Distribution of Houses by Predominant Materials of Roof and Wall and Level of Damage Risk

Table No. : UK 09   **State : UTTARAKHAND**   **ALMORA**

Wall / Roof		Census Houses		Level of Risk under								
		No. of Houses	%	EQ Zone				Wind Velocity m/s				Flood Prone Area in %
				V	IV	III	II	55 & 50	47	44 & 39	33	
				Area in %				Area in %				
				25.6	74.4					100		
WALL												
A1 - Mud & Unburnt Brick Wall	Rural	2,193	0.9									
	Urban	294	0.1									
	Total	**2,487**	**1.0**	VH	H					M		
A2 - Stone Wall not packed with mortar	Rural	27,008	11.2									
	Urban	1,557	0.6									
	Total	**28,565**	**11.8**	VH	H					L		
Total - Category - A		**31,052**	**12.9**									
B - Burnt Bricks Wall & Stone wall packed with mortar	Rural	187,918	78.0									
	Urban	15,853	6.6									
	Total	**203,771**	**84.6**	H	M					L		
Total - Category - B		**203,771**	**84.5**									
C1 - Concrete Wall	Rural	2,651	1.1									
	Urban	265	0.1									
	Total	**2,916**	**1.2**	M	L					VL		
C2 - Wood wall	Rural	1,363	0.6									
	Urban	279	0.1									
	Total	**1,642**	**0.7**	M	L					M		
Total - Category - C		**4,558**	**1.9**									
X - Other Materials	Rural	1,100	0.5									
	Urban	582	0.2									
	Total	**1,682**	**0.7**	M	VL					M		
Total - Category - X		**1,682**	**0.7**									
TOTAL HOUSES*		**241,063**										
ROOF												
R1 - Light Weight Sloping Roof	Rural	15,263	6.3									
	Urban	4,593	1.9									
	Total	**19,856**	**8.2**	M	M					H		
R2 - Heavy Weight Sloping Roof	Rural	144,540	60.0									
	Urban	1,549	0.6									
	Total	**146,089**	**60.6**	H	M					L		
R3 - Flat Roof	Rural	62,430	25.9									
	Urban	12,688	5.3									
	Total	**75,118**	**31.2**	*Damage Risk as per that for the Wall supporting it*								
TOTAL HOUSES*		**241,063**										

Probable Maximum Precipitation at a Station of the district in one day for arial extent of 1000 sqm.   410 mm

Housing Category : Wall Types

Category - A : Buildings in field-stone, rural structures, unburnt brick houses, clay houses

Category - B : Ordinary brick building; buildings of the large block & prefabricated type, half-timbered structures, building in natural hewn stone

Category - C : Reinforced building, well built wooden structures

Category - X : Other materials not covered in A,B,C. These are generally light.

Notes : 1. *Flood prone area includes that protected area which may have more severe damage under failure of protection works. In some other areas the local damage may be severe under heavy rains and chocked drainage.*

2. *Damage Risk for wall types is indicated assuming heavy flat roof in categories A, B and C (Reinforced Concrete) building*

3. *Source of Housing Data : Census of Housing, GOI, 2011*

Housing Category : Roof Type

Category - R1 - Light Weight (Grass, Thatch, Bamboo, Wood, Mud, Plastic, Polythene, GI Metal, Asbestos Sheets, Other Materials)

Category - R2 - Heavy Weight (Tiles, Stone/Slate)

Category - R3 - Flat Roof (Brick, Concrete)

EQ Zone V : Very High Damage Risk Zone (MSK > IX)

EQ Zone IV : High Damage Risk Zone (MSK VIII)

EQ Zone III : Moderate Damage Risk Zone (MSK VII)

EQ Zone II : Low Damage Risk Zone (MSK < VI)

Level of Risk : VH = Very High; H = High;
M = Moderate; L = Low; VL = Very Low

* Total No.of Houses excluding Vacant/Locked Houses

bmTPC Building Materials & Technology Promotion Council   **Peer Group, MoHUA, GOI**