

**EVALUATION OF INTERGRATED SOLAR COOKING /WATER
PASTURISATION USERS (SCA)**

FEBRUARY 2008 – JANUARY 2009

Collected data for the year 2008 -2009

**Levels of satisfaction with integrated solar cooking and water pasteurization
amongst solar cooker users**

Level of satisfaction of users

1: Not satisfied

2: Fairly satisfied

3: satisfied

4: Very satisfied

Village	Participation	Level of satisfaction
Kikokwa	100	2
	17	1
	163	3
	240	4
Ruharo	10	1
	70	2
	205	3
	112	4
Orukinga	203	3
	174	4
	98	2
Biharwe	5	1
	19	2
	247	3
	140	4
Kyenyangi	0	1
	43	2
	202	3
	60	4

Levels of satisfaction of the Hay basket user

Level of satisfaction of user

1: Not satisfied

2: Fairly satisfied

3: Satisfied

4: Very satisfied

Village	Participants	Level of satisfaction
Kikokwa	0	1
	78	2
	109	3
	220	4
Ruharo	0	1
	7	2
	90	3
	115	4
Orukinga	0	1
	5	2
	40	3
	84	4
Biharwe	1	1
	6	2
	38	3
	616	4
Kyenyangi	0	1
	10	2
	20	3
	31	4

Level of satisfaction of WAPI users

- 1: Not satisfied
- 2: fairly satisfied
- 3: Satisfied
- 4: Very satisfied

village	Participants	Level of satisfaction
Kikokwa	0	1
	0	2
	320	3
	148	4
Ruharo	0	1
	92	2
	200	3
	54	4
Oruchinga	1	1
	53	2
	130	3
	18	4
Biharwe	1	1
	9	2
	118	3
	72	4
KyAenyangi	0	1
	5	2
	180	3
	45	4

Level of satisfaction of wood Rocket stoves users

- 1: Not satisfied
- 2: Fairly satisfaction
- 3: Satisfied
- 4: Very satisfied

Village	Participants	Level of satisfaction
Kikokwa	0	1
	7	2
	112	3
	142	4
Ruharo	0	1
	0	2
	125	3
	101	4
Oruchinga	0	1
	0	2
	76	3
	140	4
Biharwe	2	1
	12	2
	56	3
	150	4
Kyenyangi	0	1
	28	2
	30	3
		424

Level of satisfaction of Lorena stove users

- 1: Not satisfaction
- 2: Fairly satisfaction
- 3: Satisfaction
- 4: Very satisfaction

Village	Participants	Level of satisfaction
Kikokwa	0	1
	3	2
	24	3
	82	4
Ruharo	1	1
	0	2
	35	3
	132	4
Orichanga	0	1
	2	2
	10	3
	33	4
Biharwe	0	1
	2	2
	10	3
	33	4
Kyenyangi	0	1
	5	2
	105	3
	72	4

Things liked about using solar cookers

Things liked	solar cooker users
Baking	3
Pasteurization water	1457
Cooking food	1802
Making tea	10
Saving firewood	1350
Saving money	1800
Taste of food	1625
Cleanliness	1709

Participants from different villages appreciated the introduction of integrated solar cooking devices like the rocket stove that has eased domestic cooking. 60% of the participants asserted that, frying meat is possible with the use of a rocket stove after frying the sauce is then prepared in the cookit to save the amount of wood. A combination of their ideas denotes that, all the types of food can be prepared irrespective of the vagaries of climate. Preparation of rice and dry peas looked still a challenge as 30% of the end users don't know the right measurements per the volume of water. 40% of the participants agreed that, this challenge emerged due to the illiteracy of the end users and their failure to read the manuals and recipes.

80% participants, who were reported to be women, praised solar cooking devices as the health of their children showed some improvements. On average, 45% of the babies seemed to prefer food cooked in the solar devices especially the cookit as it tastes a greater aroma. Foods again reported to have been prepared for babies included vegetables, milk, eggs, fish mashed potatoes and pasteurized drinking water.

75% of the end users who preferred food cooked in the cookits registered more menaces in the preparation of huge volumes of food in relation to their big families due to the size of the cookit. The small volumes of food could only be prepared on sunny days.

In all the villages where the project has extended, 5% of the participants showed low interests in using cookits as most of them are culturally tied to using traditional three stones and the negative influences from the breadwinners.

Changes in weather still remain a block in the perfect usage of the solar cookers. However 90% of the end user who have acquired the rocket stoves admit that this is no longer a problem as cooking can be done at any time of the day plus the multi-purposeness of the hay basket that prepare half baked food and keeping it warm hence saving a lot of fuel and time.

In addition to the changes in the weather, 1000 women identified as participants observed some of the days / periods in the year especially in the dry season as periods when they use solar cookers to prepare two meals a day. They jubilated as; in such period a lot of wood is saved.

It's not a surprise to report that all participants are aware of the merits of the hay basket as 72% homesteads possess at least one. All this has been attributed to SCA and instructors. However the rest of the participants, who never had any, expressed their enthusiasms of having one but only limited by the price, and requested the project to lower the price.

Pasteurizing drinking water using the WAPI has become second to none; almost 70% of the end users use the WAPI. Apart from pasteurizing water in the cookit, 30% revealed their creativity to having pasteurized water prepared on the Rocket stove using the WAPI. Despite of that, 6% who are culturally tied still use their hands to estimate the pasteurization degrees.

Apart from improving their family lives, many of the end users have gone ahead of improving the lives of other people whom they described as "clients". In so doing, the pasteurized water is packed in polythen bags and sold, hence improving their lives and income.

Wood fuel has deemed to appear very scarce as many trees have been fell to produce charcoal. A difference in saving money to buy wood fuel compared to using rocket stoves and cookit has been highlighted. An end user from Kikokwa village failed even to quantify in monetary terms the amount of wood use per week. Other participants estimated 15000 u sh as the sum spent on week per week hence spending 60000 u sh per month. This worried many who argued and advised SCA to supply more solar devices in big quantities, reduce the prices and to be creative to introduce new sustainable energy devices to reduce the high expenditures on wood fuel.

To encase them in the modernization and globalization era, many women have requested SCA to involve the baking of bread and cakes, cunning fruits in the recipes among others. Many women could not follow the instructions by the word of mouth. For the many end users who have tried this, have reported the benefits gained commercially from the solar devices.

Lorena stove in Biharwe and Ruharo looked paramount to the end users as portrayed by their levels of satisfaction compared to other villages. Many women [end users] requested SCA to reduce on the price for the construction of such stove so that the end users in other targeted villages take the advantages. In addition, many participants more training on the maintenance of the stove and requested to improve chimney materials, and the 'inlet mouth' for the firewood.

Instructors appealed to themselves to dedicate much time to training of end users on the usage and storage of the solar devices and all the errors were attributed to inadequate knowledge of the solar cooking devices to the end users and follow- up should be increased.

The petitions from end users were agreed upon to be solved, taking the immediate action and increasing on the marketing strategy to increase on the levels of satisfaction and by supplying more devices. With the introduction of solar integrated cooking devices, the percentage of end

users with a warm positive attitude is overwhelmingly encouraging and noticed to be 97%. However more group cooking sessions and video, solar cooking documentaries are still positively vital to boost and boom the usage and marketing of the devices.