

NEW AND RENEWABLE SOURCES OF ENERGY FOR RURAL WOMEN DECREASES RURAL WOMAN'S DEMAND FOR FUELWOOD AND INITIATED THE SOLAR COOKING INDUSTRY

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ABSTRACT

IECAIM (Ecuadorian Institute for the Research and Training of Woman) is a national focal point of INSTRAW (the United Nation's International Institute of Research and Training for the Advance of Women). It is an autonomous national organization, which was founded in 1986. In August 1989, IECAIM initiated a training program for rural women designed to provide a practical solution to the problem of deforestation in Ecuador's countryside. In collaboration with INSTRAW and Solar Cookers International, IECAIM conducts training courses for rural women that enable them to utilize new sources of energy in their agricultural and household tasks. The participants, rural women belonging to the "comunas campesinas" are instructed in the use of alternative energy sources, such as solar, biomass, geothermal, etc. Participants also learn how to construct simple devices that save energy and/or utilize alternative energy sources. These include: solar cookers, a grain dryer based on solar and wind energy and solar devices for the heating of water and the dwelling. IECAIM organizes and teaches the courses.

To date, 300 rural women and 100 civil people have participated in the training program. As a result, they have access to improved solar cooker stoves and grain solar dryers. The stoves save fuel and decrease women's exposure to the noxious effects of smoke. The improved grain dryers based on solar and wind energy protect the grains from animals, rain, etc. The use of these devices that conserve fuel or utilize alternative sources of energy, decreases the necessity for travelling long distances in search of fuel wood. It also prevents deforestation, which causes so much of income-generating opportunities for participants, who may eventually earn

income by constructing and selling these new devices to other women.

In addition in Quito, Ecuador, at the equator, the centre of the world, in South America, IECAIM initiated the project on technology, construction and commercialization of solar cookers that is benefiting 400 women and their families. They construct and sell the solar cookers.

So IECAIM is working for sustainable development and sound environments.

1. INTRODUCTION

Historic Background

In May 1985, Dr. Fabiola Cuvi Ortiz, an Ecuadorian Economist and candidate from the Ministry of Foreign Relations to the ECOSOC (United Nations Economic and Social Council) was designated member of the United Nations International Research and Training Institute for the Promotion of Women (INSTRAW) Executive Council.

Once Dr. Cuvi took office she travelled together with the full Executive Council to Nairobi, Kenya to participate at the United Nations Third Worldwide Conference for Women INSTRAW, which recommended the creation of the INSTRAW "Focal Points" in all countries around the World to form a big supporting network in compliance with INSTRAW objectives.

Upon her return, Fabiola Cuvi invited a group of highly understanding, moral professionals to create the INSTRAW “Focal Point” in Ecuador.

On January 17, 1986 the Ecuadorian Research Institute for Women Training, IECAIM, and the “Focal Point” of INSTRAW was created.

During its twenty years of operations, IECAIM has carried out one research project per year. Each project deals with women’s situations in health, education, employment, old age, informal labour, environment, migration, micro enterprise, family and development. IECAIM has given courses in addition, in Civil Defence, Micro Enterprise Formation, Haute Cuisine, First Aid, Etiquette and Protocol, Human Relations, Drug Abuse Prevention, Hotel Management, Tourism, Water and Sanitation, New and Renewable Energy Sources for Women among others. At present 4500 women have received a diploma at IECAIM.

Within the New and Renewable Energy Sources for Women Training Course, IECAIM with the cooperation of the Ecuadorian National Institute of Energy, INE, has given training courses on firewood saving and “Improved Cookers” for rural woman; however, the permanent objective of its Director, Fabiola Cuvi, was to give training courses on solar cookers, which she had heard about during certain international meetings.

In November 1989, the IECAIM Director was invited to participate in the “Comprehensive World Meeting on Women and the Environment”. Friends of life, information at this meeting prepared her for the Earth Summit that took place in Rio de Janeiro in 1990. There she became aware of the solar cookers exhibited and sold by Solar Cookers International (SCI), headquartered in Sacramento, California, an institution responsible for promoting the implementation of these cookers around the world. She noted the advantages of these cookers, how easy it was to build them, their low cost, fuel savings and their big help to women toward sustained development and clean environment.

In May 1992, Dr. Cuvi was invited by SCI to the 2nd Latin American Conference on Solar Cookers that took place in San Pedro Sula, Honduras. She submitted her report on “Grain solar dryers,” since as of that date IECAIM did not have solar cookers.

In San Pedro Sula she met Mr. Rodrigo Carpio, an Ecuadorian (from Cuenca) and participant who submitted his paper on solar cookers. Back in the Ecuador, IECAIM prepared and gave on August 14, 1993, the first course on solar cookers to twenty one participants of the Women’s Center Cayetana Sterni of Comité del Pueblo

No. 1, a legally formed center under the sponsorship and management of IECAIM. A second training course was given to a group of thirty women and five men of the rural communities at Cochasqui, Canton Cayambe, in September 1994. In the first two training courses Rodrigo Carpio participated as an instructor. These sporadic training courses did not cover community demands.

2. SELF PRODUCTIVE PROJECT FOR BOTH COUNTRY WOMEN AND WOMEN FROM LOW FINANCIAL RESOURCES WITH OPTIONS FOR THE ENTIRE POPULATION

IECAIM could not promptly implement its knowledge and use of solar cookers for lack of financial resources. Therefore its Director Dr. Fabiola Cuvi requested financing from the Women’s National Director (DINAMU) by submitting information on the Solar Cooker Implementation Project. The National Women’s Director, Mrs. Lola Villaquirán de Espinosa, analyzed the request and the project and after noting it’s adequacy and the project and importance in improving living conditions of women and society she obtained from the Ministry of Social Welfare the channelling of adequate funds to begin the project and prepared the Economic Cooperation Agreement for legalization.

The “Implementation of Solar Cookers” Economic Cooperation Agreement was subscribed on October 22, 1994 between The Ministry of Social Welfare, Alberto Cárdenas and the Director of the Ecuadorian Research Institute for Women Training, IECAIM, Dr. Fabiola Cuvi, at the premises of the National Women Director was S/. 15.920.000 (fifteen million nine hundred and twenty thousand sucres), (\$7,000 dollars).

3. PROMOTION AND SELECTION OF THE WOMEN GROUPS FOR THE PROJET

The selection of groups or organized women’s associations to start the project was a difficult and continuous process because the groups did not receive the information in the right way or they did not feel able to do it. This project was not understood in spite of its promotion.

Many visits to different communities and some invitations to IECAIM’s branch office were necessary for choosing four women’s organizations that accepted the challenge: to initiate the project in Ecuador, and specifically in the Province of Pichincha.

These organizations were:

1. Female Center “Cayetana Sterni” from the Comité del Pueblo 1, Cotocollao area, in the North of Quito.
2. Women association “Santo Domingo de Cutuglagua”, Santo Domingo area, in Mejia, in the South of Quito.
3. Women organization “Casa de la Misericordia”, Zámbez area, in the East of Quito, and.
4. Women Center “Madres Guadalupanas del Barrio de San Juan”, Santa Prisca área, in the West of Quito.

4. TRAINING COURSE ABOUT SOLAR COOKERS: METODOLOGY, CONSTRUCTION AND USE

4.1 Training course for Participants

After finishing the groups selection, the IECAIM started to organize the whole group, to stimulate it and to help it in the installation of the workrooms and also in other aspects connected with this activity.

The training course about the solar cookers was developed in accordance with the established schedule:

On December 18th, 1994 was imparted the course to thirty five women and four men from Santo Domingo de Cutuglagua.

On January 21th, 1995 the course was dictated to twenty women and three men from “La Casa de la Misericordia”, in Zámbez.



Course of introduction and construction of the solar cooker materials available for the students, zambiza, pichincha

On January 29th, 1995 the course was developed with twenty seven women from the “Centro Papelero”, in San Juan.

On August 14th, 1993 the course had already been dictated to twenty five women from the “Comité del Pueblo 1”, for that reason it was not repeated.

Each course required a previous organization, preparation and the transport of the material: portafolios, brochures, offices supplies etc., and certainly also demonstrations that show the solar cooker’s efectivity.

4.2 Training course for facilitators

The Ecuadorian Institute for Research and Training of Women, IECAIM organized different courses for facilitators. These courses were directed to women’s groups leaders, to the whole “Municipios de Santa Barbara” staff, and also to IECAIM members. Actually there exists a group of facilitators and a good quantity of groups who are constructing the solar cookers.



The students are finishing the construction of the solar cooker san juan, quito

5. LOOKING FOR PLACES TO ESTABLISH THE CONSTRUCTION OF THE WORKROOMS

The IECAIM had to choose the places where to establish the workrooms, but the female groups had to look for them in their own community. It was difficult, especially in the case of “Cayetana Sterni” Center, because they had to rent a place. Several labour inspections were made by the IECAIM’s Director Dr. Fabiola Cuvi. They managed the process of workrooms selection, because the places had to be safe and hygienic.

The places selected and where the workrooms were established are:

- “Casa Gema”, Comité del Pueblo 1, Julián Mestanza and Francisco de la Torre Street, telephone number: 2480250 / 2478591, Coordinator: Mrs. Gladys Barahona.
- Foundation “La Casa de la Misericordia” in Zámbez, Coordinator: Ms. Mónica Crespo, telephone number: 2445578.
- “Ex-hacienda de Jaime del Hierro”, actually it is part of Santo Domingo de Cutuglagua’s community. Coordinator: Mrs. María Paca, telephone number: 2215053.



Instructor teaches in cutuglagua town, machachi the construction of solar cooker

- “Centro Papelero” at Guatemala Street between Cuenca and Benalcázar, San Juan, Coordinator: Mrs. Luz María Salas, telephone number: 2218898.



Course instruction and use solar cooker in little town comite del pueblo, quito

6. DELIVERY OF MATERIALS AND WORKROOMS IMPLEMENTATION

While IECAIM was planning the project, it acquired and prepared the material for constructing there hundred solar cookers. The solar cookers were distributed as follows:

Two hundred forty five solar cookers were divided between the four projects of women.

The IECAIM also distributed furniture and implements for some workrooms.

- Five constructed solar cookers for women who were evacuated from the border with Perú.
- Two constructed solar cookers for high school students who had participated at the training course.
- Material for constructing ten solar cookers was given to Guangopolo’s community.

- One solar cooker was sent to Galapagos Island for its introduction and promotion.
- Fifty seven solar cookers, to be used in future course, are IECAIM’s property.

7. STARTING THE PRODUCTION

Between January 18th. And February, 1995 the material was delivered for constructing the solar cookers. The women from the different projects started to construct and to sell some solar cookers. This act stimulated other groups.

When ten solar cookers were constructed, the IECAIM organized their introduction. Immediately, this new project was promoted by newspapers, radio and television. The goal was to sell solar cookers.



Students after the course, enjoying the assortment of solar cooked, san juan, quito

8. THE PROMOTION OF THE PROJECT

8.1 An Internal Promotion

The most important mass communication ways promoted the solar cooker’s project.

- Newspaper: “El Comercio”
- Television: A national channel “Gamavisión”
- Radios: Quito, Nacional del Ecuador, Municipal de Cultura, Católica, HCM1. All of them were interested in the project and so they transmitted some interviews maintained with the General Director’s project. The project is still being promoted. The goal was to stimulate the people for buying the solar cookers and at this way to protect the ecology that contributes to the sustainable development and also at the same time it improves the life quality of women who are part of the project.

8.2 An International Promotion

The IECAIM as part of a solar cookers network, whose headquarter is in Sacramento, California sent a complete copy about the project to its Director, Beverly Blum.

At the same time another copy was sent to Martha Dueñas, INSTRAW's Director. This Institute promotes summits about the new and renewables energy sources all around the world.



This is the solar-cooker built and used by the iecaim

9. COURSES ASKED FOR DIFFERENT INSTITUTIONS

The IECAIM has developed many training courses about the solar cookers, its methodology, its construction and its use.

Some training courses have been directed to different groups:

- On February 16th., 1995 the IECAIM dictated a practical and a theoretical course to thirty students at the "National Conocoto" High School.
- On March 17th., was dictated another course to thirty five students at the "Thomas Jefferson" High School in Conocoto.
- On March 14th., 1995 was dictated a training course to the whole staff who works on Santa Barbara's factory.
- On March 29th., 1995 a course was developed with thirty five people in Guangopolo's community.



The students, young indians guantopolo's, town constructing the solar cooker

- On the fourteenth of March, 1995, the IECAIM at its beginning, gave its course to the personnel of the Santa Barbara Munitions Factory of the Ecuadorian army.
- On March 29th., 1995, the IECAIM was at the rural community of Guangopolo in the province of Cotopaxi, Canton Pujili, Sumbagua parish to teach the course to thirty – five participants.

10. COOPERATION OF IECAIM DURING THE EMERGENCY OF THE AGGRESSION FROM PERU TO ECUADOR IN THE DONATION OF SOLAR KITCHENS

The IECAIM, sensitive as all Ecuadorians to the pain and anguish resulting from the new armed attack from Perú, co-operated actively in the donation of five solar kitchens which, according to what we have been informed were sent to Patuca (Place of conflict) to be distributed to the evacuated population.

11. REQUESTS FOR INSTRUCTION ON SOLAR KITCHENS

Following the diffusion of the project, the demand for courses on methodology, construction, and use of the solar kitchens has grown steadily at the IECAIM Accordingly, the IECAIM has put aside the necessary material to attend to these requests and to continue implementing the project in various communities or parts of the country.

At this time are pending the following requests to give the courses of methodology and construction of solar cookers.



Material owned iecaim for construction solar – cookers to be available in headquarter, quito

1. Rural Community of “Guanchala” of the Cayambe canton (district).
2. Women from the higher, Toctiuco section
3. Rural Community of “Itulcahi”, Alangarí parish.
4. Rural Community “San Miguel de los Colorados” of the Santo Domingo de los Colorados parish.
5. Corazón de Jesús neighbourhood in lower Carcelén.
6. Association of Women for a New Future, Yaguachi neighbourhood, Quito parish.
7. Jacinto Jijón y Caamaño of San Rafael.
8. Personnel of the DINAMU.
9. Personnel and associates of the IECAIM
10. Polytechnics’ Schools of the Armed Forces.
11. Provincial Council of Puyo, Province of Pastaza.
12. Ministry of Education, “Special Education Program”.
13. Tocachi commune, Tabacundo parish, Pichincha.

12. ILUSTRATIONS & EXAMPLES

There are many examples which could be related in the great work being realized by IECAIM, one of them is: Father Collin Mac Innes, parish priest of the Comité del Pueblo No. 1, did not believe that the solar kitchen of IECAIM was going to cook, and slapping the shoulder of professor Rodrigo Carpio, said “You are dreaming, my dear friend”. At noon, Father Collin and all those present savoured the delicious chicken, eggs and potatoes which we cooked. The solar cooking was proven to work.

13. CONTINUING



Students show diplomas once the course was finished provincia cotopaxi

The project has been growing surprisingly fast. The IECAIM not only keeps up with the projects already installed but gives them technical help and realizes their promotion. This should be achieved through commercialization and the creation of directors for workshops and the reinforcement of the formation of small industries.

The IECAIM on the other hand continues giving courses on “**Methodology, Construction, and Use of solar kitchens**” in the sectors, neighbourhoods and rural communes that have asked for them, and who will continue asking for them due to the enormous interest that the IECAIM solar kitchen has aroused in the population. The professor is Dr. Aracely Aulestia.

14. CONCLUSIONS AND RECOMMENDATIONS

The carrying out of the project “implementation of solar kitchens” has been an arduous, painstaking and continuous task. The IECAIM has surpassed its goals.

The agreement to implement a productive industry of communal cooperation was signed for fifty women. However the IECAIM with its method of consistently using its resources effectively, has succeeded in installing four productive industries for the benefit of four hundred women and their families.

Only the imaginative vocation of service, of not resting in nonworking hours, working on Saturdays and Sundays, and excellent coordination has been possible to accomplish a voluminous task in such a short time with such limited money and so few personnel.

The powerful coordination that the IECAIM stamps on all the institutions (publics, privates and NGO) once again proves its effectiveness.

This is an example of the fact that by combining professionalism, knowledge, capabilities, and energy with love and devotion one is able to achieve with a grain of sand combined with other grains of sand a great mountain of small projects to make a true sustained development and consequently human well being.

The author claims the solar cooker in Ecuador, in South America is a Success.