



The Chulo Project Report 2005 - 2012

Why this project? An overview:

In most rural households in Nepal today, an open fire is used for both heating and cooking purposes, inside their houses. Sadly, this entails major risks which too often result in severe injuries – mainly for small children who fall into (or crawl into) the fire, and long-lasting health problems due to the inhabitants having to breathe the thick smoke produced by these fires.

The Chulo project aims at providing safe and smoke-free stoves equipped with flues (chimneys) for as many traditional households as possible. The actual demand from the locals' side is already great. With your help, we wish to provide a safe living environment to those Nepali families.

Chulo is a Nepali word meaning stove or hearth.

The Problem

From among the over one thousand patients treated annually at the SKM Hospital¹ near Kathmandu, 40-45% bear injuries related to accidents with open fire. Traditionally, Nepali homes have an open fire indoors used for both cooking and heating purposes.

In most cases, the victims of these accidents are children, who have stumbled or crawled into the fire, burning their hands and feet. Often, those injuries lead to the loss of limbs. These children also undergo massive contractions of their muscles, sinews and ligaments during the healing process, due to the lack of resources for appropriate treatment. This results in their having to face severe physical disabilities.



Patients with wounds on hands and feet (often infants)

Physically disabled individuals often lack the opportunity to make their own living. In Nepalese society, they also experience heavy discrimination.

There are only a fraction of the victims of this kind of accident who actually make it to a hospital. Of these, only very few come to the SKM Hospital in Sankhu. Given this fact, our considered estimate of the numbers of victims of such severe accidents from open fires, is several thousands every year, throughout Nepal. There is no reliable information concerning the numbers of actual deaths related to these accidents.

¹ Sushma Koirala Memorial Hospital, Hospital for plastic and recovery surgery in Sankhu near Kathmandu <http://www.nepal-krankenhaus.de>



Open fireplaces in Nepalese homes

Another related problem is the lack of proper ventilation in traditional homes. Many young people come to the SKM Hospital suffering from chronic arterial vessel diseases, which are usually only known to “chain smokers” (e.g. smoker’s leg). The medical history shows that these patients are, in most cases, not smokers at all, but have nonetheless, inhaled high levels of thick smoke from the time of their early childhood onwards, because of this traditional cooking and heating method so widely used in Nepalese households.

During the winter season in particular, patients with bronchial inflammations and asthmatic attacks are often hospitalised. Again, those sicknesses occur as a result of having been exposed to wood-smoke over an extended period of time.

The Beginnings

When the father of an employee of the SKM Hospital died painfully from the consequences of chronic bronchitis, the family was offered a smoke-free stove. When the first Chulo (“simple stove”) smoke-free stove was happily accepted by them and installed, the news spread quickly.

As the demand for smoke-free stoves increased, the idea arose to find a way to provide them for many households, on a greater scale, and the Chulo (“simple stove”) project was born.

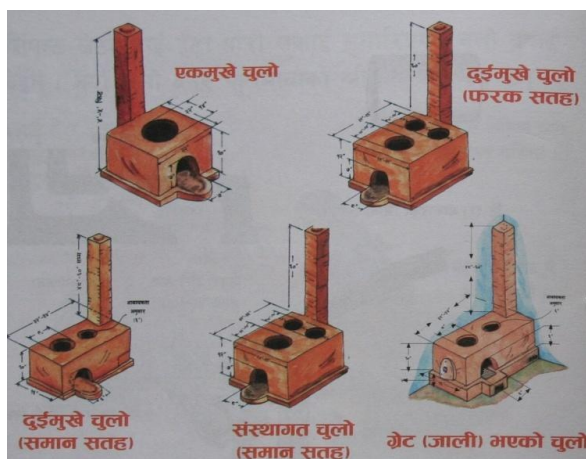
The Stoves

The idea of building cooking hearths with smoke flues is not new in Nepal. For years, the ESAP² program has been training stove-builders to produce such simple cooking hearths. Within a period of two weeks, a craftsman can be fully trained in the building of Chulo stoves. Necessary materials such as clay, cow dung and rice husks are most often available on site. Other components, such as iron rods and stove pipes, are easily obtained.



Simple stove with a smoke outlet

Depending on the size of the households and their needs, different kinds of stoves can be provided. The maintenance tasks of chimney-cleaning and repair (mending cracks) are quite simple, and can easily be accomplished by the owners themselves.



Various models of the Chulo stove



Various Chulo makes on a stove-builder training

² The Energy Sector Assistance Program has been initiated by the Government of Nepal (ESAP-I: 1999-2005, ESAP-II: 2007-2011) to improve the rural energy supply. It is supported by DANIDA (Danish International Development Assistance), the Government of Norway and other organizations. See also <http://www.aepc.gov.np>

Chulo stoves are substantially less energy-consuming than conventional open fireplaces (up to approx. 45%). As firewood is scarce in many regions of Nepal, women often have to walk for many hours to collect fire wood.

The manufacturing time for the special bricks is only about two hours, and the drying time is approximately two weeks. After that, the stove can be built within three or four hours.

Stove builders are encouraged to offer their services on a professional basis. In addition to technical training, they are provided with courses designed to help them market their skills. This can prove to be quite difficult though, since the surrounding community expects this service to be offered as a token of friendship, while in some other cases access is complicated by communication barriers and the caste system. Additionally, the cost (only 8 €) can represent an insurmountable obstacle to the local people, preventing them entirely from acquiring Chulo stoves.

The Project

This projects aims at overcoming those barriers and obstacles. Through contacts with specific groups within the local communities (womens' groups, forest-user groups, micro-credit groups etc.), community members are informed about the Chulo stoves and about their advantages, when compared with traditional fireplaces. Facts about the local conditions are gathered and compiled using these community groups.

Those who are initially motivated to participate in having this technology in their homes, should recruit at least ten other households within their community to engage in building new stoves, so that the oven builder's trip to the often remote areas can be made worthwhile.



Smoke-free, safe, and energy-efficient cooking-place

They are also required to provide all the locally available materials: clay, cow dung, and rice husks and to assist the builder in the process of making bricks and building

the oven. This ensures that the new owners will value their stoves, and reduces the cost of production to a minimum.

The iron rods necessary for stabilization and the clay flues cost approximately 4 € per stove. Since the flues need to be weather resistant, they have to be made of fired clay. These are purchased from potters in Bhaktapur. The remaining 4 € covers the builders' wages. These entire costs necessary to build and install the Chulo stoves, amount to only 8 € per stove. This sum, provided by the project depends entirely on the generosity of donors and patrons.

Advantages of the Chulo Smoke-Free Stoves

- Eliminating the risk of injuries caused by open fire and subsequent physical disabilities.
- Avoiding further health risks such as bronchial infection, arterial vessel diseases, or lung cancer.
- Elimination of damage directly induced by smoke (i.e. irritation of the eyes and the respiratory tract).
- Saving energy by using less fire wood. This is beneficial to the forest resources also, saves time and work for the local people and reduces CO₂ emissions.

The Advantages of our Project

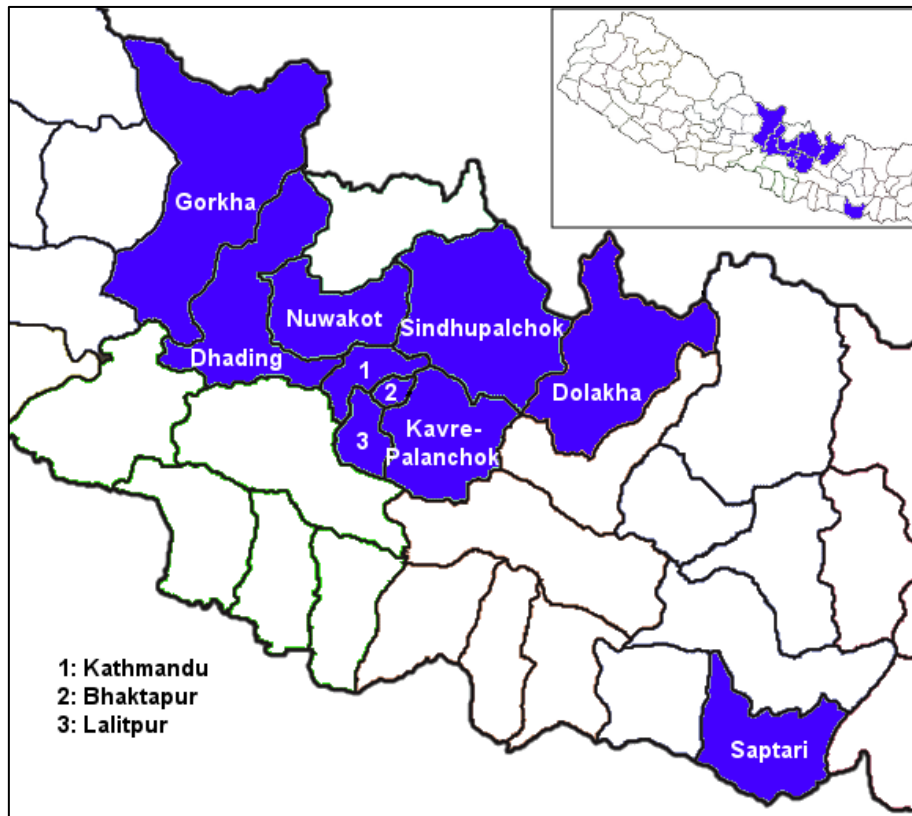
- The stoves are made by local people out of locally available materials and can be maintained and repaired by the owners themselves.
- Trained stove-builders have the opportunity to earn some money “on the side”. This contributes to the reduction of unemployment.
- Involving the future owners in the processes of collecting the materials and helping to build their own stove furthers their appreciation of the help they receive, enhances their dignity, and keeps the costs low.
- This project produces sustainable results.

The waiting list clearly shows that the Chulo stoves are not only accepted but desired by the local community. This is the reason why we feel encouraged to both increase the demand for these stoves and to speed up the production time-line, through this and other initiatives to disseminate information on our project to attract donors.

What we have accomplished so far (as of January 2010)

Between 2005 and 2012, nearly 12.000 smoke free stoves have been installed in rural homes. These communities are situated in the districts of Gorkha, Dhading, Nuwakot, Kathmandu, Bhaktapur, Lalitpur, Kavre-Palanchok, Sindhupalchok, Dolakha und Saptari. In 2012 alone, 1.790 stoves were built.

Between five to six individuals live, in average, in one such household. This means that about 65.000 people have been benefitted through our providing them with significantly better living conditions.



Districts in the Bagmati region (Central Nepal)

To meet the demand for Chulo stoves, as it steadily increases, additional stove-builders are trained several times a year by Die Ofenmacher to implement our project. The cost of these 14-day training course are covered by the project. So far, there are more than twenty stove-builders working for the Chulo project.

Each time a worker is sent to build stoves in a particular community, he returns with more requests from the same or neighboring communities. At the moment (as of January 2013) potential recipients for more than 2000 stoves are on our waiting list.

These requests usually come in groups, from local communities or women's groups. In the case of private requests, we still encourage the interested parties to motivate at least ten other households to build such stoves.

According to the ESAP, the rural population of Nepal amounts to 85%, which means that about 25.5 million people or about 4 million households are potentially eligible for smoke free stoves. There is plenty of demand.

Since our project cannot possibly cover the demand of the entire country we chose to concentrate on those districts in the vicinity of the Kathmandu valley. ESAP works with additional local projects which are active in other districts.

Smoke-free stoves built between 2005 and 2012

District	2005	2006	2007	2008	2009	2010	2011	2012	Sum
Bhaktapur	41	-	38	109	71	-	12	-	271
Dhading	-	-	285	330	748	562	249	-	2174
Dolakha	-	-	-	-	-	-	300	332	632
Gorkha	-	-	-	-	-	-	304	311	615
Kathmandu	55	103	253	-	81	343	204	-	1039
Kavre-Palanchok	143	215	260	309	398	480	192	165	2162
Lalitpur	-	-	-	-	103	-	23	-	126
Makwanpur	-	-	-	-	-	-	56	412	468
Nuwakot	-	-	-	-	-	293	633	70	996
Ramechhap	-	-	-	-	-	-	-	-	-
Rasuwa	-	-	-	-	-	-	100	350	450
Saptari	-	-	-	-	-	60	25	150	235
Sindhupalchok	-	-	88	133	443	744	1136	-	2544
other	-	5	-	-	-	20	-	-	25
Total	239	323	924	881	1844	2502	3234	1790	11737

Further Plans

As mentioned above, the waiting list contains the names of about 2000 households. As the current production of stoves is not matching the speed at which we receive new requests, we have to make efforts to increase the stove production and install more than 6000 new stoves in 2013.

We will intensify the close co-operations, with other organisations³ involved in oven and stove building throughout Nepal in order to achieve even better results, thereby maximizing efficiency for the benefit of even more people, through joining forces. With the help of these co-operations, stoves are being built in districts (like Lamjung and Tanahu) where we are not active ourselves.

Donations in Germany can be directed to „Die Ofenmacher e.V.“ (<http://www.ofenmacher.org>). They will be forwarded to the Chulo project by 100%.

³ Nepalhilfe Aachen: <http://www.nepalhilfe-aachen.de>

Kaarster Nepal Initiative: <http://sites.google.com/site/kaarsternepalinitiative/home>

Nepalhilfe im kleinen Rahmen: www.nepalhilfe-im-kleinen-rahmen.de

Brepal e.V. www.brepal.de

We thank all our supporters and donors for their kind help and hope to be able to build many more smoke-free stoves in the future.

www.ofenmacher.org

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DHANYABAT – THANK YOU!



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