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

Table No. : MH 09   **State : MAHARASHTRA**   **NAGPUR**

Wall / Roof		Census Houses — No. of Houses	%	EQ Zone V	EQ Zone IV	EQ Zone III	EQ Zone II	Wind Velocity 55 & 50	Wind Velocity 47	Wind Velocity 44 & 39	Wind Velocity 33	Flood Prone Area in %
				Area in %				Area in %				
							100			100		
WALL												
A1 - Mud &	Rural	175,345	14.8									
Unburnt Brick Wall	Urban	93,744	7.9									
	Total	**269,089**	**22.7**				L			M		
A2 - Stone Wall	Rural	8,680	0.7									
not packed with mortar	Urban	21,882	1.9									
	Total	**30,562**	**2.6**				L			L		
Total - Category - A		**299,651**	**25.4**									
B - Burnt Bricks Wall	Rural	153,563	13.0									
& Stone wall packed	Urban	556,523	47.1									
with mortar	*Total*	**710,086**	**60.1**				VL			L		
Total - Category - B		**710,086**	**60.1**									
C1 - Concrete Wall	Rural	13,962	1.2									
	Urban	79,029	6.7									
	Total	**92,991**	**7.9**				VL			VL		
C2 - Wood wall	Rural	2,464	0.2									
	Urban	8,876	0.8									
	Total	**11,340**	**1.0**				VL			M		
Total - Category - C		**104,331**	**8.8**									
X - Other Materials	Rural	36,129	3.1									
	Urban	31,380	2.7									
	Total	**67,509**	**5.8**				VL			M		
Total - Category - X		**67,509**	**5.7**									
TOTAL HOUSES*		**1,181,577**										
ROOF												
R1 - Light Weight	Rural	59,690	5.1									
Sloping Roof	Urban	129,872	11.0									
	Total	**189,562**	**16.1**				VL			H		
R2 - Heavy Weight	Rural	213,971	18.1									
Sloping Roof	Urban	159,990	13.5									
	Total	**373,961**	**31.6**				VL			L		
R3 - Flat Roof	Rural	116,482	9.9									
	Urban	501,572	42.4									
	Total	**618,054**	**52.3**	*Damage Risk as per that for the Wall supporting it*								
TOTAL HOUSES*		**1,181,577**										

Probable Maximum Precipitation at a Station of the district in one day for arial extent of 1000 sqm.   537 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