

Preliminary Investigation Report on the flood disaster of Iranamadu Tank caused on the
21st and 22nd of December, 2018

1. Directive Source of Investigation: Secretary, Ministry of Agriculture, Northern Province
Letter No: NP/MA/01/P.Inquri /24
Date of Letter: 19.05.2019 (Annexure-1)

Name, Designation and Work place of the officers who have submitted statements

No.	Full name	Designation	Place of Work
1	Eng.V.Premakumar	Director of Irrigation	Department of Irrigation, N.P
2	Eng.N.Sudhakaran	Assistant Director of Irrigation	Mullaitivu Division
3	Eng..S.Paraneetharan	Irrigation Engineer	Kilinochchi Division
4	Mr. K.Pakeerathan	Technical officer	Kilinochchi Division
5	Mr. M.Nandhan	Technical officer	Kilinochchi Division
6	Mr. S.Suresh	Technical officer	Kilinochchi Division
7	Mr.Mayuran	Technical officer	Kilinochchi Division
8	Mr. R.Jenes	Maintenance officer	Kilinochchi Division
9	Mr.I.Thirupparan	Maintenance officer	Kilinochchi Division

2. Details of Preliminary Investigation Committee

No.	Full name	Designation	Staff of Preliminary Investigation Committee
01	Mr. K. Shrimoganan	Provincial director, Department of Industries, N.P	Head
02	Eng.S.Amirthaseelan	Irrigation Engineer, Vavuniya Division	Member- 1
03	Mrs.V.Manogaran	Accountant Ministry of Agriculture, Northern Province	Member-2

3. Details of places and dates that preliminary investigation was held

No.	Places where Preliminary investigation was held	Date
1	Office of the Deputy Provincial Director of Agriculture, Kilinochchi District	07.06.2019
2	Office of the Deputy Provincial Director of Agriculture, Kilinochchi District	11.06.2019
3	Office of the Deputy Director of Irrigation, Mullaitivu Division, Mankulam	

4. Introduction of Iranamadu Tank

The Iranamadu tank which is a huge irrigation tank of Northern Province and the backbone of the economics and the livelihood of the people of Kilinochchi District is located within the area of Divisional Secretariat, Karaichchi. Construction works of this tank were inaugurated in 1902 and completed with the storage capacity of 26 ft in 1921. After the augmentation in 2018, now it has 36 ft capacity, 14 radial gates and ungated spill of 317 ft (90.5 m) in length. Approximately 7000 agricultural families are engaged in agriculture through this Iranamadu tank. This includes 28% of the total agricultural families of this district.

(i) Augmentations

In 1951, the tank bund was raised up to hold 30 ft and its storage capacity was increased to 88 MCM.

Again in 1954, the tank bund was raised up to hold 32 ft and its storage capacity was increased to 101 MCM.

Later, in 1975, the tank bund was raised up to hold 34 ft and its storage capacity was increased to 131 MCM.

After three phases of augmentation, although there were many augmentation needs for a long time, they have done only small corrections and maintenances to operate this frequently by the reasons such as civil war and inability to identify financial sources. Approximately after 40 years that is, the augmentation of the tank bund had been started with the finance of Rs. 2000 million of Asian Development Bank and the Government of Sri Lanka in 2015.

- During the augmentation works, the tank bund was raised from 34 ft to 36 ft and its capacity has been increased from 131 MCM to 140 MCM (Million Cube Meter).
- The number of sluice gates were increased from 11 to 14 and the defects which were found in the previous radial gates have been corrected and these were reconstructed to operate by electricity
- Thiruvaiyaru lift Irrigation scheme was reconstructed and it has been made to operate by solar system.
- A bridge has been also constructed through the spilling areas to travel while the tank is spilling over.

(ii) Operation and Maintenance

After the finishing of augmentation of Iranamadu irrigation (end of September 2018) the department of irrigation of Northern Province has taken over the operation and maintenance works. The guidance regarding the operations of the radial gates connected with new technology and the operational manual for tank maintenance have not been handed over properly to the Department of Irrigation by the Engineering Consultancy Organization for the particular augmentation and Project Management Office

5. The background for commencing preliminary investigation

Due to the heavy rain experienced in the districts of Kilinochchi and Mullaitivu on 21st and 22nd of December, last year (2018), the inflow of water to the Iranamadu tank was increased and thereby the water level of the tank was also increased more than its full supply level- FSL of 36 ft. Such inflow of water started overflowing through the ungated spills after midnight on 21.12.2018 and the officials of the Department of Irrigation in charge of this tank rushed to the place at dawn on 22.12.2018 and opened the radial gates and this resulted in large amount of water spilling at the same time and inundated the area causing extensive damages and losses to the properties of the government and public, in addition to risking the safety of the tank. The allegations made through the media by Dr. (Eng.) S.Sivakumar, the Dean of the Faculty of Engineering of the University of Jaffna and the news published by media regarding this matter have been created a situation compelling an investigation of this particular issue.

On the basis of the above situations, the Fact Finding Mission was formed by honorable Governor of Northern Province and that mission has submitted a report to the Governor. In continuation of that, according to the administrative procedure, this preliminary investigation committee has been established by the secretary to the Ministry of Agriculture, Northern Province subject to the instructions of the chief secretary, Northern Province

6. Complaints put forward

- (1) Failed to take action to engage the responsible officers for full time near the tank during the north east monsoon period, and failed to implement the Circular No. 42/1978 of Central Department of Irrigation.
- (2) Failed to make continuous supervision of the water inflow and water level of the tank.
- (3) Failed to take action to appoint an Engineer who has talent, ability and experience to the particular division.
- (4) Failed to maintain the safety of the water level of the tank by opening the radial gates at proper time observing rainfall and water inflow.
- (5) Led to overflow the water to the height of 1 ½ ft over the radial gates against the engineering standards by increasing the water level of the tank,
- (6) Filled up water more than the full capacity of the tank, which was raised up to 2 ft by the augmentation without realizing the dangers at first time.
- (7) The flood water spilt over the sluice gate during the flood disaster due to not taking action to raise the sluice construction in the design while augmentation was made.
- (8) by opening of the radial gate without planning, it caused extensive damages and losses to the properties of the government and public and also failed to consider the safety of the tank
- (9) 2 radial gates were not working condition out of 14 radial gates of the Iranamadu tank and other radial gates were also not operated by electricity during the flood disaster. Failed to take pre-regulatory actions for this.
- (10) After augmentation of this respective tank, handing over and taking over were not made properly, and failed to handover these to the respective Irrigation Engineer properly, and also failed to hand over the operation and maintenance manual prepared in a proper way to the Irrigation Engineer.

(11) Although it has been mentioned in the statements that Government Agent and secretary to the Governor have been informed through messages about this disaster, failed to inform the secretary to the Ministry of Agriculture, Who is to be informed regarding this matter.

(12) There were corruptions and financial frauds in the augmentation of the Iranamadu tank.

7. General observations of Preliminary Investigation Committee

(1) The Augmentation of the tank bund, renovation of radial gates, reconstruction of sluice gates and construction of bridge across the spilling area are included in the augmentations of the Iranamadu tank made by the finance of rupees 2 million of both Asian Development Bank and the Government of Sri Lanka during the years from 2015 to 2018. All these augmentation works have been carried out with the following activities of the administrative regulations.

a. Project Management Division: Although Eng.V.Premkumar, director of Irrigation of Northern Province as the Project director of the JKWSSP- Iranamadu Component, Eng.T.Rajagobu, former Deputy director of Irrigation, Department of Irrigation, Northern Province as Deputy Director of the Project (Deputy Director of Irrigation, Kilinochchi District at present) have served, it was as additional duty beyond their duty of Department of Irrigation, Northern Province.

b. Expertise consultancy organization:

The Experts (Team Leader, Residential Engineer, Tank Safety Expert, Hydrologist, Structural Engineer, Geotechnical Engineer, Procurement Specialist, Sociologist, Electro Mechanical Engineer) who have long experience and sectoral ability have worked in the Info Techs Ideas Pvt (Ltd), which was engaged for designing, monitoring and engineering consultancy and many Engineers and Technical officers have also worked in this Organization for monitoring works.

c. Procurement Procedures: The procurement procedures regarding issue of agreements of augmentation and invitation of bid were carried out with the guidance of chief secretary's office of Northern Province through the procedure followed for the foreign fund

(2) It came to light by statements and investigation that Kilinochchi division of the Department of Irrigation of Northern Province has taken over the activities to operate and maintain the tank unofficially following the completion of the augmentation of Iranamadu tank in the end of September 2018, during the beginning of the monsoon period.

(3) The Iranamadu tank which was augmented has ceremonially been declared open by his Excellency the President of Democratic Socialist Republic of Sri Lanka on 07.12.2018. The water was raised up to an inch than full supply level of 36 ft of the tank at 7.00 a.m. in the morning on that day and the water spilt through the ungated spill.

- (4) According to the records of the office of Irrigation Engineer in Kilinochchi division, the water level of the tank was 35 ft and 7 inches at 5.00 p.m. in the evening on 21.12.2018.
- (5) According to the forecast published by the department of meteorology at 3.07 p.m. in the afternoon on 21.12.2018, it was informed that the maximum rainfall will be 75 mm on 22.12.2018. (Annexure 2) However, it was mentioned in the report issued by the Department of Meteorology on the next day that the rainfall of 365.1mm experienced in Mankulam. (Annexure 3) It was unfortunate that it could not forecast with the facilities of present modern technology that such a heavy rainfall (Approximately it is 5 folds, compared to the predicted rainfall) would obtain.
- (6) It has come to know through the investigation that no predictions or precautions were issued by the Department of Meteorology or Disaster Management Centre to the public about the unexpected rainfall in the early morning on 22nd of December 2018.
- (7) It is observable that the Director of Irrigation and the officers on duty under him have taken the preparatory actions for the north east monsoon period rainfall by the Department of Irrigation. For example, the instruction was given by the Director of Irrigation to all Irrigation offices to be ready in respect of the forecast about the “Peyiththalai” cyclone formed in Tamilnadu (annexure 4) and they have been requested to inform public through the respective departments by the letter No: NP/27/(3)/2/187 of 05.12.2018 sent to the Government Agent of Kilinochchi by Deputy Director of Irrigation in Kilinochchi Division that the radial gates of Iranamadu can be opened at any time and the due actions are being taken and while opening the radial gates, there are some vulnerable places such as Murasumottai, the area upto Pannangkandi, Kandavalai, Uriyaan, Vattakkachchi farm area and the A35 road area where water crosses. (annexure 5) This matter has been taken into consideration by this Committee.
- (8) When the monsoon period begins in 2018, the roster for the monitoring duty of the tank was prepared and given by the Irrigation Engineer of Kilinochchi Division, and accordingly, the documentary evidences are found for performing the full time duties by the responsible officers until 15.12.2018. (Annexure 6). Further, there are quarters where approximately 40 officers can stay and perform their duties in the Department of Irrigation in Kilinochchi district and also there is a quarters for an officer near Iranamadu tank. But, the Engineer in charge of the tank is not staying there. The instructions have not been given to the respective Engineer to stay and work there by respective officials. The Director of Irrigation and The Deputy Director of Irrigation of Kilinochchi Division should accept the full responsibility for not making this arrangement.

No weather forecast for the occurrence of a disaster has not been published on 21.12.2018 (the previous day of the disaster) or on 22.12.2018 (the day of disaster) by the respective Organizations and also it has been forecast by the Department of Meteorology that there will be approximately 75 mm of rainfall during that time (within 24 hours from the afternoon on 21.12.2018 to 22.12.2018). (Annexure 2) The Department of Irrigation which is usually planned its activities based on the forecast of the Department of Meteorology has calculated that the water level of the tank which was 35 ft. 5 inches in the morning on 21.12.2018 could be raised approximately up to 36 ft. 3

inches in the early morning on 22.12.2018 by the experiencing rainfall of 75mm and the additional water will overflow through the ungated spills. Hence, there was no need to engage an officer for full-time duty according to the field work until late evening on 21.12.2018.

It can be deduced from the received statements and through the investigation made by the Committee that they have appointed a maintaining officer for full-time duty and they had been receiving information regarding the water level and inflow of the tank from him. Further, in the early morning on 22.12.2018, the Engineer, Deputy Director of Irrigation and all the Technical Officers went to the tank and handled the disaster situation based on the information collected from the officer who was in full-time duty. Further, it can be proved by the copy of a letter that the Provincial Director of Irrigation has already given the instruction to take action as per the circular of the Central Department of Irrigation. (Annexure 7)

- (9) It could be obtained from the records in the Division of Irrigation Engineer that the measurements of the water inflow and the water level of the tank are continuously measured.(Annexure 8) And also it is confirmed by the documents that as there is not a centre of the Department of Meteorology in Kilinochchi district, the equipment has been fixed to read the rainfall in the area of Iranamadu tank and the measurement of rainfall is recorded by the Department of Meteorology and also these data are given to the needs of other departments in the district. (annexure 9)

Further, it could be noticed that the details of the water level of the tank has been shared by messages between the higher authorities and the technical officers of the Department of Irrigation and the Representatives of the Federation of Agricultural Organizations have obtained data from the department and shared in the face book account of their federation. Hence, the continuous monitoring regarding the inflow water level of the tank has been undertaken.

- (10) Eng.S.Paraneetharan who was appointed on 15.05.2012 in the Department of Irrigation of Northern Province and he has been working as an Irrigation Engineer of Kilinochchi Division since 07.06 2017. This investigation committee has confirmed that he has not got the experience to manage the huge tank although he has 5 years of experience in the field of Irrigation after he has assumed duties as an Irrigation Engineer to the vast project of Iranamadu tank in Kilinochchi Division. He has informed this matter through his statement.
- (11) Although it was said in the statements that the operational and maintenance manual of the tank after augmentation was not given in a proper way, Eng.V.Premakumar who is the project director of respective augmentation and the Provincial Director of the Department of Irrigation has mentioned that he has sent the soft copy of the respective operational manual by e-mail to Eng.N.Suthakaran, the deputy director of Irrigation, Kilinochchi Division. This committee has taken this into its consideration that although the Deputy Director of Irrigation, Kilinochchi Division has accepted this, he said it was a draft copy and it was not signed by Organization of Agreement or professional consultants and certified in a proper way.
- (12) If the flood disaster which was occurred on 22nd of December should be avoided, the water level of the tank should have been kept in a considerable low level and it is found as an allegation of the

persons who express their ideas regarding this disaster. But, it was not considered that it would be a proper way to outflow considerable water level of tank which was already filled in a situation where no precaution regarding the disaster have not been issued by respective Organizations. Because, if the rainfall (75 mm) had been obtained on the respective day as predicted earlier, there would have been created a situation of charging against the department to waste outflowed water. Further, it has been confirmed from the received statement and from the written document of the respective scientist that Dr.B.V.R.Punniyawardena (Principal Scientist - Agro Climatology) the scientist of the Department of Agriculture has predicted that the chances to receive rainfall are low in the end of the monsoon period in 2018. (Annexure 10)

Further, although the Department of Meteorology has predicted about the rainfall of 75mm (from 21.12.2018 to 22.12.2018.12.), the respective Department of Meteorology or the Provincial Disaster Management Centre were in a situation of not realizing the maximum rainfall of 365.1mm within a short time (annexure 3) against that prediction. Hence, the Department of Irrigation which works according to their predictions has not been in a situation to work by the pre - realization of that heavy rainfall. It can be considered that the flood disaster happened because of the rainfall of 235.0 mm on 22.12.2018. Hence, this disaster can be considered to be caused by factors beyond the capacity of the authorities.

- (13) The authorities of Department of Irrigation have accepted that not allowing water to overflow over the radial gates is an engineering standard. But, they have said that water did not overflow in the height of about 1 ½ ft as reported in the complaint and they have expressed in their statement that the water spilt out about 10 inches only for few hours. Because, the full supply level of the tank is 36 ft and the height of radial gates is designed as 36 ft 8 inches. The water level of the tank was 37 ft 6 inches in the early morning at 4.00 a.m. on 22.12.2018 (according to the records). Hence, approximately 8 to 10 inches water could be spilt over the radial gates.

Further, the water level of the tank has suddenly been increased due to the heavy rainfall (235.0 mm) (annexure 11) obtained in the early morning of the day of disaster on 22.12.2018. At the same time, it would have caused flash flood in the downstream areas of spilling Areas. In such a situation, if the radial gates had been opened, it would have caused many deaths to people who were sleeping at that time. Hence, compared with this situation, although it is wrong to allow the water of 10 inches to spill over the radial gates technically, it is fair on the basis of the field situation and humanity. This committee has considered the statements of Engineers about the radial gates with the safety factors to withstand such unusual situations.

- (14) They have raised the bund of the tank which was 34 ft to 36ft at the cost of Rs.2000 million after 40 years because of the purpose to increase the capacity of Iranamadu tank. All these augmentation works were carried out with the continuous supervision and monitoring of the professional Experts more than ten (10), the Engineers more than hundred (100), and the technical officers who have experience and ability. Similarly, these projects have been accomplished by the contract companies which had accomplished the vast projects at the national level. In such a situation, it could not be considered as fault to fill water up to 36 ft at the first time without forecasting the dangers.

The respective complaint has been reported after the unexpected disaster caused on 22.12.2018. But, the water level of the tank has been 36 ft 1 inch on 07.12.2018 which was the date opened ceremonially by his Excellency the President. If the danger had been realized in that situation, the Project Management Division for augmentation (JKWSSP- PMU) or the Organization, Info Techs Ideas Pvt (Ltd) which was engaged for the engineering expertise consultancy or those who proposed this compliant could have given advice to the officers of Department of Irrigation to reduce the water level of the tank by pointing out this issue. But, they have not given any such advice and we have understood by the investigation that they were clear and strong about the safety of the tank bund. Similarly, although the tank had faced the state of danger because of the unexpected danger caused on 2018.12.22, no damage has been caused to the construction of the tank.

- (15) The designing and monitoring of the vast project to increase the height of bund of the Iranamadu tank by 2 ft have been carried out by the Experts (Team Leader, Residential Engineer, Tank Safety Expert, Hydrologist, Structural Engineer, Geotechnical Engineer, Procurement Specialist, Sociologist, Electro Mechanical Engineer) who have ample experience and sectoral ability in the Info Techs Ideas Pvt (Ltd), which was engaged for engineering consultancy and this project has been completed by engaging many Engineers and Technical officers for monitoring works.

- (16) The compensation details of particular disaster

No.	Details	Amount Rs. (million)	25 % Surcharge Rs.	Total Rs. (million)
01	Loss caused to Government assets according to FR 104 (i) (b)	51.4	12.85	64.25
02	Loss caused to possessions and assets of public	2,674.39	668.60	3,342.99
Total		2,725.79	681.45	3,407.24

Data source: The loss computation for Government assets according to FR 104 (i) (b). It was taken from the report of the committee headed by Mr.S.Kugathas, the chief accountant of Ministry of Agriculture of Northern Province which was established by the secretary to the Ministry of Agriculture of Northern Province.

The loss caused to possessions and assets of public, it was taken from the district Government Agent's office, Kilinochchi district.

Although the above data were collected from the Kilinochchi district secretariat, it could not be confirmed that the data were caused only by the spilling out of the Iranamadu tank and the losses and deprivations which caused to assets of public are the approximate computations which are cannot be certified documentarily. (Annexure-12)

Similarly, according to FR 104 (i) (b), the investigation committee has not satisfied with the report of the committee for computation of the loss of government assets. Because, it is found in the report that the amounts are the extracted amounts from the data of Divisional Secretariat and District Secretariat and those amounts were not confirmed as caused only by spilling out of the Iranamadu tank.(Annexure-12)

Similarly, it can be confirmed by the investigation and certified documents that in the works done by 31 million financial allocation of his Excellency the President on the request of honorable Governor of Northern Province, the loss caused by spilling out of Iranamadu tank is for a school and others are for other areas of Kilinochchi district and the balance of the financial allocation was allocated to other districts apart from Kilinochchi district and used for reconstructions there. (Annexure 13)

Hence, the Investigation Committee has given the amount of compensation shown by table only for information, and it states that it has not considered the information as a real compensation. Further, this Investigation Committee recommends that a separate committee should be formed to compute the real amount and investigated in detail.

Recommendations

According to the above observations, this committee suggests following recommendations with respect to the 12 complains presented in paragraph: 6.

01. With regard to failure to take action to engage responsible officers near the tank for full time duty during the beginning of North East Monsoon Period and failure to implement the circular No.42/1978 of Central Department of Irrigation, there are 40 officers' quarters for the Department of Irrigation in Kilinochchi district. Particularly, the respective officer's quarters is also in vicinity of the office of Irrigation Engineer next to the Iranamadu tank. This quarter should be given to the Irrigation Engineer and the Irrigation Engineer should occupy in that place to monitor the disasters occurring at any time and these facilities should be provided by respective authorities. But, these arrangements and the provisions have not been done in a proper way. The water cannot be opened in vain according to the Standing Order. However, there was not a need to open radial gates until 2 o'clock in the early morning on the basis of HFL-41. And S/O 3:2:3:1(b) states that the water cannot be wasted for flood Management. (Annexure 14)
02. Although the data regarding water inflow and water level of the tank have been received, this committee recommends the best practice of proper technology to prevent complaints like these in future (Electronic Surveillance and CCTV).
03. Eng.S.Paraneetharan who was appointed on 15.05.2012 in the Department of Irrigation of Northern Province has been working as an Irrigation Engineer of Kilinochchi Division since 07.06. 2017. This Investigation Committee confirms that he has not got the experience to manage the huge tank even though he has 5 years of experience in the field of Irrigation after he has assumed duties as an Irrigation Engineer to the vast project of Iranamadu tank in Kilinochchi Division. He has also informed this matter through his statement. This committee has accepted that although other Engineer who has a little personality and experience than this Engineer has been working in Northern Province, it is a fault of director of Irrigation for not appointing him. But, as the Iranamadu tank is the huge

reservoir in Northern Province, not only the said engineer but also few engineers who work under the Department of Irrigation in Northern Province have not got experience of managing huge Irrigation tanks. Hence, this committee recommends providing training to them to get enough experience or taking any other proper actions to improve them. It is notable that the experienced officers who are Director of Irrigation and the Deputy Director of Irrigation were on duty in the place of disaster.

04. If we consider the complaint that the actions were not taken by observing the rainfall and particular inflow, in fact, a considerable amount of water is obtained from the catchment areas of Mankulam and Vavuniya for inflow of Iranamadu tank. Hence, a transparent information transfer system should be established among the Office of the Director of Irrigation, Office of Irrigation Engineer in Kilinochchi, Department of Regional Irrigation, Mullaitivu and other relevant Organizations. Further, this committee recommends that a proper information transfer system should be introduced by taking action to establish stations of observation in catchment areas using new technologies.
05. It has been mentioned in the standing order of Central Department of Irrigation that the responsible officers should be on duty continuously during the monsoon period. However, the water level of tank was 35 ft 7 inches in the evening on 21.12.2018. It has been mentioned in the standing order that according to the standing order No. 3:2:34, when there is less than 6 inches of full supply level, then, if there is water inflow, the observations of water level should be taken every 30 minutes and the radial gates should be operated where there is a fixed rise in water level. (3.2.3.4 (a)). The Department of Meteorology had forecast about the possibilities of 75mm of rainfall on that day. Subject to this, it had been expected by the Department of Irrigation that the water level of tank would be increased up to 36 ft 3 inches in next day morning. In this situation, a maintenance officer had been engaged on duty. According to the standing orders, the role of a maintenance officer was not sufficient to measure the water level and to make communication regarding that. In this situation, a relevant technical officer should have been engaged on duty.

However, only a maintenance officer had been engaged on duty. Through his continuous communication with the Irrigation Engineer and subject to the directive of Irrigation Engineer and as already instructed, the technical officers who resided near the tank visited the place and informed the field situations to Deputy Director of Irrigation and higher authorities through Director of Irrigation. Following this, the Irrigation Engineer, Deputy Director of Irrigation and the Officers who visited the field had taken the appropriate actions according to the situation. However, the water is not allowed to overflow over the radial gates according to the Irrigation standards. However, the received rainfall was 365.1mm than expected rainfall of 75mm because of heavy rain during the midnight. In this situation, the radial gates could not be operated according to Irrigation standards. In this circumstance, it had been allowed to overflow up to 10 inches of water over the radial gates considering the damage to public and livestock residing in the downstream of the tank. It has been known in this investigation that although this activity was wrong according to Irrigation Standards, during this circumstance, if other decisions had been taken, it would have been caused a massive loss of life. The investigation committee submits the following details to your further attention.

- (1) The Recession Curve document which should have been given to the Irrigation Engineer was not issued according to the Standing order 3:2:3:2.
 - (2) Further, the Operation and maintenance Manual of Iranamadu tank which was effectively completed with respective approvals was not provided to the Irrigation Engineer by Project Management Division.
 - (3) Further, there was not any instruction of emergency action plan in written form to use during emergency period.
06. The said tank has not been handed over properly until now from completion of the augmentation. Hence, this committee recommends that the complete taking over of the tank should be carried out by making relevant, necessary confirmations and if any technology and any other necessary training regarding this are needed, they should be given to the respective officers.
07. It has been noticed that electric operators did not work when water spills over the radial gates. Therefore, this committee recommends that taking over is the best way after the undertaking of sufficient respective technical actions without facing these problems even in future.
08. It has been noted that District Disaster Management Unit has taken many pre arrangements with regard to the unplanned opening of radial gate. However, this committee recommends that alternative cultivation lands and residential lands should be provided based on the illegal dwellings and unorganized houses in downstream which could be damaged at any time and also this committee recommends the need to make a complete field survey with regard to the road construction, canal system and other constructions after the end of war. (The reasons for that are Unplanned road widening and increase the height of the road. It was forwarded as a reason in the investigation that there were not bridges which flow sufficient water as before).
- Therefore, it is undeniable truth that unorganized and unplanned development activities as the other main factor for this flood disaster are the reasons.
09. As the emergency gates for the doors No. 4 and 5 which were had been lowered were trapped in a situation where they were unable to raise upward, the radial gates for them were not opened in a situation where the repairing works for radial gates should be done and the works regarding that matter has been performed by the contractor under monitoring of the Engineering consultants. However, it has been mentioned in the statement of Engineers that the emergency gates which caused barrier in front of the respective radial gate have been removed properly and brought to the normal state of operating the gates.
10. The Planning Director of said Augmentation in conjunction with the Expertise Consultancy Organization should take action to provide Operation and Maintenance Manual with recommendation and the Department of Irrigation of Northern Province should stress to receive said manual.

11. The Department of Irrigation should inform about all its activities by following the appropriate communication method and should instruct its Departmental officers to give priority for them.
12. It has been known through the documents submitted by them that the officials of Department of Irrigation have undertaken water management actions by operating the radial gates from 4.00 a.m. on 22.12.2018. (Annexure 16)
13. With regard to corruption and financial fraud, this committee recommends bringing this to the attention of respective Procurement Committee based on the plan which was carried out through foreign fund and the procurement process which was carried out in provincial level.

The above Preliminary investigation report (1-16) and the documents of Annexure (Documents from 1 to 16) are kindly submitted to your further attention.

Presentations of Preliminary Investigation Committee with regard to authorities and officers of Department of Irrigation.

Eng.V.Premakumar- Director of Irrigation- Northern Province.

01. He who served as a Director of Irrigation, Northern Province and a Project Director of Augmentation Project has not handed over the Iranamadu tank which was augmented in a proper manner to the offices of Regional Sections which undertake the operation and maintenance activity of the tank under him.
02. Failed to take actions to provide the guide for operation and maintenance manual of the tank which was allowed by authorities in charge.
03. Failed to take action to stay the Irrigation Engineer in respective centre or to monitor with regard to the matter.
04. The duty list has not been issued to the Deputy Director of Irrigation of Kilinochchi Division.
05. Not following the communication method and not submitting any information or report until now to the secretary to Ministry, the Direct Supervising Officer with regard to the disaster and the actions taken before that.
06. This Preliminary Investigation committee identifies the administrative shortcomings such as not taking appropriate decision until the water spills over the radial gates.

Eng.N.Suthagaran - Deputy Director of Irrigation, Kilinochchi Division.

01. The duty list for the Irrigation Engineer of Kilinochchi Division has not been issued.
02. Failed to take action to stay the Irrigation Engineer in respective centre or to monitor with regard to this matter.
03. This Preliminary Investigation Committee identifies the administrative shortcomings such as not taking appropriate decision until the water spills over the radial gates.

Eng.S.Paraneetharan- Irrigation Engineer, Kilinochchi Division

01. Although verbal permission is obtained, failed to stay in the duty Centre on that day or failed to make necessary arrangements.
02. This Preliminary Investigation Committee identifies the administrative shortcomings such as not taking appropriate decision until the water spills over the radial gates.

Mr.A.Mayuran - Technical Officer

01. Although Mr.A.Mayuran, Technical Officer had to be on duty in the night on 21.12.2018 according to the scheme of rotation system, he went on leave without written permission on that day.

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Eng.S.Amirthaseelan
Member -01
Irrigation Engineer
Vavuniya

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Mrs.V.Manogaran
Member – 2
Accountant
Ministry of Agriculture, N.P

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K.Shrimohanan
Head
Director of Province
Department of Industry, N.P