

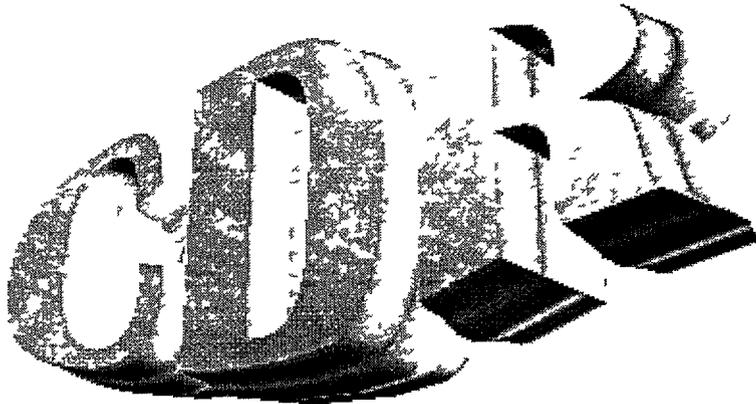
PD-ABQ-405

97148



*American Embassy  
Tel Aviv, Israel*

499A



# Grant Agreement

*University of Haifa (Israel) &  
Int'l Center of Insect Physiology and Ecology (Kenya)*

## TA-MOU-97-C17-012



U S AGENCY FOR INTERNATIONAL DEVELOPMENT  
BUREAU FOR GLOBAL PROGRAMS, FIELD SUPPORT & RESEARCH  
CENTER FOR ECONOMIC GROWTH  
Washington, D C

Copy No 3 of 10



*Embassy of the United States of America*

*American Embassy  
Tel Aviv, Israel*

March 3, 1998

Prof Aaron Ben-Zeev  
Dean of Research, Research Authority  
University of Haifa  
Mount Carmel  
Haifa 31905  
Israel

SUBJECT Grant No TA-MOU-97-C17-012

Dear Prof Ben Ze'ev

Pursuant to the authority contained in the Foreign Assistance Act of 1961, as amended, the Federal Grant and Cooperative Agreement Act of 1977, and the Interagency Agreement between the Agency For International Development and the U S Department of State of December 15, 1997, as amended, the U S Embassy/Tel Aviv (hereinafter referred to as "*Embassy*" or "*Grantor*") hereby grants to the University of Haifa (hereinafter referred to as "*UOH*" or "*Grantee*") the sum of two hundred thousand U S dollars (\$200,000) to provide support for a research program entitled "**A Sustainable IPM Program for the African Armyworm, *Spodoptera Exempta***" as more fully described in Attachment 2, entitled "Program Description", and the Grantee's proposal, as revised, which is made a part of the Grant and incorporated herein by reference

This Grant is effective and obligation is made as of the date of this letter and shall apply to commitments made by the Grantee in furtherance of program objectives during the period beginning *March 1, 1998* and ending on or before *February 28, 2002*

This Grant is made to the Grantee on condition that the funds will be administered in accordance with the terms and conditions as set forth in Attachment 1, entitled "Schedule", Attachment 2, entitled "Program Description", Attachment 3, entitled "Payment Forms", Attachment 4, entitled "Performance Report - Guidelines", and Attachment 5, entitled "Mandatory and Required as Applicable Standard Provisions", which have all been agreed to by your organization

In order to comply with regulations applicable to this Grant, it is essential that all documentation provided as attachments to this letter be thoroughly reviewed. The Grantee is responsible for full understanding of, and compliance with, all applicable regulations. However, in some cases, information set forth in the attached is subject to interpretation and warrants specific guidance. Such additional information is set forth below.

## I SUBGRANTS

Grants are being awarded to Prime institutions to work in collaboration with Sub institutions. Notwithstanding actual billing and payment procedures, the full Grant amount and research activity is formally attributed to the prime, or Israeli institution in this case. The only legal relationship the U S Government has is with the prime institution.

Provided with this Grant Agreement is a copy of a draft, sample format for your use in establishing a legal, binding relationship with the Sub or Developing Country (DC) Institution you intend to collaborate with. It is essentially identical to the award document made by the U S Government and complies with applicable regulations.

If the Grantee chooses to use its own format, care should be taken to ensure that required regulations have been applied. Subgrants may only be awarded to responsible institutions which possess the potential ability to perform successfully.

Since your institution will be held accountable for the grant in its entirety, it is important that the Subrecipient institution be held accountable by your institution. In this manner, the prime protects itself from unnecessary risk of disallowed costs.

However, in no case can a U S Government responsibility be claimed, construed, or inferred from the use of this or other Subgrant agreement by the Grantee.

## II AUDITS

In order to receive advance payments, all institutions (prime and sub) must have had a current audit performed by an independent external CPA firm in accordance with applicable regulations (i.e., those pertaining to the country where the institution is located as well as Government Auditing Standards developed by the Comptroller General of the United States). Any adverse findings contained in such audits, as determined by the Grant Officer or his designee, must have been adequately resolved. In the event an audit has not been performed recently, the Grantor (U S Government in the case of the prime, prime in the case of the sub) may elect to perform a limited financial review, conducted at the discretion of the Grantor, prior to authorizing advance payments. In this case, the Recipient of the advance must agree to comply with all future audit requirements.

### III STANDARD PROVISIONS

All Mandatory and Required as Applicable Standard Provisions indicated to be applicable in later sections of this Grant should be reviewed, understood, and adhered to. However, the following are considered to be most frequently applied to this program.

#### A Revision of Grant Budget

In many cases, specific Grant Officer approval for budget changes is not required (if the need for a change is identified, the Grantee should refer specifically to the provision to determine whether or not Grant Officer approval is required). However, there may be other changes that should be discussed with the Project Officer, or his designee, to ensure continued agreement on the direction of the program. The Grantee should consider factors such as impact and reasonableness in determining which non-mandated changes should be brought to the attention of the Embassy. In no case will a change be approved which is contrary or detrimental to the original or detrimental to the objectives of the project as technically approved by the science review panel.

#### B Air Travel and Transportation

Project Officer approval is required on all international travel. All air travel and shipments are to be made on U.S. flag air carriers when available. Exceptions to the requirement may be made if a U.S. flag air carrier cannot provide the foreign air transportation needed, or if use of such service will not accomplish the U.S. Government's mission (see circumstances outlined in the provision for specific allowable exceptions). Economic considerations do not override this provision. In the event U.S. flag carrier service is deemed to be unavailable, the Grantee must prepare and retain for audit purposes, a certificate of unavailability.

#### C Procurement of Goods and Services

The Grantee must ensure high standards with respect to procurement. When possible, procurement should be competed to the maximum extent practicable. Technical needs should be determined, and all other factors being equal, purchase should be made at the lowest price available. Contracts meeting applicable thresholds should include appropriate legal remedies in case the subcontractor fails to perform. Wherever possible, the Grantee should use U.S. and small business sources.

D Eligibility Rules for Goods and Services

The Grantee (and its Sub) may not purchase the following using U S Government funds military equipment, surveillance equipment, police or other law enforcement commodities or services, abortion equipment or services, luxury goods or gambling equipment, or weather modification equipment

The Grantee may not purchase from any source listed on the List of Parties Excluded from Federal Awards To this end, the Grantee may rely on a self-certification provided by the supplier, unless there is any knowledge by the Grantee that the certification should not be accepted

Specific prior, written approval from the Grant Officer is required prior to purchase of the following agricultural commodities, motor vehicles, pharmaceuticals, pesticides, rubber compounding chemicals and plasticizers, used equipment, U S Government-owned excess property, or fertilizer In the event the Grantee outlined a specific need for any of these goods in its proposal, and provided full disclosure of the reason, source, method of selecting the source, price comparisons, and other pertinent information, the Grantee may assume that approval of such specific goods is provided through award of this document Any changes to requirements outlined in the proposal must be submitted for review and approval

Also, attached is a partial list of authorized countries for acquisition of goods and services In general, the order of preference is (1) U S , (2) Cooperating Country (i e , country of location for prime and sub), (3) selected free world countries (see Code 941 countries, attached), and (4) special free world countries (Code 935, attached) These rules apply to source (place of purchase), origin (place of manufacture) and nationality (of supplier) When the Grantee uses other than U S , documentation must be retained for audit purposes which indicates one of the following conditions (1) procurement was of an emergency nature, (2) higher preference sources' prices are at least 50% higher, (3) impelling local political considerations preclude consideration of higher preference sources, (4) item is only available from the intended source, or (5) procurement from the identified source best promotes the objectives of the U S Foreign Assistance program

#### IV GRANT ADMINISTRATION AND CLOSEOUT

##### A Responsibilities and Authority

- 1 Only the Grant Officer has the authority to modify the terms and conditions of this Grant. The Grantee must exercise care in considering various situations. In general, if any portion of the Grant must be changed to reflect the Grantee's intentions, the Grant Officer should be so notified, in writing with a copy to the Project Officer, or his designee. This correspondence should outline the change needed, the reason, and the impact (technical and financial), and should request approval to make such change.
- 2 The Project Officer, or his designee, is the Embassy's contact point for all issues not addressed to the Grant Officer. This includes, but is not limited to, technical clarifications, certain budget changes, voucher tracking, etc.

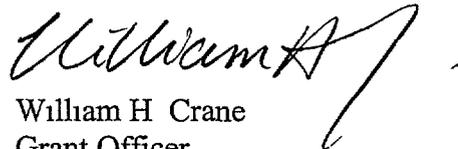
##### B Closeout Procedures

- 1 The following definitions shall apply for the purpose of this section
  - a **Closeout** The closeout of a Grant is the process by which the Embassy determines that all applicable administrative actions and all required work of the Grant have been completed by the Grantee and the Embassy.
  - b **Date of Completion** The date of completion is the date on which all work under the grant is actually completed, or the date on the award document, or any supplement or amendment thereto, on which the Embassy sponsorship ends.
  - c **Estimated Completion Date** The date contained in the Grant which is anticipated to be the "Date of Completion". This date may be modified to reflect delays or other reasonable circumstances which warrant extension of the time period. Requests for such revisions should comply with the above IV A 1 requirements for Grant Officer approval, and should be submitted sufficiently (not less than 120 days) in advance of the estimated completion date contained in the Grant to permit evaluation and action prior to that time.
  - d **Disallowed Costs** Disallowed costs are those charges to a Grant that the Grant Officer determines to be unallowable, in accordance with the applicable Federal cost principles or other conditions contained in the Grant.

- 2 The following outlines specific requirements which must be met prior to initiation of the closeout process
  - a Upon request, the Embassy shall make prompt payments to a Grantee for allowable reimbursable costs under the Grant being closed out
  - b The Grantee shall immediately refund any balance of unobligated (unencumbered) cash that the Embassy has advanced or paid and that is not authorized to be retained by the Grantee for use in other Grants
  - c The Embassy shall obtain from the Grantee within 90 calendar days after the date of completion of the Grant, all financial, performance, and other reports required as the condition of the Grant The Embassy may at its discretion grant extensions when requested by the Grantee
  - d When authorized by the Grant, the Embassy shall make a settlement for any upward or downward adjustments, to the Embassy's share of costs after these reports are received
  - e The Grantee shall account for any property acquired with funds provided herein or received from the U S Government, as discussed in Attachment One, Schedule
  - f In the event a final audit has not been performed prior to the closeout of the Grant, the Embassy shall retain the right to recover an appropriate amount after fully considering the recommendations on questioned costs resulting from the final audit

Please sign all copies of this letter to acknowledge receipt of this Grant. Keep two copies for your files and one for the Principal Investigator, and return the **original** and all remaining copies to this office

Sincerely,



William H Crane  
Grant Officer  
American Embassy, Tel Aviv

Attachments

No.	Title	Page
ONE	Schedule	9
TWO	Program Description	21
THREE	Payment Forms	33
FOUR	Performance Reports - Guidelines	41
FIVE	Mandatory Standard Provisions & Required as Applicable Standard Provisions	51 57

ACKNOWLEDGED.

DATE \_\_\_\_\_

INSTITUTION UNIVERSITY OF HAIFA

AUTHORIZED INDIVIDUAL Prof Aaron Ben Zee / Prof Aharon Kellerman

SIGNATURE Aaron Kellerman TITLE Dean of Research  
Aaron Kellerman TITLE Vice president

PRINCIPAL INVESTIGATOR **Dr Meir Broza**

DATE March 9, 1998

SIGNATURE M Broza TITLE Senior Lecturer

## FISCAL DATA

Proposal No	C17-012
Appropriation No	19-80113
Obligation No	4437817012
Allotment No	4437
Function Code	8550
Object Code	4220
Amount Obligated	\$ 200,000
Total Estimated Amount	\$ 200,000
Project Office	U S Embassy Tel Aviv, ECON/AID
Voucher Paying Office	RAMC/PARIS

## NUMERICAL LIST OF CURRENT AID GEOGRAPHIC CODES

Code 935

## SPECIAL FREE WORLD

Any area or country in the Free World\* including the cooperating country itself

Code 941

## SELECTED FREE WORLD

Any independent country in the Free World\* excluding the cooperative country itself and the following

Europe		Others	
Albania	Lithuania	Angola	Kyrgyzstan
Andorra	Luxemburg	Australia	Mongolia
Armenia	Macedonia**	Bahamas	New Zealand
Austria	Malta	Bahrain	Qatar
Azerbaijan	Moldova	Canada	Saudi Arabia
Belgium	Monaco	Cyprus	Singapore
Bosnia and Herzegovina	Montenegro**	Gabon	South Africa
Bulgaria	Netherlands	Hong Kong	Taiwan**
Belarus	Norway	Iceland	Turkmenistan
Croatia	Poland	Japan	United Arab Emirates
Czech Republic	Portugal	Kazakhstan	Uzbekistan
Denmark	Russia	Kuwait	
Estonia	San Marino		
Finland	Serbia**		
France	Slovak Republic		
Georgia	Slovenia		
Germany	Spain		
Greece	Sweden		
Hungary	Switzerland		
Ireland	Ukraine		
Italy	United Kingdom		
Latvia	Vatican City		
Liechtenstein			

\* "Free World" excludes the following areas or countries  
Afghanistan, Cambodia, Cuba, Iran, Iraq, Laos, Libya, North Korea, People's Republic of China, Syria,  
and Viet Nam

\*\* Has the status of a "geopolitical entity", rather than an independent country

## ***Attachment One***

### SCHEDULE

#### A Purpose of Grant

The purpose of this Grant is to provide support for the proposal entitled "**A Sustainable IPM Program for the African Armyworm, *Spodoptera Exempta***", which is hereby incorporated by reference. This proposal was revised on **January 8, 1998**. All changes reflected in subsequent revisions are applicable to this Grant award.

#### B Period of Grant

The effective date of this Grant is the date of the Grant Letter. The estimated completion date is **February 28, 2002**.

Funds obligated herein are available for program expenditures during the period **March 1, 1998**, through **February 28, 2002**.

#### C Amount of Grant and Payment

- 1 The American Embassy, Tel Aviv, hereby obligates the amount of **\$200,000** for the purposes of this Grant.
- 2 Payment shall be made to the Grantee in accordance with the procedures as set forth in Attachment Four (4), Required as Applicable Standard Provision No One, entitled "Payment - PERIODIC ADVANCE "
- 3 All financial reports required by this provision shall be identified by the Grant No and the CDR Proposal No , and shall be submitted to

**Office Of The Science Counselor  
U S Embassy  
71 Hayarkon Street  
Tel Aviv 63903  
Israel**

## D Grant Budget

The following is the budget for this Grant which includes local cost financing items, if authorized. Revisions to this Budget shall be made in accordance with the Mandatory Standard Provision of this Grant entitled "Revision of Grant Budget". Within the total estimated amount of this Grant, the Grantee may adjust the line items as may be reasonably necessary for the performance of the Grant program. Such changes require coordination with the Project Officer.

Element	Estimated Amount			
	ISRAEL		KENYA	USA
	HAIFA U	TEL AVIV U		
Salaries	\$36,000	\$0	\$20,000	\$0
Technical Asst	\$5,500	\$3,500	\$0	\$0
Equipment	\$7,000	\$0	\$6,000	\$3,000
Materials	\$4,350	\$4,350	\$6,000	\$2,000
Travel - Dom	\$3,800	\$800	\$15,000	\$0
Travel - Int'l	\$11,600	\$5,900	\$7,910	\$27,200
ODC	\$2,250	\$1,750	\$0	\$0
Indirect Costs	<u>\$10,575</u>	<u>\$2,445</u>	<u>\$8,240</u>	<u>\$4,830</u>
Sub-Total	\$99,820	(tot Isr )	\$63,150	\$37,030
Total			\$200,000	

In no event may the Grantee expend any amount above the obligated amount or the total estimated amount of this Grant, whichever is less. The U.S. Government is under no obligation to reimburse the Grantee for an amount in excess of the obligated amount.

## E Grant Participants

Principal Investigator	Kenya	USA	Project Officer
Dr Meir Broza Dept of Biology University of Haifa at Oranim Tivon 36006 Israel (Co-PI, Dr B Sneh of Tel Aviv U)	Dr N K Maniania Dept of Pathology Int'l Center of Insect Physiology & Ecology, POB 30772, Nairobi Kenya	Dr M Brownbridge U of Vermont Entomology Research Laboratory POB 53400, Burlington, VT 05405-3400, USA	Mr William Crane Science Counselor American Embassy Tel Aviv Israel

## F Reporting and Evaluation

Reports, the Principal Investigator's responsibility, must be sufficiently detailed to substantiate the findings and to permit a scientific evaluation of the research. Overseas collaborators shall be given fair credit for their participation in the research and a chance to review and comment on the Final Report before it is submitted. The principal investigator will share a draft of the Final Report with the Project Officer and AID/G/EG for comments prior to the formal submission.

Distribution of specific reports is outlined in individual report specifications, below.

All references to AID/G/EG shall mean U S Agency for International Development, Bureau for Global Programs, Field Support and Research, Center for Economic Growth, Room 2 11, Washington, D C 20523-2110

All references to AID/PPC/CDIE shall mean PPC/CDIE/DI, U S Agency for International Development, Room 6 07 -154, RRB, Washington, DC 20523-6701

- 1 Performance Reports Required every six months (A short semi-annual report and a substantive annual report). The principal investigator will submit reports stating what has been accomplished to date and detailing project management issues. A Financial Status Report will be attached to each report. Reports are due within sixty (60) days after the end of each six-month period. Four copies of each report are to be submitted to AID/G/EG, one copy to the Project Officer, and one copy to the USAID mission in the country of the collaborator.
- 2 Final Performance Report Within ninety (90) days after the estimated completion date of the Grant, the principal investigator will submit this report to the same recipients in the same quantities as specified above.

Publication of results in scientific journals is encouraged. Additional guidance on report preparation is given in the "Interim Guidelines on Projects", available from AID/G/EG.

Financial reports shall be in accordance with the applicable payment provision.

## G Special Provisions

- 1 While in the country of collaborating institutions, the Grantee will keep the USAID field mission generally apprised of their work, but will not request administrative support except for the usual in-country introductions as may be appropriate. The Grantee will abide by Mission and host government regulations and customs as they apply to other AID supported in-country activity.

- 2 The principal and co-principal investigators of the Grantee and its primary sub-grantee, and essential scientific staff which were identified as critical to the success of the program prior to award of this Grant will not be changed without the prior written approval of the Project Officer
- 3 Mandatory and Required as Applicable Standard Provisions for Non-U S Non-governmental Grantees are set forth as Attachment 5 to this Grant

4 Overhead Costs

As part of the application process, the Grantee has agreed to absorb all indirect costs associated with this program in excess of the following which was agreed upon

Overhead may be charged to this grant at a rate not to exceed fifteen percent (15%) of the Total Direct Costs, for all grantees This rate is considered fixed for the life of the Grant If actual costs to the institutions are less than this ceiling rates, the Embassy shall only be requested to fund at the actual cost rates

- 5 The title to all property acquired under this Grant will vest in the Grantee in accordance with applicable regulations contained herein Property purchased for use by the collaborating institution shall vest in that institution In light of the objectives of institutionalization within collaborating institution countries, equipment purchased for this use shall remain the property of that institution Property titled to the Grantee shall be identified upon completion and disposition will be agreed upon In general, the U S Government anticipates the transfer of this equipment to the Grantee if a valid continuation research activity is envisioned, particularly another under this CDR Program
- 6 Compliance with Federal Guidelines and Regulatory Procedures
  - a The Grantee will implement this research activity in accordance with all relevant guidelines for U S Government funded research such as
    - (1) The National Institutes of Health (NIH) guidelines for the ethical treatment of human subjects,
    - (2) Guidelines for the handling of radioactive materials,
    - (3) NIH and USDA guidelines for the handling of pathogenic microorganisms,

(4)  
USDA-APHIS procedures for animal and plant health inspection,

(5)  
NIH Guidelines for Research Involving Recombinant DNA Molecules,

(6)  
Procedures issued by the USDA, EPA, or other appropriate federal agency, regarding testing of genetically engineered organisms,

(7)  
State Department's and AID's environmental procedures, and

(8)  
Such other Federal guidelines and procedures as may apply during the course of research

- b All existing comparable guidelines of the host country in which the research is actually located must be followed also
- c Reports submitted under this activity to US Embassy/Tel Aviv and AID/G/EG will address the cited regulatory issues All modifications of protocols affecting these regulatory concerns must be reported The investigators are responsible for reporting any difficulties encountered in implementing these protocols

7 Laboratory Safety and Hazard Containment

Research will be conducted following the protocols described in the Grantee's proposal, as revised, which insure the safety of persons involved in the research All research shall be conducted following procedures issued by the U S Government and those issued by the government of the host country for the containment of these hazards

If the protocols involving laboratory safety and hazard containment are revised, they must be re-reviewed by the investigator's institutional review committee(s) that approved the original protocol, and the Project Officer and AID/G/EG must be informed in writing before the revised protocols are used The revised procedures must be consonant with the guidelines of the country in which the laboratory is located and of the United States Copies of the approval of the revised protocols by the investigator's institutional review committee(s) should also be provided the Project Officer and AID/G/EG

Similarly, the research will be conducted in the facilities described in the Grantee's proposal, as revised. If the research is moved to new facilities, or the facilities are modified in such a way to affect safety or hazard containment, a description of the new facilities must be provided to the Project Officer and AID/G/EG before the research is effected. Any applicable institutional reviews of the facilities must be repeated, and the re-certification must be provided to the Project Officer and AID/G/EG.

8 Humane Treatment of Experimental Animals

a Principles for the Treatment of Vertebrates The Grantee will adhere to the following principles for the utilization, care and transportation of vertebrate animals used in testing, research and training. For guidance throughout these principles, reference is made to the Guide for the Care and Use of Laboratory Animals prepared by the Institute of Laboratory Animal Resources, National Research Council.

(1)

Procedures involving animals should be designed and performed with due consideration of their relevance to human or animal health, the advancement of knowledge, or the good of society.

(2)

The animals selected for a procedure should be an appropriate species and quality and the minimum number required to obtain valid results. Methods such as mathematical models, computer simulation and in vitro biological systems should be considered.

(3)

Proper use of animals, including the avoidance or minimization of discomfort, distress, and pain when consistent with sound scientific practices, is imperative. Unless the contrary is established, investigators should consider that procedures that cause pain or distress in human beings may cause pain or distress in other animals.

(4)

Procedures with animals that may cause more than momentary or slight pain or distress should be performed with appropriate sedation, analgesia, anesthesia. Surgical or other painful procedures should not be performed on unanesthetized animals paralyzed by chemical agents.

(5)

Animals that would otherwise suffer severe or chronic pain or distress that cannot be relieved should be painlessly killed at the end

of the procedure, or, if appropriate, during the procedure

(6)

The living conditions of animals should be appropriate for their species and contribute to their health and comfort. Normally the housing, feeding, and care of all animals used for biomedical purposes must be directed by a veterinarian or other scientist trained and experienced in the proper care, handling, and use of the species being maintained or studied. In any case, veterinary care shall be provided as indicated.

(7)

Investigators and other personnel shall be appropriately qualified and experienced for conducting procedures on living animals. Adequate arrangements shall be made for their in-service training, including the proper and humane care and use of laboratory animals.

(8)

Where exceptions are required in relation to the provisions of these principles, the decisions should not rest with the investigators directly concerned, but should be made, with due regard to U.S. and host country regulations, by an appropriate review group such as an institutional animal research committee. Such exception should not be made solely for the purpose of teaching or demonstration.

- b. **Applicable Regulations** The transportation, care and use of animals should be in accordance with the U.S. Animal Welfare Act (7 U.S.C. 2131 et seq.) and other applicable U.S. Federal laws, guidelines, and policies. All research shall be conducted following procedures issued by the government of the host country for the humane treatment of experimental animals.
- c. **Compliance with Reviewed Protocols** Research will be conducted following the protocols described in the Grantee's proposal, as revised, which insure the humane treatment of experimental animals.
- d. **Revision of Protocols** If any protocol involving the experimental animals is revised, it must be re-reviewed by the investigator's institutional review committee(s) that approved the original protocol, and the Project Officer and AID/G/EG must be informed in writing before the revised protocol is used. The revised procedure must be consonant with the guidelines of the country in which the animals are affected, and of the United States. Copies of the approval of the revised protocol by the investigator's institutional review committee(s) should also be provided the Project Officer and AID/G/EG.
- e. **Facilities for Animals** The animals will be maintained in the facilities described in the Grantee's proposal, as revised. All animals shall be provided facilities satisfying the requirements specified by the U.S. Government and

those issued by the government of the host country for the humane treatment of experimental animals. If the animals are moved to new facilities or the facilities are modified in such a way to affect the animals, a description of the new facilities must be provided to the Project Officer and AID/G/EG before the change is effected. Any applicable institutional reviews of the facilities must be repeated, and the re-certification should be provided to the Project Officer and AID/G/EG.

## 9 Human Subjects

Research will be conducted following the protocols described in the Grantee's proposal, as revised, which insures the well-being and informed consent of human subjects. It will also be conducted in accordance with the applicable procedures issued by the U S Government to insure ethical treatment of human subjects, and by those issued by the government of the host country in which the human subjects are to be involved.

If any protocol involving human subjects is revised, it must be re-reviewed by the investigator's institutional ethical review committee, and the Project Officer and AID/G/EG must be informed in writing before the revised protocol is used. The revised procedures must be consonant with the guidelines of the host country and of the United States. If the patient's informed consent form is revised, a copy of the new form must be submitted to both the Project Officer and AID/G/EG. A copy of the approval of the revised form by the investigator's institutional ethical review committee must also be provided to the Project Officer and AID/G/EG.

In addition and prior to commencement of any experimentation involving human subjects, the Grantee shall make a judgment and communicate the same to AID/G/EG as to whether the regulations, procedures or facilities of the country in question are adequate to ensure the safety and free and informed consent of the human subjects. In the event such judgment is that they are not, the Grantee, the Project Officer, and AID/G/EG will consult and agree on the protocol to be applied to insure the safety and free, informed consent of the subjects.

## 10 Containment and Safe Disposal of Animal or Plant Pathogens or Pests

Research will be conducted following the protocols described in the Grantee's proposal, as revised, which insure the containment and safe disposal of animal or plant pathogens. All research shall be conducted following procedures issued by the U S Government and those issued by the government of the host country for the containment of these pathogens or pests.

If any protocol is revised, it must be re-reviewed by the investigator's institutional review committee(s) that approved the original protocol, and the Project Officer and AID/G/EG must be informed in writing before the revised protocols are used. The revised procedures must be consonant with the guidelines of the country in which the

laboratory is located and of the United States. Copies of the approval of the revised protocols by the investigator's institutional review committees should also be provided to the Project Officer and AID/G/EG.

Similarly, the research will be conducted in the facilities described in the Grantee's proposal, as revised. If the research is moved to new facilities or the facilities are modified in such a way to affect safety or hazard containment, a description of the new facilities should be repeated, and the re-certification should be provided to the Project Officer and AID/G/EG.

- 11 International Shipment of Organisms, Biologicals, or Controlled Materials or Equipment. Procedures for the international shipment of these materials must be in accordance with those approved in the permits cited in the Grantee's proposal, as revised. All such shipments shall be in compliance with International Import/Export Regulations for all countries to and from which regulated items are shipped. If the shipment procedures are varied from those specified for permits, permits for the revised procedures must be provided to the Project Officer and AID/G/EG before shipping commences.

- 12 Recombinant DNA

- a Research will be conducted following the protocols described in the Grantee's proposal, as revised, which ensure the containment of recombinant organisms. If any such protocol is revised, it must be re-reviewed by the investigator's institutional review committee(s) that approved the original protocol, and the Project Officer and AID/G/EG must be informed in writing before the revised protocol is used. Copies of the approval of the revised protocol by the investigator's institutional review committees should also be provided to the Project Officer and AID/G/EG.

Similarly, the research will be conducted in the facilities described in the Grantee's proposal, as revised. If the research is moved to new facilities, or the facilities are modified in such a way to affect safety or containment, a description of the new facilities must be provided to the Project Officer and AID/G/EG before the research is effected. Any applicable institutional reviews of the facilities should be repeated, and the re-certification should be provided to the Project Officer and AID/G/EG.

- b Notwithstanding the above

- (1)

The Grantee and its subgrantees may not commence testing in any foreign location until written approval for testing is obtained from the Project Officer, AID/G/EG and the government of the country where testing is planned. Testing shall be conducted in accordance with all applicable regulations of that country.

(2)

In addition, however, and prior to commencement of any such testing, the Grantee shall make a judgement and communicate the same to the Project Officer and AID/G/EG as to whether the regulation, procedures or facilities of the country in question are adequate to ensure testing in an environmentally sound manner. In the event such judgement is that they are not, the Grantee, the Project Officer, and AID/G/EG will consult and agree on the conditions to be applied to the testing which will have such environmental effect.

(3)

Reports submitted under this activity to the Project Officer and AID/G/EG will address regulatory issues as above related to the activity.

13 Endangered Species

Research will be conducted following the protocols described in the Grantee's proposal, as revised, which insure the protection of endangered species. All research shall be conducted following procedures issued by the U S Government and those issued by the government of the host country for the protection of endangered species.

If any protocol involving these species is revised, it must be re-reviewed by the investigator's institutional review committee(s) that approved the original protocol, and the Project Officer and AID/G/EG must be informed in writing before the revised protocols are used. The revised procedures must be consonant with the guidelines of the country in which the species are to be affected, and of the United States. Copies of the approval of the revised protocol by the investigator's institutional review committees should also be provided the Project Officer and AID/G/EG.

In addition, however, and prior to commencement of any such activity which may affect an endangered species, the Grantee shall make a judgment and communicate the same to the Project Officer and AID/G/EG as to whether the regulations, procedures, or facilities of the country in question are adequate to ensure the protection of those species. In the event such judgment is that they are not, the Grantee, the Project Officer, and AID/G/EG will consult and agree on the conditions to be applied to the activity which will protect that species.

14 Environmental Hazards

Research will be conducted following the protocols described in the Grantee's

proposal, as revised, which insure that there are no unacceptable environmental hazards incident to the research. All research shall be conducted following AID and U S Department of State environmental guidelines and those issued by the government of the host country.

If any protocol involving environmental hazards is revised, it must be re-reviewed by the investigator's institutional review committee(s) that approved the original protocol, and the Project Officer and AID/G/EG must be informed in writing before the revised protocol is used. The revised procedure must be consonant with the guidelines of the country in which the research is located and of the United States. Copies of the approval of the revised protocol by the investigator's institutional review committee(s) must also be provided to the Project Officer and AID/G/EG.

In addition, however, and prior to commencement of any such activity which may create an environmental hazard, the Grantee shall make a judgment and communicate the same to the Project Officer and AID/G/EG as to whether the regulations, procedures or facilities of the country in question are adequate to ensure the protection of the environment. In the event such judgment is that they are not, the Grantee and the Project Officer and AID/G/EG will consult and agree on the conditions to be applied to the activity which will ensure environmental protection.

#### 15 Intellectual Property Rights

Intellectual property rights stemming from the activities supported under this Grant will be apportioned as described in the Grantee's proposal, as amended. If the participants choose to modify that apportionment, the revised apportionment must be submitted to the Project Officer and AID/G/EG for approval before it takes effect.

*Attachment Two*

***PROGRAM DESCRIPTION***  
***(Technical Work Plan - excerpts)***

### Technical Work Plan

During the progression of an armyworm outbreak, the following events may be envisioned, requiring action to be taken by the farmer to prevent crop damage

- i) When monitoring pheromone trap catches, a decision has to be made whether or not to search for and treat egg masses. When should searches begin, where are egg masses located, and how should they be treated?
- ii) If this stage is missed, what next? Search for larvae in grassed areas or young crops and implement control measures here before crop damage is too great
- iii) If both stages are missed, how can the migrating population be controlled? How can control measures be applied to prevent migration onto the crop, or to control larvae on the crop itself?

In the proposed work plan, we intend to evaluate a series of control measures, aimed at different stages in the armyworm's life cycle, and monitor their impact on subsequent population development and crop damage. Emphasis will be on the early prevention of infestations through accurate monitoring and scouting and use of a variety of physical controls. If these measures fail, or are not implemented early enough, biological and biorational insecticides will be used to regulate the pest population. Laboratory and field evaluations will first be done to identify effective and appropriate control tactics, followed by their integration into a cohesive management program. Integral to these studies will be an assessment of effects of the control agents on non-target organisms, and a comprehensive educational program involving the farmers and their families, extension agents, graduate student training, and exchange of scientific personnel to enhance the transfer of technology.

**Objective 1** Establish an on-farm network of pheromone traps to monitor arrival of armyworm moths and predict outbreak sites on small family farms in western Kenya

Use of efficient monitoring technology, and reliable interpretation of the data, is essential if outbreak sites are to be rapidly identified. Studies on the predictive use of pheromone traps will be carried out each year for the duration of the project. Pheromone traps utilized in National or Regional monitoring programs are generally placed too far apart to provide sufficient information to identify specific potential outbreak sites. An extensive network of pheromone traps<sup>34, 35</sup> will thus be set up within the Lambwe Valley area (South Nyanza Province, Kenya) during Feb-Apr to monitor arrival of armyworm moths and to correlate trap-catch data with subsequent infestation sites. Large numbers of moths arrive relatively synchronously at outbreak sites, so traps will be monitored daily by investigators, collaborating extension workers and farmers, to determine peak arrival time. Collaborating farmers, identified prior to placement of the traps, will be instructed in their use, how to recognize armyworm moths (from pictures and pinned specimens), and to record catch data. Verification of counts and moth identity will be done when sites are visited. During Yr 2 and 3, traps will be visited less frequently by the investigators (every 2-3 d), and it will become the responsibility of the farmers to examine and record daily activity, traps and pheromone lures will still be supplied, but the farmers will play a more active role in this monitoring phase. Searches for egg masses and larvae will be concentrated at sites where high trap catches of moths are obtained. Scouting for egg masses will begin immediately following the first high trap catches. Young cereal crops, grass pastures, grass areas alongside or between cultivated areas (most likely sites of egg laying) and older cereal planting will be examined daily to develop a complete picture of the pattern of egg deposition and hatch. Egg masses are most often found on non-host plants

or parts of host plants unsuitable for larval feeding, e.g., on dead grass stalks within pastures (Fig 2), a position that enhances dispersion of the neonate larvae by the wind. Data will be recorded on the number and location of the egg masses within the different crops, their occurrence in relation to the time of moth arrival, and time from moth arrival to first egg hatch. This information will be used to guide future scouting operations. The information will also be used to optimize the timing and placement of egg mass treatments. At potential outbreak sites, farming families will be directly involved in the scouting work, and will learn to recognize egg masses and neonates, and how to apply any control measures.

**Objective 2** Evaluate a progressive series of cultural, biological and biorational measures to prevent damaging armyworm populations developing

This portion of the research will have two phases

- 1) Comparative laboratory bioassays will be carried out on new B t products and selected biorational insecticides to permit selection of the most effective control agents field evaluation,
- 2) Field trials to test the efficacy of B t, biorationals and cultural control measures against armyworm outbreaks

#### **1 Laboratory Assays**

*Test insects* Bioassays will initially be done in Israel against *S littoralis*. Rearing methods for this insect have been described and laboratory colonies are maintained at Tel Aviv University, enabling assay work to be done year-round. Bioassays against *S littoralis* will be completed in Yr 1 of the project. Bioassays will be done by Israeli and Kenyan graduate students, under the guidance of the PI and Co-PI. The experience gained will allow the students to repeat the bioassay work against armyworm in Kenya in Yr 2. In Yr 1, an armyworm colony will be established at ICIPE's Mass Rearing Unit, Nairobi, to ensure a constant supply of even-aged healthy larvae for Yr 2. Techniques for mass rearing will be adapted from those used in the previous armyworm project and at the Desert Locust Control Organization (DLCO-EA), Nairobi. Starter cultures (egg masses) will be obtained from DLCO-EA, and colonies supplemented with larvae reared from field-collected egg masses. Eggs obtained at these sites will be brought to the lab and surface sterilized to remove viral or other contaminants. Insects will be reared through several generations prior to the bioassay work to ensure freedom from disease and synchrony of the rearing process.

#### **Test materials and assay protocols**

- (a) B t products** Five new commercial B t products will be tested. All contain the B t *aizawai* toxin. The preparations are 1) Xentari (Abbot Laboratories), 2) Florbac (Abbott Laboratories), 3) Certan Plus (Sandoz, Inc), 4) Agree (Ciba-Geigy), 5) Condor (a recombinant strain expressing B t *aizawai* and B t *kurstaki*, Ecogen, Inc). These products are formulated as wettable powders, water-dispersible granules and emulsifiable concentrates. They are more potent than previously available products and have superior formulation characteristics and field stability. They have not been previously tested against armyworm.

For each product, a range of dilutions will be prepared to generate dose-mortality data, ranging from the recommended rate for control of *Spodoptera* (or the closest relative) (high) to one-ten thousandth of the rate (low), in 10-fold increments, a total of five test concentrations. Dose ranges will be expressed in International Units to allow direct comparison of product efficacy using a standard measure of potency. The B t *aizawai* 1-HA strain (Becker Microbial Products, Israel) used in the previous studies will be included as a

standard in each series of assays 6 Assay protocols will be based on those previously described 43, 56 B t suspensions will be prepared in 0.05% Tween (and sprayed onto the underside of young castor bean (*S littoralis*) or maize (armyworm) leaves using a spray tower to ensure homogenous distribution of the preparation over the entire leaf surface Specific spray volumes will be determined prior to assay to provide good coverage of leaf material but not to the point of run-off, similar volumes will be used in each series of assays so that the amount of active ingredient per cm<sup>2</sup> is comparable Leaves will be air dried and transferred to vented plastic dishes lined with moist filter to maintain leaf quality and humidity (60% RH) Second-instars will be removed from colonies, starved for 3-4 h prior to the assays, and then placed on the treated test leaves Four leaves per dose (40 larvae per treatment) will be set up and held at 25°C Larvae will be transferred to new leaf material on a daily basis, and mortality rates assessed over 5 d Control leaves will be sprayed with 0.05% Tween(r) only Tests will be replicated four times and mortality data used to calculate LC50, LC90 and LT50 values by logit analysis These values will be compared to the standard and each other using ANOVA Older larvae will be used in later assays to determine the relative susceptibility of different instars to the test materials

- (b) **Biorational insecticides** A selection of manufactured and locally available biorational insecticides will be evaluated The list is not wholly inclusive, and additional materials, particularly those readily available in Kenya, may be tested The following will initially be used 1) Azatin( 3.0% azadirachtin, from neem seeds, AgriDyne Technologies, Inc ), 2) Neem seed/kernal extracts<sup>15</sup>, 3) Crude cotton seed oil (a by-product of the Israeli cotton industry, Becker Microbial Products), 4) M-Pede (insecticidal soap, Mycogen Corp ), 5) Spinosad( (bacterial product, Dow-Elanco) These insecticides act in a number of ways, as insect-growth regulators, anti-feedants or by disruption of the insect cuticle, and generally act more slowly than B t Furthermore, some are effective only if sprays directly contact the insect Therefore, assay procedures have to be modified from those used above

Assays will be carried out on castor seedlings or maize seedlings, for *S littoralis* and armyworm, respectively Seedlings will be grown in individual pots, and treated when they carry no more than 5 leaves A series of concentrations of the biorationals will be prepared in water, ranging from the recommended rate to one-one thousandth, in 10-fold incremental dilutions (4 concentrations) In the case of materials not commercially available, preliminary assays will have to be done to determine a working dose range prior to carrying out dose-mortality tests Doses used in evaluation of the commercial products may also have to be modified according to the susceptibility of the test insects Seedlings will be infested with 10 second instars and immediately sprayed using a Burgejon spray tower A fixed spray volume will be used to ensure thorough and even coating of the leaf surfaces and insects Control plants will be sprayed with water only Clear, vented plastic cups will then be placed over the plants to prevent larvae escaping Four plants per test product will be set up, and four replicate assays performed Plants will be held at 25±0.5°C and the number of surviving larvae recorded every 3 d for 12 d Mortality data will be used to calculate LC50, LC90 and LT50 values as described

- (c) B t -biorational combination treatments To detect potential synergism between B t and selected biorationals, a series of combined treatments will be tested against *S littoralis* and armyworm Synergistic interaction could reduce the amounts of material required to provide effective control of armyworm outbreaks, increasing efficacy while decreasing the cost of the procedures On completion of (a) and (b), the relative toxicity of the different B t preparations and

biorationals will be known. The most potent B t product, along with three of the most promising biorationals, will be used in the evaluations. Assay protocols described in (b) will be used. Test concentrations will be based on the calculated LC90(X). The following combinations will be tested: 1) B t 0.5X, biorational 0.5X, 2) B t 0.5X, biorational 0.25X, 3) B t 0.25X, biorational 0.5X, 4) B t 0.25X, biorational 0.25X. All test sprays will be prepared in water. Controls will consist of individual treatments for each combination, i.e., for combination (1), one batch of control seedlings will be sprayed with B t 0.5X, another with biorational 0.5X, additional control plants will be sprayed with water only. Four plants per treatment will be set up, and the experiment replicated four times. Surviving larvae will be recorded every 3 d for 12 d, and ANOVA used to detect differences in the rate and level of larval mortality.

Assay protocols throughout may have to be modified according to the data obtained. The experiments will provide necessary information on the relative efficacy of the different test products, the relative susceptibility of *S. littoralis* and *S. exempta* to these materials, and possible synergistic interactions between the two groups of control agents. The most effective B t product will be selected for the field trials, and biorationals chosen according to efficacy and potential availability to the farming community.

## ii Field Trials

Field trials will have experimental, educational and implementation phases. Initially, trials will be done to optimize the different control approaches. These will be done in collaboration with farmers at the affected sites to obtain input on the feasibility of the different control components, and provide training in their application. These efforts will be concentrated in Yr 1 and 2, to develop a working IPM plan for evaluation in Yr 3, the implementation phase, where farmers will assume prime responsibility for the control strategies, deciding when and which control options to use at different stages of the armyworm outbreak.

**Treatment of Egg Masses and Neonate Larvae** In Yr 1, egg masses located using methods outlined in Obj 1, will be marked and treatment blocks established, each containing at least ten egg masses. Size of the plots and replication of treatments will be dependent on the distribution and number of egg masses found. Plots for each of the allocated treatments will, ideally, be located within the same site. Treatments will be replicated at each outbreak site, and at two different locations. Plots will be sufficiently spaced so that immigration/emigration from adjacent plots will not obscure treatment effects.

The following treatments will then be effected: a) egg masses will be removed by hand and destroyed before hatching, b) B t, applied at a rate equivalent to 2 x the calculated LC90, spray treatments will be made when eggs are dark in color (indicative of complete embryonic development) and applied to the eggs and surrounding vegetation, in a circle of at least 0.5m in diameter around each egg mass, c) B t applied at 4 x the calculated LC90, protocols as in (b), d) control, no treatment applied. Surviving larvae will be monitored every 2 d for 10 d using five 0.5m<sup>2</sup> quadrat counts per plot. Data will be subject to analysis using ANOVA to reveal differences in treatment effects on larval survival.

Information obtained in Yr 1 of these trials will be used to guide subsequent investigations and development of the IPM program. Dose can be refined in trials during Yr 2 and 3, and biorational compounds selected and tested on completion of the laboratory bioassays. The size of the field plots will also be increased to get a true evaluation of treatment effect. For example, one site would be intensely scouted and egg masses removed by hand only, monitoring subsequent armyworm populations and thus evaluating the feasibility of this method as a preventative technique. At other

sites, treatments will be aimed at the neonate larvae, utilizing B t and biorationals, or combinations of both

Hand removal of armyworm egg masses is a highly appropriate and sustainable method of suppression. Its efficient implementation as a control strategy requires a trained and large labor force. As armyworm outbreaks are generally widespread and affect several farms in a given area, it is in the best interests of the whole community if resources are pooled to implement this control approach. It is thus our intention to involve the families, and especially the children, in this aspect of the control program. This method has been reliably used for *S. littoralis* in Egyptian cotton fields, and has great potential for successful use on small family farms. We will provide instruction in the scouting and removal of egg masses within an educational program designed to complement the children's academic learning. This approach has been practiced on farming collectives in Israel for many years, and forms an integral part of the school's curriculum. We propose to work in cooperation with schools and teachers in affected areas, providing basic teaching in entomology and pest control, we will provide instruction in the location, removal and destruction of egg masses, which can be done as a work-oriented academic experience, incorporating math and science in the collection process. We foresee this as being a rewarding and educational experience, which will complement the more traditional academic learning, and it should provide a lasting legacy. After all, these are the farmers of the future. Providing basic and positive instruction in IPM at this stage should enhance their willingness to adopt these practices later in life.

Treatments will, initially be carried out by the investigators and technical support staff. However, it is the intention to ultimately have the farmers and their families do this themselves, and decide which treatments are necessary. If egg masses are found and removed quickly, for example, it may not be necessary to apply any further treatments. If detection is delayed and egg hatch has already begun, then treatments may be required against neonate or older larvae. By acquiring data on egg mass and larval density at different sites, and on the progressive development of an outbreak, we will be able to develop action thresholds, i.e., when control measures are warranted according to insect populations at different times during the outbreak. These will be critical management tools for the farmers and their close collaboration in program development is essential.

**Treatment of Migrating Larvae** Significant crop damage generally does not occur until armyworm reach the third instar stage and enter the gregarious phase of their life cycle. Marching behavior is associated with the depletion of food in the egg laying sites and overcrowding. Larvae will consume any suitable vegetation they encounter, and can rapidly decimate large areas of cereals. The next stage of the control program is aimed at preventing migrating larvae reaching a crop, using physical, biological or biorational techniques, or a combination of these.

**(a) Physical removal** Previous trials indicated that large numbers of larvae could be physically removed from grassed areas adjacent to a crop using a sweep net. This technique, 'sweeping-out', will be quantitatively assessed to determine its role as a control alternative. Tests will be carried out at one or two infestation sites where crops are bordered on one or more sides with grass. A border along one side of the crop, approx. 20 m wide, will be marked out. Sweeping will be timed to coincide with the onset of larval migration and done using a Californian sweep net. To provide estimates of larval population levels, the band(s) will first be sampled on a daily basis using 10 x 180( sweeps of the net at points throughout the grassed area, larvae will be transferred to collection jars containing alcohol, for later counting. Bands will then be swept for 40 min on 3-7 consecutive days, depending on the number of larvae caught. Larvae will be drowned in a mild detergent solution or, if possible, fed to poultry kept on the farm. Larval migration will be assessed by taking 12 quadrat (0.5 m<sup>2</sup>) counts at random within the crop, no more than 1 m from the field's edge.

adjoining the infested grassland Larval feeding damage on the crop will also be recorded, and distance migrated into the crop determined At control sites, sweeping activities will only be performed to assess larval populations If infestation occurs within the crop, B t treatments will be applied to prevent damage Data will be analyzed using ANOVA to reveal differences in daily catches and quadrat counts, within and between treatments Sweep net data will also be invaluable in developing simple action thresholds, this can become an efficient sampling tool to guide farmers in their choice of subsequent control strategy

These activities will be initiated in Yr 1 If good results are obtained, we will provide participating farmers with sweep nets in Yr 2 and 3, and again assess the effectiveness of this method as a control measure, as performed by the farmers themselves

**(b) Biological or biorational control** A grass band alongside a crop will be marked as in (a) The band will be sprayed with B t, leaving four randomized plots, 5 m wide, within the band untreated as the controls B t will be applied close to the 'recommended' rate, as larvae will be older and less susceptible to the treatments Larval counts will be taken using 10 x 180( sweeps of a California sweep net within the respective areas once before spray application and 2, 4, 6 and 8 d after application Population estimates within the crop will be made using methods outlined in (a) If crop infestation occurs, B t will be applied to prevent damage This will be done in Yr 1 of the project, with improvements and modifications of the control strategy, greater replication, and testing of biorationals in Yr 2, along with an evaluation of a B t bait, prepared using locally available raw materials (molasses, mill waste, etc )

Results obtained will also influence additional investigations on the treatment of 'protective bands' within the crop itself In Yr 2 a crop band adjoining an infested grass area, measuring 2-3 m wide, will be sprayed with B t This method may be particularly useful if some migration onto the crop has already occurred prior to treatment Population counts in the crop will be taken prior to spraying, and daily thereafter, using quadrats, and/or whole plant counts (50 per band) depending on the crop and the stage of crop development Data will be analyzed using ANOVA

Data from Yr 1 and 2 will be assessed to determine the feasibility of these control approaches, and identify the most appropriate and effective means of preventing crop infestation

**Treatment of Infested Crops with B t or Biorationals** Crop damage is dependent on the age of the plant and the size of the infestation but even a few larvae on each plant can cause significant yield loss B t has been effectively used to control armyworm on a variety of crops,<sup>7</sup> we propose to continue this assessment to determine the efficacy of the new B t product, evaluate the effect of dose on efficacy, and ensure there are no phytotoxic effects We will also assess selected biorational treatments in direct comparative trials in Yr 2 and 3 The trials will also be used to train farmers in application techniques, and methods of crop monitoring In Yr 2 and 3, participating farmers will be provided with pneumatic sprayers, and crop protection materials We will provide assistance in crop treatment, but the main responsibility will lie with the farmer to implement the control strategy

**(a) Evaluation of field efficacy** Armyworm are more susceptible to B t than, for example, *S littoralis* <sup>43</sup> Effective control may be feasible using reduced application rates To optimize the field dose rate, spray trials will be done using three spray concentrations X (recommended rate for *Spodoptera* sp ), 0.5X and 0.25X Control plants will be untreated Tests will be done in infested crops (maize, millet or sorghum) On maize and sorghum, sprays will be directed to the underside of the leaves (Fig 5) <sup>6, 39</sup> Each treatment will be replicated four times, applied in treatment plots measuring at least 3 x 3 m (dependent on the size of the cultivated area) arranged in a 4 x 4 Latin square design Counts of surviving larvae will be made on plants within each treatment block before, 2, 4 and 6 d after spraying Different techniques will be used according to the test crop in

maize and sorghum, the number of larvae on each plant will be counted, in millet, population estimates will be made using 5 quadrat (0.5m<sup>2</sup>) counts within each treatment plot. Damage assessments will also be made in maize and Fig 5. Directing B t spray onto the underside of maize leaves to promote efficacy and persistence. sorghum, removing the fourth leaf from 12 randomly selected plants within each replicate plot, wet and dry weight will be recorded, and differences in mean leaf weight between treated and untreated leaves calculated as an indication of leaf tissue consumed. Data will be analyzed using ANOVA to detect differences in treatment efficacy over time, and will be used to determine application rates suitable to control armyworm on a variety of crops for trials in Yr 2 and 3.

When whole fields are sprayed, four 4 x 4 m plots will be set up within the crop to serve as untreated controls. Larval survival will be estimated using whole plant or quadrat counts using a pre-determined random sampling plan. Counts will be made once before, and 2, 4 and 6 d after treatment. ANOVA will be used on the data to assess treatment effect overall, and on larval populations over time. Comparative trials using biorational compounds will be set up in a similar way in Yr 2, using B t as the standard treatment check, control plots will be unsprayed. Two biorationals only will be tested, at one dose level. Choice of materials for inclusion in the IPM program (Yr 3) will be made on the basis of data obtained in field trials in Yr 1 and 2.

**(b) Test of combined treatments** These tests will be included as an experimental component in Yr 3 of the project. Test combinations will be selected according to bioassay data obtained in Yr 1 and 2. Four treatment regimes will be used: i) B t -biorational combination, ii) B t alone (at the rate applied in i), iii) biorational alone (at the rate use in i), iv) no treatment (check). Experimental design, data collection and statistical analyses will be carried out as described in (a). If potentiation/synergism is observed, additional trials must be conducted to confirm the findings. The IPM program is to be viewed as a dynamic one, however, and will allow such treatments to be incorporated into it to replace one of the controls.

**(c) Evaluation of field persistence** This will be another experimental component of Yr 3, but will not be carried out as part of the field trials, as it requires access to an even-aged supply of armyworm larvae from a lab colony. However, trials will be run at the same time of year, to coincide with weather conditions prevailing at that time. Tests will be done at Mbita Point Field Station. Maize plants will be grown to the 5-leaf stage and treated in experimental field plots. Blocks of plants will be sprayed with i) B t, ii) a biorational, or iii) no treatment (check). Sprays will be allowed to dry and 10 leaf samples taken, sampling the fourth true leaf on each occasion, 0, 2, 4, 6 and 8 d after treatment. Leaves will be exposed to 10 second instar armyworm and surviving larvae counted after 3 and 5 d. Data will be analyzed using ANOVA to determine differences in mortality rates by sampling date.

**Objective 3** Assess the potential environmental impact of biological and biorational preparations through a series of laboratory trials and insect collections at the test sites.

**(a) Laboratory bioassays** These will be carried out in Israel during Yr 1 and 2 to evaluate effects on survival and fecundity of three species of Collembola. Large colonies of three species are already well established in facilities at Haifa University. The species are *Folsomia candida* and *Onychiurus armatus*, two cosmopolitan soil inhabitants, and *Tomocerus* sp. The three species represent inhabitants of three distinct soil horizons. *Tomocerus* live in or on the soil surface, in dead vegetation, *Folsomia* live deeper in the decomposed litter, and *Onychiurus* live in the soil itself. Assay protocols have been described and have been used

extensively by the PI to assess a variety of insect pathogens 55

**(b) Field trials - Collembola** These will be done in Yr 2 and 3 of the project in Kenya at outbreak sites. Soil core samples will be taken in treated (pre- and 5 d post spray) and untreated plots situated in grass fields. Soil arthropods will be extracted using Berleze funnels and preserved in ethanol for shipment to Israel for identification 54. A quantitative analysis of collembolan populations according to sample time and treatment applied will be carried out. Data will be subject to ANOVA to reveal differences in numbers according to the treatment regime applied.

**(c) Field trials - other insect species** Several insects will be collected in treated field plots, including other Lepidoptera and beneficials such as ants and Carabid beetles. Lepidoptera will be collected in Yr 1, 2 and 3. Adults and larvae will be collected and identified to family, and the incidence and diversity of species compared, as an indication of treatment effect. Pitfall traps will be placed in sprayed and non-sprayed field plots to specifically collect foraging predators. Traps will be emptied on a daily basis, and insects preserved in ethanol for later classification to family and counting. Collections will be made throughout the field trials.

**Objective 4** Implement a test IPM program to control African armyworm on small-scale rural farms.

The form of the IPM strategy will depend on the findings of Yr 1 and 2. We intend to have several control options available for implementation at different stages in the progression of an outbreak. Wherever possible, efforts will focus on early detection and use of preventative techniques that require few external inputs. Use of additional controls will depend on subsequent survival rates. This will require constant monitoring of population development by the farmer, and use of population sampling tools to decide whether additional control measures are necessary. Inclusion of farming families in the developmental process serves two functions. Firstly, they will provide direct feedback on the suitability of the proposed control measures, and which techniques are best suited to their farms. Secondly, it provides an opportunity for technology transfer as farmers and their children work alongside researchers and extension personnel. This 'hands-on' approach is likely to be far more successful in terms of a learning experience than more formal class-type instruction in use of the control techniques. Farmers will also have invested their time in the project, and will observe tangible benefits of using the proposed strategies. Collaborating farmers will be provided with pheromone traps, sprayers and materials if necessary, and will be responsible for monitoring populations and implementing control treatments. We will provide additional guidance, but will primarily monitor the activities of the farmers, and the effects of their control decisions. Ideally, follow-up studies will be carried out in subsequent years after the conclusion of the project to assess the sustainability of the IPM program. Use of some components will be dependent upon access to control materials, hence the necessity of including different control options in the package.

This phase of the investigations will allow us to assess the ability of the farmers to implement the control program and formulate conclusions and recommendations for action. These will provide an IPM blueprint for further modification and enhancement, or adaptation for use in other agroecological zones and will be presented, in collaboration with ICIPE, to a meeting of Regional IPM coordinators, agricultural officers and field staff. The proposed 3-year program allows us to address a number of factors impeding the adoption and further development of IPM practices. It promotes a coordinated approach to research and implementation and provides innovative training components for farmers in a developmental partnership. The economic and social advantages of the system must be clearly shown to farmers, government officials and donor agencies to justify allocation of resources for continued implementation. Different components may also be taken for

'in-country' development and adaptation For example, indigenous production of B t on simple, locally available media ingredients is possible, and a stated goal of ICIPE (N K Maniania, pers comm ) Many other botanicals, perhaps more readily available in the outbreak area, can also be tested and substituted into the plan Insects are critical limiting factors to achieving food security in the tropics To reduce losses due to insect feeding, small scale farmers need access to pest management techniques that are technologically effective, long-term, simple and inexpensive to use Building on the success of the past, we have an ideal opportunity to take the next step and promote implementation of a successful and sustainable armyworm IPM program for the future

*Attachment Three*

***PAYMENT FORMS***

*Financial Reports should be made on a quarterly basis unless otherwise agreed to by the Grant Officer*

*It is essential that the following forms be used when requesting Advance and/or Reimbursement type payments No other forms will be accepted for payment processing*

*Photocopy the forms for reuse*

***PLEASE NOTE*** *FOR ADVANCE PAYMENT, USE FORMS ON PAGES 35 AND 39*  
*FOR REIMBURSEMENT, USE FORMS ON PAGES 35 AND 37*

*EACH SET OF FORMS MUST INCLUDE AN ORIGINAL AND ONE COPY*

*If EFT (Electronic Funds Transfer) is requested, please provide the appropriate details, formatted according to accepted banking practices*

*THANK YOU*

From (the Grantee)

University of Haifa

**REQUEST FOR PAYMENT**

(Please submit one form per grantee, original and one copy)

To

Mr Boaz Ayalon  
American Embassy Tel Aviv  
ECON/AID Section  
71 Hayarkon Street  
Tel Aviv

\_\_\_\_\_ Advance - Attached is Form W-245 The advance request is in accordance with the proposed work plan attached to the grant agreement

\_\_\_\_\_ Reimbursement - Attached is a duly signed Actual Disbursements Report

(Please select one of payment type above)

Grant No \_\_\_\_\_

Voucher No \_\_\_\_\_

Period covering this request from \_\_\_\_\_ to \_\_\_\_\_

Amount requested

For UOH \$ \_\_\_\_\_ For TAU \$ \_\_\_\_\_

For Kenya \$ \_\_\_\_\_ For USA \$ \_\_\_\_\_

Please send payment to

Hebrew U	Tel Aviv U	Kenya	USA

Signed \_\_\_\_\_ Name \_\_\_\_\_

Title \_\_\_\_\_

Date \_\_\_\_\_

Boaz Ayalon

**ACTUAL DISBURSEMENTS REPORT**  
 (Please submit original and one copy)

Grantee UNIVERSITY OF HAIFA

Grant Number TA MOU-97-C17-012

Period covered by this report from \_\_\_\_\_ to \_\_\_\_\_

Budget Line Item	Budget			Disbursements this Period			Cumulative Disbursements	Balance
	U OF HAIFA	KENYA	USA	U OF HAIFA	KENYA	USA		
Salaries	\$36,000	\$20,000	\$0					
Technical Ass	\$9,000	\$0	\$0					
Equipment	\$7,000	\$6,000	\$3,000					
Materials	\$8,700	\$6,000	\$2,000					
Travel - Dom	\$4,600	\$15,000	\$0					
Travel - Int'l	\$17,500	\$7,910	\$27,200					
ODC	\$4,000	\$0	\$0					
Indirect Costs	\$13,020	\$8,240	\$4,830					
<b>Total Expenses</b>	<b>\$99 820</b>	<b>\$63 150</b>	<b>\$37 030</b>					

Comments

1 Please attach a separate Request For Payment Form for each grantee!

Note All amounts in U S Dollars (\$)

The undersigned hereby certifies (A) that payment of the sum claimed is proper and due and that appropriate refund to AID will be made promptly upon request in the event of disallowance of costs not reimbursable under the terms of the agreement (B) that information on the fiscal report is correct and such detailed supporting information as AID may reasonably require will be furnished promptly to AID on request (C) that all requirements called for under the agreement to date of this certification have been met

BY \_\_\_\_\_  
 TITLE \_\_\_\_\_  
 DATE \_\_\_\_\_

*Devadas P. ...*

FEDERAL CASH ADVANCE STATUS REPORT
(Report Control No W-245, please submit original and one copy)

Grantee University of Haifa

Grant No TA-MOU-97-C17-012

A Period covered by this report from to Grant Termination

Period covered by the next report from to

B Cash Advance Use and Needs (all in US dollars)

- 1 Cash advance on hand at the beginning of this reporting period \$
2 U S Treasury check advance(s) received during this reporting period \$
3 Interest earned on cash advance during this reporting period \$
4 GROSS cash advance available during this reporting period (lines 1,2, &3) \$
5 LESS interest remitted to AID during this reporting period \$
6 NET cash advance available during this reporting period, including subadvances \$
7 Total disbursements during this reporting period, including subadvances \$
8 Amount of cash advances available at the end of this reporting period \$
9 Projected disbursements, including subadvances, for the next reporting period \$
10 Additional cash advance requested for the next reporting period \$
11 Total interest earned on cash advance from the start of the grant to the end of this reporting period, but not remitted to AID \$
12 Total cash advance to subgrantee, if any as of the end of this reporting period \$

\* Footnotes

- 1 The Grantee shall submit a cumulative detailed report of disbursements by BUDGET Line item quarterly
2 If the amount of disbursements in 7 is equal to or more than the advance amount in 6, the total must be '0'
3 The Grantee shall attach a Summary, by BUDGET Line item, of its projected disbursements for the next reporting period

C Certification

The undersigned hereby certifies (1) that the amount in paragraph B 9 above represents the best estimate of funds needed for the disbursements to be incurred over the period described (2) that appropriate refund or credit to the grant will be made in the event of disallowance in accordance with the terms of the grant (3) that appropriate refund or credit to the grant will be made in the event funds are not expended and (4) that any interest accrued on the funds made available herein will be refunded to AID

BY

TITLE

DATE

*Attachment Four*

*Performance Reports*  
*-Guidelines-*

INTERIM GUIDELINES ON  
PERFORMANCE REPORT PREPARATION FOR CDR PROJECTS

GENERAL COMMENTS

Although reports are to be written by the Principal Investigator (P I), they should reflect issues from all project institutions involved in the research Each report should be written in English and should be submitted according to the Grant Agreement, starting 8 months after the project start date

All performance reports are reviewed, for AID/W, by experts (e g NAS/BOSTID) Unpublished research results and data in Management and Annual Report are treated confidentially by the reviewers

A I D uses general descriptions of project accomplishments in various publications to highlight successes in the program Thus, information the Final Report is not considered to be confidential unless the P I justifies why it should be

New products or processes which result from the U S -Israel Cooperative Development Research Program (CDR) projects often are most successfully dissemination if proprietary rights are established and commercial channels are used Confidentiality of such information will be respected until patents are filed (guidance on patents is provided in A I D 's Handbook 13 or Series 300)

Distribution of specific reports is outlined in individual report specifications, below

- 1 AID/G/EG U S Agency for International Development, Bureau for Global Programs, Field Support and Research, Center for Economic Growth, Room 2 11, Washington, D C 20523-2110 Two copies
- 2 In addition to AID/G/EG, the grantee shall submit reports to all the participating USG Offices referred to in Attachment One, Page 11  
Each Office will receive one copy, unless the Grantee is otherwise directed
- 3 USAID mission in the country of the collaborator One copy

**Types of Reports**

Three types of performance reports are required The **Management Report (Semi-Annual report expected within 60 days after the end of the first six months of each year in the grant period)** very briefly highlights project activities and constraints The **Annual Report (expected within 60 days after the end of each year in the grant period)** is a more detailed description of progress during the year The **Final Report (expected not later than 90 days after the end date of the grant period)** summarizes all of the project's accomplishments

## MANAGEMENT REPORTS

The purpose of the Management Report is briefly to advise Embassy Tel Aviv and A I D/W of overall project progress and to report constraints to project productivity Length should be 2-5 pages plus cover page and any attachments

### Cover Sheet

Be sure to indicate the time Period covered by the report as well as the time covered by the project

### Body of Report

The report should include the following sections

1) Scientific Summary A one paragraph summary of scientific progress Briefly discuss progress since last report

2) Scientific Issues Identify unexpected needs for consultants, training, etc In view of preliminary results, is there a need to restructure the project or budget? If so, explain

3) Managerial Issues Briefly discuss project managerial issues that have arisen in the last six months including budgetary concerns, staff changes, timetable changes, or research site changes Changes in the budget (10% or more) should be justified If the project schedule has changed, include revised schedule with brief rationale

4) Special Concerns Have any protocols which address special concern (e g , human subjects, shipment permits, intellectual property rights etc ) changed? Attach any relevant documents, such as revised consent forms or patent disclosures

5) Collaboration, Travel, Training and Publications Briefly describe collaborative activities Provide a list of completed travel and training since the last report, Indicate who was involved, and when a where activities occurred Describe activities, including travel, anticipated in next 6 months Provide citations for project publication that have appeared since the last report

6) Request for American Embassy Tel Aviv or A.I.D. Actions Indicate how American Embassy Tel Aviv or AID/G/EG staff might assist in promoting project productivity

NOTE The Management Report should not include in-depth discussions of results, publications, or budget summaries It should instead focus on factors that administratively affect the conduct of research and project operations The first Management Report should explain issues that develop when beginning the project Subsequent Management Reports may quite brief if work is progressing according to plan, and no particular issue requires review or assistance

## ANNUAL REPORT

The purpose of the Annual Report is to summarize significant SCIENTIFIC results (Section I) from the previous 12 month's work, and to describe advances in SCIENTIFIC capabilities in developing countries. Managerial issues (Section II) that have arisen in the last six months should also be described. Annual Reports should be 5-10 pages long plus Cover Sheet.

Describe in detail any significant changes in the project.

### Contents

Annual Reports should include the following sections:

Cover Sheet Be sure to include all pertinent dates.

### Table of Contents

Executive Summary Typed double-spaced on a separate page. No longer than one page. Use non-technical language. Describe purpose of project. Briefly describe the findings over the last year, and explain how these findings contribute to project objectives and to international development. Clearly describe the nature of collaboration during the last year.

The Executive Summary is extremely important. It is the section of the report which policy makers use to assess the impact of AID research programs. Write the Executive Summary so that the content is clear and concise.

### Section I

Note on Publications AID encourages PIs to publish data in SCIENTIFIC journals. Such publications should be submitted as part of the Annual Report, and can serve to replace, in whole or in part, Sections A and B (below).

The following Acknowledgment should be included in project-funded publications: "This research was supported (in part, if applicable) under Grant No \_\_\_\_\_ Program in Science and Technology Cooperation (or U S -Israel Cooperative Development Research Program, whichever applies), Economic Growth, U S Agency for International Development."

A) Research Objectives A brief statement of project objectives. Do not include unnecessary background, history, or literature review. Focus on objectives since last Annual Report.

B) Research Accomplishments Provide descriptions of results that are supported, if needed, with a few key tables and/or photos (preferably glossy black and white). Data should be clearly presented. If results have been published, attach reprints as appendices. Describe any project products or procedures that have been patented. Focus on accomplishments since last Annual Report.

C) SCIENTIFIC Impact of Collaboration How have collaborating Scientists participated in the project during the reporting year?

D) Description of Project Impact Are results from the project being used? If so, how? If not, what are the anticipated uses?

E) Strengthening of Developing Country Institutions Describe any project investments such as facilities, equipment or training that have been made Summarize new research or managerial skills that have been acquired Describe efforts to overcome institutional constraints

F) Future Work What remains to be done? Is the project on schedule? Has the work plan been revised? If so, describe revision

## Section II

A) Managerial Issues Describe any project managerial issues that have arisen since the last Management Report

B) Budget Describe and justify major changes (10% or more in budget items) to budget

C) Special Concerns Have any protocols which address special concerns (e.g. human subjects, intellectual property rights, etc.) changed? Attach any relevant documents, such as revised consent forms or patent disclosures

D) Collaboration, Travel, Training and Publications Briefly describe collaborative activities Provide a list of completed travel and training since the last report Indicate who was involved, and when and where activities occurred Describe anticipated activities in next 6 months Provide a list of project publications that have appeared since the last report

E) Request for American Embassy Tel Aviv or A.I.D. Actions Indicate how American Embassy Tel Aviv or AID/EG staff can assist in promoting project productivity

## FINAL REPORT

The purpose of the Final Report is to link all findings from the project so that the overall effectiveness and impact of the entire project can be assessed Project effectiveness should be discussed both in terms of SCIENTIFIC accomplishments and relevance of findings to international development

Information in Final Reports may be published by A I D in non-technical publications

The Final Report should not be a repetition of Annual Reports- It is an overview of accomplishments from the entire project The Final Report generally should be 10-25 pages long, and should include the sections below

1) Cover Sheet See example on page 8 Be sure to clearly specify the dates over which the project was conducted

2) Table of Contents

3) Executive Summary Separate page Use same guidelines as for Annual Report, but review and summarize the entire project The Executive Summary should clearly place project accomplishments in the overall context of international development What skills or awareness will remain in the developing country as a result of the project?

4) Research Objectives Describe why your project was conducted What problem was addressed and why is the problem important to development? Briefly describe how the project fits into on-going research by other SCIENTISTS, and reference pertinent literature Describe the innovative aspects of the project Briefly explain how other organizations supported the project

5) Methods and Results Summarize how data were collected Present data through use of tables, charts, photographs (black and white, glossy) When appropriate, data should be statistically analyzed This section should be presented as if for publication in a journal

NOTE All P I s should publish their results in SCIENTIFIC journals Publications in peer-reviewed international journals provide important support for researchers seeking new funding from A I D and other agencies Such publications should be submitted as part of the Final Report, briefly describe the published results and refer to specific publications

The following statement should be included in project-funded publications "This research was supported (in part, if applicable) under Grant No \_\_\_\_\_ Program in SCIENCE and Technology Cooperation (or U S -Israel Cooperative Development Research Program, whichever applies), Economic Growth, U S Agency for International Development "

4) Impact Relevance and Technology Transfer How will findings be useful in the developing country? Describe the project's impact on individuals, laboratories, departments, and institutions Will results be used If so, how, by whom, when? Are larger scale trials warranted? What difference has the project made, now that the project is complete, what new capacity, equipment or expertise will be left behind in the developing country? How have the SCIENTIFIC capabilities of collaborating country SCIENTISTS been improved?

7) Project Activities/outputs List meetings attended and held for entire project List training, publications, patents for entire project

8) Project Productivity Did the project accomplish all of the proposed goals? If not, why not?

9) Future Work Will project lead to future work? Describe

10) Literature Cited

Cover Page Format

MANAGEMENT [or ANNUAL or FINAL] REPORT

Covering Period [Date to Date]

Submitted to the U S Agency for International Development, Bureau for Global Programs,  
Field Support and Research, Center for Economic Growth

[TITLE OF PROJECT]

Principal Investigator [Name]  
Grantee Institution [Name]

Collaborator [Name]  
Institution [Name]

Project Number [such as CX-YYY]  
Grant Number Such as TA-MOU-9X-CXX-YYY

Grant Project Officer [Name]

Project Duration [Date to Date]

## *Attachment Five*

*Mandatory and Required as Applicable*

### **STANDARD PROVISIONS**

(See Attached)

*Except as noted in the schedule of this Grant, the attached Mandatory and Required As Applicable Standard Provisions are applicable to all activities and funds outlined in the Grant*

*References to U S Agency for International Development (USAID or AID) shall be interpreted to mean U S American Embassy, Tel Aviv*

*References to Grantee shall be interpreted to mean all of its interested parties, including subgrantees and consultants*

*References to AID Office of Financial Management (FM) shall be interpreted to mean Controller, U S Embassy, Tel Aviv*

Specific Support Grants  
Appendix 4D Mandatory Standard Provisions for Non-U S Nongovernmental  
Grantees

APPENDIX 4D  
MANDATORY STANDARD PROVISIONS FOR  
NON-U S , NONGOVERNMENTAL GRANTEES

- |                                |                                 |
|--------------------------------|---------------------------------|
| 1 Allowable Costs              | 8 Debarment, Suspension, and    |
| 2 Accounting, Audit, & Records | Other Responsibility Matters    |
| 3 Refunds                      | 9 U S Officials Not to Benefit  |
| 4 Revision of Grant Budget     | 10 Investment Promotion         |
| 5 Termination and Suspension   | 11 Nonliability                 |
| 6 Disputes                     | 12 Amendment                    |
| 7 Ineligible Countries         | 13 Notices                      |
|                                | 14 Metric System of Measurement |

1 ALLOWABLE COSTS (JUNE 1993)

(a) The grantee shall be reimbursed for costs incurred in carrying out the purposes of this grant which are determined by the grant officer to be reasonable, allocable, and allowable in accordance with the terms of this grant and the applicable\* cost principles in effect on the date of this grant, which are attached

(1) Reasonable Shall mean those costs which are generally recognized as ordinary and necessary and would be incurred by a prudent person in the conduct of normal business

(2) Allocable Costs Shall mean those costs which are incurred specifically for the grant

(3) Allowable Costs Shall mean those costs which conform to any limitations in the grant

---

---

\*NOTE For educational institutions use OMB Circular A-21, for all other non-profit organizations use OMB Circular A-122, and for profit making firms use Federal Acquisition Regulation 31.2 and AID Acquisition Regulation 731.2

---

---

<sup>2</sup>When these Standard Provisions are used for cooperative agreements, the following terms apply "Grantee" means "Recipient" "Grant" means "Cooperative Agreement," and "AID Grant Officer" means "AID Agreement Officer "

---

---

(4) Unallowable costs, direct or indirect, include but are not limited to the following examples Advertising, bad debts, contingencies, entertainment, fines and penalties, interest, fund raising, investment management costs, losses on other awards, and

first class air fare unless specifically approved Public information service costs are unallowable as indirect costs

(b) Prior to incurring a questionable or unique cost, the grantee should obtain the grant officer's written determination on whether the cost will be allowable

## 2 ACCOUNTING, AUDIT, AND RECORDS (OCT 1992)

(a) The grantee shall maintain books, records, documents, and other evidence relating to the AID-sponsored project or program in accordance with generally accepted accounting principles formally prescribed by the U S , the cooperating country, or the International Accounting Standards Committee (an affiliate of the International Federation of Accountants) to sufficiently substantiate charges to this grant Accounting records that are supported by documentation will as a minimum be adequate to show all costs incurred under the grant, receipt and use of goods and services acquired under the grant, the costs of the program supplied from other sources, and the overall progress of the program The grantee records and subgrantee records which pertain to this grant shall be retained for a period of three years from the date of expiration of this grant and may be audited by AID and/or its representatives The grantee shall insert this paragraph (a) in all subgrants valued in excess of \$10,000

(b) If the grantee receives \$25,000 per year or more under this grant, the grantee agrees that it shall have an audit made of the funds provided under this grant and of the financial statements of the organization as a whole The grantee shall select an independent auditor in accordance with the "Guidelines for Financial Audits Contracted by Foreign Recipients" issued by the AID Inspector General The audit shall be a financial audit performed in accordance with such guidelines and in accordance with generally accepted government auditing standards issued by the Comptroller General of the United States, and shall determine whether the grant funds have been used in accordance with this agreement Audits shall be performed annually

(c) The audit report shall be submitted to AID within 30 days after completion of the audit, but the audit shall be completed and the report submitted not later than 13 months after the close of the grantee's fiscal year The AID Inspector General will review this report to determine whether it complies with the audit requirements of this grant No audit costs may be charged to this grant if audits have not been made in accordance with the terms of this provision In cases of continued inability or unwillingness to have an audit performed in accordance with the terms of this provision, AID will consider appropriate sanctions which may include suspension of all or a percentage of disbursements until the audit is satisfactorily completed

(d) The grantee shall ensure that funds made available to subgrantees that receive \$25,000 or more per year under this grant are audited in accordance with this agreement Such audit responsibilities with respect to Subrecipient may be satisfied by relying on independent audits of the subgrantees, or on appropriate procedures performed by the internal audit or program staff of the grantee, by expanding the scope of the independent financial audit of the grantee to encompass testing of

subgrantees' records, or by a combination of these procedures. The grantees shall ensure that appropriate corrective actions are taken on the recommendation contained in the subgrantee's audit reports, consider whether subgrantees' audits necessitate adjustment of its own records, and require each subgrantee to permit independent auditors to have access to records and financial statements as necessary.

### 3 REFUNDS (JUNE 1993)

(a) Interest earned on advances will be remitted to AID. However, the grantee may retain up to \$250 of interest earnings per year for administrative expenses.

(b) At the time the grant expires or is terminated, funds shall revert to AID if (1) AID has obligated funds to the grant, but has not disbursed them to the grantee, or (2) AID has advanced funds to the grantee, but the grantee has not expended them. Notwithstanding (1) and (2) above, funds which the grantee has obligated in legally binding transactions applicable to this grant will not revert to AID.

(c) AID reserves the right to require refund by the grantee of any amount which the grantee did not spend in accordance with the terms and conditions of this grant. In the event that a final audit has not been performed prior to the closeout of this grant, AID retains the right to a refund until all claims which may result from the final audit have been resolved between AID and the grantee.

### 4 REVISION OF GRANT BUDGET (JUNE 1993)

(a) The approved grant budget is the financial expression of the grantee's program as approved during the grant award process.

(b) The grantee shall immediately request approval from the grant officer when there is reason to believe that within the next 30 calendar days a revision of the approved grant budget will be necessary for any of the following reasons: (1) To change the scope or the objectives of the project and/or revise the funding allocated among project objectives; (2) Additional funding is needed; (3) The grantee expects the amount of AID authorized funds to exceed its needs by more than \$5,000 or five percent of the AID award, whichever is greater; (4) The grantee plans to transfer funds budgeted for indirect costs to absorb increases in direct costs or vice versa; (5) The grantee intends to contract or subgrant any of the work under this grant, and such contracts or subgrants were not included in the approved grant budget.

(c) AID shall not be required to reimburse the grantee for costs incurred in excess of the total amount obligated under the grant, except to the extent that another provision of the grant specifically states that it is an exception to this provision. (d) The grantee shall not be required to continue performance under the grant (including action under the "Termination and Suspension" provision) or otherwise to incur costs in excess of the amount obligated under the grant. If the total obligated amount under the grant has been increased, the grant officer will notify the grantee in writing of the increase and specify the new obligated grant total amount.

5 TERMINATION AND SUSPENSION (JUNE 1993)

(a) For Cause The grant officer may terminate this grant for cause at any time, in whole or in part, upon written notice to the grantee, whenever it is determined that the grantee has failed to comply with the terms and conditions of the grant

(b) For Convenience This grant may be terminated for convenience at any time by either party, in whole or in part, if both parties agree that the continuation of the grant would not produce beneficial results commensurate with the further expenditure of funds Both parties shall agree upon termination conditions, including the effective date and, in the case of partial terminations, the portion to be terminated The agreement to terminate shall be set forth in a letter from the grant officer to the grantee

(c) Suspension or Termination for Changed Circumstances If at any time AID determines that continuation of all or part of the funding for a program should be suspended or terminated because such assistance would not be in the national interest of the United States or would be in violation of an applicable law, then AID may, following notice to the grantee, suspend or terminate this grant in whole or part and prohibit the grantee from incurring additional obligations chargeable to this grant other than those costs specified in the notice of suspension during the period of suspension If the situation causing the suspension continues for 60 days or more, then AID may terminate this grant on written notice to the grantee and cancel that portion of this grant which has not been disbursed or irrevocably committed to third parties

(d) Termination Procedures Upon receipt of and in accordance with a termination notice as specified in either paragraph (a) or (b) above, the grantee shall take immediate action to minimize all expenditures and obligations financed by this grant and shall cancel such unliquidated obligations whenever possible Except as provided below, no further reimbursement shall be made after the effective date of termination The grantee shall within 30 calendar days after the effective date of such termination repay to the Government all unexpended AID funds which are not otherwise obligated by a legally binding transaction applicable to this grant Should the funds paid by the Government to the grantee prior to the effective date of the termination of this grant be insufficient to cover the grantee's obligations in the legally binding transaction, the grantee may submit to the Government within 90 calendar days after the effective date of such termination a written claim covering such obligations The grant officer shall determine the amount(s) to be paid by the Government to the grantee under such claim in accordance with the applicable cost principles

6 DISPUTES (JUNE 1993)

(a) Any dispute under this grant shall be decided by the AID grant officer The grant officer shall furnish the grantee a written copy of the decision

(b) Decisions of the AID grant officer shall be final unless, within 30 days of receipt of the decision of the grant officer, the grantee appeals the decision to AID's Deputy Associate Administrator for Finance and Administration Any appeal made under this provision shall be in writing and addressed to the Deputy Associate Administrator for Finance and Administration, Agency for International Development, Washington, D C 20523 A copy of the appeal shall be concurrently furnished to the

grant officer

(c) In order to facilitate review on the record by the Deputy Associate Administrator for Finance and Administration, the grantee shall be given an opportunity to submit written evidence in support of its appeal. No hearing will be provided.

(d) A decision under this provision by the Deputy Associate Administrator for Finance and Administration shall be final.

#### 7 INELIGIBLE COUNTRIES (MAY 1986)

Unless otherwise approved by the AID grant officer, funds will only be expended for assistance to countries eligible for assistance under the Foreign Assistance Act of 1961, as amended, or under acts appropriating funds for foreign assistance.

#### 8 DEBARMENT, SUSPENSION, AND OTHER RESPONSIBILITY MATTERS (MARCH 1989)

(1) The grantee certifies to the best of its knowledge and belief, that it and its principals (a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency, (b) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction, violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property, (c) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (1)(b) of this certification, and (d) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

(2) The grantee agrees that, unless authorized by the Grant Officer, it will not knowingly enter into any subagreements or contracts under this grant with a person or entity that is included on the "Lists of Parties Excluded from Federal Procurement or Nonprocurement Programs". The grantee further agrees to include the following provision in any subagreements or contracts entered into under this grant:

#### DEBARMENT, SUSPENSION, INELIGIBILITY, AND VOLUNTARY EXCLUSION (MARCH 1989)

The recipient/contractor certifies that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.

(3) The policies and procedures applicable to debarment, suspension and ineligibility under AID-financed transactions are set forth in 22 CFR Part 208.

9 U S OFFICIALS NOT TO BENEFIT (NOVEMBER 1985)

No member of or delegate to the U S Congress or resident U S Commissioner shall be admitted to any share or part of this grant or to any benefit that may arise therefrom, but this provision shall not be construed to extend to this grant if made with a corporation for its general benefit

10 INVESTMENT PROMOTION (January 1994)

No funds or other support provided hereunder may be used in a project or activity reasonably likely to involve the relocation or expansion outside of the United States of an enterprise located in the United States if non-U S production in such relocation or expansion replaces some or all of the production of, and reduces the number of employees at, said enterprise in the United States No funds or other support provided hereunder may be used in a project or activity the purpose of which is the establishment or development in a foreign country of any export processing zone or designated area where the labor, environmental, tax, tariff, and safety laws of the country would not apply, without the prior written approval of USAID No funds or other support provided hereunder may be used in a project or activity which contributes to the violation of internationally recognized rights of workers in the recipient country, including those in any designated zone or area in that country This provision must be included in all subagreements

11 NONLIABILITY (NOVEMBER 1985)

USAID does not assume liability for any third party claims for damages arising out of this grant

12 AMENDMENT (NOVEMBER 1985)

The grant may be amended by formal modifications to the basic grant document or by means of an exchange of letters between the grant officer and an appropriate official of the grantee

13 NOTICES (NOVEMBER 1985)

Any notice given by AID or the grantee shall be sufficient only if in writing and delivered in person, mailed, or cabled as follows To the AID grant officer, at the address specified in the grant To grantee, at grantee's address shown in the grant or to such other address designated within the grant Notices shall be effective when delivered in accordance with this provision, or on effective date of the notice, whichever is later

14 METRIC SYSTEM OF MEASUREMENT (AUGUST 1992)

Wherever measurements are required or authorized, they shall be made, computed, and recorded in metric system units of measurement, unless otherwise authorized by the grant officer in writing when it has found that such usage is impractical or is likely to cause U S firms to experience significant inefficiencies or the loss of markets Where the metric system is not the predominant standard for a particular application, measurements may be expressed in both the metric and the traditional equivalent units, provided the metric units are listed first

**(END OF MANDATORY STANDARD PROVISIONS)**

Specific Support Grants  
 Appendix 4D Mandatory Standard Provisions for US  
 Nongovernmental Grantees

REQUIRED AS APPLICABLE STANDARD PROVISIONS FOR  
 NON-U S , NONGOVERNMENTAL GRANTEEES

The following standard provisions are required to be used when applicable. Applicability statements are contained in the parenthetical statement preceding the standard provision. When a standard provision is determined to be applicable in accordance with the applicability statement, the use of such standard provision is mandatory unless a deviation has been approved in accordance with Paragraph 1E of Chapter 1 of this Handbook. Each grant is required to have a payment provision. Check off the provisions which are to be included in the grant. Only those standard provisions which have been checked off are included within the grant.

- |    |   |             |
|----|---|-------------|
| 1  | Payment - Periodic Advance                                | _____X_____ |
| 2  | Payment - Cost Reimbursement                              | _____       |
| 3  | Air Travel and Transportation                             | _____X_____ |
| 4  | Ocean Shipment of Goods                                   | _____X_____ |
| 5  | Procurement of Goods and Services                         | _____X_____ |
| 6  | AID Eligibility Rules for Goods and Services              | _____X_____ |
| 7  | Subagreements   | _____X_____ |
| 8  | Local Cost Financing                                      | _____       |
| 9  | Patent Rights   | _____X_____ |
| 10 | Publications and Media Releases                           | _____       |
| 11 | Nondiscrimination in Federally Assisted Programs          | _____       |
| 12 | Regulations Governing Employees                           | _____X_____ |
| 13 | Participant Training                                      | _____       |
| 14 | Voluntary Population Planning                             | _____X_____ |
| 15 | Protection of the Individual as a Research Subject        | _____X_____ |
| 16 | Negotiated Overhead Rates - Provisional                   | _____       |
| 17 | Title To and Use of Property (Grantee Title)              | _____X_____ |
| 18 | Title To and Care of Property (U S Government Title)      | _____       |
| 19 | Title To and Care of Property (Cooperating Country Title) | _____X_____ |
| 20 | Cost Sharing (Matching)                                   | _____       |
| 21 | Public Notices  | _____       |

PAYMENT - PERIODIC ADVANCE (JUNE 1993)

(This provision is applicable when (1) the grantee has an acceptable accounting system (2) the grantee has the ability to maintain procedures that will minimize the time elapsing between the transfer of funds and the disbursement thereof, and (3) the grantee's financial management system meets the standards for fund control and accountability required under the standard provision of this agreement entitled "Accounting, Audit, and Records" )

(a) Periodic advances shall be limited to the minimum amounts needed to meet current disbursement needs and shall be scheduled so that the funds are available to the grantee as close as is administratively feasible to the actual disbursements by the grantee for program costs. Cash advances made by the grantee to secondary grantee organizations or the grantee's field organizations shall conform substantially to the same standards of timing and amount as apply to cash advances by AID to the grantee.

(b) AID funds shall not be commingled with other grantee owned or controlled funds. The grantee shall deposit all AID cash advances in a separate bank account and shall make all disbursements for goods and services from this account.

(c) Each quarter, after the initial cash advance, the grantee shall submit to the AID Controller, identified in the schedule, voucher SF 1034 (original) and SF 1034-A (three copies), entitled "Public Voucher for Purchases and Services Other Than Personal", copies of which are attached.

(d) Each voucher shall be identified by the appropriate grant number and shall be accompanied by an original and three copies of a report in the following format:

FEDERAL CASH ADVANCE STATUS REPORT  
(Report Control No W-245)

A Period covered by this report

FROM (Month, day, year) \_\_\_\_\_ TO (Month, day, year) \_\_\_\_\_

Period covered by the next report

FROM (Month, day, year) \_\_\_\_\_ TO (Month, day, year) \_\_\_\_\_

B Cash Advance Use and Needs

- 1 Cash advance on hand at the beginning of this reporting period \$ \_\_\_\_\_
- 2 US Treasury check advance(s) received during this reporting period \$ \_\_\_\_\_
- 3 Interest earned on cash advance during this reporting period \$ \_\_\_\_\_
- 4 GROSS cash advance available during this reporting period (Lines 1, 2, & 3) \$ \_\_\_\_\_
- 5 LESS, interest remitted to AID during this reporting period \$ \_\_\_\_\_
- 6 NET cash advance available during this reporting period (Line 4 minus Line 5) \$ \_\_\_\_\_
- 7 Total disbursements during this reporting period, including subadvances  
(See footnote 1) \$ \_\_\_\_\_
- 8 Amount of cash advances available at the end of this reporting period  
(Line 6 minus Line 7) \$ \_\_\_\_\_
- 9 Projected disbursements, including subadvances, for the next reporting period  
(see footnote 2) \$ \_\_\_\_\_
- 10 Additional cash advance requested for the next reporting period  
(Line 9 minus Line 8) \$ \_\_\_\_\_
- 11 Total interest earned on cash advance from the start of the grant to the end  
of this reporting period, but not remitted to AID \$ \_\_\_\_\_
- 12 Total cash advances to subgrantees, if any, as of the end of this reporting  
period \$ \_\_\_\_\_

FOOTNOTES

- 1 The grantee shall submit a cumulative detailed report of disbursements by BUDGET line item quarterly
- 2 The grantee shall attach a Summary, by BUDGET line item, of its projected disbursements for the next reporting period

---

C Certification The undersigned hereby certifies (1) that the amount in paragraph B 9 above represents the best estimate of funds needed for the disbursements to be incurred over the period described, (2) that appropriate refund or credit to the grant will be made in the event of disallowance in accordance with the terms of the grant, (3) that appropriate refund or credit to the grant will be made in the event funds are not expended, and (4) that any interest accrued on the funds made available herein will be refunded to AID

BY \_\_\_\_\_  
DATE \_\_\_\_\_  
TITLE \_\_\_\_\_

(END OF STANDARD PROVISION)

### 3 AIR TRAVEL AND TRANSPORTATION (JUNE 1993)

(This provision is applicable when any costs for air travel or transportation are included in the budget )

(a) The grantee is required to notify the project officer of the proposed itinerary for each planned international trip financed by this grant, by providing the name of the traveller, purpose of the trip, origin/destination (and intervening stops), and dates of travel, as far in advance of the proposed travel as possible, but at least three weeks before travel is planned to commence. International travel, as provided for in the grant, is authorized unless otherwise disapproved by the project officer in writing prior to the commencement of travel. At least one week prior to departure, the grantee shall notify the cognizant U S Mission or Embassy, with a copy to the project officer of planned travel, identifying the travellers and dates and times of arrival.

(b) Travel to certain countries shall, at AID's option, be funded from U S -owned local currency. When AID intends to exercise this option, AID will, after receipt of advice of intent to travel required above, either issue a SF 1169, Government Transportation Request (GTR), which the grantee may exchange for tickets, or AID will issue the tickets directly. Use of such U S -owned currencies will constitute a dollar charge to this grant.

(c) All air travel and shipments under this grant are required to be made on U S flag air carriers to the extent service by such carrier is available. A U S flag air carrier is defined as an air carrier which has a certificate of public convenience and necessity issued by the U S Civil Aeronautics Board authorizing operations between the U S and/or its territories and one or more foreign countries.

(d) Use of foreign air carrier service may be deemed necessary if a U S flag air carrier cannot provide the foreign air transportation needed, or if use of such service will not accomplish the agency's mission. Travel and transportation on non-free world air carriers are not reimbursable under this grant.

(e) U S flag air carrier service is considered available even though (1) Comparable or a different kind of service can be provided at less cost by a foreign air carrier, (2) Foreign air carrier service is preferred by or is more convenient for the agency or traveler, or (3) Service by a foreign air carrier can be paid for in excess foreign currency, unless U S flag air carriers decline to accept excess or near excess foreign currencies for transportation payable only out of such monies.

(f) Except as provided in paragraph (b) of this section, U S flag air carrier service must be used for all Government-financed commercial foreign air travel if service provided by such carriers is available. In determining availability of a U S flag air carrier, the following scheduling principles should be followed unless their application results in the last or first leg of travel to or from the U S being performed by a foreign air carrier: (1) U S flag air carrier service available at point of origin should be used to destination or in the absence of direct or through service to the farthest interchange point on a usually traveled route, (2) Where an origin or interchange point is not served by U S flag air carrier, foreign air carrier service should be used only to the nearest interchange point on a usually traveled route to connect with U S flag air carrier service, or (3) Where a U S flag air carrier involuntarily reroutes the traveler via a foreign air carrier the foreign air carrier may be used.

notwithstanding the availability of alternative U S flag air carrier service

(g) For travel between a gateway airport in the United States (the last U S airport from which the traveler's flight departs or the first U S airport at which the traveler's flight arrives) and a gateway airport abroad (that airport from which the traveler last embarks en route to the U S or at which the traveler first debarks incident to travel from the U S ) passenger service by U S flag air carrier will not be considered available (1) Where the gateway airport abroad is the traveler's origin or destination airport, and the use of U S flag air carrier service would extend the time in a travel status, including delay at origin and accelerated arrival at destination, by at least 24 hours more than travel by foreign air carrier (2) Where the gateway airport abroad is an interchange point, and the use of U S flag air carrier service would require the traveler to wait six hours or more to make connections at that point, or delayed departure from or accelerated arrival at the gateway airport in the U S would extend the time in a travel status by at least six hours more than travel by foreign air carrier

(h) For travel between two points outside the U S the rules in paragraphs (d) through (f) of this section will be applicable, but passenger service by U S flag air carrier will not be considered to be reasonably available (1) If travel by foreign air carrier would eliminate two or more aircraft changes en route, (2) Where one of the two points abroad is the gateway airport (as defined paragraph (g) of this section) en route to or from the U S , if the use of a U S flag air carrier would extend the time in a travel status by at least six hours more than travel by foreign air carrier including accelerated arrival at the overseas destination or delayed departure from the overseas origin as well as delay at the gateway airport or other interchange point abroad, or (3) Where the travel is not part of a trip to or from the U S , if the use of a U S flag air carrier would extend the time in a travel status by at least six hours more than travel by foreign air carrier including delay at origin, delay en route and accelerated arrival at destination

(i) When travel under either paragraph (g) or (h) of this section involves three hours or less between origin and destination by a foreign air carrier, U S flag air carrier service will not be considered available when it involves twice such travel time or more

(j) Nothing in the above guidelines shall preclude and no penalty shall attend the use of a foreign air carrier which provides transportation under an air transport agreement between the United States and a foreign government, the terms of which are consistent with the international aviation policy goals set forth at 49 U S C 1502(b) and provide reciprocal rights and benefits

(k) Where U S Government funds are used to reimburse the grantee's use of other than U S air flag carriers for international transportation, the grantee will include a certification on vouchers involving such transportation which is essentially as follows "CERTIFICATION OF UNAVAILABILITY OF U S FLAG AIR CARRIERS" I hereby certify that the transportation service for personnel (and their personal effects) or property by certificated air carrier was unavailable for the following reason(s) (State appropriate reason(s) as set forth above) "

(l) International Travel (1) As used herein, the term "international travel" includes travel to all countries other than travel within the home country of the traveler (2) The grantee will be reimbursed for travel and the reasonable cost of subsistence, post differentials and other allowances

paid to employees in an international travel status in accordance with the grantee's established policies and practices which are uniformly applied to federally financed and other activities of the grantee. The standard for determining the reasonableness of reimbursement for overseas allowance in the Standardized Regulations (Government Civilians, Foreign Areas), published by the U S Department of State, as from time to time amended. The most current subsistence, post differentials, and other allowances may be obtained from the grant officer.

(m) This provision will be included in all subagreements and contracts which require air travel and transportation under this grant.

(END OF STANDARD PROVISION)

#### 4 OCEAN SHIPMENT OF GOODS (JUNE 1993)

(This provision is applicable when goods purchased with funds provided under this grant are transported to cooperating countries on ocean vessels whether or not grant funds are used for the transportation.)

(a) At least 50% of the gross tonnage of all goods purchased under this grant and transported to the cooperating countries shall be made on privately owned U S flag commercial ocean vessels, to the extent such vessels are available at fair and reasonable rates for such vessels.

(b) At least 50% of the gross freight revenue generated by shipments of goods purchased under this grant and transported to the cooperating countries on dry cargo liners shall be paid to or for the benefit of privately owned U S flag commercial ocean vessels to the extent such vessels are available at fair and reasonable rates for such vessels.

(c) When U S flag vessels are not available, or their use would result in a significant delay, the grantee may request a determination of non-availability from the AID Transportation Support Division, Office of Procurement, Washington, D C 20523, giving the basis for the request which will relieve the grantee of the requirement to use U S flag vessels for the amount of tonnage included in the determination. Shipments made on non-free world ocean vessels are not reimbursable under this grant.

(d) Vouchers submitted for reimbursement which include ocean shipment costs shall contain a certification essentially as follows: "I hereby certify that a copy of each ocean bill of lading concerned has been submitted to the U S Department of Transportation, Maritime Administration, Division of National Cargo, 400 7th Street, S W, Washington, D C 20590, and that such bills of lading state all of the carrier's charges including the basis for calculation such as weight or cubic measurement."

(e) Shipments financed under this grant must meet applicable eligibility requirements set out in Handbook 1, Supplement B, Chapter 7. (f) This provision will be included in all subagreements which will finance goods to be shipped on ocean vessels.

(END OF STANDARD PROVISION)

## 5 PROCUREMENT OF GOODS AND SERVICES (JUNE 1993)

(This provision is applicable when goods or services are procured under the grant )

The grantee may use its own procurement policies and practices for the procurement of goods and services under this grant, provided they conform to all of AID's requirements listed below and the standard provision entitled "AID Eligibility Rules For Goods and Services"

(a) General Requirements (1) The grantee shall maintain a code or standards of conduct that shall govern the performance of its officers, employees or agents engaged in the awarding and administration of contracts using AID funds Conflicts of interests situations involving employees, officers or agents or their immediate families shall be avoided The grantee's officers, employees or agents shall neither solicit nor accept gratuities, favors or anything of monetary value from contractors or potential contractors Such standards shall provide for disciplinary actions to be applied for violations of such standards by the grantees' officers, employees or agents (2) All procurement transactions shall be conducted in a manner to provide, to the maximum extent practical, open and free competition The grantee should be alert to organizational conflicts of interest or noncompetitive practices among contractors that may restrict or eliminate competition or otherwise restrain trade In order to ensure objective contractor performance and eliminate unfair competitive advantage, contractors that develop or draft specifications, requirements, statements of work, or requests for proposals should be excluded from competing for such procurements Awards shall be made to the offeror whose offer is responsive/responsible to the solicitation and is most advantageous to the grantee, price and other factors considered Solicitations shall clearly set forth all requirements that the offeror must fulfill in order to be evaluated by the grantee Any and all offers may be rejected when it is in the grantee's interest to do so (3) All grantees shall establish procurement procedures that provide for, at a minimum, the following procedural requirements (i) Proposed procurement actions shall follow a procedure to assure the avoidance of purchasing unnecessary items (ii) Solicitations for goods and services shall be based upon a clear and accurate description of the technical requirements for the material, product or service to be procured Such a description shall not, in competitive procurements, contain features which unduly restrict competition (iii) Positive efforts shall be made by the grantees to utilize U S small business and minority owned business sources of supplies and services Such efforts should allow these sources the maximum feasible opportunity to compete for contracts utilizing AID funds

The grantee shall to the maximum extent possible provide the following information to the Office of Small and Disadvantaged Business Utilization, AID, Washington, D C 20523, at least 45 days prior (except where a shorter time is requested of and granted by the Office of Small and Disadvantaged Business Utilization) to placing any order or contract in excess of \$25,000 (A) Brief general description and quantity of goods or services, (B) Closing date for receiving quotations or proposals, and (C) Address where solicitations and specifications can be obtained (iv) The type of procurement instruments used, e g fixed price contracts, cost reimbursable contracts, purchase orders, incentive contracts, shall be determined by the grantee but must be appropriate for the particular procurement and for promoting the best interest of the program involved In those instances where a cost type contract authorizes a fee, a fixed amount will be used in lieu of a percentage of cost (v) Contracts shall be made only to responsible contractors who possess the potential ability to perform successfully under the terms and conditions of a proposed contract Consideration shall be given to such matters as integrity, record of past performance, financial and technical resources or accessibility to other necessary resources Contracts shall not be made to firms or individuals whose name appears on the "Lists of Parties Excluded from Federal

Procurement and Nonprocurement Programs " AID will provide the grantee with copy of this list upon request (vi) All proposed sole source contracts or where only one proposal is received in which the aggregate expenditure is expected to exceed \$10,000 shall be subject to prior approval by an appropriate official within the grantee's organization (vii) Some form of price or cost analysis should be made in connection with every procurement action Price analysis may be accomplished in various ways, including the comparison of price quotations submitted, and market prices, together with discounts Cost analysis is the review and evaluation of each element of cost to determine reasonableness, allocability and allowability (viii) Procurement records and files for purchases in excess of \$10,000 shall include the following (A) Basis for contractor selection, (B) Justification for lack of competition when competitive offers are not obtained, (C) Basis for award cost or price (ix) A system for contract administration shall be maintained to ensure contractor conformance with terms, conditions and specifications of the contract, and to ensure adequate and timely follow-up of all purchases

(b) Each contract and subcontract shall contain in addition to provisions to define a sound and complete contract, the following contract provisions as well as any provision within this grant which requires such inclusion of that provision Whenever a provision is required to be inserted in a contract under this grant, the grantee shall insert a statement in the contract that in all instances where AID is mentioned the grantee's name shall be substituted (1) Contracts in excess of \$10,000 shall contain contractual provisions or conditions that will allow for administrative, contractual or legal remedies in instances in which contractors violate or breach contract terms, and provide for such remedial actions as may be appropriate (2) All contracts in excess of \$10,000 shall contain suitable provisions for termination by the grantee including the manner by which termination will be effected and the basis for settlement In addition, such contracts shall describe conditions under which the contract may be terminated for default as well as conditions where the contract may be terminated because of circumstances beyond the control of the contractor (3) All negotiated contracts over \$10,000 awarded by the grantee shall include a provision to the effect that the grantee, AID or their duly authorized representatives, shall have access to any books, documents, papers and records of the contractor which are directly pertinent to the specific program for the purpose of making audits, examinations, excerpts and transcriptions (4) In all contracts for construction or facility improvement awarded for more than \$100,000, the grantee shall observe generally accepted bonding requirements (5) Contracts, the principal purpose of which is to create, develop or improve products, processes or methods, or for exploration into fields that directly concern public health, safety or welfare, or contracts in the fields of science or technology in which there has been little significant experience outside of work funded by Federal assistance, shall contain a notice to the effect that matters regarding rights to inventions and materials generated under the contract are subject to the regulations included in these grant provisions The contractor shall be advised as to the source of additional information regarding these matters

(END OF STANDARD PROVISION)

#### 6 AID ELIGIBILITY RULES FOR GOODS AND SERVICES (JUNE 1993)

(This provision is applicable when goods or services are procured under the grant )

(a) Ineligible and Restricted Goods and Services If AID determines that the grantee has procured any of the restricted or ineligible goods and services specified below, or has procured goods and

services from unauthorized sources, and has received reimbursement for such purpose without the prior written authorization of the grant officer, the grantee agrees to refund to AID the entire amount of the reimbursement

(1) Ineligible Goods and Services Under no circumstances shall the grantee procure any of the following under this grant (i) Military equipment, (ii) Surveillance equipment, (iii) Commodities and services for support of police or other law enforcement activities, (iv) Abortion equipment and services, (v) Luxury goods and gambling equipment, or (vi) Weather modification equipment

(2) Ineligible Suppliers Funds provided under this grant shall not be used to procure any goods or services furnished by any firm or individual whose name appears on the "Lists of Parties Excluded from Federal Procurement and Nonprocurement Programs " AID will provide the grantee with this list upon request

(3) Restricted Goods The grantee shall not procure any of the following goods and services without the prior written authorization of the grant officer (i) Agricultural commodities, (ii) Motor vehicles, (iii) Pharmaceuticals, (iv) Pesticides, (v) Rubber compounding chemicals and plasticizers, (vi) Used equipment, (vii) U S Government-owned excess property, or (viii) Fertilizer

(b) Source, Origin, and Nationality The eligibility rules for goods and services based on source and nationality are divided into two categories One applies when the total procurement element during the life of the grant is over \$250,000 and the other applies when the total procurement element during the life of the grant is not over \$250,000 The total procurement element includes procurement of all goods (e g equipment, materials, supplies) and services Guidance on the eligibility of specific goods or services may be obtained from the grant officer AID policies and definitions on source (including origin and componentry) and nationality are contained in Chapter 5 of AID Handbook 1, Supplement B, entitled "Procurement Policies "

(1) For DFA funded grants or when the total procurement element during the life of this grant is valued at \$250,000 or less, the following rules apply (i) The authorized source for procurement of all goods and services to be reimbursed under the grant is AID Geographic Code 935, "Special Free World," and such goods and services must meet the source (including origin and componentry) and nationality requirements set forth in Handbook 1, Supp B, Chapter 5 in accordance with the following order of preference (A) The United States (AID Geographic Code 000), (B) The Cooperating Country, (C) Selected Free World countries (AID Geographic Code 941), (D) Special Free World countries (AID Geographic Code 935) (ii) Application of Order of Preference When the grantee procures goods and services from other than U S sources, under the order of preference in paragraph (b)(1)(i) above, the grantee shall document its files to justify each such instance The documentation shall set forth the circumstances surrounding the procurement and shall be based on one or more of the following reasons, which will be set forth in the grantee's documentation (A) The procurement was of an emergency nature, which would not allow for the delay attendant to soliciting U S sources, (B) The price differential for procurement from U S sources exceeded by 50% or more the delivered price from the non-U S source, (C) Compelling local political considerations precluded consideration of U S sources, (D) The goods or services were not available from U S sources, or (E) Procurement of locally available goods and services, as opposed to procurement of U S goods and services, would best promote the objectives of the Foreign Assistance program under the grant

(2) When the total procurement element exceeds \$250,000, (unless funded by DFA), the following applies Except as may be specifically approved or directed in advance by the grant officer, all goods and services financed with U S dollars, which will be reimbursed under this grant must meet the source (including origin and componentry) and nationality requirements set forth in Handbook 1, Supp B, Chapter 5 for the authorized geographic code specified in the schedule of this grant If

none is specified, the authorized source is Code 000, the United States

(c) Marine Insurance The eligibility of marine insurance is determined by the country in which it is placed Insurance is placed in a country if payment of the insurance premium is made to and the insurance policy is issued by an insurance company located in that country Eligible countries for placement are governed by the authorized geographic code, except that if Code 941 is authorized, the Cooperating Country is also eligible Section 604(d) of the Foreign Assistance Act requires that if a grantee country discriminates by statute, decree, rule, or practice with respect to AID-financed procurement against any marine insurance company authorized to do business in the U S , then any AID-financed commodity shipped to that country shall be insured against marine risk and the insurance shall be placed in the U S with a company or companies authorized to do marine insurance business in the U S

(d) Ocean and air transportation shall be in accordance with the applicable provisions contained within this grant

(e) Printed or Audio-Visual Teaching Materials If the effective use of printed or audio-visual teaching materials depends upon their being in the local language and if such materials are intended for technical assistance projects or activities financed by AID in whole or in part and if other funds including U S -owned or U S -controlled local currencies are not readily available to finance the procurement of such materials, local language versions may be procured from the following sources in order of preference (1) The United States (AID Geographic Code 000), (2) the Cooperating Country, (3) Selected Free World countries (AID Geographic Code 941), (4) Free World countries (AID Geographic Code 899)

(f) Special Restrictions on the Procurement of Construction or Engineering Services Section 604(g) of the Foreign Assistance Act provides that AID funds may not be used for "procurement of construction or engineering services from advanced developing countries, eligible under Geographic Code 941, which have attained a competitive capability in international markets for construction services or engineering services " In order to insure eligibility of a Code 941 contractor for construction or engineering services, the grantee shall obtain the grant officer's prior approval for any such contract

(g) This provision will be included in all subagreements which include procurement of goods or services over \$5,000

(END OF STANDARD PROVISION)

#### 7 SUBAGREEMENTS (JUNE 1993)

(This provision is applicable when subgrants or cooperative agreements are financed under the grant )

(a) Awards shall be made only with responsible grantees who possess the potential ability to perform successfully under the terms and conditions of a proposed agreement Consideration shall be given to such matters as integrity, record of past performance, financial and technical resources or accessibility to other necessary resources Awards shall not be made to firms or individuals whose

name appears on the "Lists of Parties Excluded from Federal Procurement and Nonprocurement Programs " AID will provide the grantee with a copy of this list upon request

(b) All subagreements shall as a minimum contain in addition to provisions to define a sound and complete agreement, the following provisions as well as any that are specifically required by any other provision in this grant Whenever a provision within this grant is required to be inserted in a subagreement, the grantee shall insert a statement in the subagreement that in all instances where AID is mentioned, the grantee's name will be substituted (1) Subagreements in excess of \$10,000 shall contain provisions or conditions that will allow for administrative or legal remedies in instances where subgrantees violate subagreement terms and provide for such remedial action as may be appropriate (2) All subagreements in excess of \$10,000 shall contain suitable provisions for termination by the grantee including the manner by which termination will be effected and the basis for settlement In addition, such subagreements shall describe conditions under which the subagreement may be terminated for default as well as conditions where the subagreement may be terminated because of circumstances beyond the control of the subgrantee (3) All subagreements over \$10,000 issued by grantees shall include a provision to the effect that the grantee, AID, or their duly authorized representatives, shall have access to any books, documents, papers and records of the subgrantee which are directly pertinent to the specific program for the purpose of making audits, examinations, excerpts and transcriptions (4) Subagreements, the principal purpose of which is to create, develop or improve products, processes or methods, or for exploration into fields that directly concern public health, safety or welfare, or subagreements in the field of science or technology in which there has been little significant experience outside of work funded by Federal assistance, shall contain a notice to the effect that matters regarding rights to inventions and materials generated under the subagreement are subject to the regulations contained in the provisions of this grant The subgrantee shall be advised as to the source of additional information regarding these matters

(END OF STANDARD PROVISION)

#### 9 PATENT RIGHTS (JUNE 1993)

(This provision is applicable whenever patentable processes or practices are financed by the grant )

(a) Definitions (1) Invention means any invention or discovery which is or may be patentable or otherwise protectable under Title 35 of the United States Code (2) Subject invention means any invention of the grantee conceived or first actually reduced to practice in the performance of work under this agreement (3) Practical application means to manufacture in the case of a composition or product, to practice in the case of a process or method, or to operate in the case of a machine or system, and, in each case, under such conditions as to establish that the invention is being utilized and that its benefits are, to the extent permitted by law or Government regulations, available to the public on reasonable terms (4) Made when used in relation to any invention means the conception or first actual reduction to practice of such invention (5) Small business firm means a small business concern which meets the size standards for small business concerns involved in Government procurement and subcontracting at 13 CFR 121 3-8 and 13 CFR 121 3-12, respectively (6) Nonprofit organization means a university or other institution of higher education or an organization which is not organized for profit as described in the laws of the country in which it was organized

(b) Allocation of Principal Rights The grantee may retain the entire right, title, and interest throughout the world to each subject invention subject to the provisions of this clause and 35 U S C 203 With respect to any subject invention in which the grantee retains title, the Federal Government shall have a non-exclusive, non-transferable, irrevocable, paid-up license to practice or have practiced for or on behalf of the U S the subject invention throughout the world

(c) Invention Disclosure, Election of Title, and Filing of Patent Applications by Grantee (1) The grantee shall disclose each subject invention to AID within two months after the inventor discloses it in writing to grantee personnel responsible for patent matters The disclosure to AID shall be in the form of a written report and shall identify the agreement under which the invention was made and the inventor(s) It shall be sufficiently complete in technical detail to convey a clear understanding, to the extent known at the time of the disclosure, of the nature, purpose, operation, and the physical, chemical, biological or electrical characteristics of the invention The disclosure shall also identify any publication, on sale or public use of the invention and whether a manuscript describing the invention has been submitted for publication and, if so, whether it has been accepted for publication at the time of disclosure In addition, after disclosure to AID the grantee shall promptly notify AID of the acceptance of any manuscript describing the invention for publication or of any on sale or public use planned by the grantee (2) The grantee shall elect in writing whether or not to retain title to any such invention by notifying AID within two years of disclosure to AID However, in any case where publication, on sale, or public use has initiated the one-year statutory period wherein valid patent protection can still be obtained in the United States, the period of election of title may be shortened by AID to a date that is no more than 60 days prior to the end of the statutory period (3) The grantee shall file its initial patent application on a subject invention to which it elects to retain title within 1 year after election of title or, if earlier, prior to the end of any statutory period wherein valid patent protection can be obtained in the United States after a publication, on sale, or public use The grantee shall file patent applications in additional countries within either ten months of the corresponding initial patent application or six months from the date permission is granted by the Commissioner of Patents and Trademarks to file foreign patent applications where such filing has been prohibited by a Secrecy Order (4) Requests for extension of the time for disclosure to AID, election, and filing may, at the discretion of AID, be granted

(d) Conditions When the Government May Obtain Title The grantee shall convey to AID upon written request, title to any subject invention (1) If the grantee fails to disclose or elect the subject invention within the times specified in (c) above, or elects not to retain title, AID may only request title within sixty days after learning of the grantee's failure to report or elect within the specified times (2) In those countries in which the grantee fails to file patent applications within the times specified in (c) above, provided, however, that if the grantee has filed a patent application in a country after the times specified in (c) above, but prior to its receipt of the written request of AID the grantee shall continue to retain title in that country (3) In any country in which the grantee decides not to continue the prosecution of any application for, to pay the maintenance fees on, or defend in reexamination or opposition proceeding on a patent on a subject invention

(e) Minimum Rights to Grantee (1) The grantee shall retain a nonexclusive, royalty-free license throughout the world in each subject invention to which the Government obtains title except if the grantee fails to disclose the subject invention within the times specified in (c) above The grantee's license extends to its subsidiaries and affiliates, if any, within the corporate structure of which the

grantee is a party and includes the right to grant sublicenses of the same scope to the extent the grantee was legally obligated to do so at the time the agreement was awarded. The license is transferable only with the approval of AID except when transferred to the successor of that party of the grantee's business to which the invention pertains. (2) The grantee's license may be revoked or modified by AID to the extent necessary to achieve expeditious practical application of the subject invention pursuant to an application for an exclusive license submitted in accordance with applicable provisions in the 37 CFR Part 4 and agency licensing regulations (if any). This license shall not be revoked in that field of use or the geographical areas in which the grantee has achieved practical application and continues to make the benefits of the invention reasonably accessible to the public. The license in any foreign country may be revoked or modified at the discretion of AID to the extent the grantee, its licensees, or its subsidiaries or affiliates have failed to achieve practical application. (3) Before revocation or modification of the license, AID will furnish the grantee written notice of its intention to revoke or modify the license, and the grantee shall be allowed thirty days (or such other time as may be authorized by AID for good cause shown by the grantee) after the notice to show cause why the license should not be revoked or modified. The grantee has the right to appeal, in accordance with applicable regulations in 37 CFR Part 404 and Agency regulations, if any, concerning the licensing of Government-owned inventions, any decision concerning the revocation or modification of its license.

(f) **Grantee Action to Protect the Government's Interest** (1) The grantee agrees to execute or to have executed and promptly deliver to AID all instruments necessary to (i) establish or conform the rights the Government has throughout the world in those subject inventions to which the grantee elects to retain title, and (ii) convey title to AID when requested under paragraph (d) above, and to enable the Government to obtain patent protection throughout the world in that subject invention. (2) The grantee agrees to require, by written agreement, its employees, other than clerical and nontechnical employees, to disclose promptly in writing to personnel identified as responsible for the administration of patent matters and in a format suggested by the grantee each subject invention made under agreement in order that the grantee can comply with the disclosure provisions of paragraph (c) above, and to execute all papers necessary to file patent applications on subject inventions and to establish the Government's rights in the subject inventions. This disclosure format should require, as a minimum, the information required by (c)(1) above. The grantee shall instruct such employees through employee agreements or other suitable educational programs on the importance of reporting inventions in sufficient time to permit the filing of patent applications prior to U.S. or foreign statutory bars. (3) The grantee shall notify AID of any decision not to continue the prosecution of a patent application, pay maintenance fees, or defend in a reexamination or opposition proceeding on a patent, in any country, not less than 30 days before the expiration of the response period required by the relevant patent office. (4) The grantee agrees to include, within the specification of any United States patent application and any patent issuing thereon covering a subject invention, the following statement: "This invention was made with Government support under (identify the agreement awarded by AID). The Government has certain rights in this invention."

(g) **Subagreements and Contracts** The grantee shall include this standard provision suitably modified to identify the parties, in all subagreements and contracts, regardless of tier, for experimental, developmental, or research work to be performed by a small business firm or nonprofit organization. The subgrantee or contractor shall retain all rights provided for the grantee in this

standard provision, and the grantee shall not, as part of the consideration for awarding the contract or subagreement, obtain rights in the contractor's or subgrantee's subject inventions

(h) Reporting Utilization of Subject Inventions The grantee agrees to submit on request periodic reports no more frequently than annually on the utilization of a subject invention or on efforts at obtaining such utilization that are being made by the grantee or its licensees or assignees Such reports shall include information regarding the status of development, date of first commercial sale or use, gross royalties received by the grantee, and such other data and information as AID may reasonably specify The grantee also agrees to provide additional reports as may be requested by AID in connection with any march-in proceedings undertaken by AID in accordance with paragraph (j) of this provision As required by 35 USC 202(c)(5), AID agrees that, to the extent permitted by law, it shall not disclose such information to persons outside the Government

(i) Preference for United States Industry Notwithstanding any other provision of this clause, the grantee agrees that neither it nor any assignee will grant to any person the exclusive right to use or sell any subject invention in the United States unless such person agrees that any products embodying the subject invention shall be manufactured substantially in the United States However, in individual cases, the requirement for such an agreement may be waived by AID upon a showing by the grantee or its assignee that reasonable but unsuccessful efforts have been made to grant licenses on similar terms to potential licensees that would be likely to manufacture substantially in the United States or that under the circumstances manufacture in the United States is not commercially feasible

(j) March-in Rights The grantee agrees that with respect to any subject invention in which it has acquired title, AID has the right, in accordance with the procedures in 37 CFR 401.6 and any supplemental Agency regulations, to require the grantee, an assignee or exclusive licensee of a subject invention to grant a non-exclusive, partially exclusive, or exclusive license in any field of use to a responsible applicant or applicants, upon terms that are reasonable under the circumstances, and if the grantee, assignee, or exclusive licensee refuses such a request, AID has the right to grant such a license itself if AID determines that (1) Such action is necessary because the grantee or assignee has not taken or is not expected to take within a reasonable time, effective steps to achieve practical application of the subject invention in such field of use, (2) Such action is necessary to alleviate health or safety needs which are not reasonably satisfied by the grantee, assignee, or their licensees, (3) Such action is necessary to meet requirements for public use specified by Federal regulations and such requirements are not reasonably satisfied by the grantee, assignee, or licensees, or (4) Such action is necessary because the agreement required by paragraph (i) of this clause has not been obtained or waived or because a license of the exclusive right to use or sell any subject invention in the United States is in breach of such agreement

(k) Special Provisions for Grants with Nonprofit Organizations If the grantee is a nonprofit organization, it agrees that (1) Rights to a subject invention may not be assigned without the approval of AID, except where such assignment is made to an organization which has as one of its primary functions the management of inventions, provided that such assignee shall be subject to the same provisions as the grantee (2) The grantee shall share royalties collected on a subject invention with the inventor including Federal Employee co-inventors, when AID deems it appropriate when the subject invention is assigned in accordance with 35 USC 202(e) and 37 CFR 401.10, (3) The

balance of any royalties or income earned by the grantee with respect to subject inventions, after payment of expenses (including payments to inventors) incidental to the administration of subject inventions, shall be utilized for the support of scientific research or education (4) It will make efforts that are reasonable under the circumstances to attract licensees of subject inventions that are small business firms, and it will give preference to a small business firm when licensing a subject invention if the grantee determines that the small business firm has a plan or proposal for marketing the invention which, if executed, is equally as likely to bring the invention to practical application as any plans or proposals from applicants that are not small business firms, provided, that the grantee is also satisfied that the small business firm has the capability and resources to carry out its plan or proposal The decision whether to give a preference in any specific case will be at the discretion of the grantee However, the grantee agrees that the Secretary of Commerce may review the grantee's licensing program and decisions regarding small business applicants, and the grantee shall negotiate changes to its licensing policies, procedures, or practices with the Secretary of Commerce when the Secretary's review discloses that the grantee could take reasonable steps to more effectively implement the requirements of this subparagraph (k)(4)

(l) Communications Communications concerning this provision shall be addressed to the grant officer at the address shown in this agreement

(END OF STANDARD PROVISION)

## 12 REGULATIONS GOVERNING EMPLOYEES (JUNE 1993)

(The following applies to the grantee's employees who are not citizens of the cooperating country )

- (a) The grantee's employees shall maintain private status and may not rely on local U S Government offices or facilities for support while under this grant
- (b) The sale of personal property or automobiles by grantee employees and their dependents in the foreign country to which they are assigned shall be subject to the same limitations and prohibitions which apply to direct-hire AID personnel employed by the Mission including the rules contained in 22 CFR Part 136, except as this may conflict with host government regulations
- (c) Other than work to be performed under this grant for which an employee is assigned by the grantee, no employee of the grantee shall engage directly or indirectly, either in the individual's own name or in the name or through an agency of another person, in any business, profession, or occupation in the foreign countries to which the individual is assigned, nor shall the individual make loans or investments to or in any business, profession or occupation in the foreign countries to which the individual is assigned
- (d) The grantee's employees, while in a foreign country, are expected to show respect for its convention, customs, and institutions, to abide by its applicable laws and regulations, and not to interfere in its internal political affairs
- (e) In the event the conduct of any grantee employee is not in accordance with the preceding paragraphs, the grantee's chief of party shall consult with the AID Mission Director and the employee involved and shall recommend to the grantee a course of action with regard to such

employee

(f) The parties recognize the rights of the U S Ambassador to direct the removal from a country of any U S citizen or the discharge from this grant of any third country national when, in the discretion of the Ambassador, the interests of the United States so require

(g) If it is determined, under either (e) or (f) above, that the services of such employee shall be terminated, the grantee shall use its best efforts to cause the return of such employee to the United States, or point of origin, as appropriate

(END OF STANDARD PROVISION)

#### 14 VOLUNTARY POPULATION PLANNING (JUNE 1993)

(This provision is applicable to all grants involving any aspect of voluntary population planning activities )

(a) Voluntary Participation (1) The grantee agrees to take any steps necessary to ensure that funds made available under this grant will not be used to coerce any individual to practice methods of family planning inconsistent with such individual's moral, philosophical, or religious beliefs Further, the grantee agrees to conduct its activities in a manner which safeguards the rights, health and welfare of all individuals who take part in the program (2) Activities which provide family planning services or information to individuals, financed in whole or in part under this agreement, shall provide a broad range of family planning methods and services available in the country in which the activity is conducted or shall provide information to such individuals regarding where such methods and services may be obtained

(b) Voluntary Participation Requirements For Sterilization Programs (1) Non of the funds made available under this grant shall be used to pay for the performance of involuntary sterilization as a method of family planning or to coerce or provide any financial incentive to any person to practice sterilization (2) The grantee shall ensure that any surgical sterilization procedures supported in whole or in part by funds from this grant are performed only after the individual has voluntarily gone to the treatment facility and has given informed consent to the sterilization procedure Informed consent means the voluntary, knowing assent from the individual after being advised of the surgical procedures to be followed, the attendant discomforts and risks, the benefits to be expected, the availability of alternative methods of family planning, the purpose of the operation and its irreversibility, and the option to withdraw consent anytime prior to the operation An individual's consent is considered voluntary if it is based upon the exercise of free choice and is not obtained by any special inducement or any element of force, fraud, deceit, duress, or other forms of coercion or misrepresentation (3) Further, the grantee shall document the patient's informed consent by (i) a written consent document in a language the patient understands and speaks, which explains the basic elements of informed consent, as set out above, and which is signed by the individual and by the attending physician or by the authorized assistant of the attending physician, or (ii) when a patient is unable to read adequately a written certification by the attending physician or by the authorized assistant of the attending physician that the basic elements of informed consent above were orally presented to the patient, and that the patient thereafter consented to the performance of the operation The receipt of the oral explanation shall be acknowledged by the patient's mark on the certification

and by the signature or mark of a witness who shall be of the same sex and speak the same language as the patient

(c) Prohibition on Abortion-Related Activities (1) No funds made available under this grant will be used to finance, support, or be attributed to the following activities (i) procurement or distribution of equipment intended to be used for the purpose of inducing abortions as a method of family planning, (ii) special fees or incentives to women to coerce or motivate them to have abortions, (iii) payments to persons to perform abortions or to solicit persons to undergo abortions, (iv) information, education, training, or communication programs that seek to promote abortion as a method of family planning, and (v) lobbying for abortion (2) No funds made available under this grant will be used to pay for any biomedical research which relates, in whole or in part, to methods of, or in performance of, abortions or involuntary sterilizations as a means of family planning Epidemiologic or descriptive research to assess the incidence, extent or consequences of abortions is not preclude

(d) The grantee shall insert this provision in all subsequent subgrants and contracts involving family planning or population activities which will be supported in whole or part from funds under this grant

(END OF STANDARD PROVISION)

#### 15 PROTECTION OF THE INDIVIDUAL AS A RESEARCH SUBJECT (JUNE 1993)

(This provision is applicable when human subjects are involved in research financed by the grant )

(a) Safeguarding the rights and welfare of human subjects involved in research supported by AID is the responsibility of the grantee It is one policy of AID that no work shall be initiated under any grant for the support of research involving human subjects unless the research is given initial and continuing review and approval by an appropriate committee of the grantee This review shall assure that (1) the rights and welfare of the individuals involved are adequately protected, (2) the methods used to obtain informed consent are adequate and appropriate, and (3) the risks and potential medical benefits of the investigation are assessed

(b) The grantee must provide written assurance to AID that it will abide by this policy for all research involving human subjects supported by AID This assurance shall consist of a written statement of compliance with the requirements regarding initial and continuing review of research involving human subjects and a description of the grantee's review committee structure, its review procedures, and the facilities and personnel available to protect the health and safety of human subjects In addition to providing the assurance, the grantee must also certify to AID for each proposal involving human subjects that its committee has reviewed and approved the proposed research before any work may be initiated

(c) Since the welfare of the subject individual is a matter of concern to AID as well as to the grantee, AID advisory groups, consultants, and staff may independently review all research involving human subjects, and prohibit research which presents unacceptable hazards This provision, however, shall not derogate in any manner from the responsibility of the grantee set forth herein

(d) All of the above provisions apply to any research involving human subjects conducted outside of the United States and, in addition, such overseas research will conform to legal and other requirements governing human research in the country where they are conducted

(e) In addition to the procedures set forth above, studies with unmarketed drugs will be carried out in accordance with provisions applicable in the country where the study is conducted

(f) Guidance on procedures to safeguard human subjects involved in research is found in 45 CFR Part 46 as well as the AID-specific regulations in 22CFR Part 225. Compliance with these procedures, except as modified above, is required

(END OF STANDARD PROVISION)

17 TITLE TO AND USE OF PROPERTY (GRANTEE TITLE) (MAY 1986)

(This provision is applicable only when the Government vests title to property in the grantee )

(a) Title to all property financed under this grant shall vest in the grantee

(b) The grantee agrees to use and maintain the property for the purpose of the grant

(c) With respect to property having an acquired value of \$1,000 or more, the grantee agrees to report such items to the grant officer as they are acquired and to maintain a control system which will permit their ready identification and location

(d) Within thirty calendar days after the end of the grant, the grantee will provide a list to the grant officer of each item that has an appraised value of \$1,000 or more with a detailed proposal of what the grantee intends to do with that property. If the grant officer does not respond within 120 calendar days, the grantee may proceed with the disposition of the property. However, if the grantee uses the property for purposes other than those of the grant or sells or leases the property, AID shall be reimbursed of its share of the property unless the grant officer authorizes AID's share of the income from selling or leasing the property to be used as program income. This share is based upon the percentage of AID's contribution to the grantee's program. If AID paid 100% of the grantee's costs, then AID would receive 100% of the selling cost less a nominal selling fee of \$100

(END OF STANDARD PROVISION)

19 TITLE TO AND CARE OF PROPERTY (COOPERATING COUNTRY TITLE) (NOVEMBER 1984)

(This provision is applicable to property titled in the name of the cooperating country or such public or private agency as the cooperating country government may designate )

(a) Except as modified by the Schedule of this grant, title to all equipment, materials and supplies, the cost of which is reimbursable to the grantee by AID or by the cooperating country, shall at all times be in the name of the cooperating country or such public or private agency as the cooperating Government may designate, unless title to specified types or classes of equipment is reserved to AID under provisions set forth in the Schedule of this grant, but all such property shall be under the

custody and control of grantee until the owner of title directs otherwise or completion of work under this grant or its termination, at which time custody and control shall be turned over to the owner of title or disposed of in accordance with its instructions. All performance guarantees and warranties obtained from suppliers shall be taken in the name of the title owner.

(b) The grantee shall prepare and establish a program, to be approved by the Mission, for the receipt, use, maintenance, protection, custody and care of equipment, materials and supplies for which it has custodial responsibility, including the establishment of reasonable controls to enforce such program. The grantee shall be guided by the requirements of paragraph 1T of Chapter 1, Handbook 13.

(c) Within 90 days after completion of this grant, or at such other date as may be fixed by the grant officer, the grantee shall submit an inventory schedule covering all items of equipment, materials and supplies under the grantee's custody, title to which is in the cooperating country or public or private agency designated by the cooperating country, which have not been consumed in the performance of this grant. The grantee shall also indicate what disposition has been made of such property.

(END OF STANDARD PROVISION)

# Sample Subgrant

## CDR Program

(See Section I, Subgrants, Grant Agreement)

(NAME OF ADDRESSEE  
AND ADDRESS - SHOULD  
NOT BE THE SCIENTIST,  
BUT THE INDIVIDUAL  
AUTHORIZED TO SIGN ON  
BEHALF OF THE INSTITUTE  
SUBJECT Subgrant No \_\_\_\_\_

Dear \_\_\_\_\_

This Subgrant is entered into between \_\_\_\_\_ (PRIME) and \_\_\_\_\_ (SUB) to implement a portion of the prime Grant No (EMBASSY GRANT No.) Pursuant to the laws and regulations governing the prime Grant, as well as Israeli laws governing the making of Subgrant awards \_\_\_\_\_ (NAME OF PRIME) ("Grantor") hereby grants to \_\_\_\_\_ (NAME OF SUBGRANTEE) ("Subgrantee") the sum of \_\_\_\_\_ (U.S. DOLLARS SHOULD BE WRITTEN OUT IN WORDS THEN STATED IN NUMBERS) (\$) to fund the collaborative work under research program no \_\_\_\_\_, entitled "\_\_\_\_\_ (GIVE TITLE OF COLLABORATIVE RESEARCH PROPOSAL)" as more fully described in Attachment 2, entitled "Program Description" and the proposal, as revised, which is made a part of the Subgrant and incorporated herein by reference

This Subgrant covers reasonable, allowable and allocable costs incurred between the date of the Grant Letter and \_\_\_\_\_

The Subgrantee is responsible for compliance with the terms and conditions of this document which have been agreed to prior to award of this Subgrant In order to comply with regulations applicable to this Subgrant, it is essential that all documentation provided as attachments to this letter be thoroughly reviewed In some cases, the information set forth in the attached is subject to interpretation and warrants specific guidance Such additional information is set forth below

#### I AUDITS

In order to receive advance payments, all institutions must have had a current (less than one (1) year old) audit performed by an independent external CPA firm in accordance with applicable regulations (i e , those pertaining to the country where the institution is located as well as Government Auditing Standards developed by the Comptroller General of the United States) Any adverse findings contained in such audits, as determined by the Grant Officer or his designee, must have been adequately resolved In the event an audit has not been performed recently, the Grantor may elect to perform a limited financial review prior to authorizing advance payments In this case, the Subgrantee must agree to comply with all future audit requirements

#### II STANDARD PROVISIONS

All Mandatory and Required as Applicable Standard Provisions indicated to be applicable in later sections of this Subgrant should be reviewed, understood, and adhered to However, the following are considered to be most directly applied to this program

11

#### A Revision of Grant Budget

In many cases, specific approval for budget changes is not required. However, there may be other changes that should be discussed with the principal investigator to ensure continued agreement on the direction of the program. The Subgrantee should consider factors such as impact and reasonableness in determining which non-mandated changes should be brought to the attention of the principal investigator.

#### B Air Travel and Transportation

Approval is required on all international travel. All air travel and shipments are to be made on U S flag air carriers when available. Exceptions to the requirement may be made if a U S flag air carrier cannot provide the foreign air transportation needed, or if use of such service will not accomplish the U S Government's mission (see circumstances outlined in the provision for specific allowable exceptions). In the event U S flag carrier service is deemed to be unavailable, the Subgrantee must prepare and retain for audit purposes, a certificate of unavailability.

#### C Procurement of Goods and services

The Subgrantee must ensure high standards with respect to procurement. Purchases should be competed to the maximum extent practicable. Technical needs should be determined, and all other factors being equal, purchase should be made at the lowest price available. Contracts meeting applicable thresholds should include appropriate legal remedies in case the subcontractor fails to perform. Wherever possible, the Subgrantee should use U S and small business sources.

#### D Eligibility Rules for Goods and Services

The Subgrantee may not purchase the following using U S Government funds: military equipment, surveillance equipment, police or other law enforcement commodities or services, abortion equipment or services, luxury goods or gambling equipment, or weather modification equipment.

The Subgrantee may not purchase from any source listed on the List of Parties Excluded from Federal Awards. To this end, the Subgrantee may rely on a self-certification provided by the supplier, unless there is any knowledge that the certification should not be accepted.

Specific prior, written approval is required prior to purchase of the following: agricultural commodities, motor vehicles, pharmaceuticals, pesticides, rubber compounding chemicals and plasticizer, used equipment, U S Government-owned excess property, or fertilizer. In the event the Subgrantee outlined a specific need for any of these goods in its proposal, and provided full disclosure of the reason, source, method of selecting the source, price comparisons, and other pertinent information, the Subgrantee may assume that approval of such specific goods is provided through award of this document. Any changes to requirements outlined in the proposal must be submitted for review and approval.

Also, attached is a partial list of authorized countries for acquisition of goods and services. In general, the order of preference is (1) U S, (2) Cooperating Country (i.e., country of location for prime and sub), (3) selected free world countries (see Code 941 countries, attached), and (4) special free world countries (Code 935, attached). These rules apply to source (place of purchase), origin

18

(place of manufacture) and nationality (of supplier) When the Subgrantee uses other than U S , documentation must be retained for audit purposes which indicates one of the following conditions (1) procurement was of an emergency nature, (2) higher preference sources prices are at least 50% higher, (3) impelling local political considerations preclude consideration of higher preference sources, (4) item is only available from the intended source, or (5) procurement from the identified source best promotes the objectives of the U S Foreign Assistance program

### III GRANT ADMINISTRATION AND CLOSEOUT

#### A Responsibilities and Authority

1 The U S Government, acting through the American Embassy, Tel Aviv has entered into a formal relationship with the prime institution for the entire program outlined in proposal no The prime institution is accountable to the U S Government, the sub institution is accountable to the prime for performance of the objectives outlined herein

2 No changes may be made to this Subgrant without the agreement of both parties Requests submitted by the Subgrantee for consideration of change may require the additional agreement of the U S Government, through its relationship with the prime institution

#### B Closeout Procedures

1 The following definitions shall apply for the purpose of this section

a Closeout The process by which the Grantor determines that all applicable administrative actions and all required work have been completed by all parties

b Date of Completion The date of completion is the date on which all work is actually completed, or the date on which the Embassy and/or Grantor sponsorship ends

c Estimated Completion Date The date contained in the Subgrant which is anticipated to be the "Date of Completion" This date may be modified to reflect delays or other reasonable circumstances which warrant extension of the time period

d Disallowed Costs Disallowed costs are those charges to a Subgrant that the Grantor determines to be unallowable, in accordance with the applicable Federal cost principles or other conditions contained in the Subgrant

2 The following outlines specific requirements which must be met prior to initiation of the closeout process

a Upon request, the Grantor shall make prompt payments to the Subgrantee for allowable reimbursable costs

b The Subgrantee shall immediately refund any balance of unobligated (unencumbered) cash that the Grantor has advanced or paid and that is not authorized to be retained by the Subgrantee

c The Grantor shall obtain from the Subgrantee within 60 calendar days after the date of completion, all financial, performance, and other reports required as the condition of the Subgrant The Grantor may grant reasonable extensions when requested

d The Subgrantee shall account for any property acquired with funds provided herein or received from the U S Government, as discussed in Attachment One, Schedule

e In the event a final audit has not been performed prior to the closeout of the Subgrant, the Grantor shall retain the right to recover an appropriate amount after fully considering the recommendations on questioned costs resulting from the final audit

Please sign all copies of this letter to acknowledge your receipt Keep one copy for your files and return remaining copies to the undersigned

Sincerely,

Attachments

- 1 Schedule
- 2 Program Description
- 3 Mandatory and Required as Applicable Standard Provisions

ACKNOWLEDGED

INSTITUTION \_\_\_\_\_

AUTHORIZED INDIVIDUAL \_\_\_\_\_

SIGNATURE \_\_\_\_\_

TITLE \_\_\_\_\_

DATE \_\_\_\_\_

Fiscal Data

Proposal No \_\_\_\_\_

Amount Obligated (U S Dollars) \_\_\_\_\_

Total Estimated Amount (U S Dollars) \_\_\_\_\_

80

SCHEDULE

A Purpose

The purpose of this Subgrant is to provide support for the collaboration envisioned in proposal no \_\_\_\_\_, entitled \_\_\_\_\_, which is hereby incorporated by reference. This proposal has been revised on \_\_\_\_\_, \_\_\_\_\_, and \_\_\_\_\_. All changes reflected in subsequent revisions are applicable.

B Period

The effective date of this Subgrant is the date of the Letter. The estimated completion date is \_\_\_\_\_.

Funds obligated herein are available for program expenditures during the period \_\_\_\_\_ through \_\_\_\_\_. [This section would reflect any difference in funding period due to incremental funding constraints, i.e., it may be shorter than the full period of the award.]

C Amount of Subgrant and Payment

- 1 The amount of \$ \_\_\_\_\_ is provided for the purposes of this Subgrant.
- 2 Payment shall be made in accordance with the procedures as set forth in Attachment Three (3), Required as Applicable Standard Provision No (ONE or TWO), entitled "Payment - [PERIODIC ADVANCE or COST REIMBURSEMENT]"
- 3 All financial reports required by this provision shall be identified by the Prime- and Subgrant No., and the CDR Proposal No., and shall be submitted to \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

D Budget

The following is the budget. Revisions shall be made in accordance with the Mandatory Standard Provision entitled "Revision of Grant Budget". Within the total estimated amount, the Subgrantee may adjust the line items as may be reasonably necessary for the performance of the program. Such changes require coordination with the Principal Investigator.

81

Element	Amount
Salaries	\$ _____
Fringe Benefits	\$ _____
Overhead	\$ _____
Consultants	\$ _____
Equipment	\$ _____
Other Direct Costs	\$ _____
TOTAL	\$ _____

(THE ABOVE LINE ITEMS ARE STANDARD BUT MAY BE CHANGED TO REFLECT COSTS PROPOSED STILL, A LINE ITEM BREAKDOWN (NOT JUST A SUMMARY) SHOULD BE INCLUDED HERE )

In no event may the Subgrantee expend any amount above the amount actually provided by the Grantor

E. Technical Participants

1 Project Officer Science Attache  
U S Embassy, Tel Aviv, Israel

2 Principal Investigator Dr \_\_\_\_\_ INSTITUTION \_\_\_\_\_

3 Collaborating Investigator Dr \_\_\_\_\_ INSTITUTION \_\_\_\_\_

F. Reporting and Evaluation

Reports must be sufficiently detailed to substantiate the findings and to permit a scientific evaluation of the research

1 Performance Reports Required every six months The collaborating investigator will submit reports stating what has been accomplished to date and detailing project management issues A Financial Status Report will be attached to each report Reports are due within sixty (60) days after the end of each six-month period

2 Final Performance Report Within sixty (60) days after the estimated completion date of the Subgrant, the collaborating investigator will submit this report to summarize all activities accomplished under the program

Publication of results in scientific journals is encouraged Additional guidance on report

82

preparation is given in the "Interim Guidelines on Performance Report preparation CDR Projects", available from American Embassy Tel Aviv and AID

Financial reports shall be in accordance with the applicable payment provision

### G Special Provisions

1 The investigator and essential scientific staff which were identified as critical to the success of the program prior to award of this Subgrant will not be changed without the agreement of the Grantor

2 Mandatory and Required as Applicable Standard Provisions for Non-U S Nongovernmental Grantees are set forth as Attachment 3 to this Subgrant The following Required as Applicable Standard Provisions are deleted as inapplicable

(determined on a case by case basis Select one of the payment provisions, one, both, or none of the indirect cost rate provisions, etc )

### 3 Overhead Costs

As part of the application process, the Subgrantee has agreed to absorb all indirect costs associated with this program in excess of the following which was agreed upon

Overhead may be charged at a rate of not to exceed 15[??] percent (15%) of direct salaries charged to this Subgrant This rate is considered fixed for the life of the Subgrant If actual cost to the institution is less than this ceiling rate, the Grantor shall only be requested to fund at the actual cost rate

4 Title to property purchased for use by the collaborating institution shall vest in that institution In light of the objectives of institutionalization within collaborating institution countries, equipment purchased for this use shall remain the property of that institution

5 All work performed under this Subgrant shall follow protocols outlined in the proposal which was collaboratively prepared between the Grantor and the Subgrantee All such protocols have been reviewed and approved by appropriate review committee(s) and may not be changed without the prior written approval of the Grantor which may further require re-review by the review committee(s)

The Subgrantee will implement this research activity in accordance with all relevant guidelines for U S Government funded research such as

- a The National Institute of Health (NIH) guidelines for the ethical treatment of human subjects,
- b Guidelines for the handling of radioactive materials,
- c NIH and USDA guidelines for the handling of pathogenic microorganisms,

- d USDA-APHIS procedures for animal and plant health inspection,
- e NIH Guidelines for Research Involving Recombinant DNA Molecules,
- f Procedures issued by the USDA, EPA, or other appropriate Federal agency, regarding testing of genetically engineered organisms,
- g State Department's and AID's environmental procedures, and
- h Such other Federal guidelines and procedures as may apply during the course of research

All existing comparable guidelines of the host country in which the research is actually located must be followed also

#### 6 Intellectual Property Rights

Intellectual property rights stemming from the activities supported under this Subgrant will be apportioned as described in the Subgrantee's proposal, as amended. If the participants choose to modify that apportionment, the revised apportionment must be approved before it takes effect

#### Attachment Two

#### PROGRAM DESCRIPTION

(This document should be a one-five page summary of the Subgrantee's involvement in the overall research activity. The overall proposal can, and often should be referenced at the end, but this should be an abbreviated document which contains no propriety information which could be readily released and understood.)

#### Attachment Three

#### STANDARD PROVISIONS

Except as noted in the schedule of this Subgrant, the attached Mandatory and Required As Applicable Standard Provisions are applicable to all activities and funds outlined in the Subgrant. References to U S Agency for International Development (USAID or AID) shall be interpreted to mean the Grantor (prime institution)

References to Grantee shall be interpreted to mean the Subgrantee, and any and all of its interested parties including subcontractors and consultants

[Not all provisions are required for subgrantees. This notwithstanding, prime institutions often elect to pass down all provisions in order to ensure that no oversight is made for which the prime could be held accountable. In the event the Grantor chooses not to utilize specific U S Government provisions applied to the prime document, the prime institution is responsible for ensuring that appropriate requirements are otherwise Imposed.)

84

The following further guidance is provided with respect to required provisions

Subgrants in excess of \$10,000 must contain provisions or conditions that will allow for administrative or legal remedies in instances where Subgrantees violate Subgrant terms and provide for such remedial action as may be appropriate

All Subgrants in excess of \$10,000 shall contain suitable provisions for termination by the Grantor including the manner by which termination will be effected and the basis for settlement. In addition, such Subgrants shall describe conditions under which the Subgrant may be terminated for default as well as conditions where the Subgrant may be terminated because of circumstances beyond the control of the Subgrantee

All Subgrants over \$10,000 issued by Grantors shall include a provision to the effect that the Grantor, AID, or their duly authorized representatives, shall have access to any books, documents, papers and records of the Subgrantee which are directly pertinent to the specific program for the purpose of making audits, examinations, excerpts and transcriptions

All Subgrants, the principal purpose of which is to create, develop or improve products, processes or methods, or for exploration into fields that directly concern public health, safety or welfare, or Subgrants in the field of science or technology in which there has been little significant experience outside of work funded by federal assistance, shall contain a notice to the effect that matters regarding rights to inventions and materials generated under the Subgrant are subject to the regulations contained in the provisions of the prime Grant. The Subgrantee shall be advised as to the source of additional information regarding these matters

Air Travel and Transportation must be included

AID Eligibility Rules for Goods and Services must be included

[It is further the responsibility of the prime institution to recognize that, from time to time, this document may require updating. It is the responsibility of the prime institution to ensure that any changes made prior to receipt of this guidance have been incorporated into the Subgrant documents.]