

# TRAINING AGRONOMISTS IN SUSTAINABLE AGRICULTURE OF THE HUMID TROPICS

(TC-96-02-41-9-RG)

## EXECUTIVE SUMMARY

**REQUESTER:** Escuela de Agricultura de la Región Tropical Húmeda (EARTH), Costa Rica

**EXECUTING AGENCY:** EARTH

**BENEFICIARIES:** IDB borrowing member countries which form part of the humid tropical region.

**FINANCING:**

IDB:	US\$1,000,000 (JF)
Local counterpart funding:	US\$ 45,000
Total:	US\$1,045,000

**TERMS:**

Execution period:	4 years and six months
Disbursement period:	4 years and nine months

**ENVIRONMENTAL CLASSIFICATION:** The Environmental Management Committee, through short procedure expiring on March 28, 1996, classified this as a Category II operation.

**OBJECTIVES:** To support the creation of a critical mass of agronomists who are specialized in sustainable agriculture of the humid tropics and who are committed to promoting agricultural practices which are compatible with the fragile ecological system of the humid tropics.

**DESCRIPTION:** The project has two components:

1. A total of 18 full scholarships will be granted to candidates who have been selected to begin their studies at EARTH in January 1997.
2. During three years, a Japanese expert in organic agriculture will assist EARTH in establishing an experimental farm for organic agriculture, as well as in teaching students, faculty and farmers from surrounding communities about integral organic production.

**BENEFITS:** The project will contribute to training agronomists in the area of production and processing methods which are compatible with the sustainable development of the humid tropics.

<b>RISKS:</b>	There is a risk that EARTH graduates, though trained in sustainable agriculture, will not have the opportunity to apply their knowledge and practical training in this area. However, EARTH offers an education which is well grounded in the economic and social reality of farming in the humid tropics. Moreover, it provides the students with both the skills and motivation to propel a more responsive attitude towards sustainable natural resources management in the humid tropics of the Americas.
<b>THE BANK'S COUNTRY STRATEGY:</b>	The Bank has highlighted the importance of education and training as an integral part of its environmental policy. This project combines various aspects of environmental training. First, it contributes to educating young people from the humid tropical region in Latin America and the Caribbean about agricultural practices that are both environmentally friendly and profitable. Second, it teaches the students to disseminate their knowledge and to serve as agents of change and as advocates for a responsible natural resources management in the humid tropics.
<b>BANK RESPONSIBILITY:</b>	INT/RTC, in conjunction with the Country Office in Costa Rica.

## **I. BACKGROUND**

### **A. Background**

- 1.1 The humid tropics, the world's richest region in terms of biodiversity, are under increasing pressure from agricultural expansion. Inadequate knowledge of the humid tropics, widespread use of environmentally damaging agricultural practices and scarce information about sustainable technologies are responsible for the exhaustion and depletion of the natural wealth of this critically important region.
- 1.2 Much like in Africa and Asia, the humid tropics in Latin America and the Caribbean are characterized by massive deforestation, the erosion of soil resources and widespread poverty.
- 1.3 The Bank, through its projects and policies, has highlighted the relationship between socio-economic and environmentally sustainable development; measures to improve environmental conditions are unlikely to be successful without simultaneous efforts to reduce poverty levels. Education and training in protection and preservation of natural resources are important elements in stimulating communities to take an active part in improving the environmental and, henceforth, living conditions of the region's urban and rural population.
- 1.4 This project combines various aspects of the Bank's strategy to tackle the region's environmental problems. It contributes to educating young people, most of them from economically depressed rural areas, about agricultural practices in the humid tropics that are both environmentally friendly and profitable. Furthermore, the training encourages the students to educate others in their countries of origin, serving as agents of change and as advocates for responsible natural resources management in the humid tropics.

### **B. The Agricultural College of the Humid Tropical Region - EARTH (Escuela de Agricultura de la Región Tropical Húmeda - EARTH)**

- 1.5 EARTH is a renown international college located in the province of Limón (Costa Rica). Established in 1986, it is dedicated to the formation of agronomists with special training in agricultural practices that foment the sustainable development of the humid tropics in Latin America and the Caribbean.
- 1.6 Each year, EARTH accepts up to 115 students from approximately 16 countries of the humid tropical region in Latin America and the Caribbean. The College undertakes a special effort to recruit young people from remote rural areas in the humid tropics. The majority of them come from impoverished families who do not have sufficient means of their own or access to external financing to cover tuition, fees and subsistence at EARTH.

- 1.7 In four years, students must complete a rigorous academic curriculum, accompanied by intensive practical training at the College farm. An education at EARTH is based on three pillars:
- . *Responsible natural resources management:* In class, in the field and on the campus (- the College has created a comprehensive waste recycling system -), the students learn about alternative tropical products and agricultural techniques which minimize the negative impact on natural and human resources.
  - . *Entrepreneurial skills:* Education at EARTH explicitly combines the goal of sustainable agriculture in the humid tropics with a sound business training. The students learn that environmentally friendly practices are and ought to be compatible with profitability.
  - . *Community work:* Each student is required to complete agricultural or social work in rural communities. The purpose of this training is to enable EARTH graduates to enter into a dialogue with the farmers and their families and to serve as trainers and leaders of a new approach to farming in the humid tropics.
- 1.8 The solid academic and practical education that EARTH provides its students has earned the College an excellent reputation among employers in the public, private and non-profit sector. Out of the 96 agronomists who graduated in 1993 (first year) and 1994 (second year), 82 are currently working in the above mentioned areas, and 10 graduates are pursuing a post-graduate degree in agriculture.

## II. OBJECTIVE

- 2.1 The objective of this project is to support the creation of a critical mass of agronomists who are specialized in sustainable agriculture of the humid tropics and who are committed to promoting agricultural practices which are compatible with the fragile ecological system of the humid tropics.
- 2.2 Moreover, the project will contribute to extending the College's curriculum in sustainable agriculture by creating an organic farm. On the farm, students and producers will experiment with crops which are cultivated without the use of agro-chemicals.

## III. DESCRIPTION

- 3.1 The project has two components:

- . A total of 18 full scholarships will be granted to candidates who have been selected to begin their studies at EARTH in January 1997.
- . During three years, a Japanese expert in organic agriculture will assist EARTH in establishing an experimental farm for organic agriculture, as well as in teaching students and farmers from surrounding communities about integral organic production.

A. Scholarships

- 3.2 The project will finance a total of 18 scholarships for students pursuing a degree as agronomists in sustainable agriculture at EARTH. The scholarships will be awarded to freshmen students in 1997 who will graduate in the year 2000. They will be granted preferably to candidates from groups C and D of the Bank's member countries.
- 3.3 The grants cover tuition, fees, accommodation and meals during the four-year program. They do not cover air fares for students from other countries than Costa Rica.

B. Expert in organic agriculture

- 3.4 In 1995, EARTH began establishing a 25 acre farm for organic agriculture. The purpose of this farm is to experiment with production systems which restore and conserve the fragile and degraded soil of the region, improve the water and air quality and eliminate the use of agro-chemicals.
- 3.5 In view of extensive research which has been undertaken in Japan in the field of organic agriculture, a Japanese expert in integral organic production will join EARTH for a three year period. His/her responsibilities will be:
  - . to participate in an interdisciplinary group responsible for setting up the organic farm;
  - . to provide technical assistance with respect to the implementation of different organic production systems;
  - . to conduct training activities directed towards faculty, students and organized groups from the farming community.
- 3.6 The project will be part of the College's B.S. curriculum and the Continuing Education Program (CEP). It is planned that B.S. students will be trained in organic farm maintenance during the first, second and third year of the "Work Experience" course. During the short-term courses of the CEP, farmers will have the opportunity to learn about organic production systems.

#### IV. PROJECT EXECUTION

##### A. Scholarships

4.1 EARTH conducts a rigorous selection process which is considered key to the institution's goal to commit its students to the College's mission and to transform them into agents of change for responsible natural resource management.

4.2 In view of a thorough admission procedure which is outlined in the following sections, EARTH will be responsible for allocating the scholarships available under this project.

##### 1. Application and admission process

4.3 Each year, EARTH receives approximately 600 applications from young high-school graduates in sixteen countries of the humid tropics. After reviewing the forms, close to 350 candidates are invited to an interview in his/her country of origin. College staff travels each year to the countries concerned to meet with the pre-selected applicants, both in groups and individually.

4.4 The group and personal interviews are important, as they allow EARTH staff to get a first-hand impression about :

- . the candidate's motivation for applying to the College,
- . the candidate's potential for assuming a leadership role in responsible resource management,
- . the candidate's personality, values and ethics,
- . the candidate's academic, professional and social background, and
- . the candidate's financial situation.

4.5 At the time of the interview, candidates have to take the standardized academic aptitude examination developed by the College Board in Puerto Rico. The final selection process takes place in October of each year; the applicant's academic record and the results of the group/personal interview play an equal role in drawing up the final list and ranking each of the admitted candidates.

##### 2. Determination of financial aid

4.6 Throughout the different stages of the application process, candidates are asked to submit detailed information about their financial situation. The personal interview helps to determine whether the information provided by the applicant is accurate.

- 4.7 The College's financial aid committee awards full or partial scholarships strictly according to the candidate's ranking on the admission list and his/her individual economic situation 1/. In allocating financial assistance, the committee assesses the family assets of the candidate and divides it by the number of dependents.
- 4.8 For a large majority of the selected candidates, access to financial aid determines whether or not he/she will be able to enroll as a student. Of the past three freshmen classes, 42% of the students received a full scholarship 2/, 33% received a partial scholarship 3/ and an average of 25% independently paid the full tuition 4/.

### 3. Allocation of IDB (JF) scholarships

- 4.9 Based upon the evaluation of each candidate selected and bearing in mind that IDB scholarships shall be granted preferably to students from C and D Bank member countries, EARTH will assume the decision about the scholarships to be offered under this program.
- 4.10 The College will submit to the Bank a dossier which shall include the names and nationalities of the grant recipients, information about their personal, academic, professional and social backgrounds and the selection criteria. The allocation of scholarships will be definitive only after Bank representatives from the Country Office in Costa Rica and Headquarters, in conjunction with the Executive Director of Japan, have reviewed and approved the dossier. Moreover, EARTH will keep the Bank updated about the grant recipients' academic performances (see also paragraph 4.17).

### 4. Suspension of the scholarship

- 4.11 In the event that a grant recipient has to voluntarily or involuntarily suspend his/her education at EARTH, a joint commission of representatives from the Bank and EARTH will decide on the destination of disposable funds.

### B. Japanese Expert in Organic Agriculture

- 4.12 EARTH will identify candidates for the expert position in organic agriculture. The College will submit to the Bank a short list for recommendations and approval.

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1/ Similar to the scholarship conditions of this project, some grants are contingent on donor requirements (usually nationality or gender).

2/ Full scholarships are always granted and administered by EARTH.

3/ EARTH complements external partial scholarships or loans with donor funds under its administration.

4/ These students did not receive a grant; they come from families who are financially able to pay the full tuition.

- 4.13 The expert will be hired directly by EARTH, preferably between October and December 1996, but no later than January 1997. The contract shall include the terms of reference and respect the budgetary provisions for the position, as outlined in this Plan of Operations. Any further agreements regarding the duties and benefits of this position are at the discretion of the College and consultant to be hired.
- 4.14 In the event that the consultant's contract is terminated prematurely, a joint commission of representatives from the Bank and EARTH will decide whether or not a replacement will be hired.

C. Duration of the project

- 4.15 The operation will be executed over a period of four and a half years from the date on which the agreement is signed. The operation will conclude with EARTH informing the Bank about the graduation of the grant recipients in December of 2000 and the submission of a financial report to be prepared by an independent auditor (see also paragraph 4.19).

D. Project Monitoring

1. Programming and Evaluation Committee

- 4.16 Representatives from EARTH, including the Director General, and representatives from the Bank will form part of the project's Programming and Evaluation Committee (PEC). Its function will be to review the project's administration and to address problems which may arise during the execution period. The PEC will convene at least once a year; further meetings may be held upon request by either the Bank or EARTH.

2. Reports

- 4.17 EARTH will submit to the Bank an annual project report no later than ninety (90) days after the end of the calendar year. The report shall provide information regarding:
- . the academic performance of the scholarship recipients;
  - . the activities organized in connection with the position of the expert for organic agriculture, and
  - . a financial statement detailing the use of the Bank's contribution throughout the past calendar year.
- 4.18 The first report will be due during the first three months of 1997; it will include the scholarship dossier referred to in paragraph 4.10. The last report will be submitted to the Bank after the graduation of the scholarship recipients in December 2000.



- 4.19 No later than ninety (90) days subsequent to the last disbursement, the College shall present to the Bank a final financial report to be carried out by an independent auditor.

E. Project cost and financing

1. Program Cost

- 4.20 The cost of the project is estimated to be the equivalent of US\$ 1,045,000, broken down as follows:

Cat.	Description	IDB	EARTH	TOTAL
2	Consultant: honoraria, recruitment, installation and repatriation	261,000		261,000
3	Registration fees, tuition and recruitment expenses	706,536	23,400	729,936
6	General Support	20,000	18,000	38,000
98	Contingencies	12,464	3,600	16,064
TOTAL		1,000,000	45,000	1,045,000

See Annex VII for the itemized budget.

2. Contribution of the Bank

- 4.21 The contribution of the IDB will be financed by the Japanese Special Fund; it is estimated to amount to US\$1,000,000.
- 4.22 The contribution will cover:
- . the cost of 18 full scholarships, each amounting to US\$9,813 per year during the four-year study period;
  - . the salary of the Japanese consultant for a period of three years;
  - . expenses related to the recruitment, installation and repatriation of the expert and his/her family;
  - . the acquisition of a four-wheel drive vehicle, deemed essential in view of difficult road conditions and the location of the organic farm which is located 4 miles from the College's campus.

3. Contribution of EARTH

- 4.23 The College will cover the recruitment costs for the 18 scholarship recipients. These expenses average \$1,300 per student which

include: the processing of applications, the group and individual interviews in their countries of origin and the cost of the academic test.

- 4.24 EARTH will provide the Japanese consultant with the necessary technical support to carry out his/her duties, including a fully equipped office and secretarial support.

F. Disbursements

- 4.25 The Bank will establish a rotating fund of US\$100,000 (equivalent to 10% of the total contribution) to cover:

- . an annual amount of \$176,634 for scholarships, payable as follows: 35% in January, 35% in May, and 30% in September of each year;
- . the monthly salary of the Japanese consultant, and
- . initial expenses related to the recruitment of the consultant, including travel expenses, the lump-sum compensation for installation and the acquisition of the vehicle.

- 4.26 The fund will be created upon the Bank's approval of the scholarship dossier or the presentation to the Bank of the contract signed by the expert in organic agriculture, whichever comes first.

**V. BENEFITS AND RISKS**

- 5.1 The project will contribute to training agronomists in the area of production and processing methods, which are compatible with the sustainable development of the humid tropics.
- 5.2 To date, no systematic independent evaluation exists regarding the impact the training has had on farms, agricultural enterprises and research centers which have hired EARTH graduates. There is a risk that EARTH graduates, though trained in sustainable agriculture, will not have the opportunity to apply their knowledge and practical training in this area.
- 5.3 Frequent though random contacts with employers of EARTH graduates in the private, for profit sector show that, indeed, these young agronomists have been primarily hired as a result of the College's reputation as a provider of a sound education in agricultural sciences, including familiarity with state-of-the art (information) technology. Although not being the initial motive, some employers have subsequently come to appreciate EARTH graduates' special skills in sustainable agriculture. By contrast, in the private, non-profit sector (NGOs), EARTH graduates are frequently hired because of their knowledge in sustainable resource management.

- 5.4 Since EARTH is aware of the possibility that farmers and producers might be skeptical about the College's emphasis on sustainable agriculture, the College has ensured that its education is well grounded in the economic and social reality of farming in the humid tropics. The training therefore clearly bears the potential for stretching beyond the College campus, providing the students with both the skills and the motivation to propel a more responsive attitude towards sustainable natural resources management in the humid tropics of the Americas.

## VI. EVALUATION

- 6.1 An evaluation of the scholarship recipients' performances on the labor market after their graduation in the year 2000 is not being considered. However, EARTH is planning a study to evaluate the extent to which graduates work in the area of sustainable agriculture. The results will be submitted to the Bank upon availability.

## PERFORMANCE INDICATORS

Objectives	Indicators	Means of Verification	Assumptions
<b>GOAL</b> Contribute to creating a critical mass of agronomists who are trained in agricultural practices which are aimed at protecting and preserving the natural resources of the humid tropics.	Four-year training at EARTH with emphasis on sustainable natural resources management (academic education and field work), community (social) work and business training.	EARTH's curriculum for a BS degree in Agricultural Sciences.	That the scholarship recipients are determined to assume a leadership role with respect to an environmentally friendly approach to farming in the humid tropics.
<b>PURPOSE</b> Train agronomists in sustainable agriculture of the humid tropics.	Graduation of 18 agronomists with a specialization in sustainable agriculture in December 2000.  The establishment of a fully operational organic farm and the organization of courses on organic agriculture as a regular EARTH training activity by the end of 1999.	. Annual progress reports on the grant recipients' performances and the program of organic agriculture. . Annual meetings of the Programming and Evaluation Committee.	That none of the scholarship recipients will suspend their education at EARTH.
<b>OUTPUTS</b> Grant 18 scholarships to candidates who have been selected to pursue a degree in sustainable agriculture at EARTH.  Hire an expert in organic agriculture from Japan who will be part of the team to establish an organic farm and who will conduct training activities on organic agriculture.	18 full scholarships to be granted to students who will begin their studies at EARTH in January 1997.  During the three-year tenure of the Japanese expert (approx. Nov. 1996 to Oct. 1998), the organic farm will be established; approximately 10 professors, 800 students (B.S. program) and 200 farmers (Continuing Education Program) will be trained in organic agriculture.	Scholarship dossier to be submitted by EARTH subsequently to the selection process.  Contract and terms of reference of the Japanese expert.	That EARTH maintains the quality and standards of its education in sustainable agriculture.
<b>ACTIVITIES</b> . Selection of scholarship recipients. . Presentation of scholarship candidates to the Bank for approval. . Identification of candidates and conducting interviews for the expert position in organic agriculture.	Budget.	Execution of the budget.	That appropriate candidates have been selected.  That on the basis of the contract conditions and terms of reference, an appropriate candidate for the position of expert in organic agriculture can be identified.

**ITEMIZED BUDGET**

Cat.	Description	IDB	EARTH	TOTAL
2.1.1	Honoraria: \$6,000/m x 36 months	216,000		216,000
2.3.1	Ticket Consultant: 1 roundtrip Tokyo-San José Tickets Dependents: 3 roundtrips Tokyo-San José	5,000 15,000		20,000
2.3.2	Transportation of Household Goods & Storage	20,000		20,000
2.4.1	Installation	5,000		5,000
3.1	Registration Fees and Tuition: 18 students x 4 years x \$9,813 Recruitment Expenses: 18 students x \$1,300	706,536	23,400	729,936
6.4	Office Supplies		1,500	1,500
6.5	Personal Computer		2,500	2,500
6.6.4	Secretary: \$500/m x 18 months		9,000	9,000
6.7	Communication expenses		5,000	5,000
6.3.1	Equipment: Vehicle	20,000		20,000
98	Contingencies	12,464	3,600	16,064
TOTAL		1,000,000	45,000	1,045,000

PROPOSED RESOLUTION

REGIONAL. NONREIMBURSABLE TECHNICAL COOPERATION FOR  
TRAINING AGRONOMISTS IN SUSTAINABLE AGRICULTURE  
OF THE HUMID TROPICS

The Board of Executive Directors

RESOLVES:

1. That the President of the Inter-American Development Bank, or such representative as he shall designate, is authorized, in the name and on behalf of the Bank, as administrator of the Special Fund of Japan, to enter into such agreements as may be necessary and to take such additional measures as may be pertinent for the execution of the plan of operations referred to in Document AT- with respect to a nonreimbursable technical cooperation with the Escuela de Agricultura de la Región Tropical Húmeda (EARTH) in Costa Rica, for the execution of a project for Training Agronomists in Sustainable Agriculture of the Humid Tropics.
2. That up to the sum of US\$1,000,000, is authorized for the purpose of this resolution, chargeable to the resources of the Special Fund of Japan.
3. That the above-mentioned sum is to be provided on a nonreimbursable basis.