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

Dear *Amor Ali Ahmed sb*

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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).

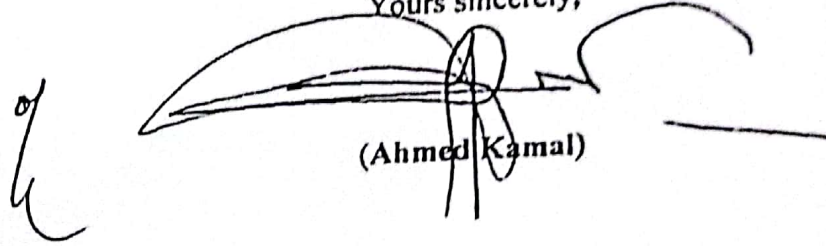
4. The seven (07) broad proposals included: i) River channel improvement of Lai Nullah and its tributaries through stone pitching etc. ii) Community Pond at the Fatima Jinnah Park in

Islamabad; iii) Flood mitigation dam in the area administratively called Block B-11 of Islamabad, iv) Flood diversion channel to divert the flood discharge from tributaries of Bedarwali 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 Lal Nullah to sustain the flood mitigation capacity and appropriate environment of Lal Nullah; vii) Increase in the hydrological gauging stations (rainfall & water level data) for implementation of Lal Nullah Flood Forecasting & Warning System (this component stands implemented in 2007 through this office) besides Lal 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 (EA), 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, National Disaster Management Authority, Islamabad.

Dy. No. 19846-10858A
Date: 16-11-17
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WATER IS THE SOUL OF THE EARTH



**NATIONAL
WATER
POLICY**



2018



Ministry of Water Resources
Government of Pakistan
April, 2018



20. WATERRELATED HAZARDS

20.1 Flood Management

20.1.1 The Flood Protection Plans (National as well as Local) shall be updated on a periodic basis using integrated and innovative approaches, removing technical shortcomings and learning lessons from the past major flood events;

20.1.2 Flood zoning shall be established and appropriate land use would be enforced by avoiding growth of such developments in flood hazard areas that would make the flood protection facilities vulnerable to failure. Where feasible, land use shall be adjusted to ensure compatibility with the frequency and duration of flooding;

20.1.3 Flood Plain Mapping and Zoning shall be carried out along River Indus and its tributaries (Kabul, Swat, Jhelum, Chenab, Ravi & Sutlej) and a River Act shall be prepared for restricting/ prohibiting permanent settlements in high and medium flood risk areas;

20.1.4 Reservoir Operational Rules shall be reviewed and optimized to ensure efficient and prudent decisions to control floods provided, however, that the safety of the dam, embankments, spillways, dam abutments, foundations and all other hydraulic structures is to be placed at no risk under any condition;

20.1.5 Effective use shall be made of non-structural measures like flood forecasting and early warning systems to minimize flood losses through better forecasts and warning, through additional forecasting facilities, e.g. radars, and other monitoring equipment and flood forecasting computer software incorporating rainfall-runoff and hydrodynamic models;

20.1.6 The construction of additional flood protection facilities and improvement of existing infrastructure shall continue where needed, concurrently with development of other measures specified here. Greater emphasis shall be laid on proper maintenance of the existing infrastructure and strengthening of vulnerable reaches of flood protection embankments;

20.1.7 The design and maintenance standards of existing barrages and flood protection structures shall be reviewed and changes made where necessary to bring them to the level of functional capability, reliability and safety;





20.1.8 Hill torrent management for conservation and mitigation of floods shall be given due priority;

20.1.9 Community based flood disaster management initiatives shall be encouraged for effective mitigation of flood hazards;

20.1.10 River flood classification shall be reviewed and enforced as per priority – main rivers, secondary rivers, tertiary rivers, nullahs, streams etc.

20.1.11 Level of Arboriculture shall be increased to work as water storages for reducing run-off and flood peaks;

20.2 Urban Storm Management

20.2.1 Drainage system of major cities shall be rehabilitated/ upgraded keeping in view the damages/ inconveniences caused to increased population and due to likely increase in short duration intense rainfall events attributed to climate change

20.2.2 Delineation of flood plains will be carried out and legislation would be recommended to impose a ban on all types of construction in those plains except that aimed at flood management.

20.2.3 Capacity of WASAs and other municipal level organizations will be built to deal with planning, execution and management of schemes aimed at prevention of urban flooding.

20.2.4 In the cities prone to urban flooding, dedicated warning systems will be installed to make accurate forecasts in the wake of extreme events induced by climate change.

20.2.5 Steps will be taken to promote bio engineering measures against urban flooding along with structural and non-structural measures.

20.3 Drought Management

20.3.1 Meteorological and other concerned Departments/Agencies shall be encouraged and supported in carrying out research work in reliably predicting droughts in short

