

Award No. 2008-38422-19209
Amount: \$290,000

CSREES PRIORITY AREAS

STRATEGIC GOALS:

- ❖ Protect and enhance nation's natural resource base

PRIORITY AREAS

- ❖ Attract under-represented groups
- ❖ Enhance institutional educational capacity through instrumentation and on-campus organic garden

EDUCATIONAL NEED AREAS

- ❖ Under-represented students
- ❖ Experiential learning
- ❖ Scientific instrumentation training

HSI NEED AREAS

- ❖ Number of degrees in agriculture and food sciences

OBJECTIVES

- ❖ Incorporate scientific instrumentation into the agroecology curriculum
- ❖ Establish campus organic garden to provide students with hands on experience
- ❖ Continue to offer a comprehensive agroecology program at Florida International University (FIU), by targeting under-represented populations and a significant number of freshmen from high schools and transfer students from Miami Dade College with agriculture sciences background.

PROJECT TEAM

FIU

Dr. Mahadev Bhat, PD
Dr. Krish Jayachandran, Co-PD
Dr. Suzanne Koptur, Co-PD
Dr. Assefa Melesse, Co-PD
Dr. Jeffery Onsted, Co-PD

USDA Collaborator
Dr. Stewart Reed

MacArthur Agroecology Res Center
Dr. Patrick Bohlen

Miami Dade College
Dr. Clemente Ferndez

Miami Dade Public Schools
Mrs. Diana Collingwood Mr. Will Dukas

INSTITUTIONAL COLLABORATORS



Obj 1. Scientific Instrumentation

Student lab research



Field-based analysis



Soil chem. instrumentation in courses



Total Elemental Analyzer



Total Organic Carbon Analyzer

PROJECT ACTIVITIES

Obj 2. Campus Organic Garden

Establish a campus organic garden



Service learning



Conduct organic agriculture research



Obj 3. Agroecology Curriculum Targeting Minority and transfer students

Agroecology Certificate



Agroecology workshop



Agroecology workshop, internships, field tours & professional development

Field Internship



Field Tours

FIU-MANRRS Chapter



Experiential learning at USDA & other places

PROGRAM EVALUATION

FORMATIVE EVALUATION

- ❖ Project advisory board
- ❖ Qualitative and quantitative indicators
- ❖ Evaluation by students and program participants
- ❖ Adaptive changes to the project in response to evaluation results

SUMMATIVE EVALUATION

- ❖ Annual evaluation by external evaluator
- ❖ Uses performance-based objectives indicators
- ❖ Project modification and improvement based on evaluation results

Examples of indicators and their targets for the Agroecology Program activities

Project Objectives	Selected Performance Indicators	Formative Target Level	Frequency of Measurement
1. Infusion of scientific instrumentation	# newly acquired scientific instruments	2	Yearly
	# existing instruments accessed by students	3	Yearly
	# student projects involving instrumentation	5	Half-yearly
	# students enrolled in courses and conducting soil, water and nutrient analysis	50	Half-yearly
	# graduate students using new instruments	5	Yearly
2. Establishment of a campus organic farm in order to provide practical training to students	Creation and maintenance of garden		Yearly
	# student projects conducted	5	Yearly
	# student conducting service learning	40	Quarterly
	# graduate student research projects	3	Yearly
	# special social events	2	Yearly
	# high school interns working on the farm	3	Yearly

BENEFICIARIES

Products and benefits from the proposed Agroecology Curricular Improvement Program

Products	How Many?	Primary Beneficiaries ¹
Improved Agroecology Program	1	S, FC
Scientific instruments	2	S
Organic garden on campus	1	S, F, FC
Students trained in agroecology theory/practice	50	S, F
Agroecology scholarships/internships	14	S, F, C
Minority student graduate research assistantship	1	S, F
Hispanic student 2yr-to-4yr college	1	S, C
High school student internship	10	HS, HT
Online Sustainable Agriculture course (# times)	3	S
Minority students conference trips	5	S
Annual agroecology workshops	3	S, F, C, HS, HC, HT
Field trips	8	S, FC, HT, HS
Publications: papers, posters and presentations	30	S, F, FC, C, HS, HT
Cost-effective multi-institutional alliance	1	S, F, FC, C, HS, HT

¹S = students, F = farmers, FC = faculty, HS = high school students, HT = high school teachers
C = representatives of the collaborating agencies.

High school student internship



2-year to 4-year college Advancement Scholarship

❖ A \$40,000 college scholarship to a Miami Dade College to advance to FIU Environmental Studies and Agroecology Program

EXPECTED IMPACTS

- ❖ FIU, a non-land grant university, will graduate technically-qualified, under-represented students, who will land jobs in USDA and agricultural industry
- ❖ A low-cost, multi-institutional agri-science educational alliance in South Florida, which will attract a large number of Hispanic and under-represented student population
- ❖ Stronger bridge between Miami Dade high schools, 2-year College and 4-year university to enhance future recruitment of students into college agricultural science programs
- ❖ An improvement in natural resource environment by promoting eco-friendly agriculture in South Florida cities and small farms