

Table 1.7 Buildings/Structures with Permanent Materials of Roof, Wall and floor : Urban/Rural, Provinces, 1998 and 2008

Region	Percentage Distribution of Buildings/Structures with Permanent Materials											
	1998					2008						
	Number of Buildings /Structures.	Permanent Roof	Permanent Wall	Permanent Floor	Permanent Roof and Wall	Permanent Roof, Wall & Floor	Number of Buildings /Structures.	Permanent Roof	Permanent Wall	Permanent Floor	Permanent Roof and Wall	Permanent Roof, Wall & Floor
Cambodia Total	1,989,828	48.6	41.0	12.4	34.1	9.0	2,637,654	77.8	60.7	22.4	57.0	19.4
Urban	295,148	77.7	74.5	37.0	69.1	34.1	450,345	93.9	88.4	61.8	86.5	59.4
Rural	1,694,680	43.6	35.1	8.1	28.0	4.6	2,187,309	74.5	55.0	14.2	50.9	11.2
Province												
Bantey Meanchey	102,574	42.0	42.5	18.9	31.0	9.6	135,354	77.8	62.7	24.9	57.2	19.3
Battambang	134,828	52.4	34.3	26.0	30.7	14.7	198,577	74.2	56.2	26.7	51.9	21.5
Kampong Cham	287,254	51.1	43.5	6.6	35.1	5.2	344,091	78.7	58.2	11.5	55.1	10.2
Kampong Chhnang	78,118	35.4	27.6	7.9	21.9	3.7	97,421	65.9	41.4	12.5	39.2	8.1
Kampong Speu	110,951	41.3	47.1	9.3	34.8	6.8	142,924	77.4	67.6	18.6	63.0	16.0
Kampong Thom	100,567	40.2	43.6	6.2	32.6	3.2	127,995	64.1	55.1	12.2	48.5	8.6
Kampot	101,565	48.6	40.3	10.2	33.9	6.6	126,689	79.1	58.8	19.0	56.6	15.9
Kandal	186,278	61.0	43.5	11.0	41.1	9.2	237,190	89.4	66.7	23.6	65.4	21.6
Koh Kong	19,995	62.2	78.0	18.9	56.8	14.0	23,108	82.4	83.7	26.7	77.2	23.9
Kratie	44,245	40.5	38.1	7.3	29.4	5.4	60,021	62.0	55.3	10.1	48.8	8.6
Mondul Kiri	5,228	18.4	23.3	3.9	15.3	2.4	10,689	66.7	64.0	15.9	57.4	13.4
Phnom Penh	116,418	89.2	86.3	52.2	83.7	50.0	214,043	97.0	96.6	79.3	95.0	77.5
Preah Vihear	19,891	18.4	31.4	5.4	14.7	2.1	31,930	57.6	59.1	13.8	48.0	10.0
Prey Veng	181,647	45.3	21.0	2.0	19.9	1.6	212,552	75.9	39.9	5.2	39.0	4.4
Pursat	64,643	34.6	43.5	10.9	29.0	5.6	79,828	68.2	58.7	14.7	52.8	10.2
Ratanak Kiri	12,111	26.6	28.6	10.1	22.4	7.2	22,451	66.0	62.0	23.5	58.6	20.0
Siemreap	119,468	29.9	32.3	8.2	22.5	4.0	167,827	69.4	56.5	24.1	50.2	17.7
Preah Sihanouk	28,289	62.4	79.6	22.0	59.9	18.4	41,093	86.0	85.0	37.5	79.6	34.8
Stung Treng	13,479	35.4	42.6	12.8	28.2	8.6	19,366	63.8	61.4	13.5	54.4	11.6
Svay Rieng	93,428	34.1	15.3	6.0	14.3	3.8	108,974	79.7	41.1	11.9	40.5	10.2
Takeo	148,611	57.0	37.7	7.3	36.1	6.1	177,998	87.0	58.9	16.1	57.9	14.4
Oddar Meanchey	11,235	32.4	83.8	16.6	31.0	5.4	36,857	52.8	78.1	17.6	49.8	11.5
Kep	5,118	42.2	36.9	18.0	31.2	12.9	6,888	84.2	65.0	36.8	63.5	34.4
Pailin	3,887	68.2	61.9	28.1	55.8	19.5	13,788	66.4	65.5	27.5	57.9	25.1
Maximum		89.2	86.3	52.2	83.7	50.0		97.0	96.6	79.3	95.0	77.5
Median		41.7	41.4	10.2	31.0	6.3		75.0	60.2	18.1	55.9	15.1
Minimum		18.4	15.3	2.0	14.3	1.6		52.8	39.9	5.2	39.0	4.4

Note: 1) Permanent Materials of Roof are consists of Tiles, Wood/Plywood, Concrete/Brick/Stone, Galvanised Iron/Aluminium/Other metal sheets and Asbestos Cement sheets

2) Permanent Materials of Wall are consists of Wood/Plywood, Concrete/Brick/Stone, Galvanised Iron/Aluminium/Other metal sheets and Asbestos Cement sheets

3) Permanent Materials of Floor are consists of Concrete/Brick/Stone, Polished Stones, Parquet/Polished Wood and Mosaic/Ceramic Tiles

In all provinces and a municipality, Phnom Penh showed the greatest value of 'Permanent Roof' both in 1998 and in 2008 (89.2 percent and 97.0 respectively). The least value of 'Permanent Roof' has increased sharply from 18.4 percent in 1998 (Mondul Kiri province) to 52.8 percent in 2008 (Oddar Meanchey province). And the median value of it has also increased remarkably from 41.7 percent in 1998 to 75.0 percent in 2008. These data show that the improvement of permanence of roof materials have been widely performed in the country. As the result, the gap between the greatest value of 'Permanent Roof' and least value of it has shrunk over 70 percentage points in 1998 to 45 percentage points in 2008.

There has been a big improvement of the permanence of wall even if it was less than the improvement of roof. Phnom Penh showed also the greatest value of 'Permanent Wall' both in 1998 and in 2008 (86.3 percent and 96.6 percent respectively). The least value of 'Permanent Roof' has remarkably increased from 15.3 percent in 1998 (Svay Rieng province) to 39.9 percent in 2008 (Prey Veng province). And the median value of it has also increased around 20 percentage points in the decade. The gap between the greatest value of 'Permanent Wall' and least value of it has shrunk from over 70 percentage points in 1998 to 57 percentage points in 2008.

But the gap about 'Permanent Floor' has expanded from around 50 percentage points in 1998 to over 70 percentage points in 2008. This is because the greatest value has increased around 30 percentage points (from 52.2 percent to 79.3 percent) while the least value has increased only 3 percentage points (from 2.0 percent to 5.2 percent). The median value of provincial 'Permanent Floor' data is much less than the greatest value of it and close to the least value. It shows that distribution of the provincial data of 'Permanent Floor' inclines toward the lower value greatly.

1.3.5 Combination of the Permanent Materials for Housing

Having permanent material of Roof and Wall improve the quality of the Buildings/Structure with households in Cambodia. The analytical report of housing and household amenities in 1998 did not take into account floor materials to consider the quality of the Buildings/Structures with households. This report tries to add floor materials to examine the quality of the Buildings/Structures with households.

The proportion of 'Permanent Roof and Wall' (or 'Permanent Building')¹ has increased 23 percentage points in whole country in the decade of 1998-2008. On the other hand the progress of 'Permanent Roof, Wall and Floor' has been only 10 percentage points. And regional discrepancy in 'Permanent Roof, Wall and Floor' has expanded from 48 percentage points to 73 percentage points (Table 1.7).

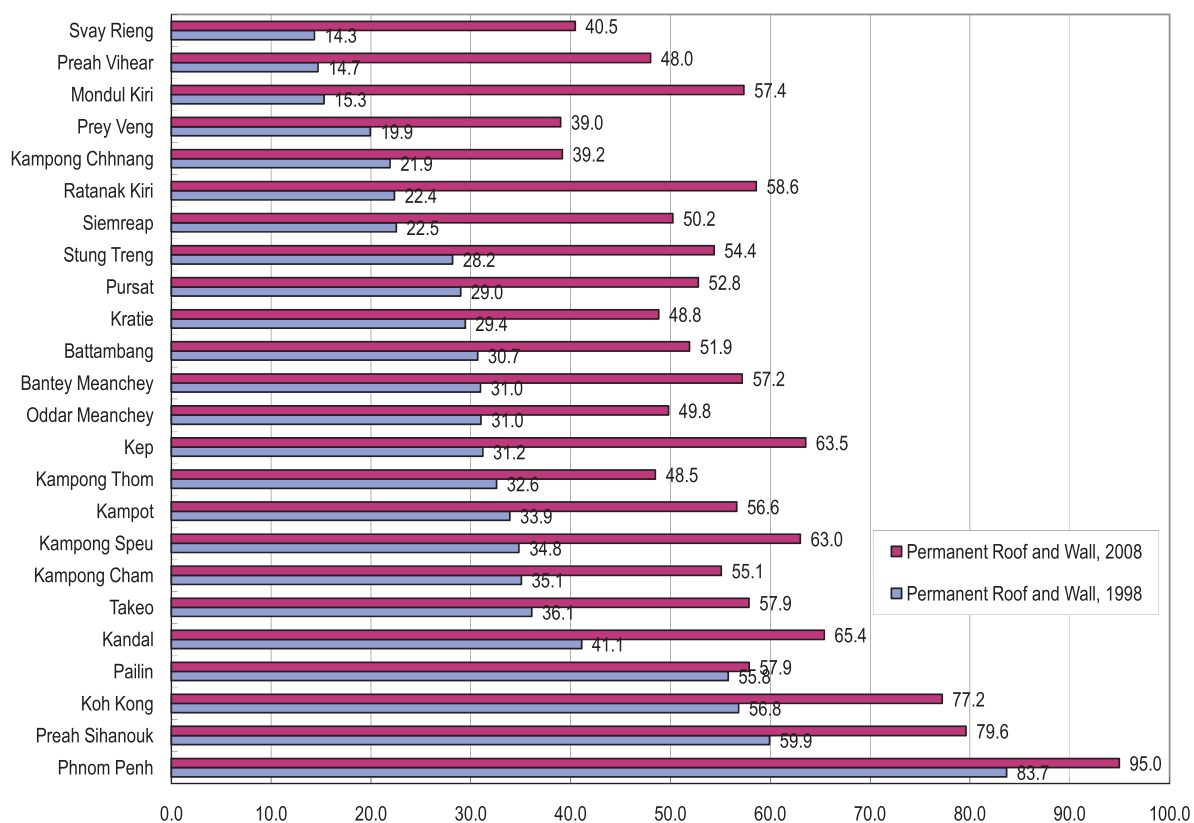
Figure 1.5 presents the progress of each province in 'Permanent Buildings'. We can see there is a great discrepancy in the progress of each province. Most provinces which showed large progress in 'Permanent Building' in this decade were less than 40 percent in 1998. The provinces having higher proportion of 'Permanent Building' in 1998 have made relatively little progress during the decade. Especially the progress

¹ 'Permanent Roof and Wall' in Table 1.7 and Figure 1.5 expresses same meaning of 'Permanent Building' used in 'National Report on Final Census Results' (NIS, 2009).

of Pailin province was only 2 percentage points from 1998 to 2008. Pailin is a small province that its proportion of buildings to whole country was only 0.5 percent in 2008. However, the number of the buildings in 2008 increased 3.5 times greater than in 1998 (Annex Table 1). This fact might have made an impact on the improvement of permanence of the buildings.

Figure 1.6 shows the correlation of the proportion of Permanent Housing Materials by province data. In 1998 (the upper part of Figure 1.6), we can see there is a moderate relation between two factors in each chart. But in 2008, the relation in ‘Wall to Roof’ has diminished and the relation in ‘Floor to Roof’ has slightly diminished. Only the ‘Floor to Wall’ has kept the clear relation. The permanence of housing materials seems having a certain sequence, i.e. at first, the condition of roof is improved, the second is wall,

Figure 1.5 Buildings/Structures with Permanent Roof and Wall: Province, 1998 and 2008



and the floor may be the last part of improvement

The report on GPCC 1998 was written by applying the idea that divides all buildings to permanent and temporary and the national report on GPCC 2008 followed this idea in order to compare two points of time. The housing materials are important index of living conditions and there are many countries using characteristics of housing materials for poverty statistics. There might be necessity of reexamining the purpose of the indices about housing materials. And if needed, the combined indicator would be redefined including ‘Floor Material’ and/or each housing material would be treated separately.

Figure 1.6 Correlations of the proportion of Permanent Housing Materials by Province Data: 1998 and 2008

