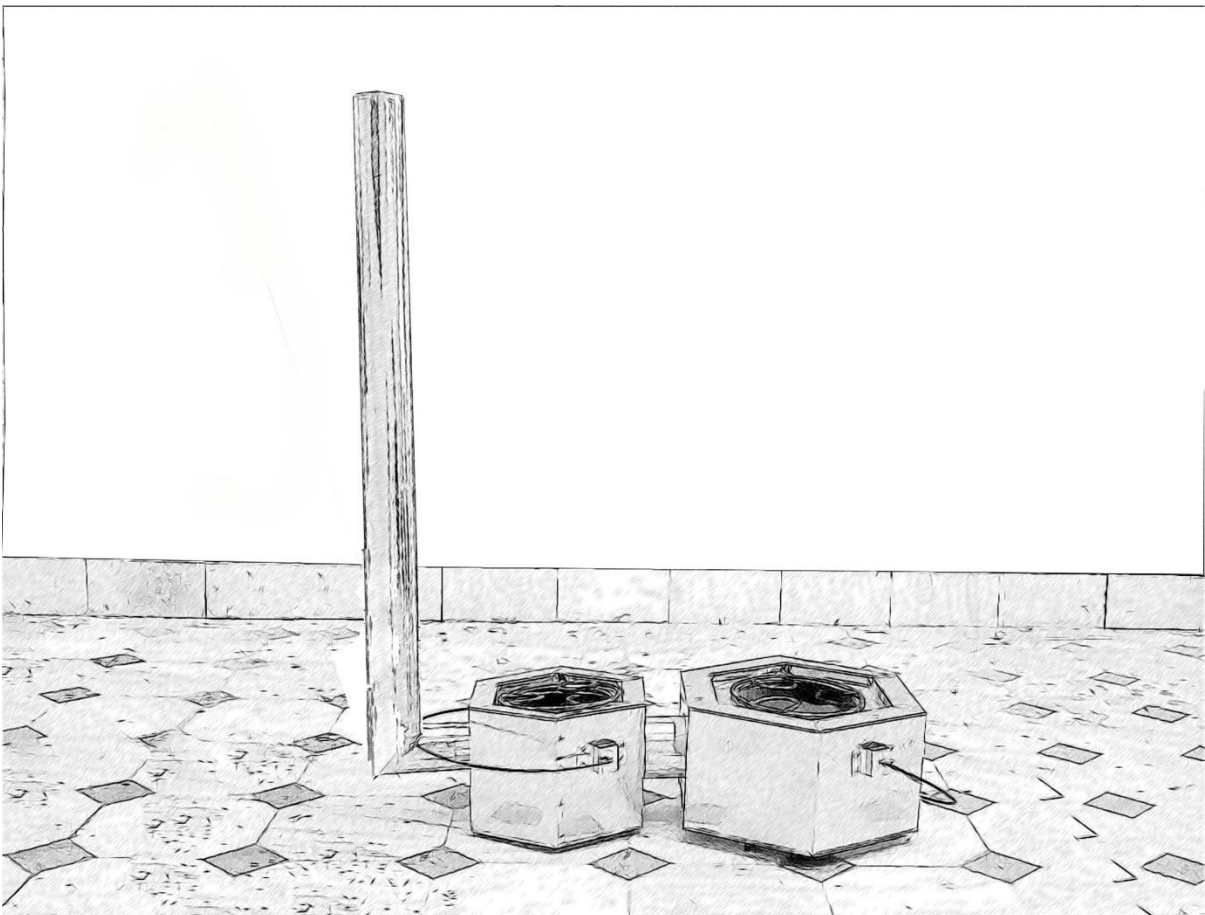




# Pakistan Innovation

## UNDP GEF-SGP OP5

### SGP Energy Efficient Portable Metallic Stove



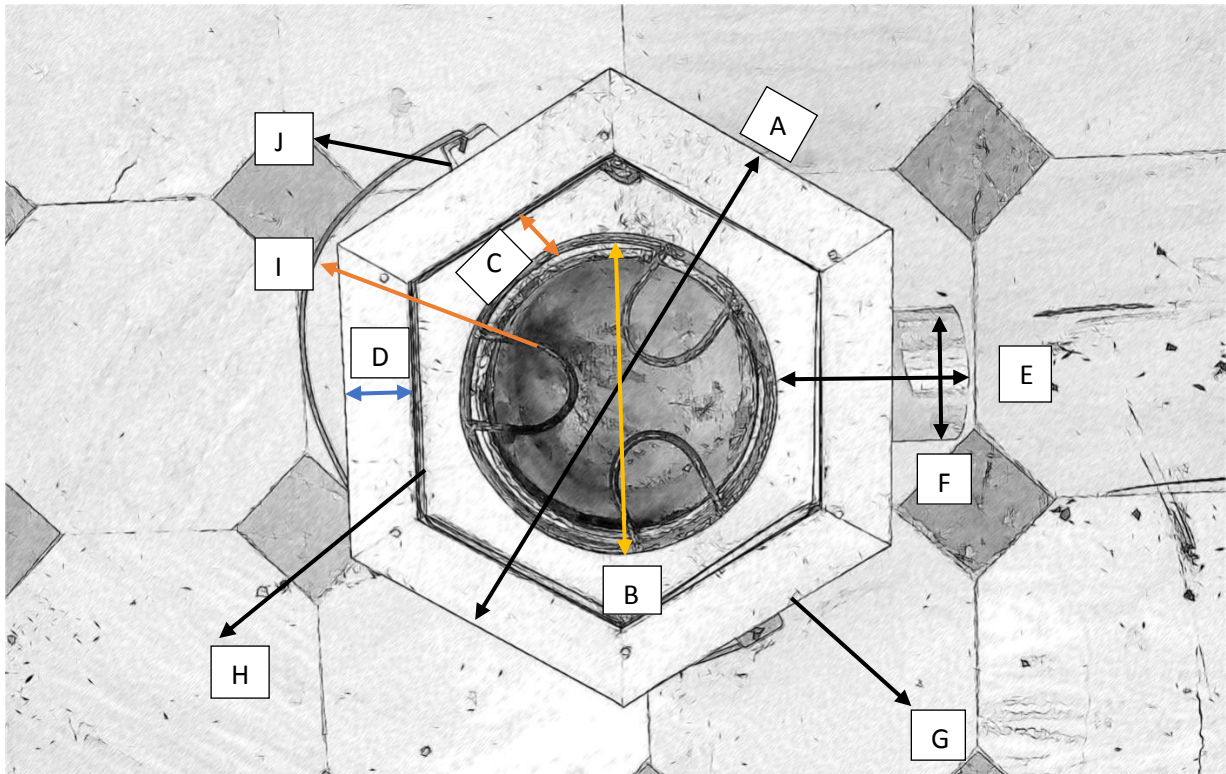
A: 1<sup>st</sup> Burner

C: Chimney

B: 2<sup>nd</sup> Burner

D: Aluminum Laminated Glass Wool  
(Heat Insulator)

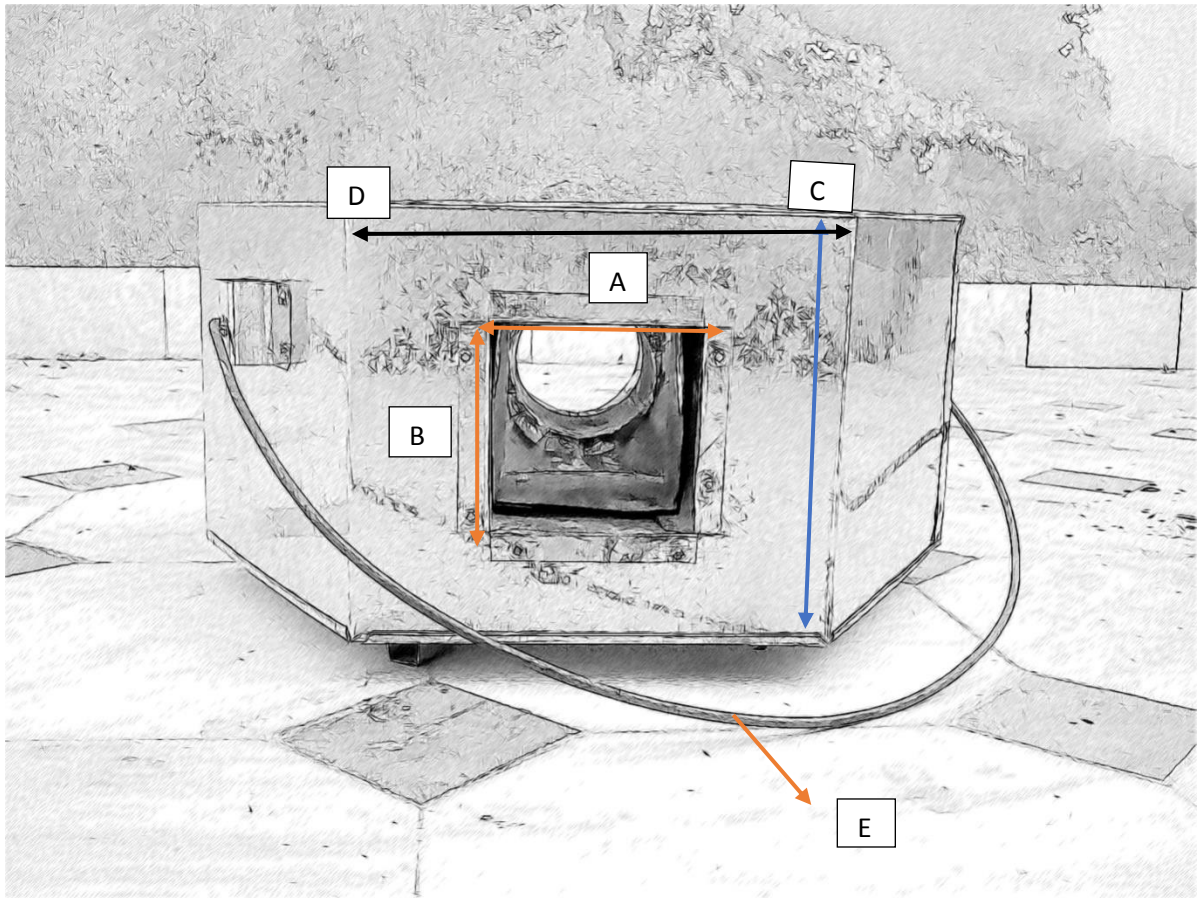
**Figure 1**  
**Detail of 1<sup>st</sup> Burner**



### Specification of 1<sup>st</sup> Burner

S No.	Letter	Description	Size in Inches	Thickness In Gauge	Insulation
1	A	Diameter of 1 <sup>st</sup> Burner	16"		
2	B	Diameter of Cup	8"	19	Aluminium laminated glass wool
3	C	Width of Sheet 2	2"	19	Aluminium laminated glass wool
4	D	Width of Sheet 1	2"	19	Aluminium laminated glass wool
5	E	Length of Interconnected pipe	3" inside	19	Aluminium laminated glass wool
6	F	Diameter of Interconnected pipe	3" inches dia Inside 5" inches dia Outside	19 26	
7	G	Sheet 1	Outside	26	
8	H	Sheet 2	Outside	26	
9	I	Grating	As shown in figure 1	1/4"	
10	J	Handle	As shown in	3/16"	

Figure 2



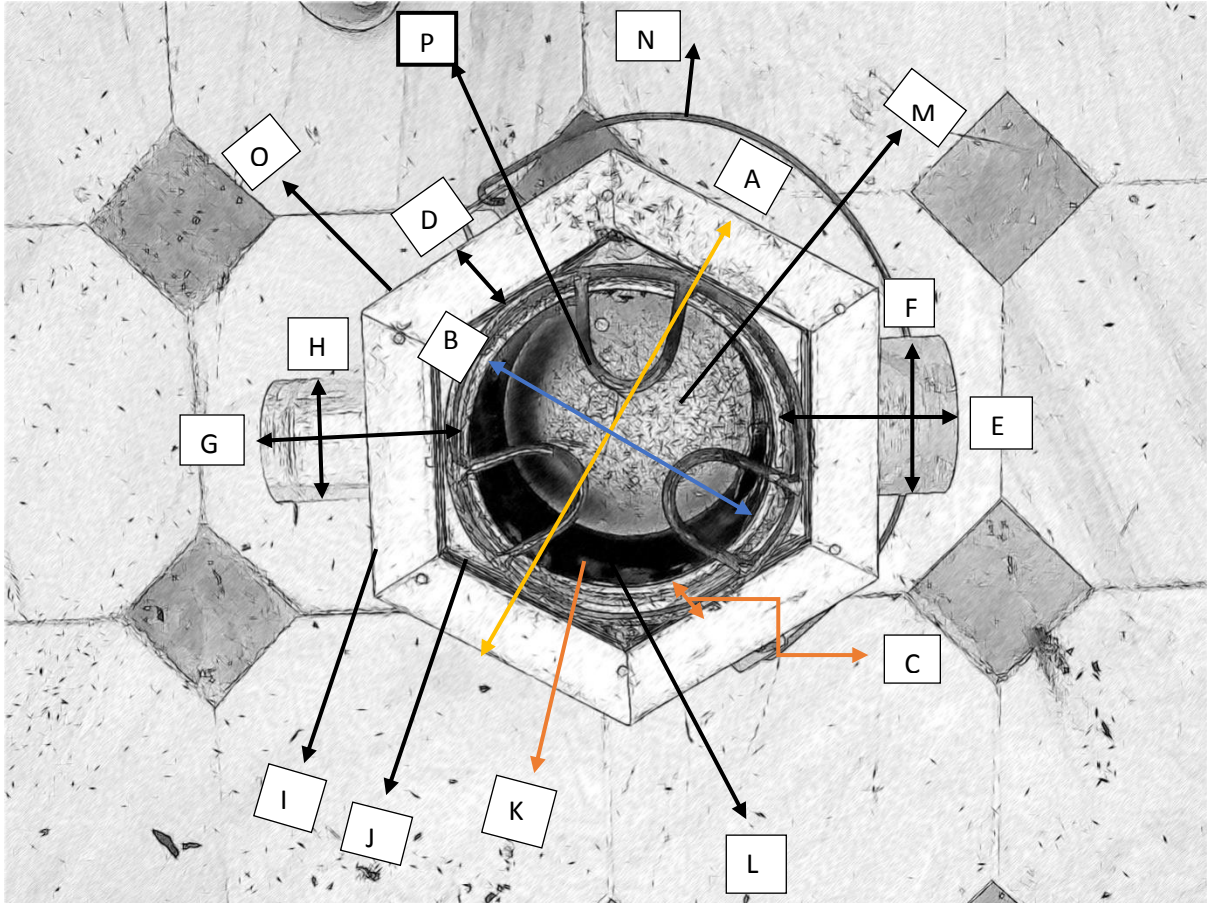
S No.	Letter	Description	Size in Inches	Gauge
1	A	Length of Door	4"	Insulated double sheeted door with handle in lock
2	B	Hieght of door	5"	- do -
3	C	Hieght of 1 <sup>st</sup> Burner	8"	- do -
4	D	Length of Side of 1 <sup>st</sup> Burner	7"	- do -
5	E	Handle		3/16"

**Figure 3**  
**View of 2<sup>nd</sup> Bunner**



S No.	Letter	Description	Size in Inches	Gauge
1	A	Height of Cup	7	19
2	B	Sheet 3 outer bottom		26
3	C	Cup Bottom		19
4	D	Bottom Insulation	3	Aluminum laminated glass wool Insulation

**Figure 4**  
**Detail of 2<sup>nd</sup> Burner**

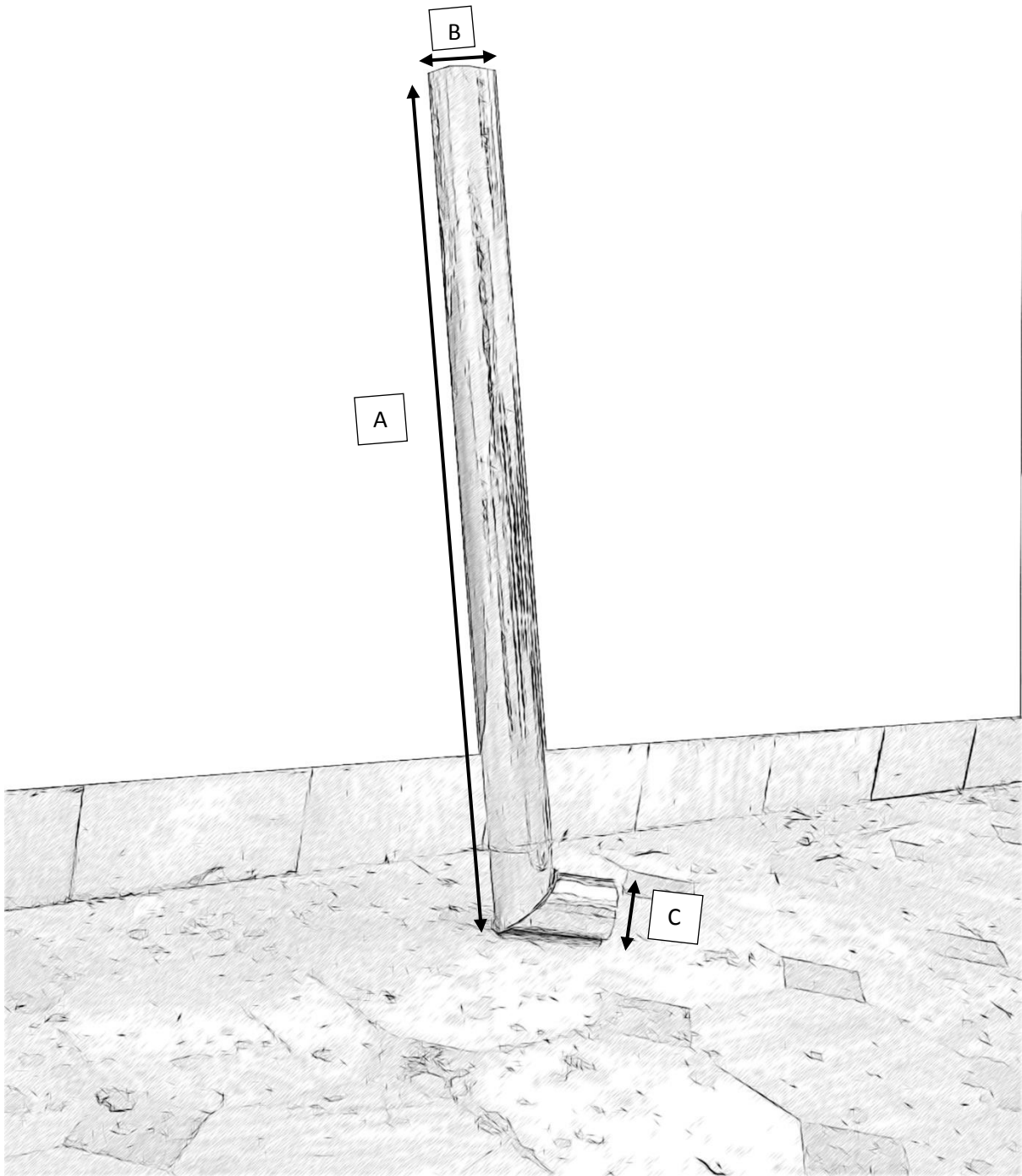


### Specification of 2<sup>nd</sup> Burner

S No.	Letter	Description	Thickness In/ft	Gauge
1	A	Size of 2 <sup>nd</sup> Stove	12"	
2	B	Diameter of Fuel Cup	6"	
3	C	Width of Sheet 2	3"	
4	D	Width of Sheet 1	3"	
5	E	Length of Interconnected pipe	6"	
6	F	Diameter of Interconnected pipe	3"	Bend Insulated with Chimney
7	G	Length of Chimney	9ft	
8	H	Diameter of Chimney (internal /external)	3/5"	Inside/Outside
9	I	Sheet 1	26g outside	26
10	J	Sheet 2	26g outside	26
11	K	Height of Cup	7"	
12	L	Sheet 3 Inside		19
13	M	Bottom of Cup		19
14	N	Handle		3/16"
15	O	Height of 2 <sup>nd</sup> Burner	9"	

16	P	Grating	As per figure 4	1/4"
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**Figure 5**  
**Chimney**

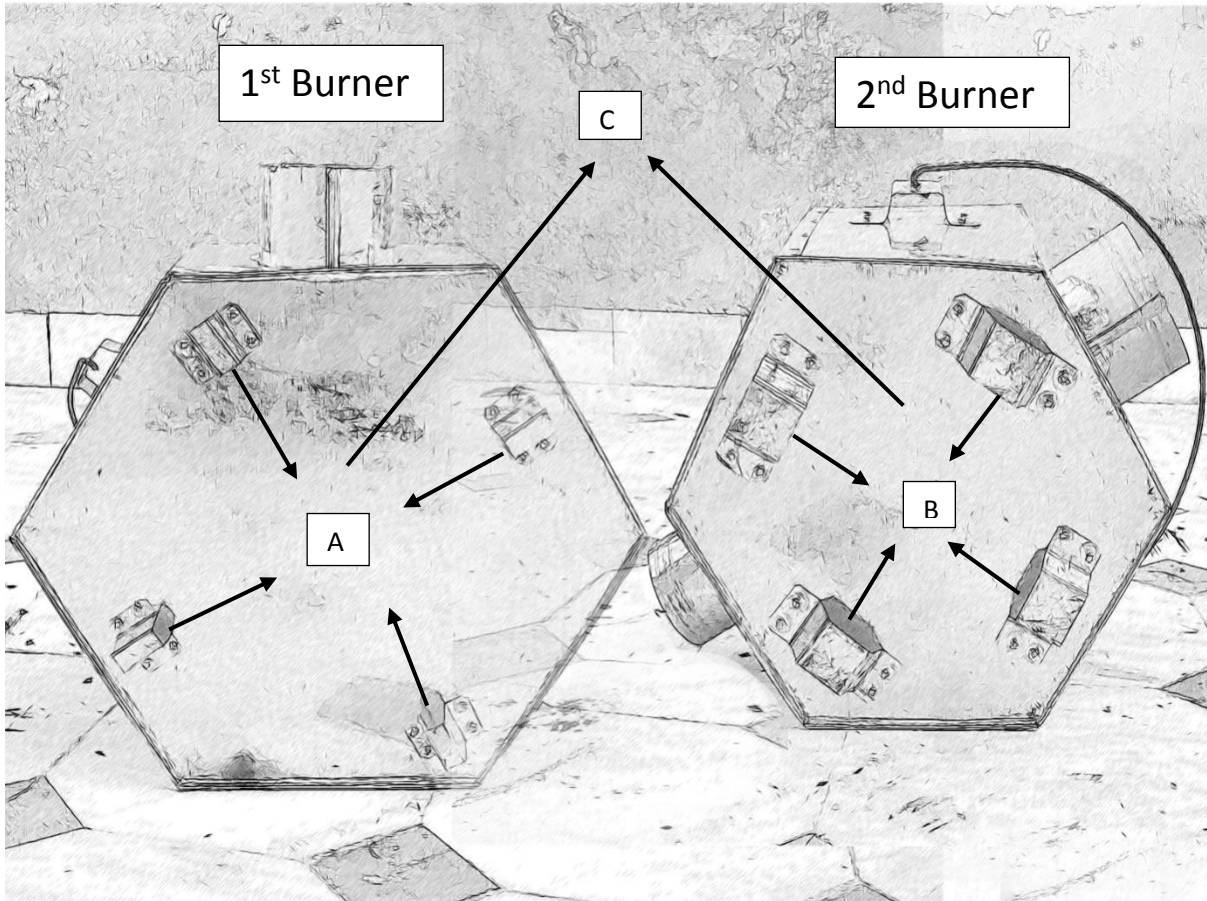


S No.	Letter	Description	Size in In/ft	Gauge
1	A	Length of Chimney	9'	Inner/outer (19/26)

2	B	Diameter of Chimney	3"/5 "	Inner/outer (19/26)
3	C	Diameter of interconnected Bend	3"/5"	Inner/outer (19/26)

## Bottom

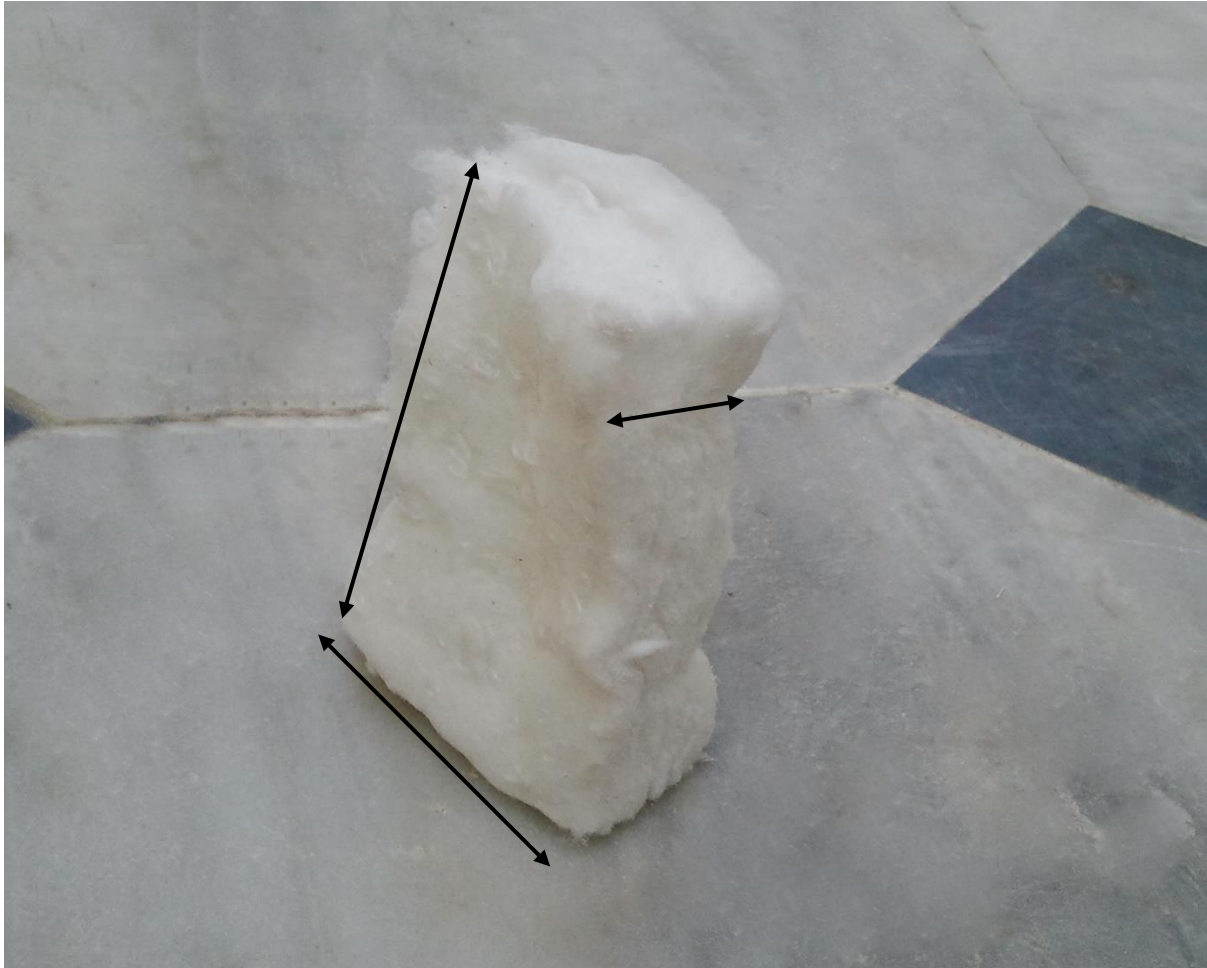
### Figure 6



S No.	Letter	Description	Height of toes in inch
1	A	Toes for 1 <sup>st</sup> Burner	1"
2	B	Toes for 2 <sup>nd</sup> Burner	2"
3	C	Gauge of Bottom	26 gauge

## Aluminum laminated Glass Wool (Heat Insulator)

Figure 7



## End Note

UNDP-GEF Small Grants Program Pakistan has been working on the energy efficiency, low-carbon housing and cooking for decades. In the floods of 2010 and 2011 we realized that the biggest problem for the displaced people was how to cook food. Because the traditional mud stoves got destroyed and there was not enough dry land in the immediate vicinities to establish new cooking stoves; most flood affectees had to migrate to the large cities to get cooked food from the relief camps. Similarly because of fast shrinking of the forest cover the fuel-wood cost has risen to the record steep level, in some cases even almost equal to the food prices. This challenge was taken very seriously by SGP Pakistan and we started working on a prototype stove which would be metallic, portable, highly energy efficient, insulated to make user-friendly and with chimney to keep indoor environment smoke free. The

experiments made in the backyard of our offices and after several failed attempts to come up with the perfect version, it took us one year.

## Contacts

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