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

Table No. : UP 03 **State : UTTAR PRADESH** **BIJNOR**

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			97.5		2.5		19.1
WALL												
A1 - Mud &	Rural	52,117	6.1									
Unburnt Brick Wall	Urban	11,042	1.3									
	Total	**63,159**	**7.4**		*H*			*VH*		*M*		*VH*
A2 - Stone Wall	Rural	6,409	0.7									
not packed with mortar	Urban	3,821	0.4									
	Total	**10,230**	**1.1**		*H*			*H*		*L*		*VH*
Total - Category - A		**73,389**	**8.6**									
B - Burnt Bricks Wall	Rural	556,605	65.1									
& Stone wall packed	Urban	179,023	20.9									
with mortar	*Total*	**735,628**	**86.0**		*M*			*H*		*L*		*H/M*
Total - Category - B		**735,628**	**86.1**									
C1 - Concrete Wall	Rural	2,178	0.3									
	Urban	3,622	0.4									
	Total	**5,800**	**0.7**		*L*			*L*		*VL*		*L/VL*
C2 - Wood wall	Rural	828	0.1									
	Urban	370	-									
	Total	**1,198**	**0.1**		*L*			*VH*		*M*		*H*
Total - Category - C		**6,998**	**0.8**									
X - Other Materials	Rural	33,625	3.9									
	Urban	5,159	0.6									
	Total	**38,784**	**4.5**		*VL*			*VH*		*M*		*VH*
Total - Category - X		**38,784**	**4.5**									
TOTAL HOUSES*		**854,799**										
ROOF												
R1 - Light Weight	Rural	187,451	21.9									
Sloping Roof	Urban	35,460	4.1									
	Total	**222,911**	**26.0**		*M*			*VH*		*H*		*VH*
R2 - Heavy Weight	Rural	21,257	2.5									
Sloping Roof	Urban	7,767	0.9									
	Total	**29,024**	**3.4**		*M*			*H*		*L*		*H*
R3 - Flat Roof	Rural	443,054	51.8									
	Urban	159,810	18.7									
	Total	**602,864**	**70.5**	*Damage Risk as per that for the Wall supporting it*								
TOTAL HOUSES*		**854,799**										

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 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