

Electric Pressure Cookers User's Guidebook



Published By:

Winrock International Nepal
Jhamshikhel-03, Lalitpur, Nepal
Tel: (977) 1-5537622, 5537885
Email: winrocknepal@winrock.org
Website: <http://www.winrock.org.np>

Table of Contents

1. Introduction	3
2. Types of EPC	6
3. Advantages of EPC	6
4. Limitations of EPCs	7
5. Cooking with an EPC.....	7
6. Operation and Maintenance	8
7. EPC Safety Features.....	10
8. Recipes for Common Foods/Meals.....	11
9. Supplier Detail	13

1. Introduction

Winrock International is a non-profit organization that works in the United States and around the world to empower the disadvantaged, increase economic opportunity, and sustain natural resources. Winrock International (WI) has been working to increase economic opportunity and sustain resources while protecting the environment of Nepal for over 30 years. In Nepal, WI has promoted and integrated renewable energy systems in rural communities, made improvements to and recommendations on policy framework and investment programs for renewable energy technologies (RETs), introduced renewable energy options for livelihood and poverty alleviation initiatives, facilitated linkages between micro financing and RETs, and built the capacity of NGOs, industry associations, private project developers, and government agencies. Through the work of the Clean Energy Group (CEG), renewable energy projects are bringing modern energy services which also includes clean cooking technologies to help in the development of healthy and safe kitchens for millions of people.

The Modern Energy Cooking Services Electric Cooking Outreach (MECS) is funded by UK Aid through the Foreign, Commonwealth & Development Office. It is a partnership between researchers, innovators, policy makers, and ESMAP drawing on their expertise and relevant work from around the world to co-construct new knowledge with practitioners and the private sector and is led by Loughborough University, UK. The MECS Challenge fund provides early-stage research funding to stimulate innovations in modern energy cooking technology and systems and support the advancement of technology-based cooking energy products, processes and services in low-income countries.

The Modern Energy Cooking Services Electric Cooking Outreach (MECS ECO) Challenge Fund enables MECS to fund research projects via two themes – 1. community scale pilot studies and 2. market assessments – to facilitate the greater uptake and understanding of opportunities for the use of efficient electric cooking appliances. Under this, Winrock International has been awarded a grant for an ECO theme 1 project named; "Efficient Electric Cooking Market Uptake in Nepal (EECMU)" to be implemented in Hathiyani village, Ward no. 2 of Katahariya Municipality of Rautahat District for piloting of 50 Electric Pressure Cookers (EPCs).

Electric Pressure Cookers (EPCs)

Nepal has witnessed significant improvement in energy access and electricity supply reliability in recent years. With pipelined hydropower projects, Nepal is expected to generate surplus electricity. This will open avenues for e-cooking to replace traditional cooking fuels which might reduce LPG imports for cooking. Electric Pressure Cookers (EPCs) have particular potential for e-cooking in Nepal.

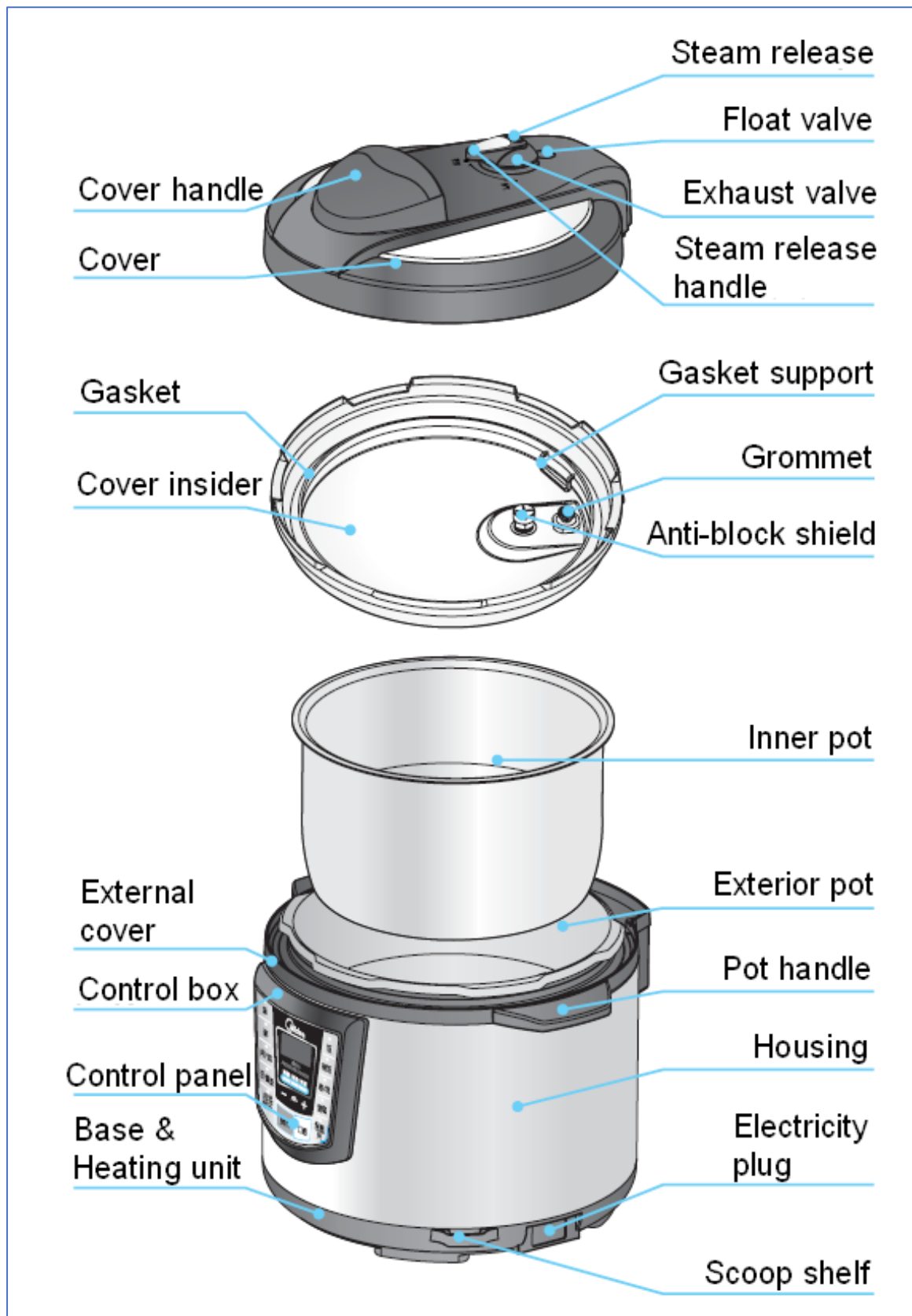
The electric pressure cooker (or multicooker) is an appliance that is a combination of an electric hotplate, a pressure cooker and an insulated hotbox with a fully automated control system (see figure 1). EPCs have three components; inner pot, cooker base and lid. The cook has to put all ingredients into the inner pot and sets the time for pressure cooking duration. An EPC cooks using high pressured steam within a sealed insulated pot. This has two major advantages: the high-pressure steam raises the boiling point of the water inside the cooker which together with the sealed insulated pot means food cooks. Secondly, it enables the EPC to use much less energy than other electric cooking appliances, which makes EPCs cheaper to cook with.

Figure 1: EPC can be illustrated diagrammatically as below;





Electric Pressure Cooker = Fireless Cooker+ Hot Plate+ Pressure

Main Parts of Electrical Pressure Cooker (EPC)



2. Types of EPC

There are many electric pressure cookers available, but we can classify them by their user interface and control system into two major groups;

Type A (Button Type, Electronic EPC)	Type B (Rotary Type, Mechanical EPC)
<ul style="list-style-type: none"> • These are models with buttons which are pre-sets for cooking specific foods for specific times (although times can also be adjusted manually). • EPCs often have buttons for cooking common food items such as rice, beans, meat, curd, and vegetables. • Button type EPCs only start timing when they reach pressure. 	<ul style="list-style-type: none"> • These are models with a rotary timer switch, whereby the user simply selects how long they want to cook for by turning the dial to the appropriate number of minutes. • Rotary dial type EPCs starts timing as soon as you set the dial, so the cook has to estimate how long it will take to reach pressure and add that to the cooking time. How much extra time to add will depend on how much food is inside. For example, a full 6L EPC can take up to 20 min to get to pressure.
<div style="text-align: center;">  <p>Button Type EPC</p> </div>	<div style="text-align: center;">  <p>Rotary Type EPC</p> </div>

3. Advantages of EPC

- It is faster to cook with EPCs as the pressure raises the temperature above boiling point
- Despite the high upfront cost to buy EPC, it is energy efficient and thus cheaper to run in the long run compared to other electrical cooking appliances.
- It is convenient to use as the cook does not need to watch over the pot and can do other works while cooking in an EPC.
- Easy to clean.
- Automatic control of pressure and temperature.
- Automatic timer; no need to count number of whistles as you do with a stovetop pressure cooker
- Pleasant cooking experience with no noise and no leaks.

- One EPC, many functions. It serves as pressure cooker, steamer, rice cooker, and slow cooker.
- Shorter cooking times mean EPCs tend to retain nutrients better than other cooking methods.
- Auto warmer features.
- Improved health – No emissions as cooking with biomass based stove.
- Environmental protection – Saves forests by reducing the use of firewood for cooking.

4. Limitations of EPCs

- The cook cannot taste or check the seasoning of the food while cooking in an EPC which is possible with other electric cooking appliances, such as pressure cookers and rice cookers.
- EPCs may be unfamiliar at the start for some people and require some adjustments to usual cooking practices (e.g. in terms of cooking time and amount of water to be added) but EPCs are easy to learn for use.
- Some food items cannot be cooked easily in EPCs, such as chapati and bread.

5. Cooking with an EPC

Most food items can be cooked in the electric pressure cooker. However, most people use it to cook food that takes a long time to cook with conventional methods. For example, food like beans (Kwati), rice, mutton, tough cuts of meat, eggs, fish, vegetables, lentils, and whole chickens. EPCs can also be used for boiling, steaming and frying.

Preparing for cooking

- Place the EPC on an even and rigid surface and remove the lid.
- Make sure the built-in outer case, removable inner pot and the hotplate is clean and free of any food remains before use.
- Place the removable pot into the built-in outer case and ensure that it is seated on the hotplate.
- Place the ingredients and water into the removable pot so that the entire contents do not go above the maximum mark (or below the minimum mark) shown on the inside of the pot.
- Close the lid fully – most lids should click into place or have marks to show they are fully closed.
- Insert the power cord into the socket placed on the back of the pressure cooker. Connect the power cord plug to the power socket. The pressure cooker will beep and switch to stand-by mode. The stand-by mode means the pressure cooker is ready to use.

7 easy steps for cooking;

- Add food & liquid to the pot. EPCs require less water for cooking than other appliances.
- Close lid and ensure the valve is at the correct closed position
- Select pressure setting; select cooking time. The pressure will then begin to build inside the pot and the EPC will start cooking.
- When the timer indicates cooking is finished, you can either let the steam release naturally which usually takes around 10-15 minutes, or turn the pressure valve to release pressure immediately– use a towel or cloth to turn the pressure valve as the steam is hot.
- When the steam has been released, open the lid. Never force open the lid - the lid won't open until all the steam has been released.
- Food is ready to serve.

6. Operation and Maintenance

A. General warnings

Please read the following points carefully before using the appliance.

- Please read the user manual provided with the electric pressure cooker before using it.
- Children under age of 8 years and person with physical and mental impairments are not advised to use the appliance without supervision and guidance.
- Cleaning and maintenance should not be performed by unsupervised children.
- It is forbidden to use the appliance if the power cord is damaged.
- Keep the appliances and power cord away from children.
- To prevent the risk of injury by electrical shock, never submerge the pressure cooker unit, power cord and power plug in water or any other liquid.
- **Never open the EPC when it is under pressure.** Only open it when you have ascertained that its inner pressure has fallen completely.
- After every use, check the pressure control valve and the safety float valve are not clogged or dirty.
- Ensure that the EPC is not accidentally operated when the inner pot is empty
- Ensure food does not go above the maximum mark (or below the minimum mark) shown on the inside of the pot.
- Handle the EPC carefully when it is under pressure.

B. Cleaning and Maintenance

- Before cleaning, always disconnect the power cord of the EPC from the power supply and pull it out of the socket of the EPC. Before removing the lid and taking out of inner pot, always leave the cooker to cool down completely.
- Do not clean the EPC base by submerging it in water.

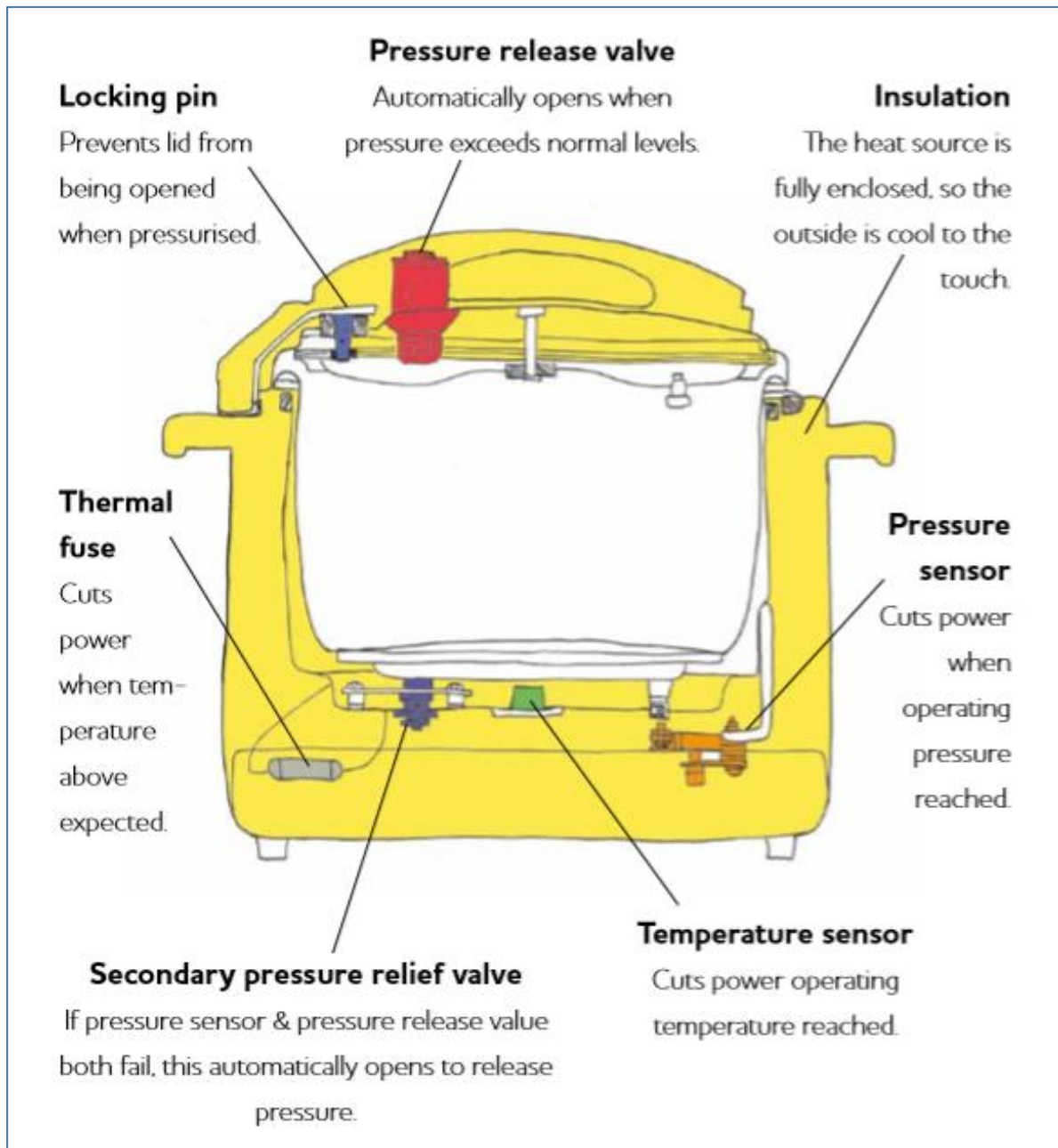
- Clean the exterior of the cooker base with a damp cloth. You can use a slightly damp cloth to clean the inside of the cooker.
- The inner pot is made of a non-stick surface or stainless steel and can be cleaned normally with water and dishwasher liquid, detergent or soap.
- With pots made of non-stick surface, don't use metal utensils or cleaning brushes as this will scratch the non-stick surface.
- Wash the pressure cooker lid and gasket in warm water with detergent, remove any food remains with fine brush, rinse with clean water and wipe it dry.
- If you need to clean the area around the lip of the cooker, use a damp cloth or an old toothbrush to clean the edges.

C. Storage of EPCs

- The EPC must be completely cool, clean and dry before storing it.
- Disconnect the plug of the power cord from the socket on the back of EPC.
- Insert the inner pot into the outer case.
- It is recommended to store the lid separately to enable the inside of the EPC to ventilate.
- Place the EPC in clean, dry place out of reach of children.
- Do not place anything on the pressure cooker.

7. EPC Safety Features

EPCs have multiple safety mechanisms, so even if one fails, there are several more there to protect. This means that they are actually one of the safest cooking appliances.



8. Recipes for Common Foods/Meals

A. RICE:

Steps for cooking perfect rice;

INGREDIENTS

- 2 cups rice
- 3 cups water
- 1 teaspoon butter or ghee (optional)

INSTRUCTIONS

- First wash the rice thoroughly.
- Then mix the measured rice and water and place in the inner pot. Lock the lid.
- Set the pressure cooker to Rice mode and set the EPC on.
- Let the steam release naturally. Do not open the release valve.
- Once all the steam has been released (this should take 10 minutes), open and serve.



B. LENTILS (DAL/S/PULSES)

EPC can be used to cook various types of lentils like masoor dal, maas ko dal, moong dal and various other lentil curry. Steps for cooking are;

INGREDIENTS

- 1 cup dal (of your choice)
- 2 cups water or as needed
- Add salt and spices as per your taste. You may have to use less salt and spices than usual as EPCs retain more flavour.

INSTRUCTIONS

- First wash the lentils thoroughly under running water.
- Drain the lentils completely and add the washed lentils into the inner pot. Next add enough water so there is at least 2 inches of water above the lentils.
- Then add salt, spices and other seasoning as per your taste. Lock the lid.
- Set the pressure cooker to lentils mode and set the EPC on.
- Let the steam release naturally. Do not open the release valve.
- Once all the steam has been released (this should take 10 minutes), Open and Serve.



C. VEGETABLES CURRY

INGREDIENTS

- 500 grams Mixed vegetables
- Oil as per need
- Salt and spices as per your taste
- 1 chopped Onion and 2 tomatoes,
- 1 teaspoon Garlic and ginger paste
- 2 cups Water



INSTRUCTIONS

- First wash the vegetables properly and prepare all the ingredients and keep them ready.
- Turn on the EPC and heat up for a couple of minutes. Once it is heated, add the oil/ ghee.
- Add chopped onion and saute until the onion get brown. Once the onions get brown, add ginger and garlic paste, spices, chopped tomatoes, turmeric powder, garam masala powder and red chilli powder.
- Give it a stir, add the vegetables and stir well.
- Then add water as needed and cook for 5 minutes under pressure. Let the steam release naturally. Do not open the release valve.
- Open the lid once all the pressure is released.
- Tasty and healthy vegetable curry is ready to serve with Rice or Chapati.

D. MEAT (CHICKEN/MUTTON)

INGREDIENTS

- 500 grams chicken or mutton
- 4 big onions sliced
- 2 tablespoon ginger garlic paste
- 1 tablespoon oil
- Salt and spices as per taste
- 2 tomatoes
- 2 green chillies
- 2 cups water
- Curd (optional)



INSTRUCTIONS

- First wash the meat properly and prepare all the ingredients and keep them ready.
- Turn on the EPC and heat up for a couple of minutes. Once it is heated, add oil in the pot.
- Add chopped onion and saute until the onions get brown. Once the onions get brown, add meat in the pot and stir for a while.

- Then add ginger and garlic paste, chopped tomatoes, turmeric powder, coriander powder, garam masala powder and red chilli powder.
- Give it a stir and saute.
- Then add water as needed and cook for 20 minutes for mutton and 10 minutes for Chicken under pressure. Let the steam release naturally. Do not open the release valve.
- Open the lid once all the pressure is released.
- Tasty and healthy meat is ready to serve with Rice or Chapati.

E. BEANS (GEDAGUDI/KWATI)

INGREDIENTS

- 500 grams soaked beans
- 1 onion sliced,
- 2 green chilly
- 1 tablespoon ginger garlic paste
- 1 tablespoon oil
- Salt and spices as per taste
- 2 tomatoes
- 3 cups water



INSTRUCTIONS

- For faster cooking, soak the beans overnight. However, it can be cooked without soaking too but it may take 15-20 minutes extra time to cook if not soaked before cooking.
- Prepare all the ingredients and keep them ready.
- Turn on the EPC and heat up for a couple of minutes. Once it is heated, add the oil.
- Add chopped onion, green chillies and saute until the onion get brown. Once the onions get brown, add soaked beans in the pot and stir for a while.
- Then add ginger and garlic paste, chopped tomatoes, turmeric powder, coriander powder, garam masala powder and red chilli powder.
- Give it a stir and saute for 5 minutes.
- Then add water as needed and cook for 30 minutes under pressure. For unsoaked dry beans cook for 45 minutes under pressure. Let the steam release naturally. Do not open the release valve.
- Open the lid once all the pressure is released.
- Tasty and healthy beans is ready to serve with Rice or Chapati.

9. Supplier Detail

Name of Suppliers: Durga Bhawani Electronic

Address: Ratamakai Chowk, Imadol, Lalitpur 44600 Nepal

Contact Number: 9845400787