



Ahmed Kamal
Chief Engineering Advisor/
Chairman, Federal Flood Commission
Tel: 051-9244600 Fax: 051-9244604

Sub: FLOOD MANAGEMENT OF LAI NULLAH AND ITS TRIBUTARIES IN RAWALPINDI / ISLAMABAD.

Dear *Amer Ali Ahmed Sb*

امير علي احمد

Urban-flooding is an emerging issue being faced globally owing to uncertain and extreme climate changes causing high intensity short duration rains and subsequent flash floods. This is further augmented due to improper and unplanned land uses, poor design and maintenance of storm water drainage network, besides, encroachments within & along the natural streams/drains passing through the urban areas.

2. The Lai Nullah passes through thickly populated areas of twin cities of Islamabad and Rawalpindi and at times causes damages to the private and public infrastructure during high to very high monsoon spells. The population located in the vicinity of low-lying areas is thus extremely vulnerable to flooding and often badly affected, when flood water level raises in various tributaries of nullah during summer season. In the context of Lai Nullah it would be pertinent to mention here that it has a catchment area of about 234.8 km², drains out the major part of Islamabad Capital Territory (ICT), besides, storm water of the Rawalpindi city. Other three major tributaries; namely (i) Nikki Lai, (ii) Pir Wadhai Kas and (iii) Dhok Ratta Nullah falls one after the other in Lai Nullah, which ultimately falls in Soan River. Further there are other six (6) drains/sewage channels taking the sewage and storm water of Rawalpindi city, which join the main Lai Nullah on the way before its outfall in Soan River.

3. The main causes of flooding in Lai Nullah is encroachment in waterway, dumping of solid wastage & building material, beside, settlements in the low-lying area located along the banks of Lai Nullah. The Lai Nullah catchment area (ICT & Rawalpindi areas) received heavy rainfall of 620 mm in a short duration of 10 hours on July 21, 2001. The catchment area generated huge discharge causing 74 casualties, besides, damage to private & public property. With a view to address on permanent-basis, the flood problem of Lai Nullah, a study on its Comprehensive Flood Mitigation and Environmental Improvement Plan was conducted through JICA (2002-2003). The study completed under the auspices of Federal Flood Commission brought out seven (07) broad proposals under: a) A master plan on comprehensive flood mitigation and environmental improvement and, b) Transfer of skills and technology of comprehensive flood mitigation and environmental improvement to counterpart personnel of TMA, RDA, RCB, RMC, FFC, PMD, Rescue 1122, CDA, SDO, WASA (full document stands officially shared with CDA in 2004/2005).

4. The seven (07) broad proposals included: i) River channel improvement of Lai Nullah and its tributaries through stone pitching etc, ii) Community Pond at the Fatima Jinnah Park in

(5)

Islamabad; iii) Flood mitigation dam in the area administratively called Block E-11 of Islamabad; iv) Flood diversion channel to divert the flood discharge from tributaries of Bedarawali Kas, Tenawali Kas and Saidpur Kas to Kurang River; v) On site flood detention facilities such as a) Rainfall storage tank installed at individual house lot, b) On-site flood detention pond, and, c) Infiltration facility; vi) Preparation of legislation for new Act to control garbage dumping and removal of encroachments in the waterway of the Lai Nullah to sustain the flood mitigation capacity and appropriate environment of Lai Nullah; vii) Increase in the hydrological gauging stations (rainfall & water level data) for implementation of Lai Nullah Flood Forecasting & Warning System (this component stands implemented in 2007 through this office) besides Lai Nullah Flood Risk Management and Administration Technical Cooperation Programme involving training of local communities and a number of stakeholders, preparation of Islamabad, Rawalpindi Flood Risk Map and conducting of mock exercises.

5. Foregoing in view and with the reported revision of Islamabad Master Plan in hand with CDA, it is high time to consider inclusion of aforementioned proposals in the revised Master Plan and their priority and early implementation to ensure resilience of Capital City to rains and floods. Further, it is added that issue of Urban Storm Management is covered at Sr. No.20.2 of National Water Policy (copy attached)-which also requires taking appropriate measures.

With profound regards,

Yours sincerely,

(Ahmed Kamal)

Mr. Amer Ali Ahmed,
Chairman,
Capital Development Authority (CDA),
Islamabad.

Copy to:

1. Director General Engineers, Engineers Directorate, GHQ, Rawalpindi.
2. Commander HQ, Engineers 10 Corps, Rawalpindi.
3. Chief Commissioner, Islamabad.
4. Joint Secretary (E.A), Prime Minister's Office, Islamabad
5. Mayor Metropolitan Cooperation, Islamabad.
6. Director General Rescue 1122, Lahore.
7. Deputy Commissioner, Rawalpindi.
8. Managing Director, WASA, Rawalpindi.
9. Mr. Ali Nawaz Awan, MNA, NA-53, Room # 201, D-Block Pak. Secretariat, Islamabad.
10. PS to Secretary Cabinet, Cabinet Division, Islamabad.
11. PS to Secretary, Ministry of Interior, Islamabad
12. PS to Secretary, Ministry of Water Resources, Islamabad
13. PS to Chairman, CDA, Islamabad



Chief Engineering Advisor &
Chairman, Federal Flood Commission
Tel: 051-9244600 Fax: 051-9244604

No. FC-5(34) Lai Tech/2019
Government of Pakistan
Ministry of Water Resources
Office of the Chief Engineering Advisor &
Chairman Federal Flood Commission
6-Ataturk Avenue, Sector G-5/1,
Islamabad, July 25, 2019

Sub: **ONSET OF MONSOON RAINS - FLOOD MANAGEMENT OF LAI NULLAH AND ITS
TRIBUTARIES**

Dear *Amer Ali Ahmad sb*

Urban-flooding is an emerging issue being faced globally owing to uncertain and extreme climate changes causing high intensity short duration rains and subsequent flash floods. This is further augmented due to improper and unplanned land uses, poor design and maintenance of storm water drainage network, besides, encroachments within & along the natural streams/drains passing through the urban areas.

2. May I invite your kind attention to my earlier even number communication dated 16th April 2019. As you know, the Lai Nullah passes through thickly populated areas of twin cities of Islamabad and Rawalpindi and at times causes damages to the private and public infrastructure during high to very high monsoon spells. The population located in the vicinity of low-lying areas is thus extremely vulnerable to flooding and often badly affected, when flood water level rises in various tributaries of nullah during summer season. In the context of Lai Nullah it would be pertinent to mention here that it has a catchment area of about 234.8 km², drains out the major part of Islamabad Capital Territory (ICT), besides, storm water of the Rawalpindi city. Other three major tributaries; namely (i) Nikki Lai, (ii) Pir Wadhai Kas and (iii) Dhok Ratta Nullah falls one after the other in Lai Nullah, which ultimately falls in Soan River. Further there are other six (6) drains/sewage channels taking the sewage and storm water of Rawalpindi city, which join the main Lai Nullah on the way before its outfall in Soan River.

3. Active monsoon has set in and this is going to bring heavy downpours, especially in the northern parts of Pakistan including Islamabad from now onwards to mid August 2019. In this context all necessary pre-emptive arrangements are required to be placed fully especially in the context of flooding in Lai Nullah and its tributaries in Islamabad. Necessary cleaning of these tributaries including removing of road blockages would be needed on 24/7 basis to ensure smooth running of official business and the economic activities.

4. I would request your personal attention to issue necessary directions to all concerned so that the ongoing monsoon season is passed safely. Further to above as the revision of Islamabad Master Plan is in hand with CDA, it is high time to consider inclusion of proposals contained in JICA Master Feasibility Study on Flood Management and Environment Improvement of Islamabad-Rawalpindi in the revised Master Plan of Islamabad and their priority and early implementation to ensure resilience of Capital City to rains and floods. Further, the issue of Urban Storm Management is covered in National Water Policy which also requires taking appropriate measures.

With profound regards,

Yours sincerely,

(Ahmed Kamal)

Mr. Amer Ali Ahmad
Chairman,
Capital Development Authority (CDA), Islamabad.

Copy to:

1. Secretary to the Prime Minister, Prime Minister's Office, Islamabad.
2. Director General, Rawalpindi Development Authority (RDA), Rawalpindi.
3. Managing Director, WASA, Rawalpindi.
4. PS to Secretary, Ministry of Water Resources, Islamabad.
5. PS to Chairman, National Disaster Management Authority (NDMA), Islamabad.
6. PS to Chief Commissioner, Islamabad.
7. SPS to CEA/ CFFC.



Chief Engineering Advisor &
Chairman, Federal Flood Commission
Tel: 051-9244600 Fax: 051-9244621

6-Ataturk Avenue, Sector G-5/1,
Islamabad, May 11, 2020

Sub: PREPARATORY MEASURES BY FLOOD MANAGEMENT ORGANIZATIONS TO
COMBAT 2020-MONSOON SEASON

Dear Aamir Ali Ahmad Sb

اسلام آباد

Pakistan falls under top ten (10) countries most vulnerable to the climate change risk. Considering the frequency, magnitude and likely disastrous affects, floods are the most critical climate induced hazard in Pakistan. In the prevailing situation of acute shortage of resources to combat the floods the need of strong coordination among all organizations dealing with integrated flood management has paramount importance for maximum judicious utilization of available resources.

2. Federal Flood Commission (FFC) since its inception has played vital role in mainstreaming effective coordination among all organizations on country-wide basis to manage the floods. For that purpose, FFC organizes meeting of all stakeholders every year before start of monsoon to assess the preparedness level of all federal as well as provincial departments with specific reference to river floods, fault free flood telemetry, reservoir operations, effective flood early forecasting and warning, pre-monsoon inspection of intact irrigation and flood control structures through provincial O&M arrangements for the purpose of enforcing real time coordination among them. This year first preparatory meeting of FFC was planned much in advance on 25th March 2020 that could not be convened due to country wide lock-down as a consequence of COVID-19 pandemic. As an alternate measure all stakeholders were advised to initiate crucial preparatory works.

3. Due to changing climate patterns superimposed by uncertain monsoon predictions and rains, demographic changes, continuous urbanization etc. the urban flooding hazard has increased manifold. In the context of Islamabad the vulnerability to urban floods/ flooding has further escalated due to improper maintenance of storm drains/ nullahs, which at times, become most critical in the event of blockage of natural drains due to encroachments. In this regard may I invite your attention to my last year's communication wherein it was apprised that in the shape of JICA conducted Comprehensive Environment Improvement and Flood Management Plan there exist long term cogent solutions to tame various nullahs/ streams flowing through the residential and industrial areas of Islamabad carrying heavy discharges especially during monsoon rains, thus in addition to inundation causing damages to public & private properties. While the CDA has been updating Islamabad's Master Plan, such solutions need attention for timely execution not only to further beautify the city but to also cater for the high monsoon rains in real time.

4. Notwithstanding the above, as an immediate short term measure, may I request that all concerned quarters may kindly be directed to ensure clearance of all main sewer lines/ storm drainage system within all Islamabad through removal of all debris/ solid wastes well before 30th June 2020 thus ensuring unhindered flow of storm water to avoid possible urban flooding during the ensuing monsoon season. Besides, strict enforcement of regulations prohibiting encroachments in the natural drains/ nullahs under the jurisdiction of ICT may be put into regular practice.

5. Your personal kind consideration and facilitation on the above issues is highly solicited for safe passage of Monsoon 2020.

With profound regards

s/c

Sincerely yours,

(Ahmed Karaal)

Mr. Aamir Ali Ahmad
Chairman,
Capital Development Authority (CDA),
Islamabad.

Copy to:

1. Director General, Pakistan Meteorological Department, H-8, Islamabad.
2. Member (DRR), NDMA, Prime Minister Office, Islamabad.
3. Chief Commissioner, Islamabad.
4. Director General, Rawalpindi Development Authority (RDA), Liaquat Bagh, Rawalpindi.
5. Managing Director, WASA, Liaquat Bagh, Rawalpindi.
6. Executive Engineer, Small Dams Organization, Rawal Dam, Islamabad
7. PS to Principal Secretary to the Prime Minister, Prime Minister's Office, Islamabad.
8. PS to Secretary, Ministry of Water Resources, Islamabad.
9. PS to Secretary, Ministry of Information & broadcasting, Islamabad.



No. FC-5(34) Lai Tech/2019-XII
Government of Pakistan
Ministry of Water Resources
Office of the Chief Engineering Adviser/
Chairman Federal Flood Commission.

Chief Engineering Advisor/
Chairman, Federal Flood Commission
Tel: 051-9244600 Fax: 051-9244604

6-Ataturk Avenue, Sector G-5/1
Islamabad, August 11, 2021

Sub: IMPLEMENTATION OF FLOOD MANAGEMENT INTERVENTIONS IN ISLAMABAD CAPITAL TERRITORY (ICT)

Dear *Amer Ali Ahmed Sb.*

امير علي احمد

As you are aware, rapid climate change has raised the frequency of extreme climate events. The intense and concentrated monsoon rains in short time interval are usually witnessed almost every year. The inconsistent behavior of monsoon is being especially noticed since past several years. The rapid increase in urbanization is another issue, which has badly affected the planning of big cities of the country. In the context of Islamabad, the vulnerability to urban flooding has further escalated due to encroachments in waterways of local streams/ nullahs and deferred maintenance of storm drains which at times, become extremely critical in the event of high intensity rains like recently happened in E-11 during the on-going monsoon season. This situation calls for enactment of wholesome legislative and regulatory measures besides implementation of innovative technical initiatives for flood management in Islamabad Capital Territory (ICT) as have been identified in past comprehensive study by JICA.

2. In the above context, Japan International Cooperation Agency (JICA) had conducted a Comprehensive Environment Improvement and Flood Management Plan (Complete set of the Plan had been shared with CDA in the past), therein exist long term cogent solutions to tame various nullahs/ streams flowing through the residential and industrial areas of Islamabad carrying heavy discharges especially during monsoon rains, thus in addition to inundation causing damages to the public & private properties, disruption in economic activities and the day-to-day life. The study completed under the auspices of Federal Flood Commission (FFC) brought out seven (07) broad proposals under: a) A Master Plan on comprehensive flood mitigation and environmental improvement and, b) Transfer of skills and technology of comprehensive flood mitigation and environmental improvement to counterpart personnel of TMA, RDA, RCB, RMC, FFC, PMD, Rescue 1122, CDA, SDO, WASA (complete document stands officially shared with CDA in 2004/2005 as stated above). The seven (07) broad proposals included:

- i. River channel improvement of Lai Nullah and its tributaries through stone pitching etc.
- ii. Community Pond at the Fatima Jinnah Park in Islamabad;
- iii. Flood mitigation dam in the area administratively called Block E-11 of Islamabad;
- iv. Flood diversion channel to divert the flood discharge from tributaries of Bedarawali Kas, Tenawali Kas and Saidpur Kas to Kurang River;

- v. On site flood detention facilities such as a) Rainfall storage tank installed at individual house lot, b) On-site flood detention pond, and, c) Infiltration facility;
- vi. Preparation of legislation for new Act to control garbage dumping and removal of encroachments in the waterway of the Lai Nullah to sustain the flood mitigation capacity and appropriate environment of Lai Nullah;
- vii. Increase in the hydrological gauging stations (rainfall & water level data) for implementation of Lai Nullah Flood Forecasting & Warning System (this component stands implemented in 2007 through this office by virtue of which the original lag time has increased from 10 minutes to about 90 minutes).

3. Besides above, Lai Nullah Flood Risk Management and Administration Technical Cooperation Programme involving training of local communities and a number of stakeholders, preparation of Flood Risk Map as well as Flood Warning Code and conducting of mock exercises were completed under JICA assistance in 2007-2009. However, the implementation of structural proposals mentioned at Sr. No. (i) to (v) and legislation at (vi) are still missing, which could not only make ICT flood proof but also save Rawalpindi city from flood damages of Lai Nullah.

4. It is also added here that FFC in 2016 had circulated Draft Model Provincial Flood Plain Management Act 2015 (Copy is enclosed as Annexure-I) for removal of existing encroachments and restriction of encroachments in future in the flood prone areas/waterways of major and other rivers including hill torrents/nullahs. To that effect, the provinces of the Punjab and Khyber Pakhtunkhwa have already promulgated their respective Flood Plains Management/ River Acts whereas the same is in process of promulgation in Sindh, Balochistan, Gilgit Baltistan and AJ&K.

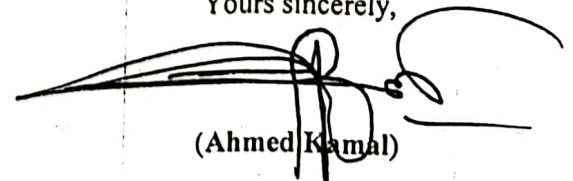
5. Foregoing in view, it is high time to consider following actions by CDA:

- a) With the reported revision of Islamabad Master Plan in hand with CDA, it is need of the hour to consider inclusion of the balance interventions (Para-2 above) as recommended in JICA Study Report in the revised Master Plan and their early implementation on Top Priority basis so as to ensure safety of Islamabad Capital Territory (ICT) and Rawalpindi City from future floods; and
- b) Prepare and enact Federal Flood Management Act for the Islamabad Capital Territory (ICT) for removal of existing encroachments and restricting new settlements in the waterways of nullahs.

6. Federal Flood Commission would welcome CDA's approach towards above and would therefore, be ready to work closely with CDA/ ICT including RDA for the overall objective of effective flood management. In this context, Federal Minister for Water Resources has especially directed FFC for engaging with CDA.

With profound regards,

Yours sincerely,



(Ahmed Kamal)

Encl: As stated

Mr. Amer Ali Ahmed,
Chairman,
Capital Development Authority (CDA),
Islamabad.

Copy for information to:

1. Chairman, National Disaster Management Authority, Prime Minister's Office, Islamabad.
2. Director General Engineer, Engineers Directorate, GHQ, Rawalpindi.
3. Director General, Pakistan Metrological Department, H-8, Islamabad.
4. Chief Commissioner, ICT Administration Complex, G-11/4, Mauve Area, Islamabad.
5. Commissioner, Rawalpindi Division, Rawalpindi.
6. Chairman, Rawalpindi Development Authority (RDA), RDA Headquarters, Murree Road near Liaqat Bagh, Rawalpindi.
7. P.S to Minister for Water Resources, Islamabad.
8. P.S to Special Assistant to Prime Minister, Ministry of Climate Change, Islamabad.
9. P.S to Secretary, Ministry of Water Resources, Islamabad.
10. P.S to Secretary, Ministry of Climate Change, Islamabad.



Chief Engineering Adviser &
Chairman, FFC

Tel: 051-9244600
051-9244604

No. FC-5(34)/Lai Tech/2022
Government of Pakistan
Ministry of Water Resources
Office of Chief Engineering Adviser &
Chairman, Federal Flood Commission

Plot No. 06, Ataturk Avenue, G-5/1
Islamabad, the June 10, 2022

Sub: ONSET OF MONSOON – 2022-FLOOD MANAGEMENT OF LAI NULLAH AND
TRIBUTARIES

Dear Amer Ali Ahmed

امير علي احمد

As you are aware that since the last few years owing to uncertain and extreme climate changes, causing short duration but high intensity rains and subsequent flash floods, urban flooding has emerged as an important civic issue requiring much attention both at planning as well as at operational stages. The issue has become more challenging due to improper and unplanned land uses, maintenance issues of storm water drainage network and above all encroachments within and along the natural streams/nullahs/drains traversing through urban areas.

2. For the upcoming 2022 Monsoon Season, Pakistan Meteorological Department has predicated **Above Normal** precipitation, with its first phase (July to mid August) expected to be wet and likelihood of heavy rainfall events triggering urban flooding in plain areas of major cities.

3. The Lai Nullah passes through thickly populated areas of twin cities of Islamabad and Rawalpindi and at times its swelling discharges cause damages to the private and public infrastructure during high to very high monsoon spells. The population located in the vicinity of low-lying areas is thus extremely vulnerable to flooding and often badly affected when flood water level rises in various tributaries of nullah. It would be appropriate in the context of Lai Nullah, to highlight that with a catchment area of about 234.8 Sq Km it drains out the major part of Islamabad Capital Territory (ICT), besides, storm water of the Rawalpindi city. Other major tributaries; namely (i) Nikki Lai, (ii) Pir Wadhai Kas and (iii) Dhok Ratta Nullah falls one after the other in Lai Nullah, which ultimately falls in Soan River. Further there are other six (6) drains/sewage channels taking the sewage and storm water of Rawalpindi city, which join the main Lai Nullah on the way before its outfall in Soan River.

4. Foregoing facts in view, and in the context of history of flooding in Lai Nullah and its tributaries in Islamabad, all necessary pre-emptive arrangement are required to be placed on ground to combat emergency situations. Cleaning of tributaries including clearing of road blockages would be needed on 24/7 basis to ensure smooth running of official business, day-to-day civic life and the economic activities.

5. I would request your personal attention to kindly issue necessary directions to all concerned under your jurisdiction so that 2022 monsoon season is better managed. Further, the issue of urban storm water management is covered in our National Water Policy which also requires taking appropriate measures.

With profound regards,

Yours sincerely,

(Ahmed Kamal)

Mr. Amer Ali Ahmad,
Chairman,
Capital Development Authority (CDA), Islamabad.

Copy to:

1. Chairman, National Disaster Management Authority, PM's Office, Islamabad.
2. Director General, Pakistan Meteorological Department, H-8, Islamabad.
3. Director General (CC & Env) Ministry of Climate Change, Islamabad.
4. Director General, Rawalpindi Development Authority (RDA), Rawalpindi.
5. Managing Director, WASA, Rawalpindi.
6. Director to Minister for Water Resources, Islamabad.
7. PS to Secretary, Ministry of Water Resources, Islamabad.
8. PS to Secretary, Ministry of Interior, Islamabad.
9. P.S to Chief Commissioner, Islamabad.
10. PS to CEA/CFFC, Islamabad.

Most Immediate
By Fax/Email/Special Manager

Government of Pakistan
Ministry of Water Resources
Office of the Chief Engineering Adviser &
Chairman Federal Flood Commission

No. FC-1(23)/2024

6-Ataturk Avenue, G-5/1
Islamabad the July 11, 2024

Chairman
Capital Development Authority
Islamabad

Sub: **EARLY ENACTMENT OF THE RIVER ACT.**

I have been directed to refer to this office DO letter (Copy enclosed), through which the Model River Act, prepared by the Federal Flood Commission, was sent for enactment by the CDA for the regulation of flood plains in the nullahs/ rivers of ICT. The legal framework for the removal of encroachments in the river flood plains is urgently needed accordingly.

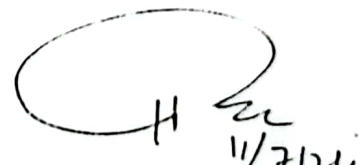
2. As you are aware, the Federal Flood Commission has previously advised, the Capital Development Authority (CDA) to prepare a River Act, and for that purpose a model River Act was forwarded for your reference. The preparation and enactment of this River Act is crucial for providing necessary legal framework to address and manage encroachments in river flood plains effectively.

3. Recently, during the meeting of Senate Standing Committee on Water Resources held on **June 27, 2024**, a directive was issued to pursue this matter with the CDA to expedite the enactment of the River Act. The Committee emphasized the importance of this legislation in safeguarding our river flood plains and ensuring proper management of these critical areas to prevent potential flood hazards.

4. Given the significance of this issue and the directive from the Senate Standing Committee, it is requested that swift and decisive action be taken to address this matter for the early enactment of the River Act for ICT and share latest progress in the matter so that the same may be enclosed in the report to be submitted to the Senate Standing Committee on Water Resources.

5. This issues with the approval of CEA/ CFFC.

Encl: (As above)


(Hussain Shigri)
11/7/24
Superintending Engineer (Floods)

Copy to:

1. Deputy Secretary (Budget), Ministry of Water Resources, Islamabad (alongwith enclosure).
2. Section Officer (Committee-I), Senate Secretariat, Islamabad (alongwith enclosure).
3. PS to Secretary, Ministry of Water Resources, Islamabad (alongwith enclosure).
4. PS to CEA/ CFFC.