



REPORT ON FLOOD IMPACT NORTH EAST MONSOON

BASED ON FACT FINDING MISSION FROM 25 TO 28 DECEMBER 2018 IN
KILINOCHCHI AND MULLAITIVU DISTRICTS

WORLD FOOD PROGRAMME SRI LANKA
31 DECEMBER 2018, COLOMBO

I. Background

The North East Monsoon - the major monsoon together with the second inter-monsoon brings significant rainfalls over the dry zone of the country mainly in Northern, North-Central, Eastern, Uva, North-Western provinces which are the hub of rice production - the staple food in Sri Lanka. However, due to climatic change and other phenomena, these monsoons failed in 2016 and 2017, creating the worst drought in 40 years in these areas which affected drinking water, agriculture production and livelihoods.

This year, between late November to early December, the North-East monsoon established over the Indian ocean and commenced the monsoonal rains over the eastern and north-eastern areas of the country. However, the monsoon establishment was interrupted by a low-pressure area around 9th December and developed into Tropical Storm “Pethai” and landed over India around 17th December. At the re-establishment of the North Eastern monsoon, winds created another low pressure on 21st December, closer to eastern sea areas of the country and brought heavy rainfalls to the Northern Districts exceeding 300mm within 24 hours. Many areas of Kilinochchi and Mullaithivu received above 250mm rainfalls, the highest since 1983 based on records (see Figure 1).

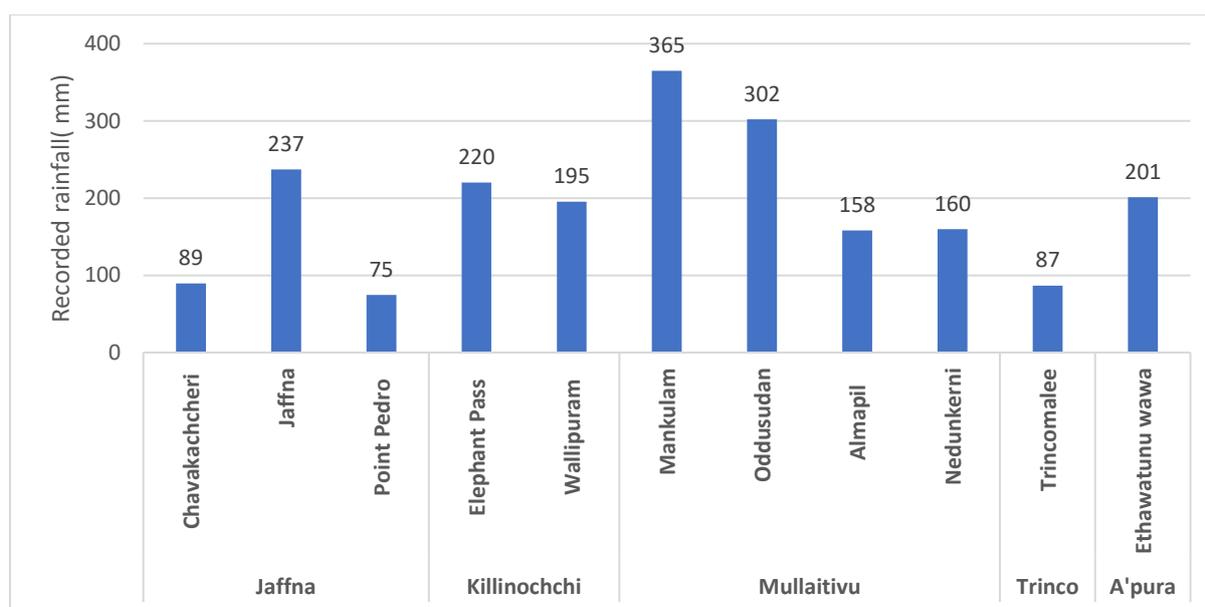


Figure 1: Rainfall (mm) in Northern Districts in 24 hours, ending 0830 hrs on 22nd December, Department of Meteorology

According to the Disaster Management Centre (DMC), the heavy rains and floods in these two districts on 22 December initially affected more than 45,000 people from 14,000 families. Military troops were deployed since 22 December with the coordination of the Disaster Management Centre (DMC) in the most affected divisions of Kadawalai, Karachchi, Pachchilaipallai in Kilinochchi District; and Puthukkudiyiruppu, Oddusudan, Maritimpattu in Mullaithivu District with boats and rescue gear. More than 2,000 people were rescued by troops and sent to safety centers in those divisions and provided with cooked meals on the morning of 22nd December. Thereafter, the District and Divisional Administration together with disaster management authorities took over the responsibility of provision of cooked meals for displaced population.



Floods in Kilinochchi on 22nd December (Photo Credit, Sri Lanka Army)

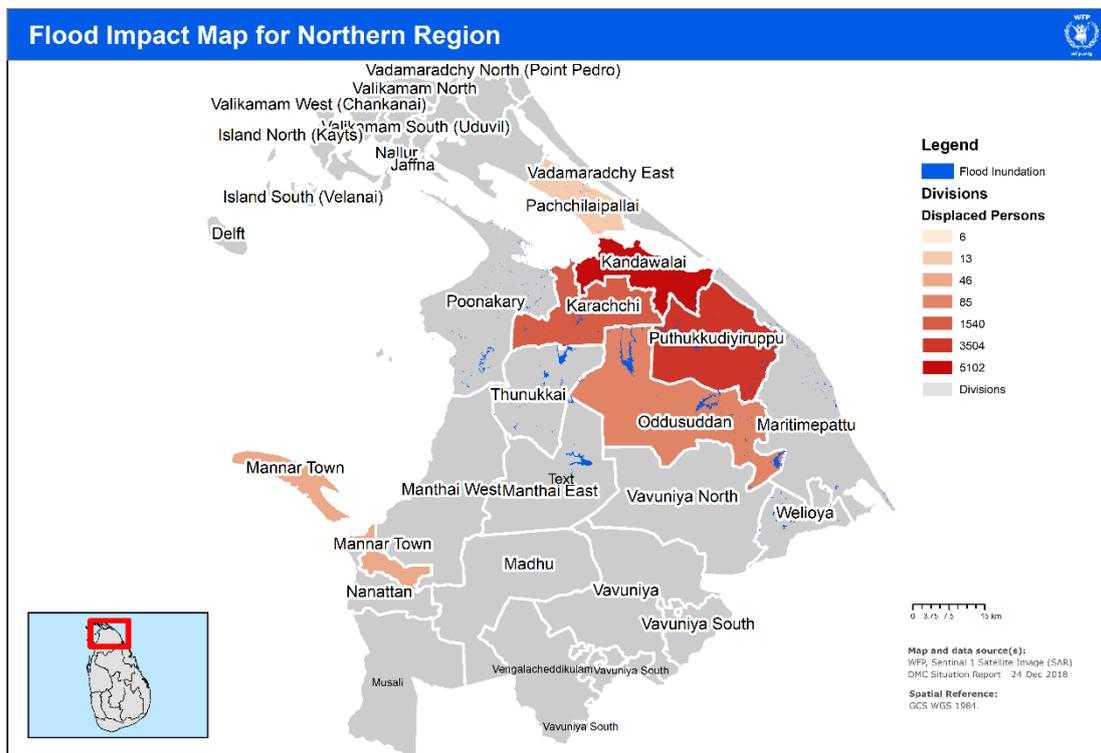
Since 23rd December, the situation gradually improved: the weather improved, with only minor showers received and approximately one third of the people who were displaced, had started to return to their homes. The Ministry of Disaster Management, District Secretaries and Military were responding to the needs of the affected people and the government immediately allocated 1 million rupees (US\$5,500) per affected district for the provision of emergency needs. However, the rains increased on 26th December and the authorities had to keep displaced population for additional days in IDP safety centers. The rains had significantly reduced in these Districts since 27th December, and displaced people started to move back to their homes the following days.

The National Disaster Relief Services Center(NDRSC) has provided necessary funds to the District and Divisional Administration to provide emergency relief and cooked meals. Communal cooking was done in many of safety centers with the engagement of displaced population together with authorities.

More than 86.8 million rupees has been disbursed to District authorities (50.1 million for Mullaitivu & 36.7 million for Kilinochchi), and government will start to give the compensations (under the Natural Disaster Insurance scheme) for those who were displaced and are settling after flooding. Humanitarian agencies who are present in these Districts, assisted the respective authorities for evacuation and immediate relief for the displaced population in the safety centers. Private donors, associations, media agencies, Sri Lanka Red Cross, World Vision have given in-kind (water, food, NFIs) assistance to the affected people in the safety centers.

WFP further undertook a field mission to severely affected two districts (Kilinochchi and Mullaitivu) from 25th to 28th December 2018 and gathered loss and damage data in several sectors in order to highlight the early recovery needs and subsequent long-term programming.

II. Impact in Summary



Three out of six divisions in Mullaithivu district (Puthukkudiyiruppu, Oddusuddan, Maritimepattu) and two out of four Divisions of Kilinochchi district (Karachchi, Kandawalai) were badly affected. In total, around 3,665 families were displaced due to the flooding. Some 11,215 people of these families temporarily resided in 37 IDP safety centers (Situation report 1800hrs, 24 December 2018, DMC). Immediate water and food needs for these IDP were met, however, sanitary issues were observed in some centers. Government authorities were doing their best to provide necessary facilities to the affected population with fund allocations from the Ministry of Disaster Management. All displaced population have returned to their homes in Mullaithivu district and 10 safety centers are operating with 1,119 families in Kilinochchi district (Situation Report 0900hrs, 31 December 2018, DMC). As of the latest information on 31st December 2018, almost all displaced populations have returned to their homes except the IDPs in one safety centre (in Kandawalai division) in Kilinochchi district.

A considerable extent of paddy cultivation was damaged due to spilled water from major and minor tanks, especially in Kilinochchi, and many tanks were at spilling levels as of 27th December. Nine of the sluice gates of the “Iranamadu” Tank were opened. The major parts Kandawalai downstream (Iranamadu tank) suffered from water logging.

The flood affected areas were also severely impacted by prolonged dry spells with four to five consecutive seasons crops that had been damaged. With the monsoon rains before the flood, the farmers had enrolled to the Maha season with a hope for a good harvest. Unfortunately, most of the paddy fields at the flowering stage in the badly affected areas have been damaged due to the heavy rains and the flooding.



Flood affected paddy field in Kandawalai, Kilinochchi (Photo Credit-Indu Abeyratne WFP)

Many farmers had invested their cultivation through loans as their income was diminished due to the loss of crops in 2016 & 2017 Maha cropping seasons. As a result of crop losses, indebtedness will be expected to increase among the affected populations.

Livestock sector was also impacted and so far, the damage has not been fully assessed and the assessments are underway. Many families who depend on inland fishing were also impacted due to the adverse weather conditions and the flooding in these areas.

Well water is the main source of drinking among these affected communities and most of them was contaminated. Drinking water will be an issue at the early recovery stage. Sri Lanka Navy has deployed teams to clean wells in some affected areas where people have started to return home. The NDRSC allocated funds to District administration for the provision of safe drinking water from local authorities until situation gets normalized.

17 Schools in Mullaithivu district were partially damaged due to heavy rains and floods, and assessment in Kilinochchi is underway. The district authorities had to prioritize to the cleaning up of affected schools as the next school term is due to start on 2nd January 2019. Many of school children have lost their school items including text books and uniforms.

Many buildings in inundated areas were filled with mud and debris, and some government buildings were not functional. Some rural roads, small scale bridges and culverts were damaged due to high water flow of reservoirs. However, access to most of the affected areas was possible, and tractors

were used in difficult areas as transportation means. Few roads were still inundated due to continuous water spilling from several tanks in Kilinochchi.



Submerged Road in Puliampokkanai in Kilinochchi on 26 December (Photo Credit WFP)

III. Detailed Impact of the Flood in Kilinochchi and Mullaithivu Districts

Paddy

The paddy cultivation prior to flooding was at flowering stage. Hence, it was a crucial period to save them from excessive rains. The Maha cultivation in both the districts has faced significant loss due to this flood. Over last few years, these districts have experienced long drought spells and have not received sufficient rains for the Maha cultivation. This year, unexpectedly damaging rainfalls happened when the harvesting period was just a month away. The Department of Agriculture of Kilinochchi highly predicts a shortfall of seed paddy for the next Yala season, as usually, Yala seed paddy is saved from Maha season.

Since the majority of the paddy cultivation had reached the flowering stage (3rd stage), it is expected that government will provide a compensation as per the current regulations. The government's decision regarding the compensation is yet to be announced. Below tables summarise paddy damage.

Table 1: Paddy cultivation enrolment and damage estimate, Kilinochchi-26 December 2018, Department of Agrarian Development

District	DS Division	Cultivated Paddy Land (Ac)	Affected Paddy Land (Ac)	Affected Paddy Land (%)
Kilinochchi	Karachchi	24,126.75	8,047	33%
	Kandawalai	26,208.50	15,615	60%
	Poonagary	13,925.00	1,750	13%
	Pachchilapalli	1,735.00	696	40%
	Total	65,995.25	26,109	40%

Table 2: Paddy cultivation enrolment and damage estimate, Mullaithivu-27 December 2018, Department of Agrarian Development

District	DS Division	Cultivated Paddy Land (Ac)	Affected Paddy Land (Ac)	Affected Paddy Land (%)
Mullaithivu	Oddusuddan	17,231.96	2,331	14%
	Thunukkai	6,810.04	700	10%
	Manthai East	6,049.52	500	8%
	Maritimepattu	6,413.36	1,398	22%
	Puthukkudiyiruppu	8,312.29	5,000	60%
	Total	44,817.16	9,929	22%

Other Field Crops (OFC) Cultivation

The Agriculture Department of Kilinochchi assumed that the flood also heavily affected other crops such as big onion, green gram, black gram and ground nuts etc.

WFP and ILO jointly implement the EMPOWER project which is supporting the conflict affected women in the PuthukKudiyiruppu DS division in Mullaithivu district. The project has so far assisted 240 beneficiaries who are engaged in ginger, ground nut and banana cultivation. Initial assessment in the project areas shows that 70% of ginger fields were partially affected, 60% of ground nut cultivation was fully damaged and 50% of banana plants were fully damaged.

Damage estimation of OFC and fruit crops by the Agriculture department as at 27th December 2018 is given below:

Table 3: Estimated damage of Vegetable Crops, Kilinochchi-27 December 2018, Department of Agriculture

Name of the Vegetables	Estimated Crop Damage Vegetable (ha)			
	100%	75%	50%	25%
Capsicum	5.5	2	4.5	1.75
Brinjal	4.5	4	6.5	0
Tomato	5.5	1	7.5	4.5
Beans	2	1.5	0	0
Okra	0.5	4.6	1.5	0
Long Beans	10.5	10.5	9.5	3
Cabbage	1	3.5	0	0
Pumpkin	4.6	3.5	0.5	0
Onion	1	3.5	1.5	0
Chilli	0.5	16	11	10
Pulse	27	20.5	62	45
Total	62.6	70.6	104.5	64.25

Table 4: Estimated loss of Fruit Crops, Kilinochchi-27 December 2018, Department of Agriculture

Name of the Fruit crops	Estimated Crop Damage Fruit crops (ha)			
	100%	75%	50%	25%
Banana		5.50	10.00	-
Papaw	2.50	5.00	10.00	0.25
Passion	-	-	-	2.00
Pineapple	-	-	6.25	-
Total	2.50	10.50	26.25	2.25

Table 5: Estimated loss of Other Food Crops (OFC), Mullaithivu-28 December 2018, Department of Agriculture

Name of the Other Food Crops	Estimated Crop Damage Fruit crops (ha)	
	100%	50%
Ground nut	1,306	1,348
Black gram	28	49
Green gram	16	-

Vegetables	88	-
Total	1,438	1,397

Estimated Details of Affected Minor Tanks

In Kilinochchi district, a total of seven tanks were fully damaged, six were partially damaged and another ten suffered minor damages. The tanks Sinnaseeravikulam and Veerikulam in Palai DS division, rehabilitated by WFP were fully damaged due to the flash floods. Thirteen tanks in Mullaithivu districts were partially damaged. A detailed assessment is underway by the government authorities.

Livestock

An estimate of livestock loss was prepared in both the districts as the displaced families did not yet return to their homes by 28th December. The loss information was collected from milk collecting centres such as MILCO, Grama Niladhari officers and affected families who had already returned to their houses.

Apart from the livestock damages, the department of Animal Production and Health is also collecting information related to the damages to pasture grass and sheds. Two varieties of pasture grass; sugar grace and CO3 were mainly grown in these districts. Grass seeds were distributed through grass promotion programmes. According to the Deputy Director of Kilinochchi, the variety CO3 could sustain flash floods. However, sugar grace is highly promoted in both these districts which would have been damaged due to the floods.

Estimated livestock and shed damages are given below¹:

Table 6: Estimated loss of livestock, Kilinochchi - 28 December 2018, Department of Animal Production and Health

DS Division	Goat	Cow	Poultry	Calf	Goat Kid
Karachchi	180	915	1,225	45	
Pallai	2	0	70	0	
Kandawalai	1,565	2,096	5,790	993	428
Poonakary	No losses reported as at 27 th December				
Total	1,747	3,011	7,085	1,038	428

¹ The actual number of livestock deaths/missing yet to be confirmed.

Table 7: Estimated loss of sheds, Kilinochchi -27 December 2018, Department of Animal Production and Health

DS Division	Goat shed	Cow shed	Poultry Shed
Karachchi	0	12	21
Pallai	40	6	5
Kandawalai	120	96	425
Poonakary	No losses reported as at 27 th December		
Total	160	114	451

Table 8: Estimated loss of livestock, Mullaithivu - 27 December 2018, Department of Animal Production and Health

DS Division	Cattle	Buffalo	Goat	Poultry
Thunukai	171	-	57	193
Manthai East	282	38	102	151
Oddusuddan	812	93	244	1,048
Maritimepattu	242	69	30	20
Puthukkudiyiruppu			126	2,225
Welioya	No losses reported as at 27 th December			
Total	1,507	200	559	3,637

Table 9: Estimated loss of sheds, Mullaithivu -27 December 2018, Department of Animal Production and Health

Division	Cattle Shed	Goat Shed	Poultry Shed
Thunukai	2		
Manthai East			
Oddusuddan	2		
Mullaitivu			1
Puthukudiyirupu	23	7	4
Welioya			
Total	27	7	5

IV. Details of Most Affected Divisional Secretariat Divisions

Kandawalai DS division is the worst affected division in Kilinochchi district as it is located in the spill water path of the Iranaimadu tank. When the sluice gates of the Iranaimadu tank were opened on 22nd December, most part of the DS division was inundated. The Divisional Secretariat Office was also completely flooded, and it is currently functioning at the divisional planning office.

All the GN divisions in this DS division conducted an emergency disaster evacuation drill on 20th December. The DS officers mentioned that, if an alarm system were developed for Iranaimadu Tank (the biggest in the district) it would have helped for a quicker evacuation.

Following the discussion with the DS officials, the team visited the safety centre located at the Puliampokkanai Nagendra Vidyalayam which accommodated 170 families on 26th December 2018.

Karachchi DS Division: Similarly, the team visited Karachchi DS division. Following the information provided by the Additional Divisional Secretary, the team visited the safety centre at the Primary section of the Kilinochchi Central College, which accommodated 121 families.

The PTK DS division is the worst affected division in the Mullaithivu district. A significant number of families have been living in temporary shelters in this DS division. A total of 82 temporary shelters were fully damaged, and 1,681 temporary shelters were partially damaged.

The summary of the information collected, and observation related to safety centres are given below:

Food and Nutrition

The government provided three cooked meals a day from 22nd December to meet the immediate food security needs of the affected population. Voluntary groups, social service clubs and organizations reached safety centers with food and NFIs including mosquito nets, cloths, sanitary items, milk powder etc. which were recorded and regulated by the respective Divisional Secretariats. The communal cooking was carried out in most of the safety centres. Since WFP's school meal programme covered all the schools in Kilinochchi and Mullaithivu districts, kitchen cooking utensils provided by WFP were used for this purpose.

Livelihood

The main livelihoods of the affected people in Kilinochchi are farming, wage labour and fishing (mainly inland fishing). In Mullaithivu, it is about farming and daily wage labour. In the last few years, both the districts have experienced prolonged droughts and have not received sufficient rains for the Maha cultivation. This year, the monsoon rains started in early October which encouraged all the farmers for an early commencement of Maha cultivation and most of the cultivation had reached flowering stage. Both the Department of Agriculture and Agrarian Development predict a shortfall of seed paddy for the next Yala season as seed paddy is saved from the Maha harvest.

Water and Sanitation

The Pradeshiya Sabha (local government body) and military provided safe drinking water and water for domestic purposes in safety centres. Water scarcity was not reported in safety centres. The water supply should also be continued to the families retuning homes until the wells are cleaned. The Pradeshiya Sabha also removed the solid wastes from the camps.

Health

Respective area Public Health Midwife (PHM), Public Health Inspectors (PHI) Women and Child officer and Social Services Officer stayed at the safety centers and provided services to affected communities. The respective Medical Officer of Health (MOH) were conducting a mobile service. In addition, medical doctors visited the Safety centres every day. Those who needed additional care were transferred to district hospitals. No diarrhea cases or any other communicable diseases were reported so far. Only a few cases were reported, related to water-borne skin diseases and fever.

Electricity and Communication

Electricity was available in all safety centres. However, electricity has been disconnected by the authorities in some inundated areas for safety reasons. Mobile phones were the main means of communication and there were no issues reported for those who stayed at the safety centres.

Early Recovery Needs

- Houses, toilets and wells to be cleaned
- School uniforms, exercise books, bags and shoes for children
- Compensation / shelters for the families whose houses are damaged
- Immediate short-term cash assistance programme for the families who completely lost their livelihoods
- Agriculture tools and fishing tools to recommence livelihood activities

Overall early warning, response and recovery

The Military troops and Police disseminated warning message and assisted evacuation process with the coordination of District Disaster Management Units. Based on the ground information, the divisional authorities used social media (Viber, WhatsApp groups) for passing warning messages amongst government officers and village leaders on reservoir spilling and inundations. Community groups responded to the warnings and used locally available tools for search and rescue operations at the early stage. Subsequently, military assistance came in, which saved many lives of vulnerable people.

Community members told WFP team that the recent contingency planning process and rehearsals carried out by DMC & NDRSC were very helpful in the real-time flooding and evacuation process. In addition, WFP assisted School Meal Programme had built kitchens which were used for communal cooking in the safety centres.

Community and local level preparedness and awareness were very high, considering the immediate response operations in both Districts. Local level coping capacities are also at satisfactory level thanks to the efforts of the authorities in past few years. However, location specific weather forecasting and subsequent water management practices have to be improved. Early recovery needs assessments and programming need to be streamlined in the government mechanism.

Fact finding mission Team: Indu Abeyratne (Senior Emergency Officer), Pathmarajani Pathmanathan (Programme Assistant) Janani Thambaiah (Reporting Associate) and Kaveri Jayanthan (Programme Policy Officer).

List of Government Officials met

Kilinochchi District

1. Additional Government Agent – Mr. S Sathiyaseelan
2. Assistant Director of Disaster Management Unit – Mr. S Infarajan
3. Assistant Director of Planning, District Secretariat – Mr. Gowrithasan
4. Director of Planning – Mr. Phelician
5. Deputy Provincial Director, Agriculture Department – Mr. P Atputhachandran
6. Assistant Commissioner of Agrarian Department – Mr. Aayakulan
7. Deputy Director of Animal Production & Health – Dr. Kirijakala
8. Accountant, Kandawalai DS Division – Mr. S Kugathan
9. District Disaster Relief Service Officer – Mr. Thirukumaran
10. Kandawalai Divisional Disaster Relief Services Officer – Ms. Nilajini
11. Grama Niladhari Officer, Puliampokkanani GN Division – Ms. Shanthi Krishna
12. Additional Divisional Secretary, Karachchi DS Division – Mrs. Thamilini Shanmugarasa
13. Grama Niladhari Officer, Anandapuram GN Division – Mrs. Jenita

Mullaitivu District

1. Head of District Monitoring Unit, District Secretariat – Mrs. Jeyabavani Ganeshamoorthy
2. Assistant Commissioner of Agrarian Department – Mr. K Jahannath
3. Deputy Provincial Director, Agriculture Department – Mr. P Uganathan
4. Deputy Director of Animal Production & Health – Dr. S Gowrithilagan
5. Additional Director of Planning Puthukkudiyiruppu DS Division – Mr. S Navaneethan
6. Assistant Director – District Disaster Management Centre – Mr. S Lingeswarakumar
7. DMU Development Officer – Mr. T Amirthalingam
8. District Disaster Relief Service Officer – Mr. S Sivaruban
9. District Disaster Management Assistant – Mr. S Suntharamoorthy