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Introduction

- Floods have 43.5% of recorded deaths worldwide in recent years [1;2;3]. According to [1] Asia and Africa have borne the brunt of flood-related mortality and morbidity.
- In Niger, a study conducted by [4], revealed an incidence rate of 5% linked to floods and the damage caused is loss of life and livestock, destruction of homes and crops.
- The aim of this study caused is to consider flood data as a public health problem and integrate them into epidemiological surveillance through the analysis of the national database.

Methods

- A cross-sectional study with a descriptive aim covering the period from 2013 to 2021 was carried out.
- The study area includes the 8 administrative regions of Niger (see map below).

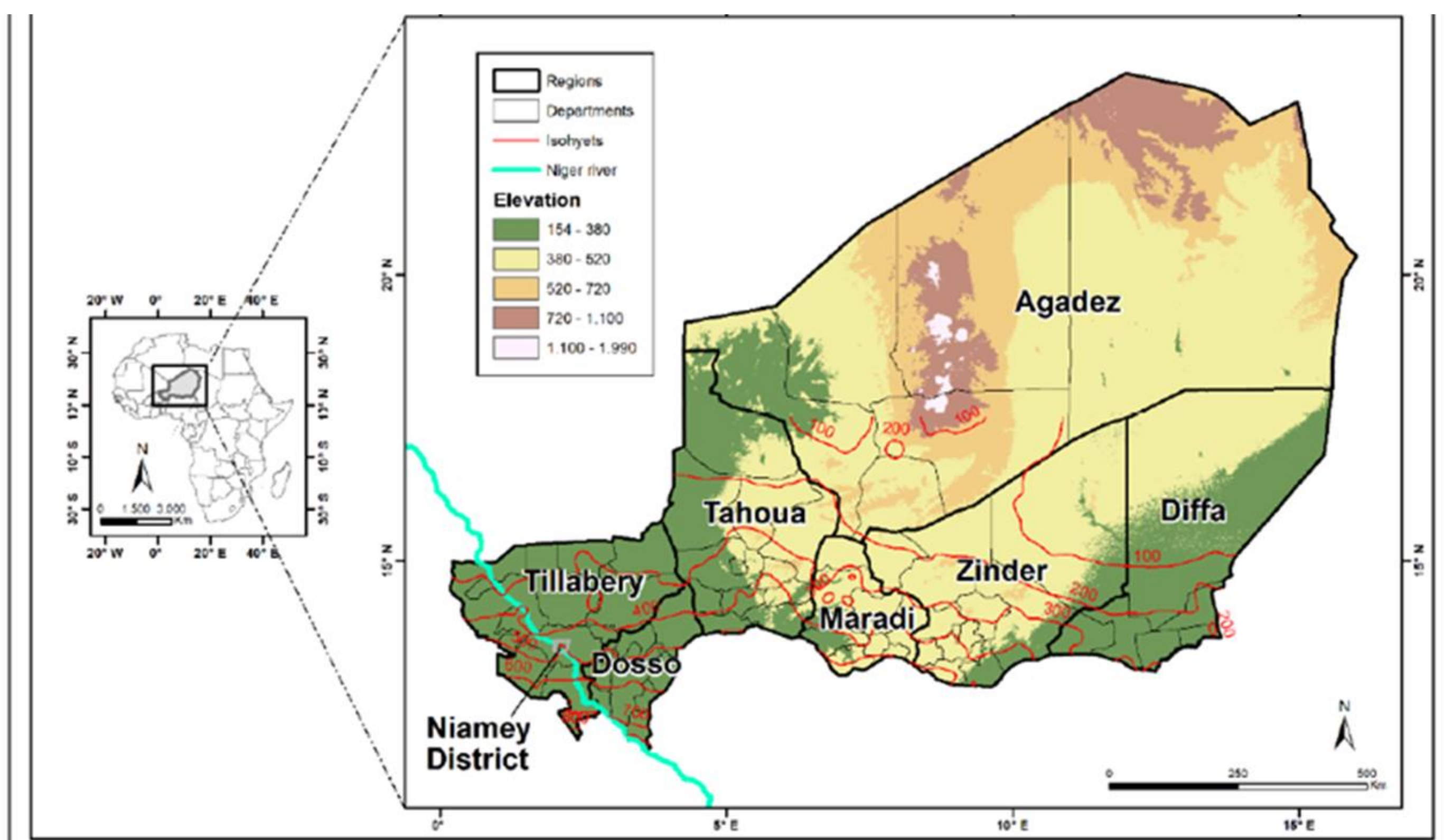


Figure 1. Location map of Niger. (Fiorillo Et al,2018)

- The compiled data comes from the -Desinventar-Niger-UNDRR database.
- The "Sums" algorithm of Microsoft Excel Office software [Version 2010] was used to calculate the total numbers (N) of the selected study variables.
- The study variables selected are essentially discrete quantitative.

Results

Table 1. Distribution of cases of people directly affected, victims and displaced by floods in Niger from 2013 to 2021.

Years	Persons Affected (directly)	Victims	Displaced
2013	6,208	247	331
2014	2,199	562	0
2015	583	1,668	4,936
2016	0	722	731
2017	0	40	40
2018	0	0	0
2019	161	280	0
2020	5,347	5,396	0
2021	19,350	15,770	0
TOTAL	33,848	271,769	5,707

Table 1 presents the overall situation of people affected (directly or indirectly), flood victims and displaced persons from the floods in Niger during the period 2013 to 2021. This period recorded a total of 33,848 cases of people directly affected compared to zero cases from 2013 to 2021. The number of people affected stands at 271,769 cases (Table II). As for the total number of displaced persons, it stands at 5,707 cases for the same period.

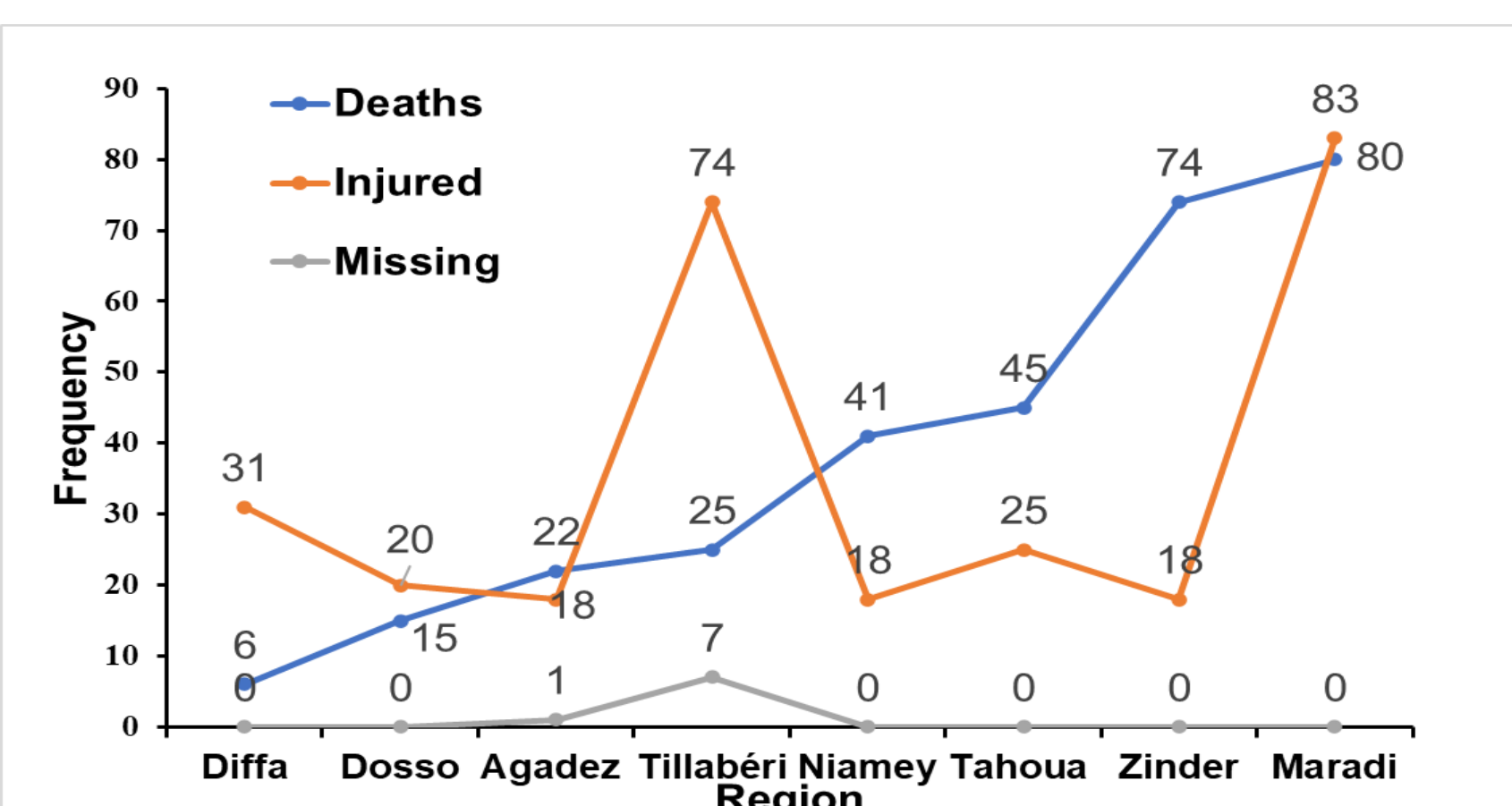
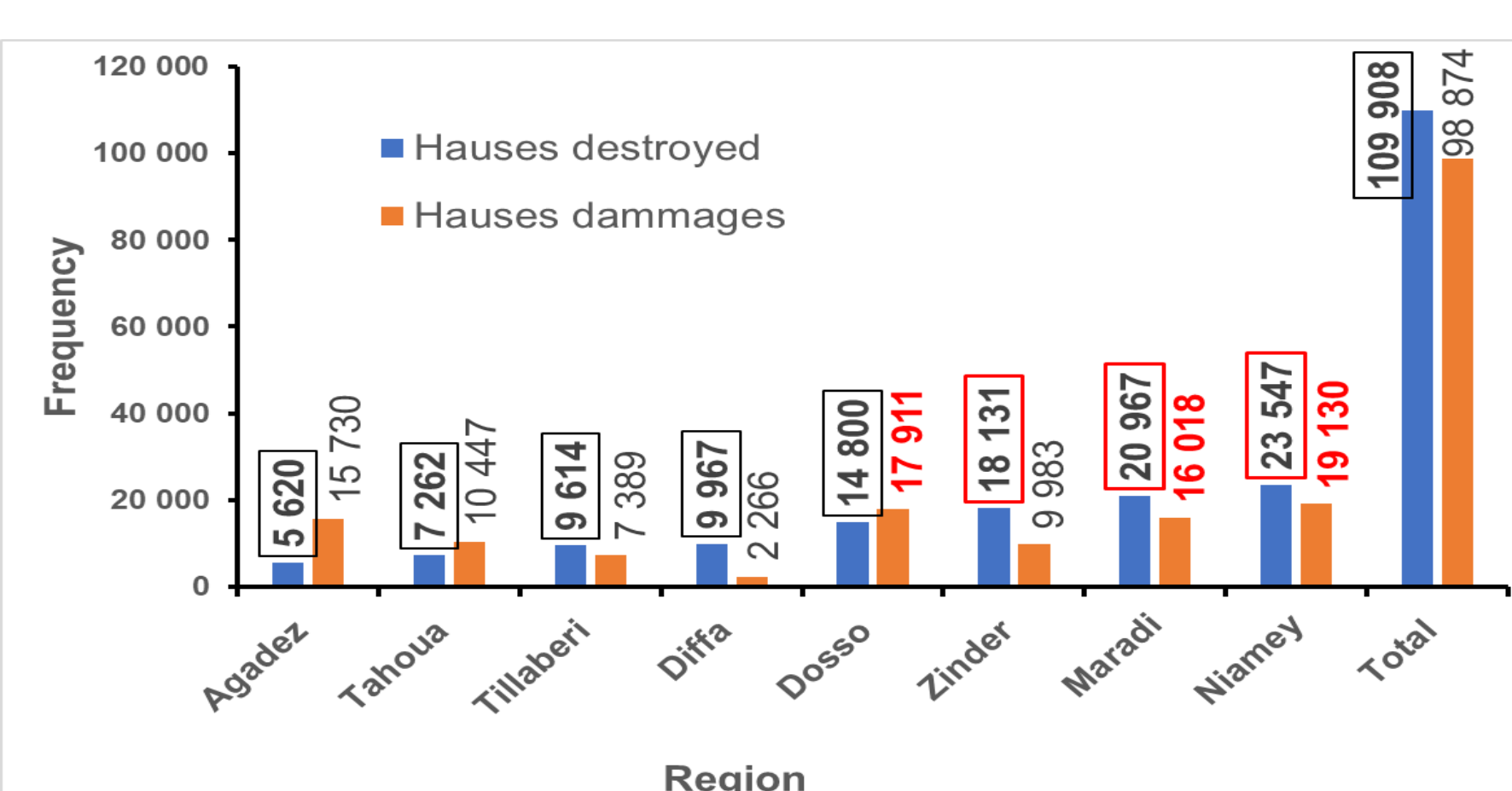


Figure 1 shows that the Maradi region reported the highest number of deaths and injuries (83 cases during the study compared to other regions of the country) followed by the river region (Tillabéri) in terms of injuries (74 cases),

Figure 1. Evolution of deaths of injured and missing persons due to floods in Niger from 2013 to 2021



Analysis of Figure 2 shows that the Niamey region has the highest number of destroyed and damaged houses over the period from 2013 to 2021 (i.e. 23,547 destroyed houses and 19,130 damaged houses).

Figure 2. Assessment of houses destroyed and damaged by floods by region in Niger from 2013 to 2021

The Niger River regions suffered the most damage to crops/wood compared to other regions of the country with respectively 25,455 ha (Tillabéri region) and 13,903 ha (Dosso region), (figure 3),

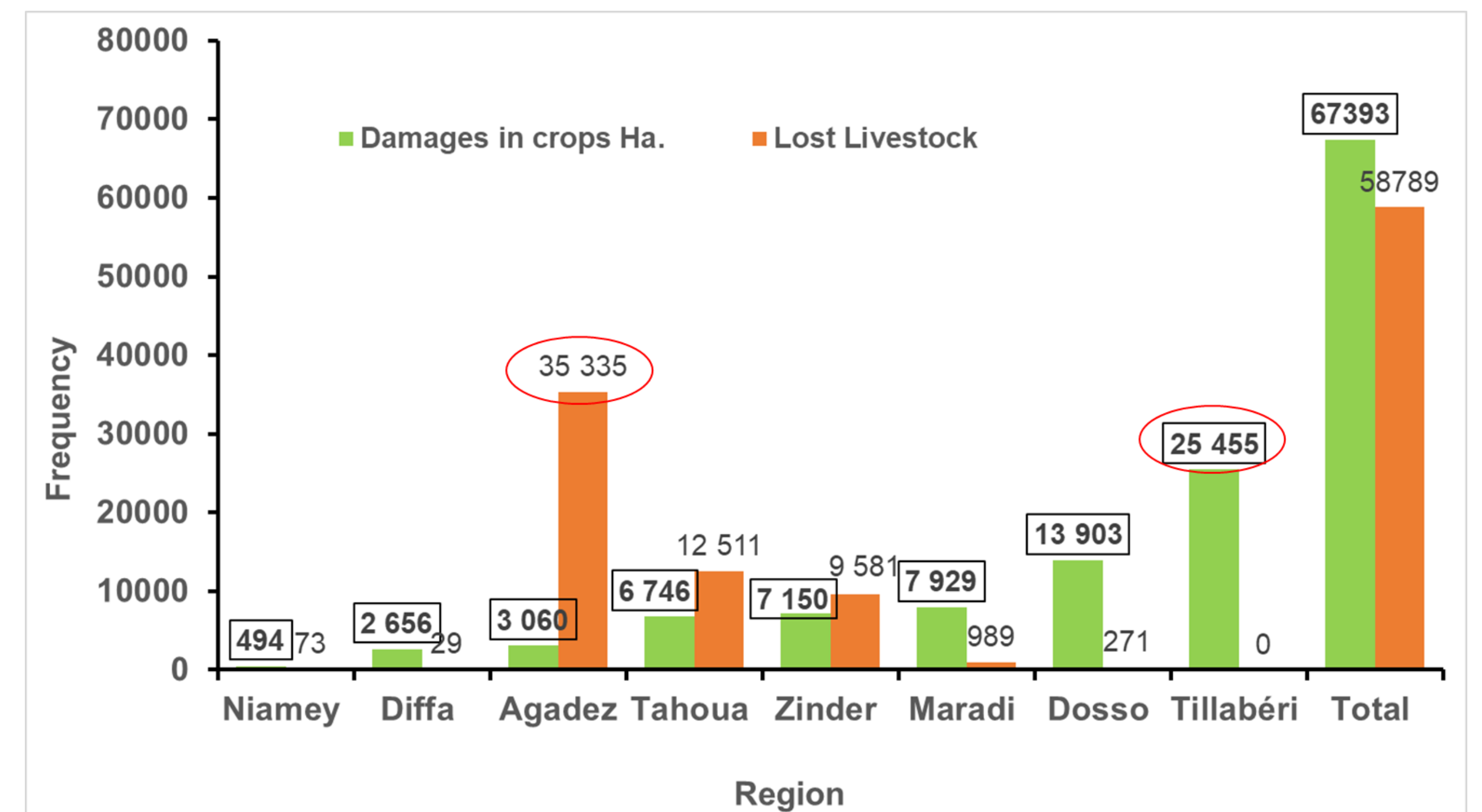


Figure 3. Evolution of damage caused by floods on crops, wood and livestock in Niger from 2013 to 2021

Conclusion

This study on the Niger flood database made it possible to describe the variables reported in terms of people, place and time.

The results obtained showed an approximation of the number of people affected, deaths, injuries and missing persons with those of the results obtained in other countries of West and Central Africa.

The same damage recorded on basic socio-economic infrastructure (classrooms and health centers, houses) in Niger is also similar to other countries, in high numbers.

References

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- [4] Fiorillo E, Crisci A, Issa H, Maracchi G, Morabito M et Tarchiani V, 2018. Recent Changes of Floods and Related Impacts in Niger Based on the ANADIA Niger Flood Database. Climate. 6(59):2-18; DOI :10.3390/cli6030059

Public Health Actions

- Management of Koris (Valley)
- Building with solid materials (cement)
- Avoid building in flood zones



Photo 1. Houses destroyed by the flood of August 20, 2024 in the Maradi region