

# 2009

Global MapAid

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## [GLOBAL MAPAID NEPAL: PARTNERSHIPS FOR PROGRESS]

[This document is a brief synopsis and first-hand experiences during a project initiation and development site visit to Kathmandu, Nepal in the Fall of 2008.]



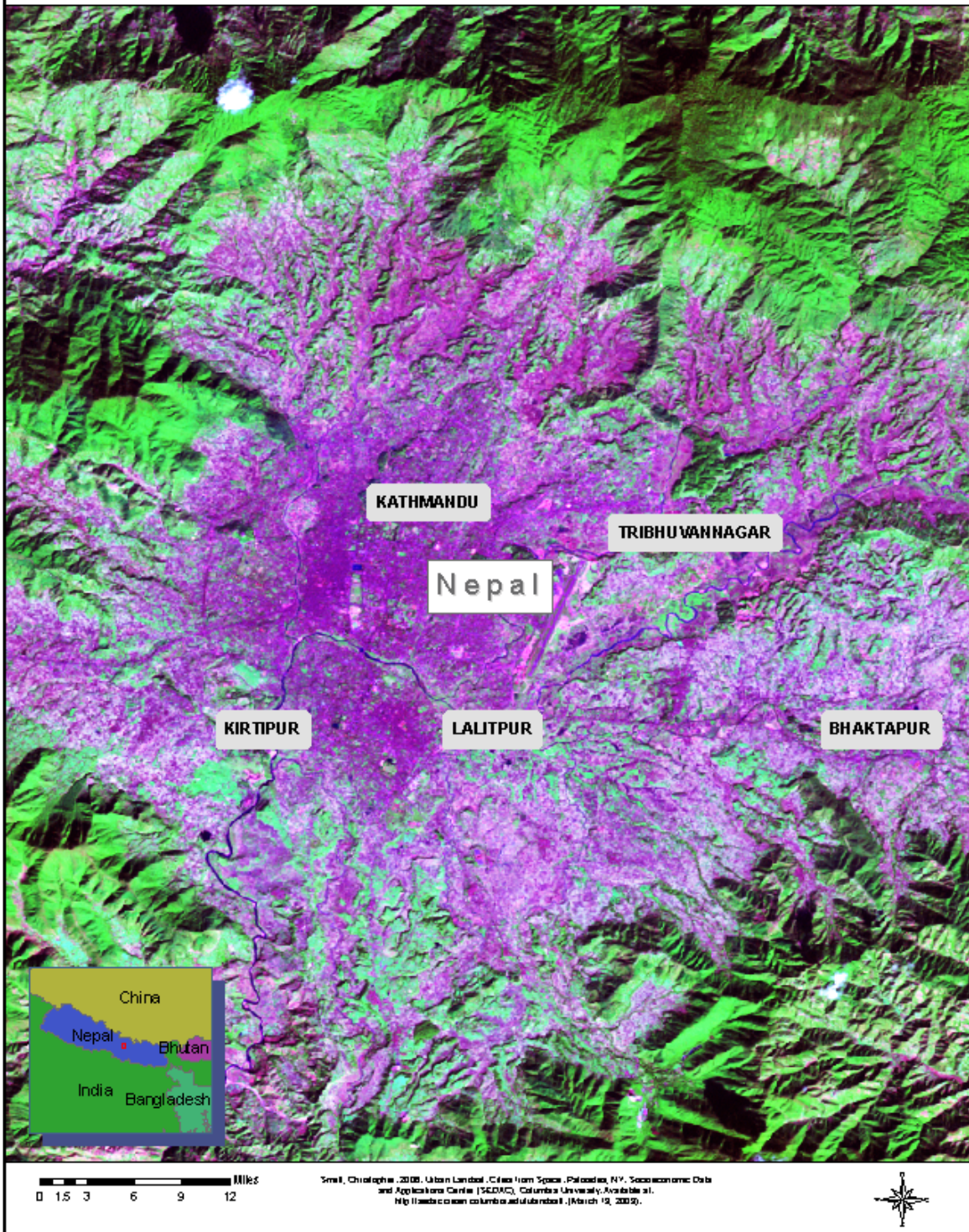
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# The Kathmandu Valley



## **Overview**

This informative report will provide the context and results of a project initiation and development outreach in Kathmandu, Nepal carried out in November and December 2008. The primary purpose of this exploratory visit was to evaluate the needs of local non-governmental organizations (NGOs) and ultimately whether Global MapAid would be equipped and suitable to provide mapping services in the future for those local organizations. Site visits were made to a number of organizations and the three most promising potential relationships and projects are described in the report below. Provision of these services would enable better allocation of resources, improved collaboration with other organizations, and the visualization of specific needs to their donors. Organizations that focused both directly and indirectly on sustainable job creation, disaster mitigation, and direct health services were primarily sought out. Global MapAid plans provide these mapping services through the development of locally operated and sustainable teams. The ultimate objective of these maps is to help stimulate the creation of sustainable jobs<sup>1</sup> particularly for young men, who might otherwise lose hope and become fractious in some way. Likewise Global MapAid also aims to stimulate job creation for women, in equal numbers.

## **Political and Social Context: A narrative**

### ***Geography***

Nepal's landscape is complex and vast, composed of an array of contrasting topographies resulting in unique climates throughout the country. These range from the temperamental northern mountain peaks, to the inversion layer of the increasingly polluted Kathmandu valley, to the flood-prone regions in the south known as the Terai. Nepal is a land-locked country and is rather short height-wise from the towering Himalayas of the North to the Terai of the South – this sudden change compounded by the aforementioned geographies, contribute to a complex environment. As a result, natural disasters are an ever-present risk for the people of Nepal.

With a growing urban population, a 25% increase in population from 1991-2001<sup>2</sup> and Total Fertility Rates ranging from 2.82 – 4.71 with a National average of 3.8, the population continues to grow and certain areas of Nepal are becoming increasingly dense (see Figures 1 and Figure 2). The pollution and congestion of the Kathmandu Valley is compounded by a lack of emissions standards, unorganized transportation, and a brittle aging infrastructure. Much of the

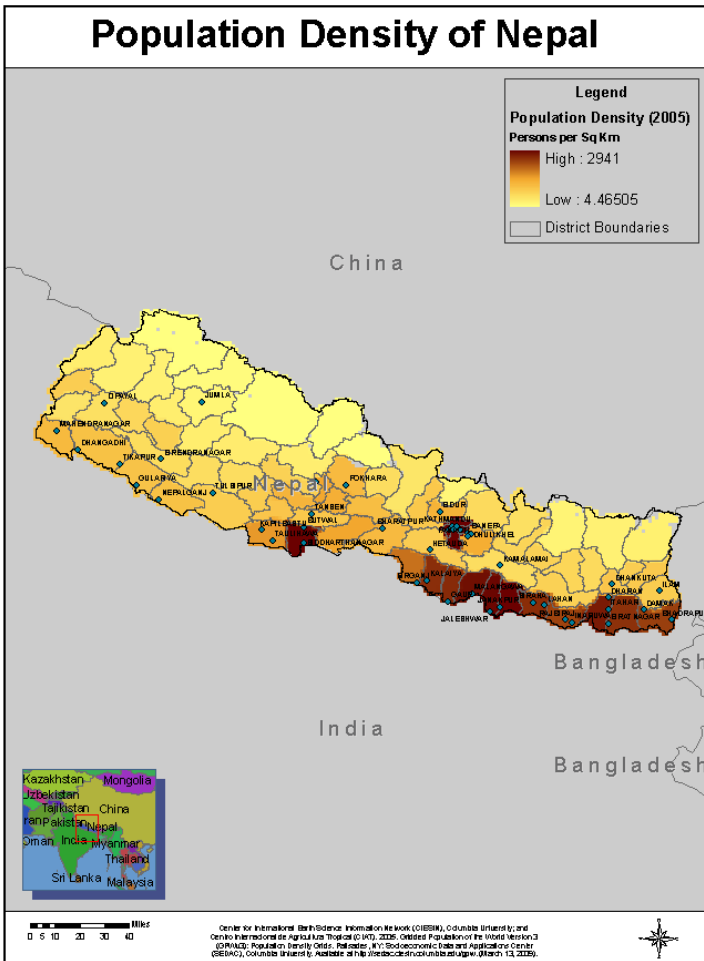
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<sup>1</sup> A 'sustainable job' is where someone gains a skill enabling them to create immediate and enduring income, wherever they are. It is usually supplying a staple service or product and it puts the onus for productivity fairly and squarely in the hands of the individual job holder. Start-up costs are usually minimal. Shoe mending, car maintenance, carpentry are examples. Government or public jobs are not defined here, as sustainable, as nearly always they have to be paid for by the taxes levied on sustainable jobs.

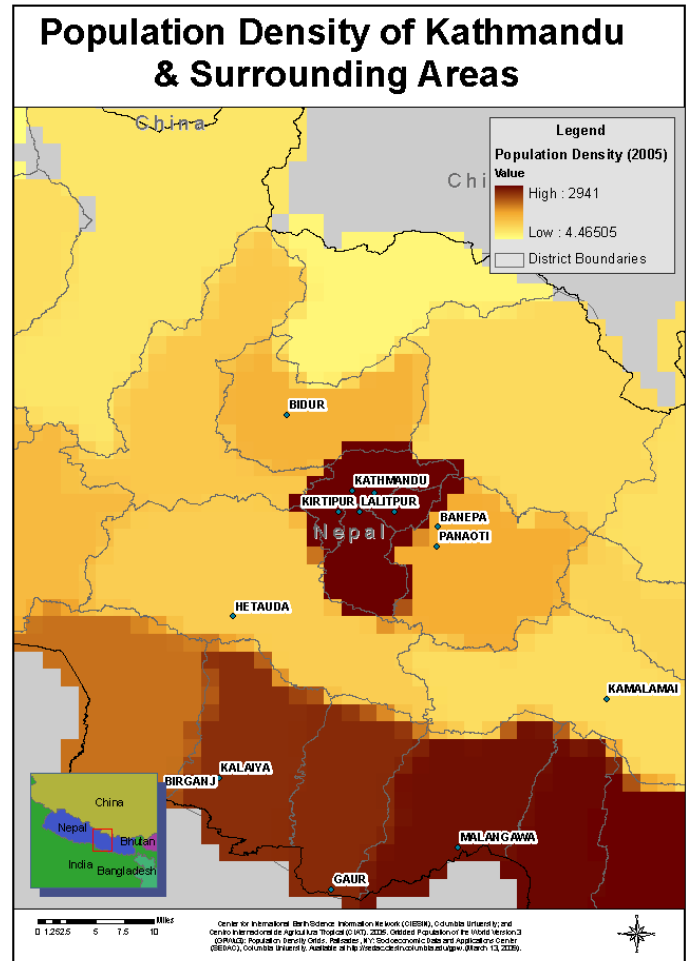
<sup>2</sup> Nepal Central Bureau of Statistics, <http://www.cbs.gov.np/>.

infrastructure has been the same for hundreds of years and will not cope with the growing environmental stressors. Many of these densely populated areas are in regions which are at risk for natural disasters, such as earthquakes, in the Kathmandu Valley (see Figure 3) and floods in the plains of the Terai.

Even though there are risks for flooding and earthquakes, few government mandates have been operationalized in order to protect the population from the devastating results of natural disaster. The National Society for Earthquake Technology is actively engaged in a number aspects of this issue and were therefore sought out as a primary contact and lead agency.



**Figure 1.** Population density of Kathmandu and the southern border regions of the Terai, both prone to natural disasters. These areas are also most prone to violence and civil unrest.



**Figure 2.** A closer examination of the Kathmandu Valley and the southern India-Nepal border.

## **Social Climate**

Due to political unrest beginning in 2005, the once substantial tourism industry took a downfall leading to increased unemployment in Nepal. This industry once provided a consistent job market, especially for young men. These young men have been left with few options, and either live in poverty or go into less legitimate forms of business. Women and girls are increasingly being forced into commercial sexual exploitation, as sex-tourism is one part of the tourism industry still bringing in money<sup>3</sup>. The impact of decreased tourism can be felt by tourists spending any amount of time in the city. Tourists have been safe throughout this time but there has been an increase in black market drugs and even sex tourism, though much less prevalent.

High unemployment compounded by a seeming willingness of Nepali people to work for NGOs create an excellent atmosphere to set down roots for Global MapAid. During my time there, I met a man named Sajan. The moment he found out I was doing work for an NGO he immediately began to follow me around, trying to become friends and more importantly, search for an opportunity for a sustainable job. This opportunism towards foreigners is not uncommon in developing countries, but it drove home the need for legitimate and meaningful work and the opportunity to sustainable work, no less.

## **Political Climate**

In May 2008, Nepal became a democratic federation after over 250 years of a Monarchy. Taking a step back, 1996 marked the initiative of the Maoists to replace the parliament. This resulted in a civil war which claimed the lives of over 12,000 individuals. This civil war was followed by a massacre of the royal family by the prince and as a result he late king's brother became king. Most recently a democratic vote went into effect to abolish the monarchy and this was successful.

While the democracy, or the federation, led to the Communist Party gaining significant political power. There continues to be a general unrest among the people, with frequent disruptions or bandhs (strikes), which can involve transportation strikes and often vandalism even deaths.

Many of the organizations such as the Britain Nepal Medical Trust have extremely good working relationships with government officials, particularly in the health care sector. However, as with any non-local NGO such as Global MapAid hoping to establish a relationship with a foreign country, skepticism is high and

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<sup>3</sup> From treks to sex; Tourism in Nepal. (2008, January). The Economist, 386(8564), 66.

they ultimately face difficulties obtaining permission to work freely and must abide to strict regulations. This is not a bad thing but an important step in gaining the trust of the local government and NGOs. Due to ongoing political unrest and a history of unstable relationships between the government and some NGO's, it is best for GMA to develop partnerships with well-established organizations already working in Nepal before engaging in stand-alone projects. This approach will also provide an opportunity to build on the already existing expertise and cultural savviness of the locals throughout Nepal.

## **Partner Organizations: A brief overview**

### **The Britain Nepal Medical Trust**

The Britain Nepal Medical Trust (BNMT) is a locally run and staffed NGO situated in Upper Lazimpat, Kathmandu. Their location in the bustling city gives them ample access to local government authorities, a key component of their success. Dr. Anil Subedi is the CEO and has been extremely gracious and open-minded in potential partnerships. His background in rural social-networking and social sciences has given him an appreciation for mapping techniques and the usefulness of their applications. He would like to ensure that any maps produced would be extremely practical and actionable.

BNMT's primary goal is to advocate for rural populations, particularly in Eastern Nepal. They also work with many clinics and health stations to help ensure access for all, not just the village elite. BNMT has developed an extremely good working relationship with the health department and given the right tools (i.e maps) they could prove to be even more effective. The BNMT sees a technical, supportive, and hand-on role for GMA in any potential projects.

### **The National Society for Earthquake Technology – Nepal**

The National Society for Earthquake Technology (NSET) is a non-governmental organization situated in Old Baneshwor, Kathmandu. NSET works in a number of facets of Earthquake preparedness. They focus on education of children, mason training, advocacy, and all-hazards preparedness. Their catchment is quite broad from urban to rural and have many partnerships with international organizations in the past such as GeoHazards International run by Dr. Brian Tucker and JICA, a Japanese consortium for international cooperative research and development.

NSET are considered the earthquake experts in Nepal. Mr. Amod Dixit is the CEO of NSET and is extremely cooperative, open-minded and has a vision. NSET spends a great deal of time in the field collecting data for comprehensive earthquake assessments of all schools, hospitals, and government buildings. Their diverse staff is composed of a wide range of skill sets, varying from a gender specialist, engineers, educators, GIS specialists, masons and constructions experts. Their diversity gives them strength and they are eager to pursue a working relationship with GMA.

### **Helvetas Nepal**

Helvetas, globally speaking, is a Swiss-based development agency. Helvetas-Nepal has had significant success in Nepal, with projects focused on

microfinance, agriculture, and access to clean water. Mr. Ram Bishal is the Director of Helvetas Nepal. They have many ongoing field projects and have a very active field team who use GPS in some of their data collection protocols.

Mr. Bishal was very interested in the practical day-to-day applications of GIS, particularly in context in their existing programs. Given their well-established field teams, Helvetas is looking for a more technical partnership.

## **Project Proposals**

### **BNMT: “National Health Systems Strengthening”**

The recent Nepali government initiative to provide free health care to all Nepali citizens affords a unique opportunity to advocate for health care equity. This means ensuring equal access to health care services. Access to health care in the rural regions of Nepal is limited by a diverse geography which is compounded by minimal infrastructure development. However, the remote areas that are nearest to roads leading to health care facilities have an advantage over those that are further away from roads and therefore access to health care. Adequate infrastructure must be equitable, though it is not rarely thought of as such. Never more has it been critical to aid the government with strategic information on where to deploy health care facilities, how to staff them, and how to promote their sustainability. Additionally, given the high risk for natural disasters in Nepal, such as earthquake and flooding, it is critical that these new medical institutions be strategically placed in minimal risk zones and provided with disaster mitigation, preparedness, management, response plans.

Ultimately, as infrastructure is built and health care facilities grow in size and number; these new institutions must be staffed with trained personnel. This provides another unique opportunity - the creation of sustainable jobs. Jobs in construction, planning, and clinic personnel will ideally increase in demand. Partnership with vocational training centers throughout Nepal can assist in the recruitment and placement of trained laborers and service providers.

As discussed with BNMT, there is a great opportunity for collaboration on such a project as detailed below:

➤ **Specific Aims:**

- Create maps to help the government allocate resources for the equitable distribution of health care services, based on population, healthcare and infrastructure access and environmental risk factors.
- Create maps which will help maintain the safety and sustainability of new and existing health posts by identifying and mapping of vulnerability to natural disasters.

➤ **GIS Data requirements:**

- Clinic and health post geographic coordinates
- Up to date village and district maps from the Nepali Government

➤ **Role of Global MapAid:**

- Provide on-the-ground support for GIS data collection
- Create maps to be used for support from donors and government and to be the basis for where to strategically place the health care centers.

➤ **Role of BNMT:**

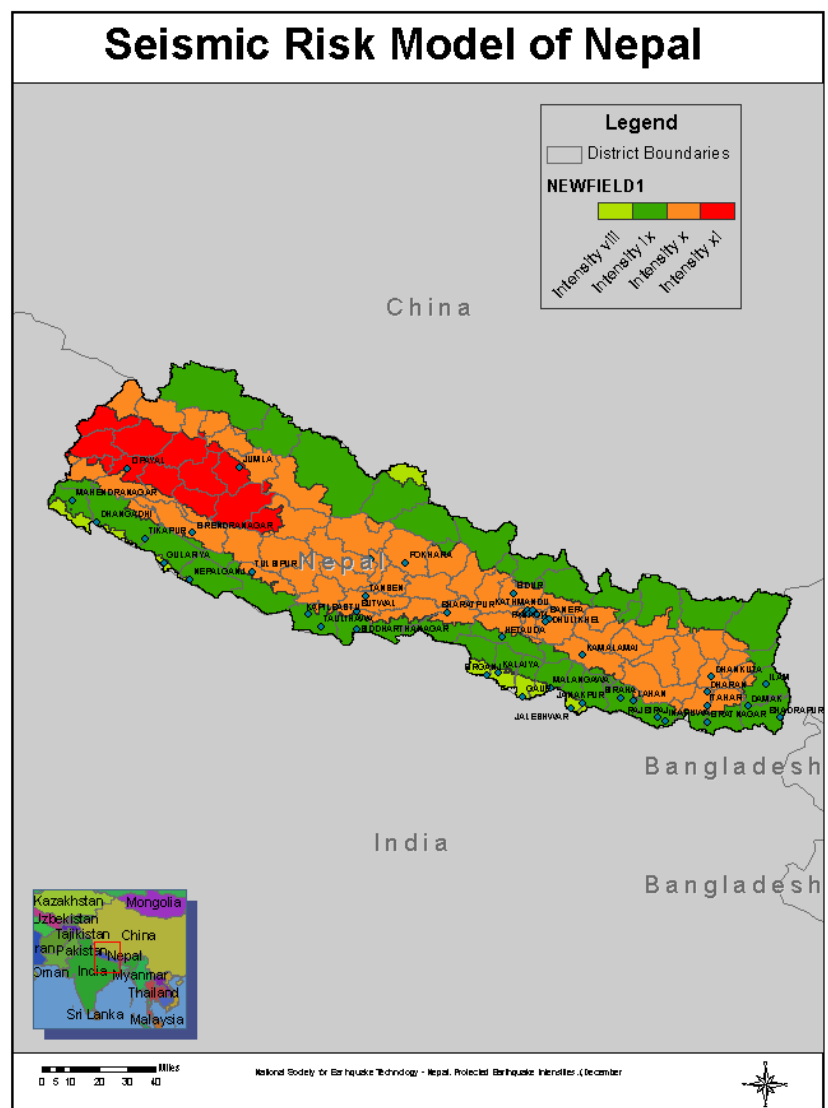
- Provide regional expertise in grant writing for social and cultural context
- Guide GMA in how best to aid in their ongoing and future efforts for health care equity

## NSET - Nepal: "Communicating the Big Picture"

The Kathmandu Valley of Nepal is overdue for a major earthquake, according to the Nepal Disaster Preparedness Network Nepal, with the last major earthquake occurring in 1934. Seemingly very few preparations have been made to prevent wide-scale mortality and damage if this likely disaster does transpire. While many new buildings are constructed to withstand an earthquake, very few older buildings have been retrofitted in preparation. Furthermore, currently there is no government incentive to retrofit buildings. Additionally, there is no monetary or business incentive for trained masons to implement earthquake prevention and retrofitting techniques, even though the training is available from NSET. This puts the people of Nepal at a serious risk for a devastating natural disaster- the high likelihood of an earthquake with no efforts to prepare and mitigate damages. Critical infrastructure such as schools, hospitals, government buildings, and historical structures are all at risk. Schools are at an even great risk as the future generation is found together all day everyday. A tragic example of this was the estimated 18,000 school children in approximately 6,000 school building that were killed according in Pakistan during the 2005 Kashmir earthquake, essentially wiping out a whole generation<sup>4</sup>.

Given the aforementioned importance of retrofitting school buildings, an up to date map of school locations and building-specific seismic assessments would be extremely valuable. Building upon Figure 4, this map would identify high risk areas and help target retrofitting efforts. This information would be made available to all local government in addition to

Figure 3. Country-level view of seismic risk zones.



<sup>4</sup> Sharif, Z. "Kashmir Relief and Development Fund (KRDF)." from <http://www.krdf.net/art1.html>.

NGOs and private foundations.

In terms of disaster preparedness and education, schools provide a critical platform for the cultivation of earthquake safety and awareness. Students bring home what they are taught in school and therefore are a source of information for entire families. The informed parents will take this information to community leaders and agencies where professional organizations such as NSET can provide a comprehensive education. This approach helps ensure *cultural safety*, not just safety of the individual or household.

It is undisputed among earthquake professionals that retrofitting of buildings is imperative for the Kathmandu Valley. Retrofitting work must be carried out with transparency and endorsement from the government and local community organizations. Combining the grassroots and technical skill set of NSET and the hand-on community level approach of GMA, mapping and communication of risk could bolster preparedness and encourage the growth of government sponsored earthquake retro-fitting.

- **Specific Aims:**
  - Enhance the capacity of the municipalities to provide the oversight of and benefits for earthquake safety trained masons
  - Visually represent the social return on investment of earthquake remediation
  
- **GIS Data Requirements:**
  - School and hospital geographic coordinates (some in hand)
  - School and hospital comprehensive earthquake assessments completed by NSET
  - Regional earthquake risk maps
  
- **Role of Global MapAid:**
  - Provision of local mappers to augment the existing data collection efforts of NSET
  - To portray the larger picture of the goals of NSET in terms of social return on investment, job creation, and communication of risk via maps
  
- **Role of NSET:**
  - Provide earthquake expertise and on the ground delivery of mapped information
  - Hold the front for government interaction regarding advocacy and future funding potentials for training and retrofitting
  - Guide GMA in the type of maps to create which will not duplicate previous work but will incorporate Global MapAid's vision as well

## **Helvetas Nepal**

Excerpt found at: [http://www.helvetas.ch/wEnglish/News/Helvetas\\_News.asp](http://www.helvetas.ch/wEnglish/News/Helvetas_News.asp)

*Among the winners is the Riverbed Farming Project for landless households of Helvetas Nepal. The number of landless and near landless households in Nepal's lowlands is high and increasing: 20% of all households in the Terai (lowlands) districts Kailali and Kanchanpur are landless. Most are migrants from the hills. Some were forced to move during the recent conflict, while the majority have migrated for economic or ecological reasons. Most earn their livelihood as waged labour in agriculture. Many migrate to India in search for seasonal work. This large landless population is of particular significance in the current period of transition from conflict to peace.*

*The Riverbed Farming Project facilitates leaseholds of dry riverbeds in two districts to around 2'000 landless households for the seasonal cultivation of horticultural produce. The sale of the produce will generate a significant income and contribute to developing secure livelihoods of the participating households. Leasehold system, input supply chains, production technologies and a market access system will be developed allowing the system to be replicated by development organisations and the government in other lowland districts of Nepal. The responsible ministries (Local Development and Agriculture) will be lobbied to develop a National Riverbed Farming Strategy, to enhance replication of the experience and to mobilise resources for assisting landless to establish riverbed farming.*

As seen above, Helvetas Nepal has a very well established and structured progressive program. One appealing aspect of working with Helvetas is this new and innovative concept of riverbed farming, a concept which plays well into the sustainable job development arm of GMA. In this potential partnership, GMA could essentially be a "contractor" and no separate grant would be required in the early stages of this project. They are currently in the preliminary data collection and project implementation stages of this new grant.

The Helvetas project will perhaps require the most technical skill, in terms of GIS. The primary request of Helvetas is to have a calculation, in hectares, of the available land for dry riverbed farming. This can be a variable amount given seasonal and flood-related variation. In addition, in order to calculate the arable area the location of landless and land-poor housing settlements must be known.

Theoretically, much of the necessary data has already been collected by government agencies such as the Central Bureau of Statistics and the Central Department of Geography. Some of this data is easy to obtain, while some data seems to be somewhat unattainable. For this reason, and to avoid reinventing

the wheel, it is imperative to partner with local GIS professionals in the NGO, government, and university sectors.

- **Specific Aims:**
    - Use farmable riverbed areas efficiently and effectively for local food production and local market development
  
  - **GIS Data Requirements:**
    - Terai Riverbed Areas
    - Digitized riverbeds
    - Location of landpoor/landless settlements
    - Population and population density
    - VDC boundaries
  
  - **Role of Global MapAid:**
    - Augment on the ground data collection already in process by Helvetas.
    - Provide farmable area calculations of the Terai regions
  
  - **Role of Helvetas Nepal:**
    - Manage funding for the Riverbed Farming project
    - Provide support for data collection in the field
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In conclusion, it should be noted that the proposals above are *potential* projects and do not represent commitment, as of yet, by any involved party. This report should be used to help identify the types of organization and kinds of need which Global MapAid could provide an invaluable service to in Nepal. We are actively pursuing these above relationships and looking forward to the actualization of these professional ventures and others like them in the near future.