

The Unprecedented Rains the Cause and Effect on the Urbanites Hyderabad Metropolitan city

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The recent havoc caused by sudden and preternatural rains in Telangana and the neighbouring states has shocked the entire metro-ecosystem. It is not only in case of Hyderabad, but most of the metropolitan areas witnessed extreme situations beyond human endurance, during this monsoon. The continuous heavy downpour has once again humbled us and made us realise our limitations and incompetence to fight extreme natural catastrophic situations.

The cities cannot withstand more than 10 cm of rainfall in a day and if it exceeds, we witness flooded roads as the entire drainage system gets clogged. Most of the cities have closed and filled tanks (water bodies) and further permitted

construction of houses very close to the low lying areas. This man-made concrete blockage doesn't allow excess water to store in tanks or small water bodies. In 2000, 2016 and 2020, we have witnessed flooded streets and submerged houses almost 7 feet due to rainwater. Yet, we fail to design and execute a long term preventive planning. Most of the cities have become a concrete jungle and as the land value sky-rocket; everyone wants to utilize the least available land. The Corporations never evaluate the plan while sanctioning permission for construction and especially with the design of water-harvesting pits or other sources of storage.

Let's try to understand the demographic glide in Hyderabad populous in recent decades-

Hyderabad Population growth over a period of 70 years

Years	1951	1961	1971	1981	1991	2001	2011	2020
Population in lakhs	11,31,00	12,64,00	18,12,000	25,92,000	43,86,000	58,12,000	77,51,000	1,00,04,000

The recent downpour in our city witnessed more than 25 cms of rainfall and in some areas exceeded above 30 cms i.e on 13th, 14th and 17th October 2020. This time the torrential rains did impact suburbs like Sangareddy, Patancheru, Bibinagar, Hhaythnagar, Chowntuppall and Shadnagar areas. It has been the maximal in 117 years in the history of Hyderabad State.

The present Government should take prudent decisions in improving the age-old drainage system.

According to Ms Swathi Vemuala, a PhD scholar from Birla Institute of Technology, Hyderabad, under the able guidance of Prof Srinivas Raju predicted that-

In the year 2020, the rainfall may exceed 28 cms and further predicated the same till the year 2068. Based on the available research data, she further cited that cities may even witness more than 45-50 cms rainfall in years to come. So evaluating and analysing the facts, we need to prepare the city to withstand even extreme rainfall upto 45- 50 cms a day.

Water ponds/lakes: The water ponds/lakes in around Hyderabad has reached their fullest level during this intensive rain and could not withstand and overflowed into low-lying areas. We had witnessed nearly **165 colonies** submerged due to excess flooding from the nearby lake waters. The Bagynagarm has nearly **185 lakes/ponds** out of which nearly **75 lakes/ponds are in a dangerous situation**. The government has estimated around 250 crores to strengthen and beautifying these water bodies and lakes and it was planned 3 years ago, but could never be executed due to lack of funds. It is interesting to note that the actual surroundings of the ponds have been encroached to more than 50 percent of the actual water area.

The worst affected areas include old city, Medhipatnam, Towlichowik, Falaknama, Charminar, Balapur, Nadeem Colony areas in old City, Prakash Nagar, Malakajigiri, Safilguda, Piagha Colony, Ravindra Nagar, Saichitra Nagar, Habisguda, Medipalli, Pirdajiguda, Boduppall, LB Nagar, Malakpet, Vanasthalipuram and Harihara Colony.

I would like to highlight and discuss a few major lakes encroached by the realtors with the undue help by the local politicians and goons.

1. Jallapalli Pedda cheruvu: The actual area is 299 acres, and the encroached part is nearly 100 acres. The nearby submerged colonies like Laxmiguda, Vamey colony are the result due to excess flooded water.

2. Hariharapuram Kaprai Cheruvu: The total area is 13 acres and more than one acre land has been encroached and it has affected the colonies nearby. Vanasthipuram and its vicinity has been worst affected due to the continuous spells of heavy rains in Oct. 2020.

3. Appa Cheruvu : Total area is 14 acres and ironically above 80 percent of the water body is encroached. The result being, the death of four innocent lives due to deluge. The neighbouring Bommalkunta Chervu is also encroached by the realtors mounting to around 8 acres.

4. Alwal Chinarayuni Cheruvu: The total area of the water body is 17.25 acres, out of which 5 acres has been encroached. It has affected Anandrao Nagar, Janaki Nagar and may further affect the colonies of Joshi nagar, Dinakar nagar and its surroundings if the flooding intensifies.

5. Ramanthapur Pedda Cheruvu: The actual area being 28 acres and around 13 acres has been encroached by land grabbers. The impact showed up as Ravindra Nagar, Saichitra Nagar, Laxmi Nagar, Maheshwari Nagar, Bharath Nagar, Pragathi Nagar, Shanthi Nagar and other colonies were submerged. The excess water from Osmania University lakes also submerged these low-lying areas substantially.

6. Maylardevulapalli Palle Cheruvu: The total area being 39 acres out of which 24 acres has been encroached, the result being, Mylardevpalli, Crystal garden colony, Bandlaguda, Ali Nagar was submerged. Nearly 1200 houses were affected by water clogging and flooding and nine people died.

7. Uppal Nalla Cheruvu: Actual area is 120 acres and 70 acres have been encroached due to which, the areas like Nacharam and its surrounding colonies were submerged and it has affected nearly 500 houses.

8. Medipalli Cheruvu: The actual area being 22 acres, of which nearly 12 acres has been encroached of which, more than 500 houses of nearby, localities were severely affected.

During Sept. and October 2020, rains continued to pour heavily, between 6 -16 cms and our city received an overall average of above 50 cms of rainfall. In most of the localities, people have never experienced such unprecedented rains and they had to face immense hardship, spending sleepless nights due to breach or overflowing water from the nearby ponds, cheruvulu (lakes), water percolated into their colonies and houses, cellars of apartments were filled knee-deep with sewage and rain water, roads extensively damaged. Our city cannot withstand more than 10 cms of rain and during the month of September and October. Almost every other day, we witnessed heavy rains and most of the roads were damaged extensively with slush and deadly pot-holes. Traffic congestion is quite common during such situations; at times it would take more than 4 to 5 hours to reach home. The plight of the people residing near small water bodies was pathetic.

The table explains the consolidated rainfall from June 1st to October 16th as most of the 15 Mandals were lashed with 75% excess rainfall.

Mandals	Rainfall – Recorded June-1 – October-16	Rainfall-Normal June-1 – October-16	Percentage Excess To normal %
Charminar	1276.9	613.7	108
RajendraNagar	1276.2	628.9	103
Asif Nagar	1248.7	622.9	100
Saroor nagar	1166.3	606.2	92
Bhadur pura	1155.8	622.9	86
Bandla Guda	1138.5	622.9	83
Ameerpet	1215.2	667.4	82
Nampally	1124.4	622.9	81
Thirumalagiri	1195.2	667.3	79
Musheerabad	1195.2	669.7	78
Balanagar	1131.5	641.5	76

Kukatpally	1136.3	641.5	77
Uppal	1087.5	616.0	77
Shaikpet	1087.0	622.9	75
SherilingamPally	1101.9	632.6	74
Khairtabad	1146.2	667.4	72
Kapra	960.5	566.0	70
Secunderabad	1119.2	667.4	68

We do face similar problem during every monsoon and especially during the month of September/October, as most of the colonies and towering apartments are constructed covering water bodies (lakes) or on the Nala's, obstructing the drainage flow. The present drainage system was designed during the Nizam era and it has to be redesigned keeping in view the growing population, expanding Colonies, clustered Individual houses etc.

Possible Solutions:

1. The colonies or apartment blocks constructed nearby and over the water bodies (lakes) should be relocated on war-footing and in future while sanctioning new layouts, such precautions must be taken into account. We need to ensure that no houses are allocated to be built nearing 50 feet from the Nalas. Even if they have, they may be relocated for their own safety to nearby by or safer location.
2. We have witnessed that in some colonies, Flats have cellars/parking area permission and it is not advisable as the recent rains almost filled every cellar to the brim as the plight was unexplainable.
3. An integrated long-term sustainable drainage system design is needed in proportion to the growing population. In 1951, the population was about 11, 31,000 and today i.e 2020 we are more than 1,00,04,000 (approx).
4. As witnessed, the forest area has been reduced considerably in and around Hyderabad city and it is one of the main reasons for the flooding within the city. It has been reported in EPTRI in the year 2015. The mining activity that has been extended in the outskirts of the city adds to our woes.
5. We need cement and concrete roads instead of Tar covered roads as the Dambar (TAR) roads cannot withstand heavy rains as experienced recently.
6. The GHMC has set up DRF – Disaster Rescue Force/team two years ago with nearly 390 members. But the general opinion being it has not effectively imparted its role during this time of crisis. GHMC has six Zones and 30 circles and has sufficient number of ground staff, however could not handle the situation effectively during the floods.

7. We need to dig and remove inorganic waste and slush to deepen the area of the lakes such that, its water holding capacity increases. The GHMC is taking sincere efforts to implement such innovative ideas but it should pursue the same cause and effect.

8. Creating artificial pond before commencement of the rainy season is also one of the alternate methods of storing rain water. As the project maybe a costly affair for the state as we need to acquire land and need more funds.

9. We need to install Sensors as indicated by Dr Swathi Vemula in all Nalas, such that we are informed well in advance in dire situations. Bangalore has sensors installed in its drainage system and it is working effectively.

10. According to Mr Jayprakash Narayan of LOKSATTA, President he states that, we need to do contour mapping of Hyderabad city before proper implementation of the drainage system such that we know the flow of water from higher areas to low lying areas.

11. The government has to improve and maintain the conditions of the roads and the drainage system must be redesigned. Some improvement has taken place in the drainage system from the year 2011 to 2015 but not in a larger scale as researched and reported by Mr Abilash and Mr Sachin of Centre for Environment division of JNTU. We need to have a separate drainage system for rainwater and it may cost a bit, but we need to ponder on these lines as well.

12. Identifying depleted or old buildings and relocating the people to safer places.

13. We need to shift the people permanently by allocating alternative accommodation for those who have constructed their houses very close to the water bodies. Heavy fines must be levied on those who encroach free lands. It may be tough job but it will be a permanent solution as we need to care for them as well. Most of the slum dwellers are living along these city bridges/lakes and low lying areas, knowing their lives are at risk as there is no option left for them to live in safer places.

14. We need to have an effective mechanism for alerting the people well in advance by sending voice linked messages on their cell phones. We need to have the data of the people who are staying

near water bodies or lakes or near/ along the stretch of the ponds.

A word of appreciation for the present government, in spite of the adverse situation, everyone including, Hyderabad and Cyberabad Police Departments, GHMC, Metro Water and Sewerage Board, Health Department worked day and night under the eminent guidance of our Sri KTR, Municipal Administration Minister and Mayor with excellent coordination, meeting the residents personally, resolving their issues and providing basic amenities i.e. food and clean drinking water. The people whose houses are submerged must be relocated to safer places.

However, they cannot contain the plight of such huge masses submerged in floods. The rains have affected more than 50 percent of the colonies in twin cities. It is a tough task for the officials and they have done their best but fell short of the expectations of the people. The Police personnel have done a commendable job by saving many lives and providing food and drinking water to the stranded people.

Mr.KTR, gave clear instructions to the Officials to demolish buildings, which obstruct the flow of the lakes and the Nalas. The people have welcomed such a move and support the government in accomplishing this sensitive task. This form of simple and effective initiative by the govt. and the

people can further avoid traffic jam during peak hours, saving immense time and energy.

Finally:

The corporations have huge funds but fail to modify or redesign the drainage system that was planned decades earlier. The plan must be based on long term perspectives with keen foresight in resolving such critical issues. They should also plan on rainwater harvesting in soil and construction of pits. Unless we utilize rainwater accordingly, we might face a severe water crisis in the near future. We do witness a major water crisis in Chennai and other States.

The leaders and officials should think discreetly about the welfare of the people, in true noble spirit. Hopefully, the Metropolitan city Corporation Heads should discuss with prominent Scientists and Town Planning Officials and implement the proposal to remodel the drainage system that can sustain beyond 2050.

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