

IAWPR – THE RESULTS OF DEDICATION

'It is impossible to consider the accomplishments and successes of the International Association on Water Pollution Research without recognizing the dedication of many individuals,' remarked Professor Richard S Engelbrecht, president of the IAWPR during the opening ceremony of the 11th Biennial Conference of the Association in Cape Town, South Africa.

Referring to a predecessor of his, Dr Gerrie Stander, he said that he could very easily follow Stander's lead of a decade ago and title his remarks 'Two decades of dedication'. Professor Engelbrecht paid tribute to the many individuals, engineers, scientists and others throughout the world who had put in long hours to make the IAWPR's conferences, seminars, and workshops, as well as its publications, successful.

SA Waterbulletin is a quarterly newsletter on water and water research published by the South African Water Research Commission (WRC), a statutory organization established in 1971 by Act of Parliament.

The objectives of the WRC are, briefly, to co-ordinate and promote, and to cause to be undertaken, research on, amongst others, the preservation, utilization, purification and reclamation of water used in agriculture and industry, and for urban purposes.

Subscription to the Bulletin is free. (The May edition, covering the IAWPR Cape Town conference in more detail, will be distributed free of charge to all delegates).

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'In addition to this dedication,' he said, 'there is also that dedication which permeates the entire water pollution control effort. I am referring specifically to the practicing engineers, scientists, researchers, technologists and the many others who have applied their talents in meeting the challenges of water pollution.'

'Although many of our water resources throughout the world continue to be impaired, damaged, or otherwise degraded by human and industrial wastewaters and other sources of pollution, there have been some notable successes in eliminating, or, at least, in controlling the pollution of our natural waters. These improvements in the qual-

ity of our water resources have come about through research and the application of research results and new knowledge.'

By way of example Prof Engelbrecht quoted Lake Washington in the US and the Clyde and Thames Rivers in the UK which had made remarkable recoveries after having been heavily polluted.

'A key ingredient associated with these accomplishments has been, in my opinion, the existence of a manpower pool consisting of a dedicated, talented group of engineers, scientists, technologists, and others, working together in concert,' Prof Engelbrecht said.

(To page 2)



The IAWPR Programme Committee met in London during September 1981 to select the papers to be presented at the Cape Town Conference. This picture shows some of the members during the meeting: (From left to right) Dr S Jenkins (UK, Chairman), Prof G Rincke (West Germany), Dr B Bernard (France), Dr L Coin (France), Mr D Newsome (UK), Prof P Harremoës (Denmark), and Prof P Jones (Canada).

'Is the answer to a limited source of water conservation, reallocation of the available resources, dual-supply systems, relocation of people, or planned water reuse?' he asked. 'The latter is certainly a viable option in many locations. Nowhere has the technology of treating wastewaters to reuse quality been more investigated than here in South Africa,' he said.

'As a result, I do not believe that any country has made a greater contribution to our existing knowledge of the technology required to reclaim wastewaters for potable use,' he said. 'Clearly, the direct reuse of wastewaters as a potable water supply poses a far greater health risk from infectious micro-organisms and toxic substances than does the usual surface water or ground-water.'

He said that the reclamation studies at the Stander Reclamation Plant in Pretoria and at Windhoek had provided a vast amount of meaningful information. He warned, however, that



The scene at the opening ceremony.

additional data had to be collected before criteria and standards as well as reliable monitoring strategies could be established.

With reference to the developing countries, Prof Engelbrecht said that the entire world stood to benefit by improving the quality of our world's water resources. It would seem, he said, that this was a case where 'to-

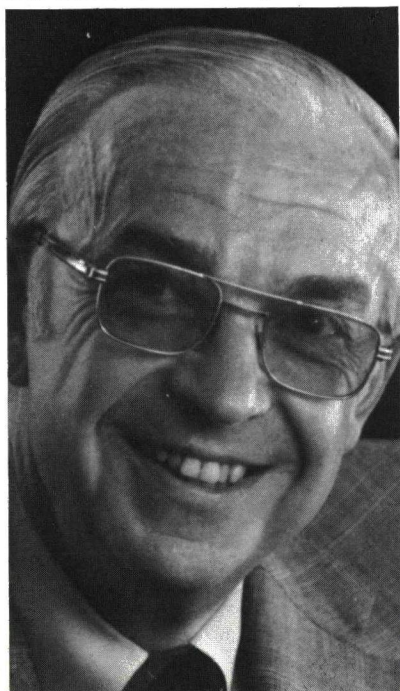
day's problems were tomorrow's opportunities.'

'This Conference,' he said, 'is a step towards meeting the challenges of water quality control which continue to confront us in that it provides a forum for the exchange of new information.'

'I urge you,' he concluded, 'to take full advantage of the Conference and all it offers, both technically and socially.'

ENGELBRECHT RE-ELECTED

Important news in the week preceding the conference has been that Dick Engelbrecht has been re-elected president



of IAWPR for the next term.

RICHARD S ENGELBRECHT, IAWPR President for 1980-82, has been a professor of environmental engineering at the University of Illinois at Urbana-Champaign since 1959. He received his undergraduate education at Indiana University and his M.S. and Sc.D. degrees at the Massachusetts Institute of Technology.

As an active researcher involved in problems associated with the microbiological aspects of water quality control, Professor Engelbrecht has authored over 100 reports and papers published in the technical literature. In 1966, he received the Harrison Prescott Eddy Medal from the Water Pollution Control Federation (WPCF) for noteworthy research, the Publication Award from the American Water Works Association (AWWA) in 1975, and the Eric H Vick Award from the Institute of

Public Health Engineers, UK, in 1979. Professor Engelbrecht is also a recipient of the Arthur Sidney Bedell Award (WPCF) and the George Fuller Award (AWWA) and is an Honorary Member of Abwassertechnische Vereinigung (ATV), FGR.

In 1977, he was elected President of the WPCF; his other professional organisations include AWWA, IAWPR (member USA National Committee), and the American Society of Microbiology. Professor Engelbrecht, in addition to his academic responsibilities, continues to serve as a consultant to governments and industries. In 1977, he was appointed a Commissioner to the Ohio River Valley Water Sanitation Commission (ORSANCO) and is currently serving as its Chairman. Professor Engelbrecht was elected to the U.S. National Academy of Engineering in 1976.

GARBERS: WIDENING HORIZON

'The achievements of South African scientists and engineers have received international acknowledgement and it is therefore appropriate that the IAWPR has chosen Cape Town as venue for its eleventh conference,' said Dr CF Garbers, President of the South African Council for Scientific and Industrial Research when he officially opened the conference on Monday, 29 March 1982.

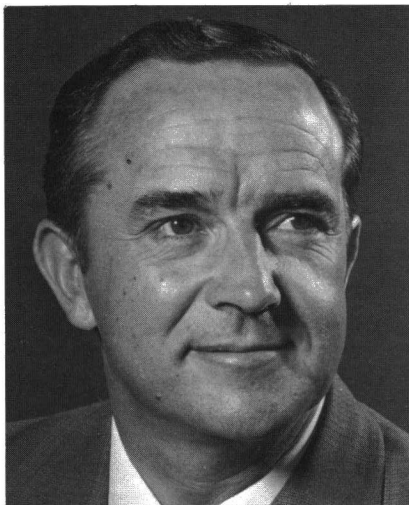
'I hope that the discussions at this conference will prove of mutual advantage in that visiting delegates will learn from the expertise of a water-poor country while South African delegates will avail themselves of the opportunity to communicate with well-known experts from abroad,' he said.

He said that by providing recognition for technical achievement and a forum for its presentation, the conference could widen the horizons of scientists and engineers and promote an even greater devotion to duty.

'By extending our frontiers of information in this manner we should be able to prevent the gap growing wider between the world's limited freshwater supplies and an ever increasing demand. Water is the most precious commodity of life and I do hope that this conference will assist in making people aware of the importance of optimal use and maintenance of the wholesome quality of the world's water,' Dr Garbers said.

'It is clear that the papers to be presented contain a host of valuable research findings that can be used for the development of new technologies. The practical application of modern science and technology should ultimately ensure the optimum economic use of water throughout the world.

'It is encouraging to note that a large portion of the proceedings of the conference will be devoted to "State-of-the-Art" sessions, including "Water Pollution Con-



Dr CF Garbers

trol in Developing Areas". It is the responsibility of the water community to ensure that adequate water and sanitation is provided in these areas, this being the primary objective of the UN International Drinking Water Supply and Sanitation Decade,' he said.

During his opening address, he discussed the place of water research in the scientific scene in South Africa.

Water is the most abundant substance on earth. The oceans alone cover more than 70% of the earth's surface and contain the incredible amount of 1 350 million cubic kilometres of water. This represents 97% of the total water on earth. Another 2½% is locked up in the polar ice caps or is unsuitable for most beneficial uses due to salinity. This situation immediately emphasises the need for research to develop and maintain an acceptable quality of our freshwater resources.

'Water is not only the most abundant but is also a unique chemical in that it is an almost universal solvent and hence prone to pollution. It is therefore evident,' he said, 'that research into the technology of water treatment and purification should be the objective of a large section of the scientific community.

The provision of an adequate

supply of wholesome water and facilities for disposal of waste waters without damage to the environment is essential in any community anywhere in the world. Increasing populations, accompanied by urban and industrial development, are making greater demands on water resources. Moreover, with greater time and opportunities for leisure, there are increasing demands for preserving and improving water resources for such recreational pursuits as fishing and other water sports!

South Africa has recognized the need for water research and the establishment of the Water Research Commission (WRC) in 1971 provided additional support for the work undertaken by several research agencies throughout the Republic. Total expenditure on research and development (R&D) in the RSA amounted to 310 million rand in the 1979/80 financial year. This represented 0,64% of the gross national product.

Of the total funds devoted to R & D some 0,97% was devoted to water technology while water resources and utilization accounted for 0,63%. Research related to civil construction for water utilization amounted to 1,36% of the total R & D expenditure.

In South Africa R & D directed towards optimum utilization of water has been most appropriate since notwithstanding the mineral wealth referred to earlier we have an overall scarcity of water. It is estimated that the total water resources that can be harnessed would eventually amount to some 60% of the available runoff. This stage will probably be reached by the turn of the century when the total credits would come to some $30 \times 10^9 \text{ m}^3$ per annum. By then it is estimated that the total consumption would also equal this figure. It is therefore obvious that research to optimize the use and reuse of water is of primary importance.

(To page 6)

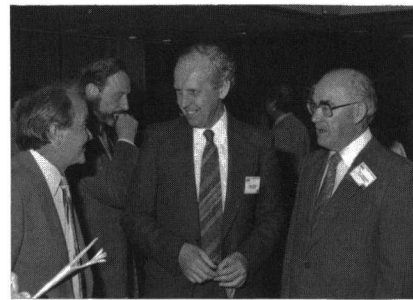
WRC's Meet 'n greet . . .

Host and Hostess Dr and Mrs MR Henzen meet President RS Engelbrecht (extreme left) and Mrs Engelbrecht (second from right). Dr Henzen is chairman of the Water Research Commission and hosted the meet and greet social function.



(Left) Delegates Ohgaki, Ishimaru and Onamu from Japan.

(Right) Delegates Alexander (RSA), Raper and Howard (both Australia)



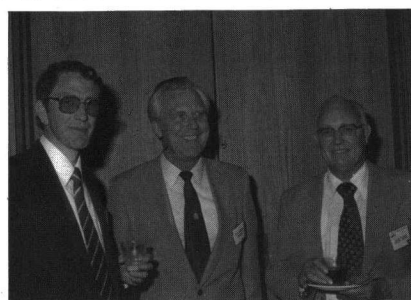
(Left) Delegates Iwai (Japan), Shin (West Germany) and Fukase (Japan)

(Right) Delegates Marks (Zimbabwe) and Smith (Australia) left and right, and wives right and left.



(Left) A charming French trio: Mesdames Basalo, Kloninger and Rizet.

(Right) Delegate Englande (but not from!), Mrs Englande and master Andy.



(Left) Gov Brd member Hawermann (Sweden) with delegates Schutte (left) and Du Plessis (right) from RSA.

(Right) Delegates Morgan (RSA), Rivas-Mijares (Venezuela) and Ludwig (Brazil).



(Right) Gov Brd member Jones (Canada), delegate Pretorius (RSA), Ms Townsend-Rose (UK) and re-elected vice president Harremöes (Denmark)



(Below) Gov Brd member Ehrhardt (Netherlands) and re-elected vice president Kunze (West Germany).

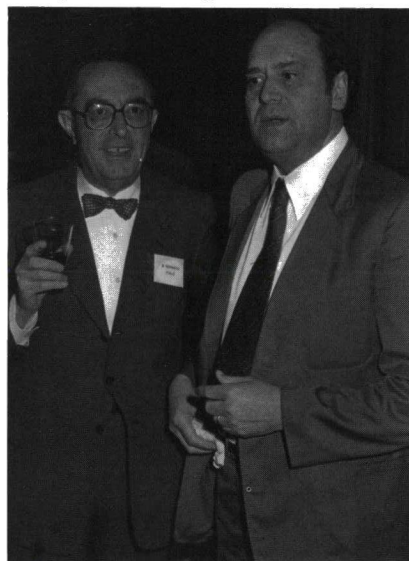


(Top) Delegate Bilstad (Norway) and partner Margaret Kirkvik.

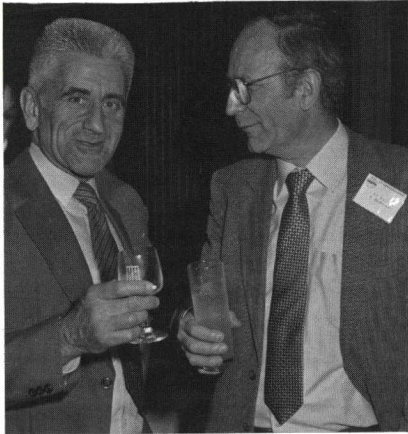


(Left) Gov Brd member Rincke (Germany), ntl chairman Cillié and delegates Van Vuuren (RSA) and Bernhardt (Germany).

(Right) Delegates Quarato and Tartaglia (Italy).



(Left) Delegate Van Leeuwen (RSA) with spouse (right) and Mrs Cillié, wife of ntl chairman Dr Gawie Cillié.



(Top) Delegates Bernard (France) and Kuznia (West Germany).

(Below) John Foley and Ms I Haywood (RSA).



GARBERS (continued)

(From page 3)

'In addition, during your brief visit to South Africa' Dr Garbers said, 'you will realise that in a relatively small country we are confronted with many major climatically defined regions on which fundamental knowledge is required. One could refer to our long coastline with the warm Mozambique current in the East and the cold Benguella current in the West. Within our borders climatic conditions vary from sub-tropical to Mediterranean with Savannah, Bushveld, Karroo, Fynbos, Desert, etc., type ecosystems, all requiring fundamental study.

'We are in areas confronted with desert encroachment, whereas the rapid industrialisation with projected further investments in major industrial ventures totalling more than R30 000 000 000 in the decade

ahead, extend further challenges. Add to this the massive projected population migration to an area, already the biggest industrial area not situated at the sea or on the banks of a major river and it is obvious that heavy demands will be made on the ingenuity of those scientists and technologists carrying responsibility for the supply and preservation of our water supplies in Southern Africa!

'However, I am pleased to remark that through the visionary planning of

- the Department of Environment Affairs
- the Water Research Commission, which mobilizes expertise in matters related to water supply on a national basis, and
- the National Institute for Water Research (NIWR)

we have a mechanism to confidently look to the future,' Dr Garbers said.

(Below) Battle-weary but not permanently scarred (or scared!) are these members of the Organizing Committee: (Front fltr) Messrs H Blersch, K McCusker, P Odendaal (chairman), Mrs T Reeler, Dr G Cillie. (Back) Messrs ST Fourie, M Smit, C Visser, W Ross, E Hall, Dr L Smith and Mr D Osborn.



IWAI HONoured

Prof S Iwai of Japan receives honorary membership from President Dick Engelbrecht (left). Applauding are Master of Ceremonies Odendaal and Mayor of Cape Town, Alderman M van Zyl.



STANDER – 'FORUM FOR CONTACT'

'There are innumerable situations where the solution of problems at national level necessitates the crossing of international boundaries for information exchange and for multinational cooperation,' Dr Gerrie Stander, Conference President and a past president of IAWPR said in his address at the opening ceremony of the conference in Cape Town.

Dr Stander said that water pollution problems and the protection of the quality of the fresh water and marine environments were not confined to a particular country. In fact, it had become a major international issue and no country could command all the answers to the many problems which arose from modern technological development and the output of industry, from the diversification of products coming onto the market, from agricultural development and from the urbanisation process.

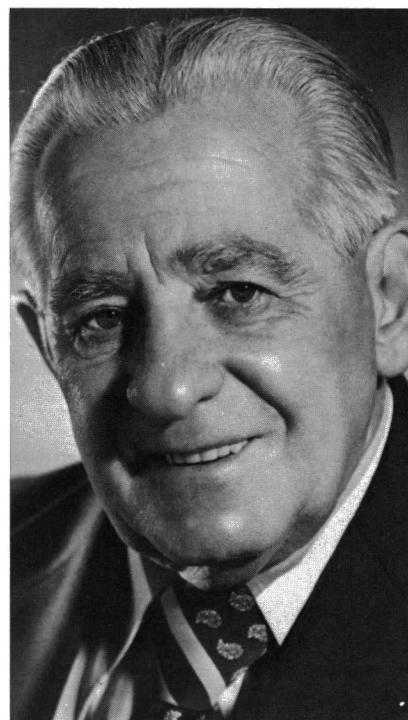
'Consequently,' he said, 'individual nations are increasingly aware of and dependent on practical expertise, ideas, innovations and water research data available around the world to provide solutions to their particular problems of water resources optimisation'.

He said that international conferences such as these constituted a forum for contact at personal level for the effective

exchange of ideas and a new research knowledge.

Dr Stander (one of two founder members present at the conference, the other being Dr SH Jenkins of the UK) said that he could state without fear of contradiction that the Association had through its biennial conferences and its other communications become an effective international centre for the publication of on-going water research, for the exchange of research data, for the promotion of practically orientated research.

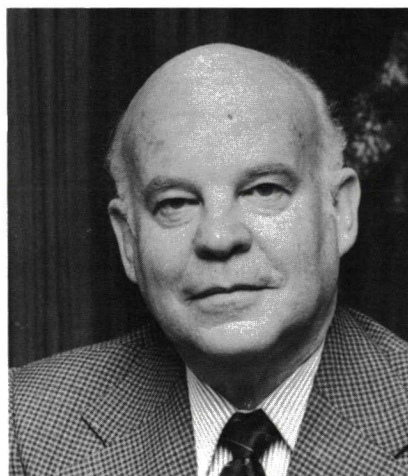
Dr Stander paid tribute to the delegates at the conference and said that they were 'active and dedicated workers' who had made time to come to the conference and to accept responsibilities.



Mr J G Brand, City Engineer of the host city to the IAWPR 11th Biennial Conference.

Mr Brand, who has recently been co-opted as a member of the Water Research Commission, has had extensive experience of water reclamation for domestic reuse.

He was City Engineer of Windhoek during a critical stage in the water supply to that city and played a major role in the incorporation of reclaimed water in the supply from conventional sources.



... final
countdown.

President Dick Engelbrecht and Executive Editor Sam Jenkins during a brighter moment at the London meeting of the Programme Committee.



IAWPR Secretary-Treasurer Tony Milburn and his two winsome assistants Angela Townsend-Rose (left) and Diane Armstrong.



Professors P Jones, G Rincke and P Harremoës making a final evaluation of some of the papers submitted for the Cape Town Conference.

