

SMOKELESS KITCHENS REPORT

2021, resuming action

The Awasuka Program has been promoting safe houses in rural areas of Nepal since 2011. It has developed projects related to water, health and earthquake-resistant houses. Its “confined concrete block” prototype was approved by the NRA and its own “retrofitting system” was successfully implemented and accepted by the local communities.

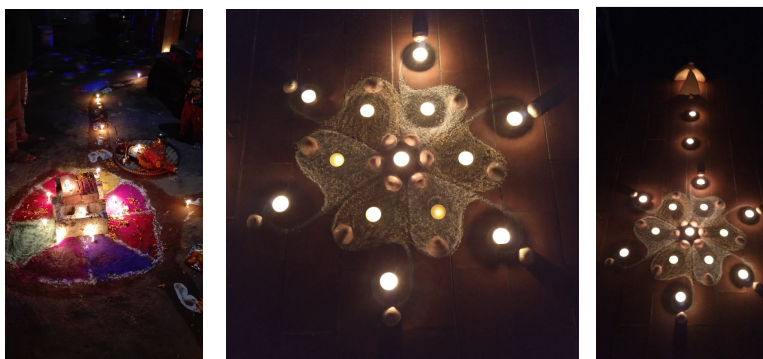
*However, during the course of these projects, a far more serious problem was discovered: **indoor air pollution** (IAP). While the earthquake killed 9000 people in 2015, toxic gases in the kitchens kill prematurely 24.000 every year and 226.000 have pathologies related to toxic fumes’ inhalation, women and children being the most affected. (WHO 2019). The program was resilient and by 2016 incorporated smokeless kitchens’ installation as a response to the high prevalence of upper respiratory diseases caused by the use of fossil fuels for cooking and the lack of adequate ventilation.*

*Apart from good health and wellbeing (#3), the smokeless kitchens provide positive impact on other **SDGs** (United Nations’ Sustainable Development Goals): poverty reduction (#1), gender equality (#5) and climate action (#13).*

CORONAVIRUS PANDEMIC

After a strict lockdown in 2020, 2021 started with a feeling of the pandemic being over. Many weddings and other celebrations started taking place in Nepal. Similarly, our program started making plans to resume the SLKs (Smokeless Kitchens) installation. But by April-May, after the development of the first activities, the Covid situation worsened tremendously and Covid cases spiked very rapidly. By the end of April a severe lockdown was imposed again in the whole country, which, along with the monsoons, did not let us resume our activities until late October, after **Tihar**.

Unfortunately, Nepal’s death toll increased dramatically in 2021; by Dec 31st 2021, 11.594 people died - 0,04% of the population. Comparatively, in the same date 89.447 people died in Spain – 0,20% of the population and 848.583 people died in the US – 0,26 % of the population.



Tihar Mandalas in Bhimphedi (Nepal) and Creixell (Catalonia), respective villages of Hareram Pudassaini, Awasuka local Manager and Monica Sans, Awasuka Program Director.

FUNDERS

1. Caldes Solidaria & Ateneu del Món

The two charity organizations from Catalonia continued to support us during 2021. In return to their support we organized two public talks for their members, to update them on the program’s progress. The talks were held virtually and open to the public, in March and April respectively. After the talk there was some time for Q&A (Questions & Answers) where the main requests were about: specific details of the field implementation, rural Nepalese cultural background and other miscellaneous questions. Both activities were very rewarding as people always love to hear first-hand stories about other countries and cultures, as well as getting to know the main challenges organizations face to run a cooperation program.

2. El Camí de la Solidaritat

El Camí continued to support Awasuka Program after having founded and expanded their own NGO. Their member's number has increased and their internal organization has been set up in different teams to support different aspects of the Awasuka Program. Their most successful fundraising activities in 2021 were the Solidarity Race in April and the KPMG competition in July.

3. Individual Donors

This category has increased from last year and it makes us very happy. This means that many more western families are feeling the need to help Nepalese families to achieve better living conditions. From 2020 to 2021 we doubled the number of individual contributors, so more and more people like the idea to "sponsor a chimney".

IMPLEMENTATION

1. Smokeless Kitchen Design

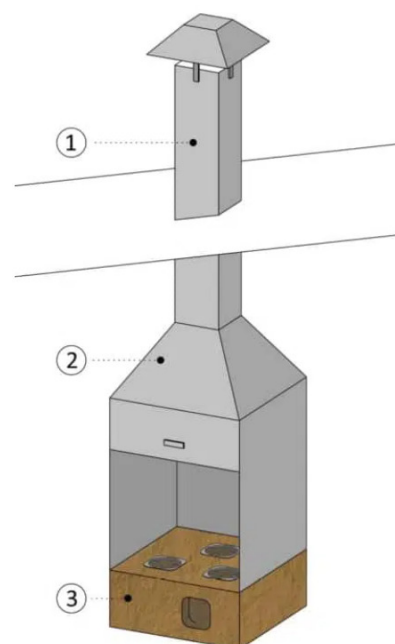
The smokeless kitchen (SLK) we are installing consists of a stone and mud improved cooking stove (ICS) at the base (3) and an upper metal chimney-hood (CH) (1+2). The operation of this set is highly optimized: **more than 90%** of the **indoor smoke** is expelled to the outside, creating a clean and healthy environment inside, where mothers and children can cook without suffering the effects of the smoke in their health.

This model was designed 10 years ago by **Bundeswehr University, Germany**, in collaboration with **Bosch-Siemens**. It was tested in the field for 1 year, after which it was adjusted and perfected according to the local user's feedback.

2. Location and Dates

The dates of the first installation batch span from October, when the preparation works started in Bhimphedi, until end of December, when the 65 units were completed. The covered areas were: 62 units in Gangate, 2 units in Dhorsing and 1 unit in Suping. The construction process was interrupted by Nepali public holidays of Tihar, but it did not pose major problems to the whole process.

By the end of the year all chimneys were finalized and the verification process was started. This time it was to be done online by digitizing all the documents. This will take some time but it will set the basis of an improved remote monitoring system, which can be performed from anywhere in the world.



3. Installed Units & Beneficiaries

The first batch of installed SLKs, **65 units** so far, will benefit approximately 325 persons. The program has employed 6-8 local people to perform these works. The program has covered the 90% of their cost and the beneficiaries themselves have covered the remaining 10%. At this point, we haven't yet found any vulnerable family not being able to afford this 10%. Our next challenge is to make sure that no needy families are being left out because of this reason (not requesting a SLK because of financial reasons). According to the first results of our survey, we suspect there might be a bias in this respect, that's why the next construction phase will focus on analyzing the remote areas more profoundly, scouting the locations through Google Maps.

4. Location Map

The locations of the 65 SLKs have already been recorded, but not transferred to the map yet. For this, the verification digitization process needs to be completed, which will be ongoing during the beginning of 2022. Awasuka Program is looking for new human resources to complete these tasks.

Once all the data verification is completed, the beneficiaries' geolocations will be transferred to the map, along with other beneficiaries' data.



Manufacture, transportation and assembling of the metal parts of a smokeless kitchen: the hood and the chimney.

5. Cost Funding

The cost of the SLKs is usually covered 90% by Awasuka Program and 10% by the beneficiaries themselves. According to this, each beneficiary pays 1.000Nrs for a SLK. Due to the pandemic, the price of raw materials - especially metal - has risen enormously; thus the price of SLK has risen 2.000NRS (aprox 15€) more than in 2019. The final price of the SLKs was established between Rotary Club members and the SLK manufacturer, at the end of 2020.

AWARENESS RAISING

1. Awasuka's activities in Catalonia

Apart from the public virtual talks organized for Ateneu del Món and Caldes Solidaria, the Awasuka Program director also attended two different press conferences for the presentation of the song: BREATHE AGAIN (more information in point 3). The two presentations were carried out in Cambrils and Barcelona, and both of them were a very good opportunity to explain what the program was about to the different journalists who attended the events.

2. Awasuka's activities in Nepal

The social mobilizer, Mr Hareram Pudassaini, has kept on visiting different groups of potential beneficiaries, in order to raise awareness about the smokeless kitchens. From these visits, one took place in neighboring municipality close to Bhimphedi: Bakaiya Gaupalika. It seems there is a high demand for SLKs in some remote rural areas, as the Ward Chairman had communicated to Awasuka local manager. New beneficiaries' list is about to reach Awasuka office at Bhimphedi. This new place is quite distant from Bhimphedi, so probably a new installation strategy will have to be planned.

3. El Camí de la Solidaritat's song to "breathe again"

Along with the Solidarity Race and the KPMG competition, which raised high awareness-raising activities, the other most successful El Camí's project was the song they produced, dedicated to raise awareness and funds for Awasuka Program. The song is titled "Breathe Again" and is available in all music networks.

4. Trip to Bhimphedi (Rotaractors & Petit Món)

This trip was organized for several reasons: to do a field visit after one year of lockdown, to train Hareram Pudassaini, the local manager, on the surveys to be performed and to carry new equipment to Bhimphedi office: a new laptop and cell phone for Hareram. Besides the work, the trip was a great awareness activity for the six young participants: the Rotaract members Arati Moktan, Sadikshya Banjade and Alina Khanal and two Petit Món's youths: Daljit and Jeevan. They all live in urban areas and

knew nothing about Bhimpheedi village and its people's rural life-style, so this was a great opportunity to learn about their different living conditions. On the other hand, the second hand laptop was donated by UPC University and was carried from Barcelona to Nepal by a staff member of Tarannà Travel.



Left: Rotaractor Arati Moktan handing out the laptop and the cell-phone to Hareram, Awasuka local manager.



Right: the Rotaract-Petit Mon trip team at their arrival to Bhimpheedi, April 2021

5. Master's Degree in Design for Resilience at Elisava School of Design

Amaia Celaya Alvarez is a senior expert at UN-Habitat and European Commission for Urban Resilience, Awasuka collaborator, and Director of this Master -first of its kind-. She has selected Awasuka as an example of a resilient program. She has invited Monica Sans as a professor for the master's.

6. Asia Shelter Forum 2021

One of our former volunteers from the reconstruction stage, Marta Guilera, convinced us to submit an EOI (Expression of Interest) to the 2021 edition of the Asia Shelter Forum. After some days we got the news that our program had been selected for a panel discussion. We did several prep meetings and we prepared a presentation following the Forum's guidelines. Margot Lebourgeois, from El Camí, did her final touch on the visual improvement of this presentation; we are enormously grateful to have El Camí's members ready to help us anytime. Eventually, Awasuka's presentation was performed in November 26th, the second day of the Forum - Regional Day, at the Parallel Technical Sessions under the *Recovery and Resilience* category. Even though we attended the forum virtually, it was a good opportunity to give exposure to our program and to interact with shelter practitioners from different Asian countries. After the forum, a take away report will be published and Awasuka Program will be featured in it.



Awasuka Program Director Monica Sans during her virtual speech, participation certificate and appreciation letter. ASF 2021



MONITORING

1. Awasuka's Assessment

Once their *Evaluation Plan Proposal* was approved, Dr David Ferrándiz and Dr Paula Minguell started working on the *survey questionnaires*. Let's remember the two different types of questionnaires to be used: number 1 for satisfaction degree and number 2 for health data. The survey was started through physical visits by the Bhimpheedi Trip team in April, and was continued by Hareram through phone calls until late August. The total surveyed households were 219 and the total respondents were 304 (several family members from a single household were interviewed).



Rotaractors and Petit Món's youths performing the surveys in Paribazar, Bhimpheedi, April 2021.

The objective of the survey was to assess the impact of the smokeless kitchens (SLK) on the health of the beneficiaries and their level of satisfaction. In general, the experience with the SLK respondents was good. Thanks to the SLK, the respondents experience changes in health (81,41%), decrease their cooking (94,42%) and collection (96,4%) times, and devote more time to other tasks such as taking care of their children. Further data collection should be conducted to explore the health impact of the SLK on their users, as some bias were experienced due to the different seasons in which the surveys were performed (spring, delta wave and rainy season), the households' remoteness degree and the economic status. The covid stigma bias is also likely to have affected the survey.

2. Verification Process

The verification process involves recording the beneficiaries' data in an excel file, along with their citizenship cards, two pictures, SLK's technical data and the household's geolocation. This job requires being tidy and methodic, as well as having minimal IT skills. Hareram is a country man, not trained in computers, but thanks to remote virtual trainings, he is learning very fast. He also counts with the support of the Rotaracts on the digitization process.

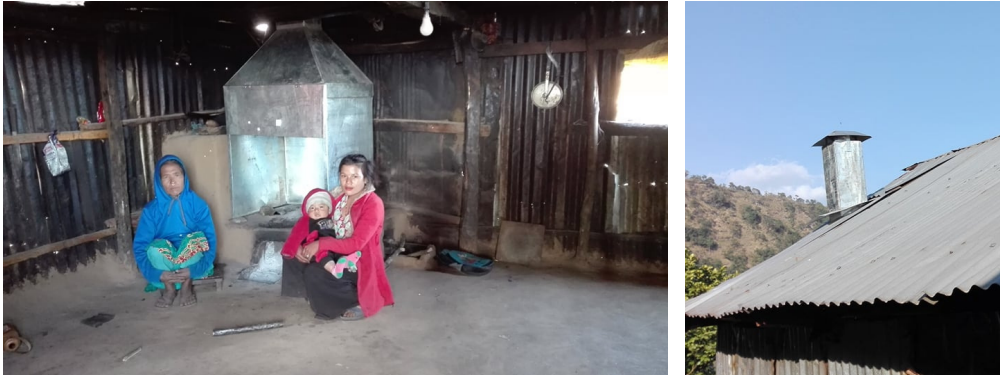


Improved Cooking Stove (ICS) made with mud and stones, seen in three different stages: without the final layer of mud finishing, woman applying the final mud layer and the final result.

CONCLUSIONS

2021 has been a year of continuous plan changes and surprises for Awasuka Program. At first we assumed the SLKs installation could be in spring, but finally it was not possible until the end of the year. Even though, we are pleased with the 65 SLKs units finally installed, and hoping for many more in 2022. Regarding the coronavirus pandemic, if Nepal was left vulnerable in 2020, 2021 has hit the country yet much harder. Our hearts are heavy for the loss of many dear people due to the delta variant, especially during spring's spike. We pray for an end of this pandemic in 2022.

We are grateful for the continuation of our new and old alliances during 2022, and we are positively surprised by the numerous activities we've performed this year, making it difficult for this report to come to an end.



Indoor and outdoor images of a smokeless kitchen. Inside, the two women and the baby girl sit next to their new smokeless kitchen in Gangate, Bhimphedi. November 2021.

ACKNOWLEDGEMENTS

Awasuka Program wishes to thank profoundly all the organizations, members and individuals mentioned in the following credits, either from the Awasuka team, Awasuka Partners and Awasuka sponsors.



Woman and baby cooking safely with their new hood stove.



CREDITS 2021

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Rotaract Club Kantipur: Arati Moktan, Sadikshya Banjade, Alina Khanal & Petit Món youth team

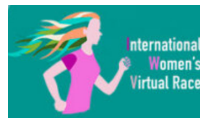
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AWASUKA PARTNERS



Base-A
El Camí de la Solidaritat
Petit Món
Rotary Club of Kantipur
CCD-UPC

AWASUKA FUNDERS



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