

AGENCY FOR INTERNATIONAL DEVELOPMENT  
WASHINGTON, D. C. 20523  
BIBLIOGRAPHIC INPUT SHEET

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Batch 62

1. SUBJECT CLASSIFICATION  
A. PRIMARY: Food production and nutrition  
AF00-0150-G784  
B. SECONDARY: Plant production-Cereals-Rice--Viet-Nam Rep.

2. TITLE AND SUBTITLE  
Rice in South Vietnam

3. AUTHOR(S)  
101) AID/ASIA/USAID/Viet-Nam

4. DOCUMENT DATE: 1969  
5. NUMBER OF PAGES: 51p.  
6. ARC NUMBER: ARC

7. REFERENCE ORGANIZATION NAME AND ADDRESS  
AID/PPC/EMS

8. SUPPLEMENTARY NOTES (Sponsoring Organization, Publishers, Availability)  
(In AID Spring Review of the New Cereal Varieties, 1969. Country crop papers: Viet-Nam)

9. ABSTRACT

10. CONTROL NUMBER  
PN-AAE-004

11. PRICE OF DOCUMENT

12. DESCRIPTORS  
Rice  
Varieties  
Viet-Nam Rep.  
Yield

13. PROJECT NUMBER

14. CONTRACT NUMBER  
AID/PPC/EMS

15. TYPE OF DOCUMENT



*Spring Review*

*New Cereal Varieties*

**RICE**

in

**SOUTH**

**VIETNAM**

*March 1969*

*USAID - VIETNAM*

**draft**

Note:

USAID/Vietnam's presentation is arranged according to the subjects listed in AID/W's January 7, 1969 airgram to participating Missions. The packaged reproduced here includes:

- (1) USAID Submission on Rice (40 pages)
- (2) Additional Comments (A series of AID/W questions and USAID answers.) (2 pages)
- (3) Comments by Carl F. van Haefton (5 pages)

# AIRGRAM

# DEPARTMENT OF STATE

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CLASSIFICATION

For each address check one ACTION | INFO

DATE REC'D

DATE SENT  
March 12, 1969

8  
DISTRIBUTION  
ACTION  
AAID  
INFO  
VN  
WOF  
AWOH  
AAPC  
WC  
EXSEC

TO : AID/W TOAID A- 1357 X

FROM : SAIGON

SUBJECT : Spring Review on New Grain Varieties

REFERENCE : (A) AIDTO CIR A-564  
(B) AIDTO CIR A-29  
(C) STATE 030045

1. A PAR has not been prepared for the Accelerated Rice Production Program. It was considered that the PAR itself would not significantly add to the attached comments on the Spring Review and Crop Paper on the IR-8 program in Vietnam. The Crop Production Program E-1 of October 15, 1968 (730-11-130-314) may be referred to for additional program financing and details in lieu of the PAR.
2. The comments on the Spring Review and the Crop Paper for IR-8 are attached and these follow the format requested in the attachment to Reference (B). USAID/Vietnam's general comments on sections apart from the Crop Paper were not specifically required in the instructions. They are, however, being sent to AID/W with the thought that they may be useful to the overall review. There is considerable redundancy in the paper caused by the repetition of questions. Information has been repeated where it is germane rather than making numerous references to other sections. It was thought this would make the report easier to read and use in AID/W. The Crop Paper portion incorporates comments on material supplied in Mr. Charles Fossum's letter of January 22, 1969 to Mr. Huffman.

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DDP: J. ...

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3. The background paper referred to in Paragraph II, 5, b, of the attachment to Reference (B) has not been received in USAID/Vietnam, consequently, no comments have been made on it.

BUNKER

Attachment: Comments on Spring Review and Crop Paper on IR-8 Program - Vietnam

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ATTACHMENT

**COMMENTS ON SPRING REVIEW AND CROP PAPER FOR  
ACCELERATED (IR-8 and 5) RICE PRODUCTION PROGRAM  
IN VIETNAM/**

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**I. Problems to be addressed:**

1. The following conditions are necessary to successfully introduce a new variety. It is not practicable to rank these in a strict order of importance because of their inter-dependencies:
  - a. A sufficiently high level of authority in the host country must sponsor the program to introduce the new variety and give it appropriate support. This support and high level interest must get to the lower echelons if a dramatic and large scale production result is to be reached.
  - b. There must be a ready market for the new variety or an absolute assurance that a market can and will be developed. The price the farmer receives for the crop must be at a level that allows a reasonable net profit on an average for the conditions in that country. Such prices will generally prevail if government policy encourages a free and responsive marketing system and, further, does not encourage the maintenance of retail prices to urban consumers at levels below which they could normally establish in a free market. Such programs too frequently transfer all or part of the cost of such subsidization to the farmer producers.

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1/ IR-8 and 5 Program and Accelerated Rice Production Program are used interchangeably throughout the paper and mean the same thing. Also, both IR-8 and IR-5 have been introduced into Vietnam, however, the major effort has been to promote IR-8. The hectareage reported herein may include some IR-5 plantings, but the areas would be minimal as only 5 tons of IR-5 seed was imported into Vietnam in 1968 as compared to 2,000 tons of IR-8.

- c. The new variety must, under test in the country in which it is being introduced, perform close to the claims made for it. For example, higher yields, disease resistance, better quality, etc. It should be a real and easily recognized improvement over the local varieties.
  - d. Too radical a change in cultural practices or greatly increased production costs in comparison to the local varieties will result in slower acceptance by large numbers of farmers.
  - e. Policies for implementing the production program must be clearly spelled out and agreed to by the host government.
  - f. A program activity implementation plan must be prepared, project goals set, responsibility assigned, and necessary resources allocated.
  - g. A systematic approach to the management of the program must be devised so that problems may be anticipated, actions coordinated, and progress evaluated and reported. The program must not be left to chance and should not be managed or coordinated by a highly specialized or discipline-oriented person such as a soil scientist or plant pathologist unless he has previously demonstrated the administrative ability required. The program would probably be best managed by a generalist with a proven record of ability in program development, planning and administrative coordination.
  - h. A large-scale extension/information program reaching the lowest levels must be feasible and the institutions for carrying out such a program must be present.
  - i. A review of techniques used and special problems encountered and solved by other countries growing the variety should be made to provide guidelines for the new country's program.
2. What effect has the IR-8/5 Rice Program had in Vietnam:
- a. The IR-8 and 5 Rice Program is already considered successful in Vietnam. The President, Prime Minister and Minister of Agriculture have all supported it at public meetings and in official

documents. This has raised the morale of agricultural personnel in Vietnam to a high level and provided a healthy climate for continued efforts in crops and in other agricultural programs such as animal protein.

- b. The Accelerated Rice Production Program has and is contributing significantly to the pacification effort by effectively demonstrating to the Vietnamese farmers that the government is concerned about their welfare and is doing something about it. In short, the Vietnamese Government's pronouncements on IR-8 and 5 have demonstrated credibility so the affected farmers will listen again.
- c. Several units of the Ministry of Agriculture now work more closely together in planning and coordinating their actions. The Agricultural Development Bank (ADB) field personnel meet regularly with the Agriculture Service Extension personnel in regional meetings on a periodic basis to discuss the rice production program. Joint training classes have been held. The MIRA extension workers are being called upon to prepare farm plan budgets to support crop production loan applications for the local ADBs and assist in loan collections.
- d. The IR-8 and 5 Rice Program has greatly accelerated the planned transfer of the import, sale and distribution of fertilizer and pesticides from the government to the private sector.
- e. Steps were taken by the GVN to purchase some rice from Delta provinces. The price of Title I rice was raised and actions were taken to move excessive rice stocks in Saigon to the central areas of Vietnam. While this is not considered a comprehensive policy and action program, it could be the first steps of an integrated floor price and commodity loan program. The raising of the ceiling price of Title I imported rice had the effect of supporting the price of paddy which the farmer sells.
- f. The shorter growing variety (IR-8 maturing in 125 days) affords the Vietnamese farmers an opportunity to double crop in many areas. This is particularly true where IR-8 rice is followed with sorghum grain. (A rice/grain sorghum program is presently in the planning stage.)



- b. During 1966-67, USAID concentrated project support for vegetables, fruits, fibers, food processing and research. No really effective effort was made to achieve a production breakthrough in rice, corn or grain sorghum during those years. As late as July 1967, there was doubt both in Saigon and AID/W about the need for increasing rice production. Some argued that since rice could be readily imported, it would be better to use scarce resources in the rural areas to increase production of commodities which could not be readily imported. To increase or not to increase rice production was the question. This led to a lot of unnecessary uncertainties with respect to agricultural plans, goals and programs. The rice production policy in Vietnam was finally and firmly resolved during the meetings in Hawaii in the early fall of 1967. It was then decided to go all-out for the rice program at the highest level. This led to USAID's preparation of the rice goal plan which finally set the policy that a rice production increase was desirable, necessary and feasible, despite a labor shortage and lack of security in the rural areas. This got to the highest levels in Washington and was accepted and vigorously supported by USAID and the Department of Agriculture.
- c. The key factor in this item is, "to what extent did AID contribute to the development of a system capable of adapting agricultural innovations and applying them on a wide scale".
- (1) In late 1967, USAID/Vietnam prevailed on the Minister of Agriculture to visit IRRI in the Philippines.
  - (2) It then encouraged the GVN to support an accelerated rice production program using IR-8 and 5.
  - (3) It reorganized its own agricultural office to provide effective support for an action rice production program.
  - (4) It assisted in preparing a management system for the program so as not to leave the management decisions and actions uncoordinated or to chance. The management

technology of PERT (Program Evaluation Review Technique) and LOB (Line of Balance), on a modified basis was used.<sup>2/</sup> This system recognized that the rice program was a production effort; more complicated than manufacturing but with enough similarities to permit the scientific management approach so effective in industry. For example, it considered needs to be filled, it identified goals and the supporting facilities and commodities required, the policies necessary, and the step-by-step procedures to be followed within a time frame to reach the desired goals. This management system approach has been of decided help to the GVN in planning and reaching its program goals.

(5) It financed the foreign exchange cost of approximately 3,200 tons of systemic pesticides, which had a value of \$1.7 million, for sale to farmers in local currency for the protection of the IR-8 and 5 plantings. Systemic pesticides had not been used by Vietnamese farmers previous to this importation.

(6) It financed, as a grant, the importation of 45 MT of IR-8 rice seed for the Vo Duc support effort in October 1967 plus another 2,000 MT of IR-8 seed for the 1968 44,000-hectare production program. A small quantity, 5 MT of IR-5 seed was also imported in 1968. The value of all of the seed was in excess of \$450,000.

4. **Effective means for organizing research for tropical and sub-tropical agriculture:**

- a. Obviously, the research provided by the International Rice Research Institute in the Philippines has provided a significant breakthrough in rice improvement. IRRI not only developed the improved seeds IR-8 and 5 but also many other varieties which from early tests appear to be superior to IR-8 and 5.

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<sup>2/</sup> See A Management System for Agricultural Development, R. F. Smith. Available VII/REIR, AID/W.

- b. In addition to research on seed development, nutrition, insects and diseases, IRRI also has proven that rice production training for technicians is best done in a combined field/classroom situation. The multiplication of this technique of "learning by doing" has been spectacularly successful in all other countries where it had been tried. It is so well known that it does not need further comment in this paper.
- c. IRRI's sponsoring of applied tests in selected countries is also a proven success. In Vietnam, there are currently over 100 new varieties being tested in the GVN rice stations, many of which come from or were supplied by IRRI.
- d. Rice varieties developed in other countries, in some cases with assistance from AID or private foundations, also are being tested in Vietnam. At least two such varieties show promise; one from the University of the Philippines College of Agriculture - C-18, the other from the Bureau of Plant Industry in the Philippines - BPI-76.
- e. AID should continue to sponsor production and research programs in Asia and support institutions like IRRI, the Asian Vegetable Research Center in Taiwan and the University of Hawaii's synoptic efforts in rice diseases. AID can continue to disseminate information to its Missions and sponsor advanced education for its foreign service technicians in the areas where they can improve their professional capabilities and make contributions to agricultural production programs in LDCs.
- f. Where resources, including technical and scientific personnel, facilities and support materials, are limited in a LDC, the government should be encouraged to streamline research to gain the most advantage from limited resources. For example, there is serious waste in many LDCs which is covered up under the guise of research. In Vietnam, there were more than nine agricultural research stations which were inadequately equipped and poorly staffed. Most of them did not have specific programs or well-defined project activities. In addition, support services were not available and competent observation and reporting of

results were sadly lacking. LDC governments should contract or otherwise cooperate with their own universities wherever feasible to carry out well-coordinated adaptive and applied research. This conserves funds and produces more meaningful results. AID should encourage and support agricultural research in LDCs where the programs are jointly reviewed, plans specified and administrative improvements instituted. Selected university efforts in the LDCs should be given priority wherever feasible in contrast to encouraging the development of new government research stations per se.

- 5. What in general were AID and other US agency roles in bringing about changes in the institutions' policy, programs and practices:
  - a. USAID's Public Administration Advisors participated in a study resulting in a reorganization in the Ministry of Land Reform and Agriculture. This brought better coordination among associated and inter-related functions. For example, Extension, Plant Protection and the Rice Service were brought together at the provincial level under a single Agriculture Service Chief. This provided better coordination for programs, it defined responsibility, and permitted meaningful delegation of authority. This reorganization now permits more effective problem resolution and program implementation at the provincial level. A similar change in the organizational structure was effected in the Ministry headquarters following similar consolidation of functions.
  - b. The International Rice Research Institute, in cooperation with USAID, assisted the GVN in the development of the National Rice Production Training Center in Vietnam based on the same training techniques and methods employed at IRRI. The NRPTC has been in operation since April 1968 and has trained several hundred Vietnamese rice production technicians to date. Some applied research is also conducted at the Center such as varietal, nutritional and environmental tests.
  - c. USAID has been successful in persuading the GVN to participate in a survey of the grain storage, handling and marketing facilities in the country. A project agreement has been signed

bringing together the Ministry of Agriculture, responsible for production aspects, and the Ministry of Economy, responsible for price and marketing policies. These agencies, in sponsoring the project study, have agreed to bring the private sector into the survey so that the respective roles and talents of the private sector and government can be defined and exploited.

- d. USAID has convinced the GVN to take measures to adjust the price of imported rice upward so as to provide what amounts to some price support for locally produced rice.
6. Other beneficial possibilities not yet fully explored:
- a. The shortened period of growing needed for IR-8 and 5 affords Vietnamese rice farmers an opportunity to produce supplemental crops. Considerable portions of the rice paddies which enjoy residual moisture or even a few rainfalls after the rice harvest, presently are left fallow for several months of the year. A program is in the stage of preliminary planning to take advantage of this for planting grain sorghum. Grain sorghum, following a single rice crop, is highly feasible in Vietnam and would support the animal protein program. Sorghum does well with only limited water to start it in its early growth stage.
  - b. Multi-cropping with rice is also a good possibility in Vietnam. A test project utilizing the work which Dr. Bradford has done at IRRI is under consideration. The objective is to test and demonstrate that compatible crops can be grown in specially prepared fields at the same time as rice. Crops to be tested would be soybeans, mung beans, sorghum and vegetables.
7. What problems directly involving the new varieties most urgently need our attention:
- a. Both IR-8 and 5 rice varieties are relatively very high yielding. They promise to provide the increased production necessary to meet domestic rice needs in Vietnam. However, neither of these rice varieties is considered to be a high grade table or export

quality rice. If an export market is to be regained, then, there has to be other improved varieties in production in combination with IR-8 and 5. A general improvement in the rice varieties grown in Vietnam and a reduction in their number is necessary. Improvement in varieties and seed multiplication requires supporting a marketing and grading system of rice which provides the economic incentives to implement the program. For example, if the government establishes that it will purchase for its institutions, for the military, etc. certain varieties and grades in these varieties, it helps seed multiplication advisors to persuade farmers to grow them.

- b. Short maturing varieties result in more rice being harvested in the rainy season. This requires changes in harvesting, drying and storing techniques. These problems are now being studied.
  - c. With the increased interest by most Asian countries in rice self-sufficiency programs, thought should be given to AID sponsoring a regional symposium in rice marketing and production problems. The symposium could explore, among other things, the desirability of establishing standards for the marketing of rice, also whether insurance stocks against natural disasters held by cooperating countries would be feasible or desirable.
  - d. Farm mechanization and irrigation are problems which are not now adequately being studied. With the long growing season in Southeast Asia, special machine development and irrigation systems have the prospect of providing crops to the market all year long with improved seeds and management techniques.
3. What ancillary or consequential problems are being created:
- a. USAID advisors are concerned that there could be an over production of rice in Vietnam unless a good marketing system provides some balance. The balance between requirements for domestic use and an exportable surplus requires an enlightened policy and an action

program by the government. In the Philippines, there is a Rice and Corn Administration which attempts to stabilize prices and assist in the marketing of rice and corn. No such system exists in Vietnam. It is believed that unless some measures are taken to provide the Vietnamese rice market with balance and coordination, that serious problems will arise as production increases particularly if past export markets cannot be regained or are no longer available.

- b. There is an immediate need for the improvement of storage, handling, harvesting and milling techniques in Vietnam. Grains going out of condition and improper milling alone cause a considerable waste of rice in the country. A study of this is now to be implemented.

9. What conclusions can be drawn for agriculture development in general:

- a. Cooperative agricultural programs in LDCs should be better planned and comprehensive in scope. They must be in concert with the policies and aspirations of the host government and be directed to improving the economic well being of the farmers and development of the rural areas. AID's development efforts in agriculture cannot be piece-meal and uncoordinated. Many projects fail because they lack effective planning, continuity of project management, administrative coordination, and progress evaluation and follow up. For example, the introduction of pure bred herds of swine without an appropriate feed program and health program will fail. Often USAID technicians start projects and these fail merely because the initiator does not stay to assume responsibility for completing the critical months or years of the project implementation. All component and necessary parts of any agriculture program, whether it is animal protein or crops, must be well planned and each resource in place when and where it is needed, and under the direction of a single project manager.
- b. Private agri-business should play a more major role in LDCs. The private sector must be developed as much or more than Government institutions. AID should support this policy and unless the host government encourages the development of private business insofar as possible, program support should be transferred to other countries where the governments cooperate with, support and assist in developing their private sectors.

- c. It is much easier to obtain institutional changes and strong support from top level government officials if a program has very clearly defined goals to be achieved in a specified time frame. This is particularly true if production targets are involved.

## II. Methods and Procedures:

No comment by USAID/Vietnam on this section as no PAR is being submitted. See the E-1 on Crop Production of October 15, 1968 (730-11-130-314).

## III. Background Data IR-8-288-3 (IR-8):

IRRI's development of the new rice variety IR-8 started in 1962 when a plant scientist at IRRI took pollen from a short indica rice variety, Dee-geo-woo-gen, from Taiwan and placed it on a tall tropical indica variety called Peta. In the Institute's plant breeding records, the cross was designated IR-8.

As a result of this cross, 130 seeds were formed which were carefully grown in IRRI's greenhouse to produce the first generation plants. Seeds from the best of these plants were then planted in the open research field to provide a second generation of about 10,000 plants. The plants in this generation that were too tall, late maturing, or otherwise undesirable were discarded. Seeds from the remaining plants having the desirable qualities, e.g., short stems, early maturing, heavy panicles, were selected for replanting in the nursery where disease susceptibility is tested. The process of selection and replanting went on until finally a satisfactory superior plant was selected and designated IR8-288-3.

This new variety had many highly desirable qualities -- a strong seedling vigor, high tillering ability, short stature (90-105 cm) and a stiff straw which makes it resistant to lodging.

The variety responds to high levels of nitrogen which produces higher grain yields; and it is moderately early maturing, taking about 125 days from seeding to harvest. Late maturing varieties take from 150 up to 160 days. IR-8 is insensitive to photoperiod, has moderate seed dormancy, and is moderately resistant to the tungro rice virus. IM

addition to tests by IIRI at Los Baños, IR-8 was also tested in variety trials throughout the Philippines and in several other Asian countries. As a prolific producer, IR-8 had no peer. The eating quality is also acceptable for most of the Asian market and it has been found to be very desirable in the manufacture of rice noodles in Vietnam.

IR-8 has some undesirable characteristics. It is moderately susceptible to bacterial leaf blight and is highly susceptible to a few races of rice blast fungus found in the Philippines. The grain is of medium size, chalky, prone to breakage and the head rice milling recovery is therefore fairly low.

#### IV. Country Crop Paper - IR-8 and 5 Rice Varieties in Vietnam:

##### Background:

Vietnam was traditionally a rice exporter up until 1964. The war ~~so~~ upset the production of rice that in 1967, it was necessary to import over 750,000 metric tons of rice to satisfy domestic needs. In 1968, this amount was reduced to 677,925 metric tons.

A small quantity of IR-8 and 5 seed was introduced into Vietnam as early as 1966 and was officially tested at the Long Dinh (Dinh Tuong) Rice Experiment Station in the fall of 1966. In the spring of 1967, more tests were made at the Ninh Thuan, Phu Yen and Thua Thien Rice Experiment Stations. The tests were satisfactory, the strains displayed good characteristics, and production capacity of each strain was rated as high.

Some large demonstration field trials of the IR-8 and 5 varieties took place in several provinces during the first crop planting (April-August) 1967 and most reported observations ranged from satisfactory to excellent.

A local flood in the village of Vo Dat in Binh Tuy Province during August 1967 wiped out the newly planted main local rice crop of several hundred hectares. Because IR-8 was a short-maturing variety, this presented an opportunity to try planting it on a larger scale and help the affected farmers in Vo Dat recover from the flood damage. Forty-four tons of IR-8 seed were brought from the Philippines and about 500 hectares were planted.

Vo Dat was never meant to be an ideal or controlled experiment. The planting of IR-8 did, however, provide some valuable experience and information and at the same time help the local farmers in time of serious trouble. Of the final 134 hectares which were reported by competent observers as harvested, the average yield was 2.5 metric tons of paddy per hectare. Local varieties only yield an average of about 1.5 metric tons in Vo Dat.

This yield of approximately 335 metric tons was considered an excellent result in view of the many problems experienced in Vo Dat. The land preparation was poor, dikes were not well constructed, planting was erratic, and no replanting was done. Fertilizer, when applied, was too late and unevenly distributed and there was a serious shortage of water. This lack of water caused over half of the rice hectareage planted to IR-8 in Vo Dat to be lost. In spite of this, from the 335 metric tons of IR-8 paddy, 80 tons was purchased as seed for distribution to other provinces.

The Minister of Land Reform and Agriculture, in December 1967, visited the International Rice Research Institute in the Philippines with several of his rice and agronomy advisors. Some USAID officials from Saigon accompanied the Minister and his party. It was then decided by the Minister to launch an Accelerated Rice Production Program. This program called for a massive technician training, farmer education and rice production support effort. IR-8 was selected as the improved seed and it was decided by the CVN, with USAID agreement, that 2,000 metric tons of it should be imported from the Philippines to start the program in Vietnam. In January 1968, the Vietnamese provincial agricultural chiefs and heads of services were brought to Saigon to formulate the program and set it in motion. It was decided at this meeting, among the agricultural participants, that 44,000 hectares of IR-8 rice seed would be planted in 34 provinces for the 1968 program.

On February 11, following the Tet attack, the MLRA reviewed and re-evaluated capabilities and decided to go ahead with the program as planned. For policy, it was the Ministry's program; the US input would be advisory and cooperative; it was recognized that paddy prices to the farmer was of critical importance; the private sector (agri-businesses) should be involved to the greatest extent possible; and that generally, sound technical assistance would be offered the farmer instead of give-aways or dolcs.

The program was considered a two-part effort - the training, research, extension activities and the production, physical input and support activities. Normally, a program of this magnitude would put training, research, extension and demonstrations before any massive production. Time and the need for immediate results dictated otherwise. Program implementation was started in January 1968 insofar as resources would permit.

1. How far and how fast have the new varieties spread:

- a. Combined plantings, 1st and 2nd crops during the 1968 production program (April/August - October/January), reached the 44,000-hectare goal. About 22,000 farmers in 34 provinces were involved in the first crop IR-8 plantings. Some of these same farmers planted IR-8 again during the second crop planting, however, the actual number of those is not known. The estimate of all farmers planting IR-8 during both seasons in the 1968 crop year is 41,000 farmers, some of whom have been counted twice.
- b. Most of the hectares planted to IR-8 rice have had controlled water but it is not known how many were fully irrigated or non-irrigated rain-fed paddies.
- c. A farm plan budget form was devised in early 1968 for the special supervised credit IR-8 rice crop loans. MIRA officials considered the system too difficult to initiate in view of the short lead time, lack of technician training and shortage of supervised credit personnel. Consequently, little reliable information is available on the participating farmers from which an economic profile of those can be drawn. The land size of the average farm varies greatly from less than one-half hectare in the North to almost 2.0 hectares in the Southern Delta. Approximately 70% of Vietnam's rice is grown in the Delta.
- d. The IR-8 yields in Vietnam averaged over 5 metric tons per hectare on the approximately 23,000 hectares planted during the first crop of 1968. The local varieties average only 2 metric tons. Based on a scale provided by the MIRA, a farmer, with a family of five, producing the average 2 tons of paddy

can market about 100 kilos of this paddy as excess to his production costs and family consumption requirements. The same farmer producing 4 tons would, on an average, market 1,100 kilo or 11 times as much while if he produces 6 tons, he would have 2,300 kilos to market or 23 times as much.

With respect to the national production effort, Appendix A illustrates the relationship of planting IR-8 to local varieties on the reported 2.2 million hectares of ricaland presently being cultivated in Vietnam. This table only assumes one crop is grown. Double cropping, of course, adds to the total production. When the planting of 540,000 hectares of IR-8 is reached between 1970 and 1971, the country should be producing 6,000,000 tons of paddy which is the estimated output needed for rice self sufficiency.

2. Factors which helped launch the program:

- a. South Vietnam had to import approximately 750,000 metric tons of milled rice in 1967. This was alarming to both the GVN and US officials. The need for increasing domestic rice production immediately was of vital importance.
- b. The new varieties of rice, IR-8 and 5, were being grown in the Philippines and with spectacular production increases.
- c. The Minister of Agriculture visited the International Rice Research Institute in the Philippines to investigate and learn about the new rice varieties. He was enthusiastically interested.
- d. Some of the limited plots previously planted to IR-8 and 5 in Vietnam were reported very successful and yielding two or more times the local varieties.
- e. USAID, in encouraging the GVN to start the program, sponsored the Minister's visit to IRRI and gave assurance of its cooperation and support for an accelerated program.

- f. The IR-8 program has been successful enough so that a corn/ grain sorghum program could now follow to take advantage of the rice program's momentum, organization and techniques. Most of the system would be transferable. Sorghum planting kits, ADB credit loans, the program management system modified to sorghum rather than rice, etc., could be employed and exploited. (Preliminary plans are in process to do this.)

3. Institutional base of the program:

a. Describe the institutions:

(1) Research and Extension -

GVN Institute of Research operates administratively from a central office in Saigon. This office has a Director, an Associate Director, and five sub-divisions including agronomy, soils, horticulture, experimental stations and a general support unit. The field operations include nine research stations of which four are presently active in applied field research on upland rice, row crops, tree crops and vegetables but excluding lowland rice. The extent of field research has been limited due to the lack of supervision and direction from Saigon, insufficiently trained field supervisors responsible for test plot implementation and data collection, and an overall shortage of day laborers and operational funds and equipment. Area insecurity has also adversely affected the program. The two primary phases of USAID adviser assistance has been directed at program planning and project implementation.

The GVN Rice Service is organized within the Directorate General of Agriculture. The Service is headed by a Chief and has one assistant and three technicians. The Rice Service has the sole responsibility for paddy (lowland) rice research and production. The field operations consist of a national rice station at My Tho and seven sub-stations located in various provinces from Huo to Long Xuyen. Each station has at least one manager and a small labor force. The national rice research program includes

various phases of varietal development, seed purification, fertility, cultural, disease and entomological studies. The applied projects are directed toward varietal evaluation, fertility, insecticide and herbicide studies in support of production requirements. The general lack of trained field staff limits the amount and credibility of the research conducted at field locations.

Rice seed multiplication is an additional phase of the seed purification program which could be expanded and improved. Presently, there is no established means for supply and maintenance of pureline breeders seed for use in the production of foundation seed. Seed which is presently released to contract seed producers is subsequently distributed to growers and is not maintained in a purification program. The seed production program should be improved and streamlined so as to establish a system for a future certified rice seed program.

The Agriculture Extension Service and the Agriculture Information Service were established in Vietnam in 1954. These two agencies of the Ministry of Land Reform and Agriculture are responsible for providing the informal out-of-school farmer education and technicians' training in support of the Ministry's programs. Both of these Services are part of the Directorate General of Agriculture. They are two distinct Services but cooperate closely on the design, production and dissemination of agricultural extension/information materials.

The Agriculture Extension Service is divided into three bureaus -- agriculture, youth and rural women. Representatives of these offices are located in the provinces as part of the Provincial Agriculture Service Chief's Office. As support agencies, the Extension and Information Services provide specialized assistance in terms of hamlet-level farmer education and widespread information dissemination for all agricultural programs.

The success of the Accelerated Rice Production Program is in large part a result of effective extension work at all levels and finally the willingness of farmers here to risk growing the new varieties. Mass media techniques were used extensively to convince the farmers of the personal benefits to be derived from trying IR-3 and IR-5.

A special series of coordinated rice educational materials was designed and distributed by the GVI Extension Service and USAID advisors. These included 20,000 illustrated booklets for use with the 10,000 one-tooth hectare rice kits, 16,000 IR-3 and 5 rice plot signs, 15,000 motivational wall posters, 75 sets of colored slides, 560 technicians' flip charts for teaching, and 100,000 very simple farmers' leaflets. Later improvements and reprints were made of most of these items. Frequent radio tapes prepared by the Agricultural Information Service, newspaper stories, and well-publicized visits by high-level government officials to rural areas also helped to keep interest in the new rice at a high level.

Particular emphasis was given to two points in reference to the new rice; that it would at least double existing yields and that it had already done so in Vietnam.

Farmers were "sold" on the new rice varieties, however, not so much as the result of any single factor, but rather by the combined effect of the entire extensive publicity campaign.

Because of the loss to the Army of trained technicians both from the national and provincial extension offices, the level of competence is getting seriously thin. In-service training programs for these extension workers remaining as well as better education materials, and just recently arrived portable visual aid units, are being used to increase the general effectiveness of the extension field workers.

**(2) Credit -**

Institutional agricultural credit in Vietnam is provided principally through the Agricultural Development Bank. The ADB is a chartered bank under the control of the officially appointed Board of Directors which is chaired by the Minister of Land Reform and Agriculture. There are 41 branches or sub-branches serving the 44 provinces of the country. The ADB central office is in Saigon. The bank's regular personnel staff approximates 600 employees and its present capitalization is approximately VN\$458 million. It has a total available loan fund of about VN\$3 billion.

The ADB has three major loan programs: (1) conventional bank loans from the bank's own capital, (2) commercial credit for fertilizer and pesticide importers and distributors from funds on loan to ADB from joint GVN/USAID controlled counterpart funds, and (3) production loans to farmers from a variety of earmarked funds provided from both GVN and counterpart sources.

Conventional bank loans are made to applicants who reside in secure areas and who are able to post collateral security. Commercial traders, located in province or district capitals, are the principal clients for this type of credit. However, loans from this source are being issued in increasing numbers to large farm operators.

In 1967, a Fertilizer Credit Fund (FCF) was established with an authorized capitalization of VN\$1 billion for loans to fertilizer importers and distributors. The fund was established principally as a credit source for the National Farm Organizations which did not qualify for credit from commercial banks in the quantity necessary for the volume of fertilizer trade which they were capable of servicing. While priority is given farm organizations, loans from the FCF are also made to other private fertilizer traders, particularly to the commercial distributors and dealers in the provinces.

The interest rate on FCF loans to the national farm organizations has been gradually increased and as of January 1969, its rate is comparable to the prime rate prevailing in commercial banks. Postharvest were also added as a commodity eligible for financing from the FCF as of January 1969.

Agricultural production loans are made for supervised credit, culms, water pumps, food, rice, rubber, pacification, storm recovery pacification, etc. Of the approximately 60,000 loans issued for all these purposes in 1968, about 10,000 were issued for the production of IR-8 and 5 rice.

Applications for rice production loans in 1968 were obtained by Agricultural Service personnel and forwarded to ADB for review, investigation and approval or disapproval. There was insufficient effort to clearly and convincingly explain to the Agricultural Service personnel that the loan program was not another official soft loan program whereby loans could be generally written off as a pacification loan. The flood of loan applications during the short period allowed for processing exceeded ADB's capacity to fully investigate all applicants. A calculated risk was accepted by the bank and previous offices were advised to issue loans to all applicants who had no record of default or other impairment.

In 1969, both the Ministry of Agriculture and the ADB have established a firm policy that no loans are expected to be written off for political purposes and have instituted training programs and operating procedures which are designed to effect administration of the loan program in the manner intended.

A joint GVN/USAID study group was recently organized to consider means to consolidate the agriculture production loan funds to give the bank more flexibility in the use of its total loan portfolio. The group will also be responsible to estimate the total credit requirements estimated for future needs of farmers, fishermen and agribusiness interests for production inputs and marketing facilities.

Of this total credit, an appraisal will be made of the quantity which normal commercial banking institutions can be expected to provide and the quantity which must come from other sources, presumably official and quasi-official agencies such as ADB, if economic, particularly agricultural, development is to proceed at its potential pace.

The amount of credit required for farm, fishery and agribusiness needs in Vietnam is estimated at 15% of the gross value of agriculture and fishery production. At the 1968 estimated values of VN\$100 billion for agriculture and VN\$37 billion for fishery products, it is appraised that the total credit needs were approximately VN\$20.5 billion from all sources. ADB issued loans during this period of approximately VN\$4.6 billion.

The study group will make recommendations on the source of funds for the credit required, in addition to commercial sources, and the institutional changes needed to administer this increased credit. The ADB was strained to administer its loan portfolio in 1968 due to an insufficient number of trained personnel and to inefficient data processing. A pilot project for automatic data processing is presently underway at ADB to develop and adopt the processing procedures prior to extension of the new system throughout ADB's operations.

(3) Distribution system - fertilizer, etc. -

The Government of Vietnam, with urging from USAID, was in the process of transferring fertilizer importation and distribution from government to the private sector before the IR-8 program was initiated. In early 1965, there was still some fertilizer in the hands of the Agricultural Development Bank, the government agency that had been the importer in the previous year. The complete transfer of fertilizer distribution and sale to the private sector took

place during the 1968 rice crop year. No adverse effect was felt in the rice program from this transfer. Further, it is expected that considerable advantages will be gained in the years to come by having fertilizer importation and distribution in the hands of the private sector.

Fertilizer has been imported under an exchange rate of VN\$75 to US\$1 in contrast to the prevailing official exchange rate of VN\$118 to US\$1. The favored fertilizer exchange rate was established in 1967 to permit fertilizer prices to reach a level at retail that would make its use economic on paddy at the depressed prices then prevailing. As the subsidy on imported rice is decreased and prices Vietnamese farmers receive for locally grown paddy are again allowed to reach levels competitive with imports, the fertilizer exchange rate will be increased accordingly until it reaches the official exchange rate.

BHC systemic granular insecticide was imported by the Government of Vietnam. USAID financed the importation as a grant for use in the 1968 rice program. In recent years, most agricultural pesticides have been handled by the Plant Protection Service of the GVN. Effective January 1, 1969, the GVN discontinued retail sale of pesticides and made all remaining stocks, except for a small quantity retained for research and extension use, available for sale to the private trade.

The private sector has declined the opportunity to import and sell systemic granular insecticides used in the rice program. The trade was reluctant to accept the risk involved in the importation of the large tonnages of these insecticides required for the planned hectareage in 1969. The reason given was that the insecticides had only been introduced in Vietnam the previous year and were not proven as marketable. The importation of these systemics for the 1969 rice production program will be by the government but retail distribution will be through the private sector. To the greatest extent possible, this retail distribution will be channeled through the farm organizations.

Other rice production items such as farm implements, sprayers, irrigation pumps, etc. are generally available through private channels in Vietnam, however, there is no vigorous agri-business promotion of sales in the rural areas. Expansion of trade in these items would normally not increase until farmers had a definite increase in income potential or experienced a rise in the cost of labor. Both have developed with the advent of IR-8 and 5 rice and the drain of labor from the farms to higher priced jobs associated with the war effort in the cities. Expansion of trade in mechanical farm equipment is expected to follow the increased hectareage of IR-8 and 5 to be planted.

(4) Marketing and storage -

Marketing and storage of rice and other grains in Vietnam follows the traditional Asian pattern of middlemen and production credit is often tied to marketing arrangements. Rice mills are old and inefficient and storage is poor. The massive importation of rice into the country has provided a new dimension to this situation. Approximately 200,000 MT of milled rice are stored under government control in the Saigon/Cholon area. The government moves rice to the production deficit areas of central Vietnam at subsidized prices. To what degree this situation has disrupted normal channels of handling, storage and marketing rice is not specifically known. Rice prices are watched carefully by the USAID staff and as previously mentioned, USAID has been successful in getting the GVN to raise prices of imported milled rice so as to effect some paddy price support for the Vietnamese farmers. A comprehensive survey of grain storage, handling and marketing with emphasis on rice has just been approved. This survey is USAID sponsored and will be conducted in cooperation with the Ministries of Agriculture and Economy. It will cover all aspects of storage, handling, processing and marketing of rice in addition to other grains.

\*p rticul rly since the subsidy has been reduced to a minimum level.

b. Importance of formal institutions and their combined effect:

The spread of new varieties during 1960 in the planting of 44,000 hectares could not have been achieved so successfully without the existence of several GVN government institutions and the existence and support of the private sector participating. One particular institution which made a significant contribution was the Fertilizer Distribution Center. This is a group which represents the fertilizer trade. Officials of the FDC listened sympathetically to the problems of fertilizer distribution in those provinces participating in the rice production program. With GVN/USAID urging, the FDC took the measures necessary to assure that fertilizer would be available in those provinces insofar as possible.

The Plant Protection Service of the MLRA, already a principal distributor of pesticides, assisted in the distribution and extension of information necessary to introduce the new systemic granulars.

The Agricultural Development Bank geared up a program of extending credit on an accelerated basis to a large number of the participating rice farmers.

The Extension Service of the MLRA worked in close cooperation with the Rice Service in providing extension and information materials and in the establishment of the National Rice Production Training Center. All institutional efforts were coordinated through a GVN/USAID Rice Committee.

The program was worked out strategically on a time frame using the PERT/LOB management technique. This assured appropriate coordination, provided advanced information on problems, and the timely evaluation of what had been done and what needed to be done by participating agencies, institutions or persons.

In addition to the cooperation with the GVN by its agencies and the private sector, USAID offices and the COMUS organization cooperated closely on various actions to support the

program. For example, USAID's Logistics Office in the movement of seed, Air America in the movement of people, COMUSMACV tele-graphic and reports network plus field agriculture staffs, and JUSPAC in the preparation of some of the motivational posters, etc.

c. Adequacy of existing institutions, special plans, activities:

The GVN Ministry of Agriculture and its Provincial Agriculture Services were equipped to support the Accelerated Rice Production Program when it was started in January 1963. In fact, the existence of the MIRA's organizations and institutions made the program possible. It should be noted, however, that slightly after mid-year of 1963, the government organization was modified and improved through the consolidation of services at the provincial level.

It was considered that the Agricultural Development Bank would have to have additional staff immediately to process applications for crop production loans. When a decision was made to suspend the farm plan budgets, this lessened the credit administration burden but of course this action also cancelled the opportunity to collect economic profile data on the individual farmers. The loans really consisted of loans in kind. Seed and pesticides were distributed directly from the agricultural service extension workers. Farmers were required to sign a promise to pay for the loans, however, the actual collection of most of these is not yet completed. No evaluation can be made at this time as to the success of the credit aspects of the program.

Research, extension and a large portion of the credit institution had been in operation for more than ten years. All of these received substantial AID support - in fact, AID played a vital role in the establishment of these institutions. It also had helped establish 4-H type clubs and extension home economics both of which gave substantial support to the acceptance of the IR-8 and 5 program. A special rice committee was formed jointly by GVN and USAID/Agriculture to plan, coordinate

and manage the program. Vietnamese and U.S. technicians were given special short-course training at IRRI and the Hawaii Rice Training Center. A National Rice Production Training Center, located near Bien Hoa 15 miles north of Saigon, was established to train additional Vietnamese extension workers.

Special packets of technical information were prepared concerning land preparation, seeding, fertilizers, irrigation and plant protection which outlined nineteen steps in producing the new varieties.

Fertilizers, pesticides and credit funds were allocated to support the program. Ten thousand rice kits were assembled which contained the seed, fertilizers, and pesticides for planting one-tenth hectare plots (about  $\frac{1}{4}$  acre) and sold to farmers and 4-F Club members.

d. Role of domestic and foreign agri-businesses:

Private dealers of seed in the Philippines provided the IR-8 and 5 seed through contract. Pesticide dealers in Taiwan provided some of the systemic granular pesticides; the balance came from the United States. Farmers organizations and fertilizer distributors in Vietnam cooperated with the MIRA in support of the rice program. A private company in Vietnam prepared the seed planting kits, assembled and warehoused them pending their distribution. Following the GVN distribution, private businesses purchased the remaining kits and distributed them.

The Fertilizer Distribution Center, a consortium of private distributors, assigned individual responsibility to its various members to supplement the existing commercial supply of fertilizer in each province to a quantity level adequate for the hectareage targeted for IR-8 and 5 plantings in the first crop in 1968. The FDC, which was composed of the three national farm organizations and a combination of several large commercial distributors, was active in this function principally in

these provinces where fertilizer volume, up until that time, was relatively low. In these provinces, there had been less economic incentive for the use of fertilizer due to the high cost of transport to remote areas.

The FDC, which was organized to meet the specific problems involved during the transition from a government import system to an all commercial import and distribution system in early 1968, became inactive by the fall of 1968. However, by that time, a distribution system had developed in the remote provinces with reasonably satisfactory capability to handle the fertilizer supply needs for the fall IR-8 and 5 plantings.

The fertilizer volume required for support of the IR-8 and 5 plantings in 1968 represented about 5% of the total fertilizer volume in the period.

Among the other production inputs, pesticides were imported, distributed and sold by the government for the first planting of IR-8 and 5 but the government stocks were distributed and sold exclusively by the private traders for the fall plantings. As mentioned previously, the private trade will assume responsibility for the importation and distribution of agricultural pesticides after January 1969 except for the systemic insecticides required for the 1969 rice plantings.

e. AID's role in supporting these institutions:

AID has supported and encouraged the growth of agri-business in Vietnam for several years. The Government of Vietnam has taken a position with respect to supporting a specific program on an accelerated basis by enlisting the support and cooperation of the private sector. This has been particularly true in fertilizer and pesticides. In addition, the Government of Vietnam is officially sponsoring a study which could lead to the establishment of a private rural bank system and an improved grain storage, handling and marketing system. USAID has offered support to these endeavors.

As previously mentioned in this report, AID/Washington should give considerable attention to the policies which LDC governments follow with respect to the development of private business institutions; also to the capability of LDC universities to conduct research in agriculture. One very important point is that farm management contracts and the private sector sale of pesticides and fertilizers, farm implements, etc. can provide extension services to farmers in addition to those provided by the government. The most important thing is that this kind of extension service by sales representatives of agri-business companies is free to the farmer and does not cost the government for its administrative support. It is for this reason that AID/Washington should support a vigorous program to develop independent and private agri-businesses in LDCs with whom AID has cooperative programs. This should be a primary policy of AID/Washington.

4. Policy aspects:

- a. In 1967, the GVN rice research officials were reluctant to bring any large quantity of the new varieties into the country until further research was done on adaptability and whether susceptible to local diseases and insects. This was changed after the Vo Dat farm plantings in Binh Tuy Province and a visit to the Philippines by the Minister of Agriculture in late 1967.
- (1) After these changes, there was full encouragement of the use of the new varieties by GVN.
  - (2) The government bought some of the seed produced in Binh Tuy Province and gave full support to the import of seed and other inputs.
  - (3) The government was already subsidizing fertilizers and pesticides but made special allocations of these and credit funds to support the new rice program.

- b. The U.S. policy change of the LDC food problem did not have significant effect on GVN.

USAID officials encouraged the introduction of the seed and paid for the imported seed from the Philippines. AID brought in the new systemic insecticides and fertilizers and assisted in the promotion campaign.

- c. Conclusions based on above.

USAID/Vietnam believes that it is possible to introduce a program of increasing production by using new varieties if the conditions outlined on pages 1 and 2 are satisfied.

Where AID is involved in supporting such a program, it must have close working relationship at the appropriate policy level with the government officials involved. There must be mutual respect and understanding. The program must be cooperative but basic responsibility for final decisions on policies and implementing procedures should stay with the host government.

AID must make it known to the host government that it is willing to support the program, specify what that support will be, and negotiate an agreement accordingly.

No program should be started until there is absolute conviction on both sides that it can work and will be made to work.

The success of this rice production effort in Vietnam was not affected by the PL 480 program.

5. Operational problems encountered:

- a. The Accelerated Rice Production Program in Vietnam presented no very difficult operational problems insofar as USAID's participation was concerned. When program implementation was started in January 1968, USAID had in Vietnam sufficient

organization and staff to carry out its cooperative and contributive effort. There were at the time approximately 30 technicians assigned to the Rice and Crops Division. These included agronomists, entomologists, soils and seed specialists, crops researchers, extension specialists, youth and home economics advisors as well as farm mechanization and irrigation engineers. Some minor adjustments and shifts in personnel were made to take advantage of special technical or administrative abilities considered necessary for program implementation.

In the field, the CORDS organization had a large contingent of U.S. agricultural advisors at the province level to assist the GVN field organization. Most of the U.S. agricultural technicians had had short training courses on rice production techniques at IRRI or Hawaii before coming to Vietnam. In late March 1968, the Rice and Crops Division was organized into four branches as follows: Extension and Information (6 technicians), Agri-Production (6 technicians), Agronomy and Research (5 technicians) and Agri-Engineering (6 technicians). There has been a gradual reduction effected by attrition or reorganization to where the personnel on board count now is 12 technicians. The skills needed for a USAID Mission to support this type of program include an administrative or program manager who has field experience, is resourceful, persuasive and innovative; a deputy to the manager or a chief of the production program who is technically qualified in the agri-business, fertilizer, pesticides, credit and other input requirements; an imaginative and self-starting extension/information chief is vital to the success of the program and he must have an adequate staff. An agronomy and research chief is highly desirable. He should know the crop being grown and be able to evaluate the usefulness and applicability of existing research data and help the host government officials relate and apply it to the program. He must also know how to organize adaptive research and field trials. Farm machinery and irrigation technical assistance is needed and plays a very important role but the lead time to make this input useful to an impact project makes the input marginal. The staff effort here should be considered in terms of the long range potential and to sustain and support the growth of the program after it is started.

USAID/Vietnam is a very large organization, consequently, regularized procedures must be followed in order to assure orderly and coordinated programming. This, of course, can slow down accelerated projects such as the rice program. The GVN was not always capable of responding to accelerated actions. This was particularly true due to military requirements in obtaining clearance of people for special out-of-country training. USAID/Vietnam, the CORDS organization and the GVN did work out most problems and kept to target schedules. The TET offensive and other special Vietnam problems encountered and their resolution would not have particular applicability in other countries. What is important is that the GVN, USAID and CORDS did recognize the program as one of the highest priority, consequently, problems which developed or were anticipated by the PERT management system, were quickly and easily resolved. As in any program, effective personal relationships, efficient inter-office procedures and reciprocal working arrangements with the host government officials are of vital importance.

- b. There were no additional personnel requirements needed.
- c. The program started with the Minister of Agriculture himself. For the first several months, he kept in almost daily contact with appropriate USAID representatives on problems and progress. The Director General of Agriculture was the principal policy level counterpart for the rice program. He is responsible for the Rice Service, the Extension/Information Services, Crops Production, Plant Protection, etc. He is a member of the Minister's policy council and the joint USAID/GVN Fertilizer-Pesticide Policy Committee. In addition to almost daily meetings between the USAID technical staff with their GVN counterparts, regional rice production meetings were held at intervals of about every six weeks in all four regions. These meetings were almost always attended by the GVN Director General of Agriculture, USAID's Assistant Director for Rice and Crops, the Assistant Director of the Agricultural Development Bank, the Chief of the GVN Rice Service, the Chief of the GVN's

Extension Service, and two or three corresponding counterpart members of USAID's Rice and Production Support Divisions. The CORDS regional personnel, all USAID/CORDS provincial agricultural advisors and the GVN provincial agricultural service chiefs and ADB branch directors from the provinces also attend the meetings.

Regular periodic meetings of this type on agriculture have never been held in Vietnam before. These combined GVN/USAID meetings permitted on-the-spot decisions and the immediate resolution of problems. Following the meetings - memos were sent out in Vietnamese and English to summarize discussions, outline policies decided upon, interpret policy, etc.

A series of Rice Memos was instituted by USAID to the CORDS field staff. This carried technical and policy information to the field. In addition, reports system from the field provides USAID information on program progress and the analysis of the information is also used for program evaluation and planning.

- d. There were no dollar funding problems. While the ready availability of local currency is becoming a problem in Vietnam, it has not yet had any adverse effect on the rice program.
  - e. AID/W imposed no requirements which were unnecessarily complicated or burdensome.
6. Supply of physical inputs:
- a. The provision of the necessary requisites for the program had no measurable effect on the GVN's balance of payments or on its budget. The introduction of the IR-8 rice production program did accelerate the transfer of the import, distribution and sale of fertilizer and pesticides from the government to the private sector.

- b. It is believed, by USAID, that if a price support policy and commodity loan program were instituted by the GVN, it could greatly accelerate the rice self-sufficiency program in Vietnam. Generally speaking, GVN policies have been favorable. For example, steps were taken by the government to purchase some rice in the Delta, the price of Title I rice was raised, and stock transfer actions to move rice from the Saigon warehouses to the central regions of Vietnam were made.
- c. The supply of the seed, fertilizer and pesticides necessary to initiate the program was made available principally through USAID's resources. USAID financed the foreign exchange cost of approximately 3,200 tons of systemic pesticides, which had a value of \$1.7 million. It financed, as a grant, the importation of 45 MT of IR-8 rice seed for the Vo Dat support effort in October 1967 plus another 2,000 MT of IR-8 seed for the 1968 44,000-hectare production program. A small quantity, (5 MT) of IR-5 seed was also imported in 1968. The value of all imported seed was in excess of \$450,000. USAID also agreed to a counterpart fund of VN\$250 million to permit the ADB to make special rice production crop loans to support the accelerated rice program.
7. Problems of "trade-off":

There has been no measurable trade-off to other programs. Reduced support for or production of other crops as a result of the accelerated production of rice has not occurred. In fact, as previously mentioned, the rice program may very well be an important stimulus to increased production of other crops.

Farmers' belief in and increased use of modern farming practices and inputs such as fertilizer, pesticides, etc. as well as increased reliance on improved management concepts by responsible officials are some of the benefits derived from the rice program which account for this stimulus to other crop production efforts.

While there were no particular losses to other programs, there was a conscious decision to focus management attention on a rice program and to reduce attention to other activities if that was necessary.

**8. Overall socio-economic and political impact:**

- a. It is too early to determine to what degree there has been an increase in Vietnam's GNP as a result of this program. As previously explained, IR-8 has increased the rice production of those farmers growing it up to three-fold and within the next two years, it is expected that three to five hundred thousand farmers will be growing the new rice.
- b. There is no reported effect on the GVN's balance of payments from the program thus far.
- c. If a commodity loan program is instituted, the farmer can take additional advantage of this rice production effort by sharing in some of the marketing profits which are available. USAID is pursuing with the GVN the desirability of establishing a sound price support policy and a related commodity loan program.

USAID will also support the development of other institutions such as rural banks and stimulate further the spread of agribusiness and private investment in the rural areas of Vietnam.

- d. Recently, the Prime Minister designated the growing of IR-8 and land reform as high priority programs. It is hoped that with multi-cropping and more scientific farming, farmers who are to move from tenancy to leasehold or full ownership will have better means of becoming viable producers with the land that they acquire.
- e. It is believed that farmers who own their own land, grow crops efficiently, and increase profits and disposable income will respond to pacification efforts, join in democratic processes and thereby influence political stability.

**9. Self sufficiency:**

- a. See Appendix A which presents the hectareage under cultivation for rice and the combination possibilities for self sufficiency using IR-8 and 5 and local varieties. As previously mentioned, there will be an effort to develop multi-cropping insofar as possible and inter-cropping wherever feasible.

- b. An accelerated grain sorghum production program and soybean production program could be initiated in the very near future. Both of these are needed to support the increase of animal protein production. In addition to domestic requirements, Vietnam has potentials for possibilities of export of feed grains to Japan and Hong Kong. When the war is over, the country also has potentials for developing an export banana industry and possibly even some spices. In addition, sugar and rubber can come back to their own at the cessation of hostilities.

V. No remarks are provided for Section V as this is for a summary by AID/W.

SUMMARY:

An accelerated rice production program using the IR-8 and 5 varieties has been successfully implemented in Vietnam. Key factors in the program were (a) enthusiastic support of GVN officials at all levels, (b) existence of appropriate host government institutions, (c) adequate funding, personnel and material inputs, (d) use of a systematic management plan for program implementation, and (e) substantial support and involvement of the private business sector.

A "package" approach was used in the Vietnam rice production effort. In this type of program, it is not felt that one element alone, such as the improved seed, can make the significant impact necessary to bring about the desired production increase. In introducing a new crop variety on a wide scale and within an accelerated time frame, the coordinated "package" plan is believed to be necessary. As an integral part of the program, of course, a management system is essential. This crucial ingredient, management, cannot be left to chance or exclusively in the hands of discipline-oriented specialists.

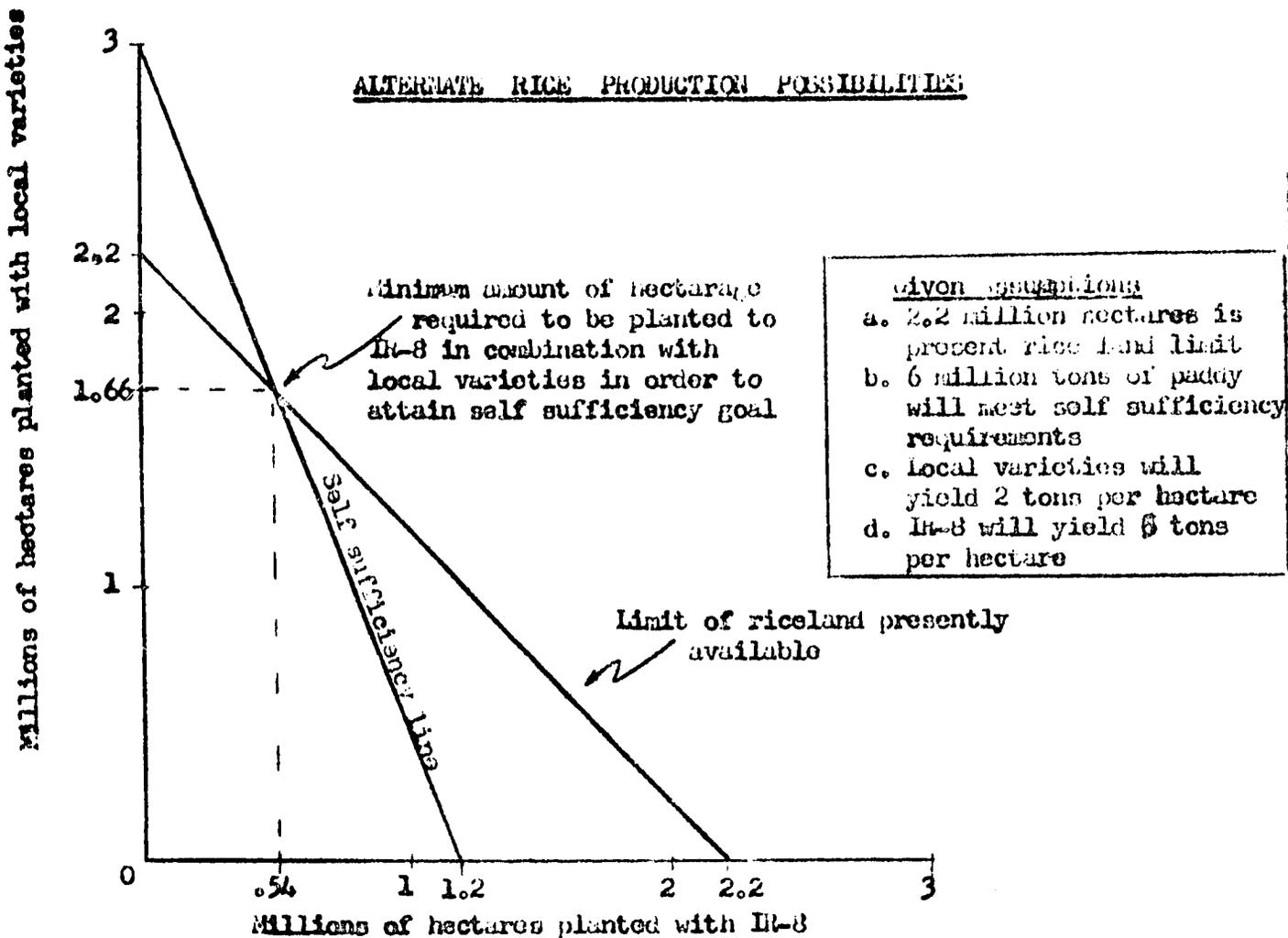
In looking to the future on a broadened scale, modernizing and streamlining the marketing, handling and storing of rice and other grains in Asia is of vital importance. This subject deserves full AID support so that rice and other grain requirements in Asia, as well as other parts of the world, can be projected for the next ten years. AID's food programs in the LDCs and

U.S. agricultural policies are closely linked and should be formulated on the basis of hard fact projections of need. AID should sponsor and participate in regional and international studies and conferences to define problems and develop policies and guidelines necessary for more effective and better coordinated food production programs.

Vietnam must immediately look beyond the IR-8 and 5 varieties. These varieties have already served their purpose. They introduced a new era and technique in Vietnam's history of rice production. IR-8 and 5 can be thought of as the model "T" rice. Research is presently developing other varieties with increased disease resistance and better milling and eating qualities. Vietnam, and other LDCs, must concentrate on doing the necessary adaptive research and for the immediate future lessen heavy involvement in pure research efforts per se.

AID should, as a matter of policy, vigorously encourage the development of the private sector in each cooperating LDC. Agricultural development needs the services that only private business can supply effectively and efficiently on a sustained basis.

APPENDIX A



Given the assumptions above, the limit for planting all combinations is fixed by a line drawn between the 2.2 marks on the scales. At one extreme we could get 11 million tons by planting everything to IR-8. At the other limit we can only get 4.4 million tons by planting all hectares to local varieties. Since the output of IR-8 is higher than traditional rice, in order to attain self-sufficiency goals under extreme situations, would require 3 million hectares of local varieties, or 1.2 million hectares of IR-8. Thus any combination on this line will meet the goal. Combinations inside this line will be insufficient; combinations outside this line (i.e. to the right of the line) will produce a crop surplus.

# VIETNAM RICE PAPER

## Additional Comments

April 25, 1969

(AID/W questions shown first. USAID response follows.)

1. PACKAGE PROGRAM. WERE THE 10,000 PACKAGES DISTRIBUTED FOR FIRST CROP? DOES THIS IMPLY 10,000 OUT OF 22,000 FARMERS WERE "PACKAGED"? DID THESE 10,000 PLANT ONLY ONE-TENTH HECTARE EACH, AND REMAINING 12,000 "UNPACKAGED" FARMERS PLANTED REMAINING 22,000 HECTARES? HOW MANY OF 10,000 WERE 4-T? WE ARE PROBING FOR THE IMPORTANCE OF "PACKAGE" PROGRAM IN EXPLAINING RAPID ADOPTION.

PACKAGE PROGRAM. TEN THOUSAN KITS PREPARED, 5,000 EACH IR-8 AND IR-5. APPROXIMATELY 8,000 DISTRIBUTED FIRST CROP WITH BALANCE BEING USED FOR FOLLOWING PLANTINGS. THIS DOES NOT IMPLY THAT 10,000 FARMERS "PACKAGED" BECAUSE IN MANY CASES FARMERS USED KITS AS WELL AS PLANTING NEW VARIETIES OUTSIDE OF KIT PROGRAM. 22,000 FARMERS PARTICIPATING PROGRAM IS GROSS ESTIMATE, DATA AS TO NUMBER OF HECTARES ACCOUNTED FOR BY KIT OR NON-KIT FARMERS NOT AVAILABLE. UNABLE TO DETERMINE NUMBER KITS DISTRIBUTED TO 4-T MEMBERS. FIELD REPORTS INDICATE SEVERAL HUNDRED USED THIS WAY AND THAT KITS HIGHLY ACCEPTABLE AS 4-T CLUB PROJECT. IN OUR JUDGMENT, KIT APPROACH IMPORTANT AS A MEANS OF RAPIDLY DISSEMINATING NEW VARIETIES AND IN EXPLAINING RAPID ADOPTION. IMPORTANCE OF KITS SHOULD NOT BE VEREMPHASIZED, HOWEVER, AS THEY WERE PART OF A COORDINATED, LARGE SCALE PROGRAM.

2. EXTENSION. WERE THE 10,000 PACKAGES DISTRIBUTED BY EXTENSION SERVICE? ESTIMATE PERCENTAGE OF 22,000 FARMERS WHO WERE CONTACTED AND/OR INFLUENCED BY EXTENSION. DID EXTENSION PLAY "NECESSARY" ROLE?

EXTENSION. AT OUTSET OF PROGRAM ALL AGRICULTURAL PERSONNEL AT PROVINCE LEVEL UNIFIED UNDER ONE HEAD. ENTIRE FIELD FORCE WAS MOBILIZED TO SUPPORT RICE PROGRAM. MANY TECHNICIANS NOT FORMALLY MEMBERS OF THE EXTENSION BRANCH WERE INVOLVED IN EXTENSION EDUCATION. ALL KITS WERE DISTRIBUTED BY THIS RECENTLY COMBINED PROVINCIAL AGRICULTURAL OFFICE. ESTIMATE THAT ALL PARTICIPATING FARMERS WERE CONTACTED AND/OR INFLUENCED BY MEANS OF ONE OR MORE EXTENSION METHODS. MASS PRINTINGS OF LEAFLETS, BROCHURE, WALL POSTERS AND FLIP CHARTS AS WELL AS RADIO PROGRAMS AND FARMER MEETINGS PROVIDED THOROUGH COVERAGE FOR THE PROGRAM. THE EXTENSION ROLE WAS NECESSARY.

3. CREDIT. WERE THE 10,000 AGRICULTURE PRODUCTION LOANS ISSUED TO THE 10,000 "PACKAGED" FARMERS? ESTIMATE PERCENTAGE OF 22,000 FARMERS WHO USED CREDIT FOR IR-8.

. CREDIT. 10,000 AGRICULTURAL PRODUCTION LOANS NOT ISSUED TO 10,000 FARMERS USING KITS. APPROXIMATELY 50 PERCENT OF 22,000 FARMERS PARTICIPATING USED CREDIT.

4. FERTILIZER. ESTIMATE PERCENTAGE OF IR-8 FARMERS WHO WERE SUPPLIED BY FERTILIZER DISTRIBUTION CENTER.

FERTILIZER. THE FDC WAS AN ORGANIZATION FORMED PRINCIPALLY AS A HANDLING AGENT FOR THE PURCHASE AND WHOLESAL DISTRIBUTION OF 1967 CARRY OVER STOCKS. THE ORGANIZATION NEVER OPERATED AS AN ENTITY IN ANY OTHER CAPACITY ALTHOUGH INITIALLY THERE WAS POSSIBILITY THAT IT MIGHT EXTEND OPERATIONS TO OTHER FUNCTIONS. RETAIL DISTRIBUTION WAS HANDLED BY INDIVIDUAL RETAILERS OR FARM ORGANIZATION UNITS. A ROUGH ESTIMATE OF THE FARM ORGANIZATION SHARE OF THE FERTILIZER SOLD AT RETAIL TO GROWERS OF IR-8 RANGES FROM 40 TO 50 PERCENT.

5. DISCRIMINATION. WHAT WAS TYPOLOGY OF 22,000 FARMERS, OF 10,000 "PACKAGED" FARMERS? WERE THEY TYPICAL, OR PREDOMINATELY THE LARGER, PROGRESSIVE FARMERS? ESTIMATE PERCENTAGE FOR WHOM IMPROVED RICE TECHNOLOGY WAS NEW EXPERIENCE.

. DISCRIMINATION, 10,000 KIT AND OVERALL PRODUCTION PROGRAM DIRECTED TO ENTIRE COUNTRY WITHOUT REGARD FOR TYPOLOGY OF RECIPIENT. NOT POSSIBLE TO ESTIMATE TO ANY ACCURATE DEGREE PERCENTAGE OF FARMERS WHO HAVE HAD PREVIOUS EXPERIENCE IMPROVED RICE TECHNOLOGY.

6. OTHER?

. TOTAL NINE INSTITUTIONS INVOLVED RICE PROGRAM OF WHICH ONE, THE NATIONAL RICE PRODUCTION TRAINING CENTER, WAS INITIATED AS RESULT OF THE PROGRAM. INSTITUTIONS IN VIETNAM WERE ESSENTIAL TO PROGRAM SUCCESS.

UNITED STATES GOVERNMENT

# Memorandum

TO : Mr. Edward B. Rice, PPC/POL/ES  
Room 3883 NS

DATE: April 23, 1969

FROM : Carl F. van Haeften, WOH/ARDS

SUBJECT: Comments on Spring Review and Crop Paper for  
Accelerated (IR-8 and 5) Rice Production Program  
in Vietnam.

Ref: Saigon TOAID A-1357 3/12/69

As per your request, I have reviewed subject report which was prepared by USAID/Saigon and forwarded to AID/W as an attachment to reference airgram.

The report appears to be accurate and complete with respect to the execution of the accelerated rice production program in Vietnam, but only for the period subsequent to January 1968.

The report makes no mention of the principal factor which caused the so-called "breakthrough" nor are the comments concerning GVN and USAID actions during 1966 and 1967 accurate, complete or properly time phased. In fact, the report at times leaves the impression that USAID efforts to support an accelerated rice production program only began in late 1967.

I was the senior agricultural officer in USAID/Vietnam from December 14, 1965 to January 20, 1968, and the accelerated rice production program was conceived, planned and launched during my tenure of office.

The real "breakthrough" occurred in early 1967 when the rice stocks in Saigon were suddenly depleted and the price of rice increased three fold in a matter of days. During 1966, farmers received about \$40 to \$50 for a metric ton of paddy. Using world market prices as a reasonable standard for comparison, the Vietnamese farmers received only 40% of the legitimate value of the rice. At that price level, rice farmers followed subsistence practices. Following the sudden rise in the retail price of milled rice in Saigon in early 1967, farmers soon



began to receive as much as \$100 per metric ton of paddy. This represented the "breakthrough" needed to create an incentive for farmers to adopt modern practices to increase rice production.

Throughout 1966 the USAID Office of Agriculture made every effort to achieve this "breakthrough" as a matter of deliberate policy. With the assistance of USDA experts, a Rice Price Study was initiated in the summer of 1966. At my request, the Secretary of Agriculture made Mr. Roland F. Ballou, Deputy Administrator of the ASCS, available to assist me in presenting the results of the study to the Mission Council. The report was presented to the Mission Council in December 1966 with a recommendation for an immediate increase in the wholesale price of imported American rice. The Mission Council rejected our proposal and decided to continue the existing policy of selling imported rice at a 50% subsidy as a means of maintaining political and economic stability.

The desired policy was achieved a month or so later when Vietnamese merchants deliberately created a rice shortage in Saigon which resulted in a sharp rise in the price of rice. When this price rise did not result in the anticipated rice riots in the streets of Saigon and it did not trigger a general inflationary reaction, the GVN and the Mission Council agreed to take steps to prevent the prices from returning to their previous low levels.

The USAID Office of Agriculture worked diligently throughout 1966 and 1967 towards the development of an accelerated rice production program.

In January 1966, the USAID Agriculture Division consisted of 21 officers, three of which were stationed in the field. None had been trained in rice production. Throughout 1966 and 1967 additional staff was recruited and trained in Vietnamese language and modern rice production. In February 1967, the first sixteen technicians arrived in Vietnam following six months of intensive training including rice production. A second group of 26 men trained in rice production arrived in July 1967. By December 1967, the on board strength of the USAID Office of Agriculture was 233 officers including 58 trained in rice production. At that time, arrangements had also been made for the training of an additional 60 U.S. technicians in rice production during March and April 1968.

The report does reflect USAID and GVN successes in conducting IR-8 trials during 1966 and 1967.

The present fertilizer policy was developed by myself with the assistance of my staff in December 1966 and negotiated with the GVN in early 1967. It was a deliberate policy aimed at getting the GVN out of the fertilizer distribution and getting the commercial distributors back in business following the fertilizer fiasco created by the devaluation of the piaster in July 1966. The entire policy was directed towards creating the infrastructure needed to support an accelerated rice production effort.

The creation of the Agricultural Development Bank was initiated in 1965, planned during 1966 and put into operation in early 1967.

During the same period, the USAID advised and assisted the GVN in reorganizing farmer organizations removing the heavy hand of government and permitting farmers to manage their own organizations. This also was directed towards creating the necessary infrastructure to support a rice production effort.

Following the rice price breakthrough in early 1967, the USAID Office of Agriculture and the GVN Ministry of Agriculture enthusiastically worked towards developing a rice production goal plan.

The Crop Production E-1 prepared in July 1967 budgeted \$400,000 to purchase 1,500 metric tons of IR-8 seed. The same E-1 included a detailed proposal and budget for the creation of a rice training center in Vietnam.

At this time, there was still no general support within the USAID for the ambitious rice production program being developed by the Office of Agriculture.

At the Camp Smith meeting in Hawaii in August 1967, I first presented a proposed program for an accelerated rice production program. The staff of the Office of Agriculture had done its homework during the preceding months and the rice production goal was formally accepted by AID/W and the USAID.

The original plan was to launch the rice production program in the Spring of 1968 and it was to be built around the importation from the Philippines of 1500 tons of IR-8 seed.

The September floods in the Vo Dat valley offered a unique opportunity to speed up the program. At that point in time, the Service Directors in the Ministry of Agriculture opposed large scale introductions of IR-8. We can only guess at their reasons, but the fact remained that the Director of Agriculture and the Chief of the Rice Service opposed the importation of 45 tons of IR-8 seed for the Vo Dat project. The Minister of Agriculture approved the project even in the face of this strong opposition within the Ministry. The Minister of Agriculture at that time Mr. Lam Van Tri, informed me that he would approve the project as a special favor to me because he had full confidence in the USAID.

In October 1967, a new cabinet was appointed and Mr. Ton That Trink became the Minister of Agriculture. The new Minister was formerly the Director of the Agricultural College and he was already a strong supporter of large scale IR-8 introduction in Vietnam.

Meanwhile, the USAID Office of Agriculture had developed a 160 page rice goal plan which called for an integrated multidiscipline approach to launching an accelerated rice production program.

I gave the Minister a draft copy of the goal plan in November 1967 and he enthusiastically accepted the plan as the primary objective of the Ministry of Agriculture.

The Minister and I jointly arranged for a trip to the Philippines in December 1967 to visit the International Rice Research Institute. The Minister was already sold on the program and the trip to the Philippines in an Air American C-46 was for the specific purpose of taking along the senior staff of both the Ministry and the USAID in order to win over their support.

In summary, the paper submitted by USAID/Vietnam accurately describes the implementation of the accelerated rice production program, and the above comments summarize the actions taken during 1966 and 1967 to lay the foundation. I prepared these comments

on short notice and I have not attempted to cover every aspect of the program. There is one additional point of interest which relates to fertilizer sales and the price of rice.

During 1966, the farmers in the Delta received around 5 piasters a kilo for their paddy and the farmers in the 5 northern provinces of South Vietnam received 12 to 14 piasters a kilo for their paddy. Roughly speaking, there are 200,000 hectares of rice in the five Northern provinces and 2 million hectares in the Delta. During that year, 40,000 tons of fertilizer were sold in the north for cash and only 25,000 tons were sold in the Delta and then on credit. There is also some evidence that the fertilizer sold in the Delta was mostly used for the expanding vegetable production.

Drafted: WOH/ARDS Carl F. van Haeften