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Radio Scripts

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An Improved Stove Can Change Your Life

Mothers, have your children ever been burned by the cooking fire?

Do you and your children walk long distances to collect firewood?

Does the smoke from the cooking fire hurt your eyes and lungs? If you answered yes, you will want to hear today's story about a woman who improved her life by changing her way of cooking.

Venkatamma lives near Mysore city in southern India. Like most of the women in her village Venkatamma used to cook on an open wood-burning stove. However, there were some problems.

Every day she and her children spent hours gathering firewood. As the years went by, she noticed that they had to go further and further to find wood. Also, whenever Venkatamma cooked, the smoke irritated her eyes and she would often cough. Her house was always full of ash and soot but she lived with the discomfort because the

smoke seemed to keep away insects.

Slowly, Venkatamma's perception of this traditional way of cooking started to change. A local social service organization suggested that she try building another kind of stove. They helped her to build an improved stove called an *Astra Ol*, (pronounced wo-lay). She built the stove with clay, sand, and bricks, so it didn't cost much. The design was simple and no special tools were needed but it was important for Venkatamma to follow the instructions exactly - otherwise the stove would not work properly.

Venkatamma's new improved stove was designed to use less firewood than the traditional stove used in her area. Instead of an open fire which wastes heat, the new stove has a closed fuel box. The inside is plastered with a mixture of mud and rice husks to keep heat from escaping. Three dishes can be cooked at the same time without using any extra fuel. Smoke is carried outside the house through a chimney.

It took Venkatamma some time to get used to the new stove. She had to learn to change her method of cooking. But she thinks that there are more advantages than disadvantages. The improved stove has made a big difference in her life.

First, her health is better and the air in her house is cleaner.

She can cook without the smoke stinging her eyes and making her cough. The other people in her family are also healthier because the air they breathe is clean. Also, her children are no longer exposed to the open fire.

Second, since the stove produces more heat with less fuel, she and her children spend less time collecting firewood. She can also control the burning rate by altering the flow of air. A large airflow allows her to cook faster at a higher temperature while a smaller airflow is better for slow simmering.

Third, since the stove can hold three pots, she can cook three different dishes at once and spend less time cooking. She now has more time for other tasks.

Venkatamma takes care of her new, improved stove. She keeps the grate clean and makes sure no soot builds up in the chimney. If she sees any cracks in the stove, she seals them at once with mud paste. She wants to keep the stove working well because, as she says, it has changed her whole life.

Venkatamma realizes that any stove which reduces the use of firewood and makes cooking easier and safer is an improved stove.

People everywhere are experimenting with improved stoves.

Improved stoves are designed to suit the needs of the women that use them. There are many different designs to choose from. Ask your local health or extension officer to help you make an improved stove. A new stove may

save you work, and keep your family safe and healthy.

Appendix

Improved stoves around the world

Do you use a three-stone fire? In Burkina Faso, women are improving their three stone fires. They mix together four buckets of clay, one bucket of millet straw, half a bucket each of manure and water. Then they let it sit for one week. They place their cooking pot on three stones. Using the mixture of clay, straw and manure they build a circular wall around the stones and the pot.

They leave a small gap between the pot and the cylinder. When it dries a little, they cut a small hole in the bottom for the wood to go in. It may be necessary to try different mixtures of clay, straw and manure until the mixture does not crumble or crack.

Also, it is important to cover the stove when it rains.

In Niger women are using the *mai sauki* or "fast cooker". Skilled tinsmiths make these stoves from scrap metal. Women buy them in the market. They come in different sizes to fit small and large pots. Other metal stoves are the *noflie* in Gambia and the ceramic *jiko* in Kenya. The *mai sauki* burns wood. The *noflie* burns wood and briquettes made from peanut shells. The ceramic *jiko* burns charcoal. These stoves are light and easy to carry anywhere.

In Guatemala, some families are now using *Ceta* stoves. The *Ceta* stove has a concrete base, a metal frame which fits on top of the base and a chimney. Guatemalans buy the metal frames from local blacksmiths. These frames come in different sizes to fit different sizes of pots. Local stove trainers help install *Ceta* stoves in people's homes. People like the *Ceta* stove because it uses less firewood than an open fire, it can be moved, it is strong, and it can hold more than one pot at a time. The concrete base of the *Ceta* stove makes it strong, but concrete stoves usually costs more than metal or clay stoves.

Solar cookers have been developed and tested in many countries.

In India, scientists developed the Kisan solar box cooker. A pit 2 feet wide by 2 feet long is dug in the ground. The sides and bottom of the pit are packed with insulation. Paddy husk ash, straw, newspaper, sawdust, wool or cotton can be used to insulate the pit. This insulation holds in the heat from the sun. The uncooked food is put in the pot and then the pot is covered with glass. The sun shines through the glass and cooks the food in 3 to 4 hours.

Solar cookers don't require firewood, charcoal or any kind of fuel! They just need sunlight. Many people have

tried the Kisan solar box cooker or other kinds of solar cookers and liked using them. But there are some drawbacks with solar cookers. Cooking is usually slower with solar cookers than with stoves that use firewood or charcoal, and solar cookers cannot be used during rainy seasons or when it is cloudy.

Examples of improved stoves

Three-Stone Stove(Burkina Faso, Togo)

Metal Stoves

Mai sauki (Niger)

Noflie (Gambia)

Sigiri (Uganda)

Kuni mbili (Kenya)

Clay Stoves

Lorena (Guatemala)

Astra ol, (S. India)

Louga(Senegal)

Ban uk suuk

New Nepali chula India

Maendeleo (Kenya) *base is three-stone fire but requires buying a kiln- fired insert*

Silkalan (N. India) *made from rice hulls and clay*

Concrete stoves

Nouna(Burkina Faso)

Kaya

Poyo (Guatemala) *brick/concrete chimney/ cast-iron cooking surface*

Clay/brick

Singer (Indonesia)

Fired clay

Thai bucket(Southeast Asia)

Note

- This script was researched by Vrinda Kumble, ecs consultants, Pune, India. The appendix was prepared by Anne Campbell-Janz, Toronto, Canada. Anne is an agriculturalist who has experimented with an

improved metal stove in Kinshasa, Zaire.

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Information Sources About the Astra Ol, Stove

- *Build your own Astra Ol*, published by ASTRA Centre, Indian Institute of Science, Bangalore, India.
- "The Astra Ol,: an invaluable gift for the rural housewife" in Kannada, 1984. ASTRA Centre and the Karnataka State Council for Science and Technology, Indian Institute of Science, Bangalore, India.
- Visit to Venkatamma's farm, Kunigal Village, under the MYRADA/PLAN Project, Madapura, Karnataka, India.
- Interview with Dr. K.S. Jagadish, Professor, ASTRA Indian Institute of Science, Bangalore, India.

Information sources about other improved stoves

- "*Improved stoves project*" in Red, Year 10, volume 34, July-December 1989. Centro Mesoamericano de Estudios Sobre Tecnologia Apropiada (CEMAT), Apartado Postal, 1160, Guatemala, Guatemala 01901.
- "*Fournu Noflie - the easy stove*" in Senelaa, No. 36, April 1985. Senelaa, Agricultural Communication Unit, Ministry of Agriculture, Yundum, The Gambia. "The 'Mai Sauki' is a success" in Gate, No. 1, 1987. German Agency for Technical Cooperation, P.O. Box 5180, D-65726, Eschborn, Federal Republic of Germany.
- "*Cooking up a better future*" in African Farmer, No. 2, December 1989, (page 23). The Hunger Project, Global Office, One Madison Avenue, N.Y., N.Y., 10010, U.S.A.
- "*Solar cooker designs*" in AT:M Reprints, No. 1, 1985 (page 10). AT and Missions Newsletter, P.O. Box 40602, Portland, Oregon 97240 U.S.A.
- *The tech and tools book*, Ruth Sandhu and Joanne Sandler, 1986, 176 pages. International Women's Tribune Center, 777 United Nations Plaza, New York, NY, 10017, USA.
- "Appropriate technology stoves", *Outreach*, No. 83, 1992. OutreachTechnology and Learning Center, 200 East Building, 239 Green Street, New York University, New York, NY, 1003, USA. or Outreach Coordinator, Information and Public Affairs, UNEP, P.O. Box 30552, Nairobi, Kenya.

Organizations working with improved stoves

- **Intermediate Technology Development Group (ITDG)**
Stoves Programme
Myson House

Railway Terrace

Rugby

U.K. DV21 3HT

- ***Sarvodaya - Kandy District Centre***

Palletalavinna, Katugastota

Sri Lanka

- ***German Agency for Technical Cooperation (G.T.Z.)***

P.O. Box 5180

6236 Exchborn 1

Germany

- ***UNICEF***

P.O. Box 1187

Kathmandu

Nepal

- Energy Education Section

 - **G.T.Z. Domestic Energy Saving Project**

31C Circular Road

P.O. Box 896

University Town

Peshawar

India

- ***UNSO National Stove Project***

Department of Community Development

Marine Parade

Banjul

The Gambia

- ***Centro Mesoamericano de Estudios sobre Tecnologia Apropriada***

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Kinhasa

Zaire