

TURKEY-ARMENIA REPORT- Sept.-Oct. 2005

Evaluation and Assessment of Rotary Matching Grant 19544

Addition of Fuel Efficient Stove Program to MG 19544

TURKEY

- ✓ 65 Million people, capital Ankara, a Secular Islamic state, controls entrance to the Black Sea
- ✓ Majority of Turks live in the Western half of the country
- ✓ Eastern and southeastern reaches of the Anatolia plateau are Kurdish regions
- ✓ Visitors are attracted by classical sites such as Ephesus and Troy, and antiquities of both the Ottoman and Byzantine Empire.
- ✓ The largest minority are the Kurds
- ✓ Turkish politics are divided more by personalities than politics
- ✓ Seeks closer ties with its neighbors, attempted mediation with Armenia and Azerbaijan



SOLAR COOKING IN TURKEY WAS BORN eight years ago. The Rotary Club of Adana-Seyhan in Turkey pursued the idea of using solar cooking when solar cookers made the cover story in the Rotarian magazine November 1997. Adana has a 25 year history of using solar water



Cotton stalks bundled

heaters, spreading throughout Turkey by 2004. The Matching grant began from a Pilot study completed in May, 2001 in Misis, a historic, small farming community 30km east of Adana. As seen in 2001, migrant and earthquake refugee (squatter) families live in makeshift plastic tents using biomass fuel of brush cuttings from trees and cotton stalks for cooking and heating, bottled gas being too expensive for cooking food. A Rotary Matching Grant was funded in 2002, and workshops began teaching the “Integrated Cooking

Method” (ICM-how to make and use the solar cooker, rocket stove, and haybox). Rtn. Abdullah Paksoy and Rotarians on the solar cooker team, Rotary Community Corp, and Trainers demonstrated cooking solar cooked food in communities, in Primary and Secondary schools, and those schools for handicapped children. Significant hours have led to television programs, newspaper articles and radio reports. The Sun Oven Villager, capable of baking 50 loaves of bread per hour, arrived in the fall of 2004, and has been put into service in a Solar Cooker Public Service Awareness program.

SCHOOLS FOR THE HANDICAPPED For the past four years Rtn. Abdullah Paksoy, Rotary club members and Trainers held demonstrations solar cooking meals at Schools for the Handicapped- sometimes with the Villager. Four Trainers in a rented van with provisions and equipment would arrive, food was prepared and solar cooked- Faculty declared open house and lunch was enjoyed by all. One school has an ideal roof top such as here for solar cooking.

KOYUDIKILI KOYU-BACKYARD SCENE-ADANA Don Pittman, an American soils



Burning kindling instead of logs.



Insulated haybox

specialist invited community families and other NGO's numbering 25 with an almost

equal number of children to a Hands-On ICM. NGO'S came from Singapore and America to witness solar cooking, rocket stoves, and hayboxes with it's fuelwood saving of 50 to 75 %. Ken Goyer, stove specialist, built two sizes of rocket stoves from local aerated Ytong brick- Here are examples of rocket stoves; a smaller stove for heating tea and two regular cooking size- Notice Ken Goyer chopping wood into small kindling because such stoves burn only twigs and brush- each costing only one or two dollars. Cracking has appeared in the combustion chamber suggesting a ceramic liner for the chamber may be necessary. There was great enthusiasm for these simple devices, and one individual voiced a desire to manufacture rocket stoves. Because of some overcast the rocket stoves played an important role in completing the cooking at our demonstrations.

ROTARIAN PAKSOY AND HIS SOLAR ENERGY-FUEL EFFICIENT TEAM from Misis and America completed a four day out of town tour to **Rotary clubs** in the eastern cities of Gazientep and Adiyama, with **demonstrations at a Village Square and cotton fields.** Each club viewed PowerPoint programs and saw examples of solar cookers and rocket stoves in action.

Two day demonstrations each were held in a



Cotton field



Village Square and out in **cotton fields**. The Village Square attracted 70 guests, the use of 15 solar cookers, and a Sun Oven solar cooker. Cooking pots of bulgur, chicken, rice, and eggplant mixed vegetables were cooked. A rocket stove for baking

the local bread was made while the food cooked. The second day in the same village provided an opportunity for first day women **observers** to become **participants** on the second day with washing of hands, preparation of food, and instructions on solar cooking. First days cooking in the village used frozen chicken which delayed cooking, and rocket stoves were used to finish cooking. **The cotton field** demonstration proved to be valuable. The 40 women picking cotton watched the first day and on the second and third days brought their food and solar cooked their mid-day meal with success.

THE INTEGRATED COOKING METHOD ON TELEVISION featured this project. It was recorded and demonstrated in the garden of the home of the producer of the show. The television crew joined in eating delicious food prepared in Solar CookKits, on rocket stoves, and in hayboxes along with a demonstration of a water pasteurization indicator (WAPI). The Villager was one of the cookers shown for its versatility of baking and cooking large quantities of breads and foods

SUMMARY: The Adana-Seyhan Rotary Club, Rtn. Paksoy, and the RC Solar Cooker committee have successfully established a center in Misis for teaching and housing all inventory and equipment. Rtn. Paksoy confirms that it is a very slow process in teaching women to adopt changes in their long established, traditional cooking habits. However, the shortage of wood and the rising cost of gas plus the fact that many of their dishes are used in demonstrations to show that they are perfect for cooking in a Solar CookKit. He expects the project to be sustainable by the end of 2006. 3,000 CookKits have been manufactured in Adana, 1,800 have been dispensed and sold. Northern Cyprus Rotary Clubs are closely related in service with Rotary Clubs in Turkey, and Clubs in Cyprus intends to take up Solar Cooking. Two day demonstrations in a community are most effective for implanting solid interest in the ICM. The following is seen for improved sustainability:

- ✓ Women participate in Rotary solar cooker committees and become part of the planning process
- ✓ Find a list of Women Community Leaders, add the ICM to their outreach programs
- ✓ New Trainers- Trainee program- Train volunteers as pairs (NGOs or Soroptomist Club)
- ✓ Add the teaching of ICM to Non Government Organization agenda's
- ✓ Create Job Descriptions for volunteer staff
- ✓ Give ICM demonstrations to Community leaders who in turn will find other locations
- ✓ Seek cooperation of Mayors and Inman's in villages
- ✓ Return to previous demonstration sites to answer questions and resolve problems
- ✓ Establish an ON-GOING one day training program - on the same day each month
- ✓ Assign more responsibility to Rotary Solar Cooker committee members- take full responsibility for their individual jobs
- ✓ Increase number of Master Trainers- Recruit from regions needing ICM training
- ✓ Seek families in South East Turkey beyond the industrial area of Misis.
- ✓ Enlist support of Rotary clubs from Gazientep and Adiyama in Turkey toward spreading ICM technology into Southeast turkey among Kurdish families

- ✓ A Villager introduced in the fall of 2004 offers an exciting Awareness program for public demonstrations showing how the sun's energy can be put to practical use saving our planet and effectively cooking our food.



- ✓ Turkey has a 25-year history of using solar water heaters

ARMENIA

Goodwill Visit- Rotary Clubs of Yerevan and Gyumri – Oct. 2005

Evaluation and Assessment of Teaching Integrated Cooking Method
(Solar Cooking-Rocket Stoves-Hayboxes-Water Pasteurization)

ARMENIA Re-established its independence in 1991 after 600 years of foreign rule. Armenia at that time was struggling to care for its victims of a 1988 earthquake in the Northwest region of Gyumri, second largest city, who after three years many were still homeless. Everywhere, even in the Capitol Yerevan, there were severe shortages of electricity and fuel, factories closed, industry was at a standstill. There was little work, however, the Armenians made this tiny mountainous country work. Only in the past few years have travelers discovered Armenia. They have continued to return to Armenia for humanitarian reasons that had brought so many foreigners here during the first few years after independence. Private investors have responded to this increased interest in developing a free market system. The country is landlocked with closed borders to Turkey and Azerbaijan- trade is severely hampered. Armenia has a population of 3 million with 4 million living outside of Armenia than within its borders, and many of those families return to Armenia giving assistance.



Historic building in Yerevan, Armenia

ROTARY CLUBS OF YEREVAN AND GYUMRI Abdullah Paksoy and Mustafa Ozgoren from the Rotary Club of Adana-Seyhan organized our journey of friendship and solar cooker-rocket stove demonstrations to two Rotary Clubs in Armenia. Our team consisting of Rotary volunteers Wilfred and Marie Pimentel and Rocket Stove expert Ken Goyer were met at the airport and escorted to an assigned 9th floor apartment owned by a generous Rotarian near the American-Armenian University with a delightful cafeteria and computer room for e-mail messages, and a gorgeous view of snow capped Mt. Ararat where Noah's Ark is supposedly buried.



Local mud stove



Rocket stoves

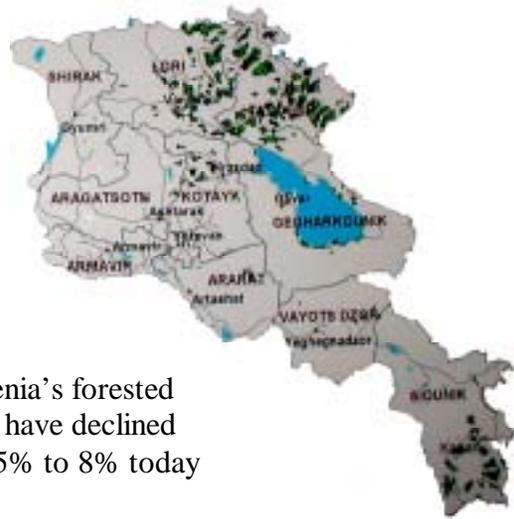
THE ROTARY CLUB OF ADANA-SEYHAN provided a letter of introduction and banner which we presented to the Yerevan Rotary club with a power point program showing our ICM project. Interesting questions followed with a guest announcing his research program of building parabolic solar cookers capable of cooking at maximum 500°F. The inventor was visited by our team, Rotary Volunteers Wilfred and Marie Pimentel and Ken Goyer, who agreed that the cost of a unit is prohibitive at this time. Directors of Peace Corp Volunteers, Armenian Forests, USAID, and Environmental Conservation shared their research on Armenia's forest



Letter of introduction from Rotary Club of Adana-Seyhan to Yerevan. Banners from Rotary Clubs of Fresno and Yerevan.



Parabolic solar cooker



Armenia's forested lands have declined from 45% to 8% today

emergencies telling us only 8 % of all land mass in Armenia is covered by trees. Raya Hakopyan, wife of a Rotarian was assigned as our translator and Historian by Rotary President



Notice long shadows



Lunch at 3PM in Yerevan.

Kantuni.

In Yerevan, we were taken to historic public grounds for a solar cooking and rocket stove demonstration with public officials being invited at 1pm. Local food was bought and prepared for cooking at 9:30am. It was necessary to lower the front flap and raise the back end of the CooKit, and cooking began slowly, reaching 210°F at 12 noon finishing at 3:00pm. The food was fully cooked and delicious. It was with this demonstration that we observed the need to adapt a CooKit for a 41° latitude and longitude in order to achieve higher Fahrenheit readings. At 20° north or south of the Equator there is no problem. The use of Rocket stoves was not permitted in public grounds.

GENEROSITY OF ROTARY CLUB OF YEREVAN: A ride was arranged by the club for transporting our team to Gyumri and the Rotary Club of Gyumri, 100 miles north of Yerevan. Rtn. Alexan Ter-Minasyan from the Rotary Club of Gyumri and Manager of the Berlin Hotel registered us at the hotel. Again the ICM PowerPoint program was presented in a special evening Rotary meeting with a representative from Peace Corps Volunteers and NGO'S. Warm solar cooked food kept in a Haybox from the afternoon's solar energy cooking was well received. Evidence again of afternoon cooking proved temperatures in the Cookit reached only 210°F. Ken Goyer explained the principles of the rocket stove.



Rotary Club of Gyumri Solar Cooker Committee



Rotary Club of Yerevan President

PEACE CORPS VOLUNTEER Morgan Ruelle in Gyumri and other PCV's in Yerevan were visibly impressed and suggested we return next year (July 2006) to instruct the incoming new Peace Corps Volunteers of 40 members as well as current workers in the art of solar cooking, rocket stove, haybox, and water pasteurization- hopefully when the Rotary Club of Gyumri and it's allied NGO will be taught the ICM project.

CARITAS, an NGO based in Rome, provided field trips to villages and elderly homes revealing the urgency of rural families and elderly people needing a supplement to fuelwood and a stove which burns dung efficiently. As noted, in the Northwestern reaches of Armenia where wood, electricity, and gas are not available, dung is the principle form of energy. Calling on homes for the elderly small storages of plastic, cloth, cardboard, and discarded oil filters are to be burned for heat come winter- a few single elderly people do not have heat for their room in winter.



Remains of burned oil filters



Cardboard, plastic, and oil filters used as fuel.



Stack of manure for heating and cooking.

research in our ICM projects.

RESEARCH ON THE COOKIT The CooKit is an excellent device and can be used in the proper longitude-latitude for at least 6 months, but when stretched to 41° latitude and in late summer more time is needed to complete solar cooking. There is on-going research with different sized panels and a laser beam investigating angles for improvement of cooking time in countries such as Armenia and Turkey. The plan is to utilize all the newer

SUMMARY Armenia is the size of Maryland, mountainous- forests and woodlands cover only 8% of its landmass. Therefore the urgency of a new fuelwood source such as solar energy deserves our attention. The Rotary Clubs of Gyumri and Fresno are the front runners with a solar cooker, rocket stove, haybox, water pasteurization Matching Grant. With a Matching Grant one can return a team to Armenia, and with the Rotary Club of Gyumri and NGO'S like CARITAS and Peace Corps Volunteers conduct workshops in making and using new solar cookers, fuel efficient stoves which burn dung, heat retained cookers, and water pasteurization.

Wilfred and Marie Pimentel, Rotary Volunteers, November 30, 2005