

Abstract

A reliable and acceptable quantity and quality of water, and managing water related risks for all is considered by the United Nations to be “the critical determinant for success in achieving most other Sustainable Development Goals (SDGs)”.

Starting from March 2019, the Newcastle University- led GCRF Water Security Hub will run for five years and also brings together leading partners from Colombia, Ethiopia, India and Malaysia.

India Collaboratory has IIT Delhi as lead and SPA Delhi as co-lead.

Introduction

Water Security challenges can be classified under three broad categories: diminished water supply or quality, increased water demand, and extreme flood events

- Upper Yamuna Basin up to Mathura: Water resources assessment (current and under climate change) in basin and to understand the distribution of the water amongst the participating states.
- Inter-state resources assessment for Delhi National Capital Region (NCR) with the National capital Territory (NCT) of Delhi as its core. The main focus of detailed sector wise demand shall be NCT.
- Barapulla Basin: Storm water drainage, Sewerage network, water supply network adequacy and urban flooding will be assessed.
- Development of GIS based framework for dissemination

Materials and Methods

Goal : Enhanced water security through governance and management of water resources for NCT of Delhi in an equitable and sustainable manner

Outcomes

- Improved and expanded water supply and sewerage infrastructure in NCT of Delhi.
- Equitable and effective management of water resources by government
- Appropriate governance and regulatory frameworks that enables better integration of policies and plans across State government departments
- More efficient use of water by the general public



Source: UN Water, 2013

Conclusions

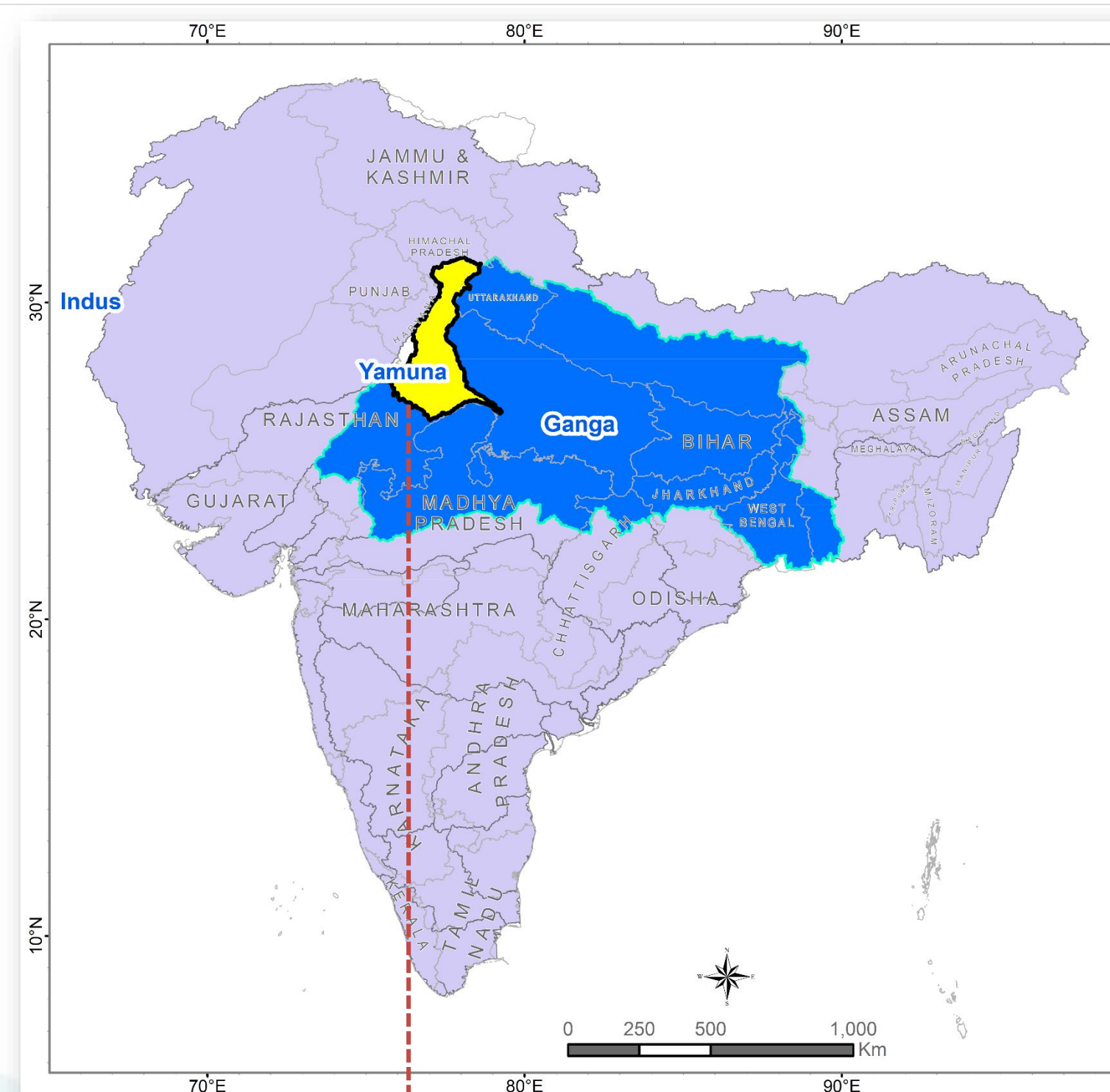
- High quality interdisciplinary research and cross-sectoral involvement will provide new insights & knowledge for water security.
- The development and application of systems approaches will explicitly acknowledge the interplay between the physical world and the environment

Industrial Significance

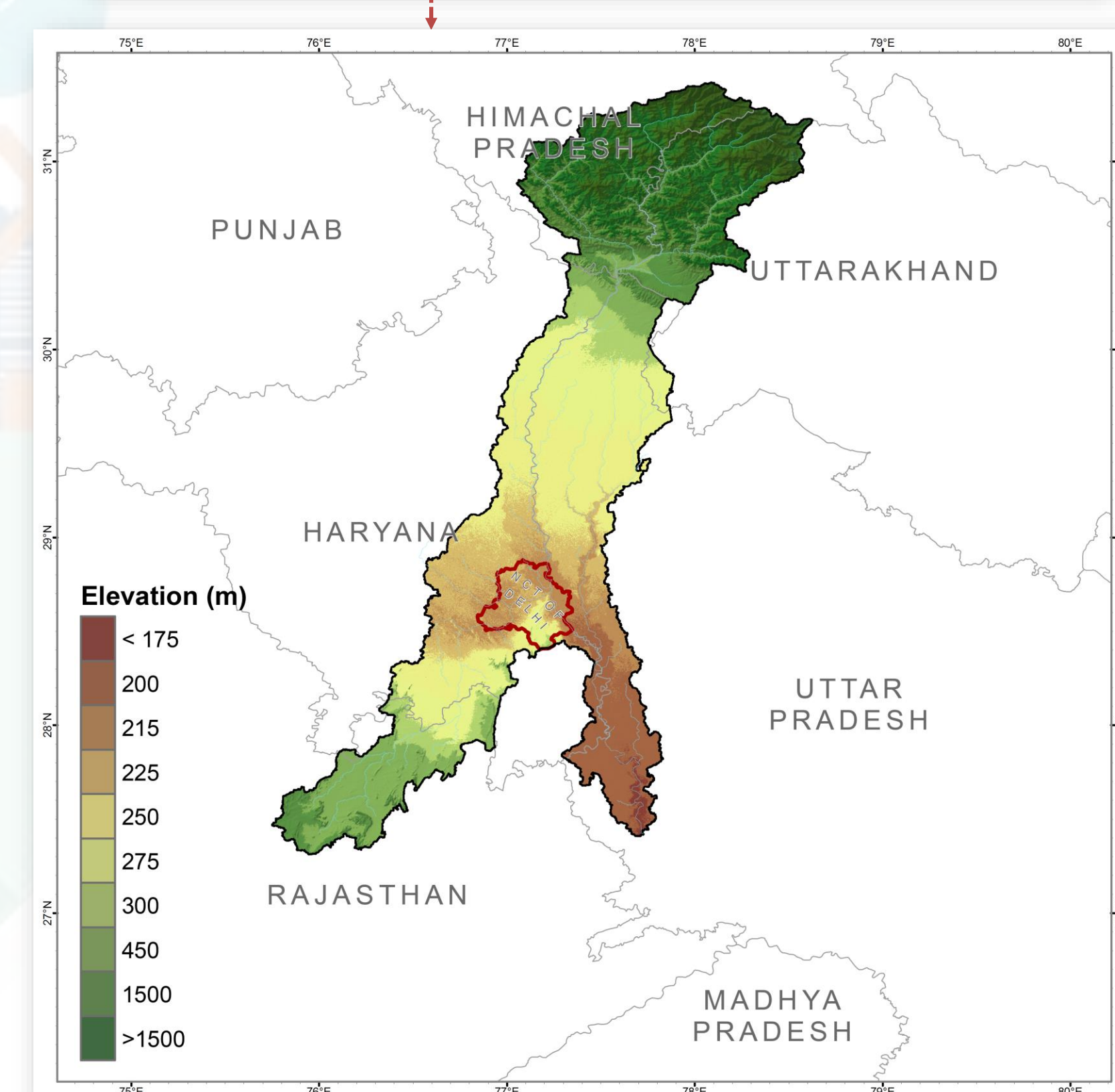
Industries who are developing innovative technologies e.g. sensors, have the potential to transform innovation in the water sector.

Technology Readiness Level: Validation of water resources systems' adequacy through simulation environment

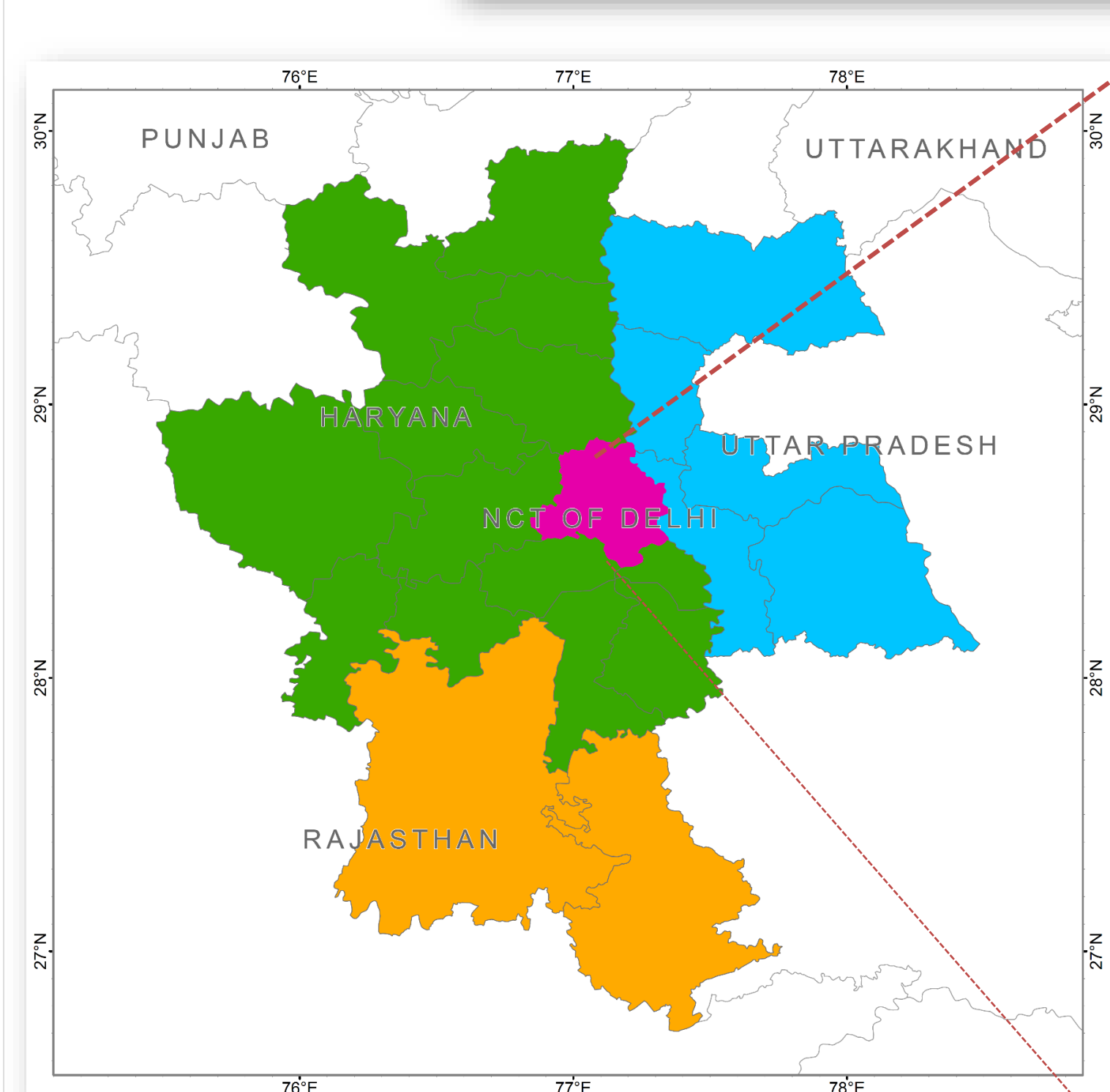
Result



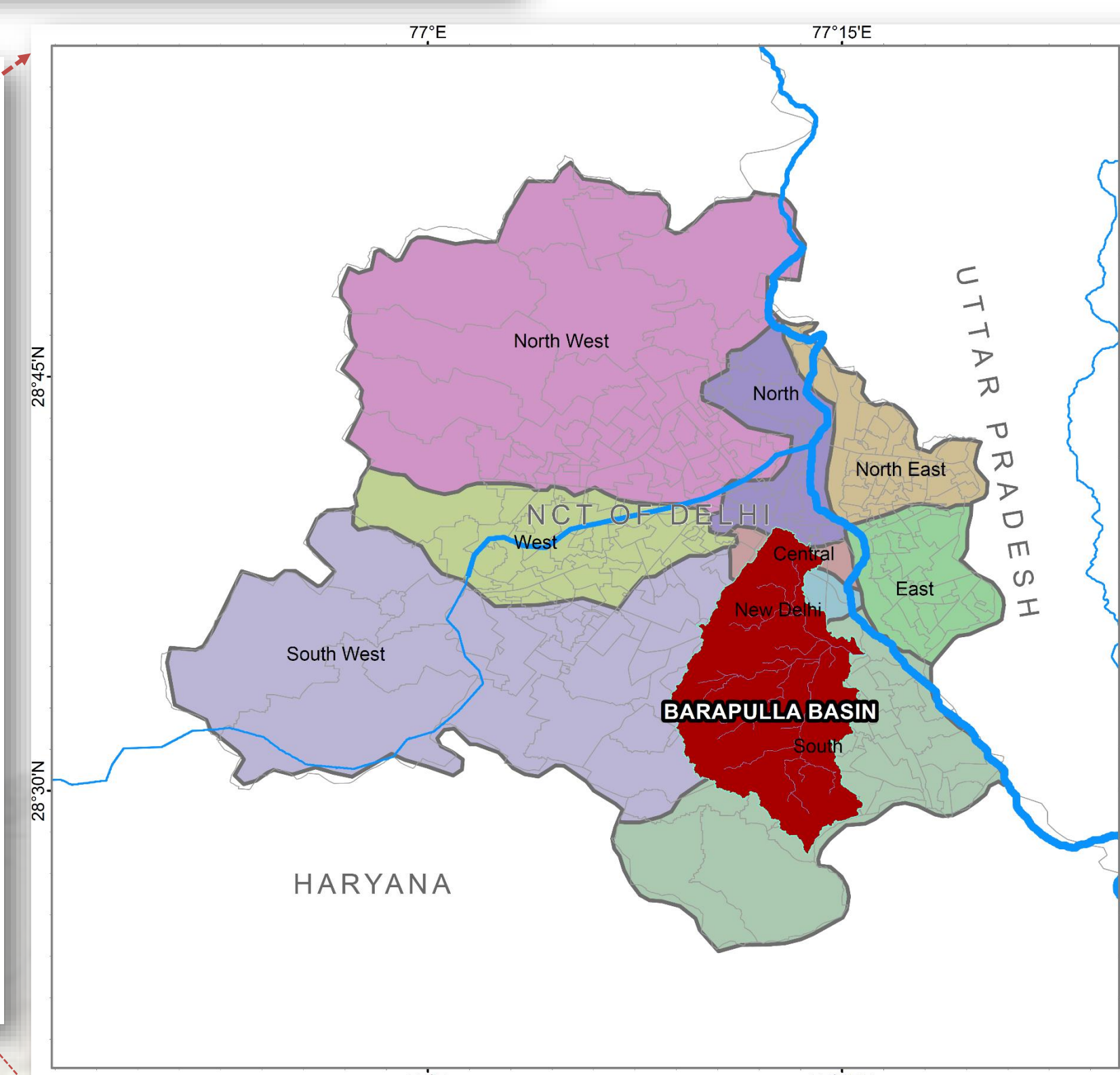
(a) Ganga and Yamuna River Basins



(b) Upper Yamuna Basin up to Mathura



(c) Delhi NCR



(d) NCT of Delhi

References

UK Research and Innovation (UKRI) [<https://www.ukri.org/>]

GCRF Water Security and Sustainable Development Hub
[<https://www.ncl.ac.uk/globalchallenges/water/water-security-hub/>]

Acknowledgement

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