

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

Table No. : UP 04

State : UTTAR PRADESH

MORADABAD

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 %					
				100				100				15.7	
WALL													
A1 - Mud & Unburnt Brick Wall	Rural	78,145	7.9										
	Urban	14,574	1.5										
	Total	92,719	9.4		<i>H</i>			<i>VH</i>				<i>VH</i>	
A2 - Stone Wall not packed with mortar	Rural	5,863	0.6										
	Urban	4,823	0.5										
	Total	10,686	1.1		<i>H</i>			<i>H</i>				<i>VH</i>	
Total - Category - A		103,405	10.5										
B - Burnt Bricks Wall & Stone wall packed with mortar	Rural	555,447	56.2										
	Urban	300,447	30.4										
	Total	855,894	86.6		<i>M</i>			<i>H</i>				<i>H/M</i>	
Total - Category - B		855,894	86.6										
C1 - Concrete Wall	Rural	1,024	0.1										
	Urban	1,478	0.1										
	Total	2,502	0.2		<i>L</i>			<i>L</i>				<i>L/VL</i>	
C2 - Wood wall	Rural	523	0.1										
	Urban	745	0.1										
	Total	1,268	0.2		<i>L</i>			<i>VH</i>				<i>H</i>	
Total - Category - C		3,770	0.4										
X - Other Materials	Rural	20,400	2.1										
	Urban	4,679	0.5										
	Total	25,079	2.6		<i>VL</i>			<i>VH</i>				<i>VH</i>	
Total - Category - X		25,079	2.5										
TOTAL HOUSES*		988,148											

ROOF												
R1 - Light Weight Sloping Roof	Rural	301,224	30.5									
	Urban	55,961	5.7									
	Total	357,185	36.2		<i>M</i>			<i>VH</i>				<i>VH</i>
R2 - Heavy Weight Sloping Roof	Rural	51,299	5.2									
	Urban	10,362	1.0									
	Total	61,661	6.2		<i>M</i>			<i>H</i>				<i>H</i>
R3 - Flat Roof	Rural	308,879	31.3									
	Urban	260,423	26.4									
	Total	569,302	57.7	Damage Risk as per that for the Wall supporting it								
TOTAL HOUSES*		988,148										

Probable Maximum Precipitation at a Station of the district in one day for arial extent of 1000 sqm. 525 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 choked 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