

CONSULTATIVE GROUP ON INTERNATIONAL AGRICULTURAL RESEARCH

TECHNICAL ADVISORY COMMITTEE

Ninth Meeting, Rome, Italy, 3 - 7 February, 1975

PROCEDURES FOR IRRI REVIEW MISSION - 1975

Secretariat Note

(Agenda Item 23)

TAC SECRETARIAT

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

ROME, 1975

PROCEDURES FOR IRRI REVIEW MISSION 1975

Secretariat Note

1. Composition of the Mission

1. It is of immediate urgency to decide on the size and composition of the Mission so that consideration can be given to a short list of possible team members, and those not coming from TAC can be approached as to their availability.

2. Some preliminary discussions on both the composition of the team and people who might be on the Mission have been held with experienced scientists who know IRRI and its programme (e.g. Dr. Lloyd Evans and Professor Norman in Australia and Hugh Bunting in Rome) as well as with the Chairman and with senior officials of FAO. The suggestions made here for discussion by TAC draw on these informal discussions.

3. In the light of the role and programme of IRRI, and the way it is projected to evolve by the Institute, it is suggested that expertise in the following fields must be regarded as essential (figures in brackets show percentage of total core research training programme)

- i. Genetics and breeding:- the G.E.U. programme now represents IRRI's major thrust in respect of rice (30.6%)
- ii. Soil and crop management (11.4%)
- iii. Pest management (10.3%)
- iv. Machinery development (9.2%)
- v. Cropping systems (24.7%)
- vi. Extension and training

It would be desirable for at least one of the scientists selected for their competence in these fields to have wide experience in the overall management of a suitable research complex.

4. The above breakdown is based on the main fields of activity as defined in IRRI's 1975 budget, and suggests that a team of approximately six would be required for a thorough review. When it comes to deciding on disciplines within major fields of activity the problem becomes more complicated, since IRRI's overall core operations are broken down into thirteen programme units (i.e. disciplines), to which must be added the experimental farm and phytotron operations and multiple cropping (Table 1).

TABLE 1

Programme Units:

	1975 <u>Request</u> (\$ thousands)
1. Agricultural Economics	275
2. Agricultural Engineering	292
3. Soil Chemistry	138
4. Soil Microbiology	103
5. Agronomy	289
6. Chemistry	91
7. Plant Physiology	121
8. Plant Pathology	264
9. Entomology	232
10. Statistics	75
11. Plant Breeding	316
12. Rice Production Training and Research	188
13. Experimental Farm	286
14. Phytotron Operations	104
15. Multiple Cropping	386
	<hr/>
Total:	3,160

5. Over and above this IRRI lists 31 special projects in 10 countries, without specifying too clearly what each one involves (Table 2); and there are also its linkages to CIAT, IITA, and WARDA which TAC has been asked to include in its reviews. It is likely to require a combination of disciplines to review these adequately, but a breeder, an agronomist, a social scientist, and perhaps a machinery specialist seem the minimum team to undertake an effective review. Again experience in managing and controlling research over a wide range of countries, environments, and institutions would be a valuable asset for at least one member of the team.

TABLE 2

Budget

Special Projects (Schedule 1):

	1974	1975
(a) (1) FF-Ceylon (670-0244B)	-	-
(2) FF-Sri Lanka Rice Processing (670-0244C)	56	-
(3) FF-Sri Lanka (670-0244D)	169	-
(4) FF-Bangladesh Rice Research Institute	341	420
(5) FF-Indonesia	128	128
(6) FF-West Pakistan	59	58
(7) FF-India	-	-
(8) FF-Cairo	25	24
(9) FF-Philippines	-	-
(10) AID/csd-2541	242	-
(11) AID/nesa-303 (India)	42	-
(12) AID/ead-185 (Indonesia)	255	255
(13) AID/730-3452 (Vietnam)	160	160
(14) AID/492-319 (Philippines)	43	43
(15) AID Trainees	-	-
(16) AID/PIO/P-391-143-1-10401	-	-
(17) RF-71040 (RURP)	17	-
(18) RF-77023 (Project on Rice Germplasm)	15	-
(19) RF-Taiwan	-	-
(20) RF-70052 (IRRI - IARI)	61	-
(21) RF-AGR 7113	-	-
(22) RF-Multiple Cropping	-	-
(23) National Institutes of Health	17	-
(24) Dutch Government	88	135
(25) Sukamandi Contract	312	275
(26) IDRC No. 70-04-01 (Research on Rice Farming in Asia)	5	-
(27) IDRC No. 10-6-03-01 (Multiple Cropping in the Philippines-UPCA)	51	36
(28) FF-Sri Lanka 740-0229)	185	185
(29) USAID PIO/P No. 6226332	31	-
(30) USAID PIO/P No. 6226333	19	-
(31) Other Grants	70	-
b) Total Special Projects	2,391	1,719

It is assumed that 1975 support was not fully indicated when this table was prepared.

6. Since it is clearly impossible to mount a review mission which could cover each programme (disciplinary) unit the composition of the mission will have to be built around the main inter-disciplinary lines of activity listed in para. 3, and some compromise will have to be reached in deciding the actual disciplines represented. (Here the availability of good candidates will be an important factor). In this light the following tentative suggestions are made:-

- i. Genetic evaluation and utilization programme: cytologist, geneticist, or plant breeder.
- ii. Soil and crop management; soil physicist, soil chemist, soil microbiologist, pedologist, or agronomist.
- iii. Pest management; entomologist, plant pathologist, virologist, or insect physiologist.
- iv. Machinery development; agricultural engineer, economist or soil scientist.
- v. Cropping systems; agronomist or production economist.
- vi. Extension and training; agronomist or social scientist (probably socio-economist).

7. It seems that either a breeder or geneticist, a broadly-based agronomist, be required to collaborate in evaluating several of the core programmes (G.E.U., soil and crop management machinery; cropping systems) as well as the "special programmes". This probably applies also to the soil scientist, although here it may be difficult to choose an apt discipline. A tentative suggestion, in view of the critical importance of plant nutrition, might be to look for someone with broad experience in this field (including hopefully some expertise in plant physiology or microbiology as well as conventional knowledge of soil chemistry).

8. Similar problems of choice apply to the pest management programme. Should an entomologist, pathologist, physiologist (plant or insect?) or even a nematologist or weed control specialist be selected? Again a tentative suggestion might be to go for an entomologist or physiologist in view of the fact that several of the main diseases of rice are insect-vector-borne, quite apart from the direct damage done by the vectors and by the pests such as stem borer, and the mechanisms of biological resistance (physiology) are also involved. Alternatively it may be considered that a specialist in integrated pest control should be sought.

9. Finally, in relation to the farm machinery programme it seems desirable to have an agricultural engineer, an agronomist, and an agricultural economist working together. The first would be needed to determine the validity of the programme in terms of the functional design and manufacture, and cost of its production, the second would attempt to define the practicability of, and likely demand for, the products from the farmers point of view; while the economist would have to try and evaluate past and likely future benefits of the programme and its products in relation to development costs 1/

10. In the light of these comments and taking into account the Chairman's wish that if possible two members of TAC be represented on the Mission, a very preliminary list of potential candidates has been prepared by the Secretariat and is attached as Annex I.

The National Institute of Agricultural Engineering in the U.K. has done some pioneering economic analysis of research in this field.

Timing of the Mission

11. Given the time it requires to find out the availability of suitable people, the difficulties of getting a really top group together at the same time for a period which cannot possibly be less than three weeks, the need (agreed by the TAC last July) to discuss its composition with the Director of IRRI, and the desirability of having the 1976 programme approved before the Mission's departure, it seems to the Secretariat unlikely that any Mission could take the field before June. However IRR's second Board meeting does not take place until June 6; moreover TAC is likely to meet in late May and there is also a Bellagio meeting in the first week of June.
12. IRRI does not appear to have any major functions scheduled from the second week of June on, although the Director will no doubt be attending the Centres meeting in Washington commencing 28 July. One suitable period for the review would therefore be between 9 June and 25 July.
13. A second suitable period would be from 10 August to 4 October, bearing in mind that the TAC is likely to be meeting again in late October in Washington (just prior to the Consultative Group meeting). From a number of aspects this might be the best period, i.e.
- i. It would leave ample time for arrangements to be made with all concerned.
 - ii. It would not interfere with the preparation of the report of the late May or early June TAC meeting which has to be got out to members and cleared in good time for the Consultative Group meeting (i.e. a preparation period of no more than a month).
 - iii. If the Mission could be held in late August/early September it should be possible to get the preliminary findings and possibly even the final report to the late October TAC meeting.
 - iv. It would coincide with the university long vacation at least in the Northern Hemisphere. It would also seem to fit the availability of certain potential team members in the Southern Hemisphere. However a "contra" is that some people might want to take their holidays during this period.
14. A third possibility would be to field the Mission after the TAC/CG meeting at the beginning of November, i.e. starting around 10 November. I believe this would be undesirable for two reasons. Firstly the TAC report has to be written, and TAC meetings usually generate some other urgent work; secondly the FAO general Conference commences in early November and continues throughout the month. Research will be a major discussion theme there, and it would be highly desirable for the Secretary of TAC to be present.
15. The Mission could conceivably go out for the last week of November and the first fortnight of December; however flights tend to become very booked up in the pre-Christmas period. The Secretariat's recommendation would therefore be for the Mission to be launched during (approximately) the period 24 August - 20 September.

3. Timetable

16. If this timing is acceptable to TAC and to IRRI and a suitably qualified team can be assembled, then the timetable suggested would be somewhat as follows:

February

1. TAC agrees on draft terms of reference for Mission
2. TAC agrees on timetable, composition of team, and list of potential candidates (including any additional suggestions from members).
3. TAC Secretariat contacts candidates to ascertain their willingness to participate and their availability.

March

Final composition of Mission decided and Chairman informed

April

Secretary TAC visits IRRI for discussion with Director concerning Terms of Reference, composition of mission, timetable for visit to IRRI and to outreach programmes, discussions with staff of Institute concerning individual programmes etc. arrangements for briefing material to be despatched to Mission members. After visiting IRRI probably visits also Philippines government and two countries for outreach review, for discussion with government and IRRI outposted staff concerning review arrangements, clearance of Mission etc.

May

Report of arrangements prepared and sent to Chairman and members of TAC.

June

Visa clearance and travel arrangements completed for Mission

August 24th - Sunday

Mission assembles. Alternatives would be Rome (adds to cost for members from Asia and Australia); Bangkok, at FAO Regional Office; or Manila. Bangkok is quite central, a half day meeting could be held on Monday with FAO regional staff to get their ideas on the impact of IRRI's work throughout the region (Dr. Umali, FAO Assistant Director-General for Asia is deeply versed on IRRI's activities) and a further half-day meeting on strategy for the Mission and to clarify any lingering points of doubt arising from the members perusal of their briefing material. If IRRI were agreeable, the Mission might also commence its work in Thailand by spending a further day and a half examining IRRI's outreach programme, or other linkages there, before going to Manila. This would have the dual advantage of obviating a return trip for the same purpose, and giving the Mission some first hand information on problems of Institute/country relations prior to its meetings with IRRI headquarters staff. In the opinion of the Secretariat this would be very valuable, and if accepted by TAC the timetable proposed would then be as follows:

Aug.	24 - 27	Thailand (dep. Bangkok 13.00, 27th, arr. Manila 16.45; proceed direct to IRRI, Los Baños)
Aug.	28 - Sept. 2	Review of IRRI core programme, Los Baños (6 full days)
Sept.	3 - 4	Philippines (dep. 19.30, 4th, arr. Singapore 22.10)
Sept.	5 - 6	Indonesia, outreach (arr. 09.15, 5th, from Singapore)
Sept.	7 - 14	Australia - Canberra; report writing (dep. Jakarta 23.05, 6th, arr. Canberra 12.15, 7th)
Sept.	14	Mission disperses

An alternative, with the Mission assembling direct at IRRI, would be:

Aug.	24 - 31	IRRI, Los Baños (seven full days, including Sunday)
Sept.	1 - Sept. 2	Philippines, outreach (dep. 17.00, 2nd, for Bangkok, arr. 19.00)
	3 - 4	Thailand, outreach (dep. 13.10, 4th, for Jakarta, arr. 17.15)
	5 - 6	Indonesia, outreach (dep. 23.05, 6th, for Canberra, arr. 12.15)
	7 - 14	Australia, Canberra, report writing.

6. Alternatives would be for the team to write its report in Manila, Indonesia, Bangkok, or Rome. This could depend to a considerable extent on the composition of the team; if there were a significant Australian component (including perhaps Sir John Crawford) there could be strong arguments for writing it in Australia. Manila or Jakarta are not particularly good locations for report writing, and we doubt if the report should be written at IRRI. In Bangkok meeting space and typing facilities could be provided by the FAO regional Office; Rome would be better than Bangkok but more expensive if more than one team member came from the Asia/Pacific region. What is essential however is that the Mission be kept together until the report is completed and agreed on, and we believe that a first-class team ought to be able to do this in the seven days allowed.

7. In the Secretariat's opinion the three weeks period outlined above is the absolute minimum feasible to make a fair assessment of the situation. If the TAC believes time in the field is insufficient then either a month would have to be allowed or the report would have to be written after the team had dispersed - to us a highly undesirable solution. If the TAC wishes to give the Secretariat flexibility to see whether it is possible to assemble a good team for a month rather than three weeks this would permit an extra day in each country and at IRRI, plus an extra day report writing. Alternatively a fourth country might be visited for two days plus extra time at IRRI and report writing. A problem with adding another country other than Vietnam (increasingly insecure), is that it would probably have to be either Bangladesh or Sri Lanka, both much more difficult to fit into the itinerary than the others. If this were felt desirable, however, our preference would be for Bangladesh because IRRI has a major ongoing programme there.

18. Questions for the TAC

- Should
- a) members of Boards be used to review the Centres of which they are Board members? We believe it to be unwise, but they could be used for other Centre reviews, e.g. Riley for CIMMYT rather than IRRI.
 - b) ex-members of Centres' staffs be used for reviews? Also dubious; they may be prejudiced for or against; or if not they may be inhibited in being too critical.
 - c) members of Centre staffs be used to participate in review programmes of other Centres? In general we would say no, but there might be special fields, e.g. legume microbiology, in which the advice of a staff member at one Centre could be sought on a programme being operated or planned at another.

Where it is likely to be necessary to consult with Centres other than the one under review, however, is where Centres are operating a relay activity for another. Their opinions will be needed on what needs to be done in their ecological region, how the Centre with 'global responsibility' can best help them and to indicate any problems of working relationships. This applies to the relations between IRRI (global) and CIAT, IITA, and WARDA (regional) on rice; and TAC needs to consider how these contacts can be achieved on behalf of the Review Mission, which obviously cannot visit Africa and Latin America as well as Asia. Two are offered:

- i) The Mission (or the TAC) could draw up a list of questions to the cooperating institutes for reply by mail.
- ii) The chiefs of the three programmes concerned could be brought to IRRI during the Mission's visit (possibly also after some preliminary written contacts), for full discussions with the Mission both in the presence of IRRI staff and perhaps also separately. This, however, could add \$10,000 or more to the cost of the Mission.

Genetics, breeding, physiology

Dr. M.S. Swaminathan	(India) TAC representative. Breeder OR
Dr. A.B. Joshi	(India) Director - Indian Agricultural Research Institute (has recently completed a review of IRRI's genetic programme in rice with Professor Bunting for the IBPGR)
Dr. Ralph Riley	(U.K.) Director, Plant Breeding Institute, Cambridge, England. Everyone recommends him highly; however he is a member of IRRI's Board
Dr. Lloyd Evans	(Australia) Physiologist, Chief, Division of Plant Industry, CSIRO
Dr. Tanaka	(Japan) Rice Physiologist. Also well recommended; however he is an ex-IRRI staff member
Dr. D.R. Marshall	(Australia) Section Leader, Genetic resources, CSIRO
Prof. Ewert Aberg	(Sweden) Royal Agricultural College, Uppsala. Geneticist

Soil and crop management

Dr. H.C. Pereira	(U.K.) TAC Representative. Soil physicist.
Dr. G.W. Cook	(U.K.) Late Head of soil chemistry/plant nutrition programme and Deputy Director Rothamsted Research Station (now Secretary, Agricultural Research Council, U.K.) Soil chemist
Dr. M.B. Russell	(U.S.A.) Department of Agronomy, College of Agriculture, University of Illinois, Urbana.
Dr. Donald L. Plucknett	(U.S.A.) Chief, Division of Soil & Water Management, AID
Dr. J. Koopman	(Netherlands) Deputy-Director, Royal Tropical Institute, Wageningen
Dr. D. Wynne Thorne	(U.S.A.) Utah State University, Irrigation Agronomist, Logan
Dr. Walter Russell	(U.K.) ex-Director EAFRRO (retired): Soil chemist
Prof. Daniel Hillel	(Israel) Dept. of Soil Science, Hebrew University, Rehovoth. Soil Physicist.
Dr. A.J. Anderson	(Australia) Section Leader - plant nutrition, CSIRO, Division of Plant Industry, soil/crop growth relationships, mineral deficiencies/toxicities etc.
Prof. R. Scott-Russell	Director: ARC, Letcombe Laboratory, U.K., soil physicist
Dr. P. Bruin	(Netherlands) Formerly Director, Institute of Soil Fertility, Harlem, Holland

.../...

Pest Management

Prof. R.L. Wain (U.K.) Wye College, University of London (Chemical basis of disease resistance; growth regulation etc.)

Prof. D. Waterhouse (Australia) Head of Entomology Division CSIRO

Prof. J. Pringle (U.K.) Professor of Zoology, University of Oxford, Chairman ICIPE, Insect Physiology

Dr. Ray E. Smith (U.S.A.) Professor of Entomology, University of California (Integrated Pest Control)

Someone from Centre for Overseas Pest Research, ODM e.g.

Dr. Peter Haskell Director
OR

Dr. T.J. Perfect

Machinery Development

Dr. Ray Wijewardene (Sri Lanka) FAO farm mechanisation adviser to Malaysian Agricultural Research Development Institute (MARDI)
Expert on Small farm machinery & especially rice designs
(If not already joined IITA as their mechanisation specialist).

Dr. A.A. Guitard (Canada) Agriculture Research Station, Swift Current, Saskatchewan

OR

Dr. Tracey Anderson same Centre

(this team is responsible for the Canadian contribution to the Indo-Canadian joint programme)

Someone from private industry or from FAO HQ? e.g. Dr. W. van Gilst, Rice Mechanisation Specialist (formerly of Surinam)

Someone from N.I.A.E. Silsoe - e.g. Mr. Robert Bell, Head of Overseas Dept., N.I.A.E.

Agronomy/Cropping systems

Prof. M. Norman (Australia) Head of Agronomy Department, University of Sydney (wide experience of Asia).

Dr. D.H. Parish (U.S.A.) Regional Leader, FAO fertilizer programme, Asia

Prof. M.B. Russell (U.S.A.) (see soil & crop management above).

Dr. F. Fournier (France) Agronomist, Office de la Recherche Scientifique et Technique Outre-Mer, Paris (ORSTOM)

Dr. K. Badrudozza (India) Executive Vice-Chairman, Agricultural Research Council, Bangladesh

Dr. Fred Morley (Australia) Section Leader, Agricultural Systems, CSIRO

Dr. Ch. Krishnamoorthy (India) Project Coordinator, All India coordinated research for Dryland Agriculture (Indo-Canadian programme) Hyderabad

.../...

- (vii) advise on the composition and use of resources required to implement the programmes of research and training recommended under items (ii) and (iii);
- (viii) to identify constraints which may be hindering the achievement of the Institute's objectives, and advise on means of reducing or eliminating such constraints;
- (ix) to review and advise on methods of improving the system and effectiveness of coordination of activities at the Institute, both internally as between the various elements of the research programmes, training programmes, and information-gathering and dissemination programmes respectively and with each other, and externally with reference to other national and international organizations.

On the basis of the above evaluation review the Mission will report on the need for any changes in the basic objectives or orientation of the Institute's programme elements, advise on means of improving its efficiency of operations assisted by the CGIAR, recommend appropriate changes in the composition of assistance inputs, and make proposals for overcoming any constraints identified under item (viii).

(Other points)

- (1) in evaluation missions we usually put in a clause that the Mission should feel free to make any observations or recommendations it wishes, but that the Mission cannot commit the sponsoring organization, e.g. the CGIAR/TAC;
- (2) we find it useful to put a target date for the Mission report;
- (3) it is also useful to insist that the Mission stick together until the report is completed;
- (4) with regard to evaluating the training programmes - if possible it should be checked in advance whether IRRI already has a record of what has happened to past trainees, and a record of their (i.e. the past trainees) views of the training courses they received. If such records are not available, then before the Mission is sent out someone should take responsibility for drawing up a questionnaire and sending it to past trainees. (Obviously, it is not necessary to have a 100 percent coverage of ex-trainees).

Outline Terms of ReferenceIntroduction

The Consultative Group on International Agricultural Research (CGIAR) has charged its Technical Advisory Committee (TAC) with the conduct of quinquennial evaluation of the value and effectiveness of the International Agricultural Research Institutes, Centres and Programmes which derive their financial support from the members of the CGIAR. It was agreed by the TAC at its Eighth Meeting held in August 1974 that the International Rice Research Institute (IRRI), should be the first of the International Centres whose work would be reviewed and evaluated by the TAC. The present Review Mission is being organized in accordance with that decision.

Scope and purpose of the Review

In agreement with the Directors of the existing Centres two major objectives of such evaluation have been defined. These are:

- (1) to assist the International Centres themselves to improve their programmes and ensure the validity of the research priorities recognized by the Boards of the Centres; and
- (2) on behalf of the Consultative Group, to assess the quality and value of the scientific programmes of the Centres in order to assure the Consultative Group members that the operations being funded are being carried out in line with declared policies and to the full international standards expected.

In accordance with the two major objectives defined in the foregoing paragraph, the Mission is requested to:

- (i) evaluate the results of past research and training programmes at the Institute and the use to which the results have been (or are planned to be) put. (It is expected that the TAC will recommend criteria for the evaluation of research activities);
- (ii) appraise the relevance, scope, content and objectives of the present (and planned) programmes of research at the Institute in relation to (a) the broad mandate of the Institute, and (b) the immediate and long-term needs of the rice industry globally, and to advise on the future composition and balance of the programme of research;
- (iii) appraise the current training programmes being undertaken (or planned) by the Institute, and advise on the future composition and balance of the training programmes;
- (iv) examine the effectiveness of the work conducted under the outreach programmes of the Institute, and evaluate their impact on recipient countries;
- (v) evaluate the quality of the scientific work accomplished at the Institute;
- (vi) comment on the expenditures of the Institute in relation to the quantity, nature and quality of its research and training programmes;

.../...

Economics/Sociology

Sir John Crawford	(Australia) TAC representative or
Dr. David Hopper	(Canada) or
Dr. Vernon Ruttan	(U.S.A.) He may prefer not to be considered in view of his past connection with IRRI).
Prof. Hans Ruthenberg	(Germany) Universitat Hohenheim, W. Germany
Prof. Martin Abel	(U.S.A.) Head, Department Agricultural Economics, University of Minnesota
Prof. Hans Singer	(U.K.) Institute of Development Studies, Sussex University
Dr. Ingrid Palmer	Research Fellow, U.N. Research Institute for Social Development (Author of "The New Rice in Monsoon Asia")
Prof. John Mellor	(U.S.A.) Cornell University.

Excluding members of TAC our suggestions as first choices would be Joshi (Breeder); Cook (Soils and fertilizers); Waterhouse (Pest Management); Wijewardene (Mechanisation); Norman (Agronomy); and Ruthenberg (who is also very good on institutions, extension, and systems) as economist.