24 November – Day Nine

We travelled from Namche to Thamo. Villagers from Thame and Langden were also waiting for us in the Thamo teahouse. Here, again, we briefed the people about the installation and usage of the new metal cooking stove. After demonstrating the methods of installation of one stove to them, we let them install the other stove by themselves and checked for errors. Again lunch was prepared using the new metal stove. They, too, seemed to be pleased with the new stove's performance for its firewood efficiency. Operating manuals and questionnaires to be completed by the monitoring officer were distributed. We returned to Namche for the night.

Namche Bazaar in the Snow

25 November – Day Ten

We returned from Namche Bazaar to Lukla. On the way back we monitored the several teahouses possessing the new metal stoves. Everybody was using the stove and were very enthusiastic. We arrived in Lukla for the night halt.

26 November – Day Eleven

Flight back from Lukla to Kathmandu.

4. CONCLUSION

Our visit to the Sagarmatha area was a productive and informative trip. According to the feedback from the users, they seem to like the stove very much. We still need to monitor the stove for the winter season (about three months) to find out the practical comments from the users and their estimation of overall firewood saving as compared to their former stove. We also noted that everyone in that area wants a back-boiler attached to our stove. The design of the current back-boiler inside the mud stoves used by the Khumbu people does not seem very energy efficient.

We hope to deliver in one month's time an easy-to-install and efficient back-boiler to fit as an accessory to the new metal stove.

It is expected that some changes are still needed on the stove before a final model can be consolidated and produced in series. Because the project staff expects some comments and suggestion from the end-users, and field testing needed to start because of winter conditions, not all the planned modifications were incorporated.

The following additional modifications are planned:

- The inclined tunnel will be raised a little (photo page 11).
- The elbow (rocket) opening can be made one inch lower/smaller (photo front page).
- The sliding door on top of the wood intake should be non-removable and automatically slide down so it rests on the wood, minimising air intake from above.
- The inner combustion chamber will be from chrome steel or stainless steel.
- The chimney valve needs to be tightened to fix its position after closing/opening.
- The pot rings will be modified to be lightweight.
- The chimney inside the house will be common sheet metal (not galvanised).
- The chimney will have a minimum height to assure sufficient draft.
- A standard floor/roof passage will be manufactured that allows a little ventilation for excess smoke in the kitchen to be removed automatically.
- A wind vane will be available for roof situations where drop winds are possible (Dolpa).
- The smoke water heater (heat pipe) can be placed inside the stove without modifications.
- All stoves will have a serial registration number which will be mentioned on the delivery contract.

Apart from the above technical adjustments, the following activities must be undertaken:

- Packaging and air lifting needs to be reviewed.
- Service centre needs to be developed in Lukla.
- Order forms need to be available for all parts and attachments (back-boiler, chimney, etc.).
- Suitable names have to be given to the various stoves.
- The demonstration houses need to be clearly marked with a signboard.
- Savings and Loan Scheme needs to be developed.
- Postal and message service needs to be negotiated between the pilots and the service centre.
- Comparative test results need to be published.

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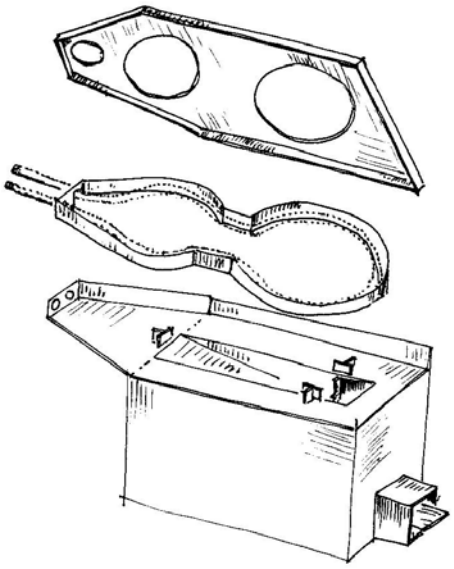
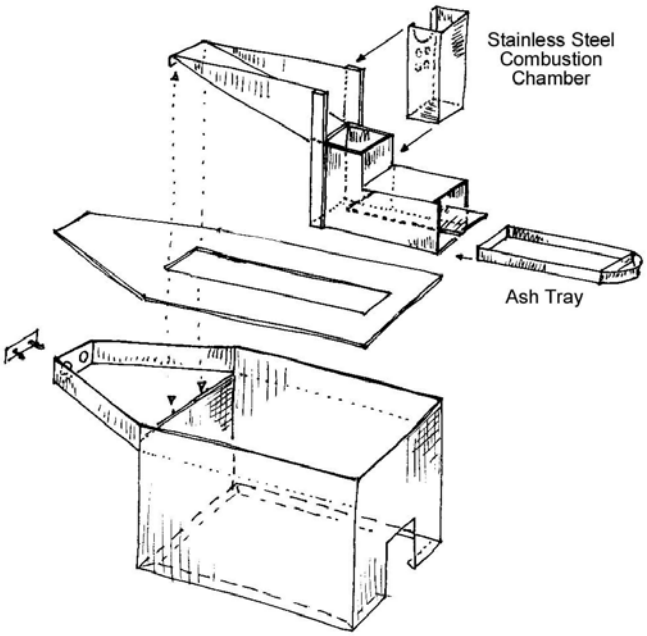
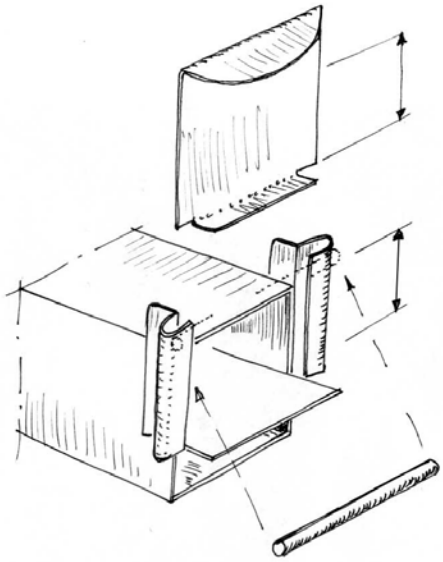
ANNEXE



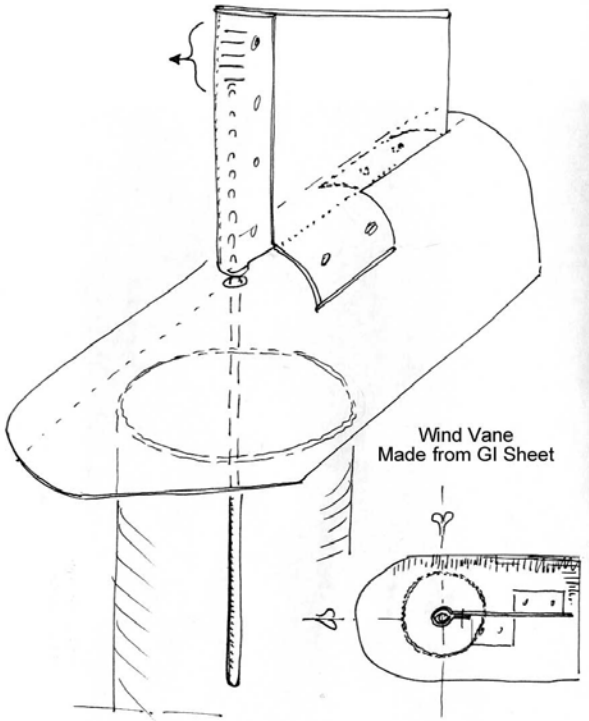
Above Drawing:
Main body of stove with shield and top-plate.
The heatpipe for water heating is dotted.

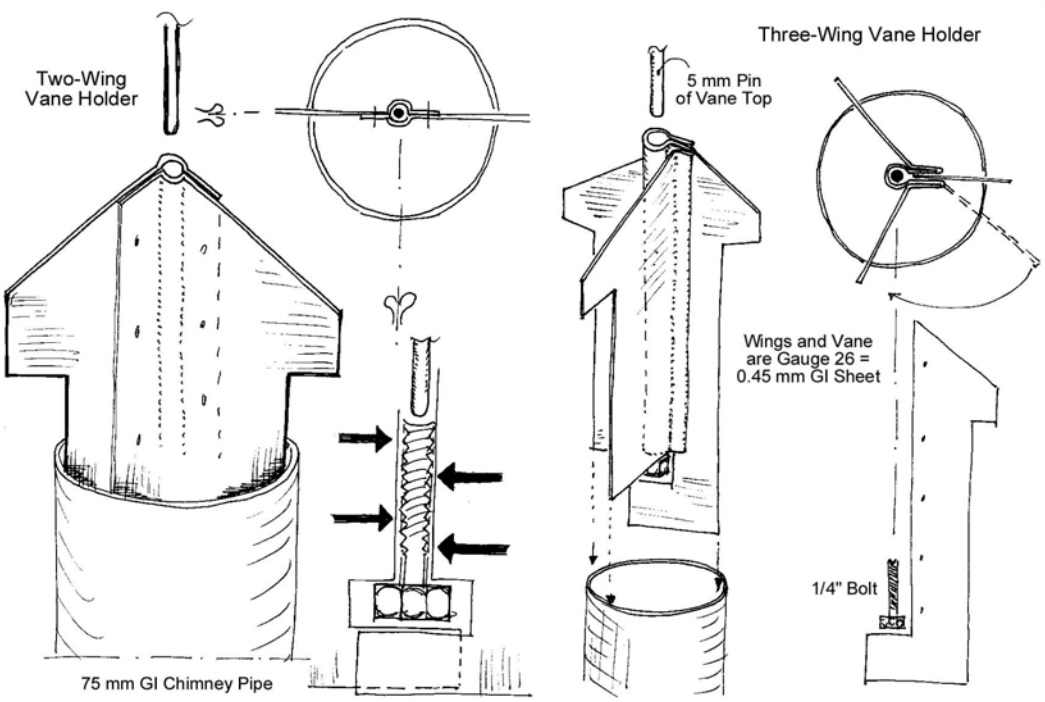


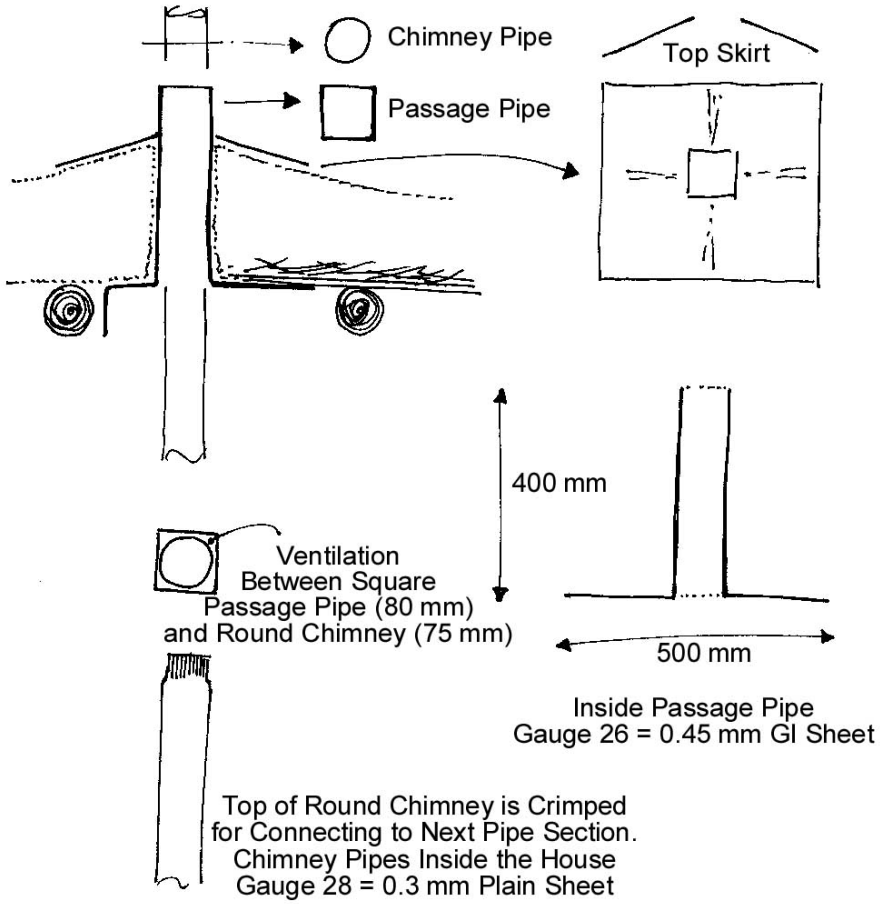
Right Drawing:
Components of the stove body.



Intake Valve of the Elbow.
After the slide panel is folded and inserted,
the bar is welded in place to avoid removal.




Two-Wing
Vane Holder
75 mm GI Chimney Pipe
Three-Wing Vane Holder
5 mm Pin
of Vane Top
Wings and Vane
are Gauge 26 =
0.45 mm GI Sheet
1/4" Bolt


Chimney Pipe
Passage Pipe
Top Skirt
400 mm
Ventilation
Between Square
Passage Pipe (80 mm)
and Round Chimney (75 mm)
500 mm
Inside Passage Pipe
Gauge 26 = 0.45 mm GI Sheet
Top of Round Chimney is Crimped
for Connecting to Next Pipe Section.
Chimney Pipes Inside the House
Gauge 28 = 0.3 mm Plain Sheet