

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

Table No. : UP 15

State : UTTAR PRADESH

AGRA

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 %				
WALL												36.1
A1 - Mud & Unburnt Brick Wall	Rural	34,008	4.0									
	Urban	10,354	1.2									
	Total	44,362	5.2				<i>M</i>	<i>L</i>		<i>H</i>		<i>VH</i>
A2 - Stone Wall not packed with mortar	Rural	9,674	1.1									
	Urban	8,383	1.0									
	Total	18,057	2.1				<i>M</i>	<i>L</i>		<i>M</i>		<i>VH</i>
Total - Category - A		62,419	7.4									
B - Burnt Bricks Wall & Stone wall packed with mortar	Rural	413,632	48.8									
	Urban	347,513	41.0									
	Total	761,145	89.8				<i>L</i>	<i>VL</i>		<i>M</i>		<i>H/M</i>
Total - Category - B		761,145	89.8									
C1 - Concrete Wall	Rural	892	0.1									
	Urban	4,164	0.5									
	Total	5,056	0.6				<i>VL</i>	<i>VL</i>		<i>VL</i>		<i>L/ VL</i>
C2 - Wood wall	Rural	1,068	0.1									
	Urban	997	0.1									
	Total	2,065	0.2				<i>VL</i>	<i>VL</i>		<i>H</i>		<i>H</i>
Total - Category - C		7,121	0.8									
X - Other Materials	Rural	12,558	1.5									
	Urban	4,571	0.5									
	Total	17,129	2.0				<i>VL</i>	<i>VL</i>		<i>H</i>		<i>VH</i>
Total - Category - X		17,129	2.0									
TOTAL HOUSES*		847,814										

ROOF												
R1 - Light Weight Sloping Roof	Rural	68,139	8.0									
	Urban	20,408	2.4									
	Total	88,547	10.4				<i>L</i>	<i>VL</i>		<i>VH</i>		<i>VH</i>
R2 - Heavy Weight Sloping Roof	Rural	365,072	43.1									
	Urban	253,023	29.8									
	Total	618,095	72.9				<i>L</i>	<i>VL</i>		<i>M</i>		<i>H</i>
R3 - Flat Roof	Rural	38,621	4.6									
	Urban	102,551	12.1									
	Total	141,172	16.7	<i>Damage Risk as per that for the Wall supporting it</i>								
TOTAL HOUSES*		847,814										

Probable Maximum Precipitation at a Station of the district in one day for arial extent of 1000 sqm. 745 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