

NATIONAL AGROMETEOROLOGICAL ADVISORY BULLETIN



08th September 2023 to 08th October 2023

Issued on 08th September 2023



Department of Meteorology

Department of Agriculture

2023.09.08

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Weather and Climate update Department of Meteorology

Rainfall Analysis-August 2023

According to the available rainfall data in the Department of Meteorology above normal rainfalls were reported from Mannar, Mullaitivu, Vavuniya and Trincomalee districts during the month of August 2023. It has reported below normal rainfalls over remaining areas of the country except Galle and Killinochchi where near normal rainfalls were reported during the month of August (Fig-1(a)).

Observed Cumulative rainfall from the 1 of January to end of August 2023 (Fig 1(b)) were near or slightly above normal over most parts except Kegalle, Matale, Kurunegala, Kandy and NuwraEliya districts where below normal rainfalls were reported.

Observed rainfall as a percentage of normal during the month of August 2023 is shown in the figure 1(a) and observed cumulative rainfall as a percentage of normal from 1st January 2023 to 31st August 2023 is shown in the figure 1 (b).

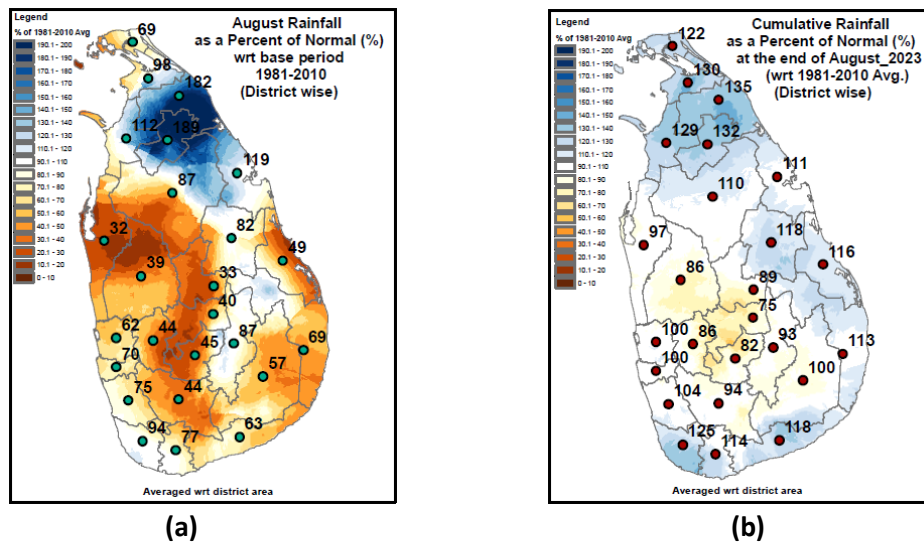


Figure 01: Observed Monthly rainfall as percentage of long-term average (1981-2010) during August 2023 (a) and cumulative rainfall from 01st January 2023 to 31st August 2023 as percentage of long-term average (1981- 2010) (b)

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Maximum and Minimum Temperatures-August 2023

During the month of August average maximum temperatures (day time) were well above normal over most parts of the country. Average minimum temperatures (night-time) were well above normal over Western province and slightly above normal over remaining area of the country except Trincomalee and Badulla districts where near normal minimum temperatures were reported during the month of August 2023.

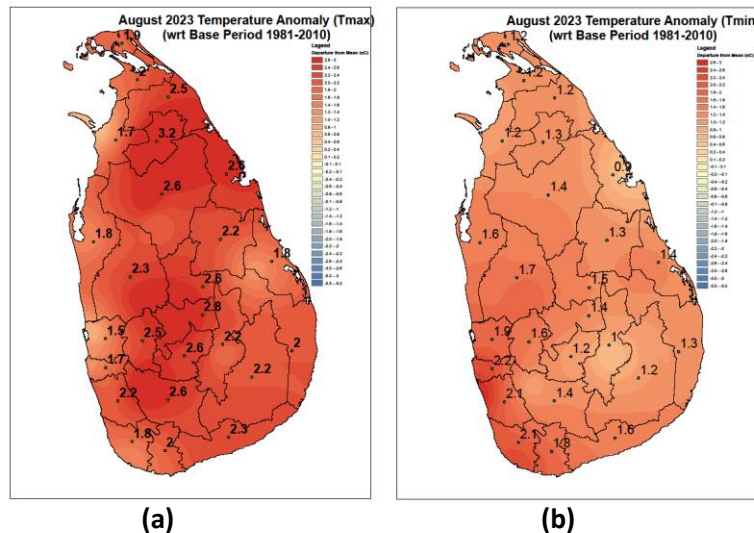


Figure 02 : Average Maximum (a) and Minimum (b) Temperature anomalies during the month of August 2023 compared with the long-term average (1981-2010)

Weather Forecast: Forecast for the month of September 2023(Weekly)

(Updated on 7th September 2023)

A slightly above normal rainfalls are likely over southern province and along the western coastal areas during the week 08th -14th September. During the week 15th -21st of September above normal rainfalls are likely over Southern and Uva provinces. During the week 22nd -28th September there is a possibility of having above normal rainfalls over most of the parts of the country except some parts of Northern, North central and eastern provinces. During the week 29th September -05th October there is a possibility of having above normal rainfalls over some parts in Western, Southern and Sabaragamuwa provinces (Figure 03).

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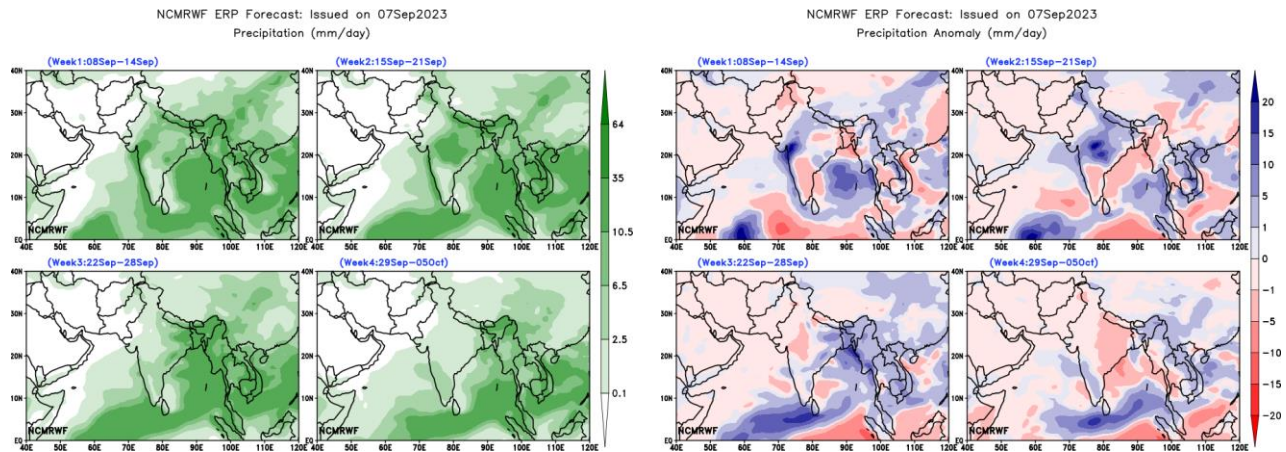


Figure 03 : Weekly rainfall Forecast and the Rainfall anomaly (mm/day)

Note: Department of Meteorology issues **Weekly Agromet Bulletin** to update climatological situation. It can be downloaded from the web page link- Agromet Bulletin (meteo.gov.lk)

http://meteo.gov.lk/index.php?option=com_content&view=article&id=28&Itemid=301&lang=en#weekly-updates-2022

Weather forecast for the season of September-October-November (SON) 2023

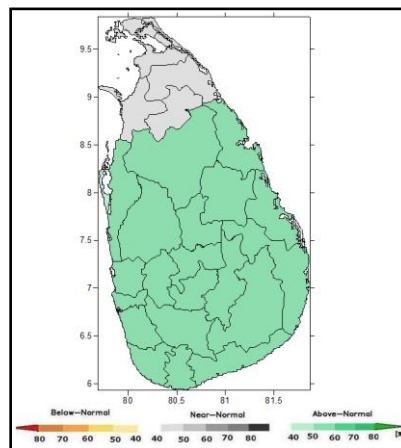
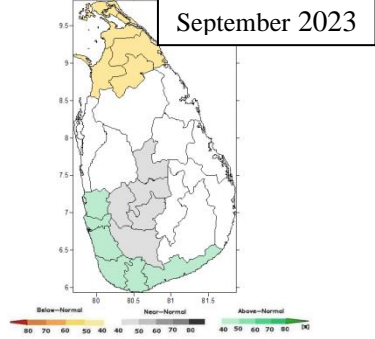
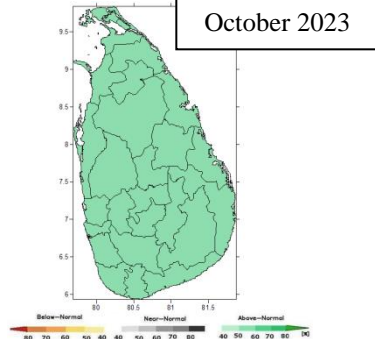
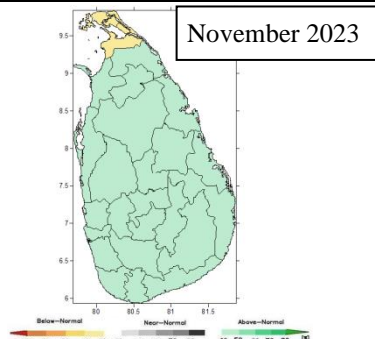


Figure 04 : Seasonal Rainfall Forecast for September-November 2023 (SON 2023)

There is a probability of having above normal rainfall over the country except Northern province, where near or slightly below normal rainfall can be expected during SON 2023 season as a whole. (Fig. 04).

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Monthly Rainfall Forecasts for September-October-November 2023

Month	Rainfall forecast
 <p style="text-align: center;">September 2023</p>	<p>There is a chance of having slightly above normal rainfalls over Southern and Western provinces and near or slightly below normal rainfalls over Central and Sabaragamuwa provinces. Below normal rainfalls are likely over Northern province during the month of September 2023.</p>
 <p style="text-align: center;">October 2023</p>	<p>Above normal rainfalls are likely over most parts of the country during the month of October 2023</p>
 <p style="text-align: center;">November 2023</p>	<p>Above normal rainfalls are likely over most parts, except Jaffna and Killinochchi districts where below normal rainfalls are possible during the month of November 2023.</p>

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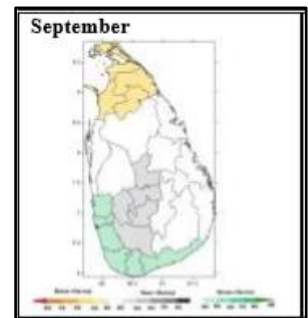
Agro-met Advisory: September 2023

Natural Resource Management Centre, Department of Agriculture
(For the months of September, October and November)

Department of Meteorology (DoM) has issued the seasonal weather forecast for the coming three-months period, as follows.

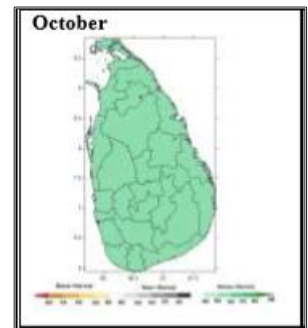
- Rainfall forecast for **September**

The rainfall forecast for September indicates slightly above normal in Southern and Western provinces, with near or slightly below normal rainfall expected in Central and Sabaragamuwa provinces. Below normal rainfall is expected in the Northern province, while there is no clear signal for the other remaining areas.



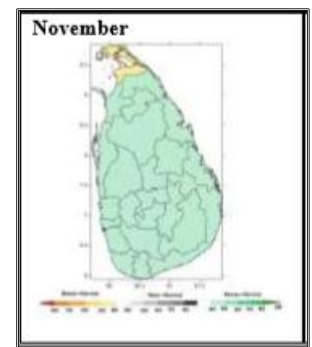
Rainfall forecast for **October**

Above-normal rainfall is predicted for most parts of the country during the month of October 2023.



- Rainfall forecast for **November**

Above-normal rainfall is expected over most parts of the country in November 2023, with exception of the Jaffna and Killinochchi districts, where below normal rainfall is predicted.



With the available weather predictions, it is advisable to consider general climatological rainfall values as **near-normal** rainfall values for each month when undertaking agricultural planning. Agro-ecological region-wise expected average rainfall values are attached in Table 1 - 3.

The average effective storage in major reservoirs managed by **Irrigation Department (ID)** is approximately at 26.8%. Recent updates on the water levels and water availability of major

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reservoirs are presented in Table 4. The ID has reported that, despite intermittent rainfall in recent days, it is still insufficient to significant increase the inflow of the major reservoirs. According to the information provided by the ID, the harvesting activities under major and medium reservoirs have progressed to approximately 70%.

The **Mahaweli Authority of Sri Lanka (MASL)**, reports that, harvesting activities in the Mahaweli areas are currently at about 90% completion and are expected to be finished before mid-September. Given past experience, MASL emphasizes the importance of continuing cultivation activities in line with the decisions made during cultivation meetings, particularly to commence the season on time.

Department of Agrarian Development (DAD) notes that, approximately 60% of minor irrigation tanks under the DAD are currently not at the satisfactory level. However, this situation is not uncommon during September.

The following agronomic recommendations have been proposed by the members of the agro-met advisory committee to ensure a successful 2023/24 *Maha* season.

Paddy cultivation

- Paddy farmers with fields at the harvesting stage are advised to schedule their harvesting activities predominantly in mid-September. This is because, according to the DoM, the persistent rainfall is expected to diminish in mid-September but increase again in the latter part of the month.
- After completing harvesting activities, it is crucial to immediately begin the reconstruction of reservoirs and canals, taking all necessary measures to collect anticipated rainwater in the reservoirs during the Second Inter-monsoon (SIM) season.
- Immediately after the seasonal or inter seasonal (3rd season) harvesting and post-harvesting activities, it is essential for farmers to prepare their paddy fields for *Maha* season cultivation, either for dry seeding or land preparation for wet seeding.
- To maximize the benefits of the anticipated rainfall during September and October, it is highly advisable for farmers to plan their land preparation activities using rainwater. This

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can result in saving approximately 1/5 of the total water requirement of the season to the crop.

- This approach is particularly useful in coping with the expected water scarcity in the latter part of the season and ensuring a successful carry-over storage into the upcoming *Yala* season.

Age Classes

- Determining the age classes of paddy, primarily depends on the anticipated harvesting time. In case of the *Maha* season, the best period for harvesting is in mid-February.
- Therefore, taking into account the expected rains at late September or early October, the field establishment of the crop can be planned according to the following time frame. (Please note that these dates are **not for the land preparation activities but for the field establishment** of the crop).

Age Class	Time for Field Establishment the crop
4	Mid-October
3½	Early-November
3	Mid-November

- The selection of age classes should be to do during pre-seasonal or *Kanna* meetings, with agreements in place with relevant officials. This selection should take into account considering the updated weather prediction, the current reservoir status, the availability of agricultural inputs, including seed availability, and the preparedness of farmers.
- However, when choosing the age-classes, it is important to consider that the 4 or 4½ month-aged classes are treated as high-yielding rice varieties but require a higher amount of water due to their extended vegetative stage.
- Therefore, farmers can opt for long-aged rice varieties if they have the capability to carry out land preparation activities using rainwater.
- The Seed and Plant Material Development Center (SPMDC) of the Department of Agriculture ensure the **basic seed** availability of aforementioned age classes.

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Field establishment of the crop

- It is recommended to allocate **three weeks** for land preparation, including primary, secondary and tertiary tillage, before crop establishment.
- Following agronomic practices are recommended for paddy farmers, with special attention to weed control.
 - Utilize a Disc plough (4-wheel tractor) or Mould-board plough (2-wheel tractor) for ploughing (6” – 9”) during the first land preparation.
 - After the primary tillage, clean the bunds and incorporate organic matter (leaf manure and cow done).
 - Maintain standing water, covering half of each ploughed soil clods, (*Hee-kata*), and allow 10-14 days for weed seed germination.
 - Conduct the second ploughing perpendicular to the primary tillage using a tine tiller or a rotovator. Maintain standing water at a level of 1”- 2” for 7 days.
 - Then repairing and re-plaster bunds as needed.
 - Tertiary tillage should include puddling and levelling. Proper puddling followed by thorough levelling is essential for efficient and uniform water management, weed control, proper crop establishment.
 - At leveling, it is advised to incorporated compost (if not added organic matter at the secondary tillage), half burn paddy husk and TSP as recommended by the DOA.
- Transplanting and the parachute method are highly promoted, rather than broadcasting as water saving technique. Additionally, to minimize damages to the broadcasted seeds by the predicted short intense, high rains.
- Use the same age class of paddy varieties across the entire range or ‘*Yaya*’ and initiate land preparation activities simultaneously, avoiding staggered cultivation.

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- This practice helps minimize irrigation water losses and reduce the spread of pest and disease.

Other Field Crops (OFCs)

- Farmers planning to cultivate long duration other crops such as Maize and ground nut, are advised to initiate cultivation activities with the onset of the rain. Land preparation activities should commence with arrival of incipient rains.
- For other crops such as black gram, mung bean and cowpea, planting can begin after mid-November to mitigate the damages caused by the high intense rains expected in October.
- It is critical to plough cultivation lands perpendicular to the slope when conducting land preparation activities for upland crops and establish soil conservation bunds.
- Special attention is required to improve proper drainage systems to prevent waterlogging situations.
- It is recommended to establish maize cultivation before 15th of October to minimize pest and diseases damage. Particular attention should be paid to combating Fall Army Worm (FAW) attacks to reduce their impact at the initial stage.

Vegetables

- If drainage conditions are favorable, vegetables can be grown with extra care. Intense rains often result in infectious disease such as bacterial and fungal diseases, as well as post-harvest losses.
- Considering the anticipated crop damages due to unexpected rains during the SIM period and dry conditions in the later part of this season, coupled with increasing uncertainty, the crop insurance scheme will be a crucial approach.

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Table 1: Agro-ecological region wise expected rainfall values for **September**

Dry Zone (mm)		Intermediate Zone (mm)		Wet Zone (mm)	
AER	Sep	AER	Sep	AER	Sep
DL1a	27.4	IL1a	73.8	WL1a	267.4
DL1b	25.9	IL1b	60.1	WL1b	244.3
DL1c	43.6	IL1c	59.6	WL2a	176.2
DL1d	45.1	IL2	50.1	WL2b	148.5
DL1e	51.9	IL3	38.1	WL3	125.2
DL1f	17.8	IM1a	75.8	WM1a	264.2
DL2a	38.7	IM1b	38.8	WM1b	187.4
DL2b	22.0	IM1c	18.3	WM2a	176.2
DL3	13.3	IM2a	83.4	WM 2b	141.9
DL4	6.2	IM2b	79.0	WM3a	100.7
DL5	14.0	IM3a	98.9	WM3b	82.7
		IM3b	46.6	WU1	222.5
		IM3c	64.3	WU2a	169.1
		IU1	93.8	WU2b	148.4
		IU2	92.6	WU3	116.4
		IU3a	79.8		
		IU3b	66.5		
		IU3c	79.9		
		IU3d	60.2		
		IU3e	68.2		

(Source: Punyawardena *et al.* 2003, Agro-ecological Region Map)

Table 2: Agro-ecological region wise expected rainfall values for **October**

Dry Zone (mm)		Intermediate Zone (mm)		Wet Zone (mm)	
AER	Oct	AER	Oct	AER	Oct
DL1a	127.0	IL1a	209.4	WL1a	385.2
DL1b	132.0	IL1b	145.3	WL1b	324.1
DL1c	100.3	IL1c	155.8	WL2a	252.8
DL1d	103.0	IL2	136.7	WL2b	292.8
DL1e	125.4	IL3	175.8	WL3	251.6
DL1f	129.5	IM1a	172.7	WM1a	366.2
DL2a	120.3	IM1b	161.8	WM1b	299.5
DL2b	96.8	IM1c	119.6	WM2a	296.1
DL3	111.1	IM2a	177.3	WM 2b	279.4
DL4	107.4	IM2b	170.6	WM3a	274.5
DL5	85.5	IM3a	203.8	WM3b	233.9
		IM3b	180.5	WU1	343.4
		IM3c	165.4	WU2a	268.4
		IU1	228.0	WU2b	264.7

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			IU2	187.4		WU3	196.7
			IU3a	197.9			
			IU3b	195.3			
			IU3c	189.4			
			IU3d	145.4			
			IU3e	144.7			

(Source: Punyawardena *et al.* 2003, Agro-ecological Region Map)

Table 3: Agro-ecological region wise expected rainfall values for **November**

Dry Zone (mm)		Intermediate Zone (mm)		Wet Zone (mm)	
AER	Nov	AER	Nov	AER	Nov
DL1a	217.9	IL1a	189.4	WL1a	305.1
DL1b	168.3	IL1b	174.9	WL1b	273.7
DL1c	202.0	IL1c	226.6	WL2a	242.7
DL1d	166.4	IL2	224.3	WL2b	233.0
DL1e	187.5	IL3	163.9	WL3	222.3
DL1f	157.2	IM1a	242.3	WM1a	289.5
DL2a	196.2	IM1b	252.3	WM1b	285.7
DL2b	191.3	IM1c	156.0	WM2a	232.8
DL3	191.4	IM2a	248.5	WM 2b	248.0
DL4	185.8	IM2b	264.8	WM3a	226.4
DL5	137.4	IM3a	208.4	WM3b	220.6
		IM3b	218.8	WU1	258.0
		IM3c	195.3	WU2a	209.2
		IU1	272.8	WU2b	229.8
		IU2	251.4	WU3	189.6
		IU3a	290.6		
		IU3b	272.5		
		IU3c	227.2		
		IU3d	140.1		
		IU3e	167.0		

(Source: Punyawardena *et al.* 2003, Agro-ecological Region Map)

Table 4: Summary of daily water levels & storage of major reservoirs (08.09.2023)

NO	RANGE	NO OF TANKS	STORAGE (Acft)				
			GROSS	DEAD	PRESENT	EFFECTIVE	
						Acft.	%
01	AMPARA	9	1,052,221	16,259	224,798	208,539	20.1%
02	ANURADHAPURA	10	556,390	27,583	176,192	148,609	28.1%
03	BADULLA	7	78,388	4,138	24,970	20,832	28.1%
04	BATTICALOA	4	140,172	1,085	47,604	46,519	33.4%
05	HAMBANTOTA	10	377,738	34,172	134,741	100,569	29.3%

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06	GALLE	02	3,081	-	3,187	3,187	100.0%
07	KANDY	03	28,503	386	8,129	7,743	27.5%
08	KURUNEGALA	10	142,413	5,670	48,598	42,928	31.4%
09	MONARAGALA	03	44,873	2,640	15,148	12,508	29.6%
10	POLONNARUWA	04	352,010	24,300	160,062	135,762	41.4%
11	PUTTALAM	02	74,261	8,400	13,595	5,195	7.9%
12	TRINCOMALEE	05	191,328	2,555	65,827	63,272	33.5%
13	MANNAR	04	67,370	675	4,982	4,307	6.5%
	TOTAL	73	3,108,747	127,863	927,832	799,969	26.8%

(Source: Water Management Division, Department of Irrigation)

Note: Please consider that this advisory was prepared based on national-level information. If available, it is advisable to consider localized detailed information as supplementary to this advisory.

An updated Agro-met Advisory will be issued in early October 2023 in consultation with members of the technical advisory committee, other relevant resource persons and stakeholders.

Technical Advisory Team Members

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- Eng. (Ms.) Thevaruban Yasotha (Chief Engineer – Water Management) Irrigation Department
- Ms. D.K.W.R. Senevirathna (Director – Agriculture) Mahaweli Authority of Sri Lanka
- Mr. D.D. Perera (Technical Officer - Water Management Division) Department of Agrarian Development
- Dr. H.K. Kadupitiya, (Director, Natural Resources Management Centre)
- Dr. W.M.U.K. Rathnayake (Principal Agriculture Scientist – Soil Science - Rice) Rice Research and Development Institute
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- Ms. Aruni B. Abeysekera (Assistant Director of Agriculture-Agro-climatology and Climate Change) - Natural Resources Management Centre

Special Thanks: Officers attended to the committee meeting representing Ministry of Plantation Industries,

- Ms. Kamani Ranathunga (Director General (Agric.) - Ministry of Plantation Industries
- Dr. M.A. Wijerathne (Additional Director - Tea Research Institute)
- Mr. Dilhan Rathnayake (Research Officer – Rubber Research Institute)
- Ms. Nilmini Jayalath (Division Head – Agro-economics and Agro-enterprises Management Division - Coconut Research Institute)