DEALING WITH VARIABLE ACCESS TO WATER: AN ASSESSMENT OF CHALLENGES AND COPING STRATEGIES IN FAR-WESTERN NEPAL

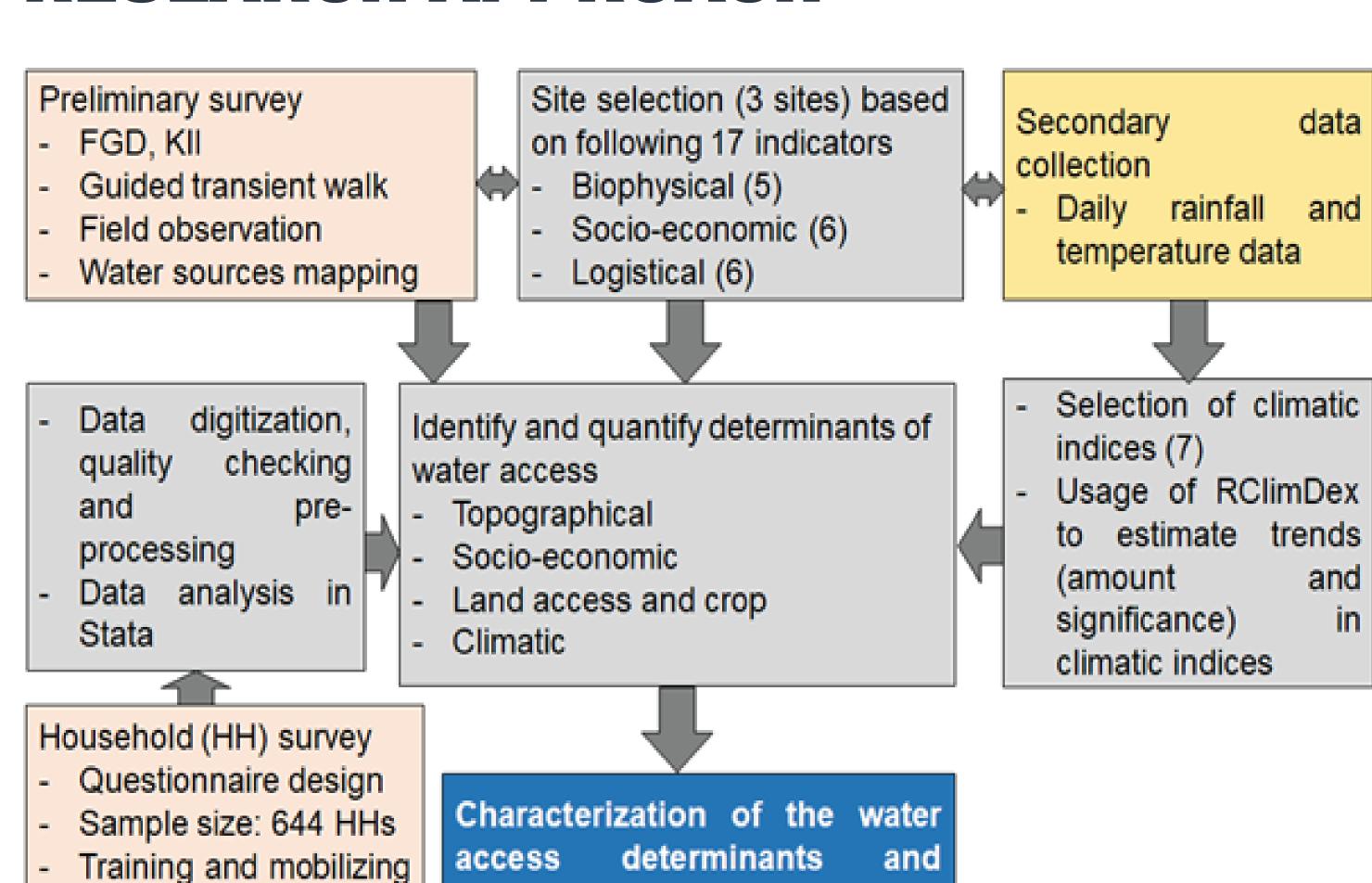
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CHALLENGE

- Extremes, such as flooding and long dry spells, which affect water availability and access to water in the study site, including three villages in different physiographic zones: Mellekh (mountain), Punebata (hill), and Kuti (terai).
- Irrigation sources vary, from a stream/spring as the primary source in the hills/mountains to groundwater in terai villages.
- This research tried to answer several questions.
 - How do biophysical and other environment factors affect water availability and access in different agro-ecological regions?
 - Which type of socio-technology uptake is bested suited to improve water productivity, crop productivity, and livelihoods?
 - What kind of climatic and non-climatic coping strategies are farmers using?

RESEARCH APPROACH



INSIGHTS & INNOVATIONS

The following determinates were identified for poor water access:

adaptation strategies

Topographical constraints

enumerators

- Unfavorable terrain and poor infrastructure (hill/mountain)
- Declined water availability in stream/springs
- Flat land and close proximity to two rivers (Terai)
- Flooding during the monsoon, followed by two-months of waterlogging after the monsoon (Terai)

 Poor Water

Climatic constraints

- Changes in precipitation, i.e., erratic rainfall and changes in temperature, which also shifted the timing of crop cultivation
- Untimely rainfall and increased temperature in summer

Land access and crop constraints

- Fragmented land (0.47 ha)
- Lack of labor, poor irrigation facilities, high investment in irrigation, short cropping season (hill/mountain)
- Limited number of pumps and tube wells and high cost of rental and physical infrastructure (terai)

Socio-economic constraints

- Out-migration of young male members had a negative impact on intensity of agricultural cultivation
- Labor shortage and feminization of agriculture

Coping/adaptation strategies

 Leaving land fallow, borrowing money or reducing overall food consumption; outmigration to cities; and doing nothing are the major adaptation strategies for drought, untimely rainfall, and flood.

Access

NEXT STEPS

- Landscape
 management through
 bio-engineering,
 springshed water
 retention, infiltration
 improvement and soil
 cover to conserve soil
 moisture are some of
 the measures to
 enhance water yield in
 the hills/mountains.
- Building community capacity for rainwater harvesting and flood control through recharge ponds in the mid-hills should be a key priority.
- In the terai, environmentally friendly irrigation systems operated with electric or solar pumps could be a viable option in the long run for groundwater pumping.
- Climatic anomalies can be addressed through introduction of new agro-technology, improved climate-resilient seeds, better crop management practices, shifting of crop planting times (proper crop planning) and use of fertilizer.
- It is imperative to ensure that suggested technologies are user friendly for easy uptake.
- Promoting and implementing water-efficient irrigation methods and practices, and improving on-farm water management would help lower pumping requirements, consequently improving water productivity and hence farmers' profit margins.











