

Household energy saving technologies	
Module: 3	No-cost Kitchen management techniques

FACTSHEET

Introduction:

Many households do not use their firewood or charcoal efficiently in the cooking process. The fuel is wasted because of unsuitable cooking procedures.

Charcoal is a fuel accessed on the commercial markets, especially in urban areas. The lack of local access to firewood has turned it into a commodity as well in many areas. A commodity requires cash to access. It therefore means that if households want to save money for other things or they have a cash constraint that impedes them from accessing the fuels, one option is to apply no-cost techniques on how to use this fuel in a more efficient way by managing the kitchen and the cooking process in a better way. This will allow households to use the commodity as efficient as possible. This can partially be done by following some very simple practices which do not involve any costs.

The main techniques address the following topics

1. A planned approach to cooking
2. Techniques during the cooking process
3. Techniques at the end of the cooking process

1: A Planned approach to Cooking

1.1: Have all ingredients and tools together before you start the fire



How to do it

Plan ahead and think about what you need. Get all the utensils you need: pot, lid, spoon to stir etc.

Anything that needs to be added to the dish should be next to your stove: all raw ingredients washed and already cut up, salt and spices etc should be ready and in reach before the fire is lit.

Why does it save fuel?

If you concentrate on the cooking and you keep the time the fire is burning as short as possible, you will need less firewood or charcoal.

1.2: Cut all ingredients in small pieces



How to do it Don't boil a big potato or cassava root in one piece (left).

Cut it up into smaller pieces (right), it will cook faster and use less fuel.

Why does it save fuel?

Smaller pieces cook quicker than bigger pieces, because the surface exposed to the hot water is bigger than for a big piece. It takes less time for the water to heat up a smaller piece than a bigger piece.

1.3: Shorten the cooking time of food

How to do it



Unsoaked beans



soaked beans

Soak dry food before you cook it until it is already a bit soft. Soak e.g. dry legumes and dry cassava over night.

Why does it save fuel?


Reducing the cooking time reduces the time the fire burns and reduces the consumption of firewood.

Comment

You can also add alkalis out of ashes to shorten the cooking time of some food. This will also add valuable micronutrients to you food.

1.4: Use your stove rather for one continuous longer period rather than for several shorter times	
How to do it	<p>Cook all dishes of a meal on the same stove one after the other. Don't let the stove get cold in between.</p> <p>Use only one stove at a time and don't have two fires burning at the same time.</p> <p>Cook for all household members at the same time.</p>
Why does it save fuel?	<p>Every time you start the fire in a stove some energy will be used to heat up the stove. When the stove cools down after the fire is out, the heat retained in the stove goes into the environment with no use.</p> <p>If you cook all the dishes of a meal consecutively on the same stove while it is already hot, you save this extra bit of firewood that is otherwise needed to heat the stove up again.</p>
Comment	<p>Avoid unnecessary reheating of food. Plan your preparation time in accordance with the time people want to eat. Thus food can be taken directly from the stove without reheating. You save more firewood.</p>

2: An efficient management of fire in the cooking process

2.1: Don't waste time once the fire is started	
	<p>How to do it Concentrate on the cooking and don't get distracted chatting with your neighbor while the fire is burning. Put the pot on the fire as soon as it is well established.</p>
	<p>Why does it save fuel? The shorter the fire is burning, the less firewood it consumes.</p>
	<p>Other benefits Paying attention to your food during the cooking process can prevent wastage of food (burning; dogs ...)</p>

2.2: Cook food in the smallest possible amount of liquid	
How to do it	Use just enough liquid for the food that it can get steamed. Most of the food does not need to be 'floating' in boiling water.
Why does it save fuel?	Using less liquid means having to bring less amount of water to the boiling point. Therefore you need less firewood or charcoal to get the food cooked
Other benefits	When you use less liquid for cooking, you don't have to throw away surplus water after cooking. Food always loses some nutrients to the water it is boiled in. By throwing away surplus water after cooking you also throw away nutrients from the food

2.3: Prevent surplus steam to escape



How to do it

Keep a lid on the pot. The lid must be closing well enough not to let too much steam out.

Why does it save fuel?

Any steam or vapor that escapes from the pot is water heated up to boiling point and passing from liquid water into gasified steam by using energy coming from your firewood. Preventing the loss saves fuel.

Other benefits

Steam building up inside the pot without being able to escape helps to cook the food inside the pot quicker.

2.4: Monitor the heat of the fire

How to do it

As soon as the food is boiling, take out one stick of firewood



3 sticks before boiling



less than 2 sticks after boiling

Why does it save firewood?


When the food has reached boiling point, no more increase in heat is needed. You need only enough firewood to maintain the heat at the boiling point. A small fire will do. By taking out a stick you save it. This does not apply to charcoal users.

Comment

During the simmering phase when the stove is already hot, agricultural residues (maize cobs, pigeon pea stalks etc.) or fuels that don't ignite easily (like husks) can be used to substitute firewood in a stove with a sheltered fire chamber.

2.5: Do not overcook food	
How to do it	Monitor the cooking process closely by testing regularly if the food is already cooked.
Why does it save fuel?	Reducing the cooking time reduces the time the fire burns and reduces the consumption of fuel
Other benefits	Some Vitamins get destroyed by heat. Shortening the cooking time will help to preserve the maximum amount of Vitamins. Your food will be more nutritious and supply more essential Vitamins.

3: Use remaining heat of stove after cooking is finished

3.1: Make use of the hot stove after cooking food	
How to do it	 <p>If you have finished cooking the meal, put a pot with some water on the stove. Put a lid on the pot.</p>
Why does it save fuel?	Instead of using extra fuel only to warm up water for bathing you can make use of the retained heat in the stove and save fuel for other purposes. If the timing is not right, think about possibilities to change your time schedule.
Other benefits	You can have warm water for bathing or washing without extra fuel used.