

Malawi Health NGO Database Write-Up

Our Goal:

To create a comprehensive geodatabase of health NGOs in Malawi that can be utilized for analyzing the current health climate and different health indicators.

Our Methodology:

1. There is no one comprehensive list of health NGOs in Malawi. We began by compiling the most comprehensive list we could, drawing from sources such as the NGO Board of Malawi, the Spatial Data Repository, and DIVA-GIS. This includes combining several different lists we were able to find, such as all registered Malawian NGOs.
2. There is limited information on some of the NGOs on our list. To create our geodatabase, we began searching to the best of our ability to find key pieces of information. The fields we sought to find include: healthcare sector, description, size of investments, description of activity, partners/recipients, location, results achieved, partnerships with other organizations, source, e-mail, and headquarters.
3. Furthermore, it was necessary to narrow down the original comprehensive list of NGOs, as many were not health related or were only peripherally related to health. It was necessary for us to make this distinction, which we did through color-coding. We coded the row green if it was directly related to health, yellow if it was indirectly related (such as a NGO centered around nutrition, water sanitation etc.), and red if it was completely unrelated to health.
4. We used websites with geographical data such as geonames and gazetteer to find the coordinates most closely associated with the health NGO, essentially geocoding our database and assigning the NGOs the most specific location possible. If only districts were listed as locations benefiting from the NGO, the centroid of the district was recorded to represent the district.
5. We then utilized AidData's geocoding methodology and assigned each location we were able to find a precision code based on how specific the location was. The precision codes are defined as followed: 1 – specific village, city or location, 2 – near (within 25km of) location, 3 – second order administrative division, 4 – first order administrative division, 5 – areas between boundaries (mountains, parks, rivers etc.), 6 – national level and dispersed at local level, 8 – national level with money going directly to the national government.
6. We then utilized our geodatabase in conjunction with GIS technology to search for trends or patterns in our data. We displayed where the NGOs were in Malawi, and also examined how many were primary vs. secondary healthcare NGOs. We also looked at health data from the Spatial Data Repository and compared it to our own.

Challenges faced and/or possible sources of error:

- With no existing comprehensive list of health NGOs, it was necessary to pull from many different sources. It is very likely that some were excluded.
- Some of the NGOs in the geodatabase had websites with little to no information on what the NGO did or where its actions took place.
- Many of the NGO websites listed locations that were so remote no corresponding geographic coordinate information could be found.
- In many cases, there was no specific location information listed. Many of these instances were therefore coded at the national level.
- In particular, one measure that was very difficult to find was size of investments. Very rarely was comprehensive financial information provided.
- If we knew the importance of connections to USAID and the U.S, we could have devoted more emphasis to finding that information while constructing the database.

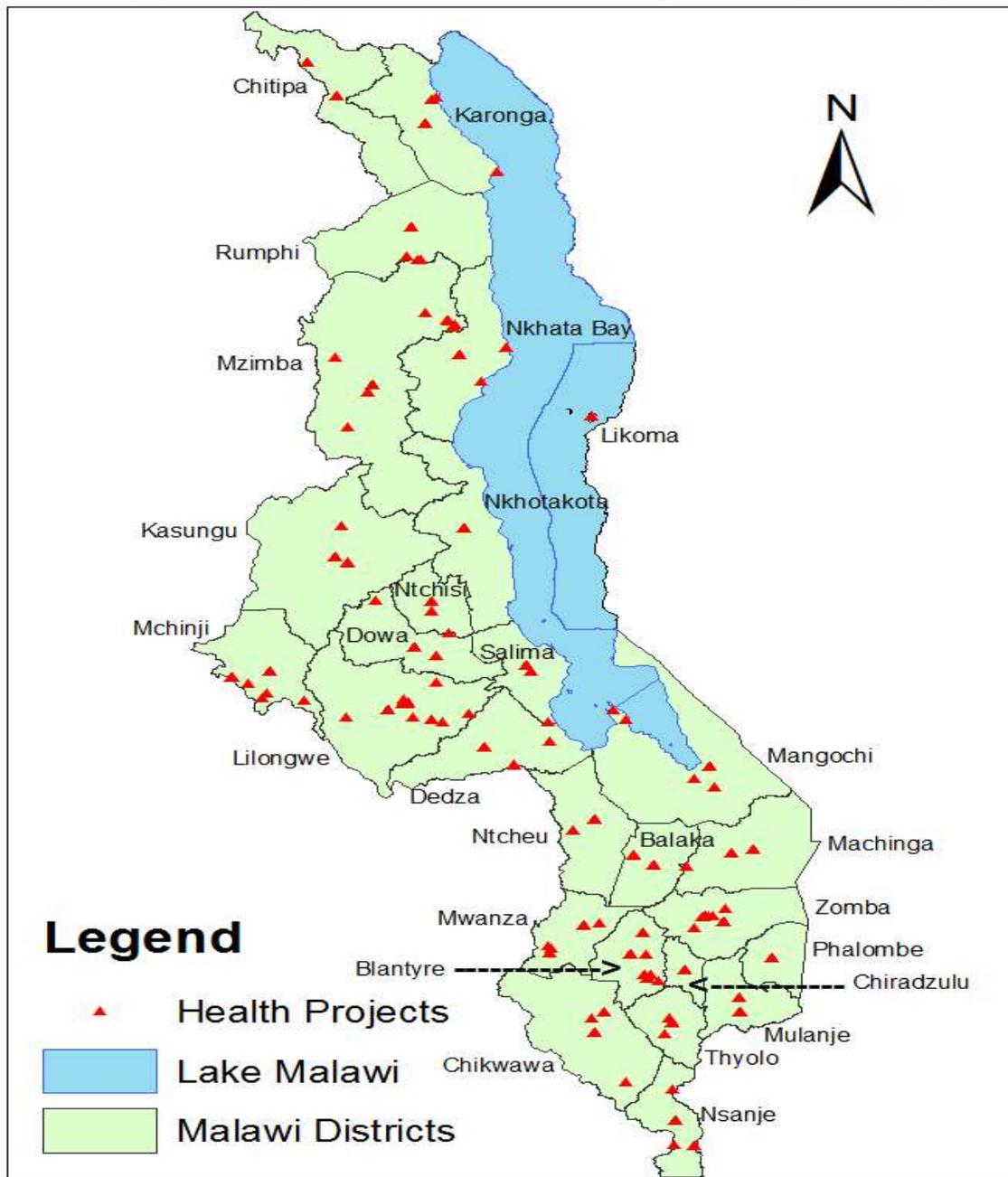
GIS Analysis

The following maps are a descriptive representation of the spatial features. To understand the spatial relationship additional data could be added and further spatial analysis should be conducted.

Maps

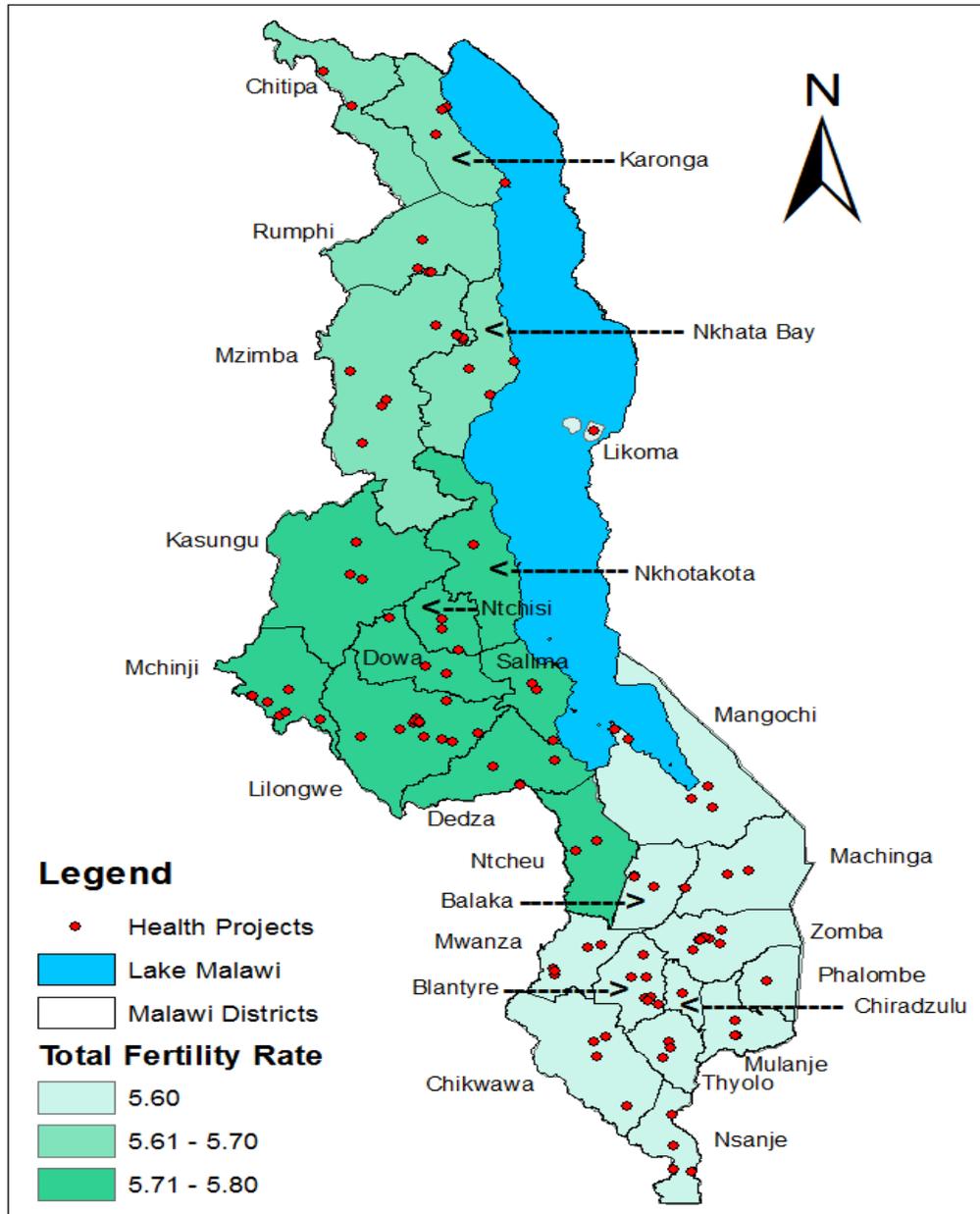
This map shows the location of health NGOs and their activities broken down at the district level.

Subnational NGO Health Projects in Malawi



This map shows the Total Fertility Rate by region level compared to the locations of health NGOs from the database. Darker regions have a higher total fertility rate.

Total Fertility Rate and Health Projects in Malawi



Year: December 2014
 Sources: GADM, DIVA-GIS, Malawi Health NGO Database, Spatial Data Repository 2010

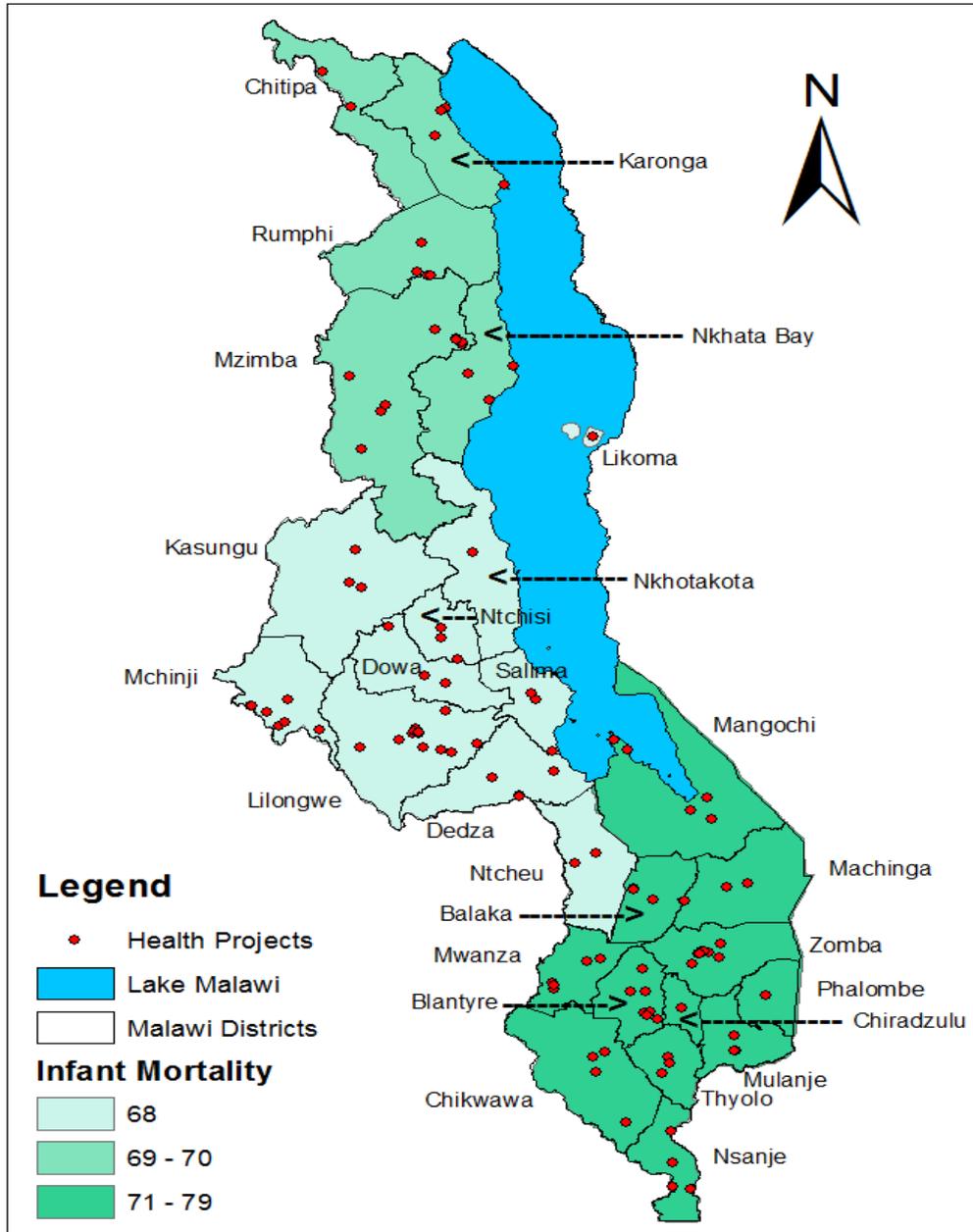
Author: Will Nelson
 Projection: GSW 1984 UTM Zone 36S



Note: Total Fertility Rate is for the 3 years preceding the survey.

This map shows the Infant Mortality Rate (IMR) broken down at the region level and compares it to the locations of health NGOs from the database. Darker regions have a higher infant mortality rate.

Infant Mortality and Health Projects in Malawi



Year: December 2014

Sources: GADM, DIVA-GIS, Malawi Health NGO Database, Spatial Data Repository 2010

Author: Will Nelson

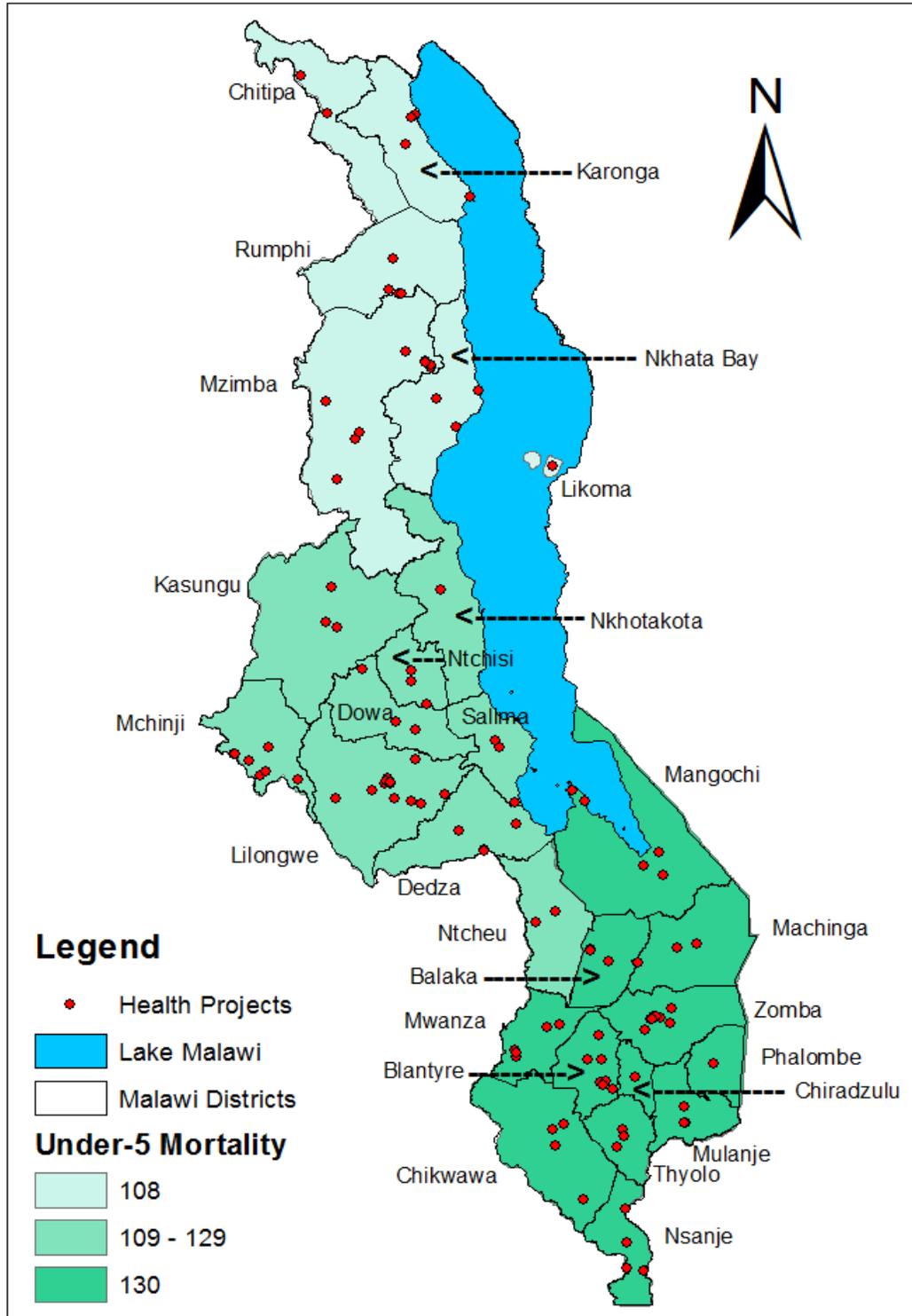
Projection: GSW 1984 UTM Zone 36S

0 37.5 75 150 Miles

Note: Infant mortality rate measures the probability of dying before the first birthday per 1,000 live births.

This map shows the Under-5 mortality rate broken down at the region level and compares it to the locations of health NGOs from the database. Darker regions have a higher under-5 mortality rate.

Under-5 Mortality and Health Projects in Malawi



Year: December 2014

Author: Will Nelson

Sources: GADM, DIVA-GIS, Malawi Health NGO Database, Spatial Data Repository 2010

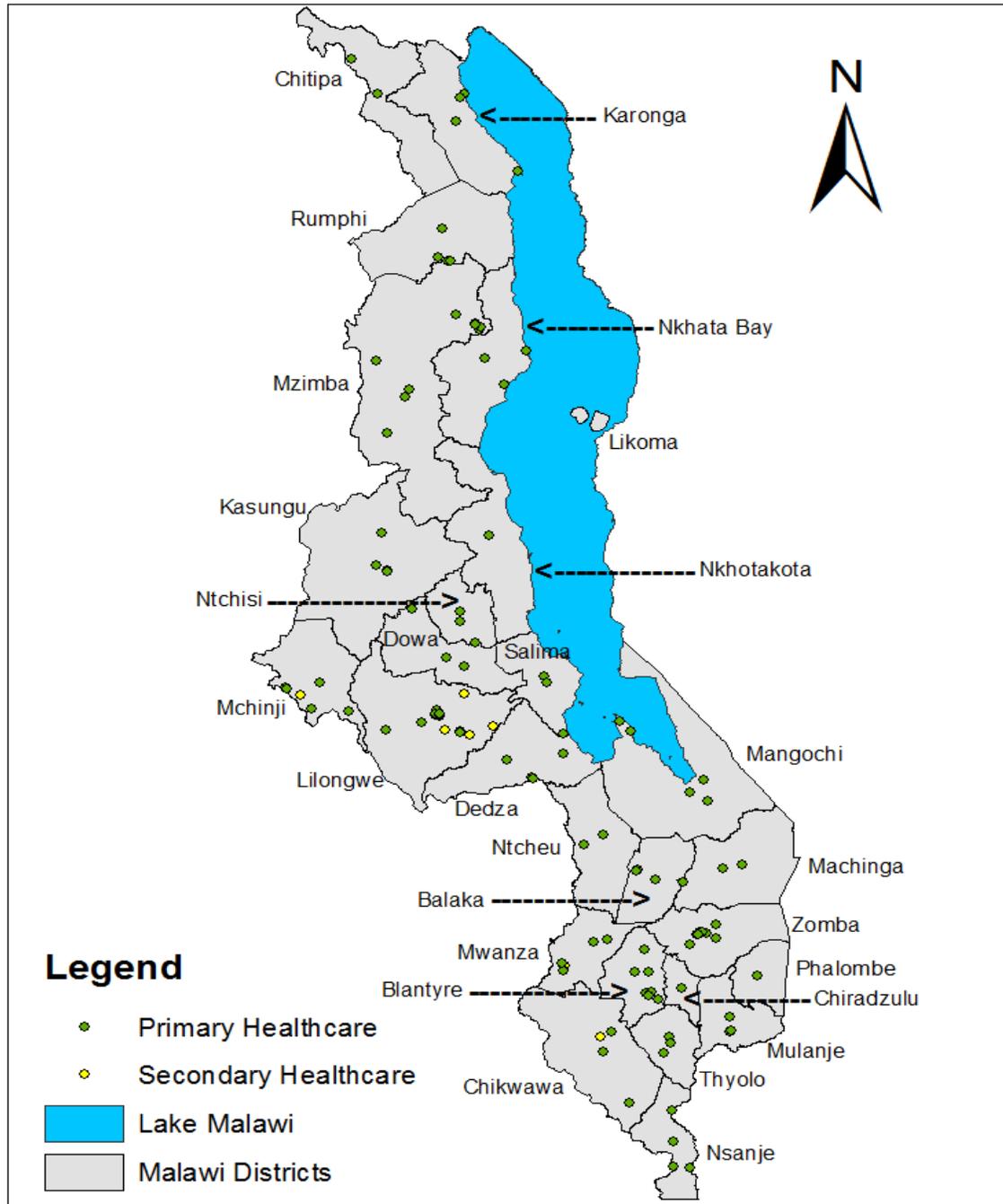
Projection: GSW 1984 UTM Zone 36S

0 37.5 75 150 Miles

Note: Under-5 mortality rate measures the probability of dying before the fifth birthday per 1,000 live births.

This map shows the location of both primary and secondary health NGOs in Malawi.

Primary and Secondary Healthcare NGOs in Malawi



Author: Will Nelson

Year: December 2014

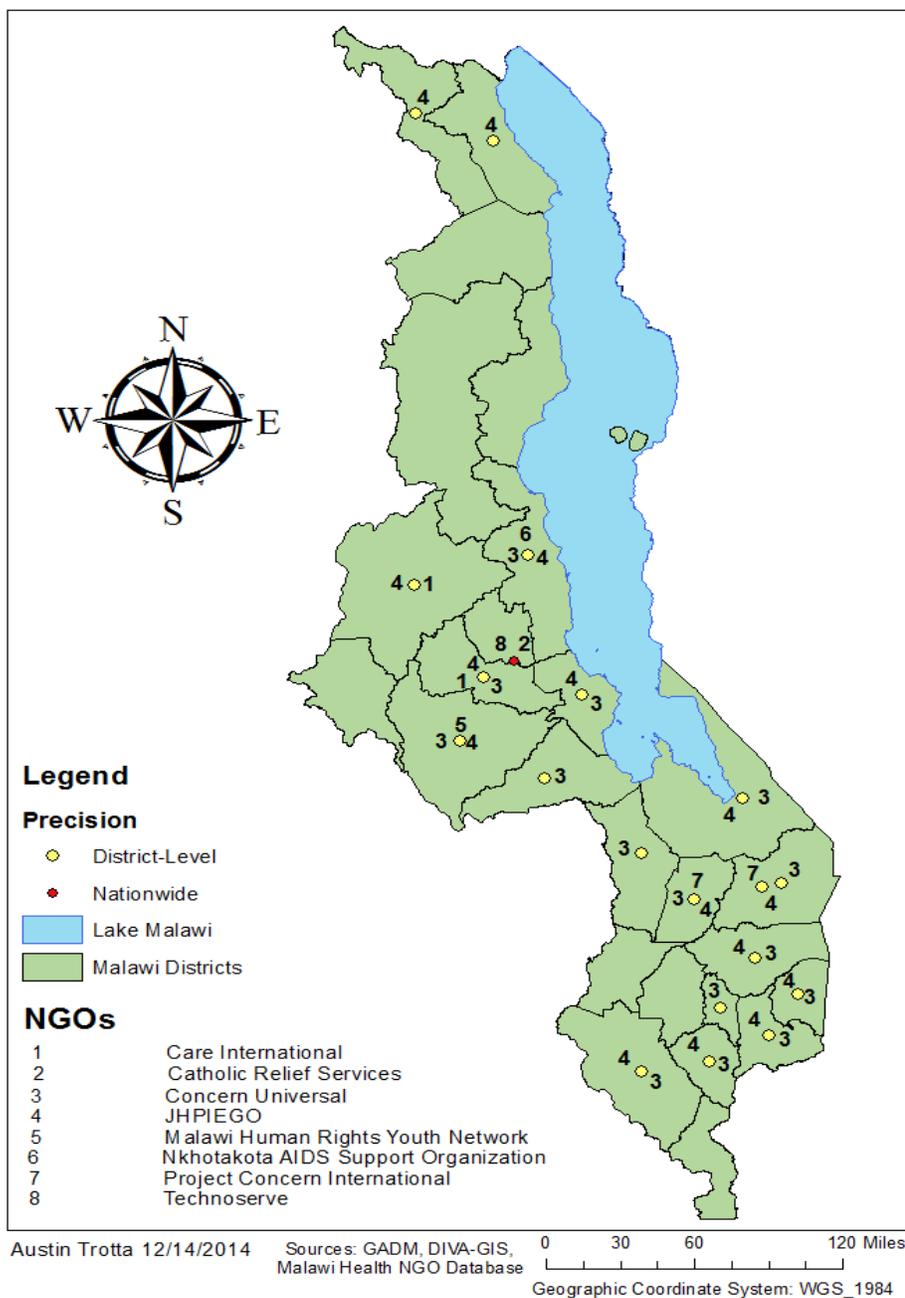
0 40 80 160 Miles

Sources: GADM, DIVA-GIS,
Malawi Health NGO Database,
Spatial Data Repository 2010

Geographic Coordinate System:
WGS 1984

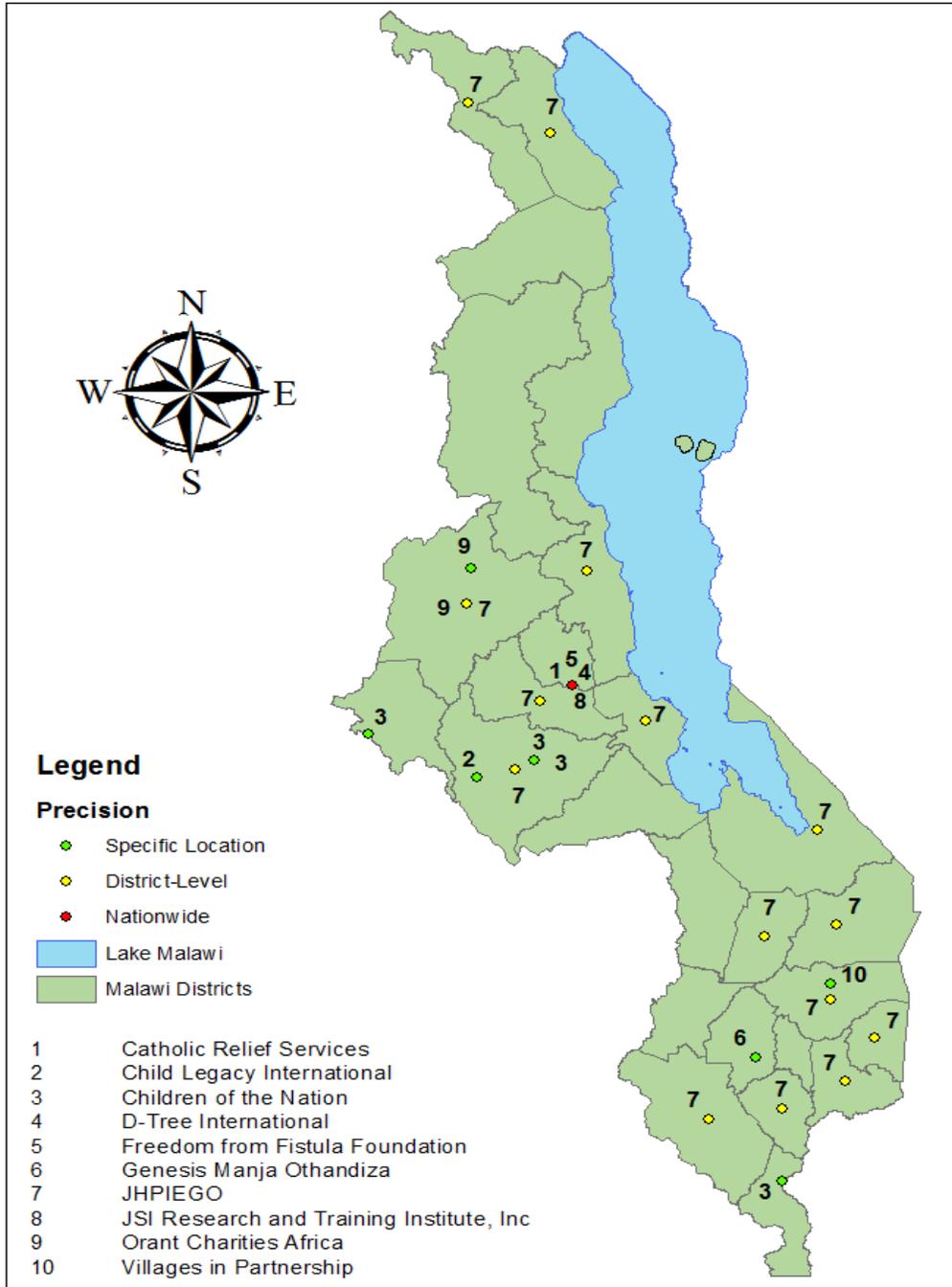
This map shows the locations of Health NGOs in Malawi that are partnered with USAID. We had a hard time finding precise locations; yellow dots mean that they are located in that district while red dots mean that they are present in the country but we couldn't find specifically where they worked.

Health NGOs Partnered with USAID



This map shows the locations and activities of Health NGOs in Malawi. Green dots indicate a precise location, yellow dots indicate that the NGOs are active in that district, and red dots indicate that they are active in the country, but we couldn't find specifically where.

Health NGOs with HQ in U.S.



Austin Trota 12/14/2014

Sources: GADM, DIVA-GIS, Malawi Health NGO Database

0 30 60 120 Miles

Projection: WGS_1984

Reflections

Will Nelson:

I am thankful for the opportunity to work with the State Department as a part of the Diplomacy Lab Initiative. As someone who loves learning about international development this was a fascinating opportunity. I appreciated the chance to develop research skills while constructing and analyzing the geodatabase. I also enjoyed the semi-weekly conference calls and emails we exchanged, which improved our communication and made working on the project easier. Additionally, the trip to DC to present our database was amazing. It was very helpful to meet with people face-to-face about the project and we got a much clearer idea of what our research could be used for. Furthermore, I have always wanted to get an idea of what working at the State Department would be like and it was great to interact with the people working there. I regret not having not enough time to conduct more extensive analysis of the database; if we had started communicating earlier in the summer we would have had more time to work on it. An improvement for future projects like this would be to start communicating earlier and define objectives precisely early on. Overall though I had a wonderful time working on the project and enjoyed working closely with the State Department. Thank you for providing me with this opportunity.

Connor Kennedy:

I am so grateful to have been able to be a part of the State Department's Diplomacy Lab Initiative. I am extremely passionate about international development and public health, so I relished the opportunity to be able to build my skill set and experience working in these fields. Furthermore, it was a very educational and valuable experience to be able to work so closely with the US State Department's Office of Global Health Diplomacy. Through the many calls and email interactions, I felt like we got to know and foster relationships with Alec and others in the office. It encouraged me to want to be able to present an end product that I could be proud of and that could hopefully be useful to some at the State Department or those seeking to do further research in the area. I think perhaps if we had begun communicating a few weeks earlier we could have gotten the project off the ground a little earlier, as it was somewhat difficult to know where to begin until we had first communicated. The majority of our time was spent on the geodatabase, but I definitely think there is a lot more analysis and research to be done utilizing the database. Furthermore, the opportunity to travel to Washington, D.C. and visit the State Department was one I will never forget. It was great to see how enthusiastic everyone we worked with was about not only our work and research, but also the broader work of AidData. Although challenging to balance school, work and the Diplomacy Lab research, I found the overall experience very rewarding and one I would definitely do again if given the opportunity. Thank you so much for your patience and willingness to work with us this semester!

Austin Trotta:

I am very grateful for this opportunity and proud I was able to partake in it. I gained a lot of knowledge in database construction, GIS, geocoding, NGOs, and oral communication skills. Thank you so much for the opportunity and for inviting us to visit the State Department. I enjoyed meeting you all, the tour, and felt proud that we were able to hold our own in a professional meeting environment. I am very proud of our work and was happy we were able to assist your office and our country. The hardest part was to find time to work on the project between schoolwork and our jobs. Also, at the beginning, it was hard to see how we were going to accomplish the task. This can be solved going forward with the methodology we have created. We hope will be able to create more databases through other lab teams or others. The flexible deliverables and timeline was a great help in reducing our anxiety and keeping us from being overwhelmed. My only improvement would be a more clearly defined goal for the database collection. For example, if we would have known that connection to USAID and the U.S were of a greater importance, we could have spent more time in our searching to identify those connections. However, that does not detract from the overall experience I gained and the pride I feel in our work. Thank you so much for the chance to work with you all and I hope it was a pleasant experience for you as well.

Conclusion

We would like to thank Alec, Hal, and Elena from the State Department and Carrie and Ashley from AidData for providing us with the help and guidance as we worked on this project. We have all learned a great deal from this experience, and we hope our research will be useful to the State Department.

Sincerely,

Will Nelson, Connor Kennedy, and Austin Trotta