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# **IRRI AND ITS ENVIRONMENT: PROBLEMS AND CHALLENGES**

**The International Rice Research Institute  
October 1988**

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Report to the IRRI Board of Trustees  
on the Political Problems in the Host Country

It all began on August 26, 1987, when Mr. Emerlito S. Borromeo, an IRRI research assistant, Plant Pathology Department, gave a seminar on the genetics of virulence of the rice blast fungus based on findings in actual experiments made at IRRI. In a few days, UPLB professors reacted by pointing out the dangers of such an experiment.

Although IRRI scientists assured UPLB professors that necessary precautions were taken to prevent any escape of virulent strains of the rice blast to the surrounding rice fields, the concerns of the science community outside IRRI mounted. To appease the UPLB professors and administrators, Dr. M.S. Swaminathan, who was then the IRRI Director General, stopped the experiments on the rice blast on September 10, 1987.

On October 12, UPLB and IRRI signed a Memorandum of Agreement which set up an IRRI-UPLB Committee on Biosafety (see Annex A)

On October 15, 1987, the Department of Agriculture, UPLB, and IRRI made a joint statement on "High Risk" Research in Rice (see Annex B). The joint statement explained why research on the genetics of rice blast fungus was necessary, why importation of the rice blast fungus from the USA had to be made, and what precautionary measures were taken by the IRRI scientists. The joint statement emphasized the need to solve some difficult rice production problems through the application of modern research tools without risks. The setting up of a National Committee on Safety in Biological Researches was strongly suggested.

Despite the decision of the IRRI Director General to stop the IRRI rice blast fungus experiments on September 10, 1987, a chain of events followed:

- o October 13, 1987 - The Manila Standard carried a news item: "Laurel wants probe on IRRI

researches". Senator Sotero Laurel made reference to the alleged "high risk" research at IRRI.

- o Late in October, 1987 - House Resolution No. 416 was approved, creating a Congressional Committee to look into the "high risk researches" of IRRI.
- o November 24, 1987 - The 1st Congressional hearing was held, but this was cut short due to other engagements of the Chairman, Hon. Congressman Ramon Legaspi.
- o On January 23, 1988 - The first Senate hearing was held. Again, Dean D.A. Ramirez and Dean R.L. Villareal represented UPLB. Dr. Ruben Aspiras and Dr. Oscar Zamora were also present, not necessarily as UPLB representatives. Prof. Birosel, as expected, did not fail to attend. F.A. Bernardo represented the IRRI Director General. The discussion on "high risk" research was similar to that in the Congressional hearing.
- o February 23, 1987 - The 2nd Congressional hearing was conducted. As in the first hearing, Dr. F.A. Bernardo represented IRRI. This time he was accompanied by Drs. T.W. Mew, H. Leung, T.R. Hargrove, B.M. Shepard; B.S. Vergara, and Atty. Z.Q. Pizarro. Dean D.A. Ramirez (Graduate School) and Dean R.L. Villareal (College of Agriculture) represented UPLB. Dr. Ruben Aspiras (UPLB professor) and Prof. Roger Cuaresma Birosel were behind Rep. G. Andolana on the offensive. Annex C is a paper written by Birosel on the subject of high risk research at IRRI.

The main allegations of IRRI's critics were:

- 1) IRRI's import permit from BPI Quarantine was for type culture, not hybridization experiments;
- 2) IRRI did not request permission from any government agency to do such high risk research; and

- 3) IRRI institutionalized its influence on the national rice industry through membership in the government seed board.

Facts:

- 1) The BPI Plant Quarantine Service issued a permit to IRRI to import the strains of the rice blast fungus from the USA. The purpose stated in the import permit was "for laboratory experiment".
- 2) So far, there is no existing government policy requiring IRRI to request from any government agency permission to conduct any so-called high risk research. Therefore, how could IRRI be expected to secure government approval?
- 3) The IRRI Director General is only one of the over one dozen members of the Philippine Seed Board. Moreover, the Philippine Seed Board only acts on recommendations made by the rice technical committee composed of scientists from the Department of Agriculture experiment stations, UPLB and other state colleges and universities, PCARRD, and IRRI.

After the public hearing, the Congressional Committee made Committee Report No. 137 drawing its conclusions and recommendations (see Annex D).

The Congressional Committee requested IRRI to

- 1) Monitor rice blast disease incidence around the Institute (see Annex E for the report of Dr. T.W. Mew, Head, Department of Plant Pathology, indicating no incidence of rice blast within and outside the IRRI farm).
- 2) Show evidence that similar experiments are not banned in the USA and other countries (see Annex F for F.A. Bernardo's report showing published and unpublished scientific papers based on rice blast experiments done in the USA, France, Japan, and Korea).

- o In February 1988 - Senators Lina, Jr., Aquino, and Estrada authored two Senate Resolutions as follows:

Senate Resolution No. 104

"Creating an ad hoc committee to conduct a review of the programs and policies of the International Rice Research Institute, its Charter and Presidential Decree No. 1620" (see Annex G), and

Senate Resolution No. 105

"Directing the Senate to create an ad hoc committee to formulate guidelines on foreign-funded research activities in all disciplines" (see Annex H).

- o Also in February 1988 - Senators Laurel, Aquino, and Lina introduced a Senate Bill "Creating the National Biosafety Board and defining its scope, functions and power" (see Annex I).
- o On August 30, 1988 - The second Senate hearing was held with about the same participants, except that Dean Ramirez and Dean Villareal were not present, and F.A. Bernardo was accompanied by Dr. Leo Gonzalez, Dr. Fernando Cariño, Dr. Paul S. Teng, and Atty. Z.Q. Pizarro. Messrs. Constantino and R. Modina represented certain NGOs.

The hearing revolved around IRRI's "high-input technologies" and P.D. 1620. Mr. Modina's paper (see Annex J) states:

"It is immoral to grant protection and immunity to foreign scientists who conduct experiments that may pose dangers to our agricultural ecology and its human population. The immunity to IRRI as provided for in PD 1620 violates and makes a mockery of the sovereignty of the Republic

of the Philippines comparable to the issue of the U.S. bases here in the country."

"IRRI does not serve the interest of the Filipinos. It served the interest of Mr. Marcos before, when the IRRI technology was hastily propagated in the country. It also serves the interests of MNCs whose products are required as input of the HYVs they promote nationwide."

Mr. Constantino joined the hassle by pointing out that Dr. Nyle Brady, in an interview which was published in Economic Impact, stated:

"There is a key role for the United States to play, a role that in the long run will be to our advantage. This is one aspect that I think is sometimes forgotten. Those countries that we assisted in developing their agricultural sectors 10, 15 or 20 years ago are now countries that are buying our agricultural products, and they will continue to buy our agricultural and other products."

IRRI prepared a position paper, copies of which were distributed (see Annex K). Dr. Cariño explained IRRI's activities with the Department of Agriculture in promoting IPM and Dr. González explained the importance of government policies on prices of inputs, particularly fertilizer.

Dr. Aspiras pointed out that the immunity granted to IRRI by P.D. 1620 is too broad and could be abused. He referred to a section of P.D. 1620 which states:

"The Institute shall enjoy immunity from any penal, civil and administrative proceedings, except

insofar as that immunity has been expressly waived by the Director General of the Institute or his authorized representatives."

Mr. Constantino said that the Director General appears to be more powerful than the Supreme Court.

Atty. Pizarro assured the Senate Committee that in IRRI's many years of existence since P.D. 1620 was approved in 1979, the Institute has never abused its immunity. The immunity is meant to serve the interest of the Institute and not intended for the personal benefit of the officials. Article 10 of P.D. 1620 states:

"The privileges and immunities provided for this decree are not intended for the personal benefit of the officials of the Institute. They are accorded solely in order to ensure in all circumstances the free operation of the Institute and the complete freedom of its officials."

Senator Butz Aquino, Chairman of the Senate Committee on Science and Technology, who presided over the hearing, gave the IRRI representatives ample time to present IRRI's side.

While IRRI representatives scored points and made a strong defense, the Institute is obviously in the "thick and thin" of a propaganda warfare. Our critics made sweeping allegations and conclusions based on half-truths and statements "quoted out of context (such as that of Dr. Brady's statement). The general public who does not know any better believes the allegations. Even UPLB professors and students are now believing that IRRI's rice technology has not benefited the small farmers and not a few think that IRRI's status in the Philippines, like the U.S. bases, should be reconsidered.

#### Recommendations

1. Through all the years, IRRI has played a low profile. It should step up its public

information drive as it has been doing recently to keep the public better informed about its research activities.

2. IRRI's defense should begin at the home front. The internationally and nationally recruited scientists and the administrative and support staff who have worked at IRRI for many years know that IRRI has been breeding varieties with a wide spectrum of resistance to insect pests and diseases and has been promoting IPM which does not serve the interests of chemical companies. IRRI staff should be organized to defend IRRI against the vilification made by its critics.
3. The information campaign should target the Los Baños science community just to make sure UPLB, FORI, PCARRD, etc. are well informed about IRRI's research activities which promote less dependence on chemical pesticides and encourages the use of biofertilizers as a substitute to commercial inorganic fertilizer.
4. We should seek the help of professional organizations, farmers' associations, rice consumers, and other advocacy groups who believe in the IRRI cause to express their support in writing so that we may have a broad spectrum of defense.

The semidwarf modern rice varieties are not an exclusive IRRI technology. UPLB and BPI have its own modern rice varieties. An attack against IRRI technology is also an attack against UPLB and BPI varieties. The Los Baños science community should therefore be mobilized.

5. A documentation of all the allegations of IRRI's critics and the corresponding facts should be published in a booklet and disseminated. The DG has assigned this to CPM (see Annex L for the first draft).
6. If the Senate and House Committees on Science and Technology wish to amend P.D. 1620 just to make the IRRI immunity provisions more specific and eliminate any fear -- however unfounded -- that this could be abused by IRRI, we should extend our cooperation. Should revisions be

necessary, all efforts must be made to ensure that the immunities and privileges given to IRRI are no less than those are normally given to international development agencies like FAO and UNDP.

The Charters of CIAT, ISNAR and other international centers under the CGIAR have more specific immunity provisions which could be used as models (Annex M).

## Memorandum between

The International Rice Research Institute (IRRI)

and

The University of the Philippines at Los Banos (UPLB)

Subject: Setting up of an IRRI-UPLB Committee on Biosafety

Modern biotechnology research is providing powerful analytical and experimental tools which, if used carefully, would help in improving the productivity, profitability, stability, and sustainability of major farming systems. Some research approaches may however involve risks and hence there is need for caution both in the selection of research areas and experimental procedures. In order to ensure that the maximum possible benefit is derived from new research tools without risks, IRRI and UPLB have decided to set up a Joint Committee on Biosafety with the following terms of reference:

1. To review proposals submitted by IRRI and UPLB scientists for initiating experiments which require special safety arrangements and recommend either approval or rejection by the head of the institution;
2. To provide guidelines for experimental protocols in cases where a proposed experiment is considered to be potentially beneficial;
3. To keep in touch with the biosafety regulations in force in developed countries in order to formulate and introduce appropriate guidelines for biotechnology research in IRRI and UPLB;
4. To serve as a clearing house of information on experimental procedures involving recombinant DNA technology; and

5. To review from time to time ongoing experiments in biotechnology, particularly those involving fungal, bacterial and viral pathogens, insect pests and recombinant DNA to ensure that the highest standards of safety are maintained.

The composition of the IRRI-UPLB Biosafety Committee will be as follows:

Chairperson: Dr. Dolores A. Ramirez, Dean, Graduate School, UPLB

Members: Dr. Emiliano Gianzon, Director, Bureau of Plant Industry

Dr. William Padolina, Director, BIOTECH

Dr. Oscar Opina, Chairman, Plant Pathology, UPLB

Dr. Belen R. Rejesus, Head, Entomology, UPLB

Dr. Bonifacio T. Mercado, Director, Institute of Biological Sciences, UPLB

Dr. Reynaldo E. de la Cruz, Forestry

Dr. Fernando Sanchez, Director, NCPC, UPLB

Dr. Saturnina Halos, UP Diliman/BIOTECH

Dr. F. A. Bernardo, Deputy Director General, IRRI

Dr. M. D. Pathak, Director for Research & Training, IRRI

Dr. G. S. Khush, Head, Plant Breeding, IRRI

Dr. B. M. Shepard, Head, Entomology, IRRI

Dr. P. S. Teng, Pathology Department, IRRI

Convenor: Dr. T. W. Mew, Head, Pathology, IRRI

We request all concerned to extend full cooperation to the committee in the discharge of its functions.

*M. S. Swaminathan*

M. S. Swaminathan  
Director General, IRRI

12 October, 1987

date

*Raul P. De Guzman*

Raul P. De Guzman  
Chancellor, UPLB

12 Oct 1987

date

JOINT STATEMENT  
OF  
THE DEPARTMENT OF AGRICULTURE,  
THE UNIVERSITY OF THE PHILIPPINES AT LOS BANOS  
AND  
THE INTERNATIONAL RICE RESEARCH INSTITUTE  
ON "HIGH RISK" RESEARCH IN RICE  
OCTOBER 15, 1987

The Department of Agriculture (DA)  
of the Philippine Government,  
The University of the Philippines at Los Banos (UPLB) and  
The International Rice Research Institute (IRRI),

Being long-time partners in rice research and training projects in order to increase rice production, ensure the environmental safety, and sustain the productivity of rice farming communities in the Philippines, and aware that there has been much publicity about alleged "high risk" rice research at IRRI, hereby issue this joint statement to help explain the facts related to the research on the genetics of the rice blast fungus.

1. The question often raised is, "Is the research on the genetics of rice blast virulence necessary?" Rice blast is a major disease of rice in rainfed upland areas. It can also be destructive in irrigated rice fields, most specially when there is widespread drought. Although many of the high-

yielding varieties now are resistant to the rice blast, the blast fungus is extremely variable and able to mutate to render the resistant varieties susceptible after only a few years in farmers' fields. Obviously, we must undertake studies aimed at making blast resistance more durable in recommended rice varieties. This necessitates research not only on the genes for blast resistance in the rice plant, but also research on the genetics of the rice blast fungus itself. A better understanding of how virulence is inherited would help in breeding for more durable resistance in rice. Similar research has been underway in Japan, Korea and China -- all rice-growing countries -- for several years, a fact which only highlights the importance of increasing the knowledge base on the behavior of the rice blast fungus.

2. The research required importation of certain strains of rice blast fungus from the USA. These are rice blast isolates which are fertile, pure, and with genetic markers (isozymes) which are products of over ten years of research in the University of Wisconsin. For each importation, IRRI applied for import permits from the

Quarantine Service of the DA Bureau of Plant Industry. The Quarantine Service personnel appreciated the importance of the importation in conducting genetic studies and issued Import Permits specifying the necessary post-entry quarantine requirements. We believe that the Quarantine Service has been doing its job competently in spite of limited resources for post-entry quarantine follow-up activities.

3. How risky is the experiment on the rice blast fungus? IRRI scientists are aware of the risks involved and have taken all the necessary precautions both in the laboratory and in the greenhouse mist chamber to prevent the spread of the fungus. The scientists never allowed the fungus to produce spores in the mist chamber, being fully aware that this is the dangerous stage of the fungus. After three days in the mist chamber, inoculated seedlings were uprooted and sterilized in an autoclave at 30 psi for 30 minutes. Such precautions are normally adequate to prevent the accidental escape of the fungus to the field.

But in science, the question is always, "How safe is safe?" We firmly believe that it is better to err on the safe side, and in deference

to the allegations that the risk is high, we deem it better to discontinue this experiment until the experimental protocol and facilities have been reviewed, or until the advisability of undertaking such experiment is finally resolved with the help of leading Philippine and international scientists. IRRI, in fact, discontinued the experiments in early September this year.

4. We believe that modern biotechnology research is providing powerful analytical and experimental tools which, if used carefully, would help in improving the productivity, stability and sustainability of agricultural industries. We admit that some research approaches may involve risks and hence there is a need for caution both in the selection of research areas and experimental procedures. In order to ensure that the maximum possible benefit is derived from new research tools without risks, we feel the need to set up a National Committee on Safety in Biological Researches using the UPLB-IRRI Biosafety Committee as the nucleus. The membership should include representatives of PCARRD/DOST, the Department of Health, the Bureau

of Animal Industry, State Colleges and Universities, and semi-autonomous commodity research institutes.

The National Committee on Safety in Biological Researches should, among other things, do the following:

- a. Formulate and recommend to proper authorities appropriate national policies and guidelines for biotechnology research not only in IRRI and UPLB but also in other public and private research agencies.
  - b. Review research project proposals which require special safety arrangements and recommend either approval or rejection by proper authorities.
5. We believe that it is also necessary to have a Biosafety Monitoring Committee to be headed by the Chief of the BPI Quarantine Service with assistance from leading scientists of the country. The Biosafety Monitoring Committee should review from time to time ongoing experiments in biotechnology, particularly those involving fungal, bacterial, and viral

pathogens, insect pests, and recombinant DNA to ensure that the highest standards of safety are maintained. Adequate support for the operations of the Biosafety Monitoring Committee is necessary.

6. We believe that the sole purpose of the rice research program undertaken jointly or individually by IRRI, UPLB, and DA is to assist the rice farmers of the Philippines. We hope to continue our collaboration to make sure modern and powerful analytical tools and experimental techniques could be used by our scientists under controlled conditions without risk to the rice producers.

*M. S. Swaminathan*

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Director General  
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Carlos G. Dominguez  
Secretary

Department of Agriculture

IRRI HIGH RISK RICE BLAST FUNGUS RESEARCH: A CRITIQUE

by: Prof. Roger Cuaresma Birosel  
Local Initiatives in Science and Technology

Annex C

OFFICE OF SENATOR BUTZ AGR  
COMMITTEE ON AGRICULTURE  
DATE: 7/11/83  
BY: [Signature]  
NO. 100-1-4

It is axiomatic that the centers of plant diversity are also the centers of disease and pest diversity for the same plants. International agricultural research centers - like the International Rice Research Institute (IRRI) at UP Los Baños, (UPLB), Laguna - often wittingly or unwittingly find themselves becoming the servants of Trans National Corporation (TNCs) and of foreign governments.

Adding injury to insult, Filipino scientists and technicians doing high risk research at IRRI - wittingly or unwittingly - also find themselves causing harm and potential to our nation, farmers, and farming industry.

The IRRI rice blast fungus research is the latest example of this high risk research.

#### IRRI Role in Green and Gene Revolutions

Since 1960, IRRI participated in the Green Revolution of miracle seeds. Since at least 1983, IRRI has been involved in the Gene Revolution of biotechnology: genetic engineering, tissue culture, enzyme technology and bioengineered fermentation.

The miracle seed or high yield varieties (HYVs) of rice that IRRI developed were designed to require high cost, high technology inputs like pesticides. The annual \$7B worldwide market for pesticide TNCs, like Du Pont, was the high yield benefit produced by IRRI HYVs.

However, the high yield harm produced by IRRI HYVs are the very pesticides that: (1) destroyed natural enemies of plant pests and pathogens; (2) evolved new strains of harmful organisms resistant to the same pesticides; (3) killed animals (including people); (4) polluted rivers, seas and land; (5) left traces of cancer-causing (carcinogenic) and mutation-causing (mutagenic) pesticides on crops and in natural food chains including aquaculture products like fish.

IRRI is directly responsible for the high yield benefit of pesticide market for TNCs, and the high yield harm to the environment, animals and other genetic resources of the world including the Philippines.

The Gene Revolution was initiated by the worldwide 1972 oil crisis, and two coincidental events in the advanced countries - ecological movement against chemical pollution including pesticides, and the biotechnological revolution of genetic engineering where genes from two different organisms are spliced by enzymes in a test tube. Pesticide TNCs like DuPont immediately saw the high yield potential profits of the upcoming Gene Revolution and gained control herewith by: (1) acquiring, investing in, and venture collaborating with new biotech companies started by the same university professors who patented discoveries from public-funded basic research they performed in universities and public research institutions; (2) building in-house research centers like DuPont \$25M, Monsanto \$15M, and Bayer \$23M centers; (3) contracts with universities and public research institutions inside those advanced countries or

or even abroad like Monsanto's \$23.5M to Washington University, Hoechst's \$20M to 18 universities and public institutions, and probably DuPont's contribution, to IRRI.

In most contracts, the TNC has the right to first look at laboratory results and can delay publication until patent possibilities are investigated. No research can be done unless the TNC gives permission so that essentially every lab personnel becomes a servant of that TNC.

Substantial erosion of academic freedom and democratic set priorities for national research and therefore of the proper development of international and national science results as has happened in the recent IRRI high risk research, (see Table 1 Biotechnology TNCs Increase Control Over Food Production).

The potential high yield benefits of high risk research contracted in institutions worldwide, like IRRI, for the Gene Revolution is a predicted \$10-15B in the US alone, and \$30B worldwide sales for TNCs biotech products in human health care and agriculture.

In the US, the Environmental Protection Agency (EPA) and the Department of Agriculture, upon the complaints of non-governmental organization (NGOs), have banned testing and marketing of biotech microbe products. No environmental test of such biotech microbes has taken place legally.

In short, high risk research like IRRI's rice blast fungus research has been banned in advanced countries like the US because of the controversial question whether gene-altered microbes can spread their genetic material to other organisms, in soil and water, in which they may create unintended and potentially dangerous cellular effects. As the Green Revolution pesticides have evolved new strains of harmful organisms resistant to the same pesticides, gene-altered microbes including hybrid microbes as produced in IRRI's blast fungus research, can cause destructive epidemics, in the short term, and evolutionary disasters, in the long term. Since the biological inter-relationships in the microbial world are not yet fully understood, the risks could be greater than expected.

IRRI has stopped its high risk research only because of pressure from non-IRRI scientists - at UPLB, Ateneo, La Salle and Maryknoll - and by scientific NGOs like the National Committee for Conservation, Protection and Development of Genetic Resources (NCCPDGR), which in turn is an alliance of member NGOs: LIST, SIBAT, FRC, ACES and MSF.

The story of how IRRI started, conducted and stopped its high risk research on rice blast fungus has implications for legislative and administrative reforms in the following areas: quarantine; review of IRRI and its PD 1620 charter of immunity; newly-established Bio-Safety Committee (IRRI and UPLB only), and IRRI

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Seed Health Unit; national guidelines for research and development (R & D) done in private and public, foreign and local institutions; conservation, protection and development of our national patrimony of genetic resources.

### Rice Blast Fungus

Fungi is a microbe that includes the familiar bread mold that we do not eat, and the non-poisonous mushrooms that we do eat. Fungi have caused diseases of food crops and hunger or monetary loss since the dawn of agriculture. There are numerous passages in the Bible referring to blasts, mildews and blights which often led to famine. As an example, "If there be in the land famine, there be pestilence, blasting, mildew, locust,....." (I Kings 8:36,37,39).

Plant disease epidemics may still wipe out an entire crop if conditions favorable for disease develop. The yield of cereal crops, like rice, may be reduced by 80% during a single epidemic. In an advanced country, where agriculture is diversified, the economy sound, and the government well-budgeted, such an epidemic may not result in starvation. But even lesser epidemics would spell starvation and disaster for an underdeveloped country like the Philippines

Although sudden loss of an entire crop from <sup>an</sup> epidemic may cause a serious threat, the majority of losses result from small outbreaks of disease which often occur with greater regularity. Those losses are due to consistent reduction in crop yield and the expense of control measures as a regular agricultural practice, which can be ill-afforded in underdeveloped countries, like the Philippines.

However, such control measures are expensive to apply and often ineffective, especially in the midst of an epidemic. The ideal mode of control is to plant crops that are resistant to the disease. And to exclude, through quarantine, entry or transfer of non-resistant seeds or plants, plants and seeds that bear the pathogen, or the pathogen itself, for example, fungus spores, from foreign sources or other infested regions of the country.

Currently, a present and clear danger of rice blast epidemic has been introduced by IRRI when they imported foreign, highly virulent and hermaphroditic rice blast fungus strains from DuPont Pesticides and the University of Wisconsin for its high risk research.

### IRRI Rice Blast Research: Lack of National Relevance, Social Responsibility and Scientific Validity

The Philippines has 200 native strains of rice blast fungus. They are all of one mating type - male macho. This means that

these native strains, like all other tropical fungus traces, reproduce asexually by forming asexual spores, and parasexually by exchange of chromosomal material between two adjacent vegetative cells that fuse. The native varieties of rice blast fungus have low fertility, low sporulation, and low virulence against a rice plant host.

"Research and experience indicate that the fungus generates variation by asexual means. The sexual stage of the fungus has never been found in nature. Even under lab conditions, the sexual stage cannot be reliably produced. Thus, sexual recombination as a potential mechanism to generate variation is unlikely. (IRRI September 1987 Press Release).

In 1983, IRRI reportedly did high risk research using native strains. In 1986, IRRI imported highly virulent strains that are hermaphroditic. This means that the hermaphroditic, rice blast fungus - containing both male and female organs - can reproduce sexually with any exclusively male or female mating type strain - native or foreign, and with itself.

"Sexual hybridization of the blast fungus ... are being done in several rice-growing countries, including Japan, Korea and Taiwan ... whose environment are much more conducive to blast development than that in the Philippines". (IRRI Press Release September 1987).

Then why did not IRRI leave the high risk sexual hybridization research to the countries that have the rice blast problem and are already doing such hybrid research? Conversely, why did IRRI start high risk blast fungus research when the Philippines does not have a blast problem and such research are already being done in countries that do have blast problems?

"The fungus parasitizes over 50 genera of grasses ... It is generally accepted, however, that the fungus possesses a capacity to generate new variants at a frequency higher than usual for spontaneous mutation, and which is high enough to pose a problem for breeding for blast resistance and disease management." (Borromeo et.al. IRRI Seminar).

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With this basic problem, then why is IRRI doing high risk research on the genetics of rice blast fungus even though "... knowing the causes of pathogen variation may enable us to tailor our breeding methods and disease management tactics to develop more lasting solutions to the problem." (Borromeo, ibid.).

"Despite the progress on genetic analysis of non-rice infecting isolates, little advance has been made in the analysis of specificity on rice varieties." (Borromeo, ibid.).

Then why did not IRRI further develop the well-known genetic systems of non-rice blast fungus that infects grass, which is obviously a non-economic crop? Why did IRRI insist on doing high risk research with foreign rice blast fungus in this country where rice blast is not a problem, and where rice is a major economic crop and a major staple food?

"Fertility barrier between rice-infecting strains, non-pathogenicity and/infertility of rice infecting strains, and non-pathogenicity and/or infertility of rice-infecting and non-rice infecting strains seemed to be the major constraints. We report here some of the progress in our efforts to transcend these constraints ... in rice blast fungus." (Borromeo, *ibid*).

As IRRI has transcended the infertility and non-pathogenicity barriers, so did IRRI transcend our quarantine regulations, 1986 Constitution and laws, and in principle, transcended our national sovereignty, security and hospitality when IRRI established the hitherto unknown but now present and clear danger of high virulence, high fertility, and good sporulation sexual hybrids of rice blast fungus: the High-Risk Fungus Varieties (HFVs)

#### IRRI High Risk Research: HFVs

The blast disease reaction or infection expressed by the infected host plant depends on the host's genes for resistance or susceptibility, and the fungus pathogen's genes for virulence (high pathogenicity) or avirulence (low pathogenicity).

Table 2: Rice Blast Fungus Infection shows that of the four possible genetic combinations, only one combination gives low infection when the pathogen's avirulent genes cannot nullify the host's resistance genes. High infection results from the other three combinations of fungus: plant gene- avirulence: susceptibility, virulence: susceptibility, and virulence: resistance

The virulence genes in the fungus are greater in number than the resistance genes in the plant. For example, an estimate of 10 gene pairs with two alleles for each gene represent 20 gene pairs for virulence in the fungus. If these 40 genes for virulence are recombined, through sexual reproduction as in the foreign rice blast fungus, all possible recombinations would produce 59,049 viable gene combinations (or genotypes), each of which could be a different fungus race. This high variability hence the high potential for mutation change (or mutability) of the fungus virulent genotype thus ensures its virulence against even resistant plants. Furthermore, any fungus virulent genes for high pathogenicity hence high infection will make it impossible to detect mutations of the plant resistance genes, for example to increased resistance, decreased resistance or susceptibility.

The ideal genetic experimental design then with blast fungus, is to use the avirulent fungus: resistant plant combination. Since the organism with less variability in genes is easier to mutate, hence which mutations are easier to detect, the plant host will be mutated. Resistant plant strains will be mutated to increased resistance hence detect no infection, to decreased resistance hence detect medium infection, and to susceptibility hence detect high : infection.

Besides, it will be easier to quarantine and secure a few large plants and seeds than millions of dangerous, microscopic blast fungus spores. Spores, unlike large seeds, do not contain embryo. But like seeds, spores germinate. But unlike seeds and other large organisms, the doubling time of spores is 4-5 days which means that spores grow exponentially into millions in a short time. And being microscopic, spores can float 234 meters horizontally and 1 meter vertically. These are the basic biological bases of the danger of pathogenic spores like the foreign, highly-virulent rice blast fungus that IRRI imported, and the high fertility, high sporulation, and high virulence HFVs that IRRI produced only after a year's high risk research.

The next ideal experiment, with the ideal avirulent fungus: mutate resistant plant combination, is to use biochemical methods to detect the biochemical changes caused by the genetic changes induced by mutation. With biochemical genetics or molecular biology experiments, less spores and less plants are needed since biochemicals can be detected in microquantities, even down to one molecule only when radioactive biochemicals are detected by radioactive counters. With biochemical genetics, dangerous microscopic spores and large seeds or plants are minimized, hence quarantine and security are minimized since greenhouse and field experiments are replaced with lab experiments.

The ideal, low risk research of biochemical genetics as described also maximize social responsibility to farmers and the rice industry and nationalism for Filipino sovereignty and security by using: (1) a non-economic plant host, a non-rice grass; (2) native fungus races; (3) avirulent fungus strains; (4) mutation of plant resistance to easily detected higher resistance, lower resistance, and susceptibility; (5) easily detected radioactive biochemicals which maximize easier quarantined and secured lab experiment and minimize, or even eliminate, high risk greenhouse and field experiments.

IRRI has minimized social responsibility to farmers and the rice industry, and maximized foreign abuse of Filipino hospitality, and violation of Philippine sovereignty and security with its insistence on non-ideal, high risk research using: (1) an economic plant host, rice; (2) foreign, highly virulent and hermaphroditic strains with quarantine violations; (3) sexual hybridization produced high virulence, high fertility, and high sporulation hybrid fungal varieties (HFVs); (4) high risk greenhouse and, most probably, clandestine

field testing; (5) future high risk research using DNA transformation, isolation and cloning of HFVs and another rice pathogen, a bacterium, hence probably HBVs.

And IRRI "stopped" its high risk research and formed a Bio-Safety Committee with IRRI and UPLB members only who have met only once to date, and a Seed Health Unit after: (a) August 22, 1987 complaints by MSF and FAST of UPLB; (b) September 3-6 Tagaytay City of NCCPDGR; (c) Senate Resolution 29 by Senator Laurel asking for an enquiry and a Pres. Cory cease-and-desist order to IRRI's high risk research; (d) May 1986 start of high risk, foreign rice blast fungus research; (e) October 1984 publication of "Guidelines for Field Research Involving Recombinant DNA" by the US National Institute of Health (NIH); (f) 1983 high risk native rice blast fungi research; (g) 27 years since 1960 of importing and exporting seeds for Green Revolution high risk research for HYVs: and before (h) October 1987 publication of "Guidelines for Research Involving Recombinant DNA Molecules" by US NIH (cited by IRRI as the guidelines used in their 1986 high risk research and by the Biosafety Committee formed in September; (i) building a containment greenhouse planned only in May 1987, after a whole year of high risk HFVs research;iii

IRRI has continued, wittingly or unwittingly, its role in the Green Revolution of HYVs into the Gene Revolution of DNA hybrids or recombinants like HFVs by (1) importing foreign, highly virulent, hermaphroditic rice blast fungus from DuPont, a fungicide TNC, which is probably collaborating with and funding IRRI high risk HFVs and future HBVs research (See Table 3 Parental M. grisea strains). DuPont and other pesticide TNCs are concentrating on developing crop resistance to pesticides like herbicides. (See Table 4 TNCs Developing Crop Resistance to herbicides). Most probably then, DuPont also has a special concentration on developing crop resistance to fungicides, (2) doing microbiological warfare research - (a) producing HFVs and (b) testing HFVs against rice varieties of the USSR, PRC, Brazil, India, Japan, USA and the Philippines (See Table 5 Disease Reaction of Selected Rice Lines). Fortunately, the Philippine rice varieties turned out to be the most resistant; (3) future high risk research with containment greenhouse, and DNA transformation, isolation and cloning not only of HFVs but also of HBVs pathogenic also to rice;iii.

In summary, this Filipino biochemical geneticist, one of the lucky students of pioneer genetic engineers in the University of California at Berkeley, support the following proposals for legislative and administrative reforms in cooperation with the Legislature, administrative involved, and NGOs.

- (1) Review IRRI including repeal of its PD 1620 charter for immunity;
- (2) Expand the IRRI-UPLB Biosafety Committee to include representatives from PCARRD, DOST, BPI Quarantine, PRRI and national scientific NGOs like NCCPDGR, and LIST, and national sectoral NGOs like FRC.

The expanded BioSafety Committee shall draft:

- (3) National guidelines for R & D in private and public, foreign and local, institutions and/or funded research.
- (4) A National Commission for the Conservation, Protection and Development of Genetic Resources which will promote NGO breeding projects, administer a National Germplasm Bank which will start with duplicates of the entire IRRI and IRRI germplasm banks.
- (5) Modern and scientific guidelines for quarantine and seek increased funding for BPI Quarantine enforcement, monitoring and advisory personnel.
- (6) National guidelines for seeds quarantine and R & D by private and public, foreign and local research institutions and/or funded research and production and marketing companies including IRRI Seed Health Unit, and TNC HYV seed companies.

TABLE 1

## Biotechnology TNCs Increase Control Over Food Production

25

Company	Pestic. ranking	Pestic. sales (1982)	Pharma. ranking	Pharma. sales (1981)	Seeds sales (estim.)	General Info. on company's activities in food and agriculture	Biotechnology related activities
Bayer (FRG)	1	1941	2	2400	<20	Largest chemical company in FRG, sells pesticides and fertilizer World's no. 2 in drugs	Made contracts with Genentech and Genetic Systems, also working with Max Planck Institute
Ciba Geigy (CH)	2	1215	xx	1891	136	Leading in pestic. and pharmaceuticals; vast interests in the seeds sector as well	Owns ALZA 80%, build \$7.5 million biotech lab, working on soybean resistance to herbicides. Also involved in University contracts
Monsanto (USA)	3	1185	xx	xx	30	4th large US chem. comp., leading in herbicides worldwide, heavily involved in seeds and drugs (through acq. of Searle)	Heavily involved in crop & livestock genetics. Invested in at least 4 biotech comp. \$190 million R&D budget for biotech.
Shell (UK/NL)	4	813	—	—	200	World's 2nd large comp. 4th in pesticides and leading in seeds. Heavily in fertilizer. Main interest is in oil business.	Contracts with Celltech and Celus. Opened \$9 million biotech lab. Working on herbicide resistance and hybrid cereals.
KCI (UK)	5	732	xx	771	xx	Largest comp. in UK, 4th chem. comp. in Europe, 5th in agro-chem worldwide. Now also very active in seeds sector	Joint venture with Cardo (S) in gen. engineering in agricult., applies biotech to produce new pesticides
Du Pont (USA)	6	600	—	—	—	Largest US chem. comp., produces and sells pesticides in more than 100 countries. Over \$200 million R&D budget for life sciences	Opened a \$85 million Life Sciences research complex, and also invested in other biotech comp. Research on herbicide resist., nitrogen fixation and growth regulators
Rhone Poulenc (F)	7	590	18	1008	xx	Major in pesticides and pharmaceuticals worldwide, also expanding substantially in seeds. In 1986, bought Union-Carbide's agrochemical division and now ranks n. 3 in pesticide producers	herbicides, also many contract research with several universities
Stauffer (USA)	8	570	—	—	xx	3rd largest US producer of pesticides, also in fertilizers. Heavily involved in seeds sector through acquisition of several seeds houses	Active in-house research on biotech. Research focuses on corn, sorghum and sunflowers, including research to make these crops herbicide resistant
Hoechst (FRG)	9	471	1	2555	x	Number one in pharmac. worldwide, also big in livestock vaccines. Ranks high in pesticides and recently got involved in seeds (10% in KWS, + one Dutch comp)	Since 1970 in animal biotech. Heavily in research contracts with universities. Also involved in biotech research for cotton and other field crops.
Dow (USA)	10	450	xx	xx	x	2nd largest US Chemical comp. Produces and sells herbicides & insecticides. Also active on drugs.	Started in-house biotech programme in 1991, also contracts with several biotech. comp. Working on both crop & livestock genetics
Eli Lilly (USA)	12	434	10	1654	—	Major in drugs and pesticides, also large in animal health products. Eli Lilly pesticides are used on more than 50 crops. \$3 million biotech R&D budget	Invested \$5 million in IPRI, and is working with several other biotech. comp. Involved in crop & livestock genetics, herbicide res. & plant growth regulators
Rohm & Haas (USA)	xx	336	—	—	<20	Major US chemical comp. Produces pestic. worldwide, also in seeds with hybrid wheat, soybeans & oats. In 1985 bought Ring Around, soybean seed comp.	Invested \$12 million in Advanced Genetic Sciences, and also finances research at Plant Genetic Systems in Belgium. Elotech used for breeding and herbicide resist.
Sandoz (CH)	xx	160	12	1515	292	Major in drugs and pesticides worldwide. Invested heavily in the seeds sector by buying up many seed companies	Acquired Zeecon Corp working on biological pesticides. Genetic research focuses on soybeans & vegetable crops. Has also research contracts with universities

All sales in million \$ US  
 — = not active in this field  
 x = involved in this field  
 xx = heavily involved in this field

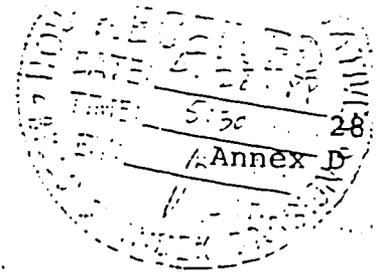
SOURCES: Compiled by ICDA from different sources:  
 — Andrew Chelley: "Cleared for Export", CADE, Brussels 1985 (for pesticide figures)  
 — CIA, "Commercial Biotechnology", Washington 1984 (for pharma figures)  
 — C.F. LEBER: "Emergence of Biotechnologies", Paris/Toulouse 1985 (for seeds figures)  
 — Jack Coyle "Altered Harvest", Viking Press, 1985 (for comments)

Table 2 Rice Blast Fungus Infection

Fungus Pathigen(icity) Genes	Host Plant Genes	
	<u>Susceptibility</u>	<u>Resistance</u>
<u>Avirulence</u> (low)	HIGH	LOW
<u>Virulence</u> (high)	HIGH	HIGH

TABLE 1. Virulence of rice strains used either in the development of fertile rice-infecting strain or genetic analysis of virulence.

Isolate Designation	Mating type	Pathogenicity to rice	Sex	Sporulation	Geographic origin	Source
CH104-2	MAT 1	+	male	poor	China	U. Wisconsin
CH40-1	MAT 1	+	male	poor	China	U. Wisconsin
O-42	MAT 1	+	male	good	Japan	B. Valent, Du Pont
Ken 60-19	MAT 2	+	male	good	Japan	B. Valent, Du Pont
Guy 11	MAT 2	+	hermaphrodite	good	French Guyana	J.L. Notteghem, IRAT
AR 13	MAT 1	-	hermaphrodite	good	Laboratory strain	U. Wisconsin
ER 1	MAT 2	-	hermaphrodite	good	Laboratory strain	U. Wisconsin
BV 2	MAT 2	-	hermaphrodite	good	Laboratory strain	B. Valent, Du Pont
BV 3	MAT 2	-	hermaphrodite	good	Laboratory strain	B. Valent, Du Pont



HOUSE OF REPRESENTATIVES

Committee Report No. 137

Submitted by the Committee on Science and Technology  
on APR 28 1933, 1933

Re: House Resolution No. 416

Sponsors: Congressmen Ramon B. Legaspi, Eduardo P. Pilapil, Gregorio A. Andolana and members of the Committee on Science and Technology

Informing the House of the actions taken on the aforesaid Resolution

Mr. Speaker:

The Committee on Science and Technology, to which was referred House Resolution No. 416, introduced by Congressmen Gregorio A. Andolana and Narciso D. Monfort, entitled:

"RESOLUTION  
URGING A CONGRESSIONAL INQUIRY BY THE COMMITTEE ON SCIENCE AND TECHNOLOGY TO ASCERTAIN IF THE ONGOING RICE RESEARCH AND EXPERIMENTS AT THE INTERNATIONAL RICE RESEARCH INSTITUTE (IRRI) ARE RISKY, DETRIMENTAL TO THE NATIONAL INTEREST AND MAY SPAWN SERIOUS PEST AND DISEASE PROBLEMS AS ALLEGED BY THE PARTICIPANTS TO THE NATIONAL CONFERENCE ON GENETIC RESOURCES AND DEVELOPMENT AND AFTER A FULL-BLOWN INVESTIGATION AND PUBLIC HEARINGS SUBMIT ITS FINDINGS AND RECOMMENDATIONS SO THAT THE NECESSARY MEASURES CAN BE ADOPTED."

has considered the same and has the honor to report it back to the House with the information that the Committee has conducted investigations and has come up with the following:

FINDINGS:

- (1) That IRRI, in its efforts to study the mechanics of variation of rice blast fungus which cause the disease of blast to rice (esp. in upland areas), decided to import foreign isolates of the fungus

from the US. It then conducted hybridization of the foreign isolates with our local varieties to determine the factors that control virulence through genetic recombination, so that effective control measures against the disease may be developed. Such moves, although noble in intention, introduced potential "risk" to the environment due to the increase in the factors for variation of the fungus that can lead to lower or higher virulence.

(2) That because of the potential risk to the environment and national safety such hybridization experiment of IRRI introduced to the country, there is a need to establish safety guidelines and measures in the conduct of similar experiments not only in biotechnology but in other sectors/areas as well.

(3) That alternative techniques in the genetic studies of microbes are possible which can achieve the desired objectives as the IRRI experiments without resorting to importation of foreign isolates of the fungus.

## RECOMMENDATIONS:

(1) IRRI's researches concerning genetic studies of microbes must be stopped until national safety guidelines and measures are established.

(2) The foreign isolates of the fungus currently frozen in cold storage at IRRI must be destroyed (burned).

(3) IRRI should monitor for possible traces of pathogens or new races within and around its vicinities as a precautionary measure.

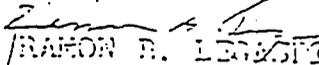
(4) A bill should be filed in the House, sponsored by the members of the D & T Committee and Hon. Gregorio Andolena, creating a National Biosafety Board which shall regulate all risky undertakings of Biotechnology research and development.

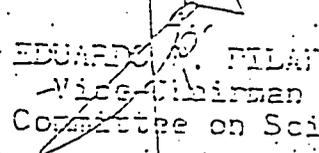
(5) A study of all currently existing laws should be conducted, with the end in view of amending/repealing the granting of penal, civil and administrative immunities to international research organizations like IRRI (such as that provided by PD 4620) - as a matter of national policy.

ACTIONS TAKEN:

- (1) A formal request for IRRI to monitor possible traces of pathogens or new races within and around its vicinities.
- (2) A formal request for IRRI to provide the Committee with evidence of documents that such alleged "high risk" researchers of IRRI involving the genetic studies of microbes are not banned anywhere in the world.
- (3) The drafting of a bill creating the National Bio-safety Board, to be filed as soon as possible.

Respectfully submitted:

  
RAMON B. LEGASPI  
Chairman  
Committee on Science and Technology

  
EDUARDO S. PILAPIPIL  
Vice-Chairman  
Committee on Science and Technology

The Honorable  
The Speaker  
House of Representatives  
Manila City

/bel

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31  
Annex E

Memorandum

To : Dr. K. Lampe January 16, 1988  
From : T.W. Mew  
Subject : Report No. 1. Monitoring of Rice Blast Disease  
Incidence

This is to report to you on the results of our efforts in monitoring rice blast disease incidence around the Institute.

Based on our records and observations between 1986 and 1987, there was no detectable incidence of blast disease around the greenhouse where Dr. Leung conducted his research. Also, there were no findings of infection among unilocated plants inside Dr. Leung's greenhouse.

In the IRRI farm, no unusual occurrence of new races of the disease was observed. No blast problems were reported or observed in the farmers' fields immediately outside the IRRI farm.

We will continue to monitor blast incidence within and outside the IRRI farm every month this year.

  
T.W. Mew  
Head, Department of Plant  
Pathology

TWM/c



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March 11, 1988

Dear Ms. Bumatay:

This is in response to your letter of 3 March 1988 requesting me to send the S&T Committee pertinent documents on studies on rice blast genetics in connection with Dr. Mew's statements that such studies are not banned in the U.S., Japan, Korea, France and India.

Attached are scientific papers published in the USA, Japan and France showing that cross hybridization of different rice blast isolates and genetic studies have been made in these countries.

From Japan:

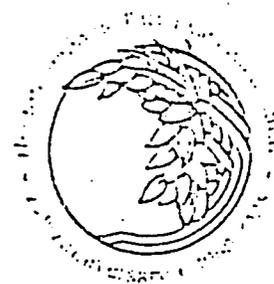
1. Pathogenic race and mating type of *Pyricularia oryzae* from Soviet Union, China, Nepal, Thailand, Indonesia and Colombia, by H. Yaegashi and M. Yamada.
2. The perfect state of *Pyricularia oryzae* Cav. from rice plants in culture, by H. Kato and T. Yamaguchi.

From France:

3. Obtention et caracterisation de mutants deficientes en melanine chez *Pyricularia oryzae*, by M.H. Lebrun, F. Dufoy, V. Reymond, J.L. Notteghem, J. Vilaplana.

From U.S.A.:

4. Genetic studies of fertility and pathogenicity in *Magnaporthe grisea* (*Pyricularia oryzae*), by B. Valent, M.S. Crawford, C.G. Weaver, F.G. Chumley.

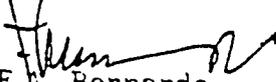


Ms. Aurora H. Bumatay/3-11-88/p2

We have not yet obtained any publications from Korea and India, but Dr. E.J. Lee of the Rural Development Administration, Korea, will present his scientific report at the Korea-IRRI collaborative planning meeting on March 21 at IRRI. We will send you a copy of his report.

With warm regards.

Very truly yours,

  
F.R. Bernardo  
Deputy Director General

Ms. Aurora H. Bumatay  
Committee Secretary  
House Committee on  
Science and Technology  
House of Representatives  
Quezon City

cc: Dr. K. Lampe  
Dr. T.W. Mew  
Dr. M.D. Pathak

FAB/c

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34

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April 4, 1988

Dear Ms. Bumatay:

In my previous letter to you dated March 11, 1988, I promised to furnish you copies of scientific papers on the rice blast disease in Korea in order to prove that researches similar to the one conducted in IRRI are also done in other countries.

Attached are copies of scientific papers from Korea dealing with pathogenicity of different races of the rice blast. The third paper reports on production of mating types and production of crosses for testing their pathogenicity.

I hope these additional information will be useful to the House Committee on Science and Technology.

With best wishes.

Very truly yours,



F.A. Bernardo  
Deputy Director General

Ms. Aurora H. Bumatay  
Committee Secretary  
House Committee on Science  
and Technology  
House of Representatives  
Quezon City

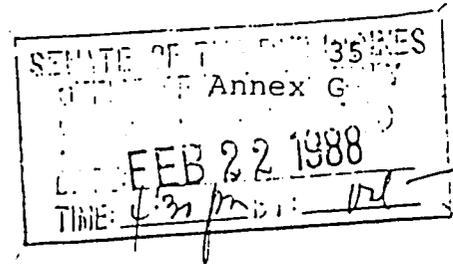
cc: Hon. Ramon Legaspi  
Dr. Klaus Lampe  
Dr. T.W. Mew

FAB/c



CONGRESS OF THE PHILIPPINES )  
FIRST REGULAR SESSION )

SENATE  
P.S. RES. NO. 104



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Introduced by Senators Lina, Jr. and Aquino  
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RESOLUTION

CREATING AN AD-HOC COMMITTEE TO CONDUCT A REVIEW OF THE PROGRAMS AND POLICIES OF THE INTERNATIONAL RICE RESEARCH INSTITUTE, ITS CHARTER AND PRESIDENTIAL DECREE NO. 1620

WHEREAS, the International Rice Research Institute (IRRI) was established in 1959 as the foundation of the "Green Revolution", a development program launched by the International Monetary Fund-World Bank whose primary objective is to raise the rice production by using the High Yielding Varieties (HYV) thereby solving the problem of insufficient food supply of the whole world;

WHEREAS, with this objective and the adoption of modern agricultural technologies in the country developed at the International Rice Research Institute (IRRI) rice production per hectare doubled but the income of local rice farmers is still low;

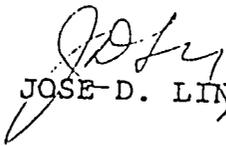
WHEREAS, the International Rice Research Institute (IRRI) undertakes all sorts of research projects to advance rice science and technology, including some which may pose danger to the local rice industry;

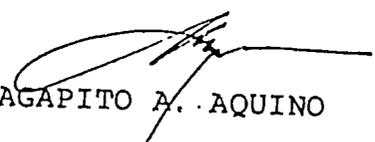
WHEREAS, the International Rice Research Institute and its scientists enjoy protection and immunity from legal suits, as provided for under P.D. 1620;

WHEREAS there is a need for Congress to review the charter of the International Rice Research Institute (IRRI) and Presidential Decree 1620, to ensure that it continues to serve the national interest and for the nation to maximize the benefits derived therefrom;

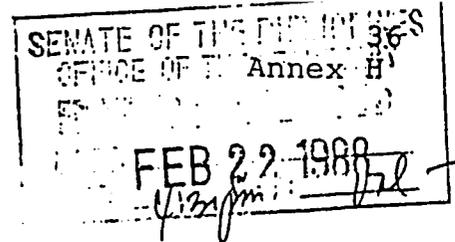
NOW, THEREFORE, be it resolved as it is hereby resolved, that the Senate create an Ad-Hoc Committee to conduct a review of International Rice Research Institute (IRRI), its charter, and Presidential Decree 1620, in aid of legislation.

Adopted.

  
JOSE-D. LINA, JR.

  
AGAPITO A. AQUINO

CONGRESS OF THE PHILIPPINES )  
FIRST REGULAR SESSION )



S E N A T E  
P.S. RES. NO. 105

File

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Introduced by Senators Lina, Jr., Aquino and Estrada  
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RESOLUTION

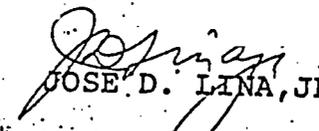
DIRECTING THE SENATE TO CREATE AN AD-HOC COMMITTEE TO FORMULATE GUIDELINES ON FOREIGN-FUNDED RESEARCH ACTIVITIES IN ALL DISCIPLINES

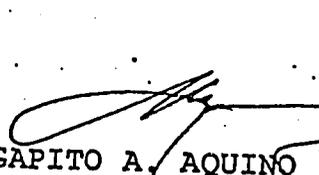
WHEREAS, Article XIV, Sec. 12 of the 1987 Constitution mandates that "the State shall regulate the transfer and promote the adaptation of technology from all sources for the national benefit";

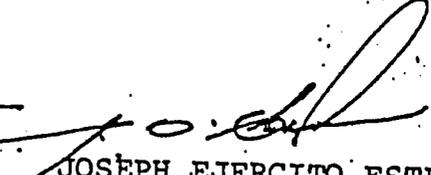
WHEREAS, the existing government policies, rules and regulations on foreign-funded research do not provide the mechanism for an in-depth evaluation and monitoring of foreign-funded research projects, particularly as it pertains to protection of national interests.

NOW, THEREFORE, be it resolved, by the Senate, to direct the Committee on Science and Technology to formulate national guidelines on (all) foreign-funded research activities in all disciplines, in aid of legislation.

Adopted.

  
JOSE D. LINA, JR.

  
AGAPITO A. AQUINO

  
JOSEPH EJERCITO ESTRADA

for your files  
RMC  
[initials]

Congress of the Philippines)  
First Regular Session )

SENATE

S. No. \_\_\_\_\_

-----  
Introduced by Senator Laurel  
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AN ACT  
CREATING THE NATIONAL BIOSAFETY BOARD AND DEFINING ITS SCOPE, FUNCTIONS AND POWERS.

Be it enacted by the Senate and House of Representatives of the Philippines in Congress assembled:

SECTION 1. CREATION. - There is hereby created a National Biosafety Board, hereinafter referred to as the NBB, under the Office of the President.

SECTION 2. PURPOSE. - In consonance with the Constitutional mandate that the state shall protect and advance the right of the people to a balanced and healthful ecology in accord with the rhythm and harmony of nature, the NBB shall regulate all undertakings of biotechnology research and development and/or commerce of such products hereinafter referred to as biotech projects for the safety and protection of the general public thereby prevent or decrease the risks which such biotech projects pose to both, and their environment, life and property.

SECTION 3. COMPOSITION. - The NBB shall be composed of seven (7) members, which shall include the Secretary of the Department of Health, the Director of the Bureau of Plant Industry, and the Director of the Bureau of Animal Industry as ex-officio members, and two (2) science and technology representatives in relevant disciplines to be appointed by the President of the Philippines for a maximum term of four (4) years each from the State and the private colleges and/or Universities, and one (1) each from any relevant non-governmental organization and project staff union, PROVIDED that in the absence of any ex-officio members, said member may designate his deputy to act in his stead. None of the above shall have been board members, officers and/or, consultants of institutions, public or private, with biotech projects, and/or remunerated, directly or indirectly, by foreign funds and/or institutions.

SECTION 4. MEETINGS. - The NBB shall meet regularly once a month and may hold special meetings to consider urgent matters upon call of the Chairman or any three (3) members thereof.

SECTION 5. QUORUM. - The presence of majority shall constitute a quorum for the transaction of business; PROVIDED that affirmative vote of at least four (4) members shall be necessary for the adoption of resolution or guidelines.

SECTION 6. POWERS AND FUNCTIONS. - The NBB shall have the following powers and functions as exercised through open and public hearings when applicable and necessary :

- a. Formulate national guidelines on and regulate biotech projects in public or private institutions with local or foreign funding;

- b. Review, monitor, approve or reject all biotech project proposals including risk analyses previously approved, and recommended, continuously encountered, and regularly reviewed by Biosafety Committee such institutions hereinafter referred to as Institutional Biosafety Committee (IBC). Proprietary institutional information shall be kept confidential by the NBB and IBC.
- c. Regulate the importation and exportation, use, distribution and reproduction of virus, fungi, bacteria, insects, pests, nematodes and other flora and fauna and their recombinant DNA and RNA, and any other substance, which introduced and/or released into the environment, threaten life and property;
- d. To conduct periodic investigations, inspections, and evaluations of the standards and facilities and personnel of biotech projects including their particular IBC which use physical and biological containments that reduce the potential for exposure of the project staff, persons outside the institution, and the environment.
- e. To abate, enjoin or prohibit the undertaking of any biotech project which may be dangerous or risky to public safety;
- f. To exercise such either powers and functions as may be proper and necessary for the effective accomplishment of the purposes herein provided;
- g. To appoint a Biosafety Director who will assist the Board and coordinate with other agencies, public and private, for the implementation and enforcement, and publication and/or public education of the NBB guidelines, regulation and decisions.

SECTION 7. COMPENSATION. - The ex-officio members of the NBB, or their designated deputy, as the case may be, shall be entitled to per diems for meetings attended, not exceeding Five Hundred Pesos per meeting and not exceeding Two Thousand Pesos a month. The other members of the NBB shall receive an additional monthly allowance of One Thousand and Five Hundred Pesos.

SECTION 8. PRIOR APPROVAL. - No Biotech project shall be undertaken without the prior approval of the project proposal by the NBB.

SECTION 9. THE IBC INSTITUTIONAL BIOSAFETY COMMITTEE. - The Institutional Biosafety Committee (IBC) shall be composed of seven (7) members which shall include the President of the institution and the mayor of the municipality in which the institution is situated, as ex-officio members, and two science and technology representatives from relevant disciplines not affiliated with the institution, to be chosen by the President of the institution for a maximum term of four (4) years with one (1) each from the State and private Colleges and/or Universities, and one (1) each from any relevant non-governmental organization and a research and development or production staff union; PROVIDED that in the absence of any ex-officio member, said member may designate his deputy to act in his stead. The meetings and quorum of the IBC shall be governed by Section 4 and 5 of this ACT. The IBC shall approve biotech project proposals in their institution, recommend approved projects with supporting to the NBB data and documents including risk to the NBB for approval, and regularly monitor and review NBB approved projects in their institution. The IBC shall appoint biosafety officer if the institution engage in large-scale projects.

SECTION 10. PENALTIES. - Violations of the preceding section or any guidelines or resolutions adopted by the NEE shall be punished by imprisonment of from 6 months to 4 years and/or a fine of not less than ₱100,000.00 and forfeiture of cash bond and/or insurance for not less than ₱10,000,000, posted with the NEE to cover potential, damage and/or losses, directly or indirectly, to life and property, public and private. Such forfeiture shall not preclude claims of civil and related criminal acts for actual damages and loss to life and property not covered by such bonds and or insurance.

If the violation is committed by a corporation, partnership or association, its President, Manager, Agent, or any other official in charge of the management thereof, who committed or who knowingly acquired in the commission of said violation, shall suffer the penalties herein provided; PROVIDED that if the offender is an alien, in addition to the penalty herein prescribed, he shall be deported without further proceedings on the part of the Commissioner of Immigration and Deportation but only after imprisonment and/or paying fines, and due process of other suits filed.

SECTION 11. APPROPRIATION. - To carry out the provisions of this Act, there is hereby appropriated the sum of Five Hundred Thousand Pesos (₱500,000.00) out of the funds in the National Treasury not otherwise appropriated. Thereafter, the succeeding appropriations of the NEE shall be included in the Annual Appropriations Act.

SECTION 12. REPEALING AND SEPARABILITY CLAUSE: - All laws, decrees, orders, rules and regulations, policies, programs or parts thereof, which are inconsistent with any provisions of this Act such as institutional diplomatic and legal immunities are hereby repealed or modified accordingly.

If for any reason any section or provision of this Act is declared to be unconstitutional or void, the other sections or provisions hereof, which are affected thereby, shall continue in full force and effect.

SECTION 13. EFFECTIVITY: - This Act shall take effect upon its approval.

The Agency for Community Educational Services Foundation, Inc. (ACESFI) declares its position on Senate Resolution No. 104, entitled:

"RESOLUTION CREATING AN AD-HOC COMMITTEE TO CONDUCT A REVIEW OF THE PROGRAM AND POLICIES OF THE INTERNATIONAL RICE RESEARCH INSTITUTE, ITS CHARTER AND PRESIDENTIAL DECREE NO. 1620."

as follows:

1. The Green Revolution program (through the High-Yielding Variety (HYV) technology) as envisioned by the IRRI and its supporters does not work in the Philippines because of the following reasons:

a. It requires tremendous inputs of commercial inorganic fertilizer and pesticides which the Philippines import;

b. It has been hastily propagated nationwide despite the lack of adequate experimentation on its location specific behavior in the different parts of the country;

c. It requires large capital funding, the structures of which have virtually collapsed (rural banks which acted as conduits of Masagana 99 loans benefitted more the middlemen than the farmers);

d. It is one of the underlying causes of malnutrition because of rice monoculture which does not give room to planting of other crops which would have provided a balanced diet to the rural population;

e. It continues to be a high-risk proposition because rice monoculture is susceptible to being totally wiped out by pests, hence, poses great dangers to the ecology;

f. Its kind of research is not directed towards finding ways to reduce the cost of farming (which is the biggest burden of small farmers) but is narrowly directed towards increasing output levels only. Whatever organic input and other alternative farming methods IRRI is experimenting on right now have been belatedly carried out, not as a matter of IRRI policy but as a mere response to recent farmer attack on IRRI).

2. The doubling of rice production is made at the expense of local rice farmers in the following manner:

a. high cost of input which channels whatever profit the farmers made to the multinational companies instead of to their families;

b. the farmer's lack of control over the whole production process diffuses whatever surplus income they make to non-producers like the traders, millers, etc.

3. It is immoral to grant protection and immunity to foreign scientists who conduct "experiments" that may pose dangers to our agricultural ecology and its human population. The immunity to IRRI as provided for in PD 1620 violates and makes a mockery of the sovereignty of the Republic of the Philippines comparable to the issue of the US Bases here in the country;

4. IRRI does not serve the interest of the Filipinos. It served the interest of Mr. Marcos before, when the IRRI technology was hastily propagated in the country. It also serves the interests of MNCs whose products are required as input of the HYVs they promote nationwide.

5. The dangers posed by the IRRI technology to the local rice industry, and to the Filipinos as a whole, have been properly documented. Please refer to the following materials attached herein:

Michael E. Loevinsohn, "Insecticide Use and Increased Mortality in Rural Central Luzon, Philippines" The Lancet 1987, pp. 1359-1362.

R. Modina & A. Ridao, "IRRI Rice: The Miracle That Never Was" ACES Foundation, Inc. 1987.

6. Given the above considerations, our organization declares its all-out support for the review of the program and policies of IRRI and ultimately for the repeal of PD 1620.

Finally, we would like to state that we are not against modern technology such as the hybridization of rice varieties but rather we are against modern technology that are not appropriate to specific needs particularly of small farmers that comprise the majority of the population of third world countries such as the Philippines. We want a technology, as in the case of rice farming, that is low-cost, affordable, ecologically-sound and most of all geared primarily to benefit the farmers and the poor consumers rather than the commercial interests.

August 30, 1988

COMMENTS REGARDING SENATE RESOLUTION NO. 104 ENTITLED

"Resolution Creating an Ad Hoc Committee to Conduct a Review of the Program and Policies of the International Rice Research Institute, Its Charter and Presidential Decree No. 1620"

1. We at IRRI welcome this initiative at the Senate. We also welcome Senators Jose D. Lina, Jr. and Agapito A. Aquino and other Senators and their technical staff to visit IRRI and obtain firsthand information on IRRI's research activities. This is the best way to make sure that everyone gets firsthand information about IRRI. This is the way to separate fact from fiction.
2. The Senate Resolution states that with "the adoption of modern agricultural technologies in the country developed at the International Rice Research Institute (IRRI) rice production per hectare doubled but the income of local rice farmers is still low."

We do not deny that the income of rice farmers is still low, but here are the facts:

- o The income of rice farmers is determined not only by the yield of rice per hectare, but also by government trade and price policies which influence the price of fertilizer and rice. Government policies have artificially lowered rice prices and raised fertilizer price relative to world price levels.
- o The price of rice (relative to other commodities) to Philippine consumers has declined by almost 50% since the early 1960s (Source: Central Bank of the Philippines & National Census and Statistics Office). In other words, while the price of consumer goods increased 12 times since the early 1960s, the price of rice increased only by 6 times, thanks to government policy.
- o As a consequence, consumers benefitted tremendously from the impact of modern rice technology, but the rice farmers' incomes remained low.

One thing is clear. IRRI has nothing to do with government policy on the low price of rice or high price of fertilizer relative to world market prices. IRRI is not responsible for the low income of rice farmers.

3. The Senate Resolution also states that IRRI "undertakes all sorts of research projects to advance rice science and technology, including some which may pose danger to the local rice industry."

IRRI's objective is to serve the interest of rice industries around the world through research. The claim that IRRI is undertaking some research that "pose danger to the local rice industry" probably refers to the research on the genetics of virulence of the rice blast fungus. This controversial research has been debated by IRRI and UPLB scientists. IRRI scientists have taken sufficient precautions to prevent the spread of the experimental strains of the fungus, but critics of IRRI feel that the rice blast research is a "high risk research". In deference to the questions raised by UPLB scientists, the IRRI Director General ordered that the controversial research on the rice blast disease be suspended until biosafety

guidelines are approved and proper authorities have reviewed the matter.

The UPLB-IRRI Committee on Biosafety was created last October 12, 1987. This Committee worked for several months using as references Biosafety Guidelines of USA, Japan and Australia. The Committee has completed its work in July 1988 and has recommended the creation of a National Committee on Biosafety and the adoption of the Biosafety Guidelines. Copies of this are available at UPLB and IRRI.

4. The Senate Resolution states that IRRI and "its scientists enjoy protection and immunity from legal suits as provided for under Presidential Decree No. 1620."

There seem to be some misconceptions about P.D. 1620; The decree does not give IRRI any "special" status or immunities beyond those accorded to other international organizations, such as the FAO or UNDP, in the Philippines.

IRRI has seldom used and, to my knowledge, never abused any of the legal immunities referred to in P.S. Resolution 104.

P.D. 1620, which took effect on 19th April 1979, grants to IRRI the status, prerogatives, privileges, and immunities of an international organization. The pertinent articles of P.D. 1620 on IRRI's immunities are as follows:

#### Article 1

##### Status of an International Organization

The Government of the Republic of the Philippines recognize(s) the International Rice Research Institute (herein referred to as the Institute) as an international organization, and hereby accords to the Institute such status in the Philippines.

#### Article 2-

##### Immunities and Privileges

The Institute shall enjoy in the Philippines all the immunities and privileges normally accorded to international organizations of a universal character.

#### Article 3

##### Immunity from Legal Process

The Institute shall enjoy immunity from any penal, civil and administrative proceedings, except insofar as that immunity has been expressly waived by the Director General of the Institute or his authorized representatives.

## Article 10

Purpose of Immunities

1. The privileges and immunities provided for by this decree are not intended for the personal benefit of the officials of the Institute. They are accorded solely in order to ensure in all circumstances the free operation of the Institute and the complete freedom of its officials.
2. The Director General of the Institute shall have the right and duty to waive the immunity of any official whenever, in his opinion, the immunity would impede the normal course of justice and can be waived without prejudice to the interest of the Institute.

Please note that the immunities provided by P.D. 1620 are not intended for the personal benefit of the IRRI officials. Neither are they intended for IRRI scientists.

5. The Philippine Government has established the Philippine Rice Research Institute (PhilRice) in order to have an institution responsible for applied and adaptive research to cater to the needs of Filipino farmers. IRRI, being an International Institute, has global responsibilities and could only produce technologies that different rice-growing countries could fine-tune and apply to local

conditions. The need for PhilRice is therefore obvious.

The Japanese Government will provide funding for PhilRice to establish its research laboratories in Munoz, Nueva Ecija. The Japanese Government has requested IRRI to provide technical services and assistance to PhilRice in order to accelerate its development.

6. We also would like to point out that IRRI was not "launched by the International Monetary Fund-World Bank," but was established and funded, initially, by the Ford and the Rockefeller Foundations with the support of the Philippine Government. Today IRRI's funding comes from 31 donor agencies and member countries of the Consultative Group on International Agricultural Research (CGIAR). The largest annual financial contribution to IRRI comes from the Japanese Government. Other countries like China, India, Mexico, and Korea are among the countries contributing to the research activities of IRRI.

7. IRRI reiterates its invitation to the Honorable Senators and their technical staff to visit IRRI at their convenience so that they may see for themselves the kind of research activities IRRI has been undertaking to serve mankind.

F.A. Bernardo  
Deputy Director General

cc: Hon. Secretary Carlos G. Dominguez  
President Jose V. Abueva  
Dr. Klaus Lampe  
Atty. Z.Q. Pizarro

FAB/c

22 Sep 88

ALLEGATIONS AND FACTS ABOUT THE  
INTERNATIONAL RICE RESEARCH INSTITUTE

**Allegation.** IRRI is funded by multinational chemical corporations. IRRI is funded by the International Monetary Fund...the World Bank...etc.

**Fact.** IRRI is funded by about 30 governments and international agencies. IRRI's largest donor is the Government of Japan, followed by the USA, the United Nations Development Programme, the World Bank, the European Economic Community, Canada, United Kingdom, and Australia. IRRI donors also include developing countries: China, India, Mexico, Korea, and the Philippines. Appendix A lists our donors and their contributions.

**Allegation.** IRRI is developing high-yielding varieties (HYVs) to be heavily dependent on the pesticides and fertilizers sold by multinational chemical corporations.

**Fact.** Multinational chemical companies do not support, and have no influence or control over IRRI programs, or IRRI seeds. In fact, IRRI's major research thrust is to reduce the farmer's dependence on purchased chemical inputs. It is a biological fact, however, that any cereal crop, traditional or improved, needs 1 kilogram of nitrogen to produce 15 to 20 kg of grain.

Tropical soils naturally accumulate enough nitrogen from the atmosphere to grow about 2 tons of grain per hectare per year. To produce more than 2 tons the plants, whether modern or traditional, must have additional nitrogen. In the 1960s petroleum-based fertilizers were the cheapest source of nitrogen. IRRI's main focus over the past decade has been to develop ways for farmers to use alternative nitrogen sources such as green manure crops, or to increase the efficiency of applied fertilizer. Other facts to consider are:

- Improved rice varieties do not require more fertilizer--they respond to higher nutrient levels. Even without fertilizer, IRRI varieties yield slightly more than traditional varieties.

- The air around us has unlimited nitrogen. The water fern azolla, which grows on the surface of paddies, can "fix" or draw such nitrogen from the air and feed it to the rice

plant. IRRI and national scientists are developing ways for farmers to cultivate azolla and other nitrogen-fixing plants in their ricefields -- and, thus grow their own nitrogen. The best areas for azolla have high soil phosphorus, low maximum temperatures, and long wet seasons. IRRI has published a map, Conditions For Azolla, that highlights areas across the Philippines where farmers might grow and substitute azolla for commercial fertilizers.

- Development of rice varieties that use available nutrients more efficiently is a major IRRI objective. IR42, for example, outyields other varieties at low levels of nitrogen and phosphorus.

- IRRI scientists have found that farmers can reduce their fertilizer needs by half by placing the fertilizer below the soil surface, into the rice root zone. IRRI has designed simple, inexpensive machines to facilitate root-zone placement.

- Unlike the first improved rices, which required high pesticide inputs for higher yields, newer varieties such as IR64 and IR66 have been genetically tailored to resist many insects and diseases. That decreases the farmer's dependence on pesticides.

- IRRI is a world leader in the development and promotion of Integrated Pest Management (IPM) strategies in rice--the use of nonchemical tactics of pest control to maintain high yields and maximize farm profits with minimal use of ecologically disruptive pesticides. One of the foundations of IPM is "helpful insects"--the diverse communities of predators, parasites, and pathogens in every ricefield that, if recognized and protected, will control most insect pests.

IRRI recently released a booklet, *Helpful Insects, Spiders, and Pathogens -- Friends of the Rice Farmer*, with 166 color plates to help farmers and extension workers identify "friendly insects." *Helpful Insects* has already been published in Cebuano, French, Khmer, Tagalog, and Iloko. Cooperators in national programs are translating it into about 20 other languages. IRRI and FAO have distributed about 100,000 copies of a poster *Natural Enemies of Insect Pests of Rice*, to help farmers identify beneficial insects. It is available in 17 languages, including 9 Philippine dialects.

An extensive TV and radio campaign, in local languages, has been launched to educate farmers on beneficial insects and avoid misuse of pesticides. Partners in the campaign are PhilRice, UPLB, and the Philippine Foundation of Rural Broadcasters.

- For centuries before petroleum-based pesticides were available, farmers on the Indian subcontinent protected their crops with natural insect repellents found in the fruit and leaves of the neem tree. Now, scientists have discovered that neem derivatives repel 123 species of insects, including pests of stored grain. The insect-repellent qualities of oil extracted from the neem fruit, and of cake made from its residue, are being studied in a program to develop "safe" biological pesticides that cause no ecological damage.

**Allegation.** Multinational chemical companies sell IRRI seeds.

**Fact.** Multinational companies do not sell seeds of IRRI varieties. IRRI seeds do not even offer a market potential for multinational corporations. The improved rice varieties should not be confused with the "F<sub>1</sub>" or "hybrid" varieties of maize, sorghum, and other crops whose seeds are marketed by companies. Farmers must buy seeds for every planting of F<sub>1</sub> crops because the seeds harvested cannot be replanted. The seeds of IRRI rice varieties, on the other hand, can be replanted again and again.

- National agricultural agencies, not IRRI, determine which rice varieties are to be released to local farmers in each country. Farmers themselves decide which varieties to plant. In the Philippines, varieties are named and released by the Philippine Seed Board, which is chaired by the Director of the Philippine Bureau of Plant Industry. The performance of HYVs developed by IRRI, the University of the Philippines at Los Baños, and BPI is continuously field-tested at BPI stations across the country. HYVs developed by UPLB and BPI are also widely grown in the Philippines.

**Allegation.** To gain total control over crop production, IRRI gathers the seeds of indigenous crop varieties and freezes them in a well-guarded "gene bank."

**Fact.** The International Rice Germplasm Center, or "gene bank," is a seed preservation and dissemination center that serves rice scientists and farmers around the world. Scientists and governments deposit seeds of traditional varieties that are threatened by extinction for safekeeping in the bank, and withdraw such seeds to use as "genetic building-blocks" to develop improved varieties locally. Small seedstocks of more than 82,000 varieties from more than 100 countries are stored at IRRI. The gene bank assures developing countries of the genetic variability essential for continuous improvement in rice productivity.

To develop a seed collection, scientists gather a few seed heads from rice plants growing wild or in the field, or purchase a handful of grains in the market. Genetic conservation does not mean that all seeds of a variety are collected, and thus "confiscated" from an area. Only a kilogram or so of seeds are stored for multiplication, evaluation, conservation, and distribution.

A large seed collection has no meaning unless we know what useful characters their genes hold. Therefore, multidisciplinary teams of scientists grow and test all seed samples carefully and catalogue their traits. Seed samples are supplied upon request, free of cost, to scientists, farmers, and others.

In the Philippines, IRRI has cooperated with the Department of Agriculture in the field collection and preservation of seeds of 1,870 Philippine traditional and introduced varieties, based on an IRRI-DA Memorandum of Agreement. Without the gene bank, many of those rice varieties would have been lost forever. The gene bank also gives Philippine scientists direct and easy access to varieties from Africa, Latin America, and elsewhere in Asia.

Nepal, Pakistan, and Kenya, upon construction of adequate facilities for local seed storage, have requested, and received, duplicate sets of seeds of their entire national collections.

IRRI recently returned to Kampuchea seeds of 36 traditional varieties that had disappeared during the political disturbances after 1975. Those varieties would have been lost forever without the gene bank. Instead, Kampuchean farmers grow them once again.

**Allegation.** The Philippines has not benefitted from new rice technology.

**Fact.** The annual growth rate of rice production in the Philippines has doubled, from 2.2% to 4.5%, since the 1966 development of the first improved varieties and technology, according to the Philippine Bureau of Agricultural Economics. The growth in rice production was made possible by HYVs and modern farming methods developed by IRRI, UPLB, and BPI, and disseminated through extension programs of the Department of Agriculture.

- Most important, the Philippine population was only 32 million in 1966, when IR8, the first IRRI-bred HYV, became available. Annual rice production in 1966 was 4 million tons of unmilled rice. Today, the nation's farmers must feed 58 million people, a task that requires 9 million tons of unmilled rice per year. To grow that much rice at previous yield levels of 1.2 tons per hectare would require

7.6 million hectares of riceland. The Philippines has only 3.5 million hectares of land for growing rice. These figures are from the National Economic and Development Authority (NEDA).

Furthermore, the Philippine population is increasing by about 3% yearly. By the year 2000, about 86 million people will have to be fed.

Unless critics of high-yielding technology know where to find the additional land, a return to traditional varieties would leave the Philippines with three options.

- o To use scarce foreign exchange to purchase rice from abroad (as was the case from World War II to 1978)
- o To survive on surplus grain as aid from the industrialized nations.
- o Famine.

**Allegation.** IRRI seeds represent an insidious way of sabotaging the very foundation of the Philippine economy.

**Fact.** Dr. Burton Oñate petitioned the Batasan Pambansa to investigate his charges that IRRI was a plot to sabotage the Philippine economy. The Batasan held public hearings and an Ad Hoc Committee came to IRRI to see for themselves. On September 19, 1985, the Batasan Committee on Agriculture and Food issued a "Report on Resolution No. 221," which stated:

"The Ad Hoc Committee on Grains which was created in order to conduct an inquiry in aid of legislation in compliance with the resolution...found [Dr. Oñate's] charges to be unfounded. The complainant failed to substantiate his charges while IRRI thru its Director-General has specifically denied the allegations and presented documents supporting its denial.

"The Ad Hoc Committee therefore recommends the termination of the investigation and the dismissal of all the charges levelled against IRRI."

The report is public record.

President Corazon C. Aquino has expressed her appreciation of IRRI's key role in improving local rice production and her desire to further strengthen links between IRRI and the Department of Agriculture for the benefit of rice-farming families.

Standing members of IRRI's Board of Trustees, which sets IRRI's policies and directs its activities, are the Secretary of Agriculture, Secretary Carlos G. Dominguez (vice chairman), and the president of the University of the Philippines System, Dr. Jose V. Abueva.

**Allegation.** Through backroom politics, IRRI has made sure that Philippine research institutions would study all crops -- except rice.

**Fact.** The promotion of strong national rice research systems is one of IRRI major tasks. For example, IRRI long advocated the establishment of the new Philippine Rice Research Institute (PhilRice) to strengthen location-specific research for different rice-farming environments of the country.

IRRI is associated with the development of dynamic rice research systems in many Asian countries, such as Bangladesh, Burma, and Indonesia. For example, IRRI is currently helping develop the China National Rice Research Institute at Hangzhou, and is training cadres of national rice scientists in Tanzania, Kampuchea, Vietnam, and Madagascar and other rice-deficit countries. More than 6,000 scientists from 80 countries have been trained at IRRI during the past 25 years; about 700 have been Filipinos.

**Allegation.** Filipino farmers are buried in debt because of Masagana 99. In spite of IRRI rice technology, farmers are still poor.

**Fact.** This is an old issue. While it is true that many did not pay back Philippine National Bank and Rural Bank loans, the reasons for non-payment are varied. An increase in rice production does not guarantee increase in farmer's income. This depends much on the law of supply and demand--and on government policies affecting the price of farm production inputs (e.g. fertilizer) and the buying price of rice. Government policies have artificially lowered the price of rice and raised fertilizer prices relative to world market prices. It cannot be denied, that the price of rice has declined in the 1980s. The consumer price of goods is generally 12 times higher than in the mid 1960s, but the price of rice has increased only 6 times. This means that consumers have benefited tremendously by the new rice technology.

**Allegation.**

IRRI is conducting "high risk research" with blast fungus that poses danger to the local rice industry.

act.

Blast is a major disease of rainfed rice-growing areas. Hence, the breeding of varieties with built-in genetic resistance to blast has become increasingly important -- because resistant varieties offer farmers protection against diseases and insects without dependence on costly and environmentally disruptive pesticides.

But blast fungus is extremely variable, so it often mutates to render resistant varieties susceptible after a few generations in farmers' fields. Several scientists around the world have been conducting genetic studies to determine reasons for this enormous variability. IRRI plant pathologists have studied the fungus to determine what controls its virulence. Such research has been underway in Japan, Korea, and Taiwan, China -- all rice-growing countries -- for several years.

IRRI obtained an official permit of the Quarantine Service of the Philippine Bureau of Plant Industry (BPI) to work with certain blast strains. We have followed strict safety guidelines for such research, and feel it is not risky.

In science the question is always "How safe is safe?" IRRI's policy is to err on the safer side. Hence, we have taken the following steps:

1. Ongoing research on the genetics of blast fungus has ceased in October 1987 until the experimental protocol and facilities are carefully reviewed with the help of leading scientists.
2. A Biosafety Committee has been established, chaired by Dr. D.A. Ramirez, Dean, UPLB Graduate School. Its membership includes not only IRRI research leaders but also Dr. Emeliano Gianzon, Director, Bureau of Plant Industry (BPI); Dr. W. Padolina, Director, National Institutes of Biotechnology and Applied Microbiology (Biotec); Dr. Oscar Opina, Chairman, UPLB Plant Pathology Department; and Dr. Belen Morallo-Rejesus, Chairman UPLB Entomology Department.

The Committee has drafted a proposal for biosafety guidelines.

IRRI's sole interest is to assist the rice farmers of the Philippines and other developing countries. We are, and will continue to be, extremely cautious -- but we would do Third World farmers a disservice if we denied them the benefits of the enormous progress now being made in agricultural science and technology.

**Allegation.** PD 1620 gives IRRI international staff privileges and immunities reserved only for ambassadors.

**Fact.** Presidential Decree 1620 does not give IRRI any "special" status or immunities beyond those accorded to other international organizations in the Philippines, such as the Food and Agriculture Organization, the United Nations Development Program, or the Asian Development Bank. Foreign scientists at IRRI have the same status as foreign nationals of the other international organizations and are not immune to Philippine law.

**Allegation.** Farmers in the Philippines should return to their traditional varieties.

**Fact.** Anyone who wants to plant traditional rices can do so. The Philippine Rice Research Institute obtained seeds of 1,400 traditional varieties from the IRRI Germplasm Bank for multiplication and distribution to farmers. The reason that few farmers grow traditional varieties is simple: they yield only 1 to 2 tons per hectare. Also, farmers can usually plant only one crop of traditional varieties per year, but they can grow two or three crops with modern varieties. This is because traditional varieties take 150 to 170 days to mature and many are sensitive to daylength, which binds them to specific seasons.

The consequence of returning to traditional varieties is easily predictable. The Philippines would have to import more than US\$1 billion worth of rice every year to avert famine.

How was this calculated? When modern rice varieties were released in 1966, the Philippine population was 32 million. The average yield of rice was 1.2 ton per hectare and annual production on 3.5 million hectares was 4 million tons of unmilled rice. Since then, population has almost doubled, to 58 million people, while rice land has decreased to 3.4 million hectares. Fortunately, production has increased to 9 million tons. A return to traditional varieties would mean a rice deficit of 5 million tons of unmilled rice, or 3 million tons of milled rice. Importation of that much rice, at the current international price of about \$350/ton of milled rice would cost the Philippines about \$1.05 billion.

Expansion of rice land is not possible; virtually all land suited for rice is already being farmed. Meanwhile, population growth and urban expansion are steadily forcing more land out of production.

**Allegation.** Orchestrating of all the International Agricultural Research Centers is the Consultative Group on International Agricultural Research (CGIAR) which represents a global network of the multinational agribusinesses through their "philanthropic" foundations and international banks such as the World Bank, the Asian Development Bank, and the International Fund for Agricultural Development.

**Fact.** IRRI, the first of the International Agricultural Research Centers, was established in 1960 by the Ford and Rockefeller foundations with the help and approval of the Government of the Philippines. Today IRRI is one of 13 nonprofit centers supported by the CGIAR, which was established in 1971 jointly by FAO, UNDP, and the World Bank.

The CGIAR is an association of about 50 donor countries (including the Philippines), international and regional organizations, and private foundations, advised by an independent Technical Advisory Committee of leading scientists from developed and developing countries.

The purpose of the CGIAR is to direct the resources of modern biological and socioeconomic research to increase farm productivity in the developing nations of the tropics and subtropics. The research and training programs undertaken by 13 CGIAR-sponsored International Agricultural Research Centers around the world seek to arm developing countries with superior varieties of essential crops and improved farming systems. The crops and livestock on which the Centers focus are the staples, representing 75 percent of the food consumed in the developing countries.

IRRI receives support, through the CGIAR, from a number of donors, including the Asian Development Bank, the European Economic Community, the Ford Foundation, the International Development Research Centre of Canada, the International Fund for Agricultural Development, the OPEC Special Fund, the Rockefeller Foundation, the United Nations Development Programme, the World Bank, and the international aid agencies of the following governments: Australia, Belgium, Brazil, Canada, China, Denmark, Finland, France, Federal Republic of Germany, India, Iran, Italy, Japan, Republic of Korea, Mexico, Netherlands, New Zealand, Norway, Philippines, Saudi Arabia, Spain, Sweden, Switzerland, United Kingdom, and United States.

The sources from which IRRI derives its financial support are indicated in every IRRI publication. Also, the Annual Report and IRRI Highlights provide data on the contributions made by different members of the CGIAR to IRRI's budget every year.

These organizations provide funds to help developing countries feed themselves, and to become less, not more, dependent on the developed countries and their product.

In summary, IRRI is an autonomous noncommercial, nonpolitical scientific institution governed by an independent Board of Trustees. The Secretary of Agriculture of the Philippines is the Vice-Chairman of the IRRI Board and the President of the University of the Philippines is a trustee. IRRI is neither financially supported nor influenced in any manner by multinational companies. Second, IRRI's major research strategy is to substitute farm-grown biological inputs for market purchased chemical inputs. Finally, we work toward achievement of steady growth in productivity and intensity of cropping on an ecologically sustainable basis. We are happy to show our work to anyone who is interested.

# FINANCES

Summary of financial support to IRRI core and to special and collaborative projects received in 1987\*

	Amount (US\$)			
	Core		Special and collaborative project	Total
	Unrestricted	Restricted		
Details of sources of support from grants				
International Bank for Reconstruction and Development	2,100,000			2,100,000
Japanese Government		5,586,934	994,162	6,581,116
Overseas Development Administration — United Kingdom	1,389,113			1,389,113
Canadian International Development Agency	1,351,440			1,351,440
United States Agency for International Development		4,050,140	1,427,235	5,497,375
Asian Development Bank			664,600	664,600
Federal Republic of Germany	708,736		195,818	904,556
United Nations Development Programme		2,289,300	6,075	2,295,375
European Economic Community		2,044,292		2,044,292
Australian Government	646,185		390,711	1,036,896
International Development Research Center		58,047	562,167	620,214
Government of Sweden	502,358			502,358
Government of Denmark	370,112		63,122	433,234
Swiss Development Cooperation		250,000	50,000	300,000
Rockefeller Foundation		355,400	343,600	699,000
Ford Foundation	300,000	80,000	244,000	624,000
Government of The Netherlands		291,754	200,897	492,651
Government of India	246,782			246,782
Government of Finland	233,481			233,481
Government of Norway	116,669			116,669
Organization of Petroleum Exporting Countries			154,329	154,329
Government of France		130,760		130,760
Office of Rural Development, Korea			98,000	98,000
Government of the Islamic Republic of Iran			83,030	83,030
Government of the Philippines	53,530		29,132	82,662
People's Republic of China	50,000			50,000
Government of Spain	30,000			30,000
Government of Mexico	19,446			19,446
Government of New Zealand	15,025			15,025

Miscellis

Funds

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\*Receipts  
of 1987  
Government  
the value

## IRRI HIGHLIGHTS 1987 79

	Amount (US\$)			Total
	Core		Special and collaborative project	
	Unrestricted	Restricted		
Miscellaneous research grants			48,611	48,611
Funds reimbursed under collaborative research program				
International Food Policy Research Institute			89,441	89,441
International Center of Insect Physiology and Ecology		81,637		81,637
Resources Management International, Indonesia			65,107	65,107
University of Giessen			62,712	62,712
Istituto per la Chimica Del Terreno			50,000	50,000
International Fertilizer Development Center			45,514	45,514
International Center for Living Aquatic Resources Management			33,845	33,845
University of Hamburg			21,163	21,163
Consortium for International Crop Protection			16,553	16,553
International Institute of Tropical Agriculture			15,642	15,642
USDA/University of Minnesota			13,814	13,814
<b>Total</b>	<b>8,132,679</b>	<b>15,218,264</b>	<b>5,988,700</b>	<b>29,339,643</b>

\*Receipts are accounted for on a cash basis. Amounts shown in boldface differ from 1987 pledges by grantors in that they may reflect 1986 or 1985 pledges received in 1987 or may not reflect the full amount of 1987 pledges which are anticipated to be received in 1988. Also, the Government of France (through the research organizations ORSTOM and IRAT) provided IRRI the services of three resident scientists; the value of their services cannot be quantified.

AGREEMENT  
BETWEEN  
THE INTERNATIONAL SERVICE FOR NATIONAL  
AGRICULTURAL RESEARCH (ISNAR)  
AND  
THE KINGDOM OF THE NETHERLANDS  
CONCERNING THE HEADQUARTERS OF ISNAR

---

The International Service for National Agricultural  
Research and the Government of the Kingdom of the  
Netherlands,

Having regard to paragraph 52 of ISNAR's Constitution,

Desiring to define the privileges and immunities referred  
to in the said paragraph 52,

Have agreed as follows:

Article 1

DEFINITIONS

For the purpose of this Agreement:

- (a) "ISNAR" means the International Service for National Agricultural Research;
- (b) "Government" means the Government of the Kingdom of the Netherlands;
- (c) "Staff Member" means the Director General of ISNAR and all persons assigned by ISNAR under ISNAR staff regulations, other than persons for supporting services assigned to hourly rates of pay;
- (d) "Premises of ISNAR" means the buildings or parts of buildings and the land ancillary thereto used for the official purpose of ISNAR;
- (e) "Official activities of ISNAR" means ISNAR's activities pursuant to its Constitution and includes its administrative activities.

Article 2

JURIDICAL PERSONALITY

ISNAR shall possess juridical personality. It shall in particular have the capacity

- (a) to contract;
- (b) to acquire and dispose of immovable and movable property;
- (c) to be a party to legal proceedings.

Article 3

INVIOABILITY OF PREMISES

The premises of ISNAR shall be inviolable subject to the provisions of Articles 17 and 18 of this Agreement. Any person authorized to enter any place under any legal provision or on the strength of the law as described in the said Article 17 shall not exercise that authority in respect of the premises of ISNAR unless permission to do so has been given by or on behalf of the Director General. Such permission shall be assumed in case of fire or other disaster requiring prompt protective action.

- 2 -

If the person referred to in the second sentence of this Article has written authority given by the Public Prosecutor (Procureur-Generaal) in the Court of Appeal (Gerechtshof), within the jurisdiction of which the building is located, the Director General or the person acting on his behalf shall give permission forthwith.

#### Article 4

#### INVIOIABILITY OF ARCHIVES

The archives of ISNAR shall be inviolable. The term "archives" includes all records, correspondence, documents, manuscripts, photographs, films and recordings belonging to or held by ISNAR, wherever located.

#### Article 5

#### IMMUNITY

1. Within the limits of its official activities ISNAR shall have immunity from jurisdiction and execution, except:
  - (a) to the extent that ISNAR shall have expressly waived such immunity in a particular case;
  - (b) in respect of a civil action by a third party for damage arising from an accident caused by a motor vehicle belonging to or operated on behalf of ISNAR or in respect of a motor traffic offence involving such a vehicle;
  - (c) in respect of an enforcement of an arbitration award made under Article 19 of this Agreement;
  - (d) in the event of the attachment, pursuant to a decision by the judicial authorities, of the salaries and emoluments owed by ISNAR to a staff member.
2. ISNAR's property and assets wherever situated shall be immune from any form of requisition, confiscation, expropriation and sequestration. They shall also be immune from any form of administrative or provisional judicial constraint, except insofar as may be temporarily necessary in connection with the prevention of, and investigation into, accidents involving motor vehicles belonging to, or operated on behalf of ISNAR.

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Article 6

## EXEMPTION FROM TAXES

1. ISNAR, its assets, income and other property shall be exempt from all direct taxes. Direct taxes include income tax, capital tax, corporation tax and direct taxes, levied by local authorities. It is understood, however, that ISNAR will not claim exemption from taxes which are, in fact, no more than charges for public utility services.
2. The motor vehicles registered for ISNAR shall, on request, be exempted from motor vehicle tax.
3. ISNAR shall be accorded a refund of car tax and value added tax payed on the purchase of motor cars, and value added tax payed on the supply of goods or services of substantial value for official use. ISNAR shall be accorded a refund of the excise duty element included in the price of spirits and hydrocarbons such as fuel oils and motor fuels purchased by ISNAR for official use.

Article 7

## IMPORTS AND EXPORTS

ISNAR shall be

- (a) exempt from customs duties and prohibitions and restrictions on imports and exports in respect of articles imported or exported by ISNAR for its official use; it is understood, however, that articles imported under such exemption will not be sold in the Netherlands except under conditions agreed to with the Government;
- (b) exempt from duties and prohibitions and restrictions on imports and exports in respect of its publications.

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Article 8

FUNDS

Without being restricted by financial controls, regulations or moratoria of any kind, ISNAR may

- (a) receive and hold funds, currency, cash or securities of any kind and operate accounts in any currency;
- (b) freely transfer its funds, currency, cash or securities and convert any currency held by it into any other currency.

Article 9

COMMUNICATIONS :

1. For its official communications ISNAR shall enjoy treatment not less favorable than that accorded by the Netherlands to other international organizations.
2. No censorship shall be applied to official communications of ISNAR by whatever means of communication.

Article 10

PUBLICATIONS

The transmission of publications and other information material sent by or to ISNAR shall not be restricted in any way.

Article 11

BOARD OF TRUSTEES AND OFFICIAL VISITORS

The Government shall facilitate the entry, stay and departure of the members of the Board of Trustees and of persons attending meetings of ISNAR or visiting ISNAR on official business. The members of the Board shall be accorded the same privileges

in respect of currency or exchange as are accorded to Staff Members of ISNAR.

Article 12

STAFF MEMBERS

The Staff Members of ISNAR shall

- (a) have immunity from jurisdiction in respect of words spoken or written and all acts performed by them in their official capacity and within the limits of their authority. This immunity shall not apply in the case of a motor traffic offence committed by a Staff Member, nor in the case of damage caused by a motor vehicle belonging to or driven by a Staff Member;
- (b) enjoy inviolability for all their official papers and documents;
- (c) enjoy, together with the members of their families, the same repatriation facilities in time of international crises as diplomatic agents;
- (d) be accorded the same privileges in respect of exchange facilities as are accorded by the Netherlands to Staff Members of international organizations;
- (e) have the right, unless they are Netherlands nationals, to import free of duty their household effects and personal belongings at the time of first taking up their functions in the Netherlands. The same applies to the export of the said goods on termination.

Article 13

REGISTRATION, PERMITS

1. Non-Netherlands Staff Members of ISNAR
  - (a) shall enjoy exemption from aliens' registration formalities and shall not require a residence permit provided that they hold the personal identity card referred to in paragraph 2 of this Article; the same shall apply to non-Netherlands members of their families forming part of their households;
  - (b) shall not require a work permit.
2. The Staff Members of ISNAR and non-Netherlands members of their families forming part of their households shall hold

a personal identity card issued by ISNAR stating names, date and place of birth, nationality, number of passport (aliens only), and bearing photograph and signature. The identity cards shall be authenticated by the Ministry of Foreign Affairs of the Kingdom of the Netherlands.

Article 14

TAXATION OF INCOME

Subject to the conditions and following the procedure laid down by the Board of Trustees and agreed with the Government the Director General and the Staff Members shall be subject to a tax, for the benefit of ISNAR, on salaries and emoluments paid by ISNAR. From the date on which this tax is applied such salaries and emoluments shall be exempt from Netherlands income tax.

The Government shall retain the right to take these salaries and emoluments into account when assessing the amount of tax to be applied to income from other sources. In the event that ISNAR operates a system for the payment of pensions and annuities to its former Staff Members and their dependents, the provisions of this Article shall not apply to such pensions and annuities.

Article 15

SOCIAL SECURITY SCHEME

Provided. ISNAR establishes its own social security scheme or adheres to a social security scheme, ISNAR, the Director General and the other Staff Members shall be exempt from all compulsory contributions to the Netherlands social security organizations. Consequently, they shall not be covered against the risks described in the Netherlands social security regulations.

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Article 16

PURPOSE AND SCOPE OF PRIVILEGES AND IMMUNITIES

1. The privileges and immunities accorded in this Agreement to the Staff Members of ISNAR are provided solely to ensure in all circumstances the unimpeded functioning of ISNAR and the complete independence of the persons to whom - they are accorded.
2. The Director General has the right and the duty to waive such immunities (other than his own) in any case where the immunity would impede the course of justice, and where it can be waived without prejudice to the interests of ISNAR. In respect of the Director General the Board of Trustees of ISNAR has a similar right and duty.

Article 17.

COOPERATION

ISNAR shall cooperate at all times with the appropriate Netherlands authorities in order to facilitate the proper administration of justice, to ensure the observance of police regulations and regulations concerning the handling of inflammable material, public health, labour inspection and other similar national legislation, and to prevent any abuse of the privileges and immunities and facilities provided for in this Agreement.

Article 18

SECURITY

The Government retains the right to take all precautionary measures in the interest of its security.

.. / 8

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Article 19

## ARBITRATION

1. Where ISNAR enters into contracts (other than contracts concluded in accordance with staff regulations) ISNAR shall include an arbitration clause whereby any disputes arising out of the interpretation or execution of the contract may at the request of either party be submitted to private arbitration. Unless otherwise agreed, the arbitration shall be conducted under the rules of the Netherlands Arbitration Institute.
2. ISNAR shall, at the instance of the Government, submit to arbitration any dispute
  - (a) arising out of damage caused by ISNAR;
  - (b) involving any other non-contractual responsibility of ISNAR;
  - (c) involving a Staff Member, and in which the person concerned can claim immunity from jurisdiction under Article 12 if this immunity is not waived in accordance with Article 16 paragraph 2. In such disputes where the claim for immunity from jurisdiction arises under Article 12, the responsibility of ISNAR shall in such arbitration be substituted for that of the person concerned.

Article 20

## SETTLEMENT OF DISPUTES

1. Any dispute between the Parties concerning the interpretation or application of the present Agreement which cannot be settled amicably, shall be submitted, at the request of any Party to the dispute, to an arbitral tribunal, composed of three members. Each Party shall appoint one arbitrator and the two arbitrators thus appointed shall together appoint a third arbitrator as their chairman.

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2. If one of the Parties fails to appoint its arbitrator and has not proceeded to do so within two months after an invitation from the other Party to make such an appointment the latter Party may invite the President of the International Court of Justice to make the necessary appointment.
3. If the two arbitrators are unable to reach agreement, in the two months following their appointment, on the choice of the third arbitrator, either Party may invite the President of the International Court of Justice to make the necessary appointment.
4. Unless the Parties decide otherwise, the tribunal shall determine its own procedure.
5. The tribunal shall reach its decision by a majority of votes.  
Such decision shall be final and binding on the Parties to the dispute.

#### Article 21

#### REPORTING ON STAFF SITUATION

ISNAR shall communicate to the Government from time to time a list of Staff Members.

ISNAR shall inform the Government of the appointment and dismissal of Staff Members individually.

#### Article 22

#### FINAL PROVISIONS

1. This Agreement shall enter into force on the day of its signature.

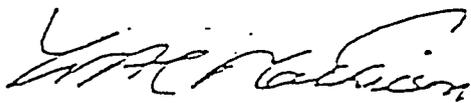
- 10 -

2. The Agreement will remain in force for an indefinite period. The Agreement may be terminated after consultation between the Parties hereto.  
This Agreement will automatically be terminated at the dissolution of ISNAR.
3. Negotiations for the revision of and for amendments to this Agreement shall be conducted at the request of either Party.
4. With respect to the Kingdom of the Netherlands this Agreement will apply to the Kingdom in Europe only.

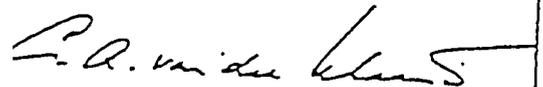
In witness whereof the undersigned, being duly authorized thereto, have signed this Agreement

Done at The Hague on 2 June 1980, in duplicate, in the English language.

For the International Service  
for National Agricultural  
Research (ISNAR)



For the Government of  
the Kingdom of the  
Netherlands



Center	A Method of Establishment	B Date	C Method of Regulation of Relations with Host Government	D Privileges and Immunities	E Source of Mandate	F Geographical Limitations	G Summary of Mandate	H Method of Appointment of Board Members
INAI	By Act of the Congress of the Philippines as Non-Profit Corporation	1960	Republic Act 2707 Congress of the Philippines May 1960	Duty free import of supplies and equipment. No income tax Diplomatic status: DC	Amended Articles of Incorporation October 1982	Asia and other major rice growing areas of the world	Research on rice relevant to F	3 ex officio 11 at large (1 concurrence of CGIAR)
CIAT	By agreement between Govt. of Mexico and IF as "Civil Partnership"	1966	Under review Unsatisfactory	Under review Unsatisfactory	Implicit in A	None	Wheat and winter grains world-wide	3 ex officio 12 at large (shortly 14)
CIAT	Memorandum of Understanding Colombia/IF Non-Profit Corporation	1967	Decree No. 301 of the Ministry of Agriculture 7 March 1968	Duty free import of supplies and equipment. Also for personal use of staff. Director has diplomatic status	By-Laws 11 May, 1969	The tropics	Crop and animal production in the tropics	5 ex officio 11 at large
IITA	Decree No. 37 of Fed. Military Govt. of Nigeria	1967	As in A.	Duty free import of supplies and equipment. First arrival. No income tax	Schedule to Decree	Tropical food & feed crops, particularly the humid tropics	As in F.	5 ex officio 3 at large
WARDA	Final Act of Inter-Governmental Conference of Plenipotentiaries	1970 (C.O.7)	Memoria Not known	Analogous to U.N. agencies	Annex I to A	West Africa member states but open to all African States	Rice in West Africa	Governing Council appointed members by 15 States
CIF	Agreement Govt. of Caro. North Carolina State University endorsed by Decree 1971	1971	As in A.	Duty free import supplies and equipment. First arrival. No income tax non-privileged	As in A. Annexed Statutes	None	Potatoes	3 ex officio 3 at large
ICRISAT	Memorandum of Agreement G.O.I./IF for CGIAR	1972	Not known	As under the Convention on privileges and immunities of the U.N. Unrestricted movement of persons.	As in A.	Semi-arid tropics	Borghum, millets, pigeon and chick-pea and farming systems	1 ex officio 11 Indian- at large at large

Centre	A Method of Establishment	B Date	C Method of Regulation of Relations with Host Government	D Privileges and Immunities	E Source of Mandate	F Geographical Limitations	G Summary of Mandate	H Method of Appointment of Board Members
ILRAD	Memorandum of Agreement Govt. of Kenya on behalf CGIAR	1973	As in A.	Duty free import supplies and equipment. First arrival. No income tax	As in A.	None	Major animal diseases limiting livestock production	3 ex officio 3 CGIAR 6 at large
IICA	Memorandum of Agreement Govt. of Ethiopia World Bank on behalf of CGIAR	1974	As in A.	A as amended by letter 27.4.73 comparable to U.N.	As in A	Tropical Africa South of the Sahara	Livestock production and marketing in Tropical Africa	3 ex officio 3 CGIAR 6 at large
IUGR	Letter of Agreement of CGIAR members/FAO	1974	Under FAO	As for FAO	As in A.	Global	Conservation & utilization of plant germ-plasm	3 ex officio 13 at large subject to approval by CG
ICARDA	Charter executed by World Bank, FAO, IARDP and IDRC	1975	Agreement IDRC/Syria June 1976	Comparable to U.N.	As in A.	Near East, North Africa & Mediterranean Region	Barley, lentils, broad beans (regional for wheat, chick-peas), Farming Systems	1 plus ex officio 3 CGIAR 11 at large
ISHA	Constitution adopted by CGIAR	1979	Agreement between ISHA and Netherlands Government	Duty free import equipment and supplies. First arrival. Free movement.	As in A.	Global for developing countries	Strengthening national agricultural research	2 ex officio 6 CGIAR 7 at large
IFPRI	Admitted by CGIAR after registration as non-profit organization in District of Columbia, U.S.A.	1982	U.S.A. Executive Order 12359 April 1982	Comparable to U.N.	By-laws as amended February 1982 contain no mandate	Global	Study of policies affecting food production and distribution	1 ex officio 8 CGIAR 7 at large

AGREEMENT BETWEEN THE GOVERNMENT OF THE REPUBLIC OF COLOMBIA  
AND THE  
CENTRO INTERNACIONAL DE AGRICULTURA TROPICAL (CIAT)

The Government of the Republic of Colombia and the Centro Internacional de Agricultura Tropical (CIAT),

WHEREAS:

1. The Consultative Group on International Agricultural Research (CGIAR) is a group of national governments, multilateral aid agencies, private foundations and other corporations that have contributed to the establishment of a network of international agricultural research centers and provided support to said system for the purpose of increasing agricultural production throughout the developing world.
2. The three co-sponsors of the CGIAR are the International Bank for Reconstruction and Development (IBRD), the Food and Agriculture Organization of the United Nations (FAO) and the United Nations Development Programme (UNDP).
3. The Centro Internacional de Agricultura Tropical (CIAT) is established in Colombia under an agreement made between the Rockefeller Foundation and the Government of Colombia on November 10, 1967; and both CIAT and its international scientific and international personnel have enjoyed the privileges, prerogatives and exemptions granted therein by Decree 301 of March 7, 1968.
4. The Centro Internacional de Agricultura Tropical (CIAT) is a private nonprofit organization, registered under Public Deed No. 4717, dated October 18, 1967, at the Third Notary Public's Office in

Bogotá, and was recognized as a legal corporation by Resolution No. 4939 of the Ministry of Justice dated December 4, 1967.

5. CIAT operates as an international agricultural research center within the CGIAR system with the mandate to carry out research on problems of tropical agriculture for the benefit of Colombia and other developing countries.

6. The Government of Colombia and the co-sponsors, in a memorandum signed on October 12, 1983 upon the occasion of the tenth anniversary of the inauguration of CIAT's permanent headquarters, expressed their special interest in CIAT's continuing to carry out its activities satisfactorily and their belief that it is essential that CIAT have the status and characteristics appropriate to its international mandate, to its international sources of financing, and to the international character of its staff.

7. The International Bank for Reconstruction and Development (IBRD) and the United Nations Development Programme (UNDP), by agreement signed in Washington (United States) on May 28, 1986 founded the Centro Internacional de Agricultura Tropical (CIAT) with legal capacity and international status, with the intention that CIAT, as referred to in paragraph 3 of this Agreement, continue its existence and operations with headquarters in Colombia, under the terms of the newly constituted CIAT, which has legal capacity and international status.

8. CIAT's Act of Constitution signed by the IBRD and UNDP, stipulates that CIAT enter into an agreement with the Government of Colombia that will regulate the continued existence of CIAT in Colombia with its new legal capacity and recognition of its international status.

NOW THEREFORE:

The Government of the Republic of Colombia and the Centro Internacional de Agricultura Tropical (CIAT) agree to the following:

ARTICLE ONE

(a) By means of this Agreement, the Government of Colombia grants permanent headquarters in its territory to the Centro Internacional de Agricultura Tropical (CIAT); and as a contribution to the accomplishment of its fundamental objectives, guarantees the continuity of the facilities and privileges established by the present Agreement.

(b) The Government of Colombia recognizes the Centro Internacional de Agricultura Tropical (CIAT) as an independent, nonprofit organization of international character, with legal capacity, with international sources of funding.

(c) In this Agreement, the expression ~~"internationally recruited staff"~~ refer to high-level scientific, technical and administrative staff who, in accordance with CIAT's policies, are contracted under international status.

ARTICLE TWO

CIAT shall disseminate, by the means it deems most appropriate, the technology generated by its scientists. The Ministry of Agriculture and specialized institutions dedicated to agricultural research and development, such as the Instituto Colombiano Agropecuario (ICA), the Federación de Arroceros (Fedearroz), the Federación de Cafeteros, etc. shall have access to CIAT-generated technology in their areas of interest. CIAT shall grant admission in its training programs to Colombian professionals. For this purpose, CIAT may establish agreements or contracts with Colombian entities.

### ARTICLE THREE

In accordance with the Agreement signed between the IBRD and UNDP (Article Seven, Paragraph 1), which stipulates that the country hosting CIAT shall have representatives on CIAT's Board of Trustees, to be selected by the host country and CIAT, the present Government of Colombia and CIAT deem it desirable to continue the arrangement whereby the following Colombian citizens shall be ex officio members of CIAT's Board of Trustees: the Minister of Agriculture, the Director General of the Instituto Colombiano Agropecuario, (ICA), and the Rector of the Universidad Nacional de Colombia. A fourth Colombian member shall be freely elected by the Board of Trustees.

### ARTICLE FOUR

The Government of Colombia grants the following privileges and immunities to CIAT in the territory of Colombia:

#### 1. Premises

The premises where CIAT has its headquarters in the municipality of Palmira and the residence of the Director General in Cali shall be inviolable. For this purpose CIAT shall present the required documentation to the Ministry of Foreign Affairs.

#### 2. Archives

The archives of CIAT shall be inviolable. The term "archives" shall include, inter alia, all financial and other records, correspondence, documents, manuscripts, photographs, films, and recordings belonging to or held by CIAT, on the premises referred to in Section 1 of this Article.

#### 3. Immunities

(a) Within the limits of its official activities, CIAT shall have immunity from jurisdiction and execution, except:

- (1) to the extent that CIAT shall have expressly waived such immunity in a particular case;
- (2) with regard to a civil action by a third party for damages arising from an accident caused by a motor vehicle belonging to or operated on behalf of CIAT, or with respect to a motor traffic violation involving such a vehicle; and
- (3) in the event of an embargo, pursuant to a decision by the judicial authorities, of the salaries and emoluments owed by CIAT to a staff member.

(b) Subject to paragraph (a) (3) above, CIAT's property and other assets shall be immune from any form of requisition, confiscation, expropriation and sequestration. They shall also be immune from any form of administrative or provisional judicial constraint, except insofar as may be temporarily necessary in connection with the prevention of, and investigation into, accidents involving motor vehicles belonging to or operated on behalf of CIAT.

#### 4. Taxes

(a) CIAT as a legal corporation, its assets, income and expenditures, and all operations and transactions engaged in or performed by CIAT in pursuit of its objectives, shall be exempt from all kinds of taxes, direct or indirect, assessments, levies, contributions, and charges against persons, objects or activities, whether levied by the Nation, (departamentos), Municipalities or decentralized institutions, regardless of their purpose or destination. The foregoing shall not apply to charges for public services.

(b) To implement the provisions of the foregoing Section (4) paragraph (a), the Government shall make appropriate arrangements for reimbursing CIAT for such (indirect) taxes as may be included in the purchase price of goods or services purchased by CIAT in pursuit of its objectives.

#### 5. Imports and exports

(a) In addition to the dispositions of the foregoing Section, CIAT shall be exempt from customs duties under the terms of Decree 3312 of November 14, 1985 and the rules that complement or modify

it; and the prohibitions and restrictions on imports and exports of articles imported and exported by CIAT to carry out its operations.

(b) CIAT may import, free of customs duty, the vehicles needed for its official use, or for the use of its international staff. Such vehicles shall be imported and registered in the name of CIAT. The number of vehicles in its fleet shall be equal to that registered in the name of CIAT with the Office of the General Director of Protocol of the Ministry of Foreign Affairs at the time of the signing of this Agreement. Hereafter, all additional vehicles shall be justified by means of a petitory memorandum addressed to the General Director of Protocol.

The policy for the importation and sale of vehicles that are the property of CIAT, as well as the registration and assignation of license plates, shall be the same as that established for Technical Missions under Decree No. 232 of 1967 and other applicable regulations.

(c) Without restricting the generality of the foregoing, CIAT shall be authorized to import and export such biological materials as may be required by CIAT for its scientific research, subject to the quarantine and inspection laws and regulations of Colombia, in order to prevent the introduction into the country or export of serious diseases or pests; the Government of Colombia shall assure the prompt and expeditious inspection of all such materials. In application of the foregoing, the Ministry of Agriculture of Colombia shall instruct the Sanitary and Customs authorities in Colombia to allow free movement of CIAT's seeds and genetic materials within Colombia. For export purposes, CIAT shall present only the bill of lading to the corresponding authorities. CIAT shall be exempt from the requisite of registering the exportation.

(d) The Office of the Director General of Customs in Colombia shall facilitate the nationalization of the vehicles and goods consigned to CIAT, including the household effects of CIAT's international staff.

Likewise, to facilitate the importations to which this Agreement refers, no prior license shall be required, sufficing the presentation of the Bill of Lading to the customs authorities upon arrival of the

merchandise to Colombian ports as the only document required to obtain its prompt nationalization. Automotive vehicles shall be governed by the dispositions found in Section 5 (b) of this article.

To facilitate the importation and release of goods imported by the Centro Internacional de Agricultura Tropical (CIAT), the Center shall maintain a qualified Customs Deposit within its installations in Palmira. Likewise, the Customs authorities shall authorize the rapid transfer of any goods arriving for CIAT at any Customs offices in the country to the CIAT Deposit. The Centro Internacional de Agricultura Tropical shall be responsible for said transfer.

6. Funds and Assets

(a) With no restrictions as to financial controls, regulations, or moratoria of any kind, CIAT shall be able to:

(1) receive and hold its funds in any currency, in cash, or securities of any kind, and manage accounts in any currency;

(2) freely transfer such funds and convert them into any type of currency whensoever it deems necessary.

(b) At the request of CIAT, the Government of Colombia shall assist CIAT in obtaining the most favorable conditions for CIAT's transactions in exchange of foreign currency for Colombian currency and vice versa.

(c) The Centro Internacional de Agricultura Tropical (CIAT) shall be able to receive donations from Colombian entities and persons, which will qualify for tributary discounts and benefits for those who make them, in accordance with the conditions regulated by the legal dispositions in force at the time of the donation, thereby enabling CIAT to issue the corresponding certificates of donation valid for tributary effects.

(d) Receive and acquire through donations, concessions, exchanges, commodates, bequests, transfers, purchase or lease—whether it be in the form of property, deposits, contributions of personal property or real estate, by any person, firm or entity, including funds and valuable effects—that may be required by CIAT

to carry out its goals and objectives; and possess, operate, use and dispose of these same properties and goods in any form.

7. Communications

For its official communications and publications, CIAT shall enjoy treatment no less favorable than that accorded to other international organizations by the Government of Colombia.

8. Publications

CIAT shall be free to publish and disseminate the results of its research and other informational material related to its work without restriction. CIAT publications shall enjoy the postal rates within the territory of Colombia equal to those granted to other publications of the same nature.

9. Employment policies

(a) CIAT shall be free to establish such employment policies and conditions for its internationally recruited staff as shall be appropriate to permit CIAT to employ ~~and retain such staff on an~~ international basis, without discrimination as to nationality or origin or any consideration other than qualifications and experience. The rights and obligations of such staff accredited before the Ministry of Foreign Affairs pursuant to Article Four, Section 13, paragraph (a) shall be governed exclusively by the terms and conditions established by CIAT.

(b) Employees and workers of CIAT, other than the internationally recruited staff referred to in paragraph (a) above, shall be subject to Colombian labor law. With respect to such personnel, CIAT shall comply with Colombian legislation covering minimum wages, extra pay for night work, rest on Sundays and holidays, income tax, and inscription of said personnel in the Colombian Social Security Institute. It is understood that CIAT shall not make contributions to The National Apprenticeship Service (SENA) because this is a tax from which CIAT is exempt pursuant to Article Four, Section 4 of this Agreement.

CIAT, the international organization, shall assume all the liabilities arising from labor contracts that are currently the responsibility of CIAT, the Colombian corporation, which is the subject of Whereas clause three of this Agreement.

10. Board of Trustees

(a) Those members of the Board of Trustees who are not Colombian citizens shall enjoy the privileges and immunities described in paragraphs (a)(1), (a)(2), (b)(1) and (b)(2) of Section 13 of this Article.

11. Director General

(a) The Director General of CIAT, if he is not a Colombian citizen, shall have the status of Chief of International Technical Mission and Representative of an International Organization and shall, therefore, enjoy the privileges and immunities set forth in Article 8(2) of Decree No. 3135 of 1956 and Decree No. 232 of 1967 of the Government of Colombia.

(b) The Chairman of the Board of Trustees of CIAT shall inform the Ministry of Foreign Affairs, in each case, of the name of the person designated to occupy said position.

(c) The Director General of CIAT shall duly notify the Ministry of Foreign Affairs of the name of the person(s) who replace him in the performance of his duties in the event of his temporary absence.

(d) The Director General shall register his signature and those of other administrative personnel whom he authorizes to sign routine documents before the Ministry of Foreign Affairs, as well as applications for visas, issuance of documents of identity, drivers' licenses, etc.

12. Visas

Applications for visas for technical and scientific personnel, assigned to service at CIAT, foreign Board of Trustee members, and technicians and scientists who participate in training programs, seminars, or conferences, shall be presented to the Visa Division of the Ministry of Foreign Affairs by the Director of the Center or his

representative, without having to attach the Special Form of the Rotating Fund, but accompanied by a resumé of the applicant and description of the work to be done in the country and the duration of stay.

The Ministry of Foreign Affairs shall grant the corresponding visas, exempt from taxes, and shall facilitate the entry into the country of the Center's staff members, their spouses and children. Foreign personnel with permanent contracts, as well as their spouses and children, shall be granted service visas for one (1) year, extendable for equal periods until the mission terminates. Professionals who come to collaborate on scientific research, participate in training programs or as visiting researchers for periods greater than three (3) months, shall be given a Service Visa for a period of ten (10) months, extendable, with no rights for personal imports. Their spouses and children shall be given the same visa for the same period.

Scientific researchers and students, foreign members of CIAT's Board of Trustees, participants in international seminars or distinguished visitors who come for period up to three--(3) months shall be given a Courtesy Visa for the term of their stay, extendable for one (1) additional month, prior request by the Director General of the Center.

The visa policy established under this Agreement can be modified by complementary agreements subscribed to by the Government of Colombia and CIAT.

### 13. Internationally Recruited Staff

(a) All internationally recruited staff members of CIAT shall be accredited before the Ministry of Foreign Affairs and shall enjoy the following privileges:

- (1) immunity from jurisdiction with respect to all words spoken or written and all acts performed by them in their official capacity and within the limits of their authority;
- (2) inviolability of all their official documents;
- (3) exemption from payment of taxes, tributes or duties on national and international travel fares paid in connection

with the exercise of their official duties and of taxes upon entry into and departure from the Colombian territory; and  
(4) utilization of official vehicles for personal use.

(b) Internationally recruited non-Colombian staff members of CIAT shall enjoy the following additional privileges and immunities:

- (1) immunity from personal arrest and detention;
- (2) exemption from income tax and surtaxes on fees, salaries and emoluments paid to them by CIAT;
- (3) exemption from all personal service of a civic nature;
- (4) exemption from registration as foreigners and from immigration restrictions on them and their dependent family members;
- (5) freedom to keep their personal accounts in foreign currency and to exchange, through authorized entities, foreign currency into Colombia currency, and to withdraw all balances in foreign currency at any time during and at the end of, their service to CIAT;
- (6) the same repatriation facilities and the same rights to protection by the Colombian authorities for themselves and their dependent family members, as are enjoyed by the members of diplomatic missions of foreign countries during periods of international tension, or internal or international hostilities;
- (7) the right to import free of customs duties their household effects and personal belongings upon their arrival in Colombia and to export said goods upon termination of their mission here, within six months of their arrival in or departure from the same;
- (8) when such an internationally recruited staff member has completed four (4) continuous years of service to CIAT and the Director General considers that his contract shall continue for an indefinite period, the Director General may request permission from the Ministry of Foreign Affairs, for said staff member to renew his personal household effects by importing them free of consular, customs and other duties;

(9) at the discretion of the Ministry of Foreign Affairs and upon prior petition by the Director General, CIAT may introduce into Colombia, free of customs and additional duties, certain articles for exclusive personal use or private consumption, such as foodstuffs, spirits, medicines, etc., and

(10) an appropriate visa, a driver's license issued by the Ministry of Foreign Affairs for the technician and his family, and an identity card or cards attesting to his association with CIAT, for purposes of applying the privileges and immunities recognized under this Agreement.

The identification card issued by the Ministry of Foreign Affairs for non-Colombian internationally recruited staff and their families, shall serve for purposes of full identification before all Colombian authorities.

#### 14. Implementation

(a) For the purpose of granting ~~each internationally recruited~~ staff member of CIAT the privileges and immunities set forth in this Agreement, the Director General of CIAT or his representative shall furnish the Ministry of Foreign Affairs individual applications, giving the name of the staff member and his dependents, a brief description of the staff member's qualifications and experience, and the work he will do, and the expected duration of the staff member's employment.

(b) In order to extend the aforementioned privileges and immunities to the members of CIAT's Board of Trustees, of the Director General or his representative shall provide to the Ministry of Foreign Affairs a list of the Colombian and non-Colombian members of the Board and shall update this list yearly.

(c) The same steps shall be taken by the Director General of CIAT or his representative before the Ministry of Foreign Affairs to obtain the respective visas, exemptions from immigration and departure taxes, and other facilities for entering the country for fellowship holders, temporary consultants, conference participants,

the immediate family of a non-Colombian Board member accompanying the Board member, and official visitors.

15. Waiver of immunity

The Director General of CIAT shall be able to and should waive the immunity of any internationally recruited staff in any case where, in his opinion, the immunity would impede the course of justice, and the waive can be made without impairing the interests of CIAT.

ARTICLE FIVE

The provisions of this Agreement shall be implemented by virtue of pertinent measures on the part of the Government of Colombia. The parties to this hereby recognize that the implementation and application of these provisions shall require the Government and CIAT to carry out consultations directly on a regular basis and agree that problems arising in relation to the interpretation or application of the privileges and immunities referred to herein shall be discussed, ~~considered or settled, or~~ ~~in~~ appropriate, by the Government of Colombia and CIAT.

ARTICLE SIX

CIAT, as a legal international entity, shall be independent of the organizations that established it. Accordingly, neither IBRD or UNDP, nor any other member of the CGIAR shall be liable for any of the obligations contracted by CIAT.

ARTICLE SEVEN

When this Agreement enters into effect, CIAT with Legal Capacity 4939, granted on 4 December 1967 by the Ministry of Justice of Colombia, shall be dissolved and all its assets and liabilities shall be transferred to the newly created CIAT with international status.

ARTICLE EIGHT

1. This Agreement shall enter into effect thirty days after the Government of Colombia has notified CIAT that said Agreement has received the approval of the Colombian Congress.

2. This Agreement shall remain in force until one of the following events occurs, whichever shall be first:

- (a) one year after the Government of Colombia or CIAT shall have notified the other of the termination of the Agreement;
- or
- (b) the date upon which a resolution shall have been taken to dissolve CIAT in accordance with its statutes.

Upon termination of this Agreement and once resolution to dissolve the Center has been adopted statutorily, CIAT shall proceed with the liquidation of the Center's assets; and after all debts have been paid, any remaining assets in Colombia shall be transferred to other nonprofit Colombian institutions ~~dedicated to research, education~~ or extension that CIAT and the Ministry of Agriculture deem most appropriate.

IN WITNESS THEREOF, the parties to this Agreement, acting through their duly authorized, legitimate representatives, hereby sign this Agreement in their respective names.

Done in Bogotá, on the fifth day of May of nineteen hundred eighty-seven (1987) in two copies, equally valid.

FOR THE GOVERNMENT OF COLOMBIA:

FOR CIAT:

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JULIO LONDONO PAREDES  
Ministro de Relaciones Exteriores

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JOHN L. NICKEL  
Director General