or less 350,000 people being hosted by this small city for the whole year round. Considering the role of the City as an urban center attracts adjacent populations and estimates prove that the City caters to almost half a million people during the daytime. The city even recorded 1,000,000 visitors, both local and international, during its most awaited Flower Festival (Panagbenga) in the month of February (Visitors' Count, 2003). This is a situation that the city looks forward to during this time of the year.

With the Baguio Water District's (BWD) estimate of an average of 100-200 liters water consumption per capita per day, this means an average of 35,000,000-75,000,000 liters needed per day to satisfy only the water need of users in the city, plus the volume of water needed by big industries operating within the city.

Where is Baguio City getting its water to serve its increasing populace?

Groundwater is a major source of freshwater in Baguio City. It is the source of 85% of the city's piped water supply facilities which only serves 121 of the total of 128 barangays or 75% of the total city's households. The other 7 barangays or 25% of the city's households don't have a direct access to the BWD's pipe line. They are dependent on nearby springs, rain water and water supply from private water delivery services who have their own water pumping facilities.

Moreover, the recorded 38-45% rate of Non-Revenue Water due to water loss along water lines and illegal water connections indicates that a consumer has access to an average of 76 liters of water a day. This falls below the average per capita consumption (coming from piped water) of 100-200 liter a day (BWD). Thus this is not unusual that even the households connected to BWD pipelines augment their water supply from private water delivery services.

Baguio City is dependent on its groundwater source. But summer seasons prove that Baguio is experiencing water shortage. Moreover, big establishments have their own water pumping facilities whose capacity to draw water is so strong that it could siphon water from other sources. Do these indicate a depletion of groundwater or lack of relevant local water governance or both?

All of these allowed to continue and unregulated will cause Baguio City terrible shortage of water if security mechanisms and initiatives will not be well studied and put in place. But this entails a more intricate process of doing a holistic research considering social, economic, political and environmental factors. These are the areas for further research proposal which Baguio has not yet totally explore.

The project "Sustainable Water-Integrated Management and Governance (SWIM)" in Baguio City in partnership with ICLEI-Local Governments for Sustainability came up with a Medium-Term Water Operational and Investment Plan for 2005-2008. But this is just the beginning of a more intensive Water Research and Development that forms part of the local package of local water governance. Like, a feasibility study on the construction of retention dikes on rivers and creeks including side walks and even roads to prolong retention of surface water and enhance its percolation to the underground aquifers; an exploration of options to match water sources and quality for other domestic uses in order not to deplete availability of potable water; Community base water security measures; Water security capability building; mainstreaming gender and development in local water governance, as well as finding out appropriate technologies for rain harvesting and impounding at present natural water sources that are undeveloped. Likewise it can also be in the area of policy that may be regulatory as well as instructive and informative, that forms part of the total conservationist and sustainable approach to development.

(2) Herminia R. CARINGAL

1. How my research interests relate to the workshop theme:

As a senior technical researcher in the Philippine Senate, my job entails undertaking policy research on pending and forthcoming bills and resolutions. I am particularly assigned at the Social Sector Division of the Senate Economic Planning Office or SEPO under which I am responsible for monitoring and studying issues that relate to the environment, health and nutrition and indigenous peoples.

Most recently, I worked on a policy paper on the 'requisites of a national land use policy' and ecotourism in the Philippines. These policy research outputs were circulated among our Senators and Senate officials. The land use policy research output was intended to give a background information and study on a pending land use bill and enlighten the readers on the contentious issues of a crafting a national land use policy for the country. This bill was first filed for consideration in the Senate as early as 1992 and still is pending up to this date. The apprehension of the legislature to take up this bill is an indication of how complex and 'political' land use issues are.

My research output revealed that in addition to economic and technical factors, the role and arrangement of institutions (including but not limited to legal instruments, markets, church, cultural norms and practices) play a pivotal role in the design of an effective land use policy framework and I believe it where the proposed land use policy for the country is very weak. I learned that the relationship between the national and local governments, the private sector and the indigenous peoples as well is, at present, not harmonious or well coordinated. There are a lot of areas of confusion and functional overlaps.

Another forthcoming legislation or policy proposal is the watershed approach in forest management. It is now currently being studied by the respective Senate Committee and is also one of the priority policy research agenda of SEPO. This bill is another piece of proposed legislation that will require a lot of technical and policy research. Issues such as resource ownership and institutional arrangements will definitely be important concerns of the different stakeholders in a forest management framework. Hopefully, our team/division will be able to add value to the technical or scientific studies already done in the past by scientists and other independent research groups. From our end, we desire to focus on the political, economic and institutional dimensions of the proposed forest management framework.

Overall, our country's policy directions on the environment are yet to catch up with the recent developments on global paradigm, i.e. human-environment interaction, eco-governance. Our government needs to review, assess, update and rationalize existing laws and policies on natural resources management, pollution control, land use and water rights, among others. The role of the Senate and SEPO in particular is to provide our legislators in-depth policy research outputs that hopefully will guide policymakers in their task of legislating for the protection and management of our vast terrestrial and marine environment.

2. How my research interests can be turned into a concrete research project:

As I mentioned in my essay #1, I am currently one of the senior researchers of Senate Economic Planning Office or SEPO who is specializing on environment-related policy studies. Our mandate is to provide technical and research assistance to our senators and other policymakers on pending and forthcoming legislative proposals. Based on the Senate's Reform Agenda (formulated in October 2004), there are several key environment related bills or proposals which were earmarked

to be taken up in 2006-2007. The priority list includes the proposed national land use policy, forest management framework, and the proposed water crisis bill. It also includes the review or assessment of recent environment related laws such as the Clean Air Act and the Clean Water Act.

Currently, I am reviewing available literature and data/information in my desire to refine my policy research on the proposed national land use policy. I have also started to gather available literature and data that will be useful when I do my research on the proposed watershed based forest management framework. A lot of technical and scientific studies on these two bills were already done by other researchers/scientists from the academe and the executive department. What I would like to do is to expand it to include political and institutional considerations. After all, crafting a land use policy and a common resource management policy is a political decision and social choice. In doing so, I would like to embark on primary data gathering through conducting interviews with various stakeholders (or even subjecting them to Policy Delphi technique) and process the data through statistical techniques and other non-quantitative methods of analysis such as stakeholder analysis and scenario building. The result hopefully will provide my audience useful insights on the political palatability and social acceptance of these legislative proposals.

(3) Gavin Chua Hearn YUIT (Bio)

I am pursuing a Ph.D. in Geography at The Maxwell School of Citizenship & Public Affairs, Syracuse University (Syracuse, NY). I am currently based in Singapore as a researcher at the Singapore Institute of International Affairs (SIIA), focusing on research projects and publications related to resource governance issues in Asia.

My research interests are in Critical Resource Geography & Political Ecology (water and energy focus), Political Economy & Environment, and Environment & Governance in Asia.

I have previously held an appointment of Manager (International/Industry Relations, Policy & Planning Department) with the Public Utilities Board, Singapore's national water agency.

(4) Gao Jianhua

Research target

In this research, the trends of long term variations in runoff, suspended sediment concentration and typical contaminations concentrations in the Changjiang River estuary will be studied. Furthermore, the various interrelationships among runoff, suspended sediment concentration and contaminations concentration on tidal cycle and long term scales will also be investigated. Subsequently, the environmental carrying capacity of the Changjiang River estuary and its adjoining coastal waters will be established, under the condition that runoff and suspended sediment supplies from the upstream are decreasing.

Research components

1. On the basis of historical data collation and *in situ* measurement, long term variation trends of runoff, suspended sediment concentration and contaminations concentration in different sections of the Changjiang River estuary will be analyzed;
2. Through hydrographic observations, their variations of current speed (discharge), suspended sediment concentration and typical contaminations concentration in tidal cycle, and their relationships on tidal cycle scale will be studied. On the basis of the long term variation characteristics, the interrelationship

in different sections of the Changjiang River estuary will be determined;

3. Based upon the interrelationships among runoff, suspended sediment concentration and contaminations concentration on long term scales, contamination discharge capacity for the ecological environment in different situations in the Changjiang River estuarine and coastal waters will be estimated. In addition, the minimum runoff and sediment flux that maintain the healthy environment and primary production stability under the condition of different contaminations discharges will be studied.

Methodology

1. *In situ* measurements: tidal cycle observations at 3 stations that are especially arranged from land to sea in the Changjiang River estuary in dry and wet seasons. The hydrodynamic parameters to be measured include current velocity, suspended sediment concentration, temperature and salinity.

2. Sampling: the samples collected from *in situ* measurements will be tested and analyzed, and contamination concentrations and their discharge will be calculated.

3. Based upon their variations of contaminations concentration, suspended sediment concentration and velocity, the accumulation and release effect of contamination induced by suspended sediment, and diluting effect of water body to contaminations will be studied, in order to establish the interrelationships among the runoff, suspended sediment concentration and contaminations in tidal cycle. Based on the above results, and the interrelationship between runoff, suspended sediment concentration and contaminations concentration, the mechanism for water quality in response to runoff and sediment discharge decrease and contamination discharge increase will be investigated;

4. Based upon to the results from Research Components 1 and 2, the environmental carrying capacity of the Changjiang River estuarine and coastal waters will be studied, and scientific information on sustainable utilization of the water resource in the Changjiang River catchment will be provided.

(5) Dyah Marganingrum
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A methodology to manage water resources with participations of society and stakeholders: with a modeling approach

The interest of this research was to find the solutions in order to solve the problems of current and future clean water scarcity. It has been pointed out that a research on the development of methodology for water resources management in a balanced manner that involves participation of the community and all stakeholders is necessary. The research approach is carried out by making use of a model (for example the dynamic model). The model parameter which will be presented in the form of scenarios will accommodate all the involvement of stakeholders including the wish and the hindrance that are dealt with. The model will be divided into three sub-models: sub-model in the sector of agriculture, sub-model in the sector of industry, and sub-model in the sector of demography. The results of the third end sub-model are the load of the pollutant that is produced each year. For example, in the sector of agriculture, how large the areas of agricultural land that use fertilizer. How much per hectare area the use of fertilizer (this is a variable that will be controlled). From here, the ideal quantity of the fertilizer use can be found, taking into account the appropriate planting system by considering soil types, morphological aspects, and the seasons, so that the appropriate use of this fertilizer can increase the agriculture productivity but may cause less pollution. Then, the ideal amount of fertilizer to be used will be introduced to the farmer's community with considerations on their social economics aspects.

(6) H. Ramesh
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I am **H. Ramesh** doing Ph.D. on '*intergrated water resources management'* at National Institute of Technology Karnataka, INDIA since August 2003 with the objectives of developing conjunctive use of surface water and groundwater model and its optimization. Secondly safe yield estimation of groundwater extraction in the river basin. I am almost in the end of my research. I will submit my thesis by the end of December 2006.

With this background, I have taken the research work in water resources engineering. Presently I am developing a conjunctive use of surface water and groundwater model and its optimization in river basin. I have taken Varada River as my study area having an area 5020 km^2. It is located in northern part of Karnataka state, INDIA. I am using finite element method for my research. The allocation of surface water and groundwater for different purposes is modelled. Groundwater extraction is the main problem in all over the world which leads salt water intrusion in coastal regions and depletion of groundwater table below safe level in the inland regions.
Conjunctive use of surface and groundwater model consists of two sources viz. surface water and groundwater source.
I am modelling these two sources using conjunctive use concept. Surface water source was modelled using simple water balance model. Groundwater is modelled using finite element method. Two dimensional unsteady groundwater models was calibrated and validated for the field conditions. Finite element computer code was developed in C language to run the entire model. I am in the verge of predicting the future scenarios.
This will help in taking decision and making relevant policies in the area.
The probable out comes of my research is as follows to draw the decision making policies.

- Prediction of groundwater levels (heads) through mathematical modelling: *which helps in taking action plans to develop agricultural and water supply activities.*
- Optimum withdrawal of groundwater in catchment: *For both domestic and agriculture demand*
- Groundwater recharge estimation: to compensate the groundwater extraction by suggesting different groundwater recharge structures.

This workshop will definitely helps in incorporating the social, economical and political constraints in my research model which are not considered by most of the models . I will incorporate the above constraints in the model so that the results will definitely more realistic to allocate these water resources. Therefore I would like to participate in the workshop and give me an opportunity to gain some knowledge in the course of workshop and have an interaction with experts and fellow participants.

(7) Mr. Phann Sithan
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How does my interest turn into a concrete research project?

The importance of the role of institutions in poverty reduction has only

recently gained attention. On the other hand, the past two decades have witnessed an increased understanding of the role of institutions in natural resource management. The insights on the role of formal and informal property rights and collective action institutions in improving well-being can assist both research and polities for poverty reduction. They shed light on issues of governance, power relations and ideological factors that keep people in poverty. When backing institutions are weak, increased uncertainty about benefits–and the inability to defend rights in case of disputes make the poor particularly vulnerable. People relying on customary institutions for enforcing claims on resources, where the state has claimed ownership, might presently enjoy benefits streams, but also face the possibility that the state may exert various rights to their detriment in the future. In many cultures, local people rely on social networks that function as insurance networks (e.g. funeral societies), ranging from informal to highly formal organizations. Empirical work highlights the capacity of local networks and collective action to smooth consumption. However, local insurance mechanisms are also often unable to buffer households from large-scale long-lasting shocks. This then offers an opportunity for more formal insurance mechanisms to link to informal insurance networks so that each source of insurance is complimentary and synergistic. Social networks that link rural households to urban economies and labor markets may be more effective than local social networks in helping households to cope with generalized shocks, such as Thailand's financial crisis of 1997-98. The rural poor are usually those with weakest property rights and least secure rights over resources. Understanding how the poor can protect and expand their access to and control over resources can contribute to poverty reduction and improvement of government programs, which have sometimes produced unwanted effects, as the reduction of tenure security for poor and marginalized groups, e.g. by weakening customary rights or allowing elite capture of property.

Water/fisheries and access to water/fisheries are vital to Cambodian poor that constitute 36% of the population living below the population line. With supporting from Prof. Dr. Michael Kirk, Institute for Cooperation in Developing Countries, Philipps-University of Maburg, Germany and my colleagues, I have been getting a good opportunity to do a research beside the research project which implementing by Philipps-University of Marburg. To make sure what I have done on the right way, in September 2005, I was invited by IFPRI-CAPRi and Philipps-Unversity to present my research project on the workshop of project treatment on the role of collective action and poverty reduction in Germany. And the maim goals of the research are to look into the role of traditional institution in conflict resolving and how these institutions coordinate among their members or with authorities.

(8) Jeena Srinavasan

My research interests and theme of the workshop

I wish to apply for the IHDP-APN 2006 International Human Dimensions Workshop on 'Institutional Dimensions of Global Environmental Change: Water, Trade and Environment' as some of my past as well as present research interests falls within the broad theme of the workshop.

I developed interests in institutions and related issues since I started my Ph.D. dissertation work in 1998. My Ph.D. dissertation (in Economics) was on 'Economic and Institutional Factors in the Use and Management of Wetlands: A Case Study of the Cochin Backwater, Kerala'. In this study I have examined the economic value of the Cochin backwater in its natural state focusing on backwater fisheries and have examined the institutional aspects of its use and management. Here the institutional context of resource use, the participation of resource users, or collective action of users in resource use and management have been focussed. Based on this study, I have published articles in international refereed journals, such as Envrionment and Development Economics published by Cambridge University Press and Ecological Economics (forthcoming) published by Elsevier.

After receiving my Ph.D in 2004, I joined at the Centre for Economic and Social Studies, Hyderabad which is an autonomous research instition supported by

the Indian Counsil of Social Science Research in India. For my research I mostly focus on environment and development related issues. Our Centre has a long history of undertaking studies on water and irrigation focussing both on economic and institional aspects inculding peoples participation in resource management, water users associations, watershed management etc. Presently, I am involved in three important studies which are carried out in my institute. Of these, two are on water related issues and the other is trying to incorporate the environmental factors into human development index at regional level in the State of Andhra Pradesh in India.

One of these studies is funded by BMZ-Germany and implemented by the International Water Management Institute (IWMI) in collaboration with few other institutes in India and Pakistan and is on ensuring health and food saftey from wastewater (marginal quality water) irrigated agriculture. This study was started in September 2005 and is in progress. In this one component is on various actors (stakeholders) and institutions involved in wastewater use and management so that appropriate mitigation strategies could be evolved and implemented at an appropriate institutional level. In this study we address more of local water issues which comprises of allocation among competing uses, water quality and quantity, institutional framework guiding the use and reuse of water etc. Although I have some exposure to the literature on institutions, I feel the need to have a better exposure and training. As I see, apart from the topics related to instituions and governance, the topics selected for the workshop include issues related to global and local water issues, water quality and quantity etc, I look forward to learning from this important workshop. Although I essentially work on local water issues at the moment, I am interested in global water issues as well.

Another study, which I will begin in March 2006, is also closely related to the theme of the workshop. The International Foundation for Science has awarded a research grant for me to undertake research on 'Sustainable Water Management in Agriculture and Its Implications for Human Welfare and Environment: A Study of Watersheds in Rainfed Regions in India.' The study is to begin in March 2006. The overall objective of the study is to identify the various interlinkages and feedbacks between the biophysical, socioeconomic and demographic characteristics of the villages where watersheds are implemented and to examine the onsite and offsite values of watersheds at household type and land type levels in India; and to asses its implications for human welfare and environment. The study will select about 20 watersheds across different agro climatic regions in Andhra Pradesh, India for modelling crop-water relationships and estimating domestic water demand using agricultural and household production function approaches respectively. This information will be used to examine the welfare implications for the households for a change (hypothetical) in the water levels (supply) due to the ecosystem functions. The institutional aspects will be examined within the context of the valuation of onsite and offsite benefits of watersheds. In this study, water quantity, quality, distribution, institutional mechanisms for distribution and governance all are important. Since this study is in the beginning phase, participation in the workshop would help us to identify the crticitcal institutional and goverance issues of management of water in agriculture.

Our Centre is in the process of preparing a Human Development Report for the state government of Andhra Pradesh with a special focus on institutions. In this report I am involved in the preparation of a chapter which tries to incorportate environmental aspects into human development index. In other words, it tries to examine the various dimensions of environment and human relationship which again has special emphasis on institutions. It is earnestly hoped that the learnings from the workshop would be very useful for my projects which are in progress.

Apart from the topics covered in the workshop, interactions with researchers and practitioners from other countries will help to enhance my understanding of the subject and issues addressed. It is also desirable to establish new contacts and networks, especially because a large part of my work involves an interdisciplinary approach. At this end, an association with IHDP which is an international and interdisciplinary programme would be beneficial. Similalry, my research and policy

interests falls within the APNs current Science agenda.

(9) Sun Fang

The human being has been confronted with global environmental changes and some severe problems. Concern over climate change has reached global dimensions and concerned international and regional efforts have been initiated in recent years to address this problem. Future climate change could have significant impacts on global environment, economy, society, water resources, agriculture, ecosystem and so on. The adverse impacts of climate change are expected to fall disproportionately upon developing countries, such as China.

Outstanding economic growth in China, has produced the second largest economy in the world, with predictions it will be the world's largest by 2025. China's rapid economic development has had a significant negative impact on the environment. At present, China is confronting many challenges just like population increasing, resources shortages, ecological and environmental deterioration. To sustainable development, there is an intrinsic and necessary linkage between all these huge questions and land use change. Understanding the relationship between its rapid economic development and increasing strain on natural resources and the environment China has identified sustainable development as the pathway for its development and as a key element in all decision-making processes.

China is an agricultural country; agriculture is a fundamental sector to people's livelihood and national food security. The agricultural sector produced food for 22 percent of the world's population despite only having 7 percent of the world's cultivated land. The future growth of population and increase of climate change impacts in China will further increase demand for food, water. This fact results in an increased pressure on China's land and water resources. China has found itself in a climate change circle where more fossil fuels have been burned to produce energy for a country enroute to becoming a developed nation. China has also recognized the effect of climate change and is taking steps to mitigate and adapt to climate change.

Land use and land cover change （LUCC） can be considered as the most important and obvious carrier of the relics left in the world by global changes, and also is the starting point for the study of natural and human relations to global changes. This is major reason why the study on LUCC has received more and more attention in the world. China has very special status of population-resource-environment, and is quite peculiar in natural, socio-economic and location conditions. Therefore, the study on LUCC in China will, no doubt, greatly promote the LUCC studies in the world. Land is basic resource of agricultural production, LUCC would influence crop yield and agricultural ecosystem, even global climate change, so the driving of land use change include many aspects, such as biophysical factors and economic factors, and so on. During the future research work, we will analyze main cropland area changes and its driving mechanism. At last predict future land use change especially cropland area change. Studying the historical changes and predicting future changes of cultivated land and cropland areas would be very significant and link to current global issue. This study will resolve Chinese many urgent questions, such as food security, land shortage and environmental pollution and follow directly on international global change trend, even promote Chinese sustainable development.

Water is the most important substance in the world. No water no life. The plants and animals both depend on water, lack of it could cause both dehydration and starvation. The scenario gets worse. With the increasing concerns over water contamination by agricultural run-off, organic material, fertilizer, and other potential contaminants, attention to water shortage and quality is an absolute necessity for the whole world. China is facing shortage of water resources and uneven distribution, especially northwest China, where water resources shortage is the most severe and restricts agricultural development. So if we study the impact of climate change on agriculture by using crop dynamic model, we hope to take into account water availability and find the new method to study the linkage between

precipitation, runoff and crop water demand, then build adaptive capacity and mitigate the adverse impacts of climate change. Basing on above research outcome, we would simulate climate change impacts on crop yield in China by using DSSAT crop dynamic model in the situation of taking into account crop area change, technology improvement, water availability and CO_2 fertilization. This study would lessen agricultural use water crisis, increase water use efficiency and enhance crop yield.

Through participating in the training, we hope learn the newest and advanced methods about assessing land use change and water resources, enlighten our research thoughts and improve our current research. Our research is a very significant and valuable work, depending on this study we would find out feasible and effective measurements to adapt to the future climate change and provide background information and scientific basis for making macro-decisions on adjustments of agricultural production to climate change, at same time, through the study outcome we will improve agricultural environment and accelerate sustainable development.

(10) Kashinath Vajpay

1. Essay: Describing how the applicant's research and policy interests relate to the broad theme of the workshop and to one or more of the Institute topics

As a professional working in water development and management for almost one decade, I have been associated with *Government, World Bank, Unicef, NGO and International research institution*. I started my career as grass root functionary and later in the capacity of manger, facilitator, planner and policy maker in water resources project planning, implementation, monitoring, capacity building and research. The major issues looked during my functioning at different stakeholder level were *water demand assessment, accessibility & availability measurement in qualitative and quantitative* terms for drinking and other daily community usage. The coordination with different institutions, those include local and national governments, community groups, funding agencies, research and academic institutions was the part of my routine work schedules.

The regular interaction with sector professionals and institutions in micro (local) and macro (regional) level planning and policy development helped the local community and government in smooth implementation of their regular *water development programme*s in four states/provinces of India between year 1997 to 2003. I have been involved in organizing around 700 village level water management institutions in Himalayan regions and was the lead team member in developing *integrated watershed management*-IWM policy framework for one of the state. This IWM approach was successfully implemented in about 400 villages and helped the national government to continue similar approach in other part of country. The national government *replicated* this demand responsive approach in its nationwide programme called *Swajaldhara* (safe water supply) and *Total Sanitation Campai*gn.

During my association with national NGO, we were the lead member in Hindu Kush Himalayan region on *Watershed Management* chapter, so, were involved in regional water management planning from India. During my working with *Unicef* developed community lead *water quality monitoring and surveillance programme* and tools for two states/provinces, where provincial governments and 8 national agencies (NGOs) were involved. The evaluation of drought mitigation initiatives of *UNDP and Unicef* was done during my association with Unicef.

At present, I work with an *international research group* and responsible for national level research initiatives across the country in *water management and development.* The responsibility includes monitoring and evaluation of local, regional and national

initiatives of government, international agencies and NGOs in different part of country. Presently pursuing an professional diploma in *IWRM-integrated water resource management* at Virtual Water Learning Center- AIT Thailand from *UN University-Canada*.

I am professionally affiliated with different international water management institutions those include-International water history association-*IWHA*, Indian water resource society- *IWRS,* Water supply and sanitation collaborative council; *WSSCC*, Water media network- *WMN*, Gender & water alliance-*GWA,* Global water partnership-*GWP*, Fresh water action network-*FAN*, Inter water network-*IWN*, International Resource Centre-*IRC*, Mountain forum Asia & Asia pacific- *MF,* Mountain Forum, Mountain Partnership- *MP* (*FAO-Roam*), *Capnet- India*, International flood network-*IFN*, etc.

My keen interest in water research leads to the publications and presentation of my research paper in different global meets- conferences, symposia and workshops those include; *SIWI-2003 & 2004*(Sweden), *WEDC-2002 & 2003* (India & S. Africa), *WAPDEC-2002* (India), *Water & Drainage-2003* (Malaysia), *RUWATTS-2000* (India), *Cusco Conference* (S. America), *Partners meet* (Netherlands), *River Symposium-2005* (Australia), *Sanitation workshop at ADB-2005* (Philippines).

Therefore, in lieu of my present responsibilities and interest to lead the team of professionals in the planning, implementation, policy formulation and research evaluation, and my close coordination with Government, national and international organizations and academic institutions, researchers and scientific communities, my attending to this workshop will certainly help me professionally in future water management issues. This would further be of immense help to share my experiences and learn altogether from global experiences, to apply them in local context.

(11) Wang Ya

My research interest is how human activities affect water environments from the perspective of global water system, and I was lucky to take the chance to work for my supervisor as a research assistant in several international projects, e.g. Sino-Japan cooperation study on interactions of groundwater, sea and river in the Yellow River Delta. At the same time, I have been concentrating on ‘virtual water trade’, which is research hotspot both in China and abroad in recent years. As stated in the mission of global water system project (GWSP, proposed jointly by IHDP, WCRP, IGBP and DIVERSITAS) “to understand the ways in which humans influence the dynamics of the global water system and to inform decision makers on how environmental and socioeconomic consequences of these impacts can be mitigated.”, I am sure that my research relates to the broad theme of the workshop and to the institute topics of the Fifth International Human Dimensions Workshop: Institutional Dimensions of Global Environmental Change: Water, Trade, and the Environment.

I have finished my thesis ‘On Virtual Water Trade Exported from Guangdong Province to Hong Kong’. Hong Kong and Guangdong Province are both located in the southern part of China and are closely connected in terms of economy. Export of agricultural products from Guangdong Province to Hong Kong is equivalent to water export, i.e., virtual water trade between them. The main objective of the study is to calculate virtual water in the agriculture products exported from Guangdong Province to Hong Kong during the period of 1981 to 2000, and to analysis temporal change of virtual water trade. I have an interest to expand my study area by concentrating on virtual water trade between China and Association of Southeast Asian Nations (ASEAN). In my opinion, research of virtual water and virtual water trade relates to the broad theme of your workshop and to the institute topics in the following aspects.

Firstly, virtual water trade not only could affect water resource reallocation, but also could help with using water in an efficient way. Arid counties/areas and some

of the humid counties/areas, where lands are small but populations are big, often suffer from lacking of fresh water. To solve this problem, some of them built water transfer projects, such as water supply project from Malaysia to Singapore and Water Supply of South-to-North Water Transfer Project in China etc.; however, these projects are limited by distance and available water resource in adjacent countries/areas. Virtual water trade provides a new way which does not have these limitations to reallocate water resource, though it cannot completely take place of water transfer projects. With the virtual water trade point of view, water resource can be reallocated in reason by water-abundant countries/areas import water-extensive commodities, and export water-intensive agriculture products, meanwhile, water-scarce countries/areas import water-intensive agriculture products and export water-extensive products. In addition, different climate parameters and different crop yield per area (CY) for the same crop will lead to different virtual water requirement per unit material (VU). Take rice in China for example, in the warm and humid southern part of China, VU for rice is 1000-2000 m^3 t^{-1}, while in the cold and arid northwestern part it is much higher than 2000 m^3 t^{-1}. So if south China sold rice to the northwest, higher water consumption efficiency for growing rice could be achieved. So it dose for other crops. By doing this, higher water consumption efficiency for growing crops could be achieved.

Secondly, at a range of scales, virtual water trade causes significant negative balances of nutrients in exporting areas, accumulations in importing areas, and relates to a series of environmental problems. The negative nutrient balances in crop growing and animal feed countries may be deteriorated by virtual water trade. From another point of view, alimentation materials would concentrate on the crop growing areas and animal feeding areas in exporting counties¥areas. Environmental impacts on groundwater and waterways of nutrient outflows from agricultural lands are widespread: application of fertilizer and pesticide for crop growing as well as waste discharging from feeding areas will cause serious non-point pollutions, e.g. nitrate pollution in groundwater and eutrophication are outstanding problems. Virtual water trade associates with livestock and poultry production lie at the heart of environmental concerns, because the average efficiency of nutrient conversion from feed to animal products is only 10%, and on efficient dairy farms the range is 15-25%. Expanded demand for animal products in developing countries due to elevated standard of living will increase international and intra-national virtual water trade associated with animal products, aggravating the mining of rural soils and the environmental problems in animal feeding areas. In addition, as major food and feed grain importers, countries like Japan often have nutrient disposal problems due to environmental pollution and eutrophication, and this has been recognized by some researchers.

Thirdly, virtual water trade will impact on water, trade and water environmental management. Since virtual water trade could help with reallocating water resource, elevating water use efficiency, having affects on environment, and with the development of the trade intercourse between counties and areas, it will be easier and cheaper to get virtual water from other counties/areas, so taking virtual water trade strategy into account, government could make more justified plans for water reallocation, using and virtual water trade. Otherwise, environment problems related to virtual water trade should be attached importance to.

One point emerges with stark clarity from all we have said: Virtual water trade could provide a new way to deal with water resource management, reallocation, and the impacts of water resource on environment, social, and economical aspects on the regional and global scale. And yet, it is certain that virtual water trade might have more impacts on them than what I have mentioned above, and further discussions will be required. This is one of the main reasons why I am longing for having chance to take part in this workshop.

(12) Wei Xiong

North China is seriously influenced by the insufficiency and unreliability of precipitation, adverse natural conditions, combined with the underdevelopment in the region jointly bring about that the rural population cannot support itself in some years. In recently year, droughts occur rather frequently in some areas, e.g. north China, northwest China, and northeast China. Agricultural production has been serious influenced by climate warming, decreasing water resources, and water competition from industry, ecosystem, household etc. Projected by most of the GCMs and RCM, climate would become drier in future in north China although precipitation was projected to increase under most of the climate change scenarios. With the population increase, economic development, etc. agriculture would bear great impacts by not only climate warming, but also by human activities. How to adapt this aridity, use and manage the limited water resource for agriculture is our interest

At present I am working on assessing the impacts of climate change and social economy on Chinese agricultural production, which uses the water resource to decide the crop yields, and water competition between sectors to decide the land use or water use. It is aims to an integrated assessment on Chinese agriculture under climate change and social-economy scenarios. Not the assessment, but the adaptation strategies are my purpose to answer the question what can we do under the dangerous climate change. Asia-Pacific region has variable climate and natural environment, some areas share same arid circumstance as north China, lots of climate change integration researches have address this issue. IHGP has build the network of research, institution, and organizations, with the help of IHDP, new corporations can be set up to carry out the integrated assessment of climate change impacts which involves the natural and human regimes, adaptation of climate change, especially to those vulnerable areas, e.g. north west China, could be emphasized in future projects. My previous work “the threshold of climate change impacts on Chinese agriculture” was just want to answer the question of when the climate change is dangerous, but it has large numbers of uncertainties because it was only pay attention on unique sectors, and without considering quantitative adaptation. Adaptation is a very efficient measure to offset the dangerous climate change, or even meliorate the impacts of climate change. But how to include adaptation in a multidisciplinary is still a question. Through IHDP, multidisciplinary experts, ideas can be integrated to conclude an effective way that how to react under dangerous climate change scenarios, especially to semi-arid or arid areas in developing regions. Therefore, this integrated simulation of adaptation for semi-arid or arid region agricultural production which focuses on water use and water management could be turn into a concrete research project in future.

APN – funded participants to the 6th IHDW, Chiang Mai, Thailand, October 2006

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APPENDIX 2: Details of all accepted applicants

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4	Abayao	Allan	allanbabayao@yahoo.com	Male		Filipino	Asia Pacific
6	Arias	Eliezer	earias@ivic.ve	Male		Venezuelian	Latin America and Carribean
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15	Caringal	Herminia	herminia200@yahoo.com	Female		Filipino	Asia Pacific
21	Debrezion	Mesfn	mdzion@yahoo.com	Male		Eritrean	Africa and Middle East
33	Fidelman	Pedro	pedro.fidelman@gmail.com	Male		Brazilian	Europe/North America/Australia
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40	Hamandawana	Hamisai	hamandawanah@yahoo.com	Male		Zimbabwean	Africa and Middle East
87	Honnasiddaiah	Ramesh	hram_phd@yahoo.com; hramesh@nitk.ac.in	Male		Indian	Asia Pacific
42	Hughes	Sara	sara.hughes@gmail.com	Female		US-American	Europe/North America/Australia
36	Jian-Hua	Gao	jhgao@nju.edu.cn	Male		China	Asia Pacific
116	Jogo	Wellington	frankjogo@yahoo.com	Male		Zimbabwean	Africa and Middle East
56	Livingstone	Daniel	daniel@danlivingston.com	Male		Australian	Europe/North America/Australia

58	Magigi	Wakuru	dppfa@uclas.ac.tz	Male		Tanzanian	Africa and Middle East
60	Marganingrum	Dyah	dyah@geotek.lipi.go.id; dmarganingrum@yahoo.com	Female		Indonesia	Asia Pacific
61	Marisa	Lovemore	lmarisa2002@yahoo.com	Male		Zimbabwean	Africa and Middle East
62	Martinez Melgar	Doris	dmartinez@uvg.edu.gt	Female		Guatemala	Latin America and Carribean
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75	Orekan	Vincent	orekvin@yahoo.fr	Male		Beninese	Africa and Middle East
76	Owuor	Bernard	benowuor@yahoo.com	Male		Kenyan	Africa and Middle East
78	Partzsch	Lena	lpartzs@zedat.fu-berlin.de; lena.partzsch@wupperinst.org	Female		German	Europe/North America/Australia
86	Ramadan	Rahia	rania.ramadan@ird.fr	Female		Egypt	Africa and Middle East
89	Riestra	Francisco	francisco.riestra@mop.gov.cl	Male		Chilean	Latin America and Carribean
90	Rodriguez-Bilella	Pablo	pablo67@gmail.com	Male	18.498.495N	Argentina	Latin America and Carribean
133	Silva	Luis	lsilvaji@uwo.ca	Male		Mexican	Europe/North America/Australia
99	Sirodoev	Igor	ingvarr_i@yahoo.com	Male		Moldovean	Eastern/Central Europe/ Russia
100	Sithan	Phann	PHSITHAN@YAHOO.COM	Male		Cambodian	Asia Pacific
101	Sjöstedt's	Martin	martin.sjostedt@pol.gu.se	Male		Swedish	Europe/North America/Australia
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103	Sun	Fang	Sunf@ami.ac.cn; sunfang_78@hotmail.com	Female		Chinese	Asia Pacific

112	Udovyk	Oksana	bezusko_alla@ukr.net	Female		Ukrainian	Eastern/Central Europe/ Russia
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IHDP-APN 2006 International Human Dimensions Workshop on

Institutional Dimensions of Global Environmental Change: Water, Trade and Environment

13-26 October 2006, Amari Rincome Hotel, Chiang Mai, Thailand

LIST OF TRAINERS

As of Oct 12, 2006

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IHDP-APN 2006 International Human Dimensions Workshop on

Institutional Dimensions of Global Environmental Change:

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1 Economic and political institutions

There are widely disparate views in today's world about the best ways to achieve social order and pursue collective action on environmental problems.

For several decades a neo-liberal perspective on development has held sway over many aspects of modernizing life. Under this world view a strong emphasis is placed on property rights and market-related institutions to tackle a wide range of social development challenges. The globalization of trade and liberalization of investment have been important goals. Government role is usually seen as a facilitator and coordinator and consequently its presence modest. But proponents vary quite substantially on just how much power at critical junctures are held by state authorities.

This view of the world has always had its opponents both in the developed and developing world. The alternatives often place a larger emphasis on institutions to protect human rights, social justice or the environment. Ideas of economic efficiency are tempered by concerns for how the benefits and involuntary risks of development are distributed among different groups of people and ecosystems. Views on state roles, however, vary from being one partner among many in a governance system filled with diverse civil society actors, to strong government with key regulatory roles.

Ideas about democracy, from the accountability and social responsibilities of authorities through to deliberative policy analysis and making, don't fall neatly into either of the political economy camps despite claims of each to be the owner of such ideals. This produces a second over-arching tension, anticipated above, that is important for institutional change: the degree to which the emphasis is place on institutional design (or getting the rules right) versus the process of governance (or the way in which rules are arrived at and revised).

In this workshop we will be exploring these tensions with respect to trade and water. The aim will be to give participants practical experience in applying theoretical and analytical tools to explore these issues from an institutional perspective. At various points in the workshop we will be returning to these over-arching tensions and reflecting on how they affect the positions taken by various actors, what institutional forms are considered, and how institutions change. We will be exploring institutions as both, causes of, and responses to environmental change, and where appropriate asking questions about their performance.

2 Content and purpose

In this workshop participants will learn about the role of institutions in causing and mitigating global environmental problems. The substantive focus will be on water and trade. In the case of water, institutions mediate among users and determine access, availability, quantity, and quality. The commodification of water and water rights leads to the link with issues concerning the impact of trade and globalization on environments. The workshop will treat these issues in an integrated way often returning to the two tensions that shape political and economic institutions discussed above. We shall also investigate the role of institutions in determining the

vulnerability, resilience, and adaptation of communities to global change, water allocation, trade, and globalization.

3 Draft Program

The workshop will take place from October 13 – 26, 2006. Participants should arrive in Chiang Mai on the 12th October. The Science Policy Forum or Dialogue event will be embedded in the workshop. It will be held after the first week from October 20-21, 2006 in Chiang Mai.

The draft program for the workshop appears as a table on the following two pages. A feature of the program that should be preserved as it is fine tuned is a diversity of session formats, including many working in smaller groups. The program for the dialogue event will be distributed as a separate document.

In most cases trainers and facilitators are expected to participate in the workshop for around 3-4 days with a prominent role on at least 2 days. There will be a balance between trainers from within Asia and the rest of the world, and between men and women. People connected directly with IHDP and the IDGEC programs are spread throughout the program to help provide some continuity. Dr. Louis Lebel from the host organization USER will be present and active throughout the two week workshop.

4 Preparations and products

Participants should prepare a two page brief explaining their primary interests in institutional aspects of water management or trade and the environment issues. These can be based on earlier documentation provided but should be updated for the workshop. Copies of these will be distributed to all participants and trainers at the start of the meeting.

During the course of the workshop all participants will be expect to develop a concise (2 page) project concept note that could be the basis of further research on related institutional themes when they return to their home organization and might become the basis for new proposals for funded research.

In the final part of the program participants will also be asked to help individually and as a group evaluate the workshop and make suggestions for further cooperative follow-up activities if appropriate.

Tentative Schedule

Day	Day Coordinators Facilitators & Trainers	Goal	0900-1030	1100-1230	1330-1500	1530-1700	1930-2100
12			Participants arrive in Chiang Mai				
13	**USER Staff**	Quick and fun immersion in the real world...	Local Field Trip – Mountain Watersheds around Chiang Mai ...Getting to know each other...			FV	Welcome Dinner (in a mountain resort)
14	**Leslie King** - Heike Schroeder - Suparb Pasong* - Joyeeta Gupta - Antonio Contreras	Understand what **institutions** are and the sorts of questions we can ask about them.	PL Why we are here? What are institutions? What is institutional analysis?	WG Why are you here? What institutional issues interest you?	DB Political and economic Institutions – over-arching tensions and their implications for management of water and environmental implications of trade	WG How do we carry out *institutional analyses*?	IT Institutional Dimensions of Global Environmental Change Project
15	**Joyeeta Gupta** - Suparb Pasong* - Leslie King - Heike Schroeder - USER Researchers - Antonio Contreras	Understand main institutional issues that arise in governance of regional water resources.	PL A detailed case study illustration of diversity of institutional issues in water?	FV Local field visit to agency and stakeholders: How are watershed conflicts resolved? What institutions are involved?		WG What is special about water governance challenges?	
16	**Xu Jianchu** - Paul Travick - Wolgang Geiger - Ruth Meinzen-Dick - Tira Foran* - Antonio Contreras	Understand vulnerability and water management interactions.	PL Watershed Policy and Knowledge (Upper tributary)	WG Local knowledge and assessments	PL Hydropower (Upstream-downstream)	WG Sharing of benefits & involuntary risks – (Insurance, disasters)	RT Research Ideas #1
17	**Paul Travick** - Wolgang Geiger - Ruth Meinzen-Dick - Xu Jianchu - Tira Foran*	Understand issues of knowledge and scale in water management	PL Institutions and multi-level governance	RT/WG Reflection on participant experiences	PL Knowledge and institutional designs	IT Chiang Mai Water Stories Walking tour in old city (traditional irrigation) ending with dinner on small boat and short talk on water management issues for Chiang Mai Municipality	
18	**Francoise Molle** - Claudia Ringler - Jan Lundvist - Babette Resurreccion*	Understand policy frameworks and ideologies	PL Irrigation, basin management and water Policy	WG Discourse analysis	PL Efficiency and Rights-based Approaches	WG Hydrological knowledge (fit)	

Day	Day Coordinators Facilitators & Trainers	Goal	0900-1030	1100-1230	1330-1500	1530-1700	1930-2100
19	**Claudia Ringler** - Francoise Molle - Jan Lundqvist- Babette Resurreccion* - Mingsarn Kao-sard* - Surichai Wungaeo* - Eric Craswell	Scaling up and down water governance and hydrological changes	PL Deliberative Processes and Institutions	WG Dialogue exercises	PL Water and the Environment (local to global issues)	WG Participant presentations in parallel – water problems and analyses	WG Research Ideas #2
20	**John Dore*** - Oran Young (all Day 19 & 22 trainers)	Dialogue - exploring institutional possibilities	INFORMED AND FAIR WATER FUTURES DIALOGUE EVENT : what to research, policy and publics have to say to each other?				Dialogue Event Reception
21	**John Dore *** - Oran Young	Dialogue - exploring institutional possibilities	INFORMED AND FAIR WATER FUTURES DIALOGUE continues				
22	**Simon Tay** - Merrilyn Wasson - Andreas Reckhemmer - Charlotte de Fraiture	Main institutional issues in trade	PL Trade and the environment	WG Exploring trade rules and environmental implications	PL Virtual water and water trade	WG Participant examples exercise	IT The International Human Dimensions Programme on GEC (IHDP) and the Globa Water Systems Project
23	**Merrilyn Wasson** - Simon Tay - Peter Dauvergne - Charlotte de Fraiture - Somrudee Nicro* - Sitanon Jedapipat*	Trade Analysis	PL A detailed case study of a regional trade regimes	WG Reflection exercise	PL Economic of trade: barriers, tariffs and their impacts	WG Reflection exercise	
24	**Peter Dauvergne** - Ulrike Grote - Frank Alcock - Simon Tay - Sitanon Jesdapipat*	Trade Analysis	FREE TIME (OPTIONAL - Morning Temple and Mountain Walk)		PL Fair Trade (Rules)	IT Regional trade panel (invited local speakers)	RT Research Ideas #3 – Discussion of participant briefs
25	**Frank Alcock** - Ulrike Gorte OR	Trade Analysis	PL Rights and the	WG Role playing game to	WG Participant synthesis	WG Participant synthesis	

Day	Day Coordinators Facilitators & Trainers	Goal	0900-1030	1100-1230	1330-1500	1530-1700	1930-2100
	Agus Sari - Peter Dauvergne		Negotiation of trade agreements	show illustrate negotiation challenges	recommendations for follow-up	recommendations for follow-up	
26	**Frank Alcock** - Louis Lebel*	Conclusion	PL Participant synthesis presentations on workshop	RT Participant and organizer evaluation and follow-up plans			

Session format abbreviations

Please note abbreviations for proposed session formats: PL – Plenary Lectures (with discussion), DB – Debate, WG- Small Working Group Activity, FV – field visit, FM – film showing, IT – Informal talk, RT – roundtable discussion (no key presentation).

5 Logistics

5.1 Meeting Venue and Accommodation

The primary workshop venue will be the same location as accommodation: the Amari Rincome Hotel. A few sessions, however, will take place at other locations around Chiang Mai, for example as part of field trips or meetings with stakeholders.

5.2 Meeting Facilities

In the main meeting room there will be a high quality LCD projection unit available to hook up to laptops. These will be primarily of use for talks given in plenary sessions

We will set up all small computer room with desktop computers, printers and internet connection for use by participants. A small secretariat team will be on hand to help with ticketing and arrange optional visits to other offices and scenic locations around Chiang Mai.

Diverse arrangements for small breakout groups are possible and encouraged at the venue, including pool side, roof top and more conventional corners of large rooms.

A wide range of material to help with facilitation will be provided including pens, cards, flip charts, white-boards and so on.

5.3 Airport transfers

For those arriving at Chiang Mai airport we have arrange transfers from the airport to the meeting venue. There will be students or staff waiting to meet you at the domestic and international arrival exits. They will be holding signs "IHDW Water & Trade". Please keep a look out for them. They will help you get into the right minivan. Please make sure that we have your latest arrival information. If for some reason you don't meet anybody at the airport, a reliable taxis service is are also available, directly near the domestic arrivals gate. It takes 10-15 minutes to reach the downtown hotel location from the airport.

6 Sponsors and hosts

6.1 IDGEC

See: http://fiesta.bren.ucsb.edu/~idgec/

6.2 IHDP

See: http://www.ihdp.org/

6.3 APN

See: http://www.apn.gr.jp/en/indexe.html

6.4 USER and M-POWER

The workshop will be hosted by the Unit for Social and Environmental Research (USER) at Chiang Mai University in Thailand. USER is an interdisciplinary research group with a strong interest in environmental governance. It also coordinates an action research program on water governance known as M-POWER (Mekong Program on Water, Environment and Resilience). USER will be the local organizer for the training workshop and the science-policy forum.

Further information is available at: www.sea-user.org and www.mpowernet.org

A website with public and password protected information for participants and trainers has been started at: http://www.sea-user.org/uweb.php?pg=134

Participant Evaluations – IHDW 2006 Water, Trade and Environment Workshop

"Internet".

"From IHDP (2005 Open Meeting) and susequent e-mail alterts from IHDP"

"By searching training activities on the internet".

Question 1: How did you learn about the workshop?

Participant Evaluations – IHDW 2006 Water, Trade and Environment Workshop

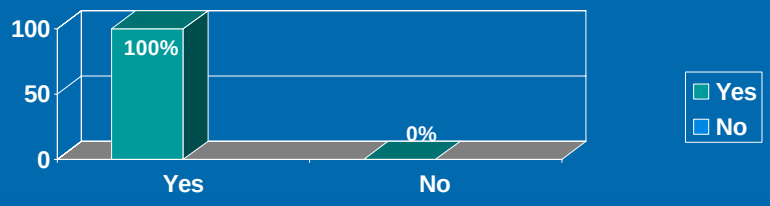
"Making announcements not only on the website of IHDP, but also on other websites related".

"Use active networks".

"Sending information to websites could also be an additional tool".

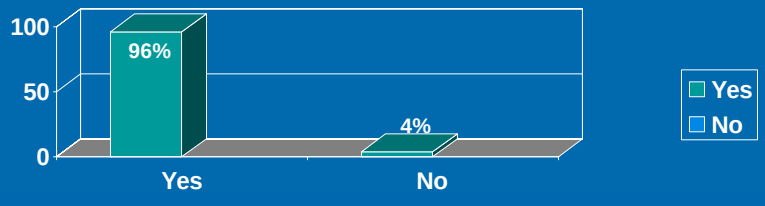
Question 2: What other dissemnintaion mechanisms would you suggest?

Participant Evaluations – IHDW 2006 Water, Trade and Environment Workshop



Question 3: Was the application process clearly explained?
N=25

Participant Evaluations – IHDW 2006 Water, Trade and Environment Workshop



Question 4: Were the selection criteria adequately explained?
N=25

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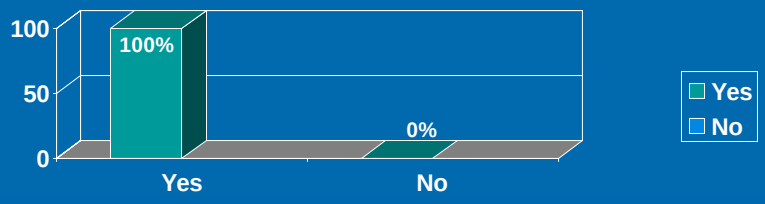

Question 5: Was the time between the announcement and the application deadline reasonable?
N=25

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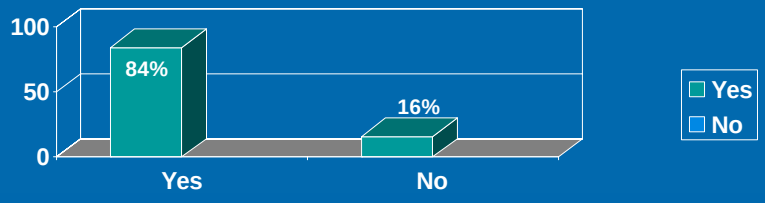

Question 6: Was the mix of participants from diverse backgrounds (professional, academic, careers, etc) appropriate?
N=25

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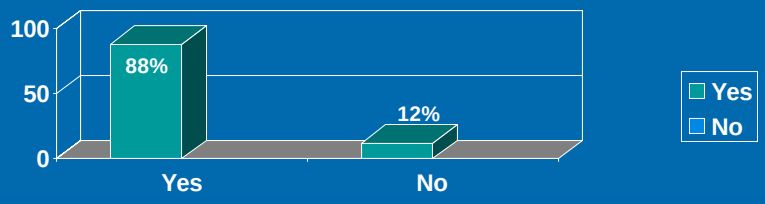


Question 7: Was the mix of nationalities appropriate?
N=25

Participant Evaluations – IHDW 2006 Water, Trade and Environment Workshop

"Enhance the application of people from the poorest countries, like the Caribbean and Central America. There were only 3 women from Latin America and Africa. More gender equality is needed".

"Please include more water resources engineers and environmental engineers/students. This type of workshop will help most engineers".

"Applications can be improved by asking candidates to demonstrate their interest and experience by submitting a comprehensive cv highlighting their current and previous research experience".

"You may ask the applicant to submit an essay on their position regarding issues, i.e. Trade, WTO, or globlisation, so that the selection committee can more or less selesct a balanced mix of perspectives or opinions".

Question 8: Please make any specific comments or suggestions to improve application and selection process here.

Participant Evaluations – IHDW 2006 Water, Trade and Environment Workshop

"The workshop really asserted me in appreciating the role of institutions in sustainable environmental management".

"This workshop highlighted more on isses/policies analysis. I learnt about social and economical issues and it will help in improve my optimization modell".

"Session on water governance and watershed amanagement provided useful insights on complexities involved and the importance of involving of local communities in the decision making process".

"I was given enough injection about institutional dimensions. I feel like I finy myself being more articulate in the knowledge and skills of institutional analysis. I believe I have a more structured, theoretically sound and practically relevant tools of institutional analysis".

Question 9: What were the one or two areas that you felt the workshop did most to improve your knowledge and skills?

Participant Evaluations – IHDW 2006 Water, Trade and Environment Workshop

"Indeed, the workshop was very helpful i this respect. In addition, the workshop enabled to indetify future research areas in the field of human dimensions in global environmental change".

"Working in small groups and discussing everyone's research subject togehter, other can make comments to the one who introduced his/her research project. Yes there are some individuals I plan to stay in contact with respect to research activities".

"Two or three participants are doing similar research than me, and we are going to continue in touch. Perhaps the dynamic of changing groups could be useful in another workshop to know better all the other work. The idea of the briefing was exvellent".

"The different exercises we had during the workshop helped to interact with other people with similar research interests".

Question 10: In what ways did you find the workshop helpful in getting to know about the work of others? Are there any inidivuals or groups you plan to stay in contact with respect to research activities?

Participant Evaluations – IHDW 2006 Water, Trade and Environment Workshop

"It was helpful regarding networking, learning about different ways for solving similar problems, to learn about specific problems around the world, but I think the most valuable was the exchange of ideas with trainers".

"Very useful, I wish to be included in more of such workshops in the future".

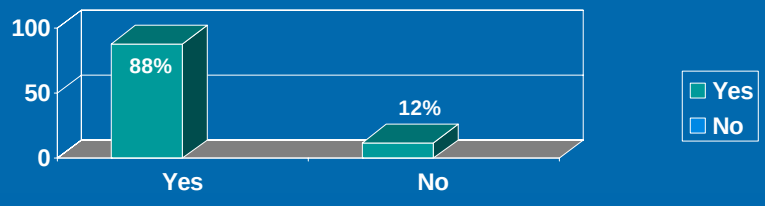
"Yes, I have learnt how to analyze an event from different perspectives. Of course, this is a good chance for me to improve my lsitening and oral English. I think I need such kind of opportunities".

"Extremely useful by providing advance information on ptential research areas and introducing oneself to experienced trainers".

"Yes! It gave me an international view of many research and policy topics. It also has motivated me to explore new ones like, the relationship between trade and environment".

Question 11: Was the workshop useful to you in any other ways?

Participant Evaluations – IHDW 2006 Water, Trade and Environment Workshop



Question 12: Was the workshop successful in terms of understanding how other disciplines can help address the problems?
N=25

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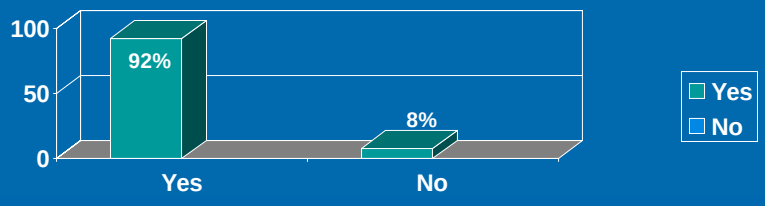

Question 13: Did you improve your understanding of similarities and differences in water governance or trade issues in other parts of the world?
N=24

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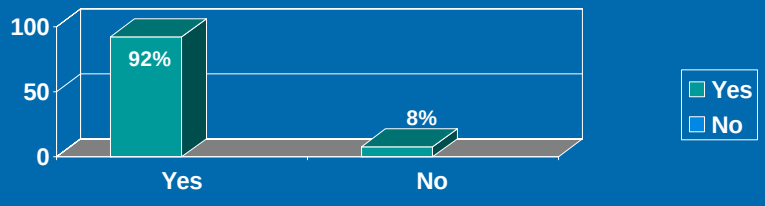

Question 14: Overall, did the programm substantially add to your previous knowledge?
N=24

Participant Evaluations – IHDW 2006 Water, Trade and Environment Workshop

"Case studies analysis. Time for sharing the experiences of other participants".

"Engineering isues/policies to address environmental and water problems. Assesment is more important".

"There was a good mix but participants raised concern over inadeqaute allocation of time for questions and discussion during the first days of the workshop".

"I would mainly say that there were many topics, the we couldn't go deeply with them".

"More reading material, more discussion (not working groups) over readings, more deep thinking.

"The political economy of institutions at different levels".

Question 15: What were the most important items or topics you felt were missing from the program?

Participant Evaluations – IHDW 2006 Water, Trade and Environment Workshop

"Work groups were good, but people got tired (exhausted) and participation decreased after the 3rd day. I believe workload (not dynamics) should be revised".

"Too much working groups activities which turned out to be too superficial and hypothetical, as we generally didn't know nough about the subjects".

"I think there was a good mixture of session".

"There was a good mix but participants raised concern over inadequate allocation of time for questions and discussion during the last days of the workshop".

"It's good but tight".

Question 16: What did you think about the mixture of session formats?

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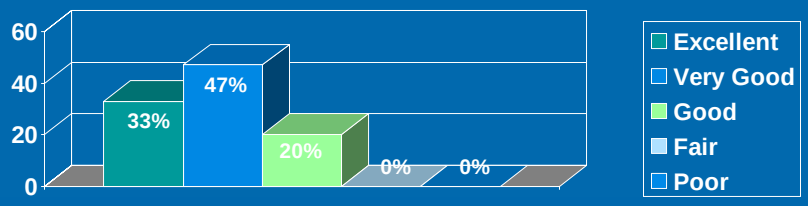

Question 18: The first day field trip (13th: Nathan)?
N=21

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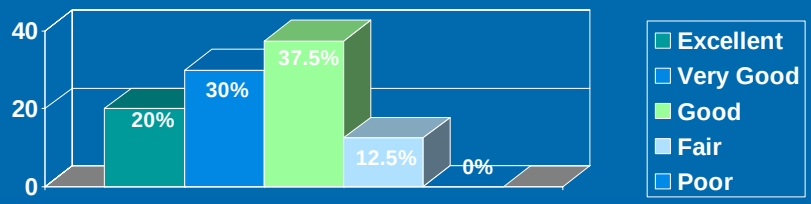

Question 19: Opening Panel Debate (14-1)
N=21

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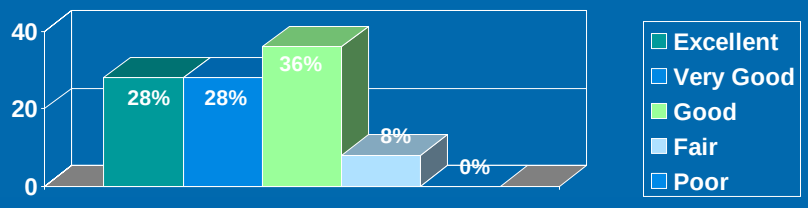
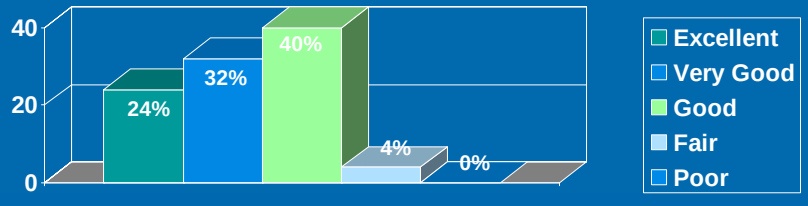


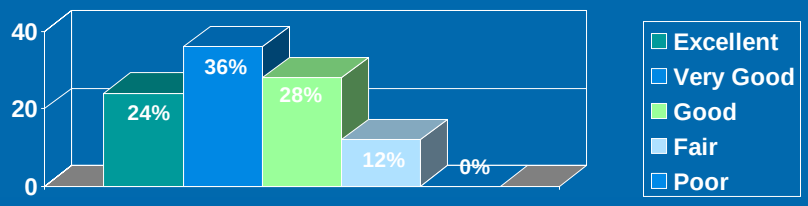
Question 20: Introduction of institutions, institutional analysis and IDGEC program (14-2, 3, 4: Leslie, Heike, Louis)
N=25

Participant Evaluations – IHDW 2006 Water, Trade and Environment Workshop



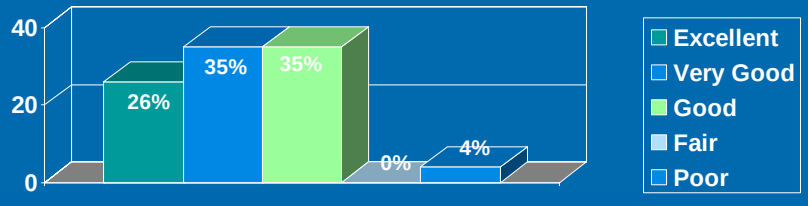
Question 21: Intorduction to water governance (15-1: Antonio, Louis)
N=25

Participant Evaluations – IHDW 2006 Water, Trade and Environment Workshop



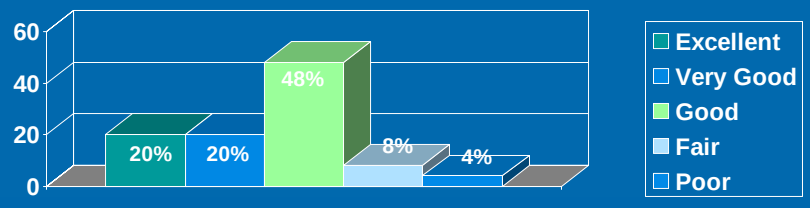
Question 22: Watershed management: stakeholder and institutional analysis working sessions (12-2, 15-3, Louis, Nathan)
N=25

Participant Evaluations – IHDW 2006 Water, Trade and Environment Workshop



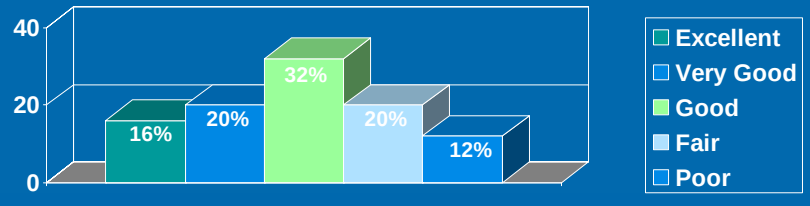
Question 23: Field visit to Royal Irrigation Department's Flood Management Centre (15-4: Po, Tada)
N=23

Participant Evaluations – IHDW 2006 Water, Trade and Environment Workshop



Question 24: Multi-level governance (16-1,2,3: Paul, Wolfgang)
N=25

Participant Evaluations – IHDW 2006 Water, Trade and Environment Workshop



Question 25: Research idea development working groups (16-4+, Louis, Falk, and many others)
N=25

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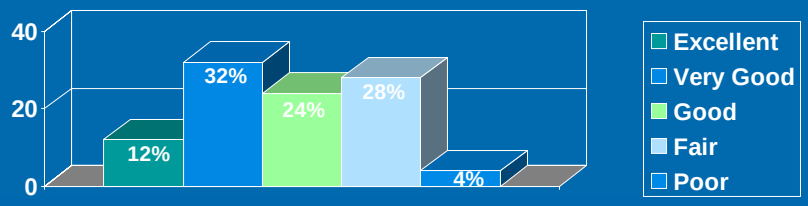
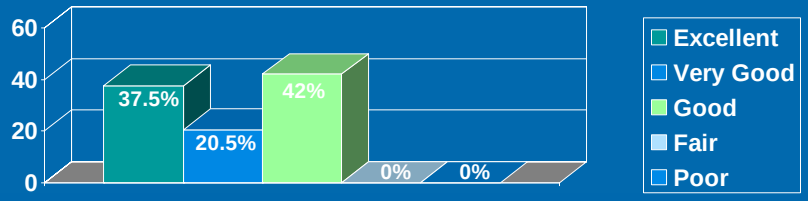


Question 26: Urban planning and integrated water management (17-1,2,3: Wolfgang, Jan)
N=25

Participant Evaluations – IHDW 2006 Water, Trade and Environment Workshop



Question 27: Irrigation and temple excursion and boat trip (17-4,5: Wasan, Po)
N=24

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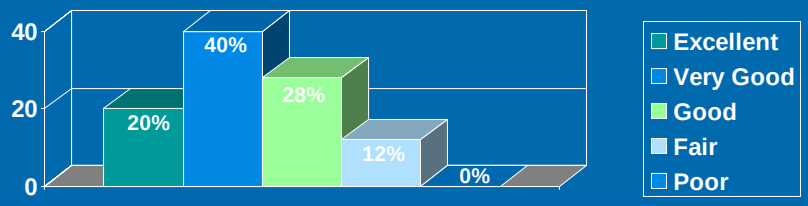

Question 28: Water policy, discourse analysis and rights-based approaches, and institutional performance (18: Antonio, Nathan, Oran, Jan)

N=25

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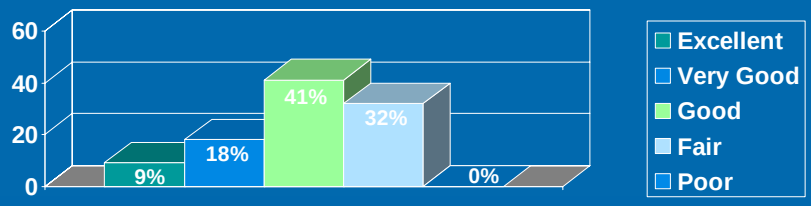

Question 29: Multistakeholder process and dialogue (20,21: Masao, Sinh, Xing, Louis, Tira)

N=22

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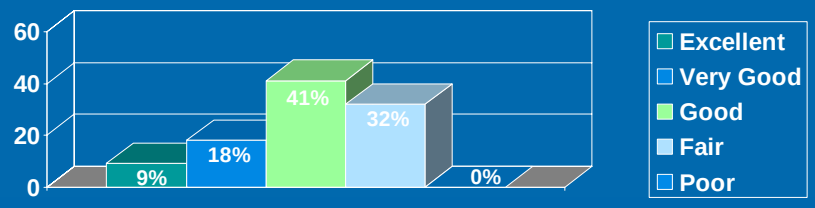

Question 30: North-south economic corridor dialogue (20,21: Masao, Sinh, Xing, Louis, Tira)
N=25

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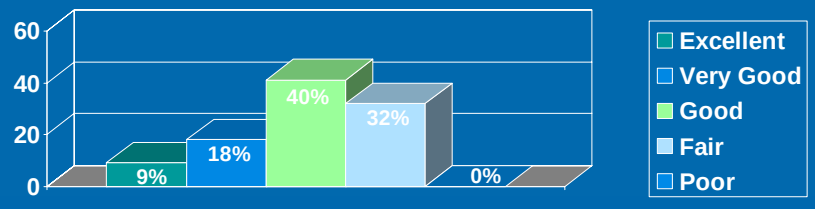

Question 31: Introduction to trade regimes: GATT and WTO (21-1,2: Simon, Frank)
N=25

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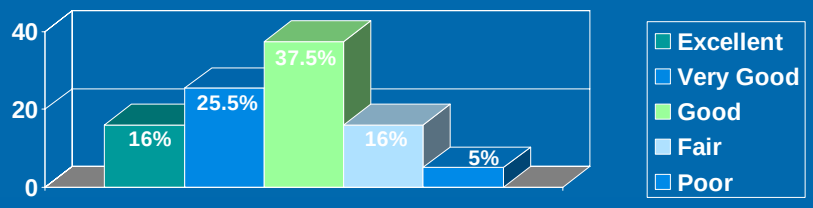
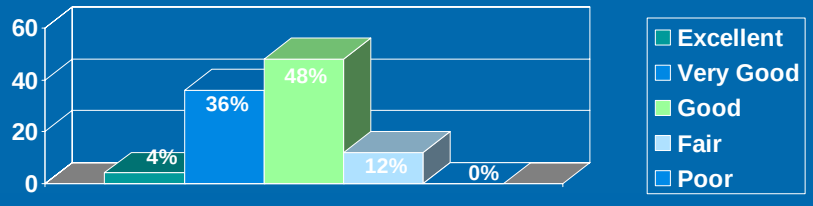


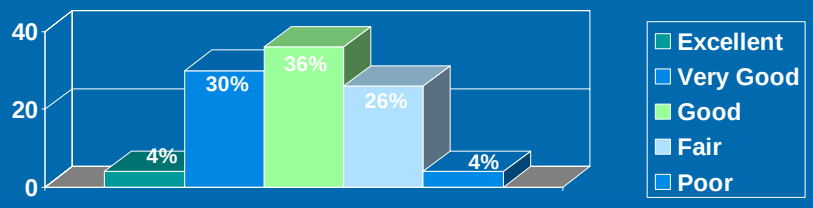
Question 32: Virtual water (22-3: Charlotte, Eric)
N=24

Participant Evaluations – IHDW 2006 Water, Trade and Environment Workshop



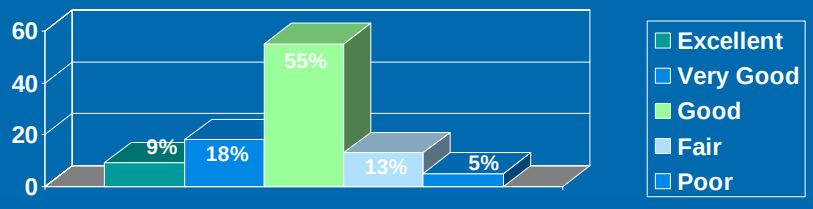
Question 33: WTO, regional trade regimes and economic development (23-1,4: Simon, Frank)
N=25

Participant Evaluations – IHDW 2006 Water, Trade and Environment Workshop



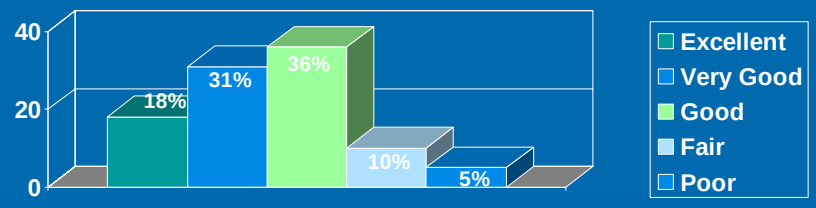
Question 34: GWSP and Water Forum (23-2: Eric, Charlotte)
N=23

Participant Evaluations – IHDW 2006 Water, Trade and Environment Workshop



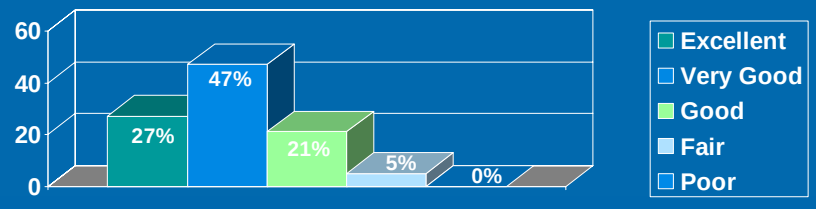
Question 35: Fair Trade (24-3, 4 : Hannarong, Frank)
N=22

Participant Evaluations – IHDW 2006 Water, Trade and Environment Workshop



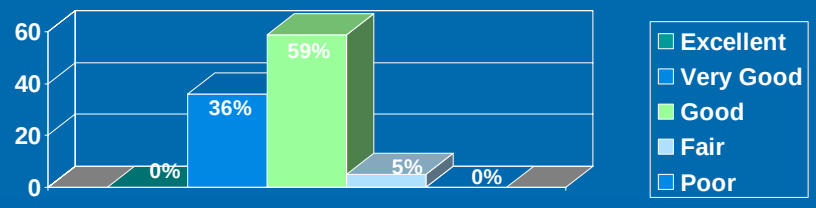
Question 36: Negotiation (25-1,2: Frank)
N=19

Participant Evaluations – IHDW 2006 Water, Trade and Environment Workshop



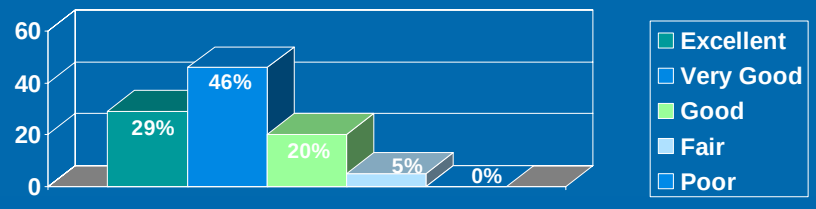
Question 37: Participant Conference (25-3,4)
N=19

Participant Evaluations – IHDW 2006 Water, Trade and Environment Workshop



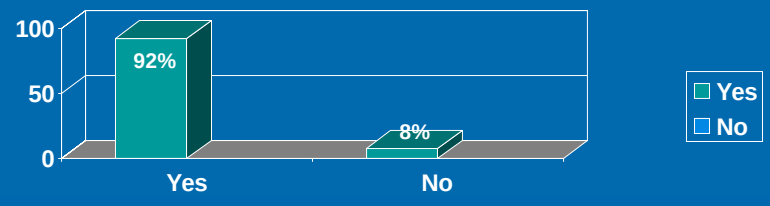
Question 38: How would you rate the content of the workshop overall?
N=22

Participant Evaluations – IHDW 2006 Water, Trade and Environment Workshop



Question 39: How would you rate the workshop reading logistical arrangements?
N=24

Participant Evaluations – IHDW 2006 Water, Trade and Environment Workshop



Question 40: Was the information provided to you before you arrived in Chiang Mai adequate (website, e-mail)?
N=24

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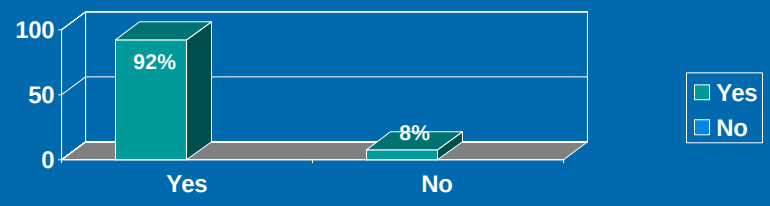
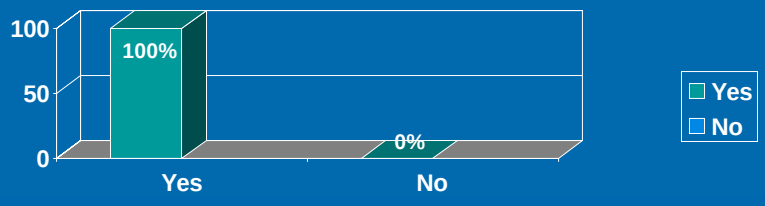


Question 41: Were travel arrangements adequate (flight reservation, travel insurance)?
N=23

Participant Evaluations – IHDW 2006 Water, Trade and Environment Workshop



Question 42: Were the hotel arrangements adequate?
N=25

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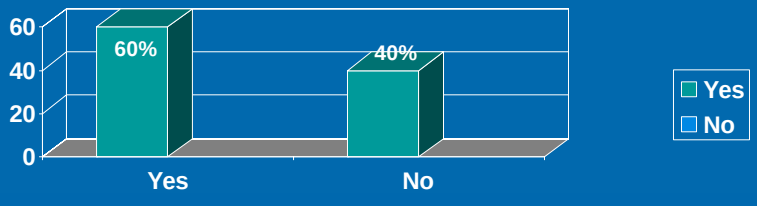

Question 43: Was the meal allowance sufficient?
N=25

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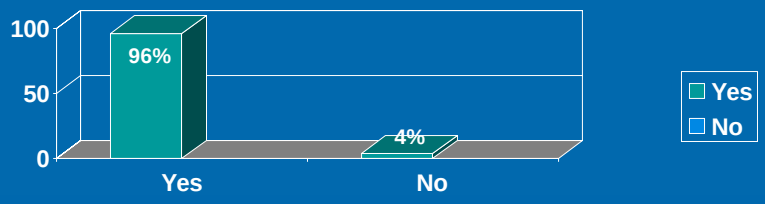

Question 44: Were the meeting facilities adequate?
N=25

Participant Evaluations – IHDW 2006 Water, Trade and Environment Workshop

"Information is insufficient and many times confusing (on a daily basis). Perhaps it i more efficient to have a „point person" for each aspect of the program".

"Considering the level of complexity I think logistical arrangements were great".

"People should be informed of the allowence they will get before attending the conference and also the average cost of food so that they bring also their own money if not sufficient."

"I think the logistical arrangements are good allready. But I think it would be better if more information can be offered to us before we got here because some of the concepts are not familiar and this is workshop speaking in English".

Question 45: Please make any specific comments or suggestions to improve logistcal arrangements?

Participant Evaluations – IHDW 2006 Water, Trade and Environment Workshop

"I gained the importance of social political and economical issues in the workshop. I will incorporate all above constraints in my reasearch (optimization) model to get realistic results".

"I have to read carefully many of the materials received and to download others from the USER website. I will incorporate a stronger institutionalist approach in my research".

"Be more connected to the international level. Find reading to deepen the issues which were discussed in the workshop".

"I am going to apply gained knowledge in my research, and regarding information. I plan to use my network for consultation and collaboartion".

Question 46: How do you plan to use knowledge and information gained at the workshop in your job activities when you return to your office?

Participant Evaluations – IHDW 2006 Water, Trade and Environment Workshop

"My plans have not changed, but the workshop helped to confirm that I am on the right track".

"I plan to do more serious long term projects, and take more courses (training) on human dimensions of climate change. The workshop did not change my plans. It only reinforced it. I realized there is still a lot of things to do back home in terms of research agenda and advocacy".

"I can say I did not have sufficient or effective knowledge of institutional issues and analysis. After the workshop, I feel the need to make the institutional framework (developed by IDGCC) a significant aspect of all my research activities related to the environment and development issues".

"It changed my scope...I'll try to relate my research to a wider, internationally focused, scope".

Question 48: What are your plans for the future after your participation at the workshop? Did the workshop change your plans? How?

Participant Evaluations – IHDW 2006 Water, Trade and Environment Workshop

"Yes. Fields: water allocation and use in dry lands, social issues, power, equity, indentities".

"Yes. Other fields: vulnerbility, adaptation and resilience, land use, hand cover changes, economics, environmental change and human security, urbanisation, carbon".

"Yes, in water trade or water management and environment".

"Yes, but I cannot identify yet any concrete activity as of the moment".

"Yes. On issues related to integrated water management issues and also the interactions between humans and the environment".

Question 49: Are you interested in becoming more closely involved in other IHDP activities and networks? In what fields or areas apart from those of covered in the workshop?

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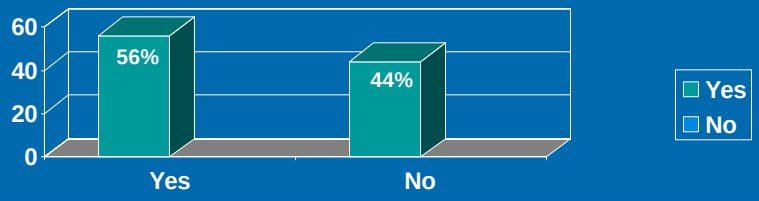
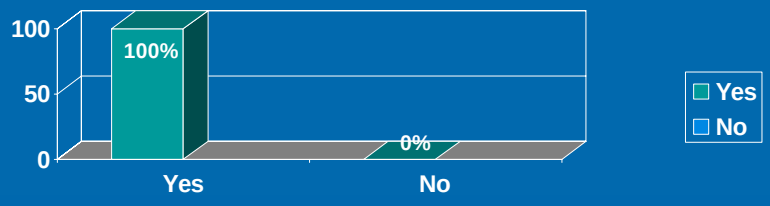


Question 50: Did you know about IHDP before hearing about this workshop?
N=25

Participant Evaluations – IHDW 2006 Water, Trade and Environment Workshop



Question 51: Would you like to recieve the IHDP Update newsletter?
N=25

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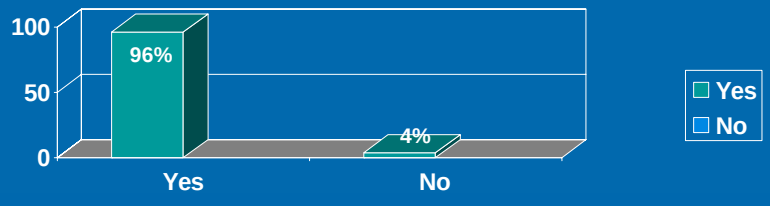
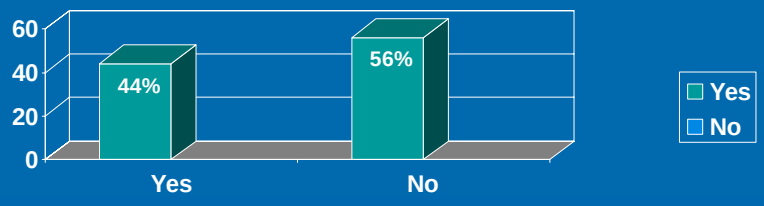


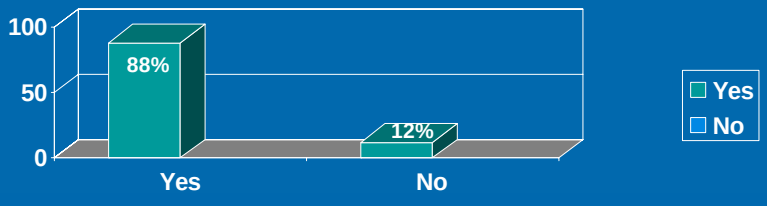
Question 52: Would you like to be added to IHDP`s mailing lists?
N=25

Participant Evaluations – IHDW 2006 Water, Trade and Environment Workshop



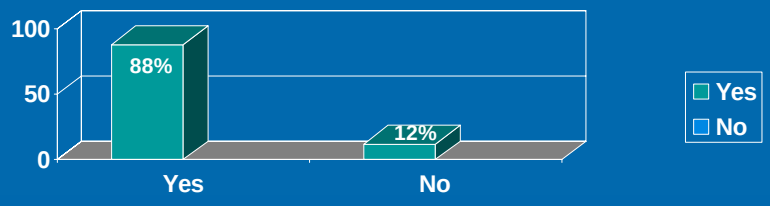
Question 53: Did you know about APN before hearing about this workshop?
N=25

Participant Evaluations – IHDW 2006 Water, Trade and Environment Workshop



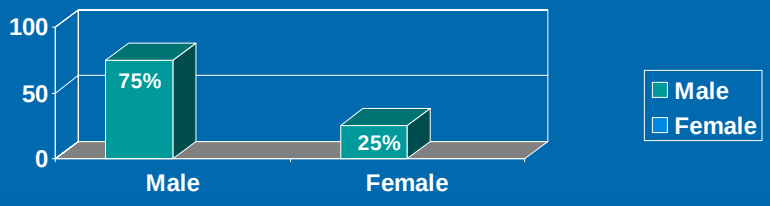
Question 54: Would you like to be added to APN`s mailing lists?
N=25

Participant Evaluations – IHDW 2006 Water, Trade and Environment Workshop



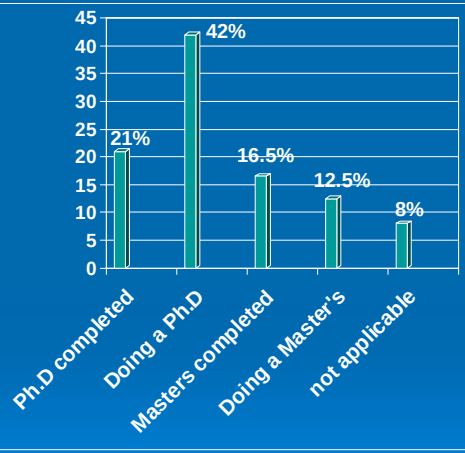
Question 55: Would you like to be added to USER`s mailing list?
N=25

Participant Evaluations – IHDW 2006 Water, Trade and Environment Workshop



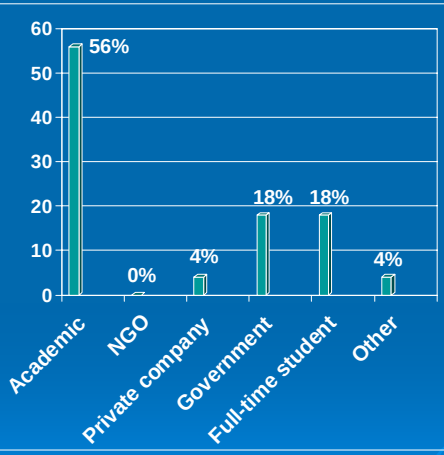
Question 56: Gender
N=24

Particiapant Evaluations – IHDW 2006 Water, Trade and Environment Workshop



Question 57: What stage of your career are you in?
N=24

Particiapant Evaluations – IHDW 2006 Water, Trade and Environment Workshop



Question 58: What kind of organization do you currently work in?
N=23

Participant Evaluations – IHDW 2006 Water, Trade and Environment Workshop

"I would have liked to have trainers more versed on water, resource management and international regimes for the second week".

"Because the academical level of all the participants, it would be more useful to have time to share experience between them, rather than so much lectures".

"At least one day free (Sunday) would be better. It is hard to listen continuously lecture and working".

"It is a very good idea to select participants from different backgrounds. But I think some of us are not familiar with the concepts mentioned in the workshop because of our natural sience background".

"I think the overall workshop was a success".

"I would have prefered less heterogenety in the participant's formation. I would have preferred full formed participants".

Question 59: We welcome additional comments, suggestions or critiques that will help us assess the performance of this workshop and improve the quality of future ones?