

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

Table No. : BH 16

State : BIHAR

SIWAN

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 %				15.2
WALL				96.0	4.0			100				
A1 - Mud & Unburnt Brick Wall	Rural	55,978	8.5									
	Urban	2,273	0.3									
	Total	58,251	8.8		<i>H</i>	<i>M</i>			<i>H</i>			<i>VH</i>
A2 - Stone Wall not packed with mortar	Rural	8,023	1.2									
	Urban	505	0.1									
	Total	8,528	1.3		<i>H</i>	<i>M</i>			<i>M</i>			<i>VH</i>
Total - Category - A		66,779	10.2									
B - Burnt Bricks Wall & Stone wall packed with mortar	Rural	480,257	73.3									
	Urban	34,119	5.2									
	Total	514,376	78.5		<i>M</i>	<i>L</i>			<i>M</i>			<i>H/M</i>
Total - Category - B		514,376	78.5									
C1 - Concrete Wall	Rural	3,824	0.6									
	Urban	706	0.1									
	Total	4,530	0.7		<i>L</i>	<i>VL</i>			<i>VL</i>			<i>L/ VL</i>
C2 - Wood wall	Rural	2,974	0.5									
	Urban	222	-									
	Total	3,196	0.5		<i>L</i>	<i>VL</i>			<i>H</i>			<i>H</i>
Total - Category - C		7,726	1.2									
X - Other Materials	Rural	65,107	9.9									
	Urban	1,142	0.2									
	Total	66,249	10.1		<i>VL</i>	<i>VL</i>			<i>H</i>			<i>VH</i>
Total - Category - X		66,249	10.1									
TOTAL HOUSES*		655,130										

ROOF												
R1 - Light Weight Sloping Roof	Rural	189,332	28.9									
	Urban	6,532	1.0									
	Total	195,864	29.9		<i>M</i>	<i>L</i>			<i>VH</i>			<i>VH</i>
R2 - Heavy Weight Sloping Roof	Rural	45,983	7.0									
	Urban	2,158	0.3									
	Total	48,141	7.3		<i>M</i>	<i>L</i>			<i>M</i>			<i>H</i>
R3 - Flat Roof	Rural	380,848	58.1									
	Urban	30,277	4.6									
	Total	411,125	62.7	Damage Risk as per that for the Wall supporting it								
TOTAL HOUSES*		655,130										

Probable Maximum Precipitation at a Station of the district in one day for arial extent of 1000 sqm. 523 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