

**INTERNATIONAL COMMISSION
ON
IRRIGATION AND DRAINAGE**

AGENDA

**TWENTY-EIGHTH MEETING OF THE
INTERNATIONAL EXECUTIVE COUNCIL**

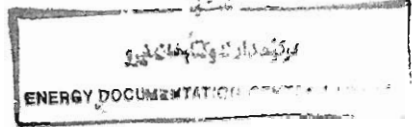
**&
MEETINGS OF THE COMMITTEES
AND WORKING GROUPS**

**TEHRAN (IRAN)
MAY 13-19, 1977**





1574



**AGENDA OF THE TWENTY-EIGHTH MEETING OF THE
INTERNATIONAL EXECUTIVE COUNCIL TO BE HELD
IN TEHRAN (IRAN) ON 17 AND 19 MAY 1977**

First Session : 17 May 1977 at 14.00 hours

Second Session : 19 May 1977 at 9.00 hours

Third Session : 19 May 1977 at 14.00 hours (if necessary)

- (i) Welcome Address by the Chairman of the Iranian National Committee of ICID
- (ii) Response by President Dr. Holy, ICID

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Item 1 : Report of the Secretary-General for the period March 1, 1976 to February 28, 1977

I am pleased to present this Report to the International Executive Council for the period March 1, 1976, to February 28, 1977.

1. Membership

(a) Since the last meeting of the Council in Banff in June 1976, a formal application for membership has been received from the Hashemite Kingdom of Jordan. This application will be considered by the Council while discussing Item 2 of the Agenda of the present Executive Council Meeting. With the admission of Jordan as a member, the total number of member countries of the Commission would be 68.

(b) The Director, Water Department, Nairobi, Kenya in his letter dated May 25, 1976 had written to state "the Kenya Government wished to become a member of the International Commission in accordance with the conditions and rules of membership as currently applied. We did not appear to have been provided with any formal application forms and if these were required, we should appreciate early despatch for completion. Nevertheless, pending any such formalization you may take this communication as committing the Kenya Government."

Accordingly, under his letter dated May 28, 1976 the Secretary-General sent application forms and other particulars of the Commission to the Director, Water Development, Nairobi (Kenya) requesting him to fill them in and send them to our address in Banff where applications for membership would be considered.

Completed application forms from Kenya were not received in Banff but on the authority of letter dated the May 25, 1976 from Kenya, the Secretary-General requested the Council to consider the application of Kenya for admission which the Council unanimously approved.

After the Banff Council meeting, the Secretary-General wrote to the Director, Water Development, Nairobi (Kenya) conveying the decision of the Council that Kenya had been admitted as a member country.

Under his letter dated August 2, 1976, the Director, Water Development, Nairobi (Kenya) acknowledged the Secretary-General's letter of May 28, 1976 and stated "it proved impossible to despatch the documents before the meeting of the Council in Canada and hence we are sending them to you at your headquarters. We appreciate that this might involve delays but do not regard these as serious. It is trusted that the forms meet with your requirements."

On going through the formal application from Kenya it is observed that Kenya has sought membership with effect from the calendar year 1977 and not 1976. The Council will be requested under Item 2 to ratify its decision and admit Kenya as a member with effect from 1977.

(c) Vietnam joined the Commission as a member country in 1961 and the annual contributions upto the year 1974 were regularly remitted by the Director, Directorate of Agriculture and Rural Works, Saigon. The unification of the Republic of Vietnam and Socialist Republic of Vietnam took place in the year 1975 and thereafter we had not received the annual contribution for the years 1975 and 1976.

At the Regional Afro-Asian Conference of ICID held in September 1976 in Tashkent, there was an opportunity for the President and the Secretary-General to bring to the notice of His Excellency M. Nguyin-Thân Binh, Minister of Irrigation, Socialist Republic of Vietnam, Hanoi, the activities of ICID and the mutual advantages from continuing membership of ICID. On his return to Headquarters the Secretary-General addressed a communication to His Excellency Mr. Than-Binh recalling the meeting with him in Tashkent and requesting him to forward an application to the Council to the effect that the unified country—Socialist Republic of Vietnam—wished to continue to be treated as a member of ICID so that this application may be submitted to the Council which is to meet in Tehran in May 1977. A follow up reminder was issued on January 6, 1977. I am sure that the Socialist Republic of Vietnam would continue to participate in the Commission's activities. Any further communication, if received, will be submitted to the Council for its consideration.

(d) At the time of the ICID First Regional Afro-Asian Conference held at Tashkent in September 1976, President Prof. Dr. Holy and the Secretary-General availed of the opportunity to arrange a meeting of the high dignitaries representing non-member countries to canvas membership by acquainting them of the activities of ICID and the mutual advantages of membership to the country concerned and the Commission. Among the non-member countries present at the meeting were His Excellency Mohamed Ibrahim Ahmed, Minister of Agriculture, Somali; Mr. Pedro Dizeko, Responsable du Department, Secretariat d'Etat à l'Agriculture, Angola; His Excellency Banudoujijn Bars, Minister, Ministry of Water Management, Ulan Batoz, Mongolia; His Excellency M.S. Nazey, Minister of Agriculture of Agrarian Reform, Khar Maksor, Aden; His Excellency Mohmed Ali Toby, Minister of Agriculture, Tripoli, Libya; and M. Thongvanh Phamrassavong, Ingenieur Civil du Génie Rural, Direction de l'Hydraulique et du l'irrigation, Vientiane, Laos; and His Excellency Wasifi Azizulla, Minister of Agriculture, Afghanistan. Follow up letters were also addressed to all the dignitaries recalling the interest evinced by them in membership of the Commission.

(e) On his way to Tashkent, the Secretary-General had met on a similar mission Mr. J.M. Mohamdi, General President and other senior officers of Water and Power Authority, Government of Afghanistan in Kabul. The Secretary-General requested Mr. Mohamdi to use his good offices in expediting the submission of application for membership of his great country. After the Tashkent Conference the distinguished representative of Afghanistan was sent all the relevant documents. It is hoped that an application for membership will be received in the near future.

(f) The tempo of persuasion has been maintained by the Secretary-General throughout the year for increasing the membership of the Commission. Inter alia, letters have been addressed to Mozambique,

Guatemala, Madagascar and Sweden. The Secretary-General has also requested His Excellency Iliasu Solihi, Permanent Secretary, Federal Ministry of Agriculture and Natural Resources, Lagos, Nigeria to use his good offices with Chad, Mali, Malagasi Republic and Tanzania to become members of ICID.

2. Publications

(a) *ICID Bulletin*

- (i) The January 1977 issue of the Bulletin was mailed to National Committees in September/October 1976. Copies of the July 1977 issue were distributed to National Committees in February 1977.
- (ii) The Secretary-General would like to place on record once again his sincere appreciation of the National Committees' co-operation in contributing articles and information for the Bulletin, in procuring advertisements and promoting its sales.

(b) *Bibliographies*

Annual Bibliography (1974) was printed in the last week of May, 1976 and its copies were distributed to National Committees and others in June, 1976. Annual Bibliography (1975) is expected to be out by March 1977.

(c) *Annual Report*

The Annual Report 1976 both in English and French were printed in December 1976, and copies mailed to the National Committees in December 1976/January 1977.

(d) *Transactions of the Ninth Congress on Irrigation and Drainage*

Volume II to VII of the Transactions of the Ninth Congress were printed in October 1976 and its copies were despatched to National Committees and others during November-December 1976 and January 1977. Copies of Volume I of the Transactions will be available for despatch to National Committees during the second half of 1977.

(e) *Irrigation and Salinity—A World-wide Survey*

This publication was published towards the end of May, 1976 and its copies mailed during May/June 1976.

(f) *Flood Control—A Global Review—Vol. I*

This publication was received from the press in May/June 1976 and its copies were distributed to the National Committees during June 1976.

(g) *Flood Control—A Global Review—Vol. II*

The manuscript of this volume is in the press and printing is going on. It is hoped to present a few copies of this Volume at the Tehran meeting.

(h) *Manual of Flood Control methods and practices—Volume III*

The Permanent Paper Committee recommended, and the Council approved, at its last meeting in Banff (1976) that as a general practice the ICID should undertake the preparation of Manuals only in special cases where the subjects had matured to definitive stages and were on fundamentals only, and that only after thorough reconnaissance is made of the availabilities of the existing manuals on the subject to justify fully the need for an ICID Manual.

In particular case of the "Manual of Flood Control Methods and Practices—Vol. III", prepared by the Hungarian National Committee it was decided that the information (according to the revised chapters) be also furnished in respect of India, Pakistan, USA and Japan regions with a view to broad-base the publication to cover flood control methods in the world.

After receipt of the material from these countries the Manual would be rewritten by the Secretary-General to include the available information covering other regions of the world.

Mr. R.H. Clark (Canada), in consultation with Prof. Volker has furnished in January 1977 sub-titles for "Non-Structural methods" and these have also been supplied to the above mentioned countries in addition to the revised table of contents furnished earlier.

The Pakistan National Committee has nominated an expert and the Indian National Committee has written to inform that the work on the preparation of the report has been taken up. Replies from Japan and USA are awaited.

(i) *Irrigated Rice—A World wide survey*

It is hoped the publication will soon be out

(j) *Directory on "Land Reclamation and Water Management Organizations in the World"*

Information and data have been received from 40 member countries. In addition, FAO has supplied information in respect of four non-member countries. The work of compilation is in hand. It is hoped that the cyclostyled copies of this Directory will be available for despatch to National Committees during the latter part of the year.

(k) *Cross-reference Index of the ICID publications*

The preparation of cross-reference index of ICID publications has been begun on the joining of the second Deputy Secretary in the Central Office in December 1976. Preliminary study on its format and relevant literature search for detailed classification of subjects treated in ICID publications has been taken up.

(l) *Regime data—Flume data and Regime basics*

As reported to the Council last year the publication compiled by Dr. D.B. Simons and Prof. T. Blench had been received in the Central Office in February 1975. But Dr. Simons wrote to us that he had some difficulty with the financing of printing additional copies of the publication

for release through the Colorado State University. This was brought to the notice of the Council at its Banff meeting with my proposal (see page 55 of Annual Report 1976) which the Council approved without modifications.

Consequently Dr. Simons was requested in July 1976 to supply cost (including surface mail charges) according to the number of copies and furnish the book-review so as to invite the demand of our National Committees for the publication and the Central Office would consolidate the demand and forward it to Dr. Simons.

Under his letter of December 29, 1976 Dr. Simons, has intimated the following costs of production and transmission:

| <i>No. of copies</i> | <i>Cost of production</i> \$ | <i>Postage and handling</i> \$ | <i>Total</i> \$ |
|----------------------|---------------------------------|-----------------------------------|--------------------|
| 25 | 1,375 | 44 | 1,419 |
| 50 | 1,495 | 88 | 1,583 |
| 100 | 1,728 | 175 | 1,903 |
| 200 | 2,048 | 350 | 2,398 |
| 300 | 2,610 | 525 | 3,135 |
| 400 | 3,040 | 700 | 3,740 |
| 500 | 3,492 | 875 | 4,367 |

The above costs are subject to cost raises in salaries, supplies and postal rates.

The book-review which would help to establish the value of the publication and generate greater interest in the book is still awaited. On receipt of the book-review the National Committees would be requested to intimate their requirements.

(m) Translation by the National Committees into their own languages of the basic (English-French) Multilingual Technical Dictionary on Irrigation and Drainage

The Hungarian National Committee has written to say that the manuscript of the Hungarian edition of the Dictionary is under print. It is hoped that by the end of 1977 it will be available.

The Italian National Committee informed the Council in 1976 that the printed copies of the Italian version of the Dictionary would be available at the time of the XI European Regional Conference to be held in Rome just preceding the Tehran Council meeting.

The Spanish National Committee has intimated that the English-Spanish version of the Dictionary is still under print, the last revisions and corrections being almost finished and it is hoped that fully printed copies will be available within a short period of time.



The Council would like to hear from the representatives of the National Committees the up to date progress on the translation into their respective languages since the last meeting of the Council in 1976.

3. Central Office

Mr. B.C. Garg, appointed as Acting Secretary vice Mr. I.K. Mahajan on leave preparatory to retirement, has since been confirmed as Secretary. Two new Deputy Secretaries (1) Dr. S.D.L. Luthra and (2) Mr. B.K. Chadha joined the Central Office on May 31, 1976 and December 1, 1976 respectively. The Secretary-General hopes that with the sanctioned strength now in position, the Central Office will provide greater service for the Commission.

4. European Regional Conferences of ICID National Committees

(a) The Eleventh European Regional Conference on Irrigation and Drainage will be held in Rome (Italy) preceding the Tehran Council meeting from May 5-12, 1977. The theme of the Conference is "Small watershed management, with emphasis on small reservoirs development (for irrigation and other purposes)". The President and Secretary-General hope to be able to attend it and present a brief resumé of the deliberations and conclusions.

(b) The Twelfth European Regional Conference on Irrigation and Drainage is proposed to be held in 1979 in Yugoslavia. The topic selected for discussion is "Drainage, Irrigation and Flood Control in connection with multipurpose river projects". Detailed scope of this topic will be drafted by the Yugoslavian National Committee and presented to a meeting of the representatives of the European National Committees during the Regional Meeting in Rome in May 1977.

5. Afro-Asian Regional Conferences of ICID National Committees

(a) The First Afro-Asian Regional Conference of ICID National Committees was held in Tashkent (USSR) from September 7-11, 1976.

The Commission was represented by President Dr. Holy and Mr. K.K. Framji, Secretary-General. Mr. B.C. Garg, Secretary, also attended.

The main topic of the Conference was, "The role of irrigation, drainage and flood control in socio-economic developments for Asia and Africa".

The Conference was a resounding success both in respect of the papers presented, the deliberations and the contacts made at the Conference, as well as the very instructive study tours. In the Secretary-General's view the most important achievements highlighted at the Conference were:

(1) desert development of the Golodnaya Steppe and the reclamation of saline lands in the Hunger Steppe.

(2) The socio-economic results flowing from large reclamation projects represented by a complex of technical achievements and social developments.

A copy of the 'Declaration' presented by the Secretary-General at the conclusion of the Conference was circulated to all National Committees of ICID. Further details were also broadcast in ICID Bulletin, July 1977 issue.

(b) Second Afro-Asian Regional Conference

Mr. Junio, the Chairman of the Philippine National Committee wrote to the Secretary-General in October, 1976 that His Excellency, the President of the Philippines, had approved the holding of the Second-Afro-Asian Conference of the International Commission on Irrigation and Drainage (ICID) in Manila in November-December, 1978.

Mr. L.D. Kagahastian, the Technical Secretary of the Philippine National Committee has further informed the Secretary-General that they have formed an Executive Planning Committee to lay the groundwork for this forthcoming Conference. Mr. Kagahastian requested the Secretary-General to provide him with the basic requirements and information about the Conference. The required information was furnished to Mr. Kagahastian and he was requested to send the formal invitation for holding the Conference in the Philippines and give their suggestion of a rice-oriented theme and its draft scope for further consideration by the Afro-Asian countries present in Tehran. Further developments, if any, will be reported to the Council.

(c) Third Afro-Asian Regional Conference

As reported last year the Indian National Committee is interested in holding the Third Afro-Asian Regional Conference in India in 1980. Further development, if any, will be reported to the Council.

(d) Fourth Afro-Asian Regional Conference

His Excellency Iliasu Solihi, Permanent Secretary, Federal Ministry of Agriculture and Natural Resources, Lagos, Nigeria first announced at the Tashkent Conference in September 1976, and later confirmed to the Central Office vide his letter dated November 8, 1976, the gracious wish to host the 4th Regional Conference in Nigeria in 1982.

6. Being encouraged by the successes of the Regional Conferences in Europe and the Afro-Asian countries the President and the Secretary General have broached the subject of possible organizing of regional conference(s) for the South and Latin American countries to the Brazilian and Mexican National Committees.

The Brazilian National Committee has expressed its regret at being unable to organize a conference in the near future. Reply from the Mexican National Committee is still awaited.

[This matter will be discussed further with the group of South American and Latin American Countries attending the Tehran meetings and the outcome, if any, will be reported to the Council for acceptance of the general principle of holding Regional Conferences for the Latin American—South American Countries.]

7. Central Office Technical Library*(a) Library Books and Periodicals*

The total number of books, as on January 28, 1977, was 16,644. There has been an addition of 894 books since the last report. 228 books

were received from various National Committees (to whom grateful thanks are due) during the period February 29, 1976 to January 28, 1977 as under:

| | | | |
|-----------------------------------|------------|-------------------|------------|
| Australia | 2 | B/F | 100 |
| Brazil | 2 | Japan | 1 |
| Canada | 21 | Malaysia | 19 |
| Chile | 2 | Mexico | 1 |
| Colombia | 1 | Netherlands | 1 |
| Cyprus | 6 | Poland | 2 |
| Czechoslovakia | 1 | Republic of China | 2 |
| Democratic Republic of Germany | 10 | Rhodesia | 6 |
| Federal Republic of Germany | 5 | Thailand | 1 |
| France | 4 | U.S.A. | 32 |
| Greece | 1 | U.S.S.R. | 17 |
| India | 35 | Yugoslavia | 45 |
| Italy | 10 | Zambia | 1 |
| | | Total | 228 |
| | <u>100</u> | | <u>228</u> |

Only 75 books could be purchased due to limited budget provision, against 116 books last year. Xeroxed copies of four publications were prepared and added to the Library and 24 copies of ICID publications published during the year were accessioned. 42 books were donated by Mr. K.K. Framji, Secretary-General, ten books by Mr. B.C. Garg, Secretary, and 18 Books by Dr. S.D.L. Luthra, Deputy Secretary. Three books were received from various Technical Publishers for review in the ICID Bulletins and copies thereof were added to the Central Office Technical Library. 490 Books were received from various organizations and other individuals as gifts or in exchange. In view of the rocketing prices of the books and the limited budget allocation possible—for the same amount of budgeted provision only one book can be procured now against 2 to 4 books until even 3 years ago—the Secretary-General would importune more gifts of books from National Committees and other kind donors.

The total number of Technical periodicals received in the Central Office Technical Library during the year was 211. The number of periodicals and the countries or organizations from which these periodicals were received are the following:

26 from U.S.A.; 25 from India; 24 from France; 15 from United Nations and its Specialized Agencies; 14 from Australia; 12 each from Great Britain and U.S.S.R.; 10 from Bulgaria; 6 each from the Federal Republic of Germany and the Netherlands; 5 from Romania; 4 from Belgium; 3 each from Czechoslovakia, Greece, Hungary, Israel, Japan,

Poland, Portugal and Rhodesia; 2 each from Canada, Cuba, Mexico, Spain, Sri Lanka, and Switzerland; 1 each from Bangladesh, Democratic Rep. of Germany, Colombia, Finland, Hongkong, Italy, Kenya, Malaysia, Morocco, Philippines, Republic of China, Singapore, Thailand, Turkey, Venezuela and Yugoslavia.

There has been an addition of nine new technical periodicals since the last report i.e., two each from Bulgaria and India, one each from Federal Republic of Germany, Democratic Republic of Germany, Israel, Poland, and Republic of China.

The exchange of two periodicals from U.S.A. and one periodical each from Brazil, Cuba, Czechoslovakia, France, Kenya, Philippines, Turkey, Unesco, and Venezuela has been either suspended or cancelled during 1976. All the periodicals are being received in exchange or as gift except the publication of the American Geophysical Union, "Water Resources Research" which is being subscribed to as it is not made available on free exchange basis.

The Secretary-General expresses his sincere gratitude to all the donors of the books and periodicals.

(b) Preparation of Bibliographies

- (i) In addition to the compilation of the annual "Bibliography of Irrigation, Drainage, River Training and Flood Control—1975", the "Bibliography on Irrigated Rice" was updated for the ICID forthcoming publication on the subject.
- (ii) A special "Bibliography on the Geology of Dam sites and Reservoirs" was prepared at the instance of Mr. K.K. Framji, Secretary-General.
- (iii) A short "Bibliography on Dam Failures and Seismic Effects on Dams" was prepared at the instance of Mr. K.K. Framji, Secretary-General.
- (iv) A short "Bibliography of Water Law" was also prepared and furnished at the request of Dr. Kanwar Sain, Vice-President Honoraire, ICID.

(c) Technical Co-operation by Information Transfer

The following information was either obtained from other National Committees or compiled in the Central Office and furnished as sought:

A copy of the conclusions and recommendations by the Review Committee of the ICID Special Session, "Environmental Control for irrigation, drainage and flood control projects," held in Moscow in 1975, on the request of the International Council of Environmental Law, 214 Adenauerallee, 53 Bonn, Germany.

8. Interchange of Information

Copies of the following publications were distributed or offered

through the Central Office to the various National Committees:

(a) *From Indian National Committee*

- (i) Library of Canal Data
- (ii) Manual on Canal Lining
- (iii) CBI & P Technical Report No. 7 'Design Practice for Unlined Incised Canals.'

(b) *From Brazilian National Committee*

- (i) Priority Areas and GODEVASF Programs
- (ii) Minter-Dnocs Second National Plan for Development of Irrigation

9. Tehran Special Session

Theme: Probable contribution from irrigation, drainage and flood control to meet the requirements of agricultural production towards the year 2000—Role and activities of the ICID and its National Committees.

Fourteen Reports have been received for the Special Session from 13 countries (two being from USA). Prof. Hajrasuliha (Iran) who was appointed General Reporter was in New Delhi in January 1977 to prepare the General Report for the Session. He completed his General Report with the 12 reports received during his presence in New Delhi with assistance and co-operation of the Central office. The reports and General Report (English and French) are under print and will be distributed to the National Committees and others in April, 1977.

The Session Officers and the Review Committee of the Special Session appointed in consultation with the President, are:

(a) *Session Officers*

- (1) Chairman—President Prof. Dr. Holy (as per By-laws)
- (2) Vice-Chairman—Vice-President Dr. T.H. Anstey (Canada)
- (3) General Reporter—Prof. Dr. Hajrasuliha (Iran)
- (4) Secretary—Mr. K.K. Framji (Secretary-General)
- (5) Session Assistant—from Iran

(b) *Review Committee*

- (1) Vice-President Dr. T.H. Anstey (as per By-laws)
- (2) Vice-President Mr. Darves-Bornoz (France)
- (3) General Reporter—Prof. Hajrasuliha (Iran) (as per By-laws)
- (4) Mr. K.K. Framji, Secretary General

10. Tenth Congress on Irrigation and Drainage—Athens, May-June, 1978

(a) *Bulletin No. 1*

At its last meeting in Banff in June 1976, the Council approved the draft Bulletin No. 1 prepared by the Greek National Committee containing information on the arrangements for the Congress. This Bulletin has since

been mailed to all National Committees, Office-bearers and International Organizations.

(b) Papers

The Central Office has so far received one paper from the Turkish National Committee on Question 33.

The last date for the receipt of papers is April 30, 1977. The latest information on the expected number of papers and the names of the National Committees and other International Organizations submitting them will be intimated to the Council at the meeting.

(c) General Reporters and Reporters

The following are the General Reporters and Reporters for the Questions selected for the Tenth Congress:

Question 33 : Economic evaluation of irrigation projects—studies developed and case studies of economic and environmental impacts.

General Reporter : Mr. Gilbert Manuellan (France)

Question 34 : Latest subsurface drainage techniques and drainage construction methods.

General Reporter : Mr. G.R. Hoffman (Great Britain)

sub-Topic 34.1 : Drainage techniques and skills.

Reporter : Mr. Shigekatsu Watanabe (Japan)

sub-Topic 34.2 : High speed methods of installing agricultural drains (general aspects as well as examples of completed drainage schemes).

Reporter : Prof. Dr. Ing. H.J. Collins (Federal Republic of Germany)

Question 35 : Operation and maintenance of irrigation and drainage systems (organization, maintenance, equipment, operation, etc.)

General Reporter : Mr. E.C. Zacharopoulos (Greece)

11. Special Session—Athens, 1978

THEME : Mass transfer of water over long distances for regional development and its effect on the human environment

President Dr. Holy, with the assistance of Mr. B.G. Shtepa Chairman, USSR National Committee, approved the summaries of 13 papers for presentation of complete papers to the Special Session. The papers are one each from Australia, Canada, Czechoslovakia, Federal Republic of Germany, France, Great Britain, Hungary, India, Italy, Rumania, Spain, USA and USSR.

On behalf of the Commission the Secretary-General expresses grateful thanks to President Dr. Holy and Mr. B.G. Shtepa for their commendable reviews and suggestions and guidance to the authors of the papers for developing their full papers.

12. Symposium—Athens, 1978

THEME : Development of techniques to recharge subterranean aquifers to conserve surplus river flows

President Prof. Dr. Holy with the assistance of Mr. Marcel Bitoun (USA), has so far approved the summaries of 13 papers for the Symposium from Australia, Czechoslovakia, France, Hungary, Great Britain, India, Iran, Italy, Japan, Rumania, Spain, USA and USSR.

On behalf of the Commission, the Secretary-General craves leave to express high appreciation to President Dr. Holy and Mr. Marcel Bitoun for their onerous and highly commendable work in making critical appraisal of the summaries of the papers and providing suggestions and guidance for the authors to develop their full papers.

13. Co-operation with other International Organizations

(1) United Nations

(a) *FAO (Food and Agriculture Organisation of the UN)*

- (i) Sixth Session of the Working Party on Water Resources and Irrigation of the European Commission on Agriculture and Related Study Tours was held in Seville (Spain) from May 10-16, 1976. Dr Mariano Palancar, Civil Engineer, Member of Spanish National Committee represented the Commission.
- (ii) Fifth session of the FAO Regional Committee on Land and Water use in the Near East was held in Islamabad (Pakistan) from October 21-23, 1976. Mr. M.A. Rehman, Secretary, Pakistan National Committee represented the Commission.
- (iii) Tenth FAO Regional Conference for Europe (in co-operation with the UN Economic Commission for Europe) was held in Bucharest, Rumania from September 20-25, 1976. The Rumanian National Committee was requested to represent ICID.
- (iv) Seventieth Session of the FAO Council was held in Rome (Italy) from November 29 to December 10, 1976. Italian National Committee was requested to represent the Commission.
- (v) In pursuance of the directive of the Executive Council to extend the fullest co-operation of ICID to F.A.O., particularly on the matter of supplying updated data on (a) country-wise irrigation status and (b) country-wise major crops under irrigation with cropped areas and average yields, the Secretary-General requested all the National Committees of ICID to furnish the desired data. 23 National Committees furnished the above data to the Central Office which was collated and processed in the Central Office for onward transmission to the FAO.

Dr. Horning, acknowledging the correspondence transmitting the data sheets of a total of 23 ICID National Committees to the FAO, has thanked the Secretary-General and the National Committees very much for their effective contribution to this programme. Dr. Horning has further observed that these data had already been quite useful for use for the preparation of statistical annexes for the FAO papers for the UN Water Conference.

Furthermore, Dr. Horning has written that the F.A.O. was ready to reimburse the Secretary-General for costs involved in collecting and collating these data and that a sum of US \$5,000 had been set aside by the FAO for this purpose. The FAO sent the draft contract for reimbursement of the above sum and later an invoice for services rendered by the Secretary-General by name together with a cheque. The FAO has been informed that the Secretary-General would pass on the entire amount to the ICID Central Office.

The Secretary-General gratefully appreciated the gracious gesture of the FAO and it is suggested that the Council may pass an appropriate resolution of thanks.

- (b) *Second Session of the World Food Council Preparatory Meeting* was held in Rome (Italy) from May 10-14, 1976. Dr. Mario Bixio, Member of the Italian National Committee represented the Commission.
- (c) *UN Water Conference, Mar del Plata, Argentine*
- (i) The UN Water Conference which was originally scheduled to be held from March 7 to 18, 1977 was deferred to be held from March 14 to 25, 1977.

The Secretary-General, UN Water Conference, had invited the Commission, vide his letter of August 12, 1976, to participate as an Observer in the UN Water Conference. The Conference being deemed by the President to be an epoch-making meeting on subjects of vital interest and concern to the I.C.I.D., which may determine the course of plans and events for an era in the fields of the I.C.I.D., it was felt strongly that both the President and Secretary-General should attend it, the Secretary-General's expenses being met from the savings on attendance of other international meetings.

A paper has been jointly written by the President and the Secretary-General for the Conference. The joint paper, "Assessment of the World Water Situation—Irrigation Systems in Total Water Management" has been translated into Spanish, Russian and French. On behalf of the Commission, the Secretary-General would like to place on record his high appreciation and gratefulness to the National Committees of Spain, USSR and France who have kindly provided the translations of the paper, and to the National Committees of Spain and USSR for providing the translation and the printed copies at their cost.

President Dr. Holy and Secretary-General Mr. Framji attended the U.N. Water Conference representing the Commission. The Council

will be apprised of the salient features of the deliberations and the Conclusions of the Conference.

- (ii) *United Nations Water Conference African Regional Meeting* was held at ECA Headquarters in Addis Ababa (Ethiopia) from September 20-24, 1976. Mr. W. Sahale, (Manager, Land Water Studies Agency), a member of the Ethiopian National Committee, represented the Commission.
- (c) *United Nations Commission for Latin America* :
Regional Preparatory Meeting for Latin American and the Caribbean was held in Lima (Peru) from August 30 to September 3, 1976. Peruvian National Committee was requested to represent the Commission.
- (d) *W.M.O. (World Meteorological Organisation)*
 - (i) Fifth Session of the Commission for Hydrology was held in Ottawa from July 5-17, 1976. Dr. T.H. Anstey, Vice-President, ICID represented the Commission.
 - (ii) Extraordinary Session of Regional Association VI (Europe) of W.M.O. was held in Budapest (Hungary) from October 11 to 16, 1976. Dr. O. Starosolszky represented the Commission.
- (e) *E.S.C.A.P. (Economic & Social Commission for Asia and Pacific)*
 - (i) Regional Preparatory Meeting for the United Nations Water Conference was held in Bangkok (Thailand) from July 27 to August 2, 1976. Mr. Boonthai Otaganonta, Secretary of Thai National Committee represented the Commission.
- (f) *UNESCO (United Nations Educational, Scientific and Cultural Organization)*
 - (i) UNESCO—WMO Workshop on the Water Balance of Europe was held in Varna (Bulgaria) from September 27 to October 2, 1976. Mr. Georgi S. Popov represented the Commission.
 - (ii) *International Symposium on the Effects of Urbanization and Industrialization on the Hydrological Regime and on Water Quality* was held in Amsterdam (the Netherlands) from October 2-7, 1976. Mr. J.J. Meulankamp, Secretary, Dutch National Committee represented ICID.
 - (iii) Fifth Meeting of the IHP group on Investigation of Water Regime of River Basins affected by Irrigation was held in Leningrad (USSR) from October 18-22, 1976. The U.S.S.R. National Committee was requested to represent the Commission.

(2) U.A.T.I. (Union Des Associations Techniques Internationales)

(a) An Extra-ordinary meeting of the Executive Council of UATI was held in Paris (France) on November 5, 1976. Mr. M. Jamme, a member of our French National Committee, represented the Commission.

(b) The U.A.T.I. (Union Des Associations Techniques Internationales)

in their circular letter to all its members sent in December, 1976, have said: "Please find enclosed herewith the draft of the new Statutes of COWAR, in the past: "ICSU (International Council of Scientific Unions) Committee on Water Research", which is in the process of becoming the "ICSU—UATI joint Committee on Water Research (COWAR)" consisting of 6 ICSU members, 5 UATI members and 6 other organizations belonging, for the time being, neither to one nor to the other, this being subject to the approval of the merger, on the one hand, by the ICSU General Assembly in Washington and on the other hand, by the UATI Executive Council.

As the matter regarding the proposal was not free from doubt, it was referred to President Dr. Holy for his guidance in the matter.

President Dr. Holy has very kindly advised that we may assure the President of UATI that we welcomed the co-operation in the frame of COWAR and that we would acquaint the ICID members during the forthcoming meeting of our International Executive Council to be held in Tehran and the final picture would emerge, however, only after our Council meeting. We would intimate the decision of our Council to UATI in due course.

A copy of the *new* COWAR draft Statutes is at Appendix I.

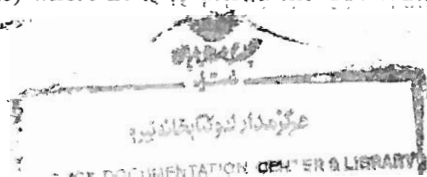
In the meantime, the Secretary-General has requested UATI to furnish the following information for submission to the Council:

- “(i) The technical functions and aims thereof of new COWAR (paras 2a, 2b, and 3 of draft Statutes refer) and the role of the COWAR.
- “(ii) The elaboration of the new COWAR’s role as scientific adviser to FAO, WHO, UNESCO, etc., in view of ICID having already established over a long period close collaboration with the UN and its specialized agencies, so it is not clear how this new COWAR will assume the position of an adviser to UNESCO, etc., without impinging on the present harmonious and mutually beneficial relations between International Organizations, such as between UNESCO and ICID.
- “(iii) With regard to paras 10 to 14 of the Draft Statutes the financial implications be defined in explicit terms. This clarification is needed to know whether the member organizations of UATI will be required to pay further subscription, and if so, to what extent? This is important in view of the fact that UATI has increased the subscription of its members by 30 per cent in 1975.”

The reply of UATI to the above three questions, if received before the Council meeting, will be put up to the Council.

On January 17, 1977 the Secretary-General received a cable invitation from Dr. Schoemaker, the acting President of UATI to participate at the Preparatory Meeting concerning joint ICSU-UATI Committee on Water Research in Paris on 11 March, 1977.

President Dr. Holy was apprised about this meeting and requested to make it convenient to attend the meeting. The Secretary-General accepted the invitation to attend the meeting on March 11 as the dates suit and it is enroute to Mar del Plata (Argentina) where he is to attend the UN Water Conference.



Headquarters from April 6 to April 8, 1976. Mr. Cl. Gleizes and Mr. Remillieux, members of the French National Committee of ICID, represented the Commission. The points of interest to ICID in the deliberations were:

(a) The Proceedings of the Symposium on "Arid Lands Irrigation in Developing Countries—Environmental Problems and Effects" is decided to be published in a self-contained volume. It is mentioned in the minutes of the plenary session that during the editing and publication, contact would be made with ICID, among other international organisations, that Mr. E.B. Worthington would take over the editorial work, and that he could continue discussions with the publishers and the organisations concerned.

(b) In regard to "World Assessment on Environmental Effects on Man-made lakes," it was noted that COWAR hoped to be able to intensify the programme by further talks with ICOLD and ICID.

(c) The UATI (Union des Associations Techniques Internationales) was represented by the Vice-President (UATI) Mr. Schoemaker and Mr. Schmidt (ICOLD). Mr. Remillieux (ICID), Mr. Gleizes (ICID). Mr. Schoemaker also represented IAHR. Only the fourth branch (navigation) of the UATI organisation was not represented at COWAR meetings previously. It was appreciated that COWAR had wanted co-operation for several years with organizations interested in water research, outside the ICSU family. Co-operation had in fact been quite good as a result of these organizations participating with observers at meetings convened by COWAR, and the help of the UATI organizations, especially of ICID, at the Symposium in Alexandria had been impressive.

(4) ICSU-SCOPE (International Council of Scientific Unions—Scientific Committee on Problems of Environment)

The third General Assembly of SCOPE was held in Paris from May 17-19, 1976. The Commission was represented by Vice-President Honoraire Mr. G. Drouhin and Miss Richard, UNESCO Expert and a member of the French National Committee.

(5) National Science Research Council, Guyana

A seminar on Hydro-power and the Environment was held in Guyana from October 4-8, 1976. Vice-President Mr. R.A. Wilkins represented the Commission.

(6) I.S.O. (International Standards Organization)

Sixth plenary meeting of ISO/TC 113 and all its six Working Groups and a joint Meeting on Errors between the experts of ISO/TC 113 (flow in open channels) and ISO/TC 30 (flow in closed conduits) was held in London from May 17-29, 1976. Mr. K.K. Framji, Secretary-General, who is Chairman of the Technical Committee on Measurement of Liquid Flow in Open Channels, ISO/TC 113 and of its Working Group on Sediment Flow, attended the meeting and also represented the Commission.

(7) CIGR (Commission Internationale Génie Rural)

An International Symposium of the Sections I and III of the CIGR will be held in Cordoba (Spain) from April 18 to 24, 1977. The Spanish National Committee was requested to represent the Commission. Dr. R. Gimenez Ortiz and Dr. F. Garcia-Lozano have been nominated as ICID representatives.

(8) IWRA (International Water Resources Association)

In regard to co-operation with IWRA, the factual position remains that the protocol intended to be signed during the Second IWRA Conference held in 1975 in New Delhi has for one reason or another remained unsigned. President Honoraire Mr. Papadopoulos intimated to the Secretary-General, vide his letter of November 19, 1976, that the Third World Congress of IWRA would be held in Sao Paulo, Brazil, from 2 to 7 June, 1978. These dates clash with that of the ICID Tenth Congress to be held in Athens from May 24 to June 4, 1978. President Honoraire Papadopoulos enquired if this undesirable situation could be avoided in any way. The Secretary-General addressed a letter to Dr. G.M. Karadi, with a copy endorsed to Dr. Ven Te Chow (IWRA President), informing him that the ICID had not been informed of the dates of the IWRA's Third World Congress, although a letter giving the venue and dates of the ICID Tenth Congress had been sent to all the water-oriented organizations including IWRA as far back as in 1975.

Dr. Herbert C. Preul, Technical Program Chairman of IWRA, in his letter dated February 8, 1977 addressed to Ing. Rubem La Laina Porto, Executive Secretary Third World IWRA Congress on Water Resources and copy to the Secretary-General (ICID) has written to say :

"I have discussed the possibility of a change in the IWRA dates with my IWRA colleagues and also with President Ven Te Chow. Although we greatly regret this coincidence, we feel that we cannot change from our schedule of June 2-7, 1978, as planned."

Besides, from the contents of the correspondence the Secretary-General sees little hope of co-ordination of dates in future, because the dates of IWRA Congress are made to suit the examination programme in the Universities.

(9) CLAID (Commission Latinamerican de Irrigacion y- Drenage)

At its meeting held in Mexico City in April 1969 the Council had enjoined close collaboration between CLAID and ICID and had expressed the desirability of the members of the CLAID individually becoming members of ICID.

The Agreement for close co-operation has since been approved by the International Executive Council of ICID and the Executive Council of the CLAID.

In pursuance of the above agreement the Secretary-General has made every effort to implement co-operation with the CLAID's office directly and through the good offices of the ICID Mexican National Committee, but there has been no response from the CLAID. The Secretary-General has been in correspondence with Vice-President Honoraire A. Amaya Brondo (Mexico). The Secretary-General has requested him (reminded last in November 1976) to renew the efforts to enlist the CLAID countries as members directly in ICID. The Mexican delegate is kindly requested to further enlighten the members on this subject.

IAHR

A Task Force for writing the State-of-the-Art paper on "Diversion of Water from Sediment carrying Streams" consisting of six members has been formed. President Dr. Ceçen (Turkey) is the Chairman of the Task Force. The other members are Dr. Ter-Abramyantz (USSR), Prof. Dr. Graf (Switzerland), Prof. Dr. Lichtenhahn (Switzerland), Mr. G J. Klaassen (Netherlands), and Dr. Nordin (USA).

The State-of-the-Art paper on the proposed subject is to be prepared by the Task Force. The final shape of the State-of-the-Art paper will be settled during the IAHR meeting in Baden-Baden during August 1977.

(14) Finance :

A--Contributions and Arrears

A sum of Rs. 512,075.02 was received during the period January 1, 1976 to December 31, 1976, towards the arrears of annual contributions up to December 31, 1975, towards the contributions for the year 1976, and towards advance contributions, thus :

| | |
|---|------------------|
| (i) Arrears of annual contribution up to 31.12.75 | = Rs. 66,576.31 |
| (ii) Contributions for the year 1976 | = Rs. 398,143.33 |
| (iii) Advance contributions for future year(s) | = Rs. 47,355.38 |
| | <hr/> |
| | Rs. 512,075.02 |
| | <hr/> |

- (iv) A sum of US\$ 23,982.20 (Rs. 203,848.70) was due from the following National Committees towards the arrears of annual contributions up to December 31, 1976 for the years indicated; out of the aggregate arrears of \$ 23,982, the arrears for 1976 alone amount to \$ 16,840, which forms about 25 per cent of the net annual contribution for the year 1976 (\$ 66,804). The Secretary-General would, therefore, exhort the National Committees to kindly keep close contact with the authorities concerned in their countries and arrange

for timely remittances of the dues and clear the arrears, if any, as soon as possible.

| | <i>US Dollars</i> | <i>1976 alone</i> |
|-------------------------------------|-------------------|-----------------------|
| 1. Algeria (part for 1976) | 90.05 | 90.05 |
| 2. Bangladesh (1976) | 665.00 | 665.00 |
| 3. Burma (1973) | 750.00 | — |
| 4. Dominican Republic (1975 & 1976) | 760.00 | 430.00 |
| 5. Ethiopia (1976) | 430.00 | 430.00 |
| 6. India (1976) | 2,550.00 | 2,550.00 |
| 7. Iraq (1976) | 1,290.00 | 1,290.00 |
| 8. Italy (part for 1976) | 1,368.90 | 1,368.90 |
| 9. Ivory Coast (1971-76) | 2,265.00 | 430.00 |
| 10. Lebanon (1976) | 430.00 | 430.00 |
| 11. Malawi (part for 1976) | 381.25 | 381.25 |
| 12. Morocco (1976) | 665.00 | 665.00 |
| 13. Pakistan (1976) | 2,135.00 | 2,135.00 |
| 14. Peru (1973-76) | 3,415.00 | 975.00 |
| 15. Senegal (1974-76) | 1,175.00 | 430.00 |
| 16. Sri Lanka (1976) | 665.00 | 665.00 |
| 17. Tunisia (1975) | 330.00 | — |
| 18. Uganda (1976) | 430.00 | 430.00 |
| 19. U.S.S.R. (1976) | 2,810.00 | 2,810.00 |
| 20. Vietnam (1975-76) | 1,175.00 | 665.00 |
| 21. Yugoslavia (1972) | 202.00 | — |
| Total | \$ 23,982.20 | \$ 16,840.20 |

The arrears in 1976 alone are, if anything, slightly more than the arrears of the previous year; hence the Secretary-General's earnest prayer for the clearance of the arrears expeditiously.

The country-wise position with regard to the arrears of contributions and dues is set out below:

| | |
|---|--|
| Algeria | Algerian National Committee has to remit only part contribution for 1976. |
| Bangladesh Dominican Republic Malawi Morocco Pakistan Sri Lanka Tunisia Uganda | } These National Committees have so far neither remitted the dues nor replied to our reminders sent in January 1977. |

| | |
|---|---|
| Italy | Italian National Committee has since remitted a sum of \$ 391. The balance of the dues, it is hoped, will be received before long. |
| Lebanon | Due to unstable conditions in Lebanon the postal service is temporarily suspended. It has, therefore, not been possible to correspond with the National Committee. |
| Burma | Several requests have been sent to the Burmese National Committee urging it to arrange for the clearance of the outstanding dues, but no reply is being received. |
| Ethiopia } India } Iraq } U.S.S.R. } | Arrears from Ethiopia, India, Iraq, and U.S.S.R. have since been received. |
| Ivory Coast Senegal | These National Committees had authorised the payment of dues in 1975 but the remittances have yet to come to hand. No communication with regard to the annual contributions for 1975 has yet been received. |
| Peru | In spite of several requests made to the Peruvian National Committee, the contributions for the years 1973 to 1976 are still awaited. Mr. Jose F. Villa-Garcia Aguirre, Executive Secretary of the Peruvian National Committee, had informed the Central Office by letter dated August 10, 1976 that due to financial difficulties it had not been possible to remit the dues. He had also promised to expedite the remittance of the dues. Nothing further has since been heard in the matter. |
| Viet-nam | The Country has been unified since 1975 and the Secretary-General is in correspondence as reported separately. |
| Yugoslavia | The Central Office is in correspondence with the State Bank of India in regard to the realisation of \$ 202. |

B. Contribution to the Building Fund

No contributions to the Building Fund from the National Committees were received during the year.

The National Committees cited hereinafter have either only paid in part or not paid at all, their recommended share of contribution towards the Building Fund.

| <i>National Committees</i> | <i>Contributions according to recommendations of the Council</i> | <i>Amount paid</i> | <i>Balance payable</i> |
|-----------------------------------|--|--------------------|------------------------|
| | Rs. | Rs. | Rs. |
| 1. Algeria | 9,000 | — | 9,000 |
| 2. Argentine | 16,500 | — | 16,500 |
| 3. Bangladesh | 9,000 | — | 9,000 |
| 4. Democratic Republic of Germany | 16,500 | 16,422* | nil |
| 5. Cyprus | 9,000 | 3,325 | 5,675 |
| 6. Hungary | 22,500 | 8,998 | 13,502 |
| 7. Poland | 16,500 | — | 16,500 |
| 8. Senegal | 9,000 | 5,569 | 3,431 |
| 9. Uganda | 9,000 | 1,467 | 7,533 |
| 10. Ivory Coast | 9,000 | — | 9,000 |

*Received in January 1977

At the request of the Algerian National Committee a bill for the recommended amount of contribution has been sent. It is hoped that the Algerian National Committee will very kindly arrange for the early remittance of the dues.

Bangladesh National Committee has expressed its inability to send in any contribution to the ICID Building Fund.

Cyprus and Uganda have already intimated that they are unable to contribute further to the ICID Building Fund.

The contribution from Poland was to be received during 1976. In the absence of any further communication, it is presumed that the payment will be received during 1977.

The Democratic Republic of Germany National Committee has kindly remitted its share (Rs. 16,422) in January 1977, for which the Secretary-General expresses due thanks.

C. Receipts and Payments account

The total receipts and expenditure during the calendar year 1976 were Rs. 813,353.96 and Rs. 840,175.49 respectively. The carryover (including the balance of the Building Fund—Rs. 2,663.65 as contractor's refundable security) from the previous year was Rs. 419,700.65 plus Rs. 51,817.09 (value of printing paper in stock) and Rs. 463.23 (value of cement in stock) or Rs. 471,980.97 in all.

The balance with the Secretary-General on December 31, 1976 was Rs. 387,459.41 plus Rs. 57,651.37 (value of printing paper in hand) and Rs. 47.66 (value of cement in hand), total Rs. 445,158.44 including Rs. 59,043.26 (Rs. 53,736.70 in fixed deposit + Rs. 5,306.56 in current account) on account of Multilingual Technical Dictionary on Irrigation and Drainage Fund.

The balance of Rs. 445,158.44 in hand on December 31, 1976 does not, however, include the amount of Staff Gratuity Fund of Rs. 91,583.25, which has been invested separately in fixed deposit with the State Bank of India, New Delhi. In addition, a total of Rs. 9,508.06 on account of balance of loans or advances given to staff for house-building, purchase of vehicles and other miscellaneous advances, plus the interest accrued thereon up to December 31, 1976, as below, was outstanding on that date:

| | <i>Principal</i> | <i>Interest</i> | <i>Total</i> |
|-------------------------|------------------|-----------------|--------------|
| House-building advances | nil | Rs. 7,224.82 | Rs. 7,224.82 |
| Other advances | Rs. 880.00 | Rs. 1,403.24 | Rs. 2,283.24 |
| | <hr/> | | |
| Total | Rs. 880.00 | Rs. 8,628.06 | Rs. 9,508.06 |

The Secretary-General wishes to express his grateful thanks for the courtesy, guidance and assistance he has unfailingly received at all times from the President, the Vice-President Incharge and the National Committees.

The Secretary-General also wishes to commend the Secretary and the staff for devoted and fruitful work during the year. The Secretary-General is satisfied that the administration of the Central Office and the productive work of the Secretary and Deputy Secretaries continues to be efficient and economical.

New Delhi
Dated February 27, 1977

K.K. FRAMJI
Secretary-General

Item 2 : To consider applications of countries desirous of becoming participating countries of ICID

Since the last meeting of Council held in Banff (Canada) in June 1976, a formal application has been received from the Hashemite Kingdom of Jordan.

The correspondence address of the representative of Jordan is as under:

Mr. Omar Abdullah Dokhgan,
President, Jordan Valley Commission,
P.O. Box 1970, The Hashemite Kingdom of Jordan,
Amman, Jordan

Jordan seeks membership of the Commission with effect from the calendar year 1977.

The statistical figures for determining the annual contribution as supplied are as under:

| | |
|--|-----------------|
| (i) Area irrigated annually in hectares | 50,000 ha |
| (ii) Area protected by drainage, and flood control works in hectares | Not available* |
| | <hr/> |
| | Total 50,000 ha |
| (iii) Annual contribution to the United Nations | US \$ 93,000 |

The annual contribution for the years 1977-1979 of Jordan in accordance with the present criteria approved by the Council on the basis of the above statistics works out to US \$ 470.

The Council may consider the application from Jordan. If it is approved to include Jordan as a member, the Council may also accord approval to its annual contribution of US \$ 470 and welcome the representative of Jordan.

Item 3 : To pass the Statement of Accounts for the Calendar year 1976

1. The Auditors' Report for the year 1976 is at Appendix II (pages A-3 to A-11). To facilitate comparison the Report has been presented in the same 3 parts and in the same format as in the Budget for 1976 approved by the Council at its 27th meeting held in Banff in June 1976 (Appendix VI, pp A.22 to A.29, Annual Report, 1976).

* An enquiry has been made in regard to the area protected by drainage and flood control, excluding the area served by irrigation (50,000 hectares).

PART A—Pertaining to the normal regular functions of the Commission

(i) The gross receipts under part 'A' during 1976 were Rs. 636,339 (Rs. 643,339 less Rs. 7,000 recovered from printers, creditable to part C-Special Publications), and including the carryover of Rs. 25,713 from 1975 plus Rs. 26,763 on account of the value of the paper to be utilized from stock and value of cement in hand (Rs. 26,300 + Rs. 463), the gross utilizable receipts were Rs. 688,815 as against Rs. 804,351 anticipated in the Budget. Thus there has been an actual shortfall of Rs. 115,536 in receipts. This is mainly attributable to less receipts under annual contributions (Rs. 121,430), non-receipt of contributions to the Building Fund from Algeria and Poland (Rs. 25,500), and less interest on fixed deposits (Rs. 1,821). Against these receipts having been less than anticipated, the receipts by sale of Bulletins, Bibliographies and Annual Reports have been more by Rs. 1,845, sale proceeds of one old electric type-writer (not anticipated in the Budget) Rs. 10,000, and amount received (Suspense account) but not adjusted for want of particulars, Rs. 21,004.82.

(ii) **Expenditure :** The actual expenditure under part 'A' was Rs. 719,845 against Rs. 804,020 budgeted. The excesses and savings in expenditure are set out in Appendix III, (pages A-12 to A-14) against the budgeted expenditure anticipated for the respective items and the reasons for the major variations are given in the explanatory notes thereto (pages A-15 to A-17).

The major savings in expenditure have been on pay and allowances of staff (Rs. 45,756), on miscellaneous printing and stationery (Rs. 4,380), on office equipment and maintenance (Rs. 6,161), office building (Rs. 3,865), on expenditure in connection with Banff Council Meeting (Rs. 6,310) and on expenditure in connection with International Meetings (Rs. 15,781). The major excesses have been on postage, telephones and telegrams (Rs. 15,038), and ICID Bulletins July '76 and January '77 (Rs. 8,198).

(iii) Thus there has been a saving of Rs. 84,175 (Rs. 804,020 as per budget minus Rs. 719,845 actual) against the saving of Rs. 331 anticipated in the budget for the year (page A-27 Annual Report 1976).

PART B—Receipts and expenditure transferable to respective Accounts and/or not utilizable during the year

(i) Under this part the actual receipts and expenditure are set out against the budgeted figures below:

| | | |
|---|---------------|---------------|
| (a) Receipts | <i>Budget</i> | <i>Actual</i> |
| Sales of the Multilingual Technical Dictionary | 38,338 | 5,288 |
| Interest : On fixed deposits of Gratuity fund | 6,475 | 6,635 |
| Multilingual Technical Dictionary Fund | 3,980 | 3,980 |
| (b) Expenditure | <i>Budget</i> | <i>Actual</i> |
| Postage on Multilingual Technical Dictionary | 400 | 632 |
| Transfer of interest on Gratuity Fund to fixed deposits | 6,475 | 6,635 |
| Multilingual Technical Dictionary (amount re-invested) | 3,980 | 3,980 |

The net receipts from sale of Dictionary (Rs. 5,288 minus Rs. 632) i.e., Rs. 4,656 plus interest Rs. 3,980 on Dictionary account (fixed deposits) are included in the carryover to 1976.

(fi) The net accumulated balance of Dictionary account as on December 31, 1976 was Rs. 59,043.26 as under :

| | |
|---|-------------------|
| Total receipts by sale (Rs. 127, 173.14+Rs. 5,287.76) | Rs. 132,460.90 |
| Interest (cumulative) earned on fixed deposits | Rs. 14,221.45 |
| | <hr/> |
| Total = | Rs. 146,682.35 |
| Less total expenditure (Rs. 87,007.09+Rs. 632) | (-) Rs. 87,639.09 |
| | <hr/> |
| Net | Rs. 59,043.26 |
| | <hr/> |

The above-mentioned net Receipts were held on December 31, 1976 as below :

| | | |
|--------------------|---------------|---------------|
| In fixed deposits | Rs. 53,736.70 | |
| In current account | Rs. 5,306.56 | Rs. 59,043.26 |
| | <hr/> | |

PART C—Receipts against and expenditure on publications for which a separate account is maintained

(i) The actual receipts during 1976 under this part were Rs. 152,109 including Rs. 3,714.46 on account of part registration fee of IXth Congress received during the year. The carryover from the year 1975 was Rs. 123,085. Thus the total amount available for expenditure during the year was Rs. 275,194 against Rs. 292,975 estimated in the budget for 1976.

The major excesses in receipts were by sale under Transactions of the VIII Congress (Rs. 1,569), Transactions of the previous Congresses (Rs. 3,546), and other publications (Rs. 944). In addition Rs. 17,601 were received by sale of the publications "Flood Control—A Global Review" and "Irrigation and Salinity." These receipts (Rs. 17,601) were not anticipated in the budget. The shortfalls in receipts were under "Transactions of the IX Congress including charges for printing excess pages and off-prints" (Rs. 27,956), Proceedings 1975 Special Session (Rs. 4,842), Proceedings of the 1975 Symposium (Rs. 2,386), Design Practices of Irrigation Canals in the World (Rs. 2,662), Irrigated Cotton—A World-wide Survey (Rs. 1,465), Proceedings Varna Special Session and Symposium (Rs. 1,503).

(ii) **Expenditure :** The actual expenditure under this part was Rs. 111,062 against Rs. 161,750 anticipated in the budget. The savings in expenditure have been explained in Appendix III.

(iii) There has thus been a saving of Rs. 50,688 in expenditure. The carryover on December 31, 1976 in respect of the Special Publications was Rs. 164,131 which included Rs. 1,000 (advance to printers) and Rs. 16,305.92 (value of printing paper in hand on 31.12.1976).

(iv) The following table shows the cumulative up to date position (total expenditure, total receipts and difference) in respect of the principal publications :

| <i>Name of Publication</i> | <i>Total expenditure</i> Rs. | <i>Total receipts by sale</i> Rs. | <i>Net</i> Rs. |
|--|---------------------------------|--------------------------------------|-------------------|
| 1. Irrigation and Drainage in the World—A Global Review (1969) | 64,025 | 86,993 | (+) 22,968 |
| 2. Design practices of irrigation canals in the world (1972) | 54,721 | 40,964 | (-) 13,757 |
| 3. Irrigated Wheat—A World-wide survey (1972) | 19,994 | 14,994 | (-) 5,000 |
| 4. Irrigated Cotton—A World-wide survey (1973) | 13,177 | 8,792 | (-) 4,385 |
| 5. Technical Memoirs—No. 1 (1972) | 14,692 | 9,145 | (-) 5,547 |
| 6. Technical Memoirs—No. 2 (1973) | 14,760 | 6,011 | (-) 8,749 |
| 7. Transactions of the Eighth Congress (1972) | 117,158 | 114,458 | (-) 2,740 |
| 8. Proceedings of the Varna Special Session (1972) | 8,473 | 17,176 | (+) 8,703 |
| 9. Proceedings of the Varna Symposium (1972) | 8,731 | 16,278 | (+) 7,547 |
| 10. Irrigation efficiency in small farm areas | 1,821 | 2,389 | (+) 568 |
| 11. Flood control—A Global Review—Vol. I (1976) | 52,825 | 16,368 | (-) 36,457 |
| 12. Proceedings 1975 Special Session (1976) | 16,793 | 12,116 | (-) 4,677 |
| 13. Proceedings 1975 Symposium (1976) | 10,629 | 9,736 | (-) 893 |
| 14. Irrigation and salinity, 1976 | 8,646 | 1,233 | (-) 7,413 |
| 15. Transactions of the Ninth Congress | 172,388* | 123,739 | (-) 48,649 |

* Does not include cost of printing Volume I to be issued in 1977

The above table does not include publications on which expenditure has been incurred, but receipts against which have not yet started coming in.

It will be seen that up to the end of 1976, eleven of the fifteen publications mentioned above still showed deficit of receipts over expenditure. It will be appreciated if efforts are made by the National Committees to encourage the sales of these useful publications.

2. ESTIMATED BALANCES CARRIED FORWARD TO 1977

The total carryover on December 31, 1976 was Rs. 445,158.44 including 'reserve' of Rs. 141,260 and Rs. 59,043.26 in respect of Multilingual Technical Dictionary. In addition a sum of Rs. 91,583.25 on account of Gratuity Fund remained separately invested in fixed deposits with the State Bank of India, New Delhi.

3. STAFF PROVIDENT FUND ACCOUNT

The statement of account in respect of the Staff Provident Fund Account, as prepared by the Auditors, is at Appendix IV (A-18 to A-21). The net amount standing to the credit of the subscribers including the Reserve Fund, as on December 31, 1976, was Rs. 519,696.25. This excludes a sum of Rs. 34,290 on account of advances made to the subscribers and outstanding on that date.

That break up of the total amount with the Trustees on December 31, 1976 is as under:

| | |
|--|-----------------------|
| In Post Office Saving Bank Account | Rs. 196,009.00 |
| In Special Deposit Account with State Bank of India | Rs. 102,500.00 |
| Investments in Central and State Government securities | Rs. 151,365.60 |
| In 5-year Post Office Time Deposit Account | Rs. 60,000.00 |
| Cheques in hand | Rs. 9,821.65 |
| | <hr/> |
| | Total: Rs. 519,696.25 |

Item 4 : To approve the Budget Estimates of Receipts and Expenditure for the Calender Year 1977

1. Article 32 of the Constitution stipulates:

"If the budget for any year is not approved by January 1, the Secretary-General may incur expenditure required for day to day functioning of the Central Office based on items repeating from the preceding year's budget. For any expenditure on other items, he must obtain the prior approval of the President. When a meeting of the Council is not due to be held until March 31, the Secretary-General shall, by the end of February, submit to the President for his approval Budget proposals for the year and may incur expenditure from April 1, in accordance therewith, or as may be modified by the President, until the Council approves the Budget".

2. In pursuance of the above provision in the Constitution the budget was submitted to the President in February 1977 for his approval and

the budget as now submitted for approval of the Council is substantially the same.

3. The Budget has been prepared in three parts, both on the Receipts and Expenditure sides, as heretofore, in order to make the accounts simpler in presentation and the budget easier to comprehend.

Part 'A' relates to the Receipts and Expenditure pertaining to the normal regular functions of the Commission.

Part 'B' relates to the items of Receipts (pertaining to the Multilingual Technical Dictionary and Gratuity Fund) which are not utilizable during the year, but which are creditable to respective accounts and which have been shown as transferable in 'B' on the expenditure side of the Budget. Such items have no effect on the Budget of the Commission presented under 'A' and 'C'.

Part 'C' relates to "the receipts and expenditure on the 'Special Publications' of the Commission in respect of which separate account is maintained in accordance with the suggestion of the Secretary-General made at the Prague Meeting of the Council in 1973."

4. The Statement of estimated Receipts and Expenditure for the calendar year 1977 is at Appendix V, pages A-22 to A-29. The estimated Receipts and Expenditure for 1977 for each part are as under:

PART 'A' : Receipts pertaining to the normal regular functions of the Commission during the year 1977

(a) *Receipts* : The total utilizable receipts for the year 1977 are estimated to be Rs. 953,831. These include carryover from the last year (Rs. 40,330 as cash, Rs. 23,090 as value of paper from stock consumable during the year). As decided by the Council the annual contributions of the National Committees for 1977 have been 42 per cent more than those for the year 1975. It is anticipated that a sum of Rs. 150,000 is likely to remain outstanding on account of arrears of annual contributions on December 31, 1977, that is Rs. 53,848 less than the actual arrears of Rs. 203,848 outstanding on December 31, 1976.

(b) *Expenditure* : The total anticipated expenditure for this part is Rs. 882,600. This will leave a *saving* of Rs. 71,231 (Rs. 953,831 minus Rs. 882,600) which is proposed to be carried over to the year 1978.

PART 'B' : Items transferable to respective accounts and not utilizable during the year

The total receipts under this part are estimated to be Rs. 72,567, and this sum has been shown both on the Receipts and Expenditure sides.

PART 'C' : Receipts and expenditure on publications for which separate account is maintained

Receipts

The total receipts are estimated at Rs. 273,751 including (i) anticipated sale of publications Rs. 101,620, (ii) interest on fixed deposits (Rs. 8,000)

and (iii) the carry-over from the previous year of Rs. 146,825.00 in cash, Rs. 16,305 on account of value of printing paper in hand, and Rs. 1,000 on account of advance to Printers.

The total expenditure on special publications during 1977 will be Rs 365,148. Thus there will be a deficit of Rs. 91,397 (Rs. 365,148 minus Rs. 273,751) which is proposed to be made up by withdrawal from the reserve as temporary loan.

5. The main features of the 1977 Budget are:

(i) The provision made under the head "Pay and allowances of staff, etc." is Rs 409,400 as against Rs 351,244 actually spent during 1976. This increase is due to:

- (a) Provision of normal increments to the staff and the consequential increase in Commission's contribution to the staff provident fund.
- (b) Provision for the appointment of new Steno-typist to cope with the increasing work in the Central Office.
- (c) Provision for the full year of Rs. 60,444 on account of gross salary of two Deputy Secretaries. (During 1976 a provision of Rs. 41,027 was made, but only Rs. 9,569 was spent, as one new Deputy Secretary joined three months later than anticipated and the other joined only in December 1976).

(ii) The arrears of annual contribution as on January 1, 1977 were Rs. 203,848. It is hoped that major arrears from Ivory Coast and Peru will be received during 1977 and thus the arrears likely at the end of 1977 will be somewhat less. In view of this, a provision of Rs. 150,000 has been hopefully made as arrears likely to remain outstanding at the end of 1977.

(iii) A provision of Rs. 80,000 has been made under "Postage, telephone and telegrams." This provision includes Rs. 10,000 to be paid to Telephone Department for two approved telephones to be provided at the residences of the two Deputy Secretaries.

(iv) In view of substantial increases in the cost of books, for the *minimum* purchase of books and periodicals a provision of Rs. 18,000 has been made, although this sum is not considered adequate to equip the library with as many books or as much up to date published literature of interest to ICID as in the past, or to keep abreast with fast increasing knowledge on the subject.

(v) The provisions under "Office Equipment" for the year is Rs. 35,000. The new equipment proposed to be purchased includes three typewriters, one floor carpet for the room of one Deputy Secretary (ordered last year) and shelving racks for stacking the new ICID publications. The purchase of the above equipment is inescapable.

(vi) A provision of only Rs. 20,000 has been made for the expenditure in connection with attendance by the Secretary-General and Secretary at the Tehran Council Meeting. The Secretary-General will be guest of honour and the expenditure for his stay in Tehran will be borne by the Iranian National Committee.

(vii) A provision of Rs. 77,250 has been made in the budget for the Secretary-General's attendance of the U.N. Water Conference, Mar del Plata (as kindly directed by the President), Round Table Conference in Budapest following the Council Meeting, and subsequently the ISO/TC 113 Meeting of the ISO to be held in Washington. There will be no extra expenditure on air travel to Washington as the extra fare for the trip will be borne by the Secretary-General personally. The meetings of the ISO/TC 113 are of the greatest interest to ICID, as they relate to measurement of flow, which is basic to the work and progress of subjects vital to the Commission.

The President and the Secretary-General too are of the view that there should be greater participation in the the meetings of other sister international organizations in order to promote international co-operation. The Council also had endorsed this view at its meeting held in Banff in 1976. In absence of budgetary provision even the minimum necessary attendances have had in the past to be avoided.

(viii) The balance in the 'Reserve Fund' at the end of 1975 was Rs. 244,432 and Rs. 141,260 at the end of 1976. Due to non-receipt of the full anticipated annual contributions (received less by Rs. 121,430, i.e. against the estimated receipts of Rs. 633,505 the actual receipts were Rs. 512,075) it was not possible to meet the expenditure with the available funds and accordingly a sum of Rs. 103,172 was withdrawn from the 'Reserve'. It will not be possible to add anything to 'Reserve' during 1977, as a withdrawal of Rs. 91,397 as a temporary loan is anticipated to meet the full expenditure on Special Publications (*vide* explanatory notes under Part 'C'—Receipts).

6. The Secretary-General ventures to submit that the budget, as prepared is essentially reasonable and satisfactory and is most economically framed and recommends it to the Council for adoption.

7. The Secretary-General will be pleased to answer any questions or furnish any further details or particulars as the Council may desire.

8. The Council is requested to consider the Budget for approval.

Item 5 : To consider the Report of the Committee to go into the question of continuation of the publication of Bibliography on Irrigation, Drainage, Flood Control and River Training

A meeting of this Committee will be held in Tehran (Iran) on May 14, 1977 at 14.00 hours. The agenda of the meeting is at Appendix VI, pages A-30 to A-35.

(The report of the meeting of this Committee is put up for consideration of the Council at the Meeting).

Item 6 : To propose for incorporation in the By-laws the functions, membership and terms of office of members of the Permanent Committee on Application of Systems Analysis to Irrigation, Drainage and Flood Control

At its meeting held in Moscow in July, 1975 the Council reconstituted the "Committee on preparation of a Manual on Application of Systems Analysis to Problems of Irrigation, Drainage and Flood Control" and

named it as the "Permanent Committee on Application of Systems Analysis to Problems of Irrigation, Drainage and Flood Control and Hydro-agriculture Developments". Accordingly, the By-laws incorporated this fourth Permanent Committee as 9 (d), alongwith the other three Permanent Committees.

At its meeting held in Banff in June, 1976 the Secretary-General submitted his proposal to the Committee on Systems Analysis to incorporate the functions, membership and term of the members of the Committee. The Committee concurred with the proposal of the Secretary-General and recommended his proposal to the Council for approval. The proposal of the Secretary-General, duly recommended by the Systems Analysis Committee, was approved by the Council in regard to the functions, membership and the terms of members, etc., but the Council changed the name of the Committee to "Permanent Committee on Application of Systems Analysis to Irrigation, Drainage and Flood Control" and enjoined the Secretary-General to propose the consequential amendments to the By-laws at the next Council Meeting in Tehran.

The amendment which require to be incorporated in the By-laws will be as follows:

9(d) Permanent Committee on Application of Systems Analysis to Irrigation, Drainage and Flood Control

- (1) Its functions shall be: (i) to prepare a Manual and up date it from time to time in future to take account of the rapid advances in the field of systems analysis and the increasing scope of the problems to be treated, (ii) to promote the use of systems analysis through contribution of short papers for publication in ICID Bulletin or Technical Memoirs on the new areas of application and on the new techniques developed, (iii) to make proposals, for the consideration of the Council, in relation to new areas new techniques of systems analysis applicable in the fields of ICID activities, and (iv) to study and report on the matters referred to it by the Council.
- (2) The membership of the Committee shall comprise six members and the Secretary-General, as may be approved by the Council.
- (3) The term of office of each member shall be three years except that, in the first instance, two members shall retire in 1977 and two in 1978. However there will be no bar on re-election of members.
- (4) The Committee shall carry out its functions individually or collectively.

The Council is requested to approve the above amendment in the By-laws as required under articles 55 and 56 of the Constitution.

Item 7 : To consider the question of categorization of Participants and their fees in a Congress and to decide the share of the Central Office of the registration fees

Note on this item will follow or the Secretary-General will personally expound this prior to discussions.

Item 8 : To consider the report of the Working Group on Standardization of Technical Terms commonly used in Irrigation and Drainage

A meeting of the Working Group on Standardization will be held in Tehran (Iran) on May 14, 1977 at 14.00 hours. The agenda of the meeting is at Appendix VII, pages A-36 to A-40.

(The report of the Working Group is put up for consideration of the Council at the Meeting).

Item 9 : To consider the report of the Working Group on "Drip Irrigation and Similar Methods"

A meeting of the Working Group on "Drip Irrigation and Similar Methods" will be held in Tehran (Iran) on May 14, 1977 at 09.00 hours. The agenda of this item is at Appendix VIII, pages A-41 to A-42.

(The report of the Working Group is put up for consideration of the Council at the Meeting).

Item 10 : To consider the report of the Committee on "Assembling Irrigation Efficiency Data"

A meeting of the Committee on "Assembling Irrigation Efficiency Data" will be held in Tehran on May 15, 1977 at 14.00 hours. The agenda of the meeting is at Appendix IX, pages A-43 to A-45.

(The report of the Committee is submitted for consideration of the Council at its Meeting).

Item 11 : To consider the report of the Working Group on "Evapotranspiration"

A meeting of the Working Group on "Evapotranspiration" will be held in Tehran (Iran) on May 16, 1977 at 09.00 hours. The agenda of the meeting is at Appendix X, pages A-46 to A-48.

(The report of the Working Group is put up for consideration of the Council at the Meeting).

Item 12 : To consider the report of the Working Group on "Known applications and unknown features of the synthetic materials"

A meeting of the Working Group on "Known applications and unknown features of the synthetic materials" will be held in Tehran (Iran) on May 13, 1977 at 09.00 hours. The Agenda of the meeting is at Appendix XI, pages A-49 to A-53.

The Council set up this Working Group at its Prague meeting in 1973 and the first meeting of the Working Group was held at the time of the Bonn Council meeting in 1974. It was regrettably not possible to hold the meeting of the Working Group in Moscow in July 1975 for want of presence of sufficient members and in Banff (Canada) in 1976 as no member of the Working Group was present.

(The report of the Working Group is submitted for consideration of the Council at the Meeting).

Item 13 : To consider the recommendations of the Permanent Paper Committee regarding the subjects of the three basic Questions to be discussed at the Eleventh Congress on Irrigation and Drainage to be held in France in 1981

The notes on this item appear under Item 2 of the Agenda of the Permanent Paper Committee given at Appendix XII.

(The recommendations of the Permanent Paper Committee are put up for consideration of the Council at the Meeting).

Item 14 : To consider the recommendations of the Permanent Paper Committee regarding the question of holding a Special Session at the time of the Eleventh Congress in France in 1981 and its theme

The notes on this item appear under Item 3 of the Agenda of the Permanent Paper Committee given at Appendix XII.

(The recommendations of the Permanent Paper Committee are put up for consideration of the Council at the Meeting).

Item 15 : To consider the recommendations of the Permanent Paper Committee regarding the question of holding a Symposium at the time of the Eleventh Congress in France in 1981 and the title of the subject for the Symposium

The notes on this item appear under Item 4 of the Agenda of the Permanent Paper Committee given at Appendix XII.

(The recommendations of the Permanent Paper Committee are put up for consideration of the Council at the Meeting).

Item 16 : To consider the report of the Permanent Paper Committee

A meeting of the Permanent Paper Committee will be held in Tehran on May 13 at 09.00 hours and on May 14, 1977 again at 09.00 hours. The Agenda of the Committee is at Appendix XII, pages A-54 to A-89.

(The report of the meeting of the Permanent Paper Committee is put up for consideration and directions of the Council).

Item 17 : To consider the report of the Review Committee of the Tehran Special Session

The Tehran Special Session on "Likely irrigated agriculture of 2000 A.D. — Role of ICID and its National Committees to meet the challenge of the situation" will be held at the time of the 28th Council meeting to be held in Tehran. The first session of the Special Session will be held on May 16th, 1977 at 14.00 hours and the Second Session the following day at 09.00 hours.

Prof. Dr. S. Hajrasuliha has been appointed the General Reporter for the Special Session. President Dr. Holy will chair the Session. Vice-President Dr. T.H. Anstey and Mr. K.K. Framji, Secretary-General will be

the Vice-Chairman and Secretary of the Session respectively. Session Assistant is to be appointed by the Iranian National Committee whose name is still awaited.

The Central Office has received 14 reports from 13 countries (two being from USA) for the Special Session. The National Committees contributing the reports are as below:

- R. 1 —Water development in Canada to meet agricultural production requirement for 2000 A.D.—by Canadian National Committee, ICID.
- R. 2 —Likely irrigated agriculture of 2000 A.D. in the Democratic Republic of Sudan—by A.M. Ibrahim (Sudan).
- R. 3 —Impacts of climatic fluctuations on food-producing ecosystems—by Dr. A. Dexter Hinckley (USA).
- R. 4 —Perspective de l'agriculture irriguée en l'an 2000—Rôle de l'ICID et de ses comités nationaux pour faire face à la situation—par Comité National Iranien de l'ICID.
- R. 5 —Advances in the technology of estimating crop water requirements —An aid to improved water management—by British National Committee, ICID.
- R. 6 —Long term planning of water development and water use for the expansion of agricultural production in Bulgaria—by Dimiter Davido (Bulgaria).
- R. 7 —Likely irrigated agriculture of 2000 A.D. — Role and activities of ICID and its national committees to meet the challenge—by Valleys Agricultural Development Authority (Ethiopia).
- R. 8 —Irrigation and drainage: A country report—The United States of America—by U.S. Bureau of Reclamation, Department of the Interior (USA).
- R. 9 —Irrigation agriculture in Mexico in the year 2000 A.D. — by Eng. Fernando J. Gonzalez Villarreal and Eng. Manuel Contijoch (Mexico).
- R. 10 —Present and anticipated effect of land reclamation on the agricultural output increase in Czechoslovakia—by Ing. Tasky Josef and Ing. Heldi Anton (Czechoslovakia).
- R. 11 —Contribution probable à partir de l'irrigation, du drainage et de la maîtrise des crues, pour faire face aux besoins de la production agricole vers l'an 2000—Rôle et activité de la CIID et de ses Comités Nationaux (France).
- R. 12 —Probable contribution from irrigation, drainage, and flood control to meet the requirements of agricultural production towards the year 2000 A.D.—Country Report—by Indian National Committee, ICID.

- R. 13 — Likely irrigated agriculture of 2000 A.D. (Greece) — by Mr. C. Salapas, Reclamation Service, Ministry of Agriculture, Secretary-General, Greek National Committee, ICID.
- R. 14— Contribution probable à partir de l'irrigation, du drainage et de la maîtrise des crues pour faire face aux besoins de la production agricole vers l'an 2000—Rôle et activité de l'ICID et de ses Comités nationaux—par Zozimo Pimenta de Castro Rego, Joao Lopes Saraiva, Jose Luciano Santa Comba Passos, Antonio Lousada dos Santos (Portugal).

The General Report based on the first 12 reports (R.1 to R.12) received up to the time of the stay of the General Reporter in New Delhi has been prepared. The printing of the Special Session reports is in advanced stage of printing. Copies of the reports will be airmailed by April 15, 1977.

President Dr. Holy, who is Chairman of the Special Session, has appointed the Review Committee in consultation with the Secretary General. The Review Committee comprises the Vice-Chairman Dr. Anstey, the General Reporter Dr. Hajrasuliha, Vice-President Mr. Darves - Bornoz and Mr. K.K. Framji, Secretary-General. The Review Committee will meet at 09.00 hours on May 18, 1977 and prepare the conclusions of the discussions and make recommendations for circulation to the National Committees.

(The Report of the Review Committee is put up for consideration of the Council at the Meeting).

Item 18 : To consider the report of the Permanent Committee on Application of Systems Analysis to Irrigation, Drainage and Flood Control

A meeting of this Permanent Committee will be held in Tehran (Iran) on May 13, 1977 at 14.00 hours. The Agenda of the Committee is at Appendix XIII, pages A-90 to A-92.

(The report of the meeting of the Committee is submitted to the Council for its consideration and direction at the Meeting).

Item 19 : To consider the report of the Permanent Committee to focus attention on New Developments and its sub-Working Groups on (i) Mechanised irrigation, and (ii) Identification of research needs and future research directions

A meeting of this Permanent Committee will be held on May 15, 1977 at 09.00 hours. The agenda of the Committee is at Appendix XIV, pages A-93 to A-96.

(The report of the meeting of this Committee is put up for approval, with or without modifications, of the Council at the Meeting).

Item 20 : To consider the report of the Committee on Irrigation and Drainage Construction Techniques

The Committee held two meetings in Banff in 1976. The Council adopted the report of the meetings of the Committee reserving the question

of the printing and publications for further consideration. The Committee made a review of its work programme and the time schedule for it, and tentatively decided the future work to be accomplished (as summarised on page A-195 of the Annual Report 1976).

A meeting of this Committee will be held in Tehran (Iran) on May 15, 1977 at 09.00 hours. The agenda of the Committee is at Appëdix XV, Pages A-97 to A-100.

(The report of the meeting of this Committee is put up for consideration of the Council at the Meeting).

Item 21 : To note progress made by the Permanent Finance Committee on the question of review of the basis of determining the annual contributions of the National Committees after the year 1979

After full deliberations at the meeting in Bonn (1974) the Council decided that the "Permanent Finance Committee" for annual contributions of the National Committees should come into action, review the current and near future conditions, and make recommendations for revision of the annual contributions of the National Committees having regard to the anticipated expenditure over the next five years. The membership of this Permanent Committee was then decided to be retained the same as before, i.e., a representative each of the National Committees of Arab Republic of Egypt, France, Great Britain, Hungary, Mexico, Spain, Turkey, U.S.A. and USSR, and the Secretary-General.

The meeting of this Committee was held in Moscow on July 22, 1975 and its Report (A.R. 1975, pages A-167 to A-170) was considered by the Council under Item 13 of the Minutes of Proceedings (A.R. 1975, pages 108-114) of the Moscow Meeting. The Council decided that:

- “(i) The ‘Permanent Review Committee’* should continue working, meet in Banff (Canada) at the time of the Twenty-seventh Council meeting and make recommendations for the revision of the annual contributions of the National Committees, having regard to the anticipated receipts and expenditure covering the three-year period 1977-1979.
- “(ii) The Review Committee would be at liberty to re-examine all aspects of the anticipated receipts and expenditure, review the three basic elements on which the annual contributions are based at present and would be at liberty to recommend the present or a new basis for annual contributions.
- “(iii) The Council also decides that pending final decision in the matter the annual contributions of all National Committees for the calendar year 1976 be uniformly increased by 30 per cent.”

It was further decided by the Council at its Moscow Meeting that the membership of the Review Committee be revised so as to make it more representative and broad-based. Accordingly, the Secretary-General proposed, and the Council accepted, that the Committee comprise a

*Permanent Finance Committee.

representative each of the National Committees of Switzerland, Ghana, Guyana, Great Britain, Greece, France, Iran, USA and USSR, and the Secretary-General.

All the National Committees except Switzerland (which had written to say that it would not be possible for it to join the Finance Committee), nominated a member each on the Committee. The question of the selection of a country in place of Switzerland was considered by the Office-Bearers' Committee at its last meeting held in Banff on June 8, 1976 as required under the By-laws. The Office-bearers Committee accepted the proposal of the Secretary-General and recommended, and the Council approved, that Austria be a member of the Finance Committee subject to acceptance by Austria.

The Austrian National Committee was addressed to in the matter and a reply was received stating that they would write to the Central Office by the end of January 1977. Further communication is, however, still awaited.

The Permanent Finance Committee met in Banff (Canada) on June 5 and 7, 1976 and its report* was considered under Item 19 of the minutes of Proceedings** of the Council, which, inter alia, includes:

"In keeping with the Moscow (1975) Council Meeting decision (ii) on page A-119 of Agenda Notes, the Finance Committee recommends that future consideration be given to the basis of annual contribution and that a definitive view on this be presented for consideration of the contributions for the year subsequent to 1979.

"Secretary-General will, moreover, attempt to review the present scales and units for the elements "capacity to pay" and "interest of the country" so that there is no ceiling to the element of the contributions for increases of areas at the upper end for the countries with the largest areas, and so that increases of areas in the lower and middle ranges do not have inordinate increases in contributions (as for example the countries* marked with an asterisk). The Secretary-General's proposals will be submitted hopefully at the meeting of the Finance Committee in Tehran or Athens so that any changes in the Secretary-General's proposals suggested by other members of the Finance Committee may be alternatively worked out and finalised in or before the year 1979 to be put into operation for the three or four year period subsequent to 1979.

"With reference to the expenditure in connection with international meetings, the Committee has noted that the above mentioned increases in contributions have been calculated on the basis of attendance by the Secretary-General and Secretary of one meeting only. The committee wholeheartedly concurred with the view of the President and Secretary-General that the Secretary-General should attend one or two more of the most vital international meetings each year (see para 11, page A-122 of Agenda Notes 1976). The committee, therefore, recommend that the Secretary-General may utilize savings, if any, from other items of the Budget over the attendance of other international meetings."

*Annual Report 1976, pages A-201 to A-203.

**Annual Report 1976, pages 82-85.

The Council, by majority of votes, decided that the annual contribution of each country for the three-year period 1977-79 be 42 per cent flat increase over the annual contribution payable for 1975.

The next meeting of the Permanent Finance Committee will be held in Tehran at 14.00 hours on May 15, 1977. The Agenda for the meeting is at Appendix XVI, pages A-101 to A-103.

(The report of the Committee is put up for consideration and direction of the Council at the Meeting).

Item 22 : To note progress made by the Working Group on Tentative Supplement to ICID Multilingual Technical Dictionary to finalize chapters XVII to XX (containing new terms on Environmental Control, Water Resources Systems Analysis, Automation, and Computer Technology)

At its last meeting in Banff (Canada), the Permanent Paper Committee recommended, and the Council approved, the composition of an eight-member Working Group to finalise Chapters on Environmental Control, Water Resources Systems Analysis, Automation, and Computer Technology of the Multilingual Technical Dictionary.

A meeting of this Working Group will be held on May 13, 1977 at 14.00 hours in Tehran. The Agenda of the working group is at Appendix XVII, pages A-104 to A-106.

(The report of the working Group is put up for consideration of the Council at the Meeting).

Item 23 : To consider the matter of non-payment of annual contributions by the Burmese National Committee

The National Committee of Burma has not so far been able to arrange for the payment of the annual subscription for the year 1973. The amount due is US \$ 750.00. Annual contributions for subsequent years have since been received.

The Director General of Irrigation, Rangoon under his letter No. 3502/103-AL-LA (3) dated May 26, 1973, authorised the Accountant General, Burma to pay through the Embassy of Burma in New Delhi a sum of Rs 4, 914.04 (equivalent of US \$ 750), but the subscription was not received. The Central Office requested the Embassy of Burma, New Delhi, on July 12, 1973 for payment of the said amount if it had since been received. In spite of repeated requests made to the Burmese National Committee the amount has not been received. The Burmese Embassy in New Delhi vide their letter No. 261/18-11 dated March 4, 1977 has now written to inform that the matter has been brought to the attention of Burmese authorities concerned.

In view of the fact that subscriptions for the subsequent years have been duly remitted by the above National Committee it may be assumed

that there might be some procedural difficulty and action as enjoined by the Council was not, therefore taken.

The further progress after writing of the agenda notes will be reported to the Council for directions, if necessary.

Item 24 : To note progress on the arrangements of the Tenth Congress on Irrigation and Drainage in Athens in 1978

The Tenth Congress and the 29th Executive Council meetings will be held from May 24 to June 4, 1978 in Athens. Two 5-day study tours, Tour A in the Southern Greece and Tour B in the northern Greece, have been tentatively planned.

The Greek National Committee has since issued Bulletin No. 1 in connection with the Tenth Congress and copies have been sent to all National Committees.

The Secretary-General is sure the Congress will emulate past Congresses under the dynamic guidance of President Honoraire Mr. Papadopoulos.

The distinguished representative of Greek National Committee may like to apprise the members of the up to date position regarding the arrangements for the Congress.

Item 25 : To decide the venue of the Eleventh Congress on Irrigation and Drainage in 1981 in France and to hear a report on its planning and preparation

During the 27th Council meeting in Banff (Canada), Vice-President Mr. Darves-Bornoz discussed the question of the choice of the city/cities for the Eleventh Congress of ICID in 1981 in France. The merits and demerits of three alternative venues—Grenoble, Paris-Grenoble, and Paris—were compared.

In order to ascertain the views of the national Committees on the three alternative venues, the Secretary-General requested the National Committees in a circular letter in August 1976 to indicate their preference (s) for the venue(s) directly to Vice-President Darves-Bornoz (copy to him). A copy of Vice-President Darve-Bornoz letter No. GPR/76/290 dated July 12, 1976, weighing more comprehensively the merits of the three alternative proposals, was enclosed with the circular letter of August 1976. Fifteen National Committees have expressed the view that both the Congress and the Council meetings be held in Grenoble; two National Committees have favoured Council meeting being held in Paris and the Congress in Grenoble; one National Committee is of the view that both Council and the Congress be held in Grenoble.

One National Committee as second and third preferences has written to intimate that the Council in Paris and Congress in Grenoble or Council and Congress both in Paris be held.

The Council may wish to hear further on the subject from the distinguished representative of the French National Committee.

Item 26 : To note progress on the arrangements for holding the Thirtieth Meeting of the International Executive Council in 1979

At the Twenty-seventh meeting of the International Executive Council held in Banff in June 1976, the distinguished delegate from Morocco confirmed the invitation of his great country to hold the Thirtieth Meeting of the Council at Rabat at the National Agronomic and veterinary Institute of Hassan-II. He distributed copies of the tentative programme of the Meeting.

The programme envisages eight days for the meetings of Committees, Working Groups and the Council to be followed by two alternative study tours of seven days duration. The distinguished Moroccan delegate informed the Council that if the programme was considered too long, his National Committee was ready to re-examine and reduce it, as deemed appropriate.

Draft copies of the tentative programme, as chalked out by the Moroccan National Committee and presented to the Council, were distributed to the National Committees for comments and suggestions (Appendix XVIII).

Comments and suggestions have been received from the National Committees, which are set out below with Comments where appropriate:

- (i) The National Committees of Malaysia, Guyana, German Democratic Republic, Portugal, A.R.E., Rhodesia and Iraq have no comments on the tentative programme of the meeting.
- (ii) The National Committees of Greece, India and Yugoslavia have suggested five days for the meetings of the Committees, Working Groups and the Council. The Greek National Committee has further suggested that the study tours be of four to five days duration. Yugoslavia has suggested that the meetings be from Monday to Friday (5 days) and the study tours from Saturday to Friday (7 days).
- (iii) The National Committees of Bangladesh, Canada and U.S.A. have suggested that the Second Session of the Council meeting and the Farewell Dinner could possibly be held on the same day.
- (iv) The National Committee of France has intimated that the programme seems on the whole very interesting and it should be maintained without change. However, it has suggested the addition of shorter study tours, for instance of two days, in order to enable the delegates in a hurry to visit only a few Moroccan projects.
- (v) The National Committee of the Federal Republic of Germany has remarked as below :

“...I would be grateful, if consideration could be given to the different working days in moslem countries.

“My experience shows, that many delegates find it difficult to lose working days for travelling as it may be, if all the meetings are oriented at the moslem calendar...

“Further, I notice, that a Special Session is not mentioned in the

programme, which should permit to shorten the time allowed for the meetings.

“Otherwise, the tentative programme appears to promise interesting experiences.”

(vi) The Spanish National Committee:

“... We think that probably 8 days for the different meetings of all kind, seems to be an excessive long period, since a 7 days duration study other will be followed, which will be likely difficult to reduce, provided that there are a sufficient number of interesting works to visit, as to fill up those days.

“Our daily professional work does not allow us, generally, to spend much time out of our offices, and so we only suggest to concentrate all the meetings and study tours within as few days as possible so that we do not get the feeling of wasting our time.”

(vii) The British National Committee has commented as under :

“The British National Committee have now had an opportunity to study the draft programme but find it difficult to offer any constructive criticism on the programme in its present sketchy state. In particular, the British National Committee would have found a map* of the proposed itineraries of especial value together with an indication of what it was intended to visit. In this latter connexion, the name of a town does not always convey to a foreigner what, in fact, will be seen.

“On Study Tour No. 2, there is a certain haziness about the itinerary on days 10 to 12. Is one to take it that the visit to “the Perimeter Haouz” is a day’s excursion and that the party returns to Marrakech in the evening ? If this is so, perhaps “departure from Marrakech” at the beginning of day 11 ought to be omitted.”

The Council may discuss, after hearing the delegate of the Moroccan National Committee, and finalise (a) the duration of the programme for the official business of the Council and (b) the duration of the alternative study tours.

Item 27 : To consider the venue for holding the Thirty-first (1980) Meeting of the International Executive Council

By the circular letter dated November 12, 1976 containing a list of the venues of the previous Council meetings, the Secretary-General requested all National Committees interested in hosting the 1980 Council meeting to come forward with an invitation which could be considered by the Council at its Tehran meeting

Except for the first meetings of the Council, the tradition has been to hold the Council meeting in rotation in different parts of the world. The Commission has not so far held any Council meeting in South America. The President and the Secretary-General are keen that a thrust be made in South

*Since supplied

America and Africa to secure more countries as members from these great continents

The Dutch National Committee has written to support the proposal for holding a Council meeting in South America.

The Brazilian National Committee has expressed its inability to organize the Council meeting in 1980 in its country.

No invitations have been received so far. The member countries are requested to reconsider.

Item 28 : Election of Office-bearers

(a) Vide article 23.2 of the Constitution, the terms of the following three Office-bearers expire at the conclusion of the Twenty-eighth meeting of the Council:

- (1) Dr. T.H. Anstey (Canada)
- (2) Mr. R. Darves-Bornoz (France)
- (3) Mr. A. Bekkali (Morocco)

Thus, there will be three posts of Vice-Presidents which will fall vacant after the Twenty-eighth Council Meeting.

(b) Article 22 of the Constitution stipulates that not more than one of the ten offices (one President and nine Vice-Presidents) shall be held by any country at one time. The Vice-Presidents who will continue in office after the Twenty-eighth Council meeting are :

- (1) Mr. W.R. Rangeley (Great Britain)
- (2) Mr. J.G. Daniel (Malaysia)
- (3) Dr. M. Shafic Safadi (Syria)
- (4) Mr. R.A. Wilkins (Guyana)
- (5) Prof. Dr. H. Grubinger (Switzerland)
- (6) Mr. C.C. Patel (India)

(c) As laid down in Articles 2.1 and 2.2 of the By-laws, by his letter of September 23, 1976, the Secretary-General requested the National Committees, if desired by them, to send to the Central Office by January 31, 1977 their nomination of a person, who must be a national of their country, together with his bio-data and the grounds for the recommendation, for one of the three posts of the Vice-Presidents which will fall vacant after the conclusion of the Twenty-eighth Council meeting.

(d) In response to the Secretary-General's request [vide para (c)] the following nominations have been received by the prescribed date and even up to the date of this Agenda going to the Press:

- (i) Mr. Ibrahim, A.M. (by the National Committee of Sudan)
- (ii) Mr. Kuzmanovsky, Tome (by the National Committee of Yugoslavia)

(iii) Mr. Shtepa, B.G. (by the National Committee of USSR)

(iv) Dr. Zanker, Karl (by the National Committee of Fed. Rep. of Germany)

(e) As laid down in By-law 1—(Part I-Election of Office-bearers), a meeting of the Office-bearers, past and present, attending the Twenty-eighth meeting of the Council, will be held in Tehran on May 16, 1977 at 09.00 hours. The bio-data of the proposed candidates and the factual data including a list showing the offices held by the member countries of ICID will be made available to the Committee of Office-bearers. The recommendations of the Office-bearers' Committee will be put up to the Council. The Office-bearers' Committee's recommendations are purely advisory and the Council has the last word in the matter. The Council's decisions will be announced in order of seniority accorded by the Council.

Item 29 : Any other business (with the permission of the Chair)

(i) — **To consider the question of reimbursement to Mr. I. K. Mahajan, Secretary on leave preparatory to retirement, the medical expenses incurred by him in March/April, 1976**

Mr. I. K. Mahajan proceeded on leave preparatory to retirement on February 2, 1976. Shortly after handing over charge, Mr. Mahajan had to undergo a major operation. This operation was got done by him at a private nursing home in Delhi.

Had he received medical care and been operated upon *in a Government hospital* in accordance with the Medical Attendance Rules as applicable to the staff of the Commission, *all charges* for the operation and hospitalization for the operation and subsequent medical attendance would have been borne by the Commission as provided in Rule 3. (2) (ii) of the said Rules, viz.,

“Rule 3 (2) (ii): Hospitalisation. All hospitalisation cases shall be got done at the Government hospitals, viz., All India Medical Institute, Safdarjang Hospital, etc. The Commission shall pay the charges, if any, according to the scale prescribed by the Contributory Health Scheme for Central Government employees in Delhi and New Delhi from time to time. If any employee wants to have better facilities than provided for in the Contributory Health Scheme Rules, he/she may do so but the office will pay whatever is admissible and the difference will have to be paid by him/her.

In case an employee or a member of his/her family wants to have hospitalisation done in a private nursing home, he/she will be at liberty to do so, but the Commission shall not pay any charges for such hospitalization. However, the charges can be adjusted in full or in part as the case may be, *against the ceiling fixed under Rule 6*”.

The ceiling fixed under Rule 6 in the case of Mr. Mahajan was Rs. 300. This amount could only cover treatment of ordinary ailments and not the type of operation that Mr. Mahajan had undergone.

Mr. Mahajan has intimated the details of the expenditure at Government rates (inclusive of the charges for operation, cost of medicines and medical post-operation care). The amount involved is Rs. 4,594.70.

Mr. Mahajan has stated that no bills for medicines and charges paid for clinical tests have been retained by him and the details have been furnished from memory and that, if anything, they are a bit on the lower side. He has, however, submitted the bills of the nursing home in respect of the operation and hospitalisation charges which are much higher than the corresponding government hospital charges. The comparative charges according to Mr. Mahajan are :

| | <i>Government hospital (All India Institute of Medical Sciences)</i> | <i>The City Clinic (Private nursing home)</i> |
|--|--|---|
| Admission charges | Rs. 5.00 | — |
| Operation charges | Rs. 600.00 | Rs. 1,500.00 |
| Anaesthesia charges | Rs. 100.00 | Rs. 300.00 |
| Operation theatre charges | — | Rs. 300.00 |
| Professional attendance | — | Rs. 200.00 |
| Room charges for 18 days | Rs. 1,800.00 | Rs. 990.00 |
| Injection charges | — | Rs. 15.00 |
| Radiological examination | Rs. 40.00 | Rs. 60.00 |
| Miscellaneous charges | — | Rs. 40.00 |
| Medical attendant | Rs. 270.00 | — |
| Diet charges | Rs. 270.00 | — |
| | <u>Rs. 3,085.00</u> | <u>Rs. 3,405.00</u> |
| Cost of medicines, injections, blood transfusion, etc. | Rs. 1,509.70* | Rs. 1,509.70* |
| Total | Rs. 4,594.70 | Rs. 4,914.70 |

(*Common to both)

In view of Mr. Mahajan's long and approved service to the Commission, as a special case not to be a precedent for other cases, the Secretary-General recommends to the Council that in relaxation of the existing rule, reimbursement of the amount of Rs. 4,594.70 (i.e. the total expenses that would have been paid by the Commission in the case of hospitalization at a Government hospital) be made to Mr. Mahajan.



Item 29 (ii) To approve that the funds of the Commission be also kept with the Canara Bank, Diplomatic Enclave Branch, New Delhi

At present the accounts of the Commission are being maintained with the State Bank of India, New Delhi.

It has been experienced that the collections of cheques/drafts in foreign currency (other than in Indian rupees) take from 2 to 3 months. Due to delays in the realisation of cheques the Central Office has had on several occasions to face difficulties. The Canara Bank, located next door to the Central Office building, has assured the Commission would be allowed the facility of drawing money against cheques under realisation without any charges. This facility is not extended by the State Bank of India.

The Canara Bank is also a nationalised Bank and has certified that

“...ours is one of Nationalised banks and is now wholly owned by the Government of India”.

In view of this the Canara Bank is at par with the State Bank of India from point of security of funds.

In order to open an account in the name of the Commission with the Canara Bank the following draft resolution is proposed for adoption by the Council:

Resolved

- (1) “That the Canara Bank be and are hereby appointed as one of the Bankers to the International Commission on Irrigation and Drainage, hereinafter called ‘The Commission’ and that an account of the Commission be opened with the Canara Bank at their Diplomatic Enclave Branch or with and other branch of the bank.
- (2) “That all cheques on the Banking account be signed and all bills, notes and other negotiable instruments be drawn, accepted and made on behalf of the Commission by the Secretary-General.
- (3) “That cheques, bills, notes and other negotiable instruments payable to the Commission may be endorsed for the Commission by the Secretary-General/Secretary for the time being, jointly or severally, and the said bank be and are hereby authorised to honour such documents made on behalf of the Commission and to act on any instructions at any time or times by the aforesaid officers of the Commission.
- (4) “That the Secretary-General is hereby authorised to draw from the Canara Bank up to a total of Rs. 100,000/—(rupees one lakh only) outstanding at anytime by way of cheques, etc., deposited by the Commission with the bank for realisation subject to the condition that there will be no charges payable to the bank by the Commission on such withdrawals.
- (5) “That a copy of these resolutions signed by the Chairman be handed to the Canara Bank together with the necessary specimen signatures and remain in force until notice in writing cancelling or modifying the same is given to the said bank by a resolution of the International Executive Council of the Commission”.

APPENDICES

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ICSU—UATI JOINT COMMITTEE ON WATER RESEARCH
COWAR
DRAFT STATUTES

I. PREAMBLE

1. The International Council of Scientific Unions (ICSU) and the International Union of Engineering Societies (UATI) attaching great importance to the solution of problems relating to water have agreed to establish a scientific committee for the coordination of water research to establish a coordinating organisation on water Research. This committee will hereafter be called COWAR.

II. ROLE

2. The tasks assigned to COWAR are the following :

- (a) to establish the necessary contacts between non-governmental international organisations and with governmental international organisations which are concerned with problems of water in order to ensure the necessary coordination in this field of research so that the activities of these organisations will complement each other for the common benefit of all the organisations and the people they ultimately serve and so that unnecessary overlapping, duplications or gaps in their activities will be avoided.
- (b) to act as scientific adviser on behalf of ICSU and UATI to Unesco and other interested bodies such as WMO, FAO, IAEA, UNEP on problems relating to problems or programmes concerned with water.

3. Nothing in these statutes shall be construed as affecting the identity or the autonomy of any organisation participating in the activities of COWAR.

III. MEMBERSHIP

4. COWAR shall consist of—

- (a) a Bureau of four officers:
President, Vice-President, Past-President, and Secretary-Treasurer.
- (b) Members representing the non-governmental international organisations concerned with water research which are listed in Schedule A.
- (c) One representative of ICSU and one representative of UATI.
- (d) Observers designated by each of the governmental international agencies interested in the work of COWAR.

5. COWAR, or the Bureau on its behalf, may at any time invite experts to attend its meetings as observers or to act as consultants in connection with its activities.

IV. NOMINATION OF MEMBERS

6. The members of the Bureau shall be appointed jointly by ICSU and UATI and will hold office for four years.

7. The members representing International Unions affiliated to ICSU shall be nominated by the Union concerned after consultation with the appropriate constituent organisations of the Union concerned with water research.

8. The members representing international organisations affiliated to UATI shall be nominated by each of these organisations.

9. The members representing non-governmental organisations shall be nominated in a manner to be determined at the time of their admission to membership.

V. ORGANISATION OF ACTIVITIES

10. COWAR shall hold at least one Plenary Meeting in each year. In connection with this meeting the Bureau shall give advance notice of the Meeting to all Members and to the international organisations likely to send observers and shall invite their comments on the draft agenda. After the meeting detailed minutes shall be distributed as soon as practicable to all Members and to all Observers.

11. Travel expenses and per diem allowances will be paid to Members attending a plenary meeting of COWAR in accordance with the travel regulations of ICSU and UATI. The expenses of observers will be borne by the organisations they represent.

12. COWAR may create Commissions or Working Groups. Fore-seeable expenses for such workings shall be included in the annual budget as specific items.

13. COWAR may with the permission of ICSU and UATI enter into contracts with Unesco or other international agency or appropriate organisation to carry out work related to its objectives.

14. A Finance Committee shall be appointed which conforms to the requirements of both ICSU and UATI and the annual provisional budget of COWAR shall be subject to approval by both bodies.

VI. GENERAL PROVISIONS

15. These statutes can only be modified or amended with the approval of ICSU and UATI. Rules for the conduct of its business in accordance with the statutes may be made from time to time. Such rules should be reported to ICSU and UATI.

16. Any international non-governmental organisation concerned with water research may be considered for membership and if its admission is approved of by a two-thirds majority of members and confirmed by ICSU and UATI Schedule A shall forthwith be amended accordingly.

17. ICSU and UATI may at any time provide for special interim measures to cover points not envisaged by these statutes.

[AUDIT REPORT FOR THE YEAR 1976]

RAGHU NATH RAI & CO.
Chartered Accountants
No. 38A/SR/

3-Hanuman Road,
New Delhi- 1
28th February, 1977

International Executive Council,
International Commission on
Irrigation and Drainage,
New Delhi- 21

Dear Sir,

We have audited the accounts of the Commission for the year ending on 31st December, 1976. In this connection, we have to report as under:

1. Receipts & Payments Account for the year under report has been checked with Cash Book, Vouchers, Bank Statement of Accounts and other records. We have also verified that the payments are within the authorities of the respective officers.

2. The Balance Sheet has been prepared after incorporating certain provisions which have been made in the Ledger Account with regard to liabilities payable, items recoverable and the estimated realisable value of stock of publications in hand. These provisions have been estimated by the Secretary General and relied upon by us.

3. These accounts do not incorporate entries in respect of Staff Provident Fund for which separate accounts have been prepared.

4. We have compared the receipts and expenses with the budget provisions. There are variations between the budgeted amounts and the actuals. We understand that these are being brought to your notice.

Subject to the above the Balance Sheet and the Receipts & Payments Account are correct in accordance with the books and vouchers produced before us and as per information and explanations given to us and upon which we have relied.

For **RAGHU NATH RAI & CO.**
Chartered Accountants

Sd/- **KEWAL ANEJA**
Partner

**INTERNATIONAL COMMISSION ON
BALANCE SHEET AS ON**

| Previous year | CAPITAL AND LIABILITIES | Current year | |
|---------------|---|--------------|-----------|
| | | Rs. | Rs. |
| | BUILDING FUND | | |
| | As per last Balance Sheet | 1,067,279 | |
| 1,067,279 | Less : Depreciation | 29,521 | 1,037,758 |
| | GRATUITY FUND | | |
| | As per last Balance Sheet | 82,947 | |
| 82,947 | Add : Interest | 6,636 | |
| | Contribution during the year | 2,001 | 91,584 |
| | AMOUNT RECEIVED IN ADVANCE | | |
| 35,381 | For contribution | 50,150 | |
| 971 | For sale of publications | 971 | 51,121 |
| | SUNDRY LIABILITIES | | |
| 2,664 | Payable to Contractors | — | |
| 24,767 | Salary for December | 32,750 | |
| 814 | Electricity and water charges | 643 | |
| 250 | Security refundable | 250 | 33,643 |
| | SUSPENSE ACCOUNT (Pending adjustment) | | |
| | As per last Balance Sheet | 17,132 | |
| | Add : Amount received during the year | 25,968 | |
| 17,132 | Less : Amount adjusted during the year | 43,100 | |
| | | 4,963 | 38,137 |
| | CORPUS FUND | | |
| 1,266,988 | Being excess of assets over liabilities | | 1,448,190 |
| 2,499,193 | Carried over | | 2,700,433 |

IRRIGATION AND DRAINAGE

31ST DECEMBER, 1976

| Previous year | PROPERTY AND ASSETS | | Current year | |
|---------------|--|---------|--------------|-----------|
| | | | Rs. | Rs. |
| | BUILDING FUND INVESTMENTS | | | |
| 72,984 | Leasehold land at cost | | 72,984 | |
| | Building | | | |
| 894,010 | As per last Balance Sheet | 894,010 | | |
| | Less depreciation | 22,350 | 871,660 | |
| | Equipment | | | |
| 89,713 | As per last Balance Sheet | 89,713 | | |
| | Less depreciation | 5,383 | 84,330 | |
| | Air conditioners (Building Fund) | | | |
| 8,664 | As per last Balance Sheet | 8,664 | | |
| | Less depreciation | 1,733 | 6,931 | |
| | Fire fighting equipment | | | |
| 551 | As per last Balance Sheet | 551 | | |
| | Less depreciation | 55 | 496 | |
| | Office equipment | | | |
| | As per last Balance Sheet | 86,746 | | |
| | Additions during the year | 22,177 | | |
| | | 108,923 | | |
| 86,746 | Less: Sold | 1,135 | | |
| | Less: Depreciation | 6,467 | 7,602 | 101,321 |
| | Library Books | | | |
| | As per last Balance Sheet | 52,869 | | |
| | Additions during the year | 14,670 | | |
| | | 67,539 | | |
| 52,869 | Less depreciation | 6,754 | 60,785 | |
| | Air Conditioners (Main Funds) | | | |
| 5,747 | As per last Balance Sheet | 5,747 | | |
| | Less Depreciation | 1,149 | 4,598 | 1,203,105 |
| 1,340 | SECURITY DEPOSIT WITH N.D.M.C. | | | 1,340 |
| | SUNDRY DEBTORS, LOANS AND ADVANCES | | | |
| | As per list supplied and certified by the Secretary | | | |
| 142,842 | Subscription outstanding | | 207,860 | |
| 95,596 | Amount recoverable in respect of publications supplied | | 111,869 | |
| 8,000 | Advance to Printers | | 1,000 | 320,729 |
| 1,459,062 | Carried over | | | 1,525,174 |

A-6

| Previous year | CAPITAL AND LIABILITIES | Current year |
|------------------|-------------------------|------------------|
| Rs. 2,499,193 | Brought forward | Rs. 2,700,433 |
| 2,499,193 | Total : | 2,700,433 |

New Delhi
Dated: 28th February, 1977

Sd/- G.R. Pande
Accountant

A-7

| Previous year | PROPERTY AND ASSETS | Current year | |
|---------------|---|--------------|-----------|
| Rs. | | Rs. | Rs. |
| 1,459,062 | Brought forward | | 1,525,174 |
| | ADVANCES TO STAFF | | |
| | Miscellaneous | | |
| | As per last Balance Sheet | 4,034 | |
| | Add : Amount advanced during the year | 1,540 | |
| | Interest accrued during the year | 70 | |
| | | 5,644 | |
| 4,034 | Less : Amount recovered during the year | 2,760 | 2,884 |
| | House Building | | |
| | As per last Balance Sheet | 9,796 | |
| | Add : Interest accrued during the year | 6 | |
| | | 9,802 | |
| 9,796 | Less : Amount recovered during the year | 2,580 | 7,222 |
| | DEPOSITS WITH DELHI TELEPHONES | | |
| | (Under Own Your Telephone Scheme) | | |
| | As per last Balance Sheet | 1,950 | |
| | Add : Amount paid during the year | 10,000 | |
| | | 11,950 | |
| 1,950 | Less : Recovered | 700 | |
| | Written off | 200 | |
| | | 900 | 11,050 |
| | STOCK OF PUBLICATIONS | | |
| 399,612 | At estimated realisable value as certified by the Secretary | | 546,995 |
| 82,947 | GRATUITY FUND INVESTMENTS | | |
| | In Fixed Deposit with State Bank of India | | 91,583 |
| | BALANCES IN HAND | | |
| | Cash and Bank Balances | | |
| | In Fixed Deposit with State Bank of India: | | |
| 244,432 | (i) Main Fund Account | 241,260 | |
| 49,756 | (ii) Dictionary Account | 53,737 | 294,997 |
| | With State Bank of India | | |
| 119,198 | Current Account | 69,473 | |
| 1,902 | Cash with Secretary-General | 2,621 | 72,094 |
| | Other items | | |
| 3,187 | Balance in franking machines | 12,218 | |
| 1,226 | Value of UNESCO Book Coupons | 8,151 | |
| 51,817 | Printing paper in stock | 57,651 | |
| 463 | Cement in stock | 48 | 78,068 |
| | FOREIGN CURRENCY CHEQUES UNDER REALISATION | | |
| | (Converted to Rupee equivalent at approximate prevailing conversion rate) | | |
| 29,704 | For Annual Contribution | 54,763 | |
| 40,107 | For Publications | 15,603 | 70,366 |
| 2,499,193 | | Total : | 2,700,433 |

Sd/- B.C. Garg
Secretary

Sd/- K.K. Framji
Secretary-General

Auditors' Report to the International Commission on Irrigation and Drainage

As per our separate report of even date.

**INTERNATIONAL COMMISSION ON
RECEIPTS AND PAYMENTS ACCOUNT FOR THE YEAR ENDING**

| Previous year | RECEIPTS | Current year | |
|---------------|--|--------------|-----------|
| | | Rs. | Rs. |
| | Opening Cash and Bank Balances | | |
| | Cash in hand with Secretary-General (Including cheques) | 1,902 | |
| 542 | In Current Account with State Bank of India | 119,198 | |
| 61,930 | In Fixed Deposit with State Bank of India: | | |
| | Main Account | 244,432 | |
| 207,117 | Dictionary | 49,756 | |
| | | 294,188 | 415,288 |
| | Other Items | | |
| 3,452 | Balance in franking machines | 3,187 | |
| 5,327 | Value of UNESCO Book Coupons | 1,226 | |
| 45,059 | Paper in stock | 51,817 | |
| 1,201 | Cement in stock | 463 | 56,693 |
| | Receipts pertaining to normal regular functions of the Commission | | |
| | (1) <i>Contribution from National Committees</i> | | |
| 74,504 | Arrears upto 31.12.75 | 66,576 | |
| 348,428 | For 1976 | 398,143 | |
| 22,759 | Received in advance | 47,356 | 512,075 |
| | (2) <i>Sale Proceeds of</i> | | |
| 51,817 | ICID Bulletins (including advertisements) | 63,841 | |
| 3,668 | Bibliographical Bulletins | 3,269 | |
| 1,348 | Annual Reports | 735 | 67,845 |
| | (3) <i>Recovery of Advances</i> | | |
| 1,380 | House Building advance | 720 | |
| 2,232 | Interest on House Building advance | 1,860 | |
| 1,530 | Vehicle advance | 1,860 | |
| 11 | Interest on Vehicle advance | — | |
| 900 | Miscellaneous advances | 900 | |
| — | Advance to Printers recovered | 7,000 | 12,340 |
| | Other Receipts | | |
| 14,024 | Interest on Fixed Deposit (Main Fund) | 14,179 | |
| | Miscellaneous Receipts including rent of quarters | 2,181 | |
| 1,377 | Advance received for publications | — | |
| 22,800 | Suspense Account (adjustable) | 21,005 | |
| 10,817 | Registration Fee of the 9th Congress (Half) | 3,714 | |
| 112,080 | Unpaid salary | — | |
| 162 | Sale of old office equipment | 10,000 | 51,079 |
| — | | | |
| | Receipts transferable to respective Accounts | | |
| | 25 per cent Extra contribution (1974) for Silver Jubilee Celebrations | — | |
| 22,195 | Sale of Multilingual Technical Dictionary | 5,288 | |
| 4,668 | Sale of Commemorative Volume | — | |
| 10,234 | | | |
| | | | |
| 1,031,562 | Carried over | 5,288 | 1,115,320 |

IRRIGATION AND DRAINAGE

31ST DECEMBER, 1976

| Previous year | PAYMENTS | Current year | |
|---------------|--|--------------|---------|
| | | Rs. | Rs. |
| | Expenditure pertaining to normal regular functions of the Commission | | |
| | Pay and allowances of staff (including Commission's contribution towards Provident Fund Rs. 24,191, medical aid Rs. 3,990 and Gratuity Fund Rs. 2,001 deposited in Bank) | | 351,244 |
| 316,551 | Postage, telegram and telephones (Net) | | 90,338 |
| 54,849 | ICID Bulletins (July '76, Jan. '77) | 56,650 | |
| 36,551 | ICID Bulletin July, 1977 | 2,048 | 58,698 |
| — | | | |
| | Bibliography—1974 | 9,082 | |
| 9,783 | Bibliography—1975 | 35 | 9,117 |
| | Agenda of 27th Council Meeting and Annual Report 1976 | 23,228 | |
| 19,995 | Annual Report 1975 | 2,741 | 25,969 |
| — | | | |
| | Stationery and miscellaneous printing expenses | 18,457 | |
| 25,253 | Xerox machine | 4,563 | 23,020 |
| 3,874 | | | |
| 10,723 | Library books and periodicals purchased | | 14,670 |
| | Office Equipment | | |
| | Purchases from Main Fund | 22,177 | |
| 6,807 | Repairs and maintenance | 7,462 | 29,639 |
| 6,174 | | | |
| | Office building expenses | | |
| | House Tax | 9,135 | |
| 9,135 | Land rent and maintenance | 14,190 | |
| 10,228 | Electric and water charges | 7,841 | 31,166 |
| 5,590 | | | |
| 500 | Audit Fee | | 500 |
| — | Contribution to U.A.T.I. | | 4,422 |
| | Travelling and other charges of Secretary-General and Secretary for attending IEC Meeting | | 50,690 |
| 34,448 | Travelling expenses for other International Meetings | | 15,219 |
| 20,100 | | | |
| | Miscellaneous Advances to Staff | | |
| | Vehicle | 740 | |
| 900 | Festival | 800 | 1,540 |
| | Miscellaneous expenses (including conveyance Rs. 3,228 and bank charges Rs. 69) | | 9,419 |
| 11,126 | Plaques for Office Bearers | | — |
| 4,218 | Expenditure on Meetings in India | | 1,530 |
| — | Amount retained from bills of contractors paid out | | 2,664 |
| — | Advance received previously for publications adjusted during the year | | — |
| 1,274 | | | |
| 588,079 | Carried over | | 719,845 |

| Previous year | RECEIPTS | Current year | |
|------------------|--|--------------|-----------|
| | | Rs. | Rs. |
| Rs. 1,031,562 | Brought forward | 5,288 | 1,115,320 |
| | <i>Interest on other Fixed Deposits:</i> | | |
| 5,904 | (i) Gratuity Fund | 6,636 | |
| 3,547 | (ii) Multilingual Technical Dictionary | 3,980 | |
| — | Gratuity Fund—amount provided for the year | 2,001 | 17,905 |
| | Sale Proceeds of Special Publications | | |
| 112,080 | Registration Fee of the 9th Congress (half) | 3,714 | |
| 5,898 | Irrigation and Drainage in the World—A Global Review | 3,578 | |
| — | Transactions—IXth Congress | 43,893 | |
| 9,115 | Transactions—VIIIth Congress | 11,031 | |
| 13,323 | Transactions of Previous Congresses | 12,546 | |
| 40,974 | Reprints of Congress and charges for printing excess pages of Reports | 21,152 | |
| 5,595 | Design Practices of Irrigation Canals | 2,839 | |
| 1,401 | Irrigated Wheat—A World-wide Survey | 2,023 | |
| 1,049 | Irrigated Cotton—A World-wide Survey | 1,035 | |
| — | Proceedings of Moscow Special Session | 9,158 | |
| — | Proceedings of Moscow Symposium 1975 | 7,614 | |
| 3,291 | Proceedings of Varna Special Session | 1,927 | |
| 2,043 | Proceedings of Varna Symposium | 1,871 | |
| 316 | ICID Technical Memoirs—No. I | 1,241 | |
| 1,642 | ICID Technical Memoirs—No. II | 2,230 | |
| 478 | Irrigation Efficiency in Small Farm areas | 828 | |
| — | Silver Jubilee Commemorative Volume | 4,212 | |
| — | Flood Control—A Global Review Vol. I | 16,368 | |
| — | Irrigation and Salinity | 1,233 | |
| 3,957 | Other publications | 3,616 | 152,109 |
| | Receipts against Building Fund | | |
| 60 | Interest on Fixed Deposit | — | |
| 26,270 | Contribution received from National Committees | — | |
| 250 | Security received from contractors (refundable) | — | |
| 850 | Compensation for fire damage | — | — |
| 1,269,605 | | Total | 1,285,334 |

New Delhi
Dated: 28th February, 1977

Sd/- G.R. Pande
Accountant

| Previous year | PAYMENTS | Current year | |
|---------------|--|--------------|------------------|
| | | Rs. | Rs. |
| 588,079 | Brought forward | | 719,845 |
| | Expenditure as transferable | | |
| 5,904 | 1. Gratuity Fund Investment | 8,636 | |
| 4,335 | 2. Postage on Multilingual Technical Dictionary | 632 | 9,268 |
| | Special Publications (paper printing and other expenses) | | |
| 15,478 | Preprints and Transactions of IXth Congress | 24,638 | |
| 1,235 | Preprints of 1975 Special Session | — | |
| 259 | Preprints of 1975 Symposium | — | |
| — | Proceedings of Special Session, 1975 | 3,794 | |
| — | Proceedings of Symposium—1975 | 3,593 | |
| — | ICID Standards | 15 | |
| 678 | Flood Control—A Global Review Vol. I | 48,105 | |
| — | Flood Control—A Global Review Vol. II | 2,517 | |
| — | Irrigation and Salinity—A World-wide Survey | 7,164 | |
| — | Irrigated Rice—A World-wide Survey | 3,167 | |
| 38,653 | Postage (Other than Bulletins, Bibliography and Annual Report) (Net) | 18,069 | 111,062 |
| 5,000 | Security refund to Contractor | | — |
| 125 | Interest paid on Security | | — |
| 1,781 | Amount spent on behalf of Contractor | | — |
| 33,535 | Library stacks purchased | | — |
| 81,920 | Expenses on printing of Silver Jubilee Commemorative Volume | | — |
| 20,642 | Ex-gratia payment to staff | | — |
| | Balances in hand on 31.12.1976 | | |
| 119,198 | In Current Account with State Bank of India | 69,473 | |
| 1,902 | Cash and cheques with Secretary-General | 2,621 | |
| | <i>In Fixed Deposit with State Bank of India</i> | | |
| 244,432 | (i) Main Account | 241,260 | |
| 49,756 | (ii) Dictionary Account | 53,737 | |
| 3,187 | Balance in franking machines | 12,218 | |
| 1,226 | Value of UNESCO Book Coupons | 8,151 | |
| 51,817 | Closing stock of paper | 57,651 | |
| 463 | Closing stock of cement | 48 | 445,159 |
| 1,269,605 | | Total | 1,285,334 |

Sd/- B.C. Garg
Secretary

Sd/- K.K. Framji
Secretary-General

Auditors' Report to the International Commission on Irrigation and Drainage
As per our report appended to the Balance Sheet

For Raghu Nath Rai & Co.,
Chartered Accountants

Sd/- Kewal Aneja
Partner

**STATEMENT SHOWING THE BUDGET ALLOTMENT AND
THE ACTUAL EXPENDITURE DURING THE
CALENDAR YEAR 1976**

| <i>Particulars</i> | <i>Budget Provision</i> | <i>Actual Expendi- ture</i> | <i>Variation (s) Saving (e) Excess</i> |
|--|-----------------------------|-------------------------------------|--|
| | Rs. | Rs. | Rs. |
| Part A-Expenditure pertaining to normal regular functions of the Commission | | | |
| A-1 Pay and allowances of staff | 397,000 | 351,244 | 45,756 (s) |
| A-2 Postage, telephone and telegrams | 75,300 | 90,338 | 15,038 (e) |
| A-3 (i) ICID Bulletin July 1976 and January 1977 | 50,500 | 58,698 | 8,198 (e) |
| (ii) Bibliography 1974 and part for 1975 | 10,000 | 9,117 | 883 (s) |
| A-4 Agenda of 28th Council Meeting and Annual Report 1976 | 27,000 | 25,969 | 1,031 (s) |
| A-5 Miscellaneous stationery and printing | 27,400 | 23,020 | 4,380 (s) |
| A-6 Library books and periodicals | 15,000 | 14,670 | 330 (s) |
| A-7 Office equipment and maintenance | 35,800 | 29,639 | 6,161 (s) |
| A-8 Office Building: | | | |
| House tax | 13,000 | 9,135 | 3,865 (s) |
| Maintenance | 13,500 | 14,190 | 690 (e) |
| Electric and water charges | 9,000 | 7,841 | 1,159 (s) |
| A-9 Audit fee | 500 | 500 | — |
| A-10 Contributions to U.A.T.I. | 4,720 | 4,422 | 298 (s) |
| A-11 Expenditure in connection with Banff Council Meeting | 57,000 | 50,690 | 6,310 (s) |
| A-12 Expenditure in connection with other International Meetings | 31,000 | 15,219 | 15,781 (s) |
| Carried over | 766,720 | 704,692 | |

| <i>Particulars</i> | <i>Budget Provision</i> | <i>Actual Expenditure</i> | <i>Variation (s) Saving (e) Excess</i> |
|--|-------------------------|---------------------------|--|
| | Rs. | Rs. | Rs. |
| Brought forward | 766,720 | 704,692 | |
| A-13 Expenditure on Meetings in India | 1,000 | 1,530 | 530 (e) |
| A-14 Advances to staff | 1,800 | 1,540 | 260 (s) |
| A-15 Miscellaneous expenditure | 9,000 | 9,419 | 419 (e) |
| A-16 Refund of security to contractors | 2,664 | 2,664 | — |
| A-17 Purchase of equipment subject to receipts of contributions to Building Fund | 22,836 | — | 22,836 (s) |
| Total 'A' | 804,020 | 719,845 | 84,175 (s) |

Total budget provision = Rs. 804,020
 Total expenditure = Rs. 719,845
 Total saving Rs. 84,175

Total savings = Rs. 109,050
 Total excess = Rs. 24,875
 Net saving 84,175

Part B-Receipts transferable to respective accounts and not utilizable during the year

| | | | |
|--|---------------|--------------|-------------------|
| B-1 Multilingual Technical Dictionary on Irrigation and Drainage | 42,300 | 632 | 41,668 (s) |
| B-2 Interest on Gratuity Fund investments | 6,475 | 6,635* | 160 (e) |
| Total 'B' | 48,775 | 7,267 | 41,508 (s) |

Part C-Publications (other than at A.3, A.4 and B.1)

| | | | |
|--|---------------|---------------|-------------------|
| C-1 Transactions including pre-prints of the 9th Congress on Irrigation and Drainage | 38,000 | 24,638 | 13,362 (s) |
| Carried over | 38,000 | 24,638 | 13,362 (s) |

* The figure in the Audit Report is Rs. 8,636 which includes Rs. 2,001.00 on account of provision for 1976 transferred to fixed deposit.

| <i>Particulars</i> | <i>Budget Provision</i> | <i>Actual Expenditure</i> | <i>Variation (s) Saving (e) Excess</i> |
|--|-------------------------|---------------------------|--|
| | Rs. | Rs. | Rs. |
| Brought forward | 38,000 | 24,638 | 13,362 (s) |
| C-2 Proceedings of the 1975 Special Session | 4,200 | 3,794 | 406 (s) |
| C-3 Proceedings of the 1975 Symposium | 3,050 | 3,593 | 543 (e) |
| C-4 Flood Control in the World—A Global Review—Vol. I | 46,000 | 48,105 | 2,105 (e) |
| C-5 Flood Control in the World—A Global Review—Vol. II | — | 2,517 | 2,517 (e) |
| C-6 Irrigated Rice—A World-wide Survey | 22,500 | 3,167 | 19,333 (s) |
| C-7 Printing of Standard Notations (in French) (parts I—V) | 5,000 | — | 5,000 (s) |
| C-8 Irrigation and Salinity—A World-wide Survey | 8,500 | 7,164 | 1,336 (s) |
| C-9 Expenditure on postage | 34,500 | 18,069 | 16,431 (s) |
| C-10 ICID Standards | — | 15 | 15 (e) |
| Total 'C' | 161,750 | 111,062 (Rounded off) | 50,688 (s) |

**EXPLANATORY NOTE REGARDING THE MAJOR ITEMS
OF EXCESSES AND SAVINGS FOR THE YEAR 1976
VIDE APPENDIX III**

A. 1. Pay and allowances of staff: *Saving Rs. 45,756*

Provision in the budget for 1976 made for the new Deputy Secretaries could not be utilized in full as one Deputy Secretary joined 4 months later and the other joined 5 months later (only on December 1, 1976) and this resulted in a Saving of Rs. 26,000; further there was no expenditure against the provisions made for hospitalization, and leave travel concession.

A. 2. Postage, telephones & telegrams : *Excess Rs. 15,038*

The main reasons for the excess are (i) increase in the rates of registration charges; (ii) increases in the charges for telephone rent and calls; and (iii) increase of general correspondence in the Central Office.

A. 5. Miscellaneous stationery and printing : *Saving Rs. 4,380*

There has been a saving of Rs. 1,500 due to non-availability of material for Xerox machine and about Rs. 2,800 on stationery and miscellaneous printing due to non-purchase of packing material.

A. 7. Office equipment and maintenance : *Saving Rs. 6,161*

One carpet, order for which was placed was not received during the year (Saving Rs. 4,500); further there was saving of about Rs. 1,500 on maintenance of existing equipment.

A. 8. Office building: (i) House tax *Saving Rs. 3,865*

(i) No demand for house tax in respect of Library Extension (tax payable for two years) was received and the amount could not, therefore, be spent. Provision for this expenditure has been made in the Budget for 1977.

A. 11. Expenditure in Connection with Banff Council Meeting : *Saving Rs. 6,310*

The saving is due to less expenditure on excess baggage for which a provision of Rs. 9,800 was made in the budget for 1976.

A. 12. Expenditure in connection with International Meetings : *Saving Rs. 15,781*

The saving is due to the reason that the boarding and lodging expenses of the Secretary-General at Tashkent were borne by the U.S.S.R. National

Committee. Further the expenditure in connection with his stay in London in connection with ISO Meeting (amount provided Rs. 9,000) was met with by the Secretary-General himself.

A. 17. Purchase of equipment subject to receipts of contributions to Building Fund *Saving* Rs. 22,836

No contributions to the Building Fund were received during the year and hence no expenditure could be incurred.

B.1 Net sale proceeds of Multilingual Technical Dictionary to be transferred to fixed deposits : *Saving* Rs. 41,668

This is an item which has no effect on the Budget of the Commission. It was anticipated that the proceeds of the bulk sale (500 copies of the Dictionary) to the Italian National Committee would be received during the year. The payment was not received and, therefore, the amount could not be transferred during the year.

C—Special Publications:

C. 1. Transactions including preprints of the Ninth Congress on Irrigation and Drainage *Saving* Rs. 13,362

Volume I of the Transactions of the 9th Congress could not be printed during the year; hence the saving.

C. 4. Flood Control in the World—A Global Review

Volume I *Excess* Rs. 2,105

C. 5. Volume II *Excess* Rs. 2,517

The excess in the cost of printing of Volume I is due to increase in the inserts in the publication.

Volume II was not envisaged to be taken in hand during 1976 and no provision for it was made in the budget for the year. The Central Office, however, made a start and the expenditure incurred was on the blocks of illustrations.

C. 6. Irrigated Rice—A world-Wide Survey: *Saving* Rs. 19,333

The expenditure of Rs. 3,167 incurred during the year has been only on part payment of composing charges of the text. The major expenditure will be incurred during 1977.

C. 7. Printing in French of Standard Notations (parts I-V): *Saving* Rs. 5,000

No expenditure was incurred during the year as the Council at its last meeting decided to postpone the printing of the Standard Notations.

C. 8. Irrigation and Salinity—A World-wide Survey: *Saving* Rs. 1,336

The number of printing pages was less than anticipated; hence the saving.

C. 9. Expenditure on postage: *Saving* Rs. 16,431

The major saving has been on the non-despatch of Vol. I of Transactions of the Ninth Congress, less sale during the year of other publications and no increase in the ordinary postal rates.

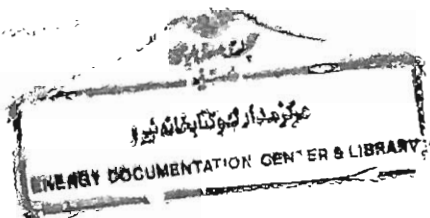
INTERNATIONAL COMMISSION
BALANCE SHEET OF STAFF PROVIDENT FUND

| Previous year | CAPITAL AND LIABILITIES | Current year | |
|---------------|---|--------------|---------|
| Rs. | | Rs. | Rs. |
| | General Fund | | |
| | As per last Balance Sheet | 561,523 | |
| | Staff contribution during the year | 24,191 | |
| | Commission's contribution during the year | 24,191 | |
| | Interest realised and credited to subscribers accounts | 15,691 | |
| 561,523 | <i>Less:</i> Paid out to retiring subscriber | 625,596 | |
| | | 70,000 | 555,596 |
| | Reserve Fund | | |
| | As per last Balance Sheet | 550 | |
| | <i>Add:</i> Share of interest on total interest during the year | 2,647 | |
| | <i>Less:</i> Audit fee | 3,197 | |
| | | 50 | |
| | | 3,147 | |
| | Interest transferred to subscribers accounts | | |
| 550 | 2,578.50 | 2,597 | 550 |
| | Bank Commission | | |
| | 18.50 | | |
| 562,073 | | Total | 556,146 |

Sd/- G.R. Pande
Accountant
New Delhi

Sd/- K.K. Framji
Trustee 1

Sd/- B.C. Garg
Trustee 2



APPENDIX IV

ON IRRIGATION AND DRAINAGE

ACCOUNT AS ON 31ST DECEMBER, 1976

| Previous year | PROPERTY AND ASSETS | Current year | |
|---------------|--|--------------|---------|
| | | Rs. | Rs. |
| Rs. | | | |
| 56,091 | Advance to subscribers | | 34,290 |
| — | Tax deducted at source on interest on securities (Refundable) | | 2,160 |
| | Investments and balances in hand | | |
| 62,500 | (i) Special deposit account (State Bank of India) | 102,500 | |
| — | (ii) 5-year time deposit account (Post Office) | 60,000 | |
| 11,200 | (iii) 6 per cent U.P. State Development Loans | 11,200 | |
| 140,166 | (iv) 6 per cent Government of India loan 1998 (Face value Rs. 145,400) | 140,166 | |
| 292,116 | (v) Saving Bank account (Post Office) | 196,009 | |
| — | (vi) Cheques in hand | 9,821 | 519,696 |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| 562,073 | | Total | 556,146 |

Auditors' Report to the Trustees of International Commission on Irrigation and Drainage Staff Provident Fund

We have checked the above Balance Sheet as at 31st December, 1976, together with the enclosed Receipts and Payments Account for the year ending on that date with the books and vouchers maintained and as produced before us. We certify that the same are correct in accordance with the books and as per information and explanations given to us and upon which we have relied.

for Raghu Nath Rai & Co.
Chartered Accountants

Sd/- Kewal Aneja
Partner

INTERNATIONAL COMMISSION
RECEIPTS & PAYMENTS ACCOUNT OF PROVIDENT FUND

| Previous year | RECEIPTS | Current year | |
|---------------|---|--------------|----------------|
| | | Rs. | Rs. |
| | Opening balances in hand | | |
| — | (i) In Saving Bank account (New Delhi Post Office) | 292,116 | |
| — | (ii) In Special Deposit Account (State Bank of India) | 62,500 | |
| — | (iii) 6 per cent U.P. State Development Loan | 11,200 | |
| 432,736 | (iv) 6 per cent Govt. of India Loan | 140,166 | 505,982 |
| 28,460 | Staff contribution during 1976 | 24,191 | |
| 23,388 | Commission's contribution during 1976 | 24,191 | 48,382 |
| | Interest received : | | |
| | On advances to subscribers | 2,398 | |
| | On Saving Bank account (Post-office) | 1,362 | |
| | On special Deposit Account (State Bank of India) | 2,604 | |
| 37,762 | On Government securities | 9,396 | |
| | On fixed deposits | — | 15,760 |
| | Advances recovered | | |
| 22,782 | Previous year | 32,084 | |
| 8,223 | Current year | 3,393 | 35,477 |
| 553,351 | | Total | 605,601 |

Sd/- G.R. Pande
Accountant
 New Delhi

Sd/- K.K. Framji
Trustee 1

Sd/- B.C. Garg
Trustee 2

ON IRRIGATION & DRAINAGE

FOR THE YEAR ENDED 31ST DECEMBER, 1976

| Previous year | PAYMENTS | Current year | |
|---------------|---|--------------|---------|
| | | Rs. | Rs. |
| Rs. | | Rs. | Rs. |
| — | Part accumulations paid out to retiring subscriber | | 70,000 |
| 46,936 | Amount advanced to subscribers | | 13,676 |
| — | Tax deducted at source (on interest on securities) | | 2,160 |
| 50 | Auditor's fee | | 50 |
| 383 | Bank Commission | | 19 |
| | Investments and balances in hand | | |
| 62,500 | (i) In special deposit account (State Bank of India) | 102,500 | |
| — | (ii) In 5-year Time Deposit (Post-office) | 60,000 | |
| 11,200 | (iii) In 6 per cent U.P. State Development Loans | 11,200 | |
| 140,166 | (iv) In 6 per cent Govt. of India Loan | 140,166 | |
| 292,116 | (v) In Saving Bank account with New Delhi Post Office | 196,009 | |
| — | (vi) Cheques in hand | 9,821 | 519,696 |
| 553,351 | | Total | 605,601 |

Auditors' Report to the Trustees of International Commission on Irrigation and Drainage Staff Provident Fund

As per our Report appended to the Balance Sheet

for Raghu Nath Rai & Co.,
Chartered Accountants

Sd/- Kewal Aneja
Partner

ESTIMATE OF RECEIPTS AND EXPENDITURE FOR 1977

I. RECEIPTS

Carry-over from 1976

Cash and bank balances:

| | | |
|--|----------------|----------------|
| —Reserve Fund | Rs. 141,260·00 | |
| —Amount pertaining to the Main Account | Rs. 40,330·68 | |
| —Stock of printing paper in hand | Rs. 41,345·45* | |
| —Stock of cement in hand | Rs. 47·66 | Rs. 222,983·79 |

I. ESTIMATED RECEIPTS DURING THE YEAR 1977

| | | |
|--|-----------------------|----------------|
| A. 1—Annual contributions for 1977 | Rs. 596,400·00 | |
| New Members | Rs. 7,990·00 | |
| Arrears of annual contributions up to December 31, 1976 | Rs. 203,848·00 | |
| <i>Add:</i> Contribution of National Committees (Argentine, Indonesia and Philippines) for 1976 credited in 1977 | Rs. 53,500·00 | |
| Advance contributions | Rs. 25,000·00 | |
| | <u>Rs. 886,738·00</u> | |
| <i>Deduct:</i> Arrears likely to remain outstanding at the end of the year | (—) Rs. 150,000·00 | Rs. 736,738·00 |
| A. 2—Sale of publications for which separate account is not maintained | | |
| 1. ICID Bulletin | Rs. 55,000·00 | |
| 2. Bibliographical Bulletins | Rs. 4,000·00 | |
| 3. Annual Reports | Rs. 1,000·00 | Rs. 60,000·00 |
| | <u>Rs. 60,000·00</u> | |
| | Carried over | Rs. 796,738·00 |

* Includes Rs. 2,766.45 on account of cost of paper purchased on behalf of Iranian National Committee for printing of the Tehran Special Session Reports and Proceedings.

| | | |
|---|----------------------|-----------------------|
| | Brought forward | Rs. 796,738·00 |
| A. 3—Recovery of advances and interest from staff | | |
| House building advance | nil | |
| Interest on house building advance | Rs. 3,300·00 | |
| Vehicle advances to staff | Rs. 864·00 | |
| Interest on vehicle advances to staff | Rs. 1,410·00 | |
| Misc. advances to staff (festival) | Rs. 800·00 | Rs. 6,374·00 |
| <hr/> | | |
| A. 4—Interest on Fixed Deposits | | |
| Interest on Dictionary Account Fixed Deposit to be credited to main account | | Rs. 13,000·00 |
| | | Rs. 4,298·00 |
| A. 5—Miscellaneous receipts | | |
| | | Rs. 2,000·00 |
| A. 6—Contract sum for irrigation potential survey to be received from FAO (\$ 5,000 @ Rs. 8.50 per dollar) | | |
| | | Rs. 42,500·00 |
| A. 7—Contributions to Building Fund (from Algeria and Poland) | | |
| | | Rs. 25,500·00 |
| | | <u>Rs. 890,410·00</u> |
| <i>Add: (i) Carry over from 1976 Main account</i> | | |
| | Rs. 40,330·68 | |
| <i>(ii) Value of paper to be used from stock in publications vide Item 2 of A. 3 and A. 4 (Expenditure side)</i> | | |
| | Rs. 23,090·00 | |
| | <u>Rs. 63,420·68</u> | say Rs. 63,421·00 |
| | | <u>Rs. 953,831·00</u> |
| Total Receipts 'A' | | |
| Part B—Receipts transferable to respective accounts and not utilizable during the year | | |
| B. 1—Multilingual Technical Dictionary (Saving from previous year Rs. 59,043.26) | | |
| Bills outstanding on 1.1.1977 | Rs. 32,300·00 | |
| Carried over | Rs. 32,300·00 | |

| | | |
|--|---------------|---------------|
| Brought forward | Rs. 32,300·00 | |
| Cheques outstanding on 1.1.1977 | Rs. 390·00 | |
| Net receipts by the sale anticipated during the year (30 copies) | Rs. 2,550·00 | Rs. 35,240·00 |
| <hr/> | | |
| B. 2—Interest on Gratuity Fund investments (accumulated balance from the previous year Rs. 91,583) | Rs. 7,327·00 | |
| By withdrawal from fixed deposits | Rs. 30,000·00 | Rs. 37,327·00 |
| <hr/> | | |
| Total Receipts 'B' | | Rs. 72,567·00 |
| <hr/> | | |

Part C—Receipts from Special Publications for which separate account is maintained

(a) Carry over from the year 1976

| | | |
|---------------------|----------------|--------------------|
| In fixed deposit | Rs. 100,000·00 | |
| In Current Account | Rs. 46,825·47 | |
| Advance to printers | Rs. 1,000·00 | |
| Printing paper | Rs. 16,305·92 | |
| | <hr/> | |
| | Rs. 164,131·39 | say Rs. 164,131·00 |

(b) Receipts other than from sale of publications during the year 1977:

| | |
|-------------------------------|--------------|
| (i) Interest on Fixed Deposit | Rs. 8,000·00 |
|-------------------------------|--------------|

(c) Sale of publications:

| | |
|--|---------------|
| (1) ICID Silver Jubilee Commemorative Volume | Rs. 2,970·00 |
| (2) Irrigation and Drainage in the World—A Global Review | Rs. 1,750·00 |
| (3) Transactions of VIIIth Congress | Rs. 3,120·00 |
| (4) Transactions of Ninth Congress including charges for excess pages and off-prints | Rs. 38,200·00 |
| (5) Proceedings 1975 Special Session | Rs. 6,280·00 |
| | <hr/> |

| | | |
|--------------|---------------|----------------|
| Carried over | Rs. 52,320·00 | Rs. 172,131·00 |
|--------------|---------------|----------------|

| | | |
|--|-------------------------|----------------|
| Brought forward | Rs. 52,320·00 | Rs. 172,131·00 |
| (6) Proceedings 1975 Symposium | Rs. 6,500·00 | |
| (7) Transactions of Previous Congresses | Rs. 1,900·00 | |
| (8) Design practices of irrigation canals in the world | Rs. 3,030·00 | |
| (9) Irrigated Wheat—A World-wide survey | Rs. 1,100·00 | |
| (10) Irrigated Cotton—A World-wide survey | Rs. 1,200·00 | |
| (11) Proceedings Varna Symposium | Rs. 1,300·00 | |
| (12) Proceedings Varna Special Session | Rs. 1,300·00 | |
| (13) Technical Memoirs No. 1 | Rs. 300·00 | |
| (14) Technical Memoirs No. 2 | Rs. 550·00 | |
| (15) Other publications | Rs. 4,000·00 | |
| (16) Irrigation efficiency in small farm areas | Rs. 420·00 | |
| (17) Flood Control—A Global Review: Volume I | Rs. 9,200·00 | |
| (18) Flood Control—A Global Review: Volume II | Rs. 6,500·00 | |
| (19) Irrigation and Salinity | Rs. 3,500·00 | |
| (20) Irrigated Rice—A World-wide Survey | Rs. 8,500·00 | Rs. 101,620·00 |
| Total Receipts 'C' | | Rs. 273,751·00 |
| Temporary withdrawal from Reserve (Rs. 365,148 expenditure minus Rs. 273,751 Receipts) | | Rs. 91,397·00 |
| | | Rs. 365,148·00 |
| Total Gross Receipts: | | |
| Part 'A' = | Rs. 953,831·00 | |
| Part 'B' = | Rs. 72,567·00 | |
| Part 'C' = | Rs. 273,751·00 | |
| | <u>Rs. 1,300,149·00</u> | |

II. EXPENDITURE

PART 'A'

A—Expenditure pertaining to normal regular functions of the Commission

| | | | |
|--|---------------|---------------|----------------|
| A. 1—Pay and allowances of staff, provision towards Gratuity Fund, Medical Aid and Commission's contribution to Staff Provident Fund | | | Rs. 409,400·00 |
| A. 2—Postage, telephones and telegrams | | | Rs. 80,000·00 |
| A. 3—Publications for which separate account is not maintained | | | |
| 1. ICID Bulletins July 1977 and January 1978 | Rs. 61,500·00 | | |
| 2. Bibliography 1975 and 1976 | Rs. 25,000·00 | Rs. 86,500·00 | |
| A. 4—Agenda of the 28th Council Meeting and Annual Report 1977 (English and French) | | | Rs. 28,500·00 |
| A. 5—Miscellaneous stationery and printing: | | | |
| (i) Stationery, mimeographing, letter heads, etc. | Rs. 19,000·00 | | |
| (ii) Miscellaneous printing | Rs. 2,000·00 | | |
| (iii) Paper, ink, selenium plates, chemicals for Xerox machine | Rs. 6,000·00 | Rs. 27,000·00 | |
| A. 6—Library books including binding | | | Rs. 18,000·00 |
| A. 7—Office equipment and maintenance | | | Rs. 35,000·00 |
| A. 8—Office Building | | | |
| (i) House tax | Rs. 15,200·00 | | |
| (ii) Land rent and maintenance | Rs. 11,500·00 | | |
| (iii) Electric and water charges | Rs. 9,000·00 | Rs. 35,700·00 | |
| A. 9—Audit fee | | | Rs. 600·00 |
| A. 10—Contribution to UATI | | | Rs. 2,400·00 |
| | Carried over | | Rs. 723,100·00 |

| | | | |
|--------------|--|----------------------|-----------------------|
| | Brought forward | | Rs. 723,100.00 |
| A. 11— | Expenditure in connection with 28th Council Meeting, Tehran, Iran | | Rs. 20,200.00 |
| A. 12— | Expenditure in connection with other International Meetings | | Rs. 77,250.00 |
| A. 13— | Expenditure in connection with the Systems Analysis Committee Meeting, Moscow | | Rs. 1,000.00 |
| A. 14— | Expenditure on meetings in India | | Rs. 2,000.00 |
| A. 15— | Advances to staff (for purpose of purchase of vehicles and festival advances) | | Rs. 17,500.00 |
| A. 16— | Miscellaneous expenditure | | Rs. 10,000.00 |
| A. 17— | Extra security for electricity to be paid to Municipal authorities | | Rs. 6,050.00 |
| A. 18— | Purchase of equipment subject to receipts vide A. 7, Receipts side | | Rs. 25,500.00 |
| | Total 'A' | | Rs. 882,600.00 |
| | Paper to be purchased and likely to remain unused at the end of the year | Rs. 50,000.00 | |
| | Balance to be carried forward to the year 1978 | Rs. 21,231.00 | Rs. 71,231.00 |
| | | | <u>Rs. 953,831.00</u> |
| B. 1— | Expenditure as transferable items (see 'B' under Receipts) | | |
| (i) | Net sale proceeds of Multi- lingual Technical Dictionary to be transferred to Fixed Deposit | Rs. 34,500.00 | |
| (ii) | Expenditure on postage on despatch of copies of Dictionary | Rs. 740.00 | |
| | | <u>Rs. 35,240.00</u> | Rs. 35,240.00 |
| | (Balance expected on 31.12.1977 Rs. 93,543) | | |
| | Carried over | | <u>Rs. 35,240.00</u> |

| | | |
|---|-----------------|---------------|
| | Brought forward | Rs. 35,240·00 |
| B. 2—Interest on Gratuity Fund to be transferred to fixed deposit | Rs. 7,327·00 | |
| Gratuity to be paid to Mr. I.K. Mahajan, retired Secretary | Rs. 30,000·00 | Rs. 37,327·00 |
| (Total at the end of the year expected to be Rs. 70,910 including Rs. 2,000 to be provided for during 1977) | | |

| | |
|-----------|---------------|
| Total 'B' | Rs. 72,567·00 |
|-----------|---------------|

C—Publications (other than at A.3, A.4 and B.1) for which separate accounts are maintained

| | |
|---|----------------|
| C. 1. Transactions Ninth Congress Volume I | Rs. 16,000·00 |
| C. 2. Preprints of the Tenth Congress | Rs. 132,000·00 |
| C. 3. Preprints of 1978 Special Session | Rs. 18,000·00 |
| C. 4. Preprints of 1978 Symposium | Rs. 18,000·00 |
| C. 5. Flood Control—A Global Review Vol. II | Rs. 38,000·00 |
| C. 6. State-of-the-Art publication | Rs. 33,000·00 |
| C. 7. Irrigated Rice—A World-wide survey | Rs. 22,000·00 |
| C. 8. Directory on Land Reclamation and Water Management Organizations in the World (mimeographing) | Rs. 5,500·00 |
| C. 9. Drainage construction techniques for vertical/tubewell drainage | Rs. 8,000·00 |
| C. 10. ICID Standards 101-104 | Rs. 2,000·00 |
| C. 11. Construction techniques—open channels | Rs. 25,000·00 |
| C. 12. Estimated expenditure on postage | Rs. 27,500·00 |
| Carried over | Rs. 345,000·00 |

| | | |
|--|------------------|-----------------------|
| Brought forward | Rs. 345,000·00 | |
| C. 13. Fifty per cent of the emoluments of Dy. Secretary | Rs. 20,148·00 | Rs. 365,148·00 |
| | <u>Total 'C'</u> | <u>Rs. 365,148·00</u> |

Total Gross Expenditure:

Part A = Rs. 882,600·00

Part B = Rs. 72,567·00

Part C = Rs. 365,148·00

Rs. 1,320,315·00

**AGENDA OF THE MEETING OF THE COMMITTEE TO GO
INTO THE QUESTION OF CONTINUATION OF THE PUBLI-
CATION OF BIBLIOGRAPHY ON IRRIGATION, DRAINAGE
& FLOOD CONTROL AND RIVER TRAINING TO BE
HELD ON MAY 14, 1977 AT 14.00 HOURS**

At the last meeting of the Council held in Banff (Canada) in 1976, the question of continuing the publication of the ICID Bibliography was discussed (see Ann. Rep. 1976, pages 35-37, 71-72)

2. The views expressed by the distinguished members may be summed up under four broad heads:

- (i) The National Committees of the USA and USSR suggested that publication of the Bibliography might be discontinued with early effect and instead the introduction of data storage and retrieval system for serving the purpose of the Bibliography be considered.
- (ii) Keeping in view the comments (such as of the Ecuador National Committee) and the continuing needs of the smaller developing countries, the National Committees of Canada and of the Netherlands suggested that the Bibliography be continued for the present and no lacuna be created in the information system till an effective alternative solution was instituted which ensured equal information on the latest publications on the ICID subjects. Comparative results of the computerized techniques and data storage retrieval systems vis-a-vis the present system be more closely looked into. They further suggested that a Committee be formed to look into the alternatives of providing an effective information medium.
- (iii) The National Committees of Iraq and Morocco suggested that the sophisticated systems of data storage and retrieval system could not be made use of in the developing countries as the necessary facilities did not exist in these countries and, therefore, it was necessary to continue the publication of the Bibliography in the interest of the less resourceful countries whose need for latest information was perhaps the greatest.
- (iv) Mr. Imrie (Great Britain) suggested that the proposed Committee formed should also (and primarily) consider the economic and practical aspect of the new proposal weighing the comparative advantages and costs of the present Bibliography and the new very expensive data retrieval system that was being alternatively suggested in its place.

3. The Council appointed a Committee to go into all aspects of the question. This Committee could not, however, meet in Banff. At the

suggestion of the Secretary-General, the Committee later, by a majority decision, co-opted two more members. The membership of the Committee now comprises: (1) Vice-President Mr. R. A. Wilkins (Guyana), (2) Dr. H. Zolmann (FRG), (3) Dr. M. G. Bos (Netherlands), (4) Mr. W. Imrie (Great Britain), (5) One nominee of Moroccan National Committee (co-opted member), (6) one nominee of Iraqi National Committee (co-opted member), (7) Mr. K. K. Framji, Secretary-General (Convener). Nominations of the Moroccan and the Iraqi members are awaited from the respective National Committees.

4. The members of the Committee have been in correspondence (copies of the correspondence endorsed to the Central Office) with a view to crystallize a solution to the problem.

5. The Committee will now meet at the time of the Tehran Council Meeting to discuss the question of continuance of the ICID Bibliography vis-a-vis the comparative advantages and costs of the present Bibliography and the sophisticated expensive retrieval systems.

6. The cost of Bibliography is chargeable to the main budget like the cost of ICID Bulletin and the Agenda and the Annual Report.

7. In the estimates prepared for 1977-79, the annual average cost has been worked out as Rs. 14,500/-, receipts from its sale Rs. 4,160, and the average annual deficit as Rs. 10,340. The saving to be effected by discontinuance of the bibliography is very insignificant as it is only 1.3 per cent of the budgeted expenditure (Rs. 794,220).

8. An unsolicited letter has been received in the Central Office from the International Center for Arid and Semi-arid Land Studies, Texas Technical University, about the usefulness and importance of the ICID Bibliography which is reproduced below for the information of the members.

Letter dated February 7, 1977 from Mr. Idris Rhea Traylor, Jr., Deputy Director, International Center, Associate Professor of History, International Center for Arid and Semi-Arid Land Studies, Texas Tech. University, P. O. Box 4620, Lubbock, Texas 79409.

"We gratefully acknowledge receipt of your publication, *Bibliography of Irrigation, Drainage, River Training and Flood Control-1974*. This is a most useful and important publication, which we will utilize in this office and then deposit in the Library of Texas Technical University where it will have broad, general circulation.

Thank you very much."

AGENDA ITEMS

Item 1: To review the existing relevant bibliographies and documentation in the ICID Member nations and international organizations.

Item 2: To review the views expressed by the members on the subject of continuance of the Bibliography.

Item 3: To consider and decide about the future of the ICID Annual Bibliography.

Item 4: Any other business with the permission of the Chair.

NOTES ON AGENDA ITEMS

Item 1: To review the existing relevant bibliographies and documentation in the ICID Member nations and International Organisations

Dr. M. G. Bos, a member of the Committee, has intimated that it is not necessary to prepare such a list through the ICID National Committees. He has discussed this matter with the Chief Librarian of his International Institute for Land Reclamation and Improvement (Wageningen) and agreed with him to produce such a list through the library of the Institute. This list can probably be distributed before March 1977, and this can be used by the Committee to study the position of the ICID Annual Bibliography with regard to other documentation systems. This list can be of aid to the members of the Committee to consider and decide about the future of the ICID Bibliography.

Item 2: To review the views expressed by the members on the subject of continuance of the Bibliography

The views of the members are summarised below:

Mr. W. Imrie (letter dated September 7, 1976)

“...I am somewhat hesitant to start the ball rolling on the question of costs of retrieval systems. It seems to me that those who recommended the technique should enlarge upon it in more detail so that we are all clear as to how it could be effected and what limitations there might be on it.

“I recall particularly Vice President Wilkins saying that he used it with great ease, but I think this might have been from the aspect of an individual firm operating rather than a government department whose roles for additional expenditure could well be very inhibiting.

“With the bibliography its cost has already been included in the annual subscription and there is therefore no question of additional budgeting to cover the cost of retrieval of utilization.”

Vice-President R. A. Wilkins (letter dated September 13, 1976)

Vice-President R. A. Wilkins has quoted the preliminary comments of a specialist in data storage and retrieval systems with whom he had had discussions.

“From what I gather the present method of compilation is the scanning of some sixty (60) primary journals in the relevant fields, both by the Central Office and by decentralized national units. The references are then collated under the headings of the Universal Decimal Classification. This presumably, is done without any form of mechanized help.

“Although we did not discuss precisely what were the bottlenecks in this system, I take it that employment of the necessary number and standard of documentalists at the Indian Centre is a problem, as is translation and the compilation and printing of the bibliography within the set time limits. I also assume that many national bodies do not have the infrastructure to

properly record and forward local publications. These bottlenecks, whatever they be, need precise definition. When this is done, the barrier(s) may possibly be removed or circumvented. If it is that the present system is incapable of handling the volume of material at the prescribed quality levels and within the time limits, then one can begin to look at other systems (assuming that these two parameters remain constant).

"The first possibility for easing the burden of compilation (and the least expensive) would be to draw elements together from already existing systems. I only have a good knowledge of the agricultural aspects of water control, and in this field one could consult the Commonwealth Agricultural Bureaux publication "Irrigation and Drainage Abstracts", started in 1975 and costing £20 per annum. A similar coverage could conceivably be extracted from Agrindex (the monthly Agris Index of Publications). Whether similar services exist for the engineering aspect of the topic, I would not know. In any case, it would seem extremely unlikely that complete coverage could be obtained by such an approach.

"Unfortunately, mechanization does not provide a solution to many of the above problems. What data storage and retrieval systems can do is to store information (or data) in a compact and readily accessible form to be consulted in respect of specific problems. Therefore, one still has to locate documents, put them into machine readable form and evaluate the references given by the system in response to questions. It follows that a large input is needed to justify the cost of this limited analysis. In this regard, I would endorse Mr. Imrie's statement in paragraph 2 (iv) above (page A-30). It is worth bearing in mind that Land Resources Division, Tolworth, with a data base of some 25,000 references is only now considering computer storage and retrieval, and that in collaboration with CAB. Taking the ICID 18th bibliography, 1973, as representative in terms of size, we can estimate their data base to be some 40,000 references.

"However, it is very doubtful whether the use of a computerized system could be justified by the creation of merely a bibliography as at present. What such a system could do is to store titles, eliminate non-essential words (a, an, and...permute the remaining words and produce a paper print-out, what is known as a Keyword in Context (KWIC) index, where one can retrieve by questioner-selected keywords. Alternatively, one can assign descriptions to a document (involving documentalists with subject knowledge) which information the computer then stores. One can subsequently retrieve all documents containing, for example, the descriptor "drip irrigation" or a combination such as "drip irrigation" and "nozzle spacing". Of course, one could also compile bibliographies from the information store if desired.

"The above, of course, assumes the existence of a specialized central unit, plus various competent national or regional bodies responsible for making the input.

"I would suggest, therefore, that as a first step ICID should define two things:

- (1) Who are the users of information and what are their precise information requirements;
- (2) What are the bottlenecks in the current information system.

“When this has been done, the organization could get professional advice on the best information system for its requirements.”

Mr. W. Imrie (letter dated November 4, 1976)

“We have not yet met as a committee nor have we received any information* as to how a data retrieval system might be adopted to replace the Bibliography.

“I would much prefer to have the opportunity to learn how members consider the computerised system might be developed for the needs of all members, e.g. which facility could be used, how it can be contacted, who could manage it, how the universal information compiled in the Bibliography could be filed on tape—(without first producing virtually the document we now receive), and how the computer service would be paid for. I believe this and I am sure other facets need to be discussed in depth before the committee can make a recommendation. As yet none of the foregoing has been provided.”

Mr. Zölsmann (letter dated November 12, 1976)

“I agree with the letters from Mr. Imrie and Mr. Wilkins that a storage and retrieval system appear to be too costly and premature on an ICID basis. Its way of use is quite different from a bibliography. Therefore, the questions suggested by Mr. Wilkins should be answered by the National Committees.

“I would like to add a further proposal. The National Committees should be asked about the relevant documentation system** and publications in their country. The Committee could establish an international list of such agencies.”

Dr. M. G. Bos (letter dated December 21, 1976)

“I agree with Mr. Wilkins letter of September 13, 1976, where he suggest that as a first step the ICID should define.

—who are the users of the information supplied by the bibliography and what are these precise information requirements

—what are the bottlenecks in the current information system

“Further, I agree with the remarks of Mr. Imrie and Mr. Wilkins that a storage and retrieval system appears to be rather costly (we pay about Dfl. 250,—per question) to be used on a large scale by all ICID member countries. We only use such a system if we start a literature study on a subject on which recently many articles have been written. In the large US based computer that we can use only part of the literature published since 1970 is stored. For example, data from the excellent Commonwealth

* Vice-President Wilkins' letter dated Sept. 13, supplied to Mr. Imrie.

** Dr. Bos is preparing a list of documentation systems for the Committee.

Agricultural Bureau publication "Irrigation and Drainage Abstracts", will only be stored in this computerized system starting 1976.

"Whenever we study a subject on which important literature was published before 1970 (what happens mostly), and if we require only some information on a subject we use, a subject index system or bibliography."

Item 3: To consider and decide about the future of the ICID Annual Bibliography

The Committee will take into consideration all the aspects of the question and make recommendations to the Council.

Item 4: Any other business with the permission of the Chair

**AGENDA OF THE WORKING GROUP ON STANDARDIZATION
OF TECHNICAL TERMS COMMONLY USED IN IRRIGATION
AND DRAINAGE TO BE HELD IN TEHRAN ON
MAY 14, 1977 AT 14.00 HOURS**

Membership: (1) Mr. G. E. Papadopoulos (Greece); (2) Mr. H. Zölsmann, (Fed. Rep. of Germany); (3) Mr. D. Diaz Ambrona (Spain); (4) Mr. I. Zonn (USSR); (5) Mr. Larry D. Stephens (USA); (6) Mr. Darves Bornoz (France); (7) Prof. Ir. A. Volker (Netherlands); (8) Mr. K. K. Framji, Secretary General.

Members of the sub-Working Group on Standardization of Classification and Specifications of overall studies of Land Improvement Projects: 1. Mr. G. E. Papadopoulos (Greece); 2. Mr. Maurice N. Langley (USA); 3. Mr. R. Darves-Bornoz (France); 4. Ir. B. Rook (Netherlands); 5. Mr. I. Zonn (USSR), (Ex officio; Secretary General).

AGENDA ITEMS

- Item 1 :** To consider the recommendations of the US National Committee in regard to the nomination of Mr. Lewis D. Walker in place of Vice-President Honoraire Mr. M. N. Langley.
- Item 2 :** To note progress on the tentative first draft on Part II—Standardization of studies at the General Reconnaissance Stage (Guide for General Reconnaissance Reports) prepared by President Honoraire Papadopoulos.
- Item 3 :** (a) To note progress on the specifications of data of Part II Standardization of studies at the General Reconnaissance stage—Tentative draft No. 2B.
- (b) To note progress on Part III dealing with studies of the preliminary investigation stage—Tentative draft No. 3.
- Item 4 :** To note comments, if any, on the use of the term 'micro-irrigation' in place of 'localised irrigation and drip irrigation.'
- Item 5 :** To note progress made by the Central Office on the preparation of revised notations of basic terms, etc.
- Item 6 :** Any other business with the approval of the Chair.

NOTES ON AGENDA ITEMS

- Item 1 :** To consider the recommendation of the US National Committee in regard to the nomination of Mr. Lewis D. Walker in place of Vice-President Honoraire Mr. M.N. Langley

Vice-President Honoraire Mr. M. N. Langley suggested to the US

National Committee in November 1976 to invite Mr. Lewis D. Walker to take his place as the US representative on the sub-Working Group on "Standardization of Classification and Specifications of overall studies of Land Improvement Projects". Mr. Walker is a member of the US National Committee and is Deputy Assistant Director of the Planning Division of the US Water Resources Council.

The US National Committee has supported Mr. Langley's proposal and has recommended Mr. Walker to the Working Group in replacement of Mr. Langley and has expressed the hope that their recommendation would be favourably accepted by the Working Group during its meeting in Tehran.

The Working Group is requested to decide on the proposal of the US National Committee to the Council.

Item 2 : To note progress on the tentative first draft on Part II Standardization of studies at the General Reconnaissance stage (Guide for General Reconnaissance Reports) prepared by President Honoraire Papadopoulos

The French National Committee submitted some comments on the Draft "Standardization of studies at the general reconnaissance stage (Draft No. 2)" prepared by Mr. Papadopoulos at the 1976 meeting in Banff. These comments could not be examined in Banff. It was decided that the approval of the Working Group on this Draft be postponed until the next Council meeting.

Mr. Papadopoulos has examined the French comments and in response, has intimated that the French comments can be classified into two categories as under:

- (i) to develop the subjects of project environmental feasibility in more detail; (President Honoraire Papadopoulos has suggested that the French National Committee proceed with drafting the relative addendum on the basis of their comments)
- (ii) alongwith the ICID Draft No. 2, the Working Group may also take into account the related draft of the FAO (FAO's Agricultural Planning Studies No. 14, Rome, 1971, p 48-69).

In pursuance of (i), the Secretary-General has requested the French National Committee to kindly proceed with the drafting of the relative addendum on the basis of their suggestions on the subject of project environmental planning.

In regard to (ii), the Secretary-General has suggested consideration by the Working Group, at its meeting in Tehran, May 1977 either including those points from the FAO/IBRD Guide in the ICID Draft No. 2, which have not received in ICID Draft No. 2 the same emphasis as in the FAO/IBRD Guide, and which are deemed to be of importance to the developing countries, or appending the Guide as an annexe (to ICID Draft No. 2) to be helpful to the developing countries to frame feasibility reports of irrigation and drainage projects in the form required for obtaining financial support from IBRD/other financing institutions/countries.

Accordingly, a xerox copy of the FAO/IBRD Guide (referred to above) has been supplied to the members of the Working Group soliciting their recommendations and views on how the best use could be made of the FAO/IBRD Guide.

(Members are requested to kindly bring their xerox copies of the FAO/IBRD Guide (22 pages) for discussion in Tehran as it is not proposed to print the guide in the agenda of the meeting).

Item 3 : (a) To note progress on the specifications of data of Part II—Standardization of studies at the General Reconnaissance stage—Tentative draft No. 2B

(b) To note progress on Part III dealing with studies of the preliminary investigation stage—Tentative draft No. 3

President Honoraire Papadopoulos has suggested proceeding with the preparation of the following two drafts on standardization: (1) Specification of Draft No. 2 (Reconnaissance stage)—Tentative Draft No. 2B, and (2) Tentative Draft No. 3 regarding studies of "Preliminary investigation stage", and dealing with contents and data of different investigations recommended in the General Reconnaissance Study necessary to the next part (Project Planning) of the Study.

For information :

- (1) The Working Group approved the membership of nine Indian experts in the disciplines of meteorology, hydrology, geology, soil sciences and land survey, soil mechanics, agronomy, hydraulics, structural designs, and economics.
- (2) The Turkish National Committee has intimated the names of six experts in the disciplines of hydrology, soil science, agronomy, economics, hydraulics and geology and they have been requested by Mr. Papadopoulos to continue their work in drawing up the specifications of Draft No. 2B and 3.
- (3) The additional points that would emerge from the further consideration of Draft No. 2 (Guide for General Reconnaissance Reports), vide item 2 above, are proposed to be taken note of by the experts of Drafts 2B and 3 at a subsequent stage after the Draft No. 2 is finalised.
- (4) Mr. M.N. Langley has agreed to furnish to the Working Group some documents relating to Part 2B and Part 3 (Specifications at the Reconnaissance stage). He has added for information :

"The documents which I agreed to furnish the Working Group are a series of publications by the United States Water Resources Council, which is an independent Executive Agency of the U.S. Government, composed of the Secretaries of Interior; Agriculture; Army; Health, Education, and Welfare; Transportation Chairman, Federal Power Commission; with participation by the Secretaries of Commerce; Housing and Urban Development; Administrator, Environmental Protection Agency; Attorney General; Director, Office of Management and Budget; Chairman, Council on Environmental Quality; and the Chairman, River Basin Commissions.

“One of the (US Water Resources) Council’s major efforts has been to unify principles and standards for planning among Federal, State, local governments and private enterprises in the United States. Accordingly, in late 1973, it announced the “Establishment of Principles and Standards for Planning” and published the same. Over the next several years various water resources agencies issued their own policies and procedures for feasibility studies. In March 1976, the Council issued a draft of “Proposed Guidelines for Regional or River Basin Planning (Level B).” I have been waiting for these Level B guidelines to be finalized before arranging for copies to be sent to the Working Group”.

Item 4: To note comments, if any, on the use of the term ‘micro-irrigation’ in place of ‘localised irrigation and drip irrigation’

After a long exchange of views on the definition of the new (non-traditional) irrigation methods and inter alia on the question of standardization of terms of “localised” and “drip irrigation”, and taking into consideration their characteristics, it was agreed at the last meeting of the Working Group that it was not possible to express in a short term (of two to three words) all the characteristics of the new method, and therefore, a conventional common general term followed by the related specific systems be selected. The common term for the non-conventional method which was generally accepted was “micro-irrigation” (common for both English and French languages) to be followed by the specific system (i.e. drip=goutte à goutte ; sip=par gorgée).

Comments of the National Committees on the use of this term as indicated above have been invited by February 28, 1977 for consideration by the Working Group on Standardization at its forthcoming meeting. Comments, if received, will be put up to the Working Group in Tehran.

Item 5: To note progress made by the Central Office on the preparation of revised notations of basic terms, etc.

The Working Group had concurred with the suggestions of the National Committee of Federal Republic of Germany to follow the five principles for development of standard notations and symbols of technical terms (Annual Report 1973, Page A-155) and added a sixth principle at the suggestion of the Secretary-General at its meeting in Moscow in 1975. These principles are :

“Standard notations should

- (1) be as short as possible,
- (2) be formed from well-defined abbreviations,
- (3) not contain too many or multiple step indications,
- (4) have a definite formation principle,
- (5) provide special notations if otherwise too complicated terms arise (such a catalogue of special notations should be as short as possible), and
- (6) the basic terms should be restricted in number to the minimum necessary and frequently used in practice.

The Secretary-General further, commends that the standard symbols adopted by other International Organizations (e.g. ISO, WMO, IAHR, etc.) for the terms common to all should be freely adopted by ICID to avoid confusion between notations used by different water-oriented organizations. Accordingly standard symbols of coefficients and dimensionless numbers in common use should be retained notwithstanding the use of these symbols for other basic terms.

The Central Office is studying the documents received from WMO (WMO No. 385) and ISI (ISO Standard No. 772). ISO Standard No. 772 is under revision and the revised version may be finalised in the next meeting of the ISO to be held in Washington from May 31 to June 10, 1977.

**AGENDA OF THE WORKING GROUP ON "DRIP IRRIGATION
AND SIMILAR METHODS" TO BE HELD IN TEHRAN (IRAN)
ON MAY 14, 1977 AT 09.00 HOURS**

The Permanent Paper Committee at its meeting held in Banff (Canada) in June 1976, recommended, and the Council approved, the setting up of a "Working Group on Drip Irrigation and Similar Methods".

1. Membership: (1) Prof. P. Celestre (Chairman—Italy); (2) Ing. M. Decroix (France); (3) Dr. A.K. Turner (Australia); (4) Dr. Z. Svehlik (U.K.); (5) Prof. J. Dan Goldberg (Israel); (6) Dr. K. Perenyi (Hungary); (7) Mr. Sterling Davis (USA); (8) Mr. L. Vermeiren (FAO observer).

2. The first meeting of the Working Group was held in Banff on June 7, 1976. The Working Group decided, and the Council approved, that:

- (i) a table of contents of the state-of-the-art paper on drip irrigation (in English) be produced and distributed by the Chairman to each member,
- (ii) the members return the table of contents with their suggestions and alterations and should also indicate the chapter(s) on which they intend to prepare a written paper, and
- (iii) subsequently, the Chairman edit the draft of the state-of-the-art paper and circulate it to the members for their final comments, and finalize the paper.

3. In consultation with the Chairman of the Working Group, the agenda comprises the following items for discussion at the Tehran meeting:

Item 1 : To finalize comments of the members on the table of contents (in English) of the draft state-of-the-art paper (in French) prepared by Prof. Celestre.

Item 2 : To designate members to write different chapters of the draft state-of-the-art paper according to the agreed table of contents.

Item 3 : To discuss about further processing of the draft state-of-the-art paper so as to submit it to the Permanent Paper Committee and the Council in 1978 in Athens.

Item 4 : To note progress made by the Working Group on the collection of data and information useful for the further development of the Group's work.

Item 5 : Any other business with the permission of the Chair.

4. The Chairman of the Working Group has supplied the copy of the table of contents of the state-of-the-art paper, the copy of the state-of-the-art paper prepared by him entitled "situation de l'irrigation goutte à goutte et des méthodes similaires", and a copy of the bibliography on drip irrigation and similar methods of the Israeli and US literature on the subject, to all the members of the Working Group, inviting their attention to the decision of the Council as set out in para 2 above.

5. The Chairman is in communication with all the members of the Working Group. Progress on the agenda items will be reviewed by the Working Group at its Tehran meeting for report to the Council.

**AGENDA OF THE COMMITTEE ON "ASSEMBLING
IRRIGATION EFFICIENCY DATA" TO BE HELD IN
TEHRAN ON MAY 15, 1977 AT 14.00 HOURS**

Membership: (1) Dr. M.G. Bos (Chairman—Netherlands); (2) Mr. D.S. Ferguson (UK); (3) Mr. W.D. Criddle (USA); (4) Mr. Darves-Bornoz (France); (5) Mr. M.N. Langley (USA); (6) Dr. H.M. Horning (FAO); (7) Mr. R.L. Zierold (Mexico); (8) Dr. M. Kalman (Hungary); (9) Prof. G. Garbrecht (FRG); (10) Dr. Dj. Keyvanfar (Iran); (11) Mr. K.K. Framji, Secretary-General.

In consultation with the Chairman of the Committee, the following agenda is proposed for discussion by the Committee at its Tehran meeting:

- Item 1 :** To finalize the draft forms/questionnaire for the collection and analysis of data on irrigation efficiencies.
- Item 2 :** To make recommendations to the Council on how :
- (i) to have the forms/questionnaire translated into French and Spanish.
 - (ii) to decide the number of forms to be printed in each language.
 - (iii) the forms/questionnaire will be presented to the National Committees.
- Item 3 :** To consider for further processing the papers on "Agronomic and economic water use efficiency" received from the designated National Committees.
- Item 4 :** To note progress on the co-ordination of activities of the Committee on "Assembling Irrigation Efficiency Data" and the Working Group on "Evapotranspiration".
- Item 5 :** To decide whether the Committee should prepare guidelines on discharge measurement methods (giving special attention to the accuracy of the measurements).
- Item 6 :** To note the work done in the UNESCO—IHP Project 5.4 "Investigation of water regime of river basins affected by irrigation".
- Item 7 :** Any other business with the permission of the Chair.

NOTES ON THE AGENDA

- Item 1 :** To finalize the draft forms/questionnaire for the collection and analysis of data on irrigation efficiencies

At its meeting in Banff, the Committee decided to combine the draft questionnaire prepared by Mr. Zierold and the previous questionnaire of

Dr. Bos and Dr. Nugteren (1974). This was done by Prof. Garbrecht and Dr. Bos. The resulting draft was circulated among the members of the Committee for their comments to enable Prof. Garbrecht and Dr. Bos to prepare a near final draft. This will be sent to the members of the Committee and the Central Office in advance of the Tehran meeting, where it is due to be finalized and submitted to the Council Meeting for approval.

Item 2 : To make recommendations to the Council on how :

- (i) to have the forms/questionnaire translated into French and Spanish
 - (ii) to decide the number of forms/questionnaire to be printed in each language
 - (iii) the forms/questionnaire will be presented to the National Committees
- (i) To speed up the process of preparation, translation, printing, and distribution of the forms, it is proposed that the Committee members Mr. Darves-Bornoz and Mr. Zierold inquire whether the French and Mexican National Committees would be prepared to undertake the responsibility of having the forms translated into French and Spanish respectively.
 - (ii) A recommendation has to be made on the number of forms that have to be printed in each language, bearing in mind that the forms serve two major purposes:
 - (1) to provide the Committee with data on irrigation efficiencies and on factors that influence these efficiencies.
 - (2) to provide engineers with a standard procedure to calculate the efficiency of water use in an irrigated area.

As there is no arrangement in the Central Office for printing in Spanish language, Mr. Zierold will also kindly indicate to the Working Group whether it would be possible to undertake to supply the required number of printed copies in Spanish to the Central Office for distribution to the Spanish speaking countries.

- (iii) At the Banff meeting of the Committee, it was proposed that after the forms/questionnaire had been approved by the Executive Council, they would be sent to the ICID National Committees with the request that they arrange for their completion for representative systems. To enable the National Committees to assist the local personnel in completing the forms, it is proposed that each National Committee receive, in addition to the blanks, one completed set to serve as an example.

Item 3 : To consider for further processing the papers on "Agronomic and economic water use efficiency" received from the designated National Committees

The French and Spanish National Committees have each submitted a paper on this subject. These have been circulated but were not discussed at the Banff Committee meeting. The National Committees of Bangladesh,

Czechoslovakia, German Democratic Republic, Italy, The Netherlands, and the USA have expressed their willingness to prepare a paper on the subject. Invitations were sent to these National Committees to have their papers completed before the end of 1976. Based on these papers, and on other literature, the Committee has the difficult task of:

- defining the concepts of agronomic and economic efficiencies of water use
- preparing terms of reference and compiling guidelines for the investigation of these efficiencies
- finding ways and means of investigating individual projects in close co-operation with governments and research institutes.

Item 4 : To note progress on the co-ordination of activities of the Committee on “Assembling Irrigation Efficiency Data” and the Working Group on “Evapotranspiration”

A similar item is on the agenda for the Tehran meeting of the Working Group on “Evapotranspiration” (page A-46). It is recognised that close co-operation between the Working Group and the Committee is desirable.

Item 5 : To decide whether the Committee should prepare guidelines on discharge measurement methods (giving special attention to the accuracy of the measurements)

Whenever irrigation efficiency is to be calculated, discharge measurements will have to be made. An error or uncertainty in the discharge is reflected in the calculated efficiency. The magnitude of the error or certainty can be estimated if the hydraulic data on the measurement structure and/or parameters and the method of measurement are known. In this respect, reference is made to the “Draft proposal for an ISO standard on the calculation of the uncertainty of a measurement of flow rate” (ISO/TC 113) and to the manual “Discharge Measurement Structures” (Publ. 20, International Institute for Land Reclamation and Improvement).

Item 6 : To note the work done in the UNESCO-IHP Project 5.4 “Investigation of water regime of river basins affected by irrigation”

Important changes studied by the Working Group are :

- changes in the river discharges downstream of irrigated and drained areas
- Increase in the dissolved solid contents of the undiverted river
- Changes in the characteristics of the stream channel

A copy of the report of the Leningrad (USSR) meeting of the UNESCO-IHP Working Group 5.4 held from 18 to 22 October 1976 has been supplied to all the members of the Committee for their use.

Item 7 : Any other business with the permission of the Chair

**AGENDA OF THE MEETING OF THE WORKING GROUP
ON "EVAPOTRANSPIRATION" TO BE HELD IN TEHRAN
ON MAY 16, 1977 AT 09.000 HOURS**

Membership of the Working Group Comprises : (1) Dr. I. Petrasovits (Chairman—Hungary), (2) Mr. W.D. Criddle (USA), (3) Prof. S. Suzuki (Japan), (4) Mr. I. Mellory (Australia), (5) Ing. Mario Martinez Menez (Mexico), (6) Mr. N.L. Cochrane (Great Britain), (7) Dr. (Mrs.) D.G. Grammatikati (USSR), (8) Mr. G. Manuellan (France), (9) Mr. T. Peczely (IASH), (10) Ing. Dr. M. Pycha (Czechoslovakia), (11) Dr. J. Balogh (Hungary), (12) Mr. G. Besanval (France), (13) Mr. M.E. Jensen (USA), (14) Prof. F. Ravelli (Italy), (15) Prof. Garbrecht (Fed. Rep. of Germany), (16) Prof. B. Cosevski (Yugoslavia), (17) Prof. Halem Al-Rawi (Iraq), (18) Mr. Tabet (Morocco), (19) Mr. K.K. Framji, Secretary-General.

The agenda items of the meeting of the Working Group to be held in Tehran (Iran), as approved by its Chairman Dr. Petrasovits, are given below :

- Item 1 :** To note progress on the assistance rendered by IASH in providing finalized material concerning terminology and soil moisture meters to avoid duplication and overlapping of work.
- Item 2 :** Information by the Hungarian National Committee on the arrangements for, and organization of, the Round Table Conference from May 26-28, 1977.
- Item 3 :** To consider the proposal of Prof. Ravelli on the collection of data on *ET* measurements from all countries for the purpose of attempting to prepare, in perspective, a world map of *ET*.
- Item 4 :** To note progress on the co-ordination of activities of Committee on "Assembling Irrigation Efficiency data" and the Working Group on "Evapotranspiration".
- Item 5 :** To note progress on the collection of information and data for the "World-wide survey on consumptive use of water for sugar cane".
- Item 6 :** Any other business with the permission of the Chair.

NOTES ON AGENDA ITEMS

- Item 1 :** To note progress on the assistance rendered by IASH in providing finalized material concerning terminology and soil moisture meters to avoid duplication and overlapping of work

Mr. T. Peczely has written to inform that the Vice-President of IAHS, Dr. G. Kovacs has handed over the finalised material of IAHS/HIUZ

Project concerning terminology and soil moisture meters to Dr. I. Petrasovits, Chairman of the ICID Working Group on Evapotranspiration, on mutual agreement. This material will be discussed at the Round Table Conference to be held in Budapest in May 1977, following the Tehran Council meeting.

Item 2: Information by the Hungarian National Committee on the arrangements for, and organization of, the Round Table Conference from May 26-28, 1977 in Budapest

The Working Group had recommended, and the Council had approved at its last Meeting in Banff (Canada), that President Dr. Holy and the Secretary-General be authorised to approve the conclusions and recommendations of the Budapest Round Table Conference in order to make them available to the National Committees in time.

The Hungarian National Committee has distributed Bulletin No. 2 containing the general programme, information on registration fee charges, accommodation charges, etc., to all the National Committees of ICID and others, inviting them to participate in the International Round Table Conference on 'Evapotranspiration'. The Round Table Conference will be held from May 26-28, 1977 and will be followed by a study tour on 29th May 1977. The Conference is co-sponsored by the Hungarian Academy of Sciences, the National Water Authority and the Ministry of Agriculture and Foods of Hungary.

The Hungarian National Committee has further intimated that the WMO intends to organise its International Conference on Areal Evaporation before the Round Table Conference between 23rd and 25th May, 1977. The one-day Study tour on May 29, 1977 will be for both the WMO and ICID participants.

Arrangements for the distribution of Information Sheet No. 1 to ICID National Committees, office bearers and all members of the Working Group about the holding of the WMO Conference are being made directly by the Hungarian National Committee.

Further information about the arrangements for organization of the Round Table Conference, etc., will be given by the Hungarian participants at the Tehran Council meeting of ICID.

Item 3: To consider the proposal of Prof. Ravelli on the collection of data on ET measurements from all countries for the purpose of attempting to prepare, in perspective, a world map of ET

The Working Group will note the further progress made on this item during the meeting.

Item 4: To note progress on the co-ordination of activities of the Committee on "Assembling Irrigation Efficiency data" and the Working Group on "Evapotranspiration"

The agenda of the Committee on "Assembling Irrigation Efficiency data" is at Appendix IX pages, A-43 to A-45.

**Item 5 : To note progress on the collection of information and data for the
“World-wide survey on consumptive use of water for sugar cane”**

The progress on this item has been reported under the Permanent Paper Committee Agenda, Item 10.

Item 6 : Any other business with the permission of the Chair

**AGENDA OF THE WORKING GROUP ON "KNOWN APPLICATIONS AND THE UNKNOWN FEATURES OF THE SYNTHETIC MATERIALS" TO BE HELD IN TEHRAN
ON MAY 13, 1977 AT 09.00 HOURS**

Membership: (1) Dr. C. E. Anastassakis (Greece—Chairman), (2) Dr. K. Zanker (Fed. Rep. of Germany), (3) Ir. C. L. van Someren (Netherlands) (4) Dr. J. L. Fouss (USA); (5) Vacant.

- Item 1 :** To fill vacancy in place of Dr. Djunensky (Bulgaria).
- Item 2 :** To finalize the questionnaire and recommend it to the Council for its circulation to the National Committees.
- Item 3 :** To make assessment of the available standards (national and ISO) on products from synthetic materials used for irrigation and drainage.
- Item 4 :** To note all available published studies on the use of products made of synthetic materials.
- Item 5 :** To consider the proposal of the Federal Republic of German National Committee for discontinuance of the further work of this Working Group.

NOTES ON AGENDA ITEMS

Item 1 : To fill vacancy in place of Dr. Djunensky

Dr. Djunensky of Bulgaria, a member of the Working Group, has expressed a wish to be replaced, because it is difficult for him to actively assist the Working Group. The other members of the Working Group attending the Tehran meeting may co-opt another interested member and thereafter seek the Council's approval to the continuance of an additional member.

Item 2 : To finalize the questionnaire and recommend it to the Council for its circulation to the National Committees

The Chairman of the Working Group Dr. Anastassakis (Greece) has written to say that the questionnaire already prepared (Annexure I, page A-51) might be submitted to the Council at its meeting in Tehran in 1977, and when approved by the Council it might be circulated to the National Committees for eliciting the required information.

Item 3 : To make assessment of the available standards (national and ISO) on products from synthetic materials used for irrigation and drainage

Item 4 : To note all available published studies on the use of products made of synthetic materials

The members will discuss the progress made on the above items (3 and 4) and indicate the future course of action.

Item 5 : To consider the proposal of the Federal Republic of German National Committee for discontinuance of the further work of the Working Group

The Federal Republic of German National Committee has written (under their letter of October 20, 1976) to say:

“The Working Group on ‘Known Applications and Unknown Features of the Synthetic Materials’ was established in Prague (1973) and met once in Bonn (1974). In Moscow (1975) and in Banff (1976) no members of the working were present. Therefore, the improvised meeting in Banff was rather dissatisfying and was attended only by some delegates free of other obligations at that time. The work accomplished in the past 3 years is not impressive. I would suggest under these circumstances, to reconsider usefulness and necessity of further existence of this Working Group.

“Moreover, I am of the opinion, that the subject of the Working Group is too comprehensive. The synthetic material application in irrigation and drainage, in addition, can hardly be separated from related applications like in the fields of water supply, river training and other structural work for water resources development. The experience in the application of synthetic materials is hardly specific to irrigation or drainage. Thus the topic is so comprehensive, that a working group could not possibly cope with the task.

“My conclusion is, that further work of this working group promises little results and should be discontinued.

“I discussed this suggestion with Dr. Zanker, a member of the working group, and with such members of our National Committee who had looked into the matters of this group before. They agreed with the views of Prof. Garbrecht. Thus I suggest to obtain a decision from the Executive Council, whether this Working Group should be continued.”

In this connection the Secretary-General would like to draw attention to Article 12 (page 7) of the By-laws which stipulates:

“When any Committee or other body has completed specific work allotted to it, and has submitted its final report to the Council, it shall be deemed to have been discharged...”

The Working Group may make their recommendation on the proposal for decision of the Council.

ANNEXURE 1 TO APPENDIX XI

ICID WORKING GROUP OF KNOWN APPLICATIONS AND
UNKNOWN FEATURES OF THE SYNTHETIC
MATERIALS
QUESTIONNAIRE

Note : Please provide the information in as much detail as possible.

.....
(Country)

A. Application :

In our country synthetic materials are applied for

1. *Drainage*

- (a) Pipe drains
- (b) Open ditch drainage
- (c) Other (filter, structures, fittings, etc.)

2. *Irrigation*

- (a) Sprinkler irrigation
- (b) Surface irrigation
- (c) Subsurface irrigation
- (d) Drip irrigation
- (e) Furrow irrigation
- (f)
- (g)

3. *Flood control*

(please give detailed descriptions)

.....
.....
.....

4. *River training works*

.....
.....
.....

5. *Coastal protection works*

.....
.....
.....

6. *Erosion control*

.....

7. *Others*

.....

B. Kind of materials used

Type of material (no Company trade names), for example PVC, PE, Polyester, glassfibered polyester, foamed synthetics, synthetic rubber (type of rubber), etc.

.....
 Information on chemical composition, production method, etc.

C. Material Characteristics

Please give detailed information on chemical and mechanical qualities of the material, including resistance and durability in frost, rodents, micro-organisms, heat and against chemical and mechanical agents under consideration of the form of application (see under D).

D. Form of Application

In our country synthetics are used in the form of:

| | <i>made of</i> (see under B) | <i>applied to</i> (see under A) |
|---|---------------------------------|------------------------------------|
| 1. Pipes | | |
| 2. Tubes, hoses | | |
| 3. Sheets | | |
| 4. Sealing strips | | |
| 5. Sealing foils | | |
| 6. Disks | | |
| 7. Fibres | | |
| 8. Filter material | | |
| 9. Coatings by painting | | |
| 10. Material for inside or outside coatings | | |
| 11. Insulating material | | |
| 12. Sealing material | | |
| 13. Additive to other construction material | | |
| 14. Structural elements | | |

- 15. Lattice
- 16. Nets
- 17.
- 18.

Note: In No. 14, state the content of the admixture and which favourable characteristics originate from the synthetic additive

E. Tests

Detailed information on suitability tests, methods and quality controls, etc., for the various application forms (see under D). When available, attach directions, guide lines, quality classes, etc.

F. Standardization

Give details on national (or known international) standards for the application forms stated under D and standards for the basic material stated under B. Attach the standardization texts.

G. Special problems

Give information on the latest technical development, its trend and the probable future tendency.

H. Other remarks

Give further information, which may be of importance for the ICID Working Group, as advantages and disadvantages under special conditions (Generally known characteristics of synthetics like low unit weight, time, work and cost saving, resistance against normal agents, etc., may not be stated here)

.....

.....

Place, Date

Signature, Official Function

**AGENDA OF THE PERMANENT PAPER COMMITTEE TO BE
HELD AT TEHRAN (IRAN) ON MAY 13 AT 09.00 HOURS
AND ON MAY 14, 1977 AGAIN AT 09.00 HOURS**

- Item 1 :** To fill up vacancies of five members of the Permanent Paper Committee.
- Item 2 :** To consider the suggestions received regarding the subjects of the basic Questions to be discussed at the Eleventh Congress on Irrigation and Drainage in 1981 in France.
- Item 3 :** To consider the question of holding a Special Session at the time of the Eleventh Congress and to recommend the theme for the Special Session.
- Item 4 :** To consider the question of holding a Symposium at the time of the Eleventh Congress and to recommend the theme for the Symposium.
- Item 5 :** To take stock of progress on the issue of ICID publication "State-of-the-Art of some subjects discussed at the Congresses of ICID" and to make recommendations to the Council.
- Item 6 :** To consider further action to be recommended to the Council on "Cost of irrigation water."
- Item 7 :** To nominate a panel of experts to select and discuss papers on Question 33 under the revised procedure for discussions.
- Item 8 :** To note the present status of ICID ad-hoc publications.
- Item 9 :** To note progress on the proposed ICID publication "Design practices of open drainage channels in an agricultural drainage system—A world-wide survey
- Item 10 :** To note progress on the "World-wide Survey on consumptive use of water for sugar cane under different soil and climatic conditions.
- Item 11 :** To consider the question of setting up a Working Group for the revision of the "Basic Multilingual Technical Dictionary."
- Item 12 :** Any other business with the permission of the chair.
- Item 1 :** **To fill up vacancies of five members of the Permanent Paper Committee**

The present membership of the Committee comprises: (1) Prof. A. Volker (elected 1966, re-elected 1969, 1972, and 1975 and Chairman since 1976); (2) Prof. Dr. H. Fukuda (elected 1964, re-elected 1965, 1968, 1971, and 1974); (3) Mr. P. M. Janet (elected 1971, re-elected 1974); (4) Dr. H. Zölsmann (elected 1972, re-elected 1975); (5) Dr. B. G. Shtepa (elected

1973, re-elected 1976); (6) Vice-President W. R. Rangeley (elected 1974); (7) Prof. Dr. M. Bottalico (elected 1974); (8) Dr. M. E. Jensen (elected 1975); (9) Vice-President Dr. T. H. Anstey (elected 1976); (10) Mr. K. K. Framji, Secretary-General (since 1963).

The revised By-law 9(a)(4) on page 6 reads as under:

“In addition to the Secretary-General who is an ex-officio member, the Permanent Paper Committee shall have not more than nine (9) members. The term of each elected member is three years and there is no bar to his re-election, provided that no member shall serve on this Committee for more than nine years. The Committee shall make recommendations to the Council for filling up vacancies in its membership and in doing so will take into consideration proposals, if any, received for the purpose.”

The Council ratified the recommendation of the Permanent Paper Committee for the continuance of Prof. A. Volker as Chairman of the Committee upto 1978 and that of Prof. Dr. Fukuda till the conclusion of the 1977 Council meeting.

Dr. H. Zölsmann has written to request his retirement from the Committee and has requested the Secretary-General to consider the name of Dr. K. Zanker as his replacement. The Secretary-General is pleased to recommend Dr. Zanker to the Committee as a new member on this Committee for a three-year term of 1977-1980.

The terms of Prof. Dr. Fukuda, Mr. P. M. Janet, Vice-President Rangeley, Prof. Dr. Bottalico also expire after the Council Meeting in Tehran. There is no bar on the re-election of Mr. P. M. Janet, Vice-President Rangeley and Prof. Dr. Bottalico.

The Permanent Paper Committee is requested to make recommendations to the Council for filling of the five vacancies.

Item 2: To consider the suggestions received regarding the subjects of the basic Questions to be discussed at the Eleventh Congress on Irrigation and Drainage in 1981 in France

By-law 3.1.1. of Appendix I of the By-laws of the Commission enjoins “that no more than two to three basic Questions should be discussed at each Congress. The subject matter of these Questions shall relate to any aspect(s) (engineering, agronomic, economic, social, etc.) of irrigation, drainage, river training and flood control, considered to be of current interest and importance for pooling and disseminating world knowledge and experience. Each basic Question shall generally be divided into two, and not more than four, sub-topics of major importance for the purpose of preparing papers and for the discussions”.

For the subjects to be discussed at the Eleventh Congress on Irrigation and Drainage in France in 1981, there are already on record a number of recommendations made at the previous Congresses. Moreover, as laid down in By-law 3.1.2 of Appendix I of the By-laws of the Commission, the National Committees were invited to send in their suggestions by January 31, 1977. The recommendations made at the previous Congresses were also brought to their notice.

The National Committees of Iran, Federal Republic of Germany, Canada, Australia, Nigeria, USA, Spain and German Democratic Republic (GDR) have made new suggestions. The subjects suggested are given in Annexure I (page A-73) to this Appendix. The subjects in Annexure I have been divided under three categories as:

1. Recommendations of the previous Congresses (Q. 1-17)
2. Outstanding proposals of the National Committees (Q. 18-56)
3. Recent suggestions made by the National Committees (Q. 57-83)

A number of different subjects have been suggested under each of disciplines listed below:

A. Engineering

- (a) Methods of irrigation (techniques and equipment—Questions (32), (35), (36), (45), (46), (52), (54), (66), (67) (Five National Committees)
- (b) Lining of canals including seepage and evaporation losses—Questions (1), (55), (62), (80) (Third Congress and two National Committees)
- (c) Unlined canals (evaporation and seepage losses and re-use of seepage water, scour, etc.)—Questions (19), (21), (27), (31), (41) (Two National Committees)
- (d) Operation and maintenance of irrigation and drainage systems (organization, maintenance equipment, operation, etc.)—Question (77) (One National Committee)
- (e) Irrigation structures—Questions (24), (25), (39) (Two National Committees)—Also see (n) below
- (f) Pumping stations—Questions (33), (53) (Two National Committees)
- (g) Drainage and salinity control—Questions (64), (68), (79) (Two Congresses, and Two National Committees)
- (h) Flood control, river training and river behaviour including bank stabilization—Questions (10), (11), (23), (30), (65), (81), (Eighth Congress, and Three National Committees)
- (i) Irrigation and drainage projects (planning, design, and development)—Questions (7), (29), (37), (42), (61) (Seventh Congress, and Three National Committees)
- (j) Water requirements of crops, effect of quality and quantity of irrigation water on crop production, irrigation schedules, etc.—Questions (26), (43), (44), (47), (57), (78) (Five National Committees)
- (k) Return flow or regenerated flow—Question (6) (Sixth Congress)
- (l) Ground water—Questions (18), (49) (Two National Committees)
- (m) Irrigation efficiency—Question (34) (One National Committee)
- (n) Problems of construction of irrigation structures in different soils (Problems and techniques)—Questions (58), (60), (83) (Two National Committees)—also see (e) above

- (o) Cost price of water (Government policy, etc.)—Question 59 (One National Committee)
 - (p) Environmental quality aspects of irrigation and drainage (Ecology, etc.) Questions (63), (71) (Two National Committees)
 - (q) Water management factors (As they affect food production and water use efficiency)—Question (72) (one national Committee)
 - (r) Irrigation with reclaimed waste waters—Question (73), (82) (Two National Committees)
 - (s) Modernizing irrigation and drainage systems (without converting to expensive energy intensive systems)—Questions (74), (76) (Two National Committees)
 - (t) Energy requirements for irrigation and drainage—Questions 75 (one National Committee)
 - (u) Other aspects Questions (40), (51), (70)
- B. Systems analysis and computer technology—Questions (22), (38) (Two National Committees).
- C. Agronomy, agriculture and soil science—Questions (3), (4), (5), (9), (48), (50), (56) (Sixth and Eighth Congresses, and one National Committee).
- D. Economics—Question (69)

Observations by the Secretary-General

- (a) Methods of irrigation—One of the subjects for discussion at the Ninth Congress was “Comparison of advanced methods of irrigation... “which includes sprinkler and drip irrigation methods.” It is for consideration whether it would be desirable to repeat this subject so soon.
- (b) The subject of lining of canals was discussed at the Third Congress in 1957. Subsequently, the Commission has issued two publications “Controlling of seepage losses from irrigation canals” and “Design practices of irrigation canals—A world-wide survey.” However, the maintenance aspect of lined canals has not been discussed so far, but it is doubtful whether the maintenance aspect by itself provides scope for a full Question for the Congress discussions.
- (c) The subject—Unlined Canals—evaporation, seepage losses, re-use of seepage water, etc.—has been suggested by two National Committees and covers a wide spectrum—It also covers the interesting fields of bridging the gap between actual water supply level and the designed water profile in unlined canals in alluvium and the optimization of dimensions of storage-fed canals of an integrated project.
- (d) The subject of operation and maintenance of irrigation and drainage projects has been suggested by one National Committee. This is one of the Questions for discussion at the Tenth Congress.

- (e) 'Irrigation Structures' is an important subject for much-needed discussions. "Economic design of irrigation structures" in its two spheres (1) on under-consolidated, peat organic soils including black cotton soil, and (2) development of present techniques for construction of irrigation structures under all conditions open up vistas for fruitful deliberations.
- (f) The subject of 'pumping stations', though topical, was covered by Question 32 discussed at the Moscow Congress and is also intended to be covered in the proposed publication on "Design practices of open drainage channels and covered drains in an agricultural drainage system—A world-wide survey".
- (g) Question 34 to be discussed at the Tenth Congress is related to important aspects of drainage. It is for consideration whether it would be desirable to repeat this subject so soon.
- (h) Questions (10) and (11) and (65) were discussed at the Eighth Congress (1972). The subject of Questions (23), (30) and (81) do not appear to warrant full Questions.

To keep balance in the selection of questions pertaining to the fields of irrigation, drainage or flood control, the Secretary-General feels that a Question be devoted to 'flood control'. Much attention has been paid recently to non-structural measures of flood control which require more intimate knowledge of the problem and comprehensive planning. The suggested title is "Flood control planning with special emphasis on non-structural measures."

- (i) Question (7) was discussed at the Seventh Congress and more or less at the eighth Congress. Question (29) was discussed at the Ninth Congress. Question (37) is a good subject for a Special Session. Questions (42) and (61) need not form the subject of a Congress.
- (j) Water requirements of crops, quality and quantity of water...has been dealt with at the Seventh Congress and parts of it are covered by the "Irrigation and Salinity—A world-wide survey", issued in 1976.
- (k) It is not known whether any recent work done on the subject of return flows warrant its selection as a general Question for a Congress. All the papers known to the Secretary-General are old except Eeries paper in the American Society of Engineers.
- (l) This is covered by a Question discussed at the Moscow Congress.
- (m) The Council set up a Committee on "Assembling irrigation efficiency data" at its meeting in June 1973. This Committee is working on this subject.
- (n) The Committee on "Construction Techniques" should take care of this subject.
- (o) The subject of "cost price of water" is under discussion in the Permanent Paper Committee and articles on the subject have also appeared in the ICID Bulletin (Jan. 1977) to provoke more papers. Discussions at this Congress would be duplication.

- (p) Doubtless the environmental and ecological aspects of Project have been rightly receiving more and more attention these days to enhance the quality of life. It seems rather too soon after having discussed "Environmental control for irrigation, drainage and flood control projects" as the Special Session subject in 1975 (Moscow) where it is partly covered. This subject will however be partly covered under (q) recommended as a Congress Question.
- (q) Water Management Factors is of paramount importance in the context of the world food shortage. The subject may be formulated in the form "Institutional, environmental and technological aspects of water management factors for optimum food production in irrigated areas."
- (r) This subject will partly be covered by (q) above under environmental aspects.
- (s) This is a good subject and a need of the hour, but it should be reformulated as "Modernising irrigation and drainage systems without converting to expensive energy intensive systems".
- (t) Energy Requirements for Irrigation and Drainage is proposed to be covered under (s).

B. "Application of Systems analysis to problems of irrigation, drainage and flood control."

The suggestion on the subject should wait till the Manual on Systems Analysis is finalised and published.

C. Agronomy, Agriculture and Soil Science : No comments.

D. Economics : Question 69: It would be better in the opinion of the Secretary-General to invite papers on this question for ICID Bulletin.

The Permanent Paper Committee may recommend for the Council's consideration three basic Questions for the Eleventh Congress in France with due regard to giving weightage to those subjects which are common in the recommendations of a number of Committees, and are not covered in one way or other in other current activities of the Commission.

Item 3 : To consider the question of holding a Special Session at the time of the Eleventh Congress and to recommend the theme for the Special Session

Vide Article 2.7 of Annexure 1 of the By-laws of the Commission, "A Special Session is a technical session devoted to new and promising developments of general topical interest which call for special attention of the profession. It will not necessarily be held at each Congress, but will be held from time to time at some Congresses as decided by the International Executive Council."

Three highly successful Special Sessions have been held at the time of the Congresses of 1969, 1972, and 1975 and a Special Session will also be held at the time of the 1978 Congress at Athens. The themes of the four Special Sessions have been:

- 1969—Theme :** Essential elements necessary for successful irrigated agriculture.
- 1972—Theme :** Essential measures for introduction and development of irrigation and drainage schemes in developing countries.
- 1975—Theme :** Environmental control for irrigation, drainage and flood control projects.
- 1978—Theme :** Mass transfer of water over long distances for regional development and its effects on human environment.

The Secretary-General invited suggestions from the National Committees, intimating to them the recommendations of the Review Committee of the 1975 Special Session for the subjects of the future Special Sessions, for the theme of the Special Session proposed to be held at the time of the 1981 Congress. There has been a very encouraging response from the National Committees and it is suggested that the Permanent Paper Committee may recommend to the Council that a Special Session be held at the time of the Eleventh Congress in France in 1981.

If so recommended, the next question is for the Paper Committee to select the theme or themes (in a select list in order of priority) for discussion at the 1981 Special Session *for consideration of the Council*.

The list of the suggested subjects is given below:

A. RECOMMENDATIONS OF THE REVIEW COMMITTEE (1975)

- (1) The methods of elaborating pre-project feasibility studies and post-project studies of achievements from projects and remedial measures.
- (2) Methods of evaluating long-term impacts of projects on the environment.
- (3) The methods of wider decision-making processes using economic and social (environmental) criteria including optimization methods with the respective criteria.

B. SUGGESTIONS BY THE NATIONAL COMMITTEES

B. 1 Australian National Committee

- (1) The use of remote sensing in water resource management
(Note: For symposium if Special Session not held or is on another subject)
- (2) The methods of elaborating pre-project feasibility studies, and post-project studies of achievements from projects, and remedial measures.

B. 2 British National Committee

- (1) Methods of monitoring of studies of project achievements and remedial measures.

B. 3 Canadian National Committee

- (1) Opportunities through new techniques to increase food production by irrigation and drainage.

B. 4 Federal Republic of Germany

- (1) The impact of development period on the technical, sociological and/or economic success of irrigation and drainage projects—problems and failures of its underestimation.
- (2) Particular problems of irrigation, drainage flood control in mountainous areas.

B. 5 G.D.R. National Committee

- (1) Methods of evaluation of long-term impacts of projects on the environment, in particular consideration of the utilization of brackish water for irrigation in larger territories.

B. 6 Hungarian National Committee

- (1) Long and short prediction of irrigation water requirements and its influence on water resources management.

B. 7 Indian National Committee

- (1) Methods of wider decision-making processes using economic and social (environmental) criteria including optimization methods with the respective criteria.

B. 8 Iranian National Committee

- (1) Use of salt water for irrigation
 - (1.1) Desalination
 - (1.2) Use of salt water directly for irrigation
- (2) Problems of construction of irrigation structures and canals in gypsum soils.
- (3) Cost price of water—Government policy for the sale of water from government hydraulic projects.
- (4) Various forms of consolidation of soils (encountered) for irrigation networks, difficulties and results obtained in various countries.

B. 9 Nigerian National Committee

- (1) Irrigation development and management—the Nigerian experience.

B. 10 U.S. National Committee

- (1) Modern irrigation management services for water users.
- (2) New efficient low energy irrigation systems.

Only one National Committee has proposed the first recommended topic of the Review Committee (1975).

The Permanent Paper Committee may recommend a select list, in order of priority, of the topics for the Special Session for final determination by the Council, should the International Executive Council decide to have a Special Session at the time of the Eleventh Congress in France in 1981.

Item 4 : To consider the question of holding a Symposium at the time of the Eleventh Congress and to recommend the theme for the Symposium

Vide article 2.6 of Annexure I of the By-laws of the Commission, "A Symposium is a meeting of experts in a particular—usually a specialized—field at which papers are presented or subjects are introduced by specialists in particular areas of that field and are discussed only by them with a view to presenting the state of the science or art and arriving at conclusions or making suggestions for the future studies, etc. It will not necessarily be held at the time of each Congress, but will be held from time to time at some Congresses as decided by the International Executive Council."

Three Symposia have been held at the time of the 1969, 1972 and 1975 Congresses and a Symposium is also proposed at the time of the Tenth Congress in Athens in 1978. The themes of these Symposia are:

- 1969—Theme :** The application of computers in the analysis of various problems relating to irrigation and drainage systems.
- 1972—Theme :** Water resources system planning with special reference to irrigation, drainage and flood control.
- 1975—Theme :** Introduction of automatic facilities for the needs of collecting and processing of information, planning and managing in the fields of irrigation and drainage.
- 1978—Theme :** Development of techniques to recharge subterranean aquifers to conserve surplus river flows.

It is for the Permanent Paper Committee to recommend, and the Council to approve the holding of a Symposium at the Eleventh Congress in 1981 in France.

If the decision is in affirmative, the next question is to recommend a subject for the Symposium.

The Review Committee of the 1975 Symposium recommended two topics as suitable subjects for discussion for a future Symposium and all the National Committees were informed of these suggestions of the Review Committee. The list of the recommendations of the Review Committee and the suggestions made by the National Committees is given below:

A. Recommendations of the Review Committee (1975)

- (1) Methods and techniques for geohydrological forecasting in connection with land reclamation.
- (2) Principles of designing control systems for water resources and irrigation using modern techniques as well as computers and automation.

B. Suggestions by the National Committees

Australian National Committee

- (3) The use of remote sensing in water resource management
 - (4) Methods and techniques for geo-hydrological forecasting in connection with land reclamation, including reclamation of saline irrigation areas (preferred)
- or
- (5)* Principles of designing control systems for water resources and irrigation using modern techniques as well as computers and automation

British National Committee

- (6) Problems and principles of water supply control in the improvement of water management and of irrigation efficiency

Canadian National Committee

- (7) Recent advances in drip irrigation

Fed. Rep. of German National Committee

- (8) The impact of development period on the technical, sociological and/or economic success of irrigation and drainage projects—problems and failures of its underestimation
- (9) Particular problems of irrigation, drainage or flood control in mountaineous areas

Hungarian National Committee

- (10) Equipment of localized (drip, sip, impulse, etc.) irrigation methods and the results achieved on various crops with their application.

Indian National Committee

- (11) Principles of designing control system for water resources and irrigation using modern techniques as well as computers and automation.

Iranian National Committee

- (12) Use of salt water for irrigation
 - (1.1) Desalination
 - (1.2) Use of salt water directly for irrigation
- (13) Problems of construction of irrigation structures and canals in gypsum soils

German Democratic Republic National Committee

- (14) Same as No. 5* above

- (15) Cost price of water—Government policy for the sale of water from government hydraulic projects
- (16) Various forms of consolidation of soils (encountered) for irrigation networks, difficulties and results obtained in various countries

U.S. National Committee

- (17) Modern irrigation management services for water users
- (18) New efficient low energy irrigation systems

Three National Committees have suggested the Recommendation No. 2 of the Review Committee 1975. The Permanent Paper Committee may recommend the theme of the 1981 Symposium for the Council's approval.

Item 5: To take stock of progress on the issue of ICID publication "State-of-the-Art of some subjects discussed at the Congresses of ICID" and to make recommendations to the Council

The Council approved in 1975 that the 11 papers of the State-of-the-Art publication be forwarded to the Central Office by October 15, 1976, and the Central Office prepare the manuscript for the press by December 31, 1976.

Out of 11 papers, the Central Office has so far received the following four papers for publication:

- Paper No. 4.** Modern trends in mechanization of construction of irrigation and drainage projects by Mr. Gordon P. Hawkins (USA)
- Paper No. 5.** L'automatique dans l'irrigation—by various authors (France)
- Paper No. 6.** Reclamation and environment protection—by Dr. Josef Riha (Czechoslovakia)
- Paper No. 9.** Recharging techniques of ground water—by Mr. W.C. Bianchi (USA)

The following five papers have been prepared and are in the stage of review by the collaborating National Committees:

- Paper No. 1.** The role of land reclamation in solving the world food problems—by Mr. M. Grehan (FAO)
- Paper No. 2.** Reclamation of saline and alkaline lands—by Dr. V.I. Bobchenko (VNIGIM), and Dr. V.A. Doukhovny (SANIIRI) (USSR)
- Paper No. 8.** Measures for quick utilization of irrigation potential created by new irrigation projects—by President Honoraire Papadopoulos
- Paper No. 10.** Prefabrication in construction of hydraulic structures—by Dr. B.V. Orlov (USSR)

Paper No. 11. Weed control in irrigation and drainage channels—by Mr. G.R. Sainty (Australia)

The progress on the following two papers as intimated by the authors is as below :

Paper No. 3. Improvement of irrigation methods

Prof. Romita has informed that he was well advanced on the job and hoped to complete it by June 1976.

Paper No. 7. New solutions in the field of flood control

Dr. K. Stelczer informed in September that he would be finalizing his paper soon.

Further progress made since the writing of these agenda notes will be reported to the Committee in Tehran.

Item 6 : To consider further action to be recommended to the Council on "Cost of irrigation water"

At its meeting held in Banff (Canada) in 1976, the Permanent Paper Committee reiterated its agreement to the approach adopted towards the feasibility (or otherwise) of framing of a meaningful questionnaire on the collection of information and data on "Cost of irrigation water" thus:

"1. The draft Questionnaire, the note by President Prof. Dr. Holy and the comments of the members were considered by the Permanent Paper Committee at its last meeting held in Moscow in July 1975, where the consensus was that the stage had not yet been reached when ICID could launch a meaningful questionnaire for collection of data and information in order to determine the policies of pricing irrigation water. The Permanent Paper Committee, however, agreed that:

- (i) The small Working Group (comprising the Chairman, Vice-President Honoraire Prof. M. Bottalico and Vice-President Mr. W.R. Rangeley)—and presumably the Secretary General (ex-officio)—set up by the Chairman, continue examining the Questionnaire.
- (ii) A combined paper containing the views of the Chairman, and the views of Vice-President Honoraire Prof. M. Bottalico be arranged and published in the ICID Bulletin. Thereafter, other experts should also be invited by the Secretary-General to send papers on the subject for the Bulletin.
- (iii) The information contained in papers, vide (ii) above, may lead to the framing of a more meaningful questionnaire for the collection of information and data on "Cost of irrigation water".

"2. In pursuance thereof, requests were made to (a) Vice-President Honoraire Prof. M. Bottalico to redrafting the Questionnaire, and (b) President Prof. Dr. Holy and Vice-President Honoraire Bottalico to write a joint paper for the ICID Bulletin.

“3. Pending the request to be made to all the National Committees vide para 1 above, President Prof. Dr. Holy expressed that the National Committees of France, Great Britain, the Netherlands and the United States be requested specially to contribute papers for the ICID Bulletin dealing with the problem of “Pricing irrigation water”. The Secretary-General has added the National Committee of India to this list and has requested all the five National Committees to indicate if they could prepare a paper on the specific subject of “Pricing irrigation water” for the January 1977 issue of the ICID Bulletin by April 15, 1976.”

In pursuance of para 3, four papers were received and published in the January 1977 issue of ICID Bulletin. The titles of the papers and their authorship are as under :

1. Policy of Pricing Irrigation Water in England and Wales by Land Drainage Service, Ministry of Agriculture, Fisheries and Food (Great Britain)
2. Fixation du prix de l'eau d'irrigation par M. René Clément (France)
3. Policy of pricing irrigation water by J.K. Jain (India)
4. Rationalisation of irrigation rates in a developing country by M/s. C.V. Gole, V.N. Amble, and M.M.L. Chopra (India)
5. A paper “Pricing of Irrigation Water”—by Prof. Dr. M. Bottalico (Italy) was presented at the Banff (1976) meeting.

The U.S. National Committee has written to say :

“At our recent meeting of the Executive Committee, it was agreed that the U.S. Committee cannot develop a useful paper on this subject. Each Government agency, water district, etc., develops its own price and policy and even the policy for a given organization varies depending upon the particular situation or contract involved. Thus, because of this wide disparity in policies, we do not feel that we can make a meaningful contribution to this project.”

A copy each of the five papers together with the above reply of U.S. National Committee were sent to all the members of the Permanent Paper Committee by the Secretary-General with the request to send their comments and also to bring these papers to Tehran with them for reference.

The comments received are at Annexure 2 (page A-79) to this Appendix.

The membership of the small Working Group mentioned in para 1 (i) above will comprise the Chairman, Vice-President Honoraire Prof. M. Bottalico, Vice-President Mr. W.R. Rangeley and the Secretary-General (ex-officio).

The Committee resolved in Banff that the matter be considered further at the next meeting in Tehran in 1977 to review the possibility whether it is at all feasible to draft a questionnaire on this item and, if so, what should be its contents.

Item 7 : To nominate a panel of experts to select and discuss papers on Question 33 under the revised procedure for discussions

Vide Item 3 (i) "Modus Operandi of Technical Sessions" on the Agenda of the Permanent Paper Committee held in Banff the Paper Committee recommended, and the Council accepted, that the proposed procedure in regard to conducting the Technical Session be adopted at the forthcoming Tenth Congress to be held in Athens (Greece) in 1978 *only* in respect of Question 33 ("Economic evaluation of irrigation projects—Studies developed and case studies of economic and environmental impacts"). A panel of experts will be nominated (at the Tehran Council Meeting) in consultation with the General Reporter (Mr. Manuellan). This panel would select papers for discussion at the plenary session and ensure that the general conclusions and recommendations are formulated for follow-up actions. The meeting of the panel of experts would be public, i.e., open to all delegates. The papers for the Question would be individually invited as at present and printed, but the discussion would be limited to the paper(s) selected by the General Reporter in consultation with the panel experts.

As the panel of experts for Question 33 is to be nominated in consultation with General Reporter (Mr. Manuellan), the Secretary-General had therefore requested Vice-President Mr. Darves-Bornoz in November 1976 to kindly make sure that Mr. Manuellan attends the Tehran Council Meeting. It was added that if Mr. Manuellan was not likely to be present for any reason the President and the Secretary-General should be informed so that alternative arrangements might be considered.

Further progress since the writing of the agenda notes will be reported to the Paper Committee and the Council at their meetings.

Item 8 : To note present state of ICID ad-hoc publications

There is a growing number of ad-hoc publications which constitute a heavy burden on the budget of ICID. The Permanent Paper Committee is requested to advise the Council on the selection of publications from time to time.

Keeping in view the need for priorities on the Central Office's time and budget and also to present a clear picture of the state of progress on various publications, Prof. Dr. Volker made a proposal, for the last meeting of the Paper Committee that a routine item called "State of publications" and a synoptic table be furnished for the consideration of the Permanent Paper Committee: the synoptic table to contain the name of the publications, their contents, authors, stage of progress, costs, etc. The same document with the recommendations of Permanent Paper Committee may then be submitted to the Council for their approval with or without amendments.

Dr. Volker's proposal was accepted by the Council. Accordingly, the state of the ad-hoc publications, under different stages of processing and planning, has been compiled in Annexure 3, page A-82.

A—PUBLICATIONS IN THE COURSE OF PROCESSING

There are 13 publications (see page A-82) under this category.

Publications at Serial Nos. 1, 2, and 3 (1. Flood Control in the world—

A Global review—Volume II; 2. Irrigated rice—A world-wide survey; 3. Tehran Special Session on Likely Irrigated Agriculture of 2000 A.D.) are in advanced stage of printing. *Serial No. 4* (Directory on "Land Reclamation and Water Management Organizations in the World) will be issued in a cyclostyled form during the current year.

Publications at Serial Nos. 5, 6 and 7 (5. Drainage Construction Techniques for Vertical/Tubewell Drainage; 6. ICID Standards 101-104; and 7. Construction Techniques: Open channels—English version) have been referred by the Construction Techniques Committee for the Paper Committee's recommendations to the Council for printing. The Secretary-General has tentatively made a provision in the current year's budget for printing them. The Paper Committee is requested to consider and make their recommendations to the Council.

Serial No. 8 (ICID State-of-the-Art publication: Irrigation, Drainage and Flood Control): For notes on this item reference may be made to item 5 of the Agenda of the Paper Committee, page A-64, in which the progress on processing of this publication has been reported.

Serial No. 9 (Technical Memoirs No. 3): The Secretary-General issued a circular to all the National Committees requesting them to contribute papers for the Technical Memoirs No. 3. The response so far is inadequate. The National Committees of India and France have supplied 1 and 3 papers respectively; one paper has been promised by the Hungarian National Committee. Usually a Technical Memoirs requires 15 to 20 specialised, high technical content papers. On receipt of an adequate number of papers of high technical value this publication is proposed to be brought out during 1978.

Serial No. 10 (Design practices of Open Drainage Channels in an Agricultural Drainage System—A world-wide survey).

For notes on this item, reference is invited to item 9 of the Paper Committee, Page A-70.

Serial No. 11: Manual of Flood Control Methods and Practices—Vol. III.

A revised table of contents was prepared and has been issued to the National Committees of India, Pakistan, Japan and USA for furnishing the required information, in pursuance of the directions by the Council.

In reply, the Indian National Committee has offered to supply the material. The Pakistan National Committee has appointed an expert for the preparation of its country report. Replies from the National Committees of Japan and U.S.A. are still awaited. A chapter on Channel Rectification proposed to be prepared by the Canadian National Committee (Mr. R.H. Clark) is awaited.

The Secretary-General will take up the editing of this publication as soon as the material from the National Committees is made available for preparing the first draft for circulation to the National Committees for their comments.

Serial No. 12: Supplement to Dictionary Chapters XVII–XX: The four chapters XVII to XX containing terms on Environmental Control, Systems

Analysis, Automation, and Computer Technology have been receiving the attention of the Secretary-General and the Working Group set up last year by the Paper Committee. The Working Group will meet in Tehran and it is hoped that the terms on the above four chapters will be further processed by the Working Group.

The French version of the above four chapters is also required. The Secretary-General has suggested that the Working Group on Tentative Supplement to ICID Multilingual Technical Dictionary may request Mr. Decroix, a French Member of the Working Group, to undertake the translation. After both the English and French versions of the four chapters are ready, the Paper Committee will be requested for their recommendation to the Council for printing.

Serial No. 13 : Pre-prints of Tenth Congress—1978 : The last date for the receipt of the papers on three Congress Questions, Special Session and the Symposium is April 30, 1977. It has to be completed alongwith the General Reports by November, 1977. The Central Office will be busy in printing the several volumes of the reports for the Athens Congress during the coming months.

B—PUBLICATIONS PROPOSED

Serial No. 14 : (World-wide Survey on Consumptive Use of Water for Sugar cane) : For notes on this item please see item 10 of the Paper Committee (See page A-70).

Serial No. 15 : Manual on Application of Systems Analysis to Problems of Irrigation, Drainage and Flood Control.

A meeting was invited by the USSR National Committee to be held in Moscow in the later part of February 1977, but due to procedural difficulties in procuring funds for travel of the Members of the Systems Analysis Committee in the time after the invitation up to later part of February 1977, the meeting of the Systems Analysis Committee could not regrettably be held. The Secretary-General has suggested that the meeting will be held in August 1977, if convenient to the USSR National Committee and the Members, and if funds can be arranged by then—for which the Secretary-General is in communication with all concerned.

Serial No. 16 : Cross-reference Index of ICID Publications : Preliminary work for literature survey on classification of the papers published in the various ICID publications has been undertaken.

Serial No 17 : Multilingual Technical Dictionary (Revision of)—For notes on this item, the Members are requested to refer to item 11 of the Paper Committee (page A-71). A new Working Group has to be set up for the revision of the basic Multilingual Technical Dictionary for which nominations from four National Committees have been received in addition to the eight members already serving on the Working Group on the Tentative Supplement to ICID Multilingual Technical Dictionary to finalize Chapters XVII to XX (See Item 22, Page 43).

The Paper Committee may advise on each of the items for the Council's consideration and decision.

Item 9 : To note progress on the proposed ICID publication "Design practices of open drainage channels in an agricultural drainage system—A world-wide survey"

On a proposal made by the National Committee of the Arab Republic of Egypt at the meeting held in Bonn in May 1974, the Permanent Paper Committee recommended, and the Council approved, the collection of data and information required for the two ICID publications—(1) relating to 'Design practices of open drainage channels', and (2) relating to 'Design practices of covered drains'. The Council, however, decided that in the first instance only data and information should be collected for the proposed first publication "Design practices of open drainage channels in an agricultural drainage system—A world-wide survey".

2. The Paper Committee noted in its Banff meeting in 1976 that country reports had been received from 11 National Committees (Australia, Canada, Columbia, Czechoslovakia, Federal Republic of Germany, Greece, India (partly), Iraq, Bangladesh, Sudan, and USA) and were promised by seven more countries (Democratic Republic of Germany, France, Great Britain, Malaysia, Netherlands, Poland and Arab Republic of Egypt).

3. The Committee decided that after receipt of the information from these 18 countries, the report may be compiled by the ICID Central Office and sent to National Committees for their comments and for additional information and data required for the purpose.

Out of the seven countries mentioned above, the National Committees of the German Democratic Republic and Great Britain have supplied the reports pertaining to their countries. Malaysian National Committee has regretted its inability to prepare the material for the world report. The National Committees of the Arab Republic of Egypt, Netherlands, Poland and France have been reminded and further progress on receipt of reports, if any, will be submitted to the Committee in Tehran.

The Permanent Paper Committee is requested to confirm that a compilation on the basis of the reports received upto September 1977 may be made and the first draft prepared in the Central Office may be circulated to the National Committees for their updating, comments and additional information.

Item 10 : To note progress on the "World-wide survey on consumptive use of water for sugar cane under different soil and climatic conditions"

1. At its meeting held in 1969 in Mexico the International Executive Council decided that ICID should prepare a world-wide survey on the "Consumptive use of water for sugar cane under different soil and climatic conditions". The U.S. National Committee was entrusted with the compilation of the world report based on the data and information furnished by the National Committees. The data and information were collected from some countries through the respective National Committees of ICID and sent to the US National Committee. The US National Committee has originally assigned the job of preparing the report to Dr. George H. Rodriguez-Arias, but the assignment was later switched to Dr. Lymon S. Willardson.

2. Dr. Willardson and Dr. Howard Haise examined carefully the material received and came to the conclusion that:

- (i) no useful purpose could be served by preparing a draft publication based on the information contained in the material received;
- (ii) the original format used for collection of data and information was now not adequate, because it did not include such important subjects as drip, sub-surface and other localized irrigation, automation and irrigation scheduling;
- (iii) it would be useful to revise the format to cover the latest technical advancements in irrigated sugar cane so that the resulting world-wide survey would be meaningful and valuable. Accordingly, Dr. Willardson and Dr. Haise have sent a draft revised format for consideration of the Permanent Paper Committee.

3. At the meetings held in Moscow in July 1975—the Permanent Paper Committee considered the draft revised format* and recommended it, with a minor modification for approval of the Council;

—the Council approved at the Twenty-sixth meeting the draft format as recommended by the Permanent Paper Committee. It also approved that the National Committees be requested to supply information and data in accordance with the revised format to the extent feasible and convenient to them.

Accordingly the Secretary-General wrote to 31 National Committees of the countries where irrigated sugar cane is a feature: (1) Arab Republic of Egypt, (2) Argentina, (3) Australia, (4) Bangladesh, (5) Brazil, (6) Burma, (7) Colombia, (8) Cuba, (9) Dominican Republic, (10) Ecuador, (11) Guyana, (12) India, (13) Indonesia, (14) Iran, (15) Iraq, (16) Malaysia, (17) Mexico, (18) Morocco, (19) Pakistan, (20) Peru, (21) Philippines, (22) Republic of China, (23) Rhodesia, (24) Sudan, (25) Syria, (26) Thailand, (27) Turkey, (28) USSR, (29) Venezuela, (30) USA, and (31) Zambia.

Up to the time of writing of these notes, reports have been received from Guyana, India (partly), Iraq, Mexico, Sudan and South Africa (through the British National Committee).

The Australian and US National Committees have promised to supply reports

Bangladesh, Brazil, Malaysia, Rhodesia, Turkey, and Zambia are not in a position to supply the information.

Further progress, if any, will be reported at the Paper Committee Meeting.

Item 11 : To consider the question of setting up a Working Group for the revision of the basic Multilingual Technical Dictionary

The historical background of the revision of the Multilingual Technical Dictionary is given in Appendix XVII, pages A-104 to A-106. The Permanent Paper Committee at its last meeting reviewed the composition of the Working Group to finalize chapters XVII to XX (containing terms on Environmental Control, Water Resources Systems Analysis, Automation, and Computer

*Not reproduced here. Given on pages A-95 to A-98 of Annual Report 1975.

Technology). The membership of the Working Group is (1) Prof. P. Celestre (Italy), (2) Mr. I.S.G. Matthews (Great Britain), (3) Mr. L.R. Swarner (USA), (4) Mr. M.A. Hossain (Bangladesh), (5) Mr. J. A. Ortiz (Spain), (6) Mr. Nitzu Ion (Rumania), (7) Mr. Decroix (France), and (8) Mr. K.K. Framji, Secretary-General.

It was further decided that:

“The National Committees be also again approached for their suggestions with respect to revisions or modifications of definitions of terms and of sketches (including suggestions for new sketches) already included in the Basic Dictionary for its revision.

“The National Committees be also requested to nominate member(s) on the new Working Group (to be decided later) for the revision of the “Basic Multilingual Technical Dictionary”. It was appreciated that the revision of the “Basic Technical Dictionary” would require several years and, therefore, should be commenced early”.

3. In pursuance of the above the Secretary-General requested all the National Committees to send their suggestions and comments and also requested them to nominate members on the new Working Group to be decided at Tehran Meeting for revision of the Basic Multilingual Technical Dictionary.

4. The National Committees of USA, German Democratic Republic, France, India have sent comments on the Multilingual Technical Dictionary suggesting modifications to the existing terms and new terms.

5. The Canadian National Committee has written to observe that the Glossary of Hydrology of the WMO Commission for Hydrology and the ICID Multilingual Technical Dictionary on Irrigation and Drainage, River Training and Flood Control contain terms in common. A joint meeting of the two Working Groups may be desirable in order to resolve differences in definitions. The Secretary-General in reply to the observations of the Canadian National Committee has written to inform that when the new Working Group on the revision of the Multilingual Technical Dictionary is set up, the attention of the Members will be drawn to all available material including the suggestion of the Canadian National Committee for their consideration. The possibility of a joint meeting of the WMO and the ICID Working Group will be explored as the work of the ICID Working Group progresses.

6. The following nominations have been received from the National Committees to serve on this new Working Group to be set up:

1. Mr. G.S. Popov (Bulgaria)
2. Dr. W. Stopel (German Democratic Republic)
3. Mr. M. Decroix (France)
4. Mr. S.P. Malhotra (India)

The Committee is requested to finalize the composition of the new Working Group. After the composition of the Working Group is settled, the Secretary-General would circulate the copies of the comments received from the National Committees to the members of the new Working Group.

Item 12 : **Any other business**

**LIST OF SUBJECTS SUGGESTED FOR DISCUSSION AT THE
ELEVENTH CONGRESS ON IRRIGATION AND DRAINAGE
1981 (FRANCE)**

1. RECOMMENDATIONS OF THE PREVIOUS CONGRESSES

Third Congress—1957

- (1) *Lining of Canals*—Maintenance problems, standards and costs for various types of linings, preferably covering long periods of use. Seepage losses—how the volume can be determined and sources located. Friction losses—the changes, if any, that occur with longer periods of use and remedial measures.

Sixth Congress—1966

- (2) New techniques for leaching soils or for improving the drainage of soils for expediting reclamation of land.
- (3) Leaching of soils with saline water.
- (4) Reclamation of salt-affected lands in coastal areas.
- (5) Use of organic manures as soil amendments.
- (6) Return flow of irrigation water in deltaic areas.

Seventh Congress—1969

- (7) Further consideration of the subject matter of Question 26 “Development of new irrigable and drained areas—Procedures and policies.”

Eighth Congress—1972

- (8) Educational, administrative and economical aspect of field irrigation and drainage as well as socio-economic conditions in deltaic, coastal and lowlying areas.
- (9) Land subsidence due to reclamation works and land levelling.
- (10) Factors affecting river training.
- (11) Flood plain regulation (including flood zoning).

Ninth Congress—1975

- (12) Theoretical and practical solution of the bed load movement and sedimentation in sudden expansion.

- (13) Designs of settling basins and other desilting structures for economical exclusion of suspended material (with flushing of sediment deposits, mechanical withdrawal of it by dredging or combination of both) and the methods of calculation of their basic sizes.
- (14) Economical aspects of sediment regime regulation in big canals with a view of transportation of finest fertile silt particles to irrigated fields.
- (15) Methods of quantitative analysis of ground-water quality changes with particular regard to the effects of the recycling of irrigation water.
- (16) Mechanization and automation of irrigation in order to increase labour productivity, quality of water application and reduction of water consumption.
- (17) Fish-protecting facilities, fish-passes, fish-elevators and compensating fish losses in co-operation with ichthyologists and other specialists.

2. OUTSTANDING PROPOSALS OF THE NATIONAL COMMITTEES

Bangladesh National Committee

- (18) Rechargeability and recharge techniques of ground water.
- (19) Evaporation losses from wide canals in semihumid and humid regions.
- (20) Effect of saline intrusion on the fresh water channel in coastal areas subject to occasional cyclonic spell.
- (21) Recovery and reutilisation of the seepage water from irrigation canals.
- (22) Simulation of integrated irrigation system by computer.
- (23) Use of indigenous material including soil stabilization for river training and bank protection.
- (24) Economic design of drainage and irrigation structures on under-consolidated or organic soils.
- (25) Use and efficiency of silt ejectors in evacuating sediments from the irrigation canals.
- (26) Effect of various qualities of water for irrigation use.
- (27) Scour in unlined canals.
- (28) Advancement of saline wedge into fresh water mass through outfall regulators constructed for preventing saline intrusion.
- (29) Planning and development of irrigation by conjunctive use of surface and ground water.
- (30) Bed scour phenomenon and its effect on bank stabilization. (Factors controlling scour, determination of scour depth, application of various protective measures against bed and bank scour).

- (31) Bridging the gap between actual water supply level vis-a-vis designed profile in unlined canals in alluvium.

Colombian National Committee

- (32) Surface irrigation (basic criteria employed in the design of new areas, surveys of existing areas presently irrigated by surface methods, new techniques for control and efficient use of water, land levelling and construction of terraces, water application methods, determination of optimum water quantities, modulus and hydro-modulus, annual costs and initial investments, justification of its use due to labour utilization, social and economic aspect determining its use).
- (33) Irrigation pumping stations (location, basic criteria for design, security measures, capacity of equipment, problems encountered and their solution, costs).

French National Committee (AFED)

- (34) Efficiency of irrigation at the level of storage, conveyance, distribution and application of water in the field.
- (35) Various techniques of localised irrigation with daily frequency.
- (36) Sprinkler equipment and machinery.

Indian National Committee

- (37) Phased development of river valleys to exploit their surface and sub-surface waters.
- (38) Aquifer management and optimization including systems analysis and model techniques.
- (39) Development of pre-cast techniques for canal works—extent of use, possible limitations and comparative studies with conventional methods.
- (40) Sedimentation capacity of reservoirs and catchment area control.

Portuguese National Committee

- (41) Optimization of dimensions of storage-fed canals of an integrated project.
- (42) Combining irrigation with secondary activities with the objectives of tourism and recreation.

Turkish National Committee

- (43) Inter-relation between the quality of irrigation water and the productivity of the agricultural crop and side effects.
- (44) Response of the agricultural crop productivity to the quantity of irrigation water availability and optimization techniques of using less water than it is required in order to irrigate more lands.

US National Committee

- (45) Irrigation water management with drip and surface irrigation.
- (46) Implementing on-farm irrigation technology to achieve greater food production.
- (47) Co-ordinating water supply and delivery schedules with crop water requirements.

Brazilian National Committee

- (48) Limitation of the depth of root penetration in soils with high content of toxic aluminium and consequent unavailability of water with deeper soil layers.
- (49) Storage and utilization of ground water for irrigation use in open pasture with patches of vegetation.
- (50) Salinization from irrigation—Water-table control system so as not to accumulate salts in the surface.
- (51) Steps for improvement of irrigation in the areas with smaller land holdings.
- (52) Sub-surface irrigation design.
- (53) Gravity and pump water supply for irrigation. Criteria for comparison in respect of the world problems and the ecological aspects.

National Committee of the Federal Republic of Germany (Supplement)

- (54) Incorporation of modern sprinkling techniques into farm management practices.
- (55) Development and experiences in the chemical sealing of earth canals.
- (56) Methods and possibilities of soil moisture conservation and increase without irrigation.

3. RECENT SUGGESTIONS BY THE NATIONAL COMMITTEES

Iranian National Committee

- (57) Use of salt water for irrigation: 1.1 Desalination; 1.2 Use of salt water directly for irrigation.
- (58) Problems of construction of irrigation structures and canals in gypsum soils.
- (59) Cost price of water—Government policy for the sale of water from government hydraulic projects.
- (60) Various forms of consolidation of soils (encountered) for irrigation networks, difficulties and results obtained in various countries.

Federal Republic of German National Committee

- (61) Limiting factors for irrigation development.

- (62) Canal lining.

Canadian National Committee

- (63) Environmental quality aspects of irrigation and drainage.

Australian National Committee

- (64) Methods of salinity control in irrigation systems.
- (65) Flood plain regulation (including flood zoning).
- (66) Trickle irrigation.
- (67) Techniques of irrigation, including obtaining water supply, in arid areas.
- (68) Design criteria for drainage schemes.
- (69) Philosophies of payment of capital, operation and maintenance cost of drainage schemes, by users and governments.

Nigerian National Committee

- (70) Some aspects of technical personnel input into irrigation projects.
- (71) Irrigation, ecology and the environment.

U.S. National Committee

- (72) Water management factors.
- (73) Irrigation with reclaimed waste waters.
- (74) Modernizing irrigation and drainage systems.
- (75) Energy requirements for irrigation and drainage.

Spanish National Committee

- (76) Improvement of the irrigation management of water saving: (a) Flow measurement devices in old canals, ditches and plot outlets; (b) Technical and economical aspects for adapting old irrigation networks to modern systems; (c) Modifications on old distribution networks to fit them to shorter irrigation time tables; (d) Improvements of the irrigation organization through programming studies; (e) Examples of improvement works and their achievements.
- (77) The role of Irrigators Organizations as an auxiliary means of the administration for the control and proper use of watershed resources: (a) Professional training in the field of irrigation techniques; (b) How the Irrigators Organizations should be structured for an autonomous management of the water resources.
- (78) Public waters pollution by industrial or urban effluents or by agricultural chemicals carried by drainage waters or by salty water intrusion in estuaries. Their effects on crops and limits for irrigation purposes. Their purification for agricultural use or aquifer recharge.

- (79) Unification of criteria for plot drainage calculation.
- (80) Planning study and joints construction in concrete lined canals in order to minimize leachings.

German Democratic Republic National Committee

- (81) Theoretical and practical possibilities to overcome river-bed deformation in consideration of agricultural irrigation and drainage plants.
- (82) The requirements for the treatment of waste water as well as the techniques and engineering solutions for their efficient use in agricultural irrigation: (1) Industrial waste water; (2) Municipal waste water; (3) Animal residues and liquid manure.
- (83) Methods for the optimum design as well as new technologies and engineering for the construction of small canals and pipelines for water distribution in irrigation areas.

COMMENTS ON "COST OF IRRIGATION WATER"

(1) Dr. T.H. Anstey (Canada)

"Canada will be pleased to contribute what we can to a questionnaire on the subject. Without doubt it is a complex subject, one which has many political and social overtones as well as ones of straight economics. The matter would be relatively simple if irrigation systems were physically separate from those producing power, giving certain measures of flood control, supplying potable water and producing lakes suitable for recreational purposes. The matter is further complicated by the fact that in Canada at least (and I expect the same prevails in other countries) when agriculture changes from a dryland (rainfed) farming situation to irrigated farming the whole economy of the region changes to one of greater intensity. Not only are there more farmers per unit area, but, because of an intensification in the cropping and livestock densities the infrastructure is intensified. Thus in my view, and I believe this view is shared by other Canadians, the cost of irrigation water cannot rightfully be charged solely to the primary producer. One must also consider if the water is delivered under pressure or free flowing."

(2) Prof. M. Bottalico (Italy)

"I think they are precious contributions for their scientific contribution and correct economic policy in the field of irrigation. Anyway my opinion about the research we have proposed is that it ought to be set in a previous stage of studies and ascertainment. It deals in fact with the concrete methods of irrigation water pricing used by the various countries : only in a second time it shall be able to supply the more suitable methods of pricing according to concrete situations and actual range of application."

(3) Dr. M.E. Jensen (U.S.A.)

"In general, I would oppose developing a questionnaire that would be distributed to a large number of irrigation districts and projects for several reasons. First, project managers are already required to complete numerous forms and questionnaires on a routine basis, and second, such a survey generally would result in a massive amount of material which probably would have limited value unless thoroughly analyzed and summarized by a highly qualified person.

"The recommendations of Professor Bottalico that the price of irrigation water should be provided per cubic meter, I believe, misses the intent of the objective of assessing the policy of pricing irrigation water. It is not the cost of developing and delivering irrigation water per se that is desired, but rather the policy of distributing or recovering the direct costs associated with the capital investment costs including interest, and the operation and maintenance of the project.

"The paper prepared by C.V. Gole, et al. of the Central Water Commission of India is excellent and thoroughly describes the expected variations now in effect in charging water users. If a similar paper had been prepared in the U.S.A., it probably would not have differed very much except in one very important area, and that is the philosophy behind determining the amount to be charged. Both the paper by Gole et al. and the paper by Jain (India Ministry of Agriculture) indicate that when the cost of developing a water distribution system, the interest on the capital investment, and the operation and maintenance are not necessarily charged to the benefiting water users. Instead arbitrary charges based on numerous techniques are used which appear to become much more complex than if the actual water charges for a given project were passed on to the water user. If a subsidy is needed, it probably would be much simpler to provide a subsidy by increasing the amount paid for the crop produced by each farmer. The fact that there is a tendency to delay increasing prices under the present system in India which results in subsidies up to 90 per cent of the cost apparently has created other problems in India. In contrast to the Indian philosophy, the total cost of each project in the United States must be repaid, whether the project is constructed by the Government or by private enterprise. Thus, if a project adjacent to another requires higher development cost and water delivery cost, the water users on that project pay a higher cost because they had a voice in proceeding with the development of the project. Also, the water users bear the responsibility of the indebtedness, but they also decide how to distribute the costs by themselves without government intervention as long as they abide by the state and federal laws. This is the principle difference in philosophy between irrigation developments in the United States and those in India.

"A questionnaire to deal with the policy of pricing irrigation water, emphasizing water pricing policies and the philosophies involved is needed rather than the meaningless cost per cubic meter of water in one project vs another. If properly formulated objectives are developed, I believe the U.S. Committee of the ICID could prepare a paper that clearly summarizes the general policies that are in effect and perhaps could illustrate some of the variations of how these costs are distributed using several successful projects. For example, a large project originally developed by the Bureau of Reclamation but now operated by a District, a project developed by one of the States and operated by a Board, and another project developed totally by private enterprise could be used to illustrate the policies and philosophies in effect in the U.S.A. Another example might include a project that produces and distributes hydroelectric power, or may have other sources of revenue which may affect the assessment and distribution of water costs. Within a given project, gravity water may be combined with well water but those who must depend on well water may need to pay a higher fee. These examples would illustrate the major differences in the philosophy in the United States as compared to a country like India.

"I find it difficult to accept the notion that assessing water charges on the basis of volume may result in prohibitive expense because of a large supervisory staff as implied in the papers presented. It is apparent that a large staff must be required to assess the area, the nature of the crop, the number of waterings, etc. when using procedures that are now used to arrive at some arbitrary water price.

"In summary, I have no objection to seeking input from different countries, but I would object to arbitrary questionnaires. I believe that a knowledgeable person in the United States, for example, could prepare a very meaningful paper summarizing most of the common current philosophies and pricing policies employed, using general guidelines provided by ICID. The results probably would be more useful than using a questionnaire approach."

(4) Mr. P.M. Janet (France)

He has drawn attention to the General Report prepared by Mr. Manuellan for the 8th European Regional Conference of ICID, held at Aix-en-provence in June 1971 and to the OECD's publication "Guide to economic assessment of irrigation projects, revised version 1976, pages 101-114".

His further observations on the subject are awaited.

ANNEXURE 3 TO APPENDIX XII
(Item 8)

STATE OF AD-HOC PUBLICATIONS IN PROCESSING AND PROPOSED

| S.N. | Name of publication | Contents | Authors/ Compilers/ Editors | Date of pre- paration and printing | Cost | Remarks |
|--|---|--|--|--|--|---------|
| (1) | (2) | (3) | (4) | (5) | (6) | (7) |
| A. Publications in the course of processing | | | | | | |
| 1. | Flood Control in the World—A Global Review—Vol. II. | 12 country reports | K.K. Framji B.C. Garg | In Press 1977 | Rs. 40,000.00 (estimated) | |
| 2. | Irrigated rice—A World-wide Survey | Review, country reports and bibliography (see page A-80 of Ann. Rep. 1976) | Compiler: Dr. A.P. Bhattacharya Editor: K.K. Framji | In Press 1977 | Rs. 20,000.00 (estimated) | |
| 3. | Tehran Special Session on Likely Irrigated Agriculture of 2000 A.D. | 15 reports | Various authors including General Report by Prof. Dr. S. Hajrasuliha | In Press 1977 | To be published by kind courtesy and at the cost of Iranian National Committee | |

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|----|---|---|--|---|-----------------------------|--|
| 4. | Directory on "Land Reclamation and water management organizations in the world" | Information received from 40 countries (See page 10 of Annual Report 1976 | I.C.I.D. | Under compilation. To be issued in cyclostyled form during 1977 | Rs. 5,500.00 (estimated) | |
| 5. | Drainage Construction Techniques for Vertical / Tubewell Drainage | See Statement 1 (page A-87) | ICID-Construction Techniques Committee | 1977 | Rs. 8,000.00 (Approximate) | The Permanent Paper Committee's recommendation to the Council for approval to printing is being sought |
| 6. | ICID Standards 101-104 | See pages A-95 to A-107 of Annual Report 1976 | ICID-Construction Techniques Committee | 1977 | Rs. 2,000.00 (Approximate) | For the Permanent Paper Committee's consideration for recommendation to the Council for printing |
| 7. | Canal Construction—Open Channels—Construction Machinery and Techniques | Statement 2 (pages A-88 to A-89) | ICID-Construction Techniques Committee | 1977 | Rs. 25,000.00 (Approximate) | For the Permanent Paper Committee's consideration for recommendation to the Council for printing |
| 8. | State-of-the Art publication: Irrigation Drainage and Flood Control | For Titles of papers please refer to Ann. Rep. 1976, pages A-71 to A-72 | Various Authors Editor: K.K. Framji | 1978 | Rs. 33,000.00 (Approximate) | Out of 11 papers 4 papers received, 5 papers under comments, 2 papers promised. |

(Continued)

ANNEXURE 3 (Contd.)

A-84

| S. N. | Name of publication | Contents | Authors/ Compilers/ Editors | Date of pre- paration and printing | Cost | Remarks |
|-------|---|---|---|--|------|---|
| (1) | (2) | (3) | (4) | (5) | (6) | (7) |
| 9. | Technical Memoirs No. 3 | Various papers | Editor: K.K. Framji | 1978 | | Only 4 papers received, one promised. 15-20 papers required before printing is undertaken. |
| 10. | Design practices of open drainage channels in an agricultural drainage system—A World-wide Survey | See pages A-113 to A-115 of Ann. Report. 1974 | K.K. Framji B.C. Garg Dr. S.D.L. Luthra | Cyclostyled draft to be issued in 1978 | | 13 Reports received. Committee to decide whether the compilation based on reports to be received up to September 1977 to be taken in hand. |
| 11. | Manual of Flood Control Methods and Practices—Vol. III | See Statement No. 4, pages A-81 to A-83, Ann. Rep. 1976 | K.K. Framji B.C. Garg B.K. Chadha | | | Editing to be undertaken after Country Reports from India, Pakistan, Japan and USA are received, and also the chapter on channel rectification from Canada. |

| | | | | |
|---------------------------------|---|---|--------------------------------------|--|
| 12. | Supplement to Dictionary --- Chapters XVII-XX | Chapter XVII—Environmental Control Chapter XVIII—Water Resources systems analysis Chapter XIX—Automation in irrigation and drainage Chapter XX—Computer technology | K.K. Framji | English version is expected to be finalised during Tehran meeting of the Working Group. French version is also required before printing is undertaken. |
| 13. | Preprints of Tenth Congress-1978 | Congress Questions 33, 34 and 35 Special Session 1977 Symposium 1977 | I.C.I.D. | Rs. 132,000.00 (Approximate) Rs. 18,000.00 Rs. 18,000.00 (Approximate) |
| B. Publications proposed | | | | |
| 14. | World-wide Survey on consumptive use of water for sugar cane under different soil and climatic conditions | See page A-95 to A-98 of Annual Report 1975 | | National Committees requested to furnish reports |
| 15. | Manual on application of systems analysis to problems of irrigation, drainage and flood control | Tentative contents in Ann. Rep. 1975, pages 59 to 61 | Members of Committee and K.K. Framji | Systems Committee to meet and finalise. Draft is ready and it is desirable to publish this as soon as possible |

(Continued)

ANNEXURE 3 (Contd.)

| <i>S. N.</i> | <i>Name of publication</i> | <i>Contents</i> | <i>Authors/ Compilers/ Editors</i> | <i>Date of pre- paration and printing</i> | <i>Cost</i> | <i>Remarks</i> |
|--------------|---|-----------------|--|---|-------------|---|
| (1) | (2) | (3) | (4) | (5) | (6) | (7) |
| 16. | Cross reference index of ICID publications | | I.C.I.D. | | | Preliminary work undertaken |
| 17. | Multilingual Technical Dictionary (Revision of) | | Members of Working Group and K.K. Framji | | | A Working Group is to be set up at Tebran Meeting |

DRAFT REPORT

**DRAINAGE CONSTRUCTION TECHNIQUES
VERTICAL/TUBEWELL DRAINAGE**

CONTENTS

1. General

- 1.1 General principles
- 1.2 Application
- 1.3 Comparison with horizontal drainage
- 1.4 Irrigation wells

2. Design Factors

- 2.1 Tubewell components
- 2.2 Filter
- 2.3 Screen
- 2.4 Pump casing (Hole diameter)
- 2.5 Well economics
- 2.6 Pump and motors
- 2.7 Well field design
- 2.8 Special wells

3. Construction Materials

- 3.1 Well string components
- 3.2 Filter material
- 3.3 Pumps
- 3.4 Pump house

4. Construction

- 4.1 Drilling
- 4.2 Logging and sampling
- 4.3 Installation of well string
- 4.4 Placement of gravel
- 4.5 Development
- 4.6 Testing
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**CANAL CONSTRUCTION—OPEN CHANNELS—CONSTRUCTION
MACHINERY AND TECHNIQUES**

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**AGENDA OF THE MEETING OF THE PERMANENT COMMITTEE
ON APPLICATION OF SYSTEMS ANALYSIS TO IRRIGATION,
DRAINAGE AND FLOOD CONTROL TO BE HELD ON
MAY 13, 1977 AT 14.00 HOURS**

Membership : (1) Dr. L.V. Dounin-Berkovsky (Chairman—USSR); (2) Mr. Y. Labye (France); (3) Dr. G. Fleming (U.K.); (4) Dr. G. Kienitz (Hungary); (5) Dr. Z. Kaczmarek (Poland); (6) Dr. Charles A. Kohlhaas (USA); (7) Dr. A.K. Biswas (co-opted member—Canada); (8) Mr. K.K. Framji, Secretary-General.

AGENDA ITEMS

- Item 1 :** To elect two members in place of the two members retiring in 1977.
- Item 2 :** To apprise the members about the incorporation in the By-laws of the functions, membership and terms of office of the Committee.
- Item 3 :** To note progress to be made by the Committee on the finalization of the first draft of the Manual during its proposed meeting in USSR.
- Item 4 :** To note progress on the preparation of annotated Bibliography on the application of systems analysis to irrigation, drainage and flood control.
- Item 5 :** Any other business with the permission of the Chair.

NOTES ON AGENDA ITEMS

- Item 1 : To elect two members in place of the two members retiring in 1977**

At its last meeting in Banff, the Committee concurred with and recommended to the Council, the suggestions of the Secretary-General in regard to the functions, membership and terms of office, etc. The Council approved the recommendations made by the Committee in regard to functions, membership and terms of members, etc.

Sub-clause (3) of the recommendations reads as under:

“The term of office of each member shall be three years except that, in the first instance, two members shall retire in 1977 and two in 1978. However there will be no bar on re-election of the members.

The distinguished delegate of Italy enquired of the Council at its Banff meeting whether it would be possible to include an Italian expert on this

Committee. The Secretary-General said that he would be happy to have an Italian expert, but the proposal could be considered in 1977, when according to the By-laws two members of the Committee would retire.

The Committee may decide the membership for recommendation to the Council.

Item 2 : To apprise the members of the incorporation in the By-laws of the functions, membership and terms of office of the Committee

At its meeting in 1976 the Committee recommended to the Council the functions, membership and the terms of members, etc. for approval. The Council approved the functions, membership and terms of members, etc., but changed the name of the Committee to "Permanent Committee on Application of Systems Analysis to Irrigation, Drainage and Flood Control" and enjoined the Secretary-General to prepare the consequential amendments to the By-laws for consideration at the next Council meeting in Tehran.

The Secretary-General has accordingly framed the By-laws and has requested the Council vide Item 6, pages 35-36, of the Tehran Council agenda to approve the suggested amendment in the By-laws as required under articles 55 and 56 of the Constitution. This item is for only information of the members.

Item 3 : To note progress to be made by the Committee on the finalization of the first draft to the Manual during its proposed meeting in USSR

(i) The Committee considered three alternatives for further processing of the Manual: (a) to make one member of the Committee responsible for the piecing together and revision of the Manual, having regard to the comments received, (b) for the whole Committee to meet together for a period of 15 days to complete the Manual, and (c) for preparation of the material for the manual by correspondence if possible.

Alternative (b) was considered the best and only way of ensuring early completion, i.e., the whole Committee should meet for a period of 15 days with a view to finalise the Manual. The USSR National Committee kindly offered to consider hosting the meeting in Russia.

The U.S.S.R. National Committee recently graciously invited the Committee and President Dr. Holy (with stay charges to be borne by the USSR National Committee) vide their letter of December 30, 1976 to hold the meeting in the second half of February 1977 for a period of seven days. Some of the members and the President expressed readiness to attend in February 1977. This meeting however regrettably could not be arranged at such short notice, as the procedural formalities for obtaining funds from the UNEP for the travel of the members to Russia required three to four months.

The Secretary-General is pursuing the matter and hopes that the meeting of the Committee may possibly be arranged in the first fortnight of August 1977 in Moscow. Further progress made since the writing of the agenda notes will be brought to the notice of the Committee and the Council in Tehran.

(ii) Dr. Kohlhaas had volunteered in Banff (1976), on behalf of the US National Committee, to provide to the Committee, an Appendix to the Manual containing:

- (a) An outline of the computer programmes available on the pertinent subjects related to cases where User's Manuals are available in USA.
- (b) Abstracts of actual computer programmes on application of systems analysis to problems of hydraulics and irrigation, drainage and flood control.

These would be circulated by the U.S. National Committee to all the members of the Committee for comments and for adding further examples from their own countries. The responsibility for the computer programmes furnished by the other Countries would be of the recommending countries, while for the examples furnished by Dr. Kohlhaas the responsibility would be of the U.S. National Committee.

Dr. Kohlhaas has intimated that he has prepared a tentative outline of the proposed Appendix to the Manual and that it is at present under a joint review by the U.S. National Committee and himself.

Item 4 : To note progress on the preparation of annotated Bibliography on the application of systems analysis to irrigation, drainage and flood control

Dr. A.K. Biswas has written to inform that the material for the annotated bibliography on Systems Analysis collected by him has been already sent to the USSR National Committee. Further progress made on the preparation of the annotated bibliography will be noted by the Committee at its Tehran meeting.

Item 5 : Any other business with the permission of the Chair

**AGENDA OF THE MEETING OF THE PERMANENT COMMITTEE
TO FOCUS ATTENTION ON NEW DEVELOPMENTS AND ITS
SUB-WORKING GROUPS ON [(1) MECHANISED
IRRIGATION (MACRO IRRIGATION), AND (2)
IDENTIFICATION OF RESEARCH NEEDS AND
FUTURE RESEARCH DIRECTIONS]
TO BE HELD IN TEHRAN ON MAY 15, 1977 AT 09.00 HOURS**

Membership of the Committee : (1) Dr. A.K. Biswas (Chairman-Canada); (2) Prof. Dr. Ir. J.C. van Dam (Netherlands); (3) Mr. Clifford I. Barrett (USA); (4) Prof. Dr. H. Fukuda (Japan); (5) Dr. H.M. Horning (FAO); (6) One nominee of UNEP; (7) Dr. Dounin-Berkovsky (Co-opted—USSR); (8) Mr. Y. Labye (Co-opted — France); and (9) Mr. K.K. Framji, Secretary-General.

Nominations from the U.S. National Committee and UNEP are still awaited.

Membership of sub-Working Group on Mechanised Irrigation (Macro Irrigation): (1) Mr. Y. Labye (France); (2) Mr. L. Vermeiren (FAO); and (3) Mr. K.K. Framji (Ex-Officio).

Membership of the sub-Working Group on Identification of Research needs and future research directions: (1) Dr. A.K. Biswas; (2) Dr. H.M. Horning; and (3) Mr. K.K. Framji, Secretary-General.

The following items were approved for discussion by the Chairman of the Committee :

AGENDA ITEMS

- Item 1 :** To elect two members in place of two retiring members.
- Item 2 :** To note progress on and to plan future preparation of papers reviewing the State-of-the-Art subjects of interest to ICID.
- Item 3 :** To set up a sub-Working Group to review the situation in the world after 2000 A.D. (say 2000-2050 A.D.) after the conclusions of Tehran Special Session are available.
- Item 4 :** To review the progress made by the sub-Working Group on Mechanised Irrigation set up at Bauff.
- Item 5 :** To note progress made on the Secretary-General's proposal to prepare a State-of-the-Art paper on 'the relative salinizations resulting from the different modes of irrigation'.

- Item 6 :** To consider the preliminary paper on the study of the identification of research needs and future research directions with a view to stimulate work in the field of irrigation to meet safely future needs of food and fibre.
- Item 7 :** To examine and review new issues, if any, for consideration by the Committee.
- Item 8 :** Other business with the permission of the Chair within the scope of the functions of the Permanent Committee and the sub-Working Groups.

NOTES ON AGENDA ITEMS

Item 1 : To elect two members in place of two retiring members

The Committee reconstituted itself at Banff in 1976 with the above members, whose terms of the membership are to be regulated according to the revised By-laws 9(c)(2) as under :

- (i) Two members who should hold office for one year and complete their term of office in 1978.
- (ii) Two members who should hold office for two years and complete their term of office in 1979.
- (iii) Two members who should hold office for three years and complete their term of office in 1980.

The Committee may constitute itself accordingly. (Kindly also see notes under item 4(ii)).

Item 2 : To note progress on and to plan future preparation of papers reviewing the State-of-the-Art subjects of interest to ICID

- (i) The Committee noted the titles and authorship of the 11 papers of the State-of-the-Art series under preparation (Ann. Rep. 1976, pages A-71 to A-72). The further progress on the processing of these papers is reported under the agenda of the Paper Committee, item 5, page A-64.
- (ii) One State-of-the-Art paper (title to be notified) is to be contributed by the USSR National Committee for publication in the ICID Bulletin.

Item 3 : To set up a sub-Working Group to review the situation in the world after 2000 A.D. (say 2000—2050 A.D.) after the conclusions of Tehran Special Session are available

A review will be made, after the conclusions of the Tehran Special Session are made available, of the situation in the world, say in the period 2000—2050 A.D., if the required irrigation expansion is not achieved by 2000 A.D. or has adverse repercussions.

A copy of the reports submitted to the Special Session together with the general report will be made available to the members for their study. Committee may consider the appointment of a sub-Working Group to review the situation of irrigated agriculture in 2000—2050 A.D.

Item 4 : To review the progress made by the Mechanised Irrigation sub-Working Group set up at Banff

- (i) At its last meeting, the Committee set up a Working Group comprising a representative of FAO and Mr. Labye (France) to prepare a report on "Mechanised Irrigation" to complement the work of the Working Group on preparation of the State-of-the-Art paper on "Drip Irrigation and Similar methods, i.e., micro-irrigation". Later, the sub-Working Group will attempt to synthesise the findings of the two reports on micro-and macro-irrigation.

Dr. Horning (FAO) has intimated that Mr. L. Vermeiren from FAO will serve on the sub-Working Group and has further informed that they have written to Mr. Labye to determine how to best tackle the subject as under :

"As regards the working pattern of this new working group, I should like to suggest to you the following future approach. The French Working Group (Ref. CTGREF) on the new irrigation techniques is extremely active, in particular, in the field of mechanised irrigation, and perhaps we might call upon the good services of Mr. L. Rolland for drafting a document on the subject. Mr. Rolland has already prepared such a document on the activities of ECA (Seminar of Seville) and the FAO will be able to supplement his information, with the results obtained in other countries".

- (ii) Fed. Rep. of German National Committee has suggested Dr. F.J. Mock as a member on this sub-Working Group.

The Secretary-General has written to inform the German National Committee that the Mechanised Irrigation Working Group is a sub-Working Group of the Permanent Committee to focus attention on new developments. There are likely to be two vacancies on the Permanent Committee at the time of Tehran Council meeting. If the Fed. Rep. of German National Committee and Dr. Mock agree to serve on this Permanent Committee, the Secretary-General will submit this suggestion (if received before the meeting) to the Committee for its consideration.

Item 5 : To note progress made on the Secretary-General's proposal to prepare a State-of-the-Art paper on 'the relative salinizations resulting from the different modes of irrigation'

Secretary-General's proposal to prepare a State-of-the-Art paper on "the relative salinizations resulting from the different modes of irrigation" was approved by the Committee at its last meeting. Mr. Stephens (U.S. National Committee) rejoined that the U.S. National Committee would consider the request of nominating a suitable expert for this purpose with interest.

The U.S. National Committee has been requested to nominate an expert to prepare the paper and their reply is still awaited.

Item 6 : To consider the preliminary paper on the study of the identification of research needs and future research directions with a view to stimulate work in the field of irrigation to meet safely future needs of food and fibre

At the last meeting of the Committee, Dr. Horning proposed to start the study of the identification of research needs and the future research directions with a view to stimulate work in the field of irrigation to meet safely future needs of food and fibre. The Committee accepted that such a study was important and timely, and a sub-Working Group comprising Dr. A.K. Biswas, Dr. H.M. Horning, and Mr. K.K. Framji, Secretary-General was set up for the purpose. The Chairman offered to prepare a preliminary discussion paper to indicate a suitable agenda with a questionnaire for the Committee to consider the directions in which it should proceed and to stimulate action in the matter.

Dr. Biswas later had discussions with Dr. Horning about the sub-Working Group and intimated that FAO was preparing a document of this subject and the results may be awaited.

Dr. Horning supplied a copy of the finalized FAO paper on "Research needs in water use and management" to Dr. Biswas (copy to Secretary-General), saying that this paper might be of help in preparing the draft for the discussion at the sub-Working Group.

Dr. Biswas's comments are awaited, the sub-Working Group will discuss the draft paper at the meeting.

Item 7 : To examine and review new issues, if any, for consideration by the Committee

The Committee will discuss and consider new issues for initiating further action on them.

Item 8 : Other business with the permission of the Chair within the scope of the functions of the Permanent Committee and the sub-Working Groups

**AGENDA OF THE COMMITTEE ON IRRIGATION AND
DRAINAGE CONSTRUCTION TECHNIQUES TO BE
HELD ON MAY 15, 1977 AT 09.00 HOURS**

Members of the Committee: (1) Mr. G.P. Hawkins (USA); (2) Vice-President R. Darves-Bornoz (France); (3) Mr. B.G. Shtepa (USSR); (4) Mr. N.F. Said (A.R.E.); (5) Mr. E.C. Saldanha (India); (6) Mr. W. McCready (Great Britain); (7) Mr. Liria Montanes (Spain); (8) Mr. K.K. Framji, Secretary-General.

The following agenda items have been approved by the Chairman of the Committee for discussion at the meeting in Tehran.

AGENDA ITEMS

- Item 1 :** To review the questionnaire sheets on the inventory of construction machinery (Technical characteristics received from the member countries).
- Item 2 :** To review comments of the National Committees, if any, for their incorporation in the "Recommendations for design criteria and specifications for machine-made lined canals—ICID Standards 101 to 104 and note progress on their publication.
- Item 3 :** To note progress on the publication of "Canal Construction—open canals—Construction machinery and techniques" and its translation into French.
- Item 4 :** To note progress made on the publication of "Report on drainage construction techniques for vertical/tubewell drainage."
- Item 5 :** To note progress made on the draft report on horizontal drainage construction.
- Item 6 :** To note progress on the preliminary document on land clearing, land preparation and land levelling.
- Item 7 :** To note progress on the development of ICID Standards No. 105 to 108.
- Item 8 :** Any other business with the permission of the Chair.

NOTES ON AGENDA ITEMS

- Item 1 :** To review the questionnaire sheets on the inventory of construction machinery (Technical characteristics received from the member countries)

Questionnaire sheets duly filled in have been supplied to Chairman Mr. Hawkins by (1) Australia, (2) Canada, (3) Columbia, (4) Ecuador,

(5) Federal Republic of Germany, (6) Great Britain, (7) India, (8) Italy, (9) Malaysia, (10) Poland, (11) Rhodesia, (12) Syria, (13) U.S.A., and (14) U.S.S.R.

Czechoslovakia has promised to supply.

Item 2 : To review comments of the National Committees, if any, for their incorporation in the "Recommendations for design criteria and specifications for machine-made lined canals—ICID Standards 101 to 104" and note progress on their publication

Comments received on the undermentioned four ICID Standards 101-104 (pages A-94—A-107 of Annual Report 1976) from various National Committees were examined by the Committee in its Banff meeting in 1976.

ICID Standard 101 : Design criteria for machine-made lined irrigation canals;

ICID Standard 102 : Earthwork and preparation of subgrade for canal lining;

ICID Standard 103 : Concrete slip form canal and ditch linings;

ICID Standard 104 : Concrete guide.

The finalised draft, incorporating the comments in all the standards was received from the Chairman of the Committee in October 1976. This was circulated to all the National Committees for their further remarks in November 1976, requesting them to be sent to the Central Office with a copy thereof endorsed to Mr. G.P. Hawkins *by January 20, 1977.*

Comments have been received so far from the U.S. and the French National Committees.

This item has been included under item 8 "To note the present status of ICID ad hoc publications" of the Permanent Paper Committee for recommendation for the Council's approval to the publication of the ICID Standards 101-104.

Item 3 : To note progress on the publication of "Canal Construction—open canals—Construction machinery and techniques" and its translation into French

This publication was assigned to USA and USSR who prepared independent draft reports. Mr. Hawkins combined the two draft reports into a single publication and submitted it to the Committee members in Banff (1976). The combined draft report comprises 179 pages plus 78 pages of appendix or a total of 257 pages. Vice-President Darves-Bornoz supplied a chapter on asphaltic lining and the Central Office supplied its translation to Mr. Hawkins for incorporation in the combined draft report.

Mr. Hawkins commended at the Banff meeting that the document should be re-edited, some minor additions and deletions made, and an explanatory introduction provided in the beginning of the publication.

Mr. Hawkins has written to inform that this publication would be submitted for publication by February 20, 1977. Accordingly, the English

version of the report has been provided under item 8 of the Permanent Paper Committee seeking the Permanent Paper Committee's recommendation for the Council's approval for its publication.

This report is to be translated into French. Information about the number of pages and the number of drawings requiring translation will be submitted to the Council for its approval.

Item 4 : To note progress on the publication of "Report on drainage construction techniques for vertical/tubewell drainage"

The first draft report on "Drainage construction techniques for vertical/tubewell drainage", prepared by Mr. McCready was reviewed by the Committee at its last meeting in Banff.

The Committee noted that an excellent draft was supplied by Mr. McCready and felt that it supplied a collection of valuable information on this type of drainage not available elsewhere.

Mr. McCready was requested to make minor additions or modifications and make this document available for publication. A copy of this final draft has been sent to Central Office. It contains 116 pages.

Chairman Mr. Hawkins has endorsed this publication to the Paper Committee for seeking its recommendation for the Council's approval for its publication. Accordingly this has been included in the agenda of the Permanent Paper Committee under its item 8 "To note the present status of ICID ad-hoc publications."

Item 5 : To note progress made on the draft report on horizontal drainage construction

Three draft reports were submitted to the Committee in Banff from (1) A.R.E. (Mr. Said), (2) Great Britain (Mr. McCready), and (3) USSR (in Russian). The USSR National Committee has supplied the English translation of the Russian report "International manual on drainage construction" to the Chairman towards the end of January 1977.

The Committee will review all the three drafts at its Tehran meeting.

Item 6 : To note progress on the preliminary document on land clearing, land preparation and land levelling

No information is available. Mr. Hawkins will report progress to the Committee.

Item 7 : To note progress on the development of ICID Standards 105 to 108

- (i) ICID Standard 108—use and development of semi circular canals: A draft standard has been prepared by a member of the Committee Mr. Liria Montanes of Spain and forwarded to the Chairman and

other members. The Committee will review the responses from the members at its Tehran meeting.

(ii) ICID Standard 105—use and development of asphaltic concrete.

ICID Standard 106—use and application of earth lining.

ICID Standard 107—use and application of plastic membrane.

The Committee will make a preliminary review for the development of these standards.

Item 8 : Any other business with the permission of the Chair

**AGENDA OF THE MEETING OF THE PERMANENT FINANCE
COMMITTEE TO BE HELD IN TEHRAN ON
MAY 15, 1977 AT 14.00 HOURS**

The membership of the Committee as approved by the Council comprises: (1) Mr. R.A. Wilkins (Guyana); (2) Mr. C.H. Swan (Great Britain); (3) Mr. G.E. Papadopoulos (Greece); (4) Mr. Dj. Keyvanfar (Iran); (5) Mr. Walter G. Schulz (U.S.A.); (6) Mr. P.M. Janet (France); (7) Dr. B.G. Shtepa (USSR); (8) Mr. Kemevor (Ghana); (9) Austria (nomination awaited); (10) Secretary-General, ICID.

Item 1 : To consider the proposals for fixation of annual contributions of National Committees in the future (effective 1980)

At its last meeting the Finance Committee recommended that there was a justification for an increase of approximately 42 per cent over the 1975 annual contributions. The Finance Committee, furthermore, desired that consideration be given to the basis of annual subscriptions after reviewing the present scales and units for the elements "capacity to pay" and "interest of the country" so that there is no ceiling to the element of the contributions for increases in areas at the upper end for the countries with the largest areas, and so that increases of areas in the lower and middle ranges do not have inordinate increases in subscriptions. The Secretary-General's proposals as well as all proposals received till then will be submitted at the meeting of the Finance Committee in Tehran or Athens so that any changes in the proposals suggested by other members of the Finance Committee (or a composite proposal of the Finance Committee) will be alternatively worked out and finalised in or before the year 1979 to be submitted to the Council for approval to be put into operation for the three or four year period subsequent to 1979 (i.e. 1980-1983).

The Central Office has received two proposals in connection with the question of revision of annual contributions, one from President Honoraire G.E. Papadopoulos and the other from Vice-President Honoraire Dr. Fukuda. The letters are reproduced below :

Letter No. 263 dated October 5, 1976 from President Honoraire G.E. Papadopoulos :

"With reference to the manner of revising the annual contributions, I hereby wish to inform you of the following views of the Greek National Committee:

1. As we have already reported, the manner of calculating the annual contributions must be simplified to the greatest possible extent by restricting to the minimum the relative parameters.

2. We propose that the coefficients and the categories pertaining to the factor "interest of the country" be unified so that they may be used from now on, *only* for the calculation of the contributions of the new member-States.
3. We also propose to give an end to the correlation between the increase of the benefited areas of the countries concerned and their annual contributions because, in our opinion, the increase of the benefited areas has nothing to do with the economic resources of the National Committees.
4. We finally propose, whenever there is a need of revising the annual contributions in order to meet the annual expenses of ICID's budget, to arrange that such eventual revisions (increases) of the annual contributions in *percentages* thereon be uniform and equal for all the member-States.
5. We think that by following the above procedure we will avoid the complications and difficulties which arise whenever the revision (increase) of the annual contributions is not the same for all the member-States but is calculated separately for each one of them on the basis of varying coefficients relating to the interest of the country."

Letter dated November 24, 1976 from Vice-President Honoraire H. Fakuda

"Having received your kind letter of November 10, 1976, No. ICI(18)/11487, explaining the present problems about the method of calculating the annual contributions, I am very glad herewith to write you my basic views to improving the problems as follows:

1. Though "the area benefited" is closely related with general activities of the ICID and may be a factor to be proud of, but it is not necessarily meaningful that the area is used in calculating the amount of money to pay.

In the present method the units of the "Interest" and the "Capacity to pay" change from 0.5 to 12.0, and from 0.5 to 6.0
(24 times) (12 times)

respectively, namely the former ranges as wide 2 times as the latter, as shown in Annexure 5, p.A.154-156 in Banff Agenda.

Besides, the proposed revised contributions show on page A-156 the following data:

| | <i>Fixed</i> | <i>Interest</i> | <i>Capacity</i> | <i>Total</i> |
|-------|--------------|-----------------|-----------------|--------------|
| US \$ | 19,800 | 42,415 | 14,250 | 76,465 |
| % | 25.89 | 55.47 | 18.64 | 100.0 |

which means that the "Interest" amounts to three times the "Capacity to Pay".

2. The importance of the "Capacity to pay" should be stressed so meaningful that from a new method of calculation, the factor "Interest" should be taken away, and only the "Fixed" at reasonable rate and the "Capacity to pay" at various ranges should be proportionally rearranged for practical use.

The method looks favourably simpler than the present one, and can meet the desire of a country suffering from lack of fund, with some extent of "the area benefited".

President Honoraire N.D. Gulhati's proposal will be submitted separately.

The Secretary-General is actively busy in drawing his own proposal which, if finalised before the Tehran Council Meeting, will be sent to the members before the meeting as also President Honoraire Gulhati's proposal when received.

AGENDA OF THE WORKING GROUP ON TENTATIVE SUPPLEMENT TO ICID MULTILINGUAL TECHNICAL DICTIONARY TO FINALIZE CHAPTERS XVII TO XX

**[NEW TERMS ON ENVIRONMENTAL CONTROL, WATER RESOURCES SYSTEMS ANALYSIS, AUTOMATION, AND COMPUTER TECHNOLOGY]
TO BE HELD ON MAY 13, 1977 AT 14:00 HOURS**

AGENDA ITEMS

- Item 1 :** To note progress on the finalization of the terms in light of the comments received on Chapters XVII to XX (Environmental Control, Water Resources Systems Analysis, Automation, and Computer Technology)
- Item 2 :** Any other business with the permission of the Chair.

NOTES ON AGENDA ITEMS

- Item 1 :** To note progress on the finalization of the terms in light of the comments received on Chapters XVII to XX (Environmental Control, Water Resources Systems Analysis, Automation, and Computer Technology)

At its Bonn meeting in 1974, the International Executive Council had approved in principle that ICID should bring out a Supplement to the Basic Multilingual Technical Dictionary to contain new terms on subjects not heretofore included in the Dictionary relating to advances in the collateral sciences and in other technology on irrigation and drainage.

2. In pursuance of the above decision, the National Committees were requested to send their suggestions in respect of the following:

- (a) New terms and their definitions (with sketches where necessary) pertaining to new collateral technology including but not limited to drip and sip methods of irrigation, water resources systems analysis and computer technology, environmental aspects of water resources development, automation techniques, etc.
- (b) Additional terms (with sketches, where considered necessary) on the subjects already covered in the Basic Dictionary which are considered necessary to make the pertinent subjects as complete as possible.
- (c) Modifications, considered desirable, to definitions of terms and of sketches (including suggestions for new sketches) already included in the Basic Dictionary).

The response from the National Committees was not very encouraging.

3. The Central Office thereupon took upon itself the preparation of the draft definitions of four chapters with the titles as given in para 5 below.

4. At its meeting in Moscow in July 1975, the Permanent Paper Committee considered the progress and decided (this decision was later ratified) by the Council) that:

- (1) The draft definitions of the four chapters prepared by the Central Office be circulated to the members of the Committee for comments and suggestions.
- (2) In view of advances in technology that have taken place since the first issue, the Central Office should write again to the National Committees inviting their suggestions with respect to "Modifications considered desirable to definitions of terms and the sketches (including suggestions for new sketches) already included in the Basic Dictionary" for inclusion in the Tentative Supplement of the Basic Dictionary (as an Appendix).

5. Accordingly, the Secretary-General sent to the members of the Permanent Paper Committee a set of four new chapters.

Chapter XVII—Environmental control; Chapter XVIII—Water resources systems analysis; Chapter XIX—Automation in irrigation, drainage and flood control systems; Chapter XX—Computer technology. Suggestions were invited for modifications, additional terms and sketches where considered desirable.

6. At its 1976 meeting in Banff, the Paper Committee reviewed the progress and noted that the comments on the four chapters were sent to the Central Office by the Members of the Great Britain and the U.S. National Committees.

The Permanent Paper Committee set up a Working Group to finalize chapters XVII to XX with the following composition :

- (1) Prof. P. Celestre (Italy),
- (2) Mr. I.S.G. Matthews (Great Britain),
- (3) Mr. L.R. Swarner (USA),
- (4) Mr. M.A. Hossain (Bangladesh),
- (5) Mr. J.A. Ortiz (Spain),
- (6) Mr. Nitzu Ion (Rumania),
- (7) Mr. Decroix (France), and
- (8) Mr. K.K. Framji, Secretary-General.

7. The Secretary-General again wrote to all the Members, including the new Member Vice-President Dr. Anstey to send comments on Chapters XVII to XX. Comments have been received from Great Britain, U.S.A., Federal Republic of Germany, and Canada. After compilation in the Central Office, the comments have been circulated to all the Members of the Working

Group to enable them to prepare their comments for discussion at the Tehran Meeting.

The up to date position regarding the receipt of comments and the action taken by the Secretary-General is summarised as below:

- (i) Mr. I.S.G. Matthews (Great Britain) has written to inform the Secretary-General :

"...My only comment on action to finalize the provisional definitions on Chapters XVII-XX of the Technical Dictionary is that the various committee members have had ample time to make their comments and that the draft should definitely be finalized in time for the Council meeting in May 1977. In general, the draft is very adequate and I would expect comments, if any, to be matters of opinion rather than fundamental changes."

Mr. Matthews has later communicated that it is unlikely that he will be able to attend the Tehran Meeting. He will pass the correspondence to the Secretary of the British National Committee so that he can arrange for a representative to attend.

- (ii) Professor P. Celestre has intimated that he has not been able to prepare the comments and he will try to distribute the comments at the time of the Working Group meeting in Tehran.
- (iii) Dr. H. Zölsmann (Fed. Republic of Germany) and Mr. F.R. Hore (Canadian National Committee) have sent comments on draft chapters XVII to XX. These comments have been compiled and supplied to the members for their study and consideration.
- (iv) In view of the comments of Mr. Matthews, the Secretary-General has included this item in the "State of publications" synoptic table in the agenda of the Permanent Paper Committee to obtain the recommendations to the Council for printing of these chapters. These chapters, after finalization by the Working Group, are to be translated into French. Mr. Decroix (France), a member of the Working Group, is requested to indicate to the Working Group if he would kindly undertake to provide authentic translation of these chapters into French so that the tentative supplement may be printed both in English and French like the Basic Multilingual Technical Dictionary.

**EXECUTIVE COUNCIL MEETING OF ICID TO BE
HELD IN RABAT—MOROCCO
(MAY OR JUNE 1979)**

TENTATIVE PROGRAMME

All the meetings of the Committees and of the 30th Executive Council will be held at the Agronomic and Veterinary Institute Hassan II, Rabat.

1st day :

- Arrival of the members of the Committees and Working Groups.
- Registration.

2nd, 3rd and 4th Days :

- Registration (contd.)
- Meetings of various Committees and Working Groups.

5th Day :

- First Session of the Executive Council.
- Reception given by the Minister of Agriculture and Land Reforms to all the delegates and accompanying persons.

6th Day :

- Visit of the town of Fes.

7th and 8th Days :

- Second Session of the Executive Council.
- Farewell dinner (under tent) given by Moroccan National Committee to all the delegates and accompanying persons.

LADIES PROGRAMME

4th Day :

- Forenoon: Visit of Royal Golf at Rabat.
- Afternoon: Visit of the Agronomic and Veterinary Institute Hassan II.

5th Day :

- Visit of Rabat: Dar Es Salam Palace.
- Mausoleum of Mohammed V—Hassan Tour—Chellah—Oudayyas.
- Reception given by the Minister of Agriculture and Land Reforms.

6th Day:

- Visit of the town of Fes.

7th Day :

- Visit of Rabat.

8th Day :

- Visit of the city of Casablanca.
- Farewell dinner (under tent).

STUDY TOURS FOLLOWING THE COUNCIL MEETING

STUDY TOUR NO. 1—NORTH

9th Day :

- Departure from Rabat.
- Visit of irrigated area of Gharb (80,000 irrigated hectares, 230,000 hectares under preparation of which 110,000 hectares will be for sugar cane).

10th Day :

- Departure from Gharb (Kenitra).
- Visit of the irrigated area of Loukkos (second sugar cane area of Morocco).
- Visit of the dam of Oued El Makhazine.

11th Day :

- Departure from Larache.
- Visit of the city of Tanger.

12th Day :

- Departure from Tanger.
- Visit of Tetouan and non-irrigated projects.
- Visit of Chaouen.

13th Day :

- Departure from Chaouen.
- Study of the problems of erosion and soil conservation.
- Arrival at Fes.

14th Day :

- Departure from Fes.
- Visit of the dam of Idriss the First and diversion works of Oued Sebou towards Oued Inaouen.
- Visit of Plateau of Fes Meknes dry farming projects.

15th Day :

- Visit of Meknes and departure for Rabat.

STUDY TOUR NO. 2—SOUTH

9th Day :

- Departure from Rabat.
- Visit of the dam Bin El Ouidane.
- Visit of the Tadla Perimeter, the first irrigated area of Morocco.

10th Day :

- Departure from Beni Mellal.
- Visit of Marrakech.

11th Day :

- Departure from Marrakech.
- Visit of the Perimeter Haouz.

12th Day :

- Visit of Marrakech.

13th Day :

- Departure from Agadir.
- Visit to the Perimeter of Massa and of the dam of Youssef Ben Tachfine.
- Visit to the South (arid and semi-arid zones within the limits of the Sahara).

14th Day :

- Departure from Ouarzazate.
- Visit of the dam of Mansour Eddahbi.
- Return to Marrakech or trip to Ouarzazate El Jadida by air.

15th Day :

- Departure from El Jadida.
- Visit of Doukkala.
- Return to Rabat.

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