

Climate change multiplier of Vector-borne disease? Identification and way-forwards

1. Introduction

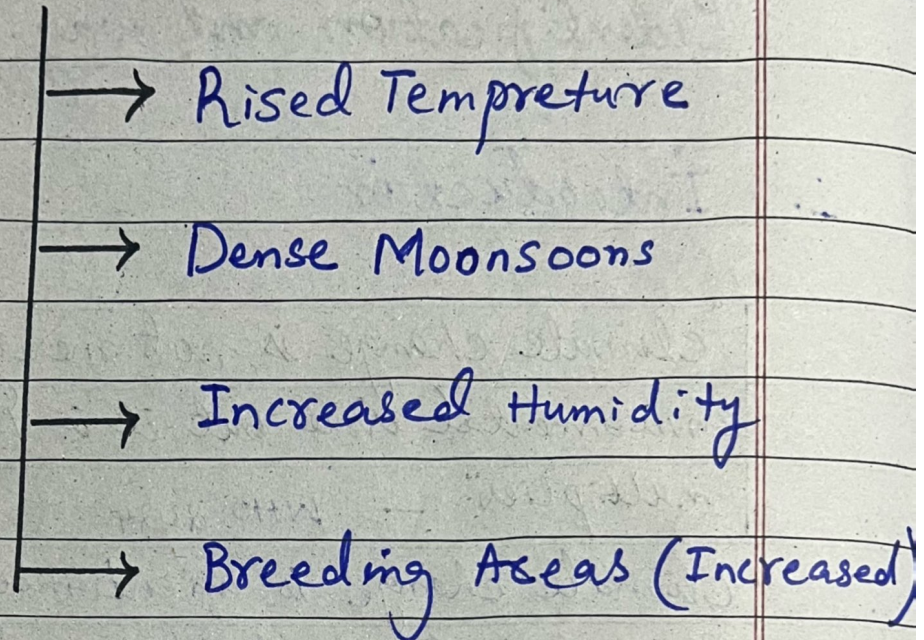
"climate change is not merely an environmental issue but it is threat multiplier" — WHO, 2024

Climate change is an enhanced supporter of pesticides and vectors to live-long and spread more vast and quickly. Vectors like; mosquitoes, fleas, flies and ticks enjoys warm atmosphere which helps in live longer and spreadation in more areas.

2. Climate change Implications on Vector-borne diseases

Climate change helps Vector borne diseases in several ways which are:

VECTOR-BORNE DISEASES



a) Temperature Vs Vectors: Warm temperature increases life-cycle of vectors by weakening the extrinsic incubation period (EIP). Increased (Eic) potentiall can lead aborviruses^m more effective and long-living standards.

b) Moonsoon affections on Vectors: Disturbed pattern of moonsoons and extreme weather conditions helps atmosp.

more polluted over specific of time.

Heavy Rainfall $\rightarrow$ Causes

(Stagnant Water)

stagnant water is a desired location of pesticides and vectors for getting affection and breeding. However, more location of breeding areas results more quantity of abovures and vectors production.

- c) Areas with High Humidity:
Disturbed pattern of rainfall and rising temperature results humidity in atmosphere which is also a desired and welcoming atmosphere for vectors. In humidity dense areas vectors can easily breed and spread.

- d) Increased breeding Areas :- Urban flooding specially in Pakistan Subsidies

vectors to spread quick and breed in friendly areas with supportive atmosphere. because drought and dry places are not suitable for vectors to spread and breed.

Nearly 50,000 Cases ^{annually} specially in south-asia reports only due to vector affected diseases — (WHO, 2022)

3. Identification of Vector-borne disease

Dengue → Aedes Mosquito
Chikunguniya ↗ Aedes Mosquito

The World is witnessed already of increasing vector-borne disease, As Per WHO, 2025 around 700,000 lives annually gets a layer of death due to infectious disease with major

contribution of Malaria, Dengue, chikungunia and yellow fever.

4. Locations of breeding and Spreading

- 1) Warm Temperatures (South Areas in Pakistan) and trending (North) due to rise in temperature
- 2) Contained Water bodies or stagnant water areas are desired places -
Eg., (Rural areas of Sindh after floods)
- 3) (Open-dumping of waste) areas are also infectious areas of vectors to get affected by abro-virusse and pesticides and spread quickly to human-living areas.

5. Measurements and Solutions

1. Local and municipale active role
Public needs to object on open-dumping

structure and promote awareness of (SOP's). Municipal corporations needs to play effective role by spraying infected places; High in humidity, or contained water places

2. Climate awareness and sustainable transformations

Reduction in Carbon emissions reduces temperature intensity therefore, globally binding actions are required to mitigate and counter climate threats.

3. Internal and external sprays and insect-protection nets

Spraying homes can reduce chances of vector-diseases. people's staying in open areas needs to protect themselves with insect-protection nets.

4- Role of Media and International Players

Awareness of climate studies and knowledge, reduction of Green house effects, promotion of environmental sustainability, and role of international bodies e.g., (UN, WHO) are required for mitigation and awareness.

6. Conclusion

Climate change not remains a myth, but it becomes reality and challenging in modern world to survive safe and healthy. Vector-borne diseases often leads to severe disease like Malaria, Dengue and yellow fever inspired by climate change to human's living standards, therefore, proper mitigation—Climate sustainability and educational promotion are much needed efforts.