

Figure 1: Map of Nepal showing three study districts in three different colors.
Source: Khanal. R. N., et al., 2009

3. Methodology

The study is based on the primary data collection by using structured questionnaire. 150 households were selected for the data collection through field survey. With these collected information about ditch making and socio-economic status. The present condition of people who live on this riverbed is determined by this case study. The following process was used to collect the research findings.

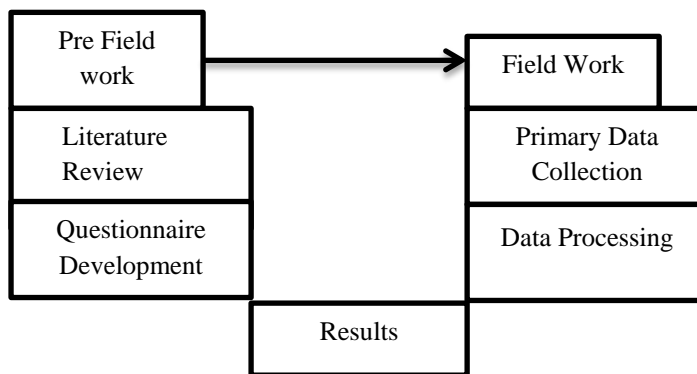


Figure 2: Research design for collecting household survey data and results. Different spatial data is collected by Global Positioning System (GPS), whereas the interviewing participants by the questionnaire collect attribute data.

4. Results and Discussion

This research finds dependent of water is increasing rapidly as population and settlement is rapidly increasing on this particular area. Similarly numbers of ditch are increasing since 2012. As the depth of the ditch also increased, people already extract tremendous amount of water.

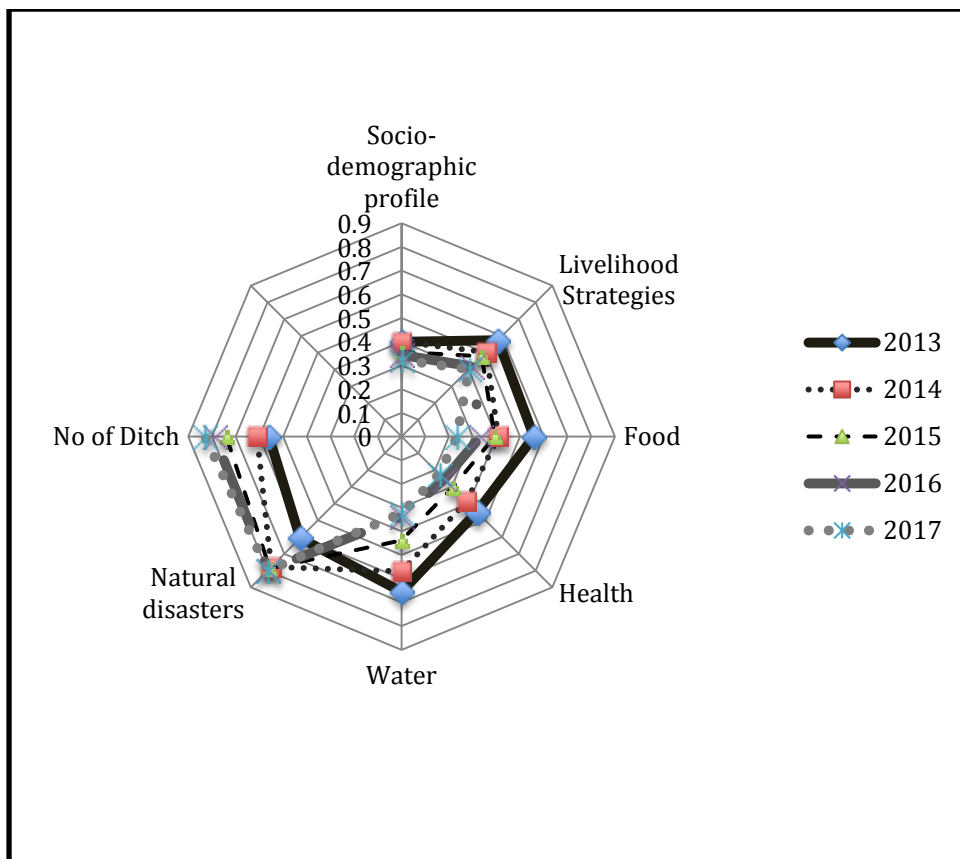


Figure 3: Vulnerability spider diagram for the major components of the livelihood vulnerability index (LVI) for people around Jhikhu last 5 years.

The overall, 2013 had a higher LVI than 2016 and 2017 year indicating relatively greater vulnerability of socio-demographics, livelihood strategies, health, food, water, natural disasters and number of ditches around the Jhikhu riverbed residents. The results for major components are presented in a spider diagram (Figure 3). Numbers of ditch were increased than 2013 to 2017, which directly affects other major components. That make vulnerable in the food, natural disasters (such as flood, landslide), socio-demographic profile, livelihood strategies and water. Therefore, this study concludes that water plays significant role for people's livelihood vulnerability index showed on the above Figure 3.

The demand of water was high in the month of Chaitra and Baisakh as compared to Ashad and Sharwan that have low. This increases the costing of irrigation system for production. Due to this situation people starting to leave farming which harm the land as well as nation economy.

5. Conclusion

From the analysis of the gathered primary data, it is found that people are dependent on the ditch irrigation on the Jhikhu riverbed. Participants also stated that this extraction help to increase the productivity of their agricultural products during dry seasons. Above show Figure 3 illustrates benefits with using ditch process since 2013-2017. Recently the water is decreasing in such ditch, now people have to ditch significant deep to get little amount of water.

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