



**International
Association of
Hydrogeologists**

The worldwide groundwater association



**Report to Council
Presented at the Krakow Congress September 2010**

The Krakow Plan of Action

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Secretary General

Sept 2010

IAH FORWARD LOOK REPORT TO COUNCIL

Structure of the Report & the Plan of Action

Summary of the Forward Look meeting
The 'Forward Look – Forward Action' process at the Reading meetings
Findings and proposals developed at the Forward Look-Forward Action meetings
The outline of the Forward Action – “The IAH Plan of Action 2010-2020”
Invitation to Council to approve the outline plan of action & its next steps

Annex I: A digest of the questionnaire responses

Annex II: Summary of the reforms of the Commissions and Working Groups

The Forward Look list of Participants

Name	Country	Representation Basis
Tamiru Alemayehu	Ethiopia/South Africa	Burdon/Questionnaire
Ian Acworth	Australia	Council
Luiz Amore	Brazil	Council
Antonio Chambel	Portugal	Executive and Council
Ken Howard	Canada	Executive and Council
Vicki Kretsinger	USA	Questionnaire/US NC
Lenny Konikow	USA	Council
Alan MacDonald	UK	Burdon
Carlos Molano	Colombia	Colombia NC
Adnane Moulla	Algeria	Questionnaire
Shammy Puri	UK	Executive and Council
Grace Ssali-Namanga	Uganda	Questionnaire/Burdon
Sophie Vermooten	Netherlands	NC and questionnaire
Igor Zektser	Russia	Council
Willi Struckmeier	Germany	Executive and Council
Prabir Naik	India	Questionnaire
John Chilton	UK	Secretariat
Kellie Nicholson	UK	Secretariat
Enrique Escalante	Spain	NC/questionnaire
Ian Davey	UK	UK NC
Karen Villholth	Denmark	Burdon/Denmark NC
Bruce Misstear	Ireland	Irish NC
Andrew Stone	USA	Questionnaire
Didier Pennequin	France	Council
Mohamed Aboufirass	Morocco	Council
Morgan Burke	Ireland	Burdon



IAH FORWARD LOOK
Reading, England, July 2018



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EXECUTIVE SUMMARY

This document is the outcome of a Forward Look – Forward Action process that was started at the IAH Congress in Hyderabad and has been conducted with the help of a representative group of the Membership of the Association.. A brain storming and strategy development meeting was arranged in July 2010, which gave the shape and the scope of Actions that the IAH should take for its future development. These actions have their origins in the suggestions also made by the wider Membership responding to a questionnaire that was circulated to the full membership of the Association.

Full details of the discussions, suggested themes, and proposals made are set out in the document. After an assessment and review of the brain storming a Krakow Plan of Action has been developed and it is summarised below.

The Council is invited to review the Plan of Action and to give approval to its implementation.

THE KRAKOW PLAN OF ACTION

The Krakow Plan of Action for the IAH covers the period 2010 to 2020 and has been developed to ensure the improved operations of the IAH to serve its membership in a significantly better way, and to support global sustainable management of aquifer resources.

The Plan consists of five elements that cover education, internal development, informing and influencing global policies, enhancing alliances with external agencies and enhancing the development of the science of hydrogeology.

The Plan will be implemented through some urgent actions to be undertaken within one year of approval of the Plan, some medium term targets (2 to 5 years) and some longer term targets (5 to 10 years).

The urgent actions planned will show increased benefits to the membership within the first year involving a better web pages and internet based services, the publication of a fundamental reference document, FACTS & FIGURES, increased relationships with UNESCO-IHP, and other bodies, and the identification of key gaps in the research in the field of hydrogeology.

The medium and longer term actions will result in increased awareness about the significance of aquifers and groundwater among the non specialist, significantly better quality of the Congresses and scientific meetings, engagement with major users of aquifers such as food and bottled water manufacturers, a better profile at international events with relevance to groundwater and improved cross discipline dialogue.

By the year the 2030 IAH global membership will rise to 5000 and could be significantly higher, with double the number of National Committees compared to 2010.

INVITATION TO COUNCIL TO ENORSE THE KRAKOW PLAN OF ACTION

This document invites the IAH Council to review the proposals that have been made as part of the Forward Look- Forward Action process that has been conducted in 2010, starting at the Hyderabad Congress and submitted at the Krakow Congress.

The document is an Outline of the Actions and provides a preliminary allocation of responsibilities, indicative budgets and indicative timetables.

The Council is requested to authorise the Executive to refine the Outline, and to work out the details and then proceed with the Action Plan, reporting he progress made at each of the forthcoming Council meetings.

INTRODUCTION

Members of IAH Council will recall the Hyderabad Congress Council meeting at which the Forward Look for the IAH was first discussed.



Subsequently, the structure of the Forward Look process was agreed in the Executive meeting in February 2010, and the decision made to implement a two and half day event at which the full scale analysis, assessment and the planning of a Forward Action process would be conducted.

Forward Look Meeting Reading, October 2008

Questionnaire responses

Since an essential corner stone of the process was the need for wide ranging consultation with the Membership of the whole Association. The Forward Look process was widely advertised through the usual channels of the Association, ie the News Letters and through announcements at major IAH events such as the Congresses.

The Consultations were conducted through the means of a questionnaire that was developed and refined in a few iterations and then circulated to the full membership. The form was both emailed to all members with access to email, and also by downloading it from the web site. The responses were emailed back to the Executive Manager and to the Secretary General.

THE PROCESS

The process adopted for the wide ranging consultation and the subsequent gathering of a number limited to twenty five representatives of the Association, took place between March and June 2010. the twenty five representatives were made up of Council Members, as a priority, and ordinary members; the former were given priority because as Directors of the IAH they hold the ultimate responsibility for the sound operation of the Association. The ordinary Members were selected from a consideration of the quality of responses that were received,

Reminder of Process

- **Questionnaire drafted in March/April**
- **Posted on IAH website early April**
- **Closing date for responses 30 April**
- **Meeting to review responses mid May**
- **Invitations despatched soon afterwards**
- **Total of nearly seventy responses**

and with a view towards age and gender balance. The full list of participants appears at the start of this document.

THE FINDINGS FROM THE QUESTIONNAIRE CONSULTATIONS

Around seventy responses were received from the Membership of the Association. Given that the membership is close to 4000, the number of responses is thought to be small, though the reasons for the small response can be associated with many reasons. No quantitative assessment for the small response has been made, but it can be conjectured that many Members are remote from the day to day running of the Association, that many Members do not see how their views can make any form of impact, many are dispersed in different parts of the world where their professional priorities are so diverse that they do not have a view, the language of the questionnaire was a barrier and the phraseology used may have been unfamiliar and distant. It can be conjectured that many Members are perfectly satisfied with the state of affairs and did not wish to respond, or on the contrary that some felt that they disagreed to such an extent that they did not wish to respond. All of these are conjectures and matters that the Forward Look and the Forward Action would need to address.

THE CURRENT VISION FOR IAH

Despite the above reservations about the size of the response, those who did, responded with many well thought out and very constructive thoughts and perspectives. A digest of the questionnaire responses is given in Annex I. The questionnaire asked the Members to reflect on several aspects of the current operations of the Association. Including their current vision for IAH as a promoter of the science, with regard to its role in education and with regards to its engagement with national and international environmental – water related policies.

On 'science' the Membership expressed its opinion that the IAH is perceived to play a lead role. The science content and the quality of the Journal was considered a strong positive point, though some Members admitted to not reading it due to lack of time or other reasons. There was also a divergence

of views about the Congresses and Conferences hosted by IAH. On the Commission that IAH has established over the years, the general perception was that they were important structures of the Association but that their role, relevance and output were not clear to many.

IAH Science Activities

- **Strong support for science role – can be improved**
- **HJ – high praise, but some don't read it, time-to-print too long, scope too narrow**
- **Balance between papers/reports, geographical spread and science impact factor is important**
- **Divergence of views about conferences – too many/too few, too big, too broad, uneven/poor quality papers**
- **Commissions less active and productive, poor visibility, perceived not open to members**

On the current vision of the IAH with regard to its role on education there was a consistent message that the Association was not doing enough – not too surprising an opinion to have as a large part of the membership is drawn from academia and from institutions conducting research. There was a view that even when the Association had done a good job, it was not sufficiently well publicised. It was the perception of the Membership that ‘we’, presumably the Members, are primarily engaged in education, though this had different focus on whether it was in the developed North or the developing South. The connection between education (raising awareness??) and influencing policy (on water management?) was made though the expression of how it takes place was entirely clear.

IAH Educational Activities

- **Consistent message that we are not doing enough – *this is no surprise***
- **Even when we have done stuff, it was not well publicised**
- **Education spans most of what we do**
- **Different perspectives from “north” and “south”, but both see the science-policy interface as deserving of our efforts**
- **Many useful general and specific suggestions**

INWARDS LOOK

With regards to the way that the IAH functions there was criticism about its operations as being a academic club, with poor balance in age and gender and that younger member recruitment was insufficient and the support to them was insufficient.

The structure of the Association was also commented upon, the role and the independence of the National Chapters, the role of the regional vice presidents and that of the Executive and the Council.

The communication side of the Association was felt to be out of date and needed a general upgrade, so that the Members and National Chapters had better access to the information on the activities of the Association and also of each other. The use of IT was thought to be insufficient with poor use of the facilities offered through the internet.

The Way IAH Functions

- **Too much of an “academic club” feel**
- **Institutional age and gender balance**
- **Not just recruiting younger members, but enabling them to participate better in conferences, commissions, chapters**
- **Better governance of national chapters**
- **Better communication to and between members**
- **Our web use is far below its potential**

OUTWARDS LOOK

Looking outwards the Membership felt that it was clear that the Association did and should be promoting groundwater protection and management, but many were not sure how this might be done.

Work of individual Members was considered important but that the collective effort was better. It was felt that the available reservoir of skills and experience was not being used sufficiently.

The suggestions were that more briefing papers should be developed and circulated; the current and the new issues arising need to be addressed by the Association.

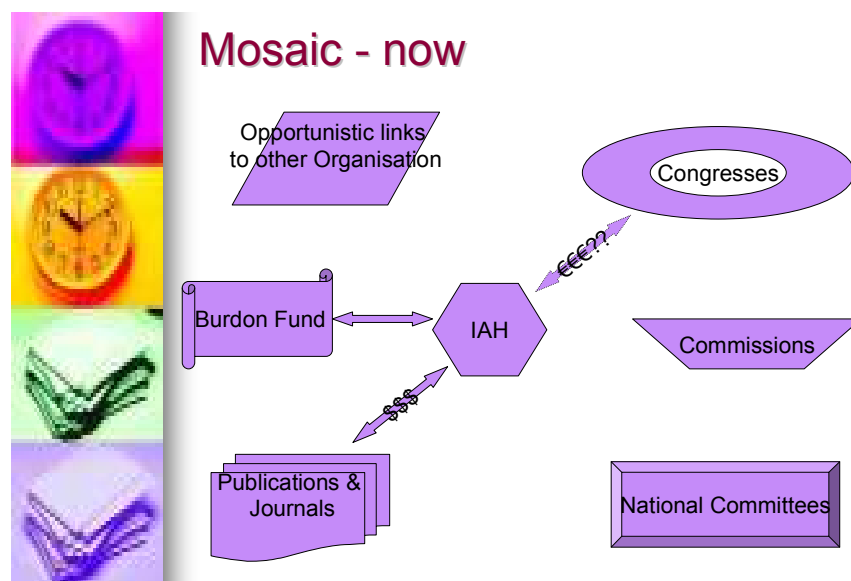
Links with UN & other organisations were appreciated, though the membership was not clear whether we were 'listened' to. The question was posed – should the IAH be more 'political'? A minority of the membership felt that the Association should remain focussed on science and not stray outside this.

External Role of IAH

- Clear that we have a role in promoting groundwater protection and management – *but how should this be done?*
- Existing efforts are individual, not collective
- Don't use our reservoir of skills and experience
- Should produce more occasional/briefing papers responding to new issues
- UN links but are we equal and are we listened to?
- Should we be more political?
- Minority feel we should stick entirely to science

A MOSAIC FOR THE IAH – NOW & IN THE FUTURE

The analysis and assessment of the responses to the consultative questionnaire revealed that the IAH is not a monolithic organisation and it has to fulfil a number of purposes and roles responding to the multi faceted needs of the Association. The Association needs to be responsive the global geographic spread, the socio cultural differences, the language issues, and the technical range of hydrogeology.



Reading July 2010

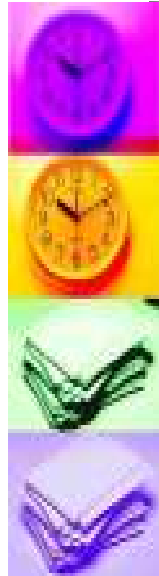
The Association can thus be seen as a 'mosaic' of a series of elements that make up a coherent and a logical pattern. At present the mosaic has been visualised as shown above: clockwise, Congresses, Commissions,

National Committees, on the one hand, and Publications-Journals, the Burdon Fund and opportunistic links to other organisations.

Each of these elements in the present mosaic has a well established function and role, though perhaps they do not operate as well as might. The question then arises, is this the mosaic with which the IAH will continue through to the end of the decade or revise and restructure it ?

A MOSAIC FOR THE FUTURE

Taking the guidance given by the Membership in their responses to the consultative questionnaire, and based on an assessment of forward look processes underway in other organisations, eg the IAHS, the UK's Geological Society, the NGWA in the US and other similar science based organisations, a revised mosaic for the IAH was conceived as consisting of five elements: as shown on the right.



Mosaic for 2020 – 5 Elements

- EDUCATION & ACADEMIC DEVELOPMENT
- INTERNAL DEVELOPMENT OF IAH – Congresses / Meetings / Working Groups / Commissions, etc
- INFORM & INFLUENCE GLOBAL POLICY – outward actions
- ENHANCE ALLIANCES WITH EXTERNAL AGENCIES / GROUPS / SISTER ORGANISATIONS
- ENHANCE THE DEVELOPMENT OF THE SCIENCE

Reading July 2010

These five elements were first checked for their validity at the start of the Reading Forward Look meetings. The participants of the meetings, revisited the 'brainstorming' that was conducted in the Hyderabad Congress, added more key words to the previous ones, reviewed and re assessed them to ensure that all views were taken into account. These ideas were then all classified into the above five elements to see if they would all be covered. There was ample discussion on whether the elements were representative of the needs of the Association as far as could be perceived through to the year 2020 or possibly longer to 2030.

The meeting concluded that the five elements as conceived did in fact provide the mosaic to 2020 and that it could then be filled with the detail, based on the five.

FORWARD ACTIONS

EDUCATION & ACADEMIC DEVELOPMENT

On the Education & Academic Development front the IAH's Forward Actions will focus on the

- Webpage of the Association,
- Development of Short Courses,
- Production of video & DVD's,
- Establishment of Thematic Forums, and
- Preparation of Materials for Publicity.

The rationale and scope of these actions are listed in the table below.

Issues discussed	Main findings made by participants
I – WEBPAGE	<p>Why?</p> <ul style="list-style-type: none"> • Increase awareness, contact <p>How?</p> <ul style="list-style-type: none"> • Provide new education materials (videos,

	<ul style="list-style-type: none"> • short courses • Web page • Forums • Videos <p>When?</p> <ul style="list-style-type: none"> • 2012 <p>Who?</p> <ul style="list-style-type: none"> • IAH person / specialist <p>Where?</p> <p>???</p>
II SHORT COURSES	<p>Why?</p> <ul style="list-style-type: none"> • Education for members, in techniques /issues, for home, for abroad. • Courses for hydrogeologists and non hydrogeologists • Include lectures / webinars <p>Who?</p> <ul style="list-style-type: none"> • Working group/ members/ others <p>How?</p> <ul style="list-style-type: none"> • Members, ask for proposals • Working group to review • Need to ask members what they want • Promotion including alliances <p>Where/When?</p> <ul style="list-style-type: none"> • Congress • National chapters • Universities • Set up Working group 2010
III VIDEOS AND DVDs	<p>Why?</p> <ul style="list-style-type: none"> • Educate public • Promote IAH in GW • Influence policy managers • Inform students (incl. Schools) <p>How? / Who?</p> <ul style="list-style-type: none"> • Through alliances? (UNESCO) • Working group to plan content • Build on Public Domain examples • Or commercial sources • Make available on IAH website • U Tube? • Distribute to schools, etc. <p>When?</p> <ul style="list-style-type: none"> • 2013 <p>Where?</p>
IV THEMATIC FORUMS	<p>Why?/</p> <ul style="list-style-type: none"> • Influence / educate policy/ decision Makers • Focuses on specific issues • How? • Link to international events • National events • Invite key policy makers and groundwater scientists • (Link to IAH policy group) <p>Who/When? –</p> <ul style="list-style-type: none"> • (ongoing) • Promote through national chapter <p>Where?</p>
V MATERIALS	<p>Why?</p> <p>Inform and educates</p> <ul style="list-style-type: none"> • Leaflets for • Public and policy makers,

<ul style="list-style-type: none"> • public and figures • Documents • Interactive tool • Briefing notes • Maps • Books • 7 hydrogeological wonders of the world • games • Hydrogeoparks (UNESCO) 	<p>Materials for</p> <ul style="list-style-type: none"> • GW specialists, • educationalists <p>How?</p> <ul style="list-style-type: none"> • Ongoing (Books, maps,...) • Use previous • Major and minor aquifers • Total GW • Useable GW • Master project(s)? • Need a strategy group for the document – to plan and oversee (but not necessary to prepare) • Dissemination? • Working group to help in dissemination of existing leaflets etc. • Webpage (education, links) • Need it time (resource) • Facts and figures • Burdon network <p>When? 2012</p> <p>Who? – to be determined</p> <p>Where? - to be determined</p>
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NEXT STEPS FOR THE EDUCATION & DEVELOPMENT ACTIONS

Webpage developments – majority of the actions listed above can be implemented from the IAH in house resources and can start up either immediately or after approval from Council. The prime responsibility for these actions will be with the IAH Secretariat.

The funds required for all of actions will be provided from the routine normal Association operations and no new funds are likely to be required.

Development of Short Courses – the preparation of short courses by the Association could be a major activity and depending on the complexity and the scope of the course material may require substantial costs and human resources input. Nevertheless its an important Forward Action and should be given further detailed consideration before a decision to proceed can be sought from Council.

Consequently it is proposed that a Feasibility Study (market research, realistic demand for the product, cost-benefit to the Association) be carried for thie Forward Action. The study should be conducted by a three person team nominated bhy the Council and supported by the Secretariat. No significant funds would be required to carry out the study, but a small reserve budget of € 1500 could be made available for some of the expenses in the performance of the feasibility study. The study should be carried out in the period January to March 2011.

Production of videos & DVD's – the situation for the production of the videos and DVD's is analogous to that of Short Courses. While it would seem that there is a need the viability of the endeavour needs to be established by a Feasibility Study. A three person team could be appointed and asked to report back by March 2011. A budget for the study can be set at the same level of € 1500.

Establishment of Thematic Forums – this Forward Action is a very important function of the Association and deems a lot of support. It is however, closely linked with the reform of the Commissions and Working Groups of the Association. Such Thematic Forums may fall into the Category of "Panels" in the new terminology. It would be appropriate for the Executive to take on the responsibility for calling for the setting up of such forums / panels based on the needs as they arise.

For the period January 2011 to Dec 2011 the Executive is invited to identify three key issues that should be highlighted and calls sent out to the membership to establish them, with well formulated terms of reference. Suggested issues for 2011 could be water quality sustainability, aquifers in arid regions, groundwater governance.

Preparation of materials for Publicity – as for the Courses and DVD's the preparation of the materials is no doubt very important, but requires a feasibility study to assess the demand for them, the mechanisms for their preparation, Production and dissemination and the follow up to assess the degree of effectiveness of the effort. The Feasibility Study with a budget of €1500 could be commenced in June 2011 with a report back by August 2011.

INTERNAL DEVELOPMENT OF IAH

With regard to the internal development of the IAH, the following Forward Actions have been identified,

- Enhance the added value of membership
- Increase overall membership to 5000
- Improve communication
- Improve the professionalism of the Congresses
- Improve the use of the membership database of information to provide them with better services
- Reform of Commissions and Working Groups
- Improved Publications Strategy

Issues discussed	Main findings made by participants
I FUTURE VIABILITY & GROWTH	<p>Why? – The scientific community needs a structure like this Relevant to go on with IAH IAH is viable How? – To improve communication When? – In the near future, 2011 Who? – Secretariat. Do we have capacity? Do we need one person or a company dedicated to this? Where? – Website, e-mails</p>
II Consider what IAH offers to its members, and ensure that this is well communicated.	<p>Current and potential members do not feel they are particularly benefitting. Not clear how their membership fee is used (demonstrate how € 72 fees is split) International accreditation?</p> <p>Why? – To offer better services to membership and facilitate the communication and interaction</p> <p>How? – Content Management Systems to be used by the National Chapters and Commissions</p> <ul style="list-style-type: none"> - Providing advertisements for jobs (may be a link to other websites) - Providing a space in the website for members to insert their CV's when looking for jobs - – Advertisement about courses of Hydrogeology - – Advertisements about Universities looking for PhD students and Post-Docs - Offer more and clearer benefits to corporative membership (links to their webpages, etc.) - More visibility on the website - Set up IAH group on “linked in” professional network - Pie diagram for website on how fee is used <p>When? – 2010 on, by priority to be finished in 2012</p> <p>Who? – Secretariat and Sophie Vermooten (regarding “Linked in”)</p>

<p>III Increase membership to 5000 and double the number of NCs, increase activity in less active NCs</p>	<p>Where? – Central IAH</p> <p>Increase membership diversification Appeal to younger membership, without alienating others More geographical, professional and cultural spread</p> <p>Why? – To help IAH survive, grow and prosper</p> <p>How? –</p> <ul style="list-style-type: none"> - Joining the IAH when registering for congresses - Bring another friend to IAH - Invitation to authors of papers in the HJ to join IAH - Induce membership for associated editors of HJ - Twinning links between chapters - Meeting in the IAH congresses for the NCs - Explore direct debits of the membership - Multiyear payments - Encourage the regional Vice-Presidents to promote membership and national chapters - Review Vice-Presidents structure and responsibilities - Approach members in countries with sufficient IAH members in order to create new chapters - Get an up to date contact with NCs with low rates of activity - More support to NCs? Use some central funds to support specific actions of NCs. <p>IAH to seek grant funds</p> <p>When? – starting in 2010</p> <p>Who? – Secretariat, Executive, Regional Vice-Presidents, National Chapters</p>
<p>IV Improve Communication</p>	<p>Where? – Central IAH</p> <p>Set message out and facilitate internally and externally Website and social network development Other tools to chapters, etc. (for forums, help with website development etc) Good printed information, well distributed Other languages</p> <p>Why? – To improve interaction between members and with the outside world To increase visibility of IAH</p> <p>How?</p> <ul style="list-style-type: none"> - Better content of the website - Promote the use of the IAH website by the NCs and Commissions and Working Groups - More communication by e-mail with members - Creating forums of discussion in the Internet (sharing of experience) - Communication strategies of the NCs? - Archive of previous congress programmes and publications in the IAH website - Improve the use of different languages (examples: general information, website, use of google translator in the website) - Asking NCs about the possibility to translate the abstracts of the HJ to other languages (apart from Chinese, French, Spanish and Portuguese)

	<p>When? – starting in 2010</p> <p>Who? – Secretariat</p> <p>Where? – Central IAH</p>
<p>V Improve professionalism in congresses</p>	<p>Develop new strategy whereby some is managed centrally – countries have to start from scratch each year. Issue guidance notes. IAH central takes bigger cut to pay for additional resources provided</p> <p>Why? – To generate new income stream for IAH. To help encourage and maintain the membership. Improve consistency & quality from year to year. More value for attending meetings and encourage attendance and returns to future Congresses. Facilitate the work of the NCs</p> <p>How?</p> <ul style="list-style-type: none"> - Provide more centralized guidance & standards and assistance. Give NC organizers more time to focus on getting top-quality topics and speakers, and improved scientific content. - Shift towards IAH taking more financial and logistical investment and risk, and sharing more in the financial rewards. - Ramp up financial benefits by requiring 5% of registration fees off the top starting in 2015, and increase to 10% by 2020. - Creating or buying software which can be applied to all future meetings and congresses. i.e., standardize software for abstract submission, registration, payment of fees, preparation and scheduling of program, etc. for multi-year use. - Phase-in additional IAH support staff or contractors to focus on Congress and meeting organization and related software. - Need better advertising and promotion of IAH Congresses (especially outside of IAH). (some responsibility for this by IAH). - Concentrate effort of organizers on the scientific content and quality of Congress. - Rely more on session convenors to generate interest and speakers (and invited speakers) - Include more frontier leading-edge science content. - Move abstract submission deadline closer to meeting date (4 or 5 months instead of 9 or 10) to encourage submission of most recent results and attendance by late-planning academics. - De-emphasize or eliminate extended abstracts and proceeding papers. Or just allow longer abstracts to be submitted by first deadline??? - Plan earlier to select and get commitments from session moderators, and give more responsibility to session convenors where possible. - Deal better with last-minutes program changes and no-shows (including getting better update info to attendees. - Shift from give-aways on CDs to flash drives. - After meeting, post abstracts and program on IAH website in maintained meeting archive. - Include one-year membership in non-member registration fee. - Allow IAH members to use IAH login info for log-in to Congress web site. <p>When? – planning starting in 2012 with implementation to ramp up during 2015 through 2020. Who? – Organizers of congresses, Executive, Secretariat</p>

	<p>Where? – IAH Congresses, but also to workshops, specialty conferences, and <NC-sponsored meetings.</p>
<p>VI Better use of membership, and its data</p>	<p>More data, ask more of members to find our specialisms and interests, age, etc. Share the data appropriately Use data (eg mentor scheme, forums, etc.) Share knowledge (experience)</p> <p>Why? – To share more information with members and between members – Necessity of IAH to know more about its members (statistics, professional skills, etc.) – To support national chapters</p> <p>How? – Attracting more corporate members (advertisements in the website, etc.) – Sending more advertisements about renew of membership – Encouraging the national chapters to promote at least one event per year (meetings, courses, field trips, etc.) – Creating forums of discussion in the internet (sharing of experience) – Mentor scheme – Asking more information in the registration form</p> <p>When? – starting in 2011</p> <p>Who? – Secretariat and chapters</p> <p>Where? – Central IAH, National Chapters, Commissions</p>
<p>VII Consider commissions and working groups</p>	<p>Already under review – see Annex II for a summary of the proposed reforms</p> <p>Why? – There are different ways of work of the actual commissions and working groups which need to be organized. Commissions need to be better connected and more responsive to function and goals of IAH, and be more transparent about their activities.</p> <p>How? - Organizing the tasks of the groups and specifying the rules of each one (continuous work, specific tasks, website etc.)</p> <p>When? – starting in 2010</p> <p>Who? – Executive and Commissions</p> <p>Where? –</p>
<p>VIII Review and develop IAH publications strategy</p>	<p>e.g. use new media methods to transmit and record presentations/peer reviews Publish in other formats Use website more – even offering possible system here for paper</p> <p>Why? – The publications are the most visible scientific contribution of IAH for the world of hydrogeology, also for non members</p> <p>How? - Translating the abstracts into more languages—for more visibility</p>

	<p>in on-line formats.</p> <ul style="list-style-type: none"> - National Chapters take lead on translation duties - Use other media like movies, interviews to be posted on website <p>When? – starting in 2015</p> <p>Who? – Executive, Editors, NCs</p> <p>Where? – publisher’s website. Link on IAH website.</p>
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NEXT STEPS FOR THE INTERNAL DEVELOPMENT OF THE IAH

Enhance the added value of membership

Increase overall membership to 5000 (or more)

Improve communication

Improve the use of the membership database of information to provide them with better services

The above four Forward Actions are all part of the internal improvements within the Secretariat and can be carried by improvements in the software used for data management and its use. New software for the IT systems would be accessible by the Membership, the National Committees and other internal stakeholders. Several of the ideas are already being implemented and others are planned to take effect shortly.

There are no major financial implications of the above though additional short term staff resources may be required. It is proposed that requests for these modest resources can be made as part of regular operations and would be approved by the Council and the Executive as normal business.

Improve the professionalism of the Congresses – this Forward Action is considered by many as one of the key and prime areas for internal improvement. The actions required have already been identified and many of them are being introduced as this Action plan is being written. However, much is yet to be done. Within the Executive responsibilities to assist Congress Organisers are starting to be in place, with support having been provided to the present Congress.

No major new expenditure is envisaged, but the possibility that consistent Congress management IT systems might be used for all Congresses is under consideration and this may require funds. As this is still a developing issue, it is suggested that a three person strategy team be set up that will advise on the way future Congresses of the IAH will be conducted. A small budget of € 1000 can be set aside for related costs, such as travel to planned Congress locations for consultations and advice as part of the strategy development. The three person team should be appointed in November 2010 and asked to report to the Executive by its February 2011, so that decisions can be made.

Reform of Commissions and Working Groups – this is already underway and a separate report will be presented to Council for consideration and approval.

Improved Publications Strategy – this Forward Action may well need to consider the impact of some of the suggestions made with regard to the Education & Development Actions, (Short Course preparation and video / DVD preparation), but will also need to take account of the Journal and the Book Publication. Therefore once the Feasibility studies proposed above have been completed, their results, together with the Journal Editors, Book Editor and the Executive Secretary, will develop and formulate the strategy. This should be in place from June 2011, with a report back by August 2011 for consideration at the next Council meeting. At this stage no financial or human resource constraints can be envisaged.

INFORM & INFLUENCE GLOBAL POLICY

The Forward Actions for the element of the IAH’s Mosaic for 2020 include inform and influence global policy in connection with the sound management of aquifers. The following Forward Actions have been proposed,

- Prepare an IAH authorised basic FACTS & FIGURES publication (more fully described elsewhere)
- Update and upgrade FACTS & FIGURES – as stage II, with further detail
- IAH to be participant at major non water related but relevant events
- Engage with global & regional personalities to appraise them of aquifers & their management
- Engage with multi national food and bottled water manufacturers
- Provide first line support to the promotion and adoption of the UN Law on Transboundary Aquifers
- Engage with other major international UN Declarations that are relevant to aquifer management
- Provide technical and scientific support in case of risk and natural disasters
- Provide scientific support in the developing national policies through National Committees

Issues discussed	Main findings made by participants
I – Prepare “FACTS & FIGURES” publication – 1st Stage	<p>Why? – provides a reliable and ‘authorised’ information about 37 major aquifers</p> <p>How? – with limited IAH Central funds, given to University xxx... to fund post grad students....PLUS input from BRGM (Margat), plus input from IGRAC</p> <p>When? – initial report by 12th Sept 2010; Draft Final Report by Dec 2010; (1st stage....)</p> <p>Who? – Willi will project manage to the end of Stage 1</p> <p>Where? – not appropriate...(by web interactions..)</p>
II Update / upgrade and significantly improve FACT & FIGURES for wide ranging dissemination – 2nd Stage	<p>Why? – as above..</p> <p>How? – as above</p> <p>When? 2015 - 2020</p> <p>Who? as above?</p> <p>Where? – as above</p>
III Presence at major non water related events...	<p>Why? – ensure that aquifers are within the radar of many decision makers.. & ‘leaders’..</p> <p>How? – register in the Fora, as IAH, seek to offer submissions to the discussions...pay registration fees ..</p> <p>When? – next event ...?? Which one ?? 2015</p> <p>Who? – nominated by IAH Exec..</p> <p>Where? - ??? Davos ?? (too ambitious..!!)</p>
IV Global Personalities ... Regional personalities (Australia)	<p>Offer IAH Distinguished Associate to... Bill Gates ?? King xxxx??? Queen xxx. ?? by 2015</p> <p>ACTION for the Australia NC- Approach M alcolm Turnbull – attend IAH Congress (Perth), key note speech – press</p>

<p>Personalities for each Region</p>	<p>conference with message about groundwater...</p> <p>to be determine</p>
<p>V Multi Nationals ?? .. Major food & bottled water companies ??</p>	<p>Why ?– as above..</p> <p>How ? – by approaching the associations of multi nationals (eg Drinking Water Supply Associations...)</p> <p>When ? - 2015</p> <p>Who ? – (Exec for Carlsberg..); Exec-Council (eg Danone...)</p> <p>Where? - to be determined</p>
<p>VI UN Law on Transboundary Aquifers – a binding instrument</p>	<p>Why ?– as above..</p> <p>How ? – support UNESCO etc in the on going well established process</p> <p>When ? – 2011 - 2012</p> <p>Who ? – IAH Exec / Council</p> <p>Where? – Paris Dec 2010 onwards</p>
<p>VII Engage with the other major international legal instruments, such as UN Declaration on the Right to Water, RAMSAR Convention, other Multilateral Environmental Agreements (UNFCC, UNFCD, Biodiversity Convention, etc.)</p>	<p>Why ?– as above..</p> <p>How ? – approach their Secretariats and participate in their events</p> <p>When ? – 2011 - 2012</p> <p>Who ? – to be determined</p> <p>International legal instruments that should address groundwater, do not sufficiently well, at present – by 2020, these legal instruments should have a reference to groundwater management</p>
<p>VIII Risks & disasters ... the role of groundwater..</p>	<p>Why ?– as above..</p> <p>How ? –</p> <p>When ? – 2011 - 2012</p> <p>Who ?</p> <p>In situation of major drought coupled with humanitarian emergencies, locally available aquifers can provide support – UNESCO's GWES??</p>
<p>IX National Policy</p>	<p>Why ?– as above..</p> <p>How ? – IAH National Committee and national memberships</p> <p>When ? – 2011 - 2012</p> <p>Who ? – as above</p>

NEXT STEPS TO INFORM & INFLUENCE GLOBAL POLICY

Prepare an IAH authorised basic FACTS & FIGURES publication (more fully described elsewhere) Update and upgrade FACTS & FIGURES – as stage II, with further detail

Both of the above Forward Actions have been defined and a project related to the two is now under development under the direction of the IAH President and the Executive. The proposal is to involve post graduate researchers in cooperation with one of the major universities involved hydrogeology and prepare a first version of the FACT & FIGURES on aquifers and aquifer systems. The support of National Committees will be required as well as organisations such as the BGR, IGRAC, BGS and USGS. The basic version should be in the public domain by the end of 2010 and the expanded version will be developed in the years between 2015 and 2020.

A detailed budget breakdown nor the project management structure has been proposed so far. The Council is invited to endorse the request to the Executive to establish a project management structure and to establish a budget. A nominal sum € 2000 could be set aside for the basic version of the document. Subsequent budgetary requests would be formulated and approved after 2014 Council meetings.

IAH to be participant at major non water related but relevant events Engage with global & regional personalities to appraise them of aquifers & their management Engage with multi national food and bottled water manufacturers

The above three actions will require the Executive to make quick decisions based on the short term information that usually become available close to the event taking place, eg the likelihood that 'water' is on the agenda of the Davos World Economic Council meetings, or certain Ministerial meetings on environment. The Council is invited to approve a rolling budget of €3000 annually to support any such events at which IAH presence could be justified.

Provide first line support to the promotion and adoption of the UN Law on Transboundary Aquifers Engage with other major international UN Declarations that are relevant to aquifer management Provide technical and scientific support in case of risk and natural disasters

The above three Actions relate to the work of international agencies, principally the UN and its bodies such as the UNESCO-IHP, the UNEP, FAO and others. For the UN Law on transboundary aquifers, the IAH has had such close and intrinsic relationship in its formulation and adoption that it may be considered a mainstream IAH action. As part of the Commission restructuring the TARM Commission of the IAH will be restructured and a proposal made there, both for intellectual support and financial budgetary support for IAH work. For the other two, as for the previous group of actions, the Executive could be empowered to make decisions on how to provide this support on a case by case basis. Again a rolling annual budget of €3000 could be provided.

Provide scientific support in the developing national policies through National Committees

The role and the responsibilities of the National Committees might be reviewed and support from them to their own national policy development strengthened. However this will depend on the actual circumstances in each national committee. A decision in principle can be made that national committees may decide to support their national policy formulation, for which IAH may be able to provide international expertise drawn from its own membership with some financial support. Again a decision can be made by the Executive with Council approval and a modest budget set aside, say €3000.

ENHANCE ALLIANCES WITH EXTERNAL AGENCIES

This group of Forward Actions includes the following

- Increased engagement with some key Agencies, such as the EU Commission on environment, AMCOW, etc
- Increased engagement with sister agencies such as IAHS, NGWA, Water Companies
- Develop a working relationship with media and other information outlets, to pass on the IAH message on the sound management of aquifers

- Provide training and education to specific NGO's eg water related charities, and other non specialist organisations, including financing agencies
- Seek to develop alliances with organisations such as the International Energy Agency in connection with the rapidly developing field of carbon capture & storage and the use of soil gas-methane for energy needs

Issues discussed	Main findings made by participants
I - to make our voice heard, to strengthen the messages we want to pass across (at national and international level) to enhance GW preservation and wiser use of GW and let know about the importance of GW in the water cycle ”	<p>Why? – How? – When? – Who? – Where? –</p> <ul style="list-style-type: none"> - EU Commission - National Governments – Ministries in charge of water/land development, ... - Regional Organisations (AMCOW -African Minister Conference on Water, ...), - Funding agencies, - Etc.
II to provide society with BAT in WRM (including GW in WRM)	<p>Why? – How? – When? – Who? – Where? –</p> <ul style="list-style-type: none"> - - Surface water associations (IAHS, IWA,...), - Research Community (Universities, Surveys, research labs,...), - Water Companies, - Socio-economic sphere, -
III to improve communication (overcome language barriers (scientific, national, pass on scientific messages, ..)	<p>Why? – How? – When? – Who? – Where? –</p> <ul style="list-style-type: none"> - Medias (television, radio, newspaper, specialized press, ...), - Scientific publications, - Etc.
IV to contribute to better training and education,	<p>Why? – How? – When? – Who? – Where? –</p> <ul style="list-style-type: none"> - NGO's - Universities - Conferences, congresses, ... both on GW and other subjects (run by others), - Funding agencies, - Etc.
V to better understand the needs of society	<p>Why? – How? – When? – Who? – Where? –</p> <ul style="list-style-type: none"> - to work with Agriculture, Energy, Industrial sectors, - to work with local communities, - to work with politicians,

	- Etc.
VI to better influence policy making	Why? – How? – When? – Who? – Where? – - EU Commission - National Governments – Ministries in charge of water/land development, ... - Regional Organisations (AMCOW -African Minister Conference on Water, ...), - International organisations, - Funding agencies, - Etc.
VII to reinforce the concept and implementation of IWRM (surface/GW, combined with land and socio-economic development)	Why? – How? – When? – Who? – Where? – - River basin organisations or equivalent, - All stakeholders involved water resource managers (directly, indirectly), - Etc.
VIII to contribute to improve hydrogeological sciences	Why? – How? – When? – Who? – Where? – - Research centers - Universities, - Relevant scientific associations, - Scientific publications, - Etc.
IX to better manage/predict and (respond to ?) water (and GW) disasters	Why? – How? – When? – Who? Where? — Government relevant agencies, - International organisms, - International NGO's, - Etc.

NEXT STEPS FOR THE ENHANCE ALLIANCES WITH EXTERNAL AGENCIES

Increased engagement with some key Agencies, such as the EU Commission on environment, AMCOW, etc

Increased engagement with sister agencies such as IAHS, NGWA, Water Companies

The above two actions are related and as in some of the previous actions, need to be decided on a case by case basis and to build on existing alliances. The Executive would be requested to nominate an IAHS Contact point for each of the agencies that IAHS will its relationship with. The role of the Contact Point will be to ensure that the IAHS presence and contribution is made as required. No financial commitment is envisaged.

Develop a working relationship with media and other information outlets, to pass on the IAHS message on the sound management of aquifers – the Council is invited to approve the appointment of a professional science journalist, with a contract to prepare and publish at least two well prepared Articles on issues that IAHS considers of importance in the main media that IAHS members do not

normally contribute to eg Financial Times, the Economist, Le Monde and similar. A modest budget of say €3000 annually might be set aside for this.

Provide training and education to specific NGO's eg water related charities, and other non specialist organisations, including financing agencies

Seek to develop new alliances with organisations such as the International Energy Agency in connection with the rapidly developing field of carbon capture & storage and the use of soil gas-methane for energy needs

For both of the above actions the Executive is requested to develop a proposal setting out the human resources required (eg the nomination of a Contact Point for each) and setting out a budget for the required actions – not to exceed €2000 annually for each.

ENHANCE THE DEVELOPMENT OF THE SCIENCE

While the IAH does not itself conduct research, it should nevertheless be in a position to provide insights into the directions that new research needs to take and thus provide high level perspective to those engaged in the research such as universities and research institutes. Several specific actions were noted in the Forward Look meeting and they are listed below,

- Facilitate cross discipline dialogue
- Enhanced appreciation of the unsaturated zone
- Research at the core of hydrogeology
- Assess the use of emerging technologies in improved aquifer management
- Promote publication in special publications and journals
- Promote education throughout the school curricula

Issues discussed	Main findings made by participants
I – IAH will be involved in the development of groundwater science	IAH as the WWGO should have an overview of groundwater research – identifying gaps and emerging gw issues. Facilitate communication between different research groups IAH should NOT be developing its own research groups Why? – How? – When? – Who? Where? —
II IAH should be involved in identifying, promoting and claiming groundwater science currently at the periphery	Unsaturated Zone – including SW/GW interaction and recharge Impacts of Energy: coal bed methane; CCS; renewable; heat; Microbiology GW climate change GCMs, land use Why? – How? – When? – Who? Where? —
III IAH should promote groundwater research at the core.	Too many people at the periphery of groundwater science have little understanding of the core. IAH must promote knowledge of core hydrogeology: aquifer properties; hydrochemistry; representing hydrogeological heterogeneity; groundwater engineering? Why? – How? – When? – Who? Where? —

<p>IV Use of emerging technology in advancing groundwater science</p>	<p>IAH should promote the use of emerging technologies: e.g. remote sensing; monitoring and instrumentation; modelling Why? – How? – When? – Who? Where? —</p>
<p>V IAH publications have had and will continue to have a key role in developing the science</p>	<p>The success of the hydrogeology Journal has been good for the science. Papers in special publications should be abstracted in the Web of Science to give more exposure to the Science. Why? – How? – When? – Who? Where? —</p>
<p>VI To develop groundwater science we should have greater exposure to groundwater in schools: get them young !</p>	<p>Obvious link to education. To capture the brightest and the best start from a broader base. Why? – How? – When? – Who? Where? —</p>

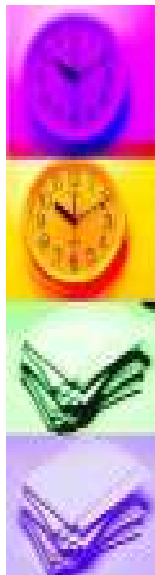
NEXT STEPS IN ENHANCING THE DEVELOPMENT OF THE SCIENCE

- Facilitate cross discipline dialogue**
- Enhanced appreciation of the unsaturated zone**
- Research at the core of hydrogeology**
- Assess the use of emerging technologies in improved aquifer management**
- Promote publication in special publications and journals**
- Promote education throughout the school curricula**

As each of the above Forward Actions fall within the remit of the Vice-President Science, it is suggested that a proposal be prepared to set up a Panel under the new arrangements, with the request that this panel be charged with enhancing the development of the science in the name of the IAH. The panel would follow the new operational rules and would report to the Council each year. A modest budget for this activity can be set up of say € 3000 on an annual basis.

THE NEEDS OF THE FUTURE DECADE

That the Forward Look – Forward Actions process is critical to the development of the IAH, it should nevertheless also reflect what the global needs are likely to be in the next decade. Several programmes are in



The Hydrogeologist of the future..

- ...will need something old, something new, something borrowed and something *else*... (Devlin 2004)
- qualified, inquisitive and enthusiastic people, excited by the breadth and challenges of the discipline and by the positive contributions they can make to society by studying it ... *and applying it*.

Devlin, J.F. 2004. The Future of hydrogeology lies in something old something new something borrowed and something else. Presented at the GSA Annual Meeting and Exposition, Denver, Colorado, November 7-10.

preparation that develop plan and strategies for the future and some these can be helpful to the IAH. An example is the development of the UNESCO-IHP phase VIII that will be complete in 2013 and the development of the Phase VIII, that is currently under development. Many of the ideas in the phase VIII will to some extent have to be supported by organisations such as the IAH and IAHS. The future of hydrogeology has been discussed and debated in the Journal of Hydrogeology (2005) and before that at the Geological Society of America meeting in 2004. An Article in the 2005 volume of the Journal of Hydrogeology by Peter Lachassagne foresees field hydrogeology for the year 2059 – while none of the above give clear directions of the development of a future hydrogeologist, it should be worth noting in this Forward Look – Forward Action plan that a hydrogeologist of the future will need something old, something new, something borrowed and something else...

SUMMARY OF TIMETABLE OF THE FORWARD ACTIONS

	Immediate 1 year	Urgent 2 to 5 years	Longer term 5 to 10 years
EDUCATION & ACADEMIC DEVELOPMENT	<ul style="list-style-type: none"> • Webpage as info source 	<ul style="list-style-type: none"> • Short Courses • Video's & DVD's • Thematic Forums • Publicity Materials 	<ul style="list-style-type: none"> • Publicity Materials - continuing
INTERNAL DEVELOPMENT OF IAH	<ul style="list-style-type: none"> • Web content Management • Improve Communication • Commission & Working Group restructuring 	<ul style="list-style-type: none"> • Increase membership appeal • Professionalism in Congresses • Better use of Membership data • Update Publications strategy 	<ul style="list-style-type: none"> • Membership 5000 – double the number of NC's
INFORM & INFLUENCE GLOBAL POLICY	<ul style="list-style-type: none"> • Prepare the FACTS & FIGURES Publication (Stage I) • Active support to the UN Law on Transboundary Aquifers 	<ul style="list-style-type: none"> • Update FACTS & FIGURES (Stage II) • Presence at selected major non water related events • Engage with major bottled water and food manufacturing Companies • Support at time of natural risks & disasters 	<ul style="list-style-type: none"> • Engage with major global personalities • Engage with major Regional personalities • Engage with Secretariats of International Environmental Instruments
ENHANCE ALLIANCES WITH EXTERNAL AGENCIES	<ul style="list-style-type: none"> • UNESCO-IHP, IASH, NGWA, Water Companies • Improved PR through professional services 	<ul style="list-style-type: none"> • EU Commissions • Regional Organisations: AMCOW, SADC, Universities & Research Agencies 	<ul style="list-style-type: none"> • International Financing Agencies

<p>ENHANCE THE DEVELOPMENT OF THE SCIENCE</p>	<ul style="list-style-type: none"> • Identity gaps in research • Identify emerging issues • Groundwater research at the Core 	<ul style="list-style-type: none"> • Facilitate communication between science specialisations • Unsaturated zone • Impact of Energy, coal bed methane • Microbiology in groundwater • Groundwater education in schools 	<ul style="list-style-type: none"> • Papers in Special Publications (non hydrogeological)
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SUMMARY OF FORWARD ACTIONS RESPONSIBILITIES AND BUDGETARY IMPLICATIONS

Forward ACTIONS	Responsibility	Budget & other requirements
EDUCATION & ACADEMIC DEVELOPMENT		
Webpage of the Association,	Secretariat	
Development of Short Courses,	Three person team, feasibility study, to report by March 2011	€1500
Production of video & DVD's,	Three person team, feasibility study, to report by March 2011	€1500
Establishment of Thematic Forums,	Executive to call for proposals to establish a Panel; Executive to identify three themes that the new Panel will address for the period Jan 2011 to Dec 2011	No budget implication
Preparation of Materials for Publicity.	Feasibility study (taking the findings of the above two feasibility studies) to take place June – August 2011	€1500
INTERNAL DEVELOPMENT OF THE IAH		
Enhance the added value of membership Increase overall membership to 5000 Improve communication Improve the use of the membership database of information to provide them with better services	Secretariat to implement	No explicit budget required, part of routine operations
Improve the professionalism of the Congresses	Executive & national committees organising each future Congress; three person strategy team appointed in Nov 2010 to report in Feb 2011	No major expenditure; Assess possibility of dedicated IT system; € 1000 for small expenses for Executive support
Reform of Commissions	Dealt with in full elsewhere	
Improved Publications Strategy	Journal Editor, Book editor,	No budget implications for the

	Executive Secretary to take findings from above Feasibility studies and develop strategy between June 2011 and Aug 2011 for consideration at next Council	development of strategy
INFORM & INFLUENCE GLOBAL POLICY		
FACTS & FIGURES – Stage I FACTS & FIGURES - Stage II	Executive to establish a Project implementation group of three persons	Initial budget of € 2000 Additional budget requests to be submitted to the 2014 Council
IAH to be participant at major non water related but relevant events Engage with global & regional personalities to appraise them of aquifers & their management Engage with multi national food and bottled water manufacturers	Executive decisions as & when required	Rolling budget of € 3000 per annum
Provide first line support to the promotion and adoption of the UN Law on Transboundary Aquifers Engage with other major international UN Declarations that are relevant to aquifer management Provide technical and scientific support in case of risk and natural disasters	Executive decisions as & when required	Rolling annual budget of € 3000
Provide scientific support in the developing national policies through National Committees	Executive to make decision on a formal request from a NC	Annual maximum expenditure € 3000
ENHANCE ALLIANCES WITH EXTERBNAL AGENCIES		
Increased engagement with some key Agencies, such as the EU Commission on environment, AMCOW, etc Increased engagement with sister agencies such as IAHS, NGWA, Water Companies	Executive to nominate IAH Contact Point for each agency	No financial commitment envisaged
Develop a working relationship with media and other information outlets	Council to approve and Executive to appoint a 'science journalist' contracted to publish at least two Articles annually	€ 3000 annual budget
Provide training and education to specific NGO's	Executive to develop a proposal eg nominate Contact Point	€1000 – annual budget
Seek to develop new alliances with organisations such as the International Energy Agency	As above	€1000 – annual budget
ENHANCE THE DEVELOPMENT OF SCIENCE		

Facilitate cross discipline dialogue Enhanced appreciation of the unsaturated zone Research at the core of hydrogeology Assess the use of emerging technologies in improved aquifer management Promote publication in special publications and journals Promote education throughout the school curricula	Executive to call for a proposal to set up a panel, responsible to Vice President Science, reporting to the Council annually	Annual expenditure of up to € 3000
		Total budget commitment of € 24500

THE KRAKOW PLAN OF ACTION

The Krakow Plan of Action for the IAH covers the period 2010 to 2020 and has been developed to ensure the improved operations of the IAH to serve its membership in a significantly better way, and to support global sustainable management of aquifer resources.

The Plan consists of five elements that cover education, internal development, informing and influencing global policies, enhancing alliances with external agencies and enhancing the development of the science of hydrogeology.

The Plan will be implemented through some urgent actions to be undertaken within one year of approval of the Plan, some medium term targets (2 to 5 years) and some longer term targets (5 to 10 years).

The urgent actions planned will show increased benefits to the membership within the first year involving a better web pages and internet based services, the publication of a fundamental reference document, FACTS & FIGURES, increased relationships with UNESCO-IHP, and other bodies, and the identification of key gaps in the research in the field of hydrogeology.

The medium and longer term actions will result in increased awareness about the significance of aquifers and groundwater among the non specialist, significantly better quality of the Congresses and scientific meetings, engagement with major users of aquifers such as food and bottled water manufacturers, a better profile at international events with relevance to groundwater and



CONCLUDING SUMMARY

■ From 2010 to 2020, the IAH will deliver

- On Education
- On Internal development ...
- On Informing & influencing ...
- On Enhancing alliances ...
- On Enhancing the science ...

Report to Council in Sep 2010 –
“The Krakow Plan of Action”

improved cross discipline dialogue.

By the year the 2030 IAH global membership will rise to 5000 and could be significantly higher, with double the number of National Committees compared to 2010.

INVITATION TO COUNCIL TO ENORSE THE KRAKOW PLAN OF ACTION

This document invites the IAH Council to review the proposals that have been made as part of the Forward Look- Forward Action process that has been conducted in 2010, starting at the Hyderabad Congress and submitted at the Krakow Congress.

The document is an Outline of the Actions and provides a preliminary allocation of responsibilities, indicative budgets and indicative timetables.

The Council is requested to authorise the Executive to refine the Outline, and to work out the details and then proceed with the Action Plan, reporting he progress made at each of the forthcoming Council meetings.

ANNEX I

BACKGROUND PAPER – DIGEST OF QUESTIONNAIRE RESPONSES

INTRODUCTION

To assist with the preparation of the Forward Look meeting and to solicit members' views of the Association and its activities now and in the future, a questionnaire was prepared and distributed early in April. 56 responses were received by the closing date of 30th April and a further 9 responses after this date, mainly from Australia prompted by a reminder from the Regional Vice President and these are still arriving. Some excellent, helpful and indeed challenging views and ideas were expressed, and formed the basis for invitations to several meeting participants. This note seeks to provide a quick, somewhat subjective and far from rigorous or comprehensive background digest of the responses for meeting participants. Thus, it may seem unduly negative because in limited space it must focus more on aspects of our activities that we need to improve than on those that respondents are largely happy with. It should not be taken in any way as pre-judging the outcome of the whole process nor of constraining discussion during the meeting itself.

THE ASSOCIATION'S SCIENTIFIC ACTIVITIES AND OUTPUTS

There was strong support for **IAH's scientific role**, which was viewed as an existing strength and a continuing obligation but with scope for improvement. There was broad consensus that the **Hydrogeology Journal** as the main focus of our scientific publication had achieved and was maintaining a high standard, but there were some contrasting views about the balance between research papers and reports – on the one hand developing country colleagues finding the later particularly useful and on the other an acceptance that this might hold down the scientific impact. There was some concern about the scope of the Journal's subject coverage and about the time from submission to publication. A summary of the views specific to the Journal will be passed to Cliff Voss.

There was greater divergence of views about the **scientific quality of our congresses** and the publications arising from them. Many said that our congresses were excellent and we should have more of them; others said there were too many, too broad in subject matter and including too many poor quality papers. Instead we should consider a mix of meetings of different types, with some more focussed in subject matter, but with higher quality presentations. As meetings are our science 'shop window' and key components of both our membership benefits and our external profile, we should consider how to address these concerns.

Our **book publications** are also appreciated, but can be improved. While review of IAH commissions is already in hand and will not be a major part of the Forward Look meeting, comments that the Commissions were less active and productive than before, have a low profile, are perceived as not easily open to members and have no or poor web presence should be noted.

THE ASSOCIATION'S EDUCATIONAL ACTIVITIES

The most consistent message from respondents is that **IAH has key educational objectives** which are presently not being met very well. While we already know this, the strength of response is both gratifying and challenging. "Education" in its broadest sense spans most of what we do, and means different things to different respondents. To many of our "southern" members, it means providing **scientific and technical training**, making technical knowledge available to them in various forms and formats, supporting them to participate in conferences and to achieve publication of their own work. To "northern" members it often means being more active and visible at the **science-policy interface**, raising non-specialist/stakeholder/community awareness of groundwater issues at local, national and global levels. Where we have made efforts in this respect, some members seem not well aware of them, and we may not have got full value for the materials we have produced and the efforts we have made. The science-policy interface is also seen as important by southern members – they need support to get groundwater messages across to other groups - suitable materials and stronger national groups are mentioned in this respect.

Overall, there is too much on education in the responses to easily summarise, and it cuts across and links to our scientific activities and external linkages and to the issue of the degree to which we become an advocate for groundwater. Even allowing for the human and financial resource constraints of a small professional organisation, our members clearly expect us to do more in the education field.

THE FUNCTIONING OF THE ASSOCIATION

Answering questions about who we serve and which things we do well and not so well, some respondents are concerned about the "academic club" feel of IAH and the institutional age and gender balance. Addressing this means not just making better efforts to recruit more young members, but also enabling them to participate much better in IAH conferences, commissions and national chapters. There is a need for more transparency in the governance of and activity of some national chapters, and we need to make more efforts to establish and support new national groups. It is suggested that we need to link better with other scientific associations both nationally and internationally.

While there is a considerable degree of satisfaction that we serve the membership quite well, we need to improve communication to IAH members about the work of the Association and have better publicity for our meetings and other activities. After education, the second consistent message coming from respondents is that we do not use the internet and our website as well as we should to further our aims by: better internal and external communication, publicity, dissemination of groundwater information of different types, education, discussion groups, reporting the work of the commissions. While again we know this is true, have made some efforts in this direction already and some further improvements are relatively easily made, some of the recommendations require significant resources.

THE BROADER EXTERNAL ROLE OF THE ASSOCIATION

Many respondents found the questions about the role of IAH and its external relationships more difficult to answer. While it is clear to most respondents that IAH has a role to play in promoting the protection and management of groundwater for the benefit of society as a whole, it is less clear how this should be done. Some felt that although there are individual efforts (mainly at the top of the organisation), we don't make enough use of our collective voice or of the deep reservoir of our skills and experience. We have links to the UN system, but not strong enough and perhaps too much on an individual basis, and it is not clear to our members if we are taken note of. Some suggest that perhaps we should have better links to UN agencies other than UNESCO, and in a more equal, less junior support mode.

Other suggestions included stronger IAH presences at Stockholm Water Week, World Water Forum, the Global Water Partnership, UN WATER, occasional joint publications/briefing papers/advocacy notes responding in a timely way to new issues, more media/press presence, take our message to other national and international fora when the opportunity arises, partner with NGOs and universities.

Some felt we should be more political in relation to difficult aspects/regions of groundwater management, others that this should be avoided as it would compromise our independent scientific role. Some (a minority) feel that we should stick entirely to the science and devote our efforts to doing and disseminating that as well as we can and leave the broader role to others.

IAH VISION AND MISSION

Many, probably in fact most, respondents felt that the present vision and mission statements of the Association expressed quite well what kind of organisation we should be and what we should do. For these colleagues, the concerns were more related to how we achieve our vision and mission.

Where suggestions were made, these were mostly in the direction of widening our appeal to those working in groundwater but not necessarily from a strictly hydrogeological background and broadening and strengthening our role in promoting to all levels of society the strategic value of groundwater and the need for proper management of its sustainable use.

Overall, there is clearly a consensus that IAH should have both science and policy threads to its work as an international, membership-based NGO, and establish a balance between these two. A key question, therefore, for IAH and the Forward Look is where the balance should lie and what these two threads should contain, and how activities within each thread should be facilitated, funded, carried out and disseminated. From the respondents' point of view, both threads would have much stronger education components than they do at present.

John Chilton, June 2010

Annex II Proposed Reforms of the Commissions and Working Groups of the IAH

Table 1 - Four Categories: Expectations / Obligations					
		Commissions	Networks	Working Groups	Panels
Term		4-6 years Renewable	4-6 years Renewable	Fixed term determined by mandate	Fixed term determined by mandate
Approval		By Council	By Council	Stand alone WGs approved by Council; Commission and Network WGs to be approved by VP for Prog&Sci	By Council
Review		Bi-annual	Bi-annual	No	No
Funding		Via WGs only	Via WGs only	Only for Council approved activities	Only for Council approved activities
Mission Statement		Required	Required	No	No
Mandate		No	No	Yes	Yes
Website		Required	Required	If appropriate	No
Activities:	Group Meetings	Required	Encouraged	No	No
	Sessions at Conferences	Required	Required	No	No
	Stand-alone Specialist Meetings /Symposia	Required	Encouraged	No	No
	Training Workshops	Required	Encouraged	Possibly	No
	Exchange of Knowledge	Required	Required		No
	Dissemination of Knowledge	Required	Required	Possibly	Possibly
	Research	Required	Encouraged	Possibly	Possibly
	Liaison / Interaction with other groups / organisations.	Required	Encouraged	Possibly	Possibly
	Education	Required	Required	Possibly	Possibly
	Expert Advice e.g. to UN / Governments	Encouraged	Encouraged	Possibly	Possibly
Deliverables:	Annual Report	Required	Required	Required	No
	Monographs / Maps	Required	Strongly Encouraged	Possibly	No
	Contributions to IAH Blue / Green Book Series	Required	Strongly Encouraged	Possibly	No
Membership:	Officers	Chair and 2 Co- chairs elected - all officers must be IAH members	Director and 2 Co-Directors elected or by agreement - all officers must be IAH members	Chair	Chair