



ආරක්ෂක අමාත්‍යාංශය
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Director General



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தேசிய கட்டிட ஆராய்ச்சி நிறுவனம்
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எனது இல. } NBRO/SL/DA/IN/RS
Our Ref.

ඔබේ අංකය
உமது இல. }
Your Ref.

දිනය
திகதி } 09.09.2020
Date

Mr. M. Christy Lal Fernando
Additional Secretary - Disaster Management Division,
National Disaster Relief Service Centre,
120/2, Vidya Mawatha,
Colombo 07.

Dear Sir,

MODIFIED RATE STRUCTURE FOR THE DAMAGE ASSESSMENT OF DISASTER AFFECTED BUILDINGS IN SRI LANKA

National Natural Disaster Insurance programme as a disaster risk transferring mechanism covers the damages cause to the existing housing stock of the country and other properties by most of the natural disasters except drought and fire. With the aim of solving the issues in the current damage assessment mechanism, there's a need of developing a proposal with the National Disaster Relief Service Centre (NDRSC) under the guidance of Ministry of Defence with the necessary technical assistance of the National Building Research Organisation (NBRO).

Accordingly, a request was made by NDRSC to revise the existing rate structure to overcome the existing issues in the damage assessment process. The attached document includes the modified rate structure with a comprehensive rate breakdown for different elements of a damaged property.

Thanking you.
Yours faithfully,

Eng. (Dr). Asiri Karunawardena
Director General
National Building Research Organisation

Damage assessment of disaster affected buildings in Sri Lanka

RATE STRUCTURE FOR DAMAGE ASSESSMENT OF DISASTER AFFECTED BUILDINGS IN SRI LANKA

Implementation
National Disaster Relief Services Centre

Technical Consultancy
National Building Research Organisation

Numbering system			Damaged elements of the property	Units	Unit rate	Material	Labour	Damaged Quantity	Total Quantity	Damaged %	Payment amount for the damages
1			Roof								
1.1			Roof covering								
1.1.1			Asbestos sheets	sqft	95.20	78.26	16.94				
1.1.2			Concrete roof slab	sqft	548.70	444.70	104.00				
1.1.3			GI sheets	sqft	53.40	28.09	25.31				
1.1.4			Clay roof tiles	sqft	93.60	72.10	21.50				
1.1.5			PVC sheets	sqft	191.67	153.34	38.33				
1.1.6			Cajan/ Palmyrah/ Straw	sqft	35.25	12.00	23.25				
1.1.7			ZN/AL roof	sqft	172.72	135.86	36.86				
1.1.8			Ridge Tile (Calicut tile)	lft	207.42	116.16	91.26				
1.1.9			Asbestos close fitting ridges	lft	332.74	296.14	36.60				
1.1.10			Zinc aluminium ridgecap	lft	299.89	266.90	32.99				
1.2			Roof frame								
1.2.1			Timber roof frame								
		1.2.1.1	Imported timber (Kempus or Tulang)								
		a	Timber purlings (5" x 3")	lft	423.50	400.92	22.58				
		b	Ridge plates (6" x 2")	lft	414.20	391.62	22.58				
		c	Wall plates (4" x 3")	lft	384.60	373.31	11.29				
		d	Rafter (4" x 2")	lft	263.60	252.31	11.29				
		e	Timber battons (2" x 2")	lft	95.00	83.71	11.29				
		f	Reepers (2" x 1")	lft	52.72	41.43	11.29				
		1.2.1.2	Local timber -Attoniya								
		a	Timber purlings (5" x 3")	lft	381.20	358.62	22.58				
		b	Ridge plates (6" x 2")	lft	381.20	358.62	22.58				
		c	Wall plates (4" x 3")	lft	381.20	358.62	22.58				
		d	Rafter (4" x 2")	lft	133.41	122.12	11.29				
		e	Timber battons (2" x 2")	lft	56.41	45.12	11.29				
		f	Reepers (2" x 1")	lft	39.91	28.62	11.29				

Numbering system			Damaged elements of the property	Units	Unit rate	Material	Labour	Damaged Quantity	Total Quantity	Damaged %	Payment amount for the damages
		1.2.1.3	Valance board -Ginisapu	lft	272.24	198.74	73.50				
		1.2.1.4	4" x 2" Coconut Rafters	lft	110.62	99.33	11.29				
		1.2.2	Steel roof								
		1.2.2.1	Steel purlings								
		a	50 mm x 50 mm x 6 mm thick angle iron purling	lft	302.49	254.09	48.40				
		b	65 mm x 65 mm x 6 mm thick angle iron purling	lft	345.70	304.22	41.48				
		c	75 mm x 75 mm x 6 mm thick angle iron purling	lft	406.20	361.52	44.68				
		d	100 mm x 50 mm x 6 mm thick channel iron purling	lft	579.05	524.05	55.00				
		e	125 mm x 65 mm x 6 mm thick channel iron purling	lft	769.18	714.18	55.00				
		f	150 mm x 75 mm x 6 mm thick channel iron purling	lft	929.00	874.00	55.00				
		1.2.2.2	Steel box bars								
		a	1" x 1" 2 mm thick GI Box bar	lft	110.20	98.91	11.29				
		b	2" x 2" 2 mm thick GI Box bar	lft	190.65	179.36	11.29				
		1.3	Roof drainage								
		1.3.1	Roof gutters								
		1.3.1.1	PVC	lft	224.71	202.24	22.47				
		1.3.1.2	Zn/Al	lft	664.51	458.51	206.00				
		1.3.2	Downpipes								
		1.3.2.1	PVC	lft	254.95	188.66	66.29				
		1.3.2.2	Zn/Al	lft	469.38	398.97	70.41				

Numbering system			Damaged elements of the property	Units	Unit rate	Material	Labour	Damaged Quantity	Total Quantity	Damaged %	Payment amount for the damages
1.4			Ceiling								
	1.4.1	1.4.1	Asbestos ceiling								
		1.4.1.1	Flat Asbestos ceiling with frame	sqft	377.55	320.92	56.63				
		1.4.1.2	Angle Asbestos ceiling (existing frame)	sqft	106.78	87.56	19.22				
	1.4.2		PVC ceiling	sqft	200.00	170.00	30.00				
	1.4.3		Timber ceiling								
		1.4.3.1	Flat Timber ceiling with frame	sqft	430.96	344.77	86.19				
		1.4.3.2	Angle timber ceiling (existing frame)	sqft	215.72	151.00	64.72				
	1.4.4		Aluminium frame and PVC Suspended ceiling	sqft	160.00	130.00	30.00				
2			Floor								
2.1			Floor rendering								
	2.1.1		Tiles								
		2.1.1.1	8" x 8" wall tile	sqft	307.76	246.21	61.55				
		2.1.1.2	12" x 8" wall tile	sqft	314.54	251.63	62.91				
		2.1.1.3	12" x 12" wall tile	sqft	334.25	267.40	66.85				
		2.1.1.4	12" x 12" floor tile	sqft	390.17	319.94	70.23				
		2.1.1.5	16" x 16" floor tile	sqft	353.74	290.07	63.67				
		2.1.1.6	24" x 24" floor tile	sqft	500.14	410.14	90.00				
	2.1.2		Cement rendering								
		2.1.2.1	Cement rendering -colour	sqft	77.57	41.97	35.60				

Numbering system		Damaged elements of the property	Units	Unit rate	Material	Labour	Damaged Quantity	Total Quantity	Damaged %	Payment amount for the damages
	2.1.2.2	Cement rendering cement colour	sqft	72.64	37.04	35.60				
	2.1.3	Terrazzo	sqft	391.00	273.70	117.30				
	2.1.4	Timber - Kumbuk	sqft	2,365.00	1,655.50	709.50				
	2.1.5	Mass concrete 3" thick	sqft	97.78	75.28	22.50				
	2.1.6	R/F Concrete								
	2.1.6.1	R/F Concrete G20 concrete 3" thick	sqft	117.00	93.60	23.40				
	2.1.6.2	Reinforcement	kg	241.99	205.69	36.30				
	2.1.7	Clay		104.00	83.20	20.80				
	2.1.8	Soil back fill	cube	6,791.00	4,025.00	2,766.00				
3		Walls								
	3.1	Cement block walls								
	3.1.1	4" Cement block walls								
	3.1.1.1	Plastered	sqft	297.69	186.84	110.85				
	3.1.1.2	Unplastered	sqft	145.93	109.45	36.48				
	3.1.2	6" Cement block walls								
	3.1.2.1	Plastered	sqft	351.00	236.79	114.21				
	3.1.2.2	Unplastered	sqft	199.25	159.40	39.85				
	3.2	Brick walls								
	3.2.1	9" Brick walls								
	3.2.1.1	Plastered	sqft	518.00	366.72	151.28				
	3.2.1.2	Unplastered	sqft	366.29	289.37	76.92				

Numbering system		Damaged elements of the property	Units	Unit rate	Material	Labour	Damaged Quantity	Total Quantity	Damaged %	Payment amount for the damages
	3.2.2	4.5" Brick walls								
	3.2.2.1	Plastered	sqft	374.39	239.92	134.47				
	3.2.2.2	Unplastered	sqft	222.63	162.52	60.11				
	3.3	Cabook	sqft	223.00	176.17	46.83				
	3.4	Pressed soil blocks (CSEB)		.						
	3.4.1	Unplastered	sqft	432.60	333.10	99.50				
	3.4.2	Plastered	sqft	584.36	410.50	173.86				
	3.5	Mud	sqft	103.00	79.31	23.69				
	3.6	Metal sheets	sqft	233.00	179.41	53.59				
	3.7	Timber planks	sqft	363.00	279.51	83.49				
	3.8	Cadjan/ Palmyrah/ Straw	sqft	50.00	22.00	28.00				
4		Foundaton								
	4.1	RRM	cuft	357.19	228.60	128.59				
	4.2	R/F concrete Individual pad footings	nos	6,918.26	5,697.16	1,221.10				
	4.3	R/F concrete Plinth beam	lft	756.00	609.89	146.11				
	4.4	Brick work footing	cuft	486.70	394.23	92.47				
	4.5	Block work footing	cuft	251.46	165.46	86.00				
5		Doors and Windows								

Numbering system		Damaged elements of the property	Units	Unit rate	Material	Labour	Damaged Quantity	Total Quantity	Damaged %	Payment amount for the damages
5.1		Doors								
	5.1.1	Door sashes								
		5.1.1.1	Timber door sashes-Paneled	sqft	1,193.92	358.18	835.74			
		5.1.1.2	Aluminium door sashes	sqft	1,142.86	914.29	228.57			
		5.1.1.3	Plywood door sashes - Ordinary	sqft	440.77	352.62	88.15			
		5.1.1.4	Plywood door sashes - marine	sqft	466.70	373.36	93.34			
	5.1.2	Door frames								
		5.1.2.1	Timber door frames	lft	549.59	330.24	219.35			
		5.1.2.2	Aluminium door frames	lft	352.94	282.35	70.59			
		5.1.2.3	Precast concrete door frames	lft	164.71	131.76	32.94			
5.2		Windows								
	5.1.1	window sashes								
		5.1.1.1	Timber window sashes	sqft	1,179.70	613.44	566.26			
		5.1.1.2	Aluminium window sashes with glasses							
		a	1 Bay	sqft	1,521.08	1,216.86	304.22			
		b	2 Bay	sqft	1,431.20	1,144.96	286.24			
		5.1.1.3	Glasses							
		a	5mm thick clear glass	sqft	160.12	120.57	39.55			
		b	5mm thick tinted glass	sqft	225.12	185.57	39.55			
		c	3mm thick clear glass	sqft	130.12	90.57	39.55			
		d	3mm thick tinted glass	sqft	150.12	110.57	39.55			
		e	Design glass	sqft	140.12	100.57	39.55			
	5.1.2	Window frames								
		5.1.2.1	Timber window frames	lft	855.61	667.38	188.23			
		5.1.2.2	Aluminium window frames	lft	281.41	225.13	56.28			

Numbering system			Damaged elements of the property	Units	Unit rate	Material	Labour	Damaged Quantity	Total Quantity	Damaged %	Payment amount for the damages
		5.1.2.3	Precast concrete window frames	lft	240.99	192.79	48.20				
6			Painting								
6.1			Internal walls -Emulsion	sqft	18.19	10.91	7.28				
6.2			External walls - weathersheild	sqft	23.85	17.89	5.96				
6.3			Door window - enamel	sqft	21.39	11.12	10.27				
6.4			Ceiling	sqft	34.05	25.54	8.51				
6.5			Soffit of roof slab	sqft	21.39	11.12	10.27				
7			Electricity supply								
7.1			Sockets								
	7.1.1		13A Socket	nos	2,506.32	2,255.69	250.63				
7.2			Switches								
	7.2.1		1 Gang one way switch	nos	2,830.42	2,547.38	283.04				
	7.2.2		2 Gang one way switch	nos	3,681.71	3,313.54	368.17				
	7.2.3		3 Gang one way switch	nos	4,520.03	4,068.03	452.00				
	7.2.4		4 Gang one way switch	nos	5,349.71	4,814.74	534.97				
	7.2.5		5 Gang one way switch	nos	6,183.71	5,565.34	618.37				
	7.2.6		1 Gang two way switch	nos	3,331.68	2,998.51	333.17				
7.3			Electrical bulbs								
	7.3.1		Pendent lamp with 12 watt LED bulb.	nos	1,041.42	937.28	104.14				
	7.3.2		Pendent lamp with 24 watt CFL bulb	nos	786.47	707.82	78.65				
	7.3.3		4'-0" long 18 watt single fluorescent	nos	1,166.73	1,050.06	116.67				

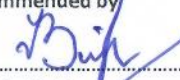
Numbering system		Damaged elements of the property	Units	Unit rate	Material	Labour	Damaged Quantity	Total Quantity	Damaged %	Payment amount for the damages
	7.3.4	2'-0" long 18 watt single fluorescent	nos	920.42	828.38	92.04				
	7.4	Other appliances								
	7.4.1	Electric Bell with Bell press switch	nos	3,694.67	3,325.20	369.47				
	7.4.2	Fan Regulator	nos	3,072.41	2,765.17	307.24				
	7.4.3	Ceiling Fan	nos	7,423.91	6,681.52	742.39				
	7.5	Domestic Electrical system								
	7.5.1	Semi-Permanent Housing Units								
		Replacement of breakers and completing of avg. 5-15 point wiring, and 5-10 socket outlets								
	7.5.1.1	Area - < 500 ft ²	item	25,928.00						
	7.5.1.2	Area- Between 500ft ² - 1000ft ²	item	51,855.00						
	7.5.2	Permanent Housing Units								
		Replacement of breakers and completing of avg. 5-15 point wiring, and 5-10 socket outlets								
	7.5.1.1	Area - < 500 ft ²	item	88,154.00						
	7.5.1.2	Area- Between 500ft ² - 1000ft ²	item	134,823.00						
8		Plumbing system and water supply system								
	8.1	Water supply line								
	8.1.1	1/2" dia. UPVC pipe	lft	77.78	42.78	35.00				
	8.1.2	3/4" dia. UPVC pipe	lft	108.03	73.03	35.00				
	8.1.3	1" dia. UPVC pipe	lft	112.35	96.62	15.73				
	8.1.4	1 1/4" dia. UPVC pipe	lft	138.28	121.69	16.59				
	8.1.5	1 1/2" dia. UPVC pipe	lft	173.71	152.87	20.84				
	8.1.6	2" dia. UPVC pipe	lft	267.05	253.70	13.35				

Numbering system		Damaged elements of the property	Units	Unit rate	Material	Labour	Damaged Quantity	Total Quantity	Damaged %	Payment amount for the damages
8.2		Water tank								
	8.2.1	PVC water tank								
	8.2.1.1	500 L Water tank	nos	11,550.70	10,395.63	1,155.07				
	8.2.1.2	1000 L Water tank	nos	17,980.72	16,182.65	1,798.07				
	8.2.1.3	2000 L Water tank	nos	29,725.88	26,753.29	2,972.59				
	8.2.1.4	5000 L Water tank	nos	63,963.14	57,566.83	6,396.31				
9		Waste water disposal system								
9.1		Septic tank								
	9.1.1	Precast concrete rings with cover slab- (3'-6" dia 3'-0" hight concrete rings)	nos	8,146.97	6,517.58	1,629.39				
	9.1.2	Precast septic tank system with soakage pit	nos	65,000.00	55,000.00	10,000.00				
9.2		Soakage pit								
	9.2.1	Precast concrete rings with cover slab(2'-6" dia 1'-6" hight concrete rings)	nos	6,329.45	5,063.56	1,265.89				
9.3		Waste water pipe lines								
	9.3.1	1 1/4" dia. UPVC pipe	lft	118.40	75.78	42.62				
	9.3.2	1 1/2" dia. UPVC pipe	lft	129.64	92.04	37.60				
	9.3.2	2" dia. UPVC pipe	lft	194.46	155.57	38.89				


Numbering system		Damaged elements of the property	Units	Unit rate	Material	Labour	Damaged Quantity	Total Quantity	Damaged %	Payment amount for the damages
9.4		Swear pipe lines								
	9.4.1	4" dia. UPVC pipe	lft	566.08	526.46	39.62				
9.4		Toilet & Bathroom fittings and appliances								
	9.4.1	Water taps S-lon /Water tec	nos	488.30	317.39	170.91				
	9.4.2	Sink								
	9.4.2.1	36" x 18" stainless steel kitchen sink	nos	5,228.71	4,287.54	941.17				
	9.4.2.2	17" x 18" stainless steel kitchen sink	nos	4,165.68	3,415.86	749.82				
	9.4.3	Wash basins	nos	9,839.49	9,052.33	787.16				
	9.4.4	Shower	nos	721.65	577.32	144.33				
	9.4.5	squatting pan	nos	6,265.81	5,513.91	751.90				
	9.4.6	Commode	nos	17,548.60	16,320.20	1,228.40				

Important: The cost estimation given above was prepared based on the 2019 Western Province BSR rates and current market prices of the country. In preparation of this cost estimation only the labour, transportation and building material costs were included. No profit and overheads were added. This cost estimation is valid from 01.04.2020. Cost estimates for the building materials can differ from area to area. Therefore, if required, 5% per variation (plus or minus) for the rates can be added to the given amount as the contingency estimated amount with the recommendation of the technical evaluators / officers. The reports / details of the respective adjustments should be submitted along with the relevant application. If a particular item is not listed in the given cost estimation, for such the prices and the cost should be / could be determined by the price fixing committee of your District Secretariat. A comprehensive report of the amended respective cost estimations and relevant base - documentation should be submitted along with the application.

ඉහත සඳහන් පිරිවැය ඇස්තමේන්තුව සකස් කරන ලද්දේ දැනට පවතින මිල ගණන් වලට අනුකූලවය (2019 Western Province BSR rates). මෙම පිරිවැය ඇස්තමේන්තුව සකස් කිරීමේදී ශ්‍රමය, ප්‍රවාහන වියදම් සහ ගොඩනැගිලි ද්‍රව්‍ය වල අගයන්ද ඇතුළත් කර ඇත. මෙම පිරිවැය ඇස්තමේන්තුව 2020.04.01 සිට වලංගු වේ. එක් එක් ප්‍රදේශ අනුව ගොඩනැගිලි ද්‍රව්‍ය වල පිරිවැය වෙනස් විය හැකි බැවින් ලබා දී ඇති ඒකක මිල ගණන් සඳහා 5% ක් දක්වා අගයන් අවශ්‍යතාව මත පමණක් එකතු කිරීම හෝ අඩු කිරීම තාක්ෂණික නිලධාරියකුගේ නිර්දේශ මත සිදු කල හැක. එසේ සිදු කරනු ලබන වෙනස් වීම් සම්බන්ධයෙන් වාර්තාවක් අදාළ අයදුම්පත සමඟ යොමුකල යුතුය. මෙම පිරිවැය ලේඛණයේ ඇතුළත් නොවන අයිතමයන් සඳහා ඇස්තමේන්තු කිරීමට අවශ්‍ය වන්නේ නම් ඔබ දිස්ත්‍රික් ලේකම් කාර්යාලයේ දිස්ත්‍රික් මිල කමිටු නිර්ණ අනුව ඒ සඳහා වැය වන පිරිවැය ගණනය කල හැකි අතර එම සංශෝධනය වීම සම්බන්ධව වාර්තාවක් හා පාදක කරගත් ලේඛන අයදුම්පත සමඟ යොමු කල යුතුය.

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Numbering system		Damaged elements of the property	Units	Unit rate	Material	Labour	Damaged Quantity	Total Quantity	Damaged %	Payment amount for the damages
9.4		Swr pipe lines								
	9.4.1	4" dia. UPVC pipe	lft	566.08	526.46	39.62				
9.4		Toilet & Bathroom fittings and appliances								
	9.4.1	Water taps S-lon /Water tec	nos	488.30	317.39	170.91				
	9.4.2	Sink								
	9.4.2.1	36" x 18" stainless steel kitchen sink	nos	5,228.71	4,287.54	941.17				
	9.4.2.2	17" x 18" stainless steel kitchen sink	nos	4,165.68	3,415.86	749.82				
	9.4.3	Wash basins	nos	9,839.49	9,052.33	787.16				
	9.4.4	Shower	nos	721.65	577.32	144.33				
	9.4.5	squatting pan	nos	6,265.81	5,513.91	751.90				
	9.4.6	Commode	nos	17,548.60	16,320.20	1,228.40				

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25/08/2020

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