

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

### PUNJAB

Wall / Roof		Census Houses		Level of Risk under								Flood Prone Area in %	
		No. of Houses	%	EQ Zone			Wind Velocity m/s						
				V	IV	III	II	55 & 50	47	44 & 39	33		
<b>STATE - PUNJAB</b>				.9	48.1	46.0	5.0	68.1	27.8	4.1		72.3	
<b>WALL</b>													
<b>A1 - Mud &amp; Unburnt Brick Wall</b>	Rural	250,891	3.5										
	Urban	65,070	0.9										
	<b>Total</b>	<b>315,961</b>	<b>4.4</b>	VH	H	M	L	VH	H	M		VH	
<b>A2 - Stone Wall not packed with mortar</b>	Rural	39,840	0.6										
	Urban	23,036	0.3										
	<b>Total</b>	<b>62,876</b>	<b>0.9</b>	VH	H	M	L	H	M	L		VH	
<b>Total - Category - A</b>		<b>378,837</b>	<b>5.3</b>										
<b>B - Burnt Bricks Wall &amp; Stone wall packed with mortar</b>	Rural	3,804,171	53.3										
	Urban	2,509,639	35.2										
	<b>Total</b>	<b>6,313,810</b>	<b>88.5</b>	H	M	L	VL	H	M	L		H/M	
<b>Total - Category - B</b>		<b>6,313,810</b>	<b>88.4</b>										
<b>C1 - Concrete Wall</b>	Rural	173,252	2.4										
	Urban	185,463	2.6										
	<b>Total</b>	<b>358,715</b>	<b>5.0</b>	M	L	VL	VL	L	VL	VL		L/ VL	
<b>C2 - Wood wall</b>	Rural	3,204	-										
	Urban	3,590	0.1										
	<b>Total</b>	<b>6,794</b>	<b>0.1</b>	M	L	VL	VL	VH	H	M		H	
<b>Total - Category - C</b>		<b>365,509</b>	<b>5.1</b>										
<b>X - Other Materials</b>	Rural	54,619	0.8										
	Urban	26,992	0.4										
	<b>Total</b>	<b>81,611</b>	<b>1.2</b>	M	VL	VL	VL	VH	H	M		VH	
<b>Total - Category - X</b>		<b>81,611</b>	<b>1.1</b>										
<b>TOTAL HOUSES*</b>		<b>7,139,767</b>											

ROOF												
<b>R1 - Light Weight Sloping Roof</b>	Rural	592,099	8.3									
	Urban	205,980	2.9									
	<b>Total</b>	<b>798,079</b>	<b>11.2</b>	M	M	L	VL	VH	VH	H		VH
<b>R2 - Heavy Weight Sloping Roof</b>	Rural	893,953	12.5									
	Urban	171,975	2.4									
	<b>Total</b>	<b>1,065,928</b>	<b>14.9</b>	H	M	L	VL	H	M	L		H
<b>R3 - Flat Roof</b>	Rural	2,839,925	39.8									
	Urban	2,435,835	34.1									
	<b>Total</b>	<b>5,275,760</b>	<b>73.9</b>	Damage Risk as per that for the Wall supporting it								
<b>TOTAL HOUSES*</b>		<b>7,139,767</b>										

#### 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