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Human Trafficking in Nepal: Can Big Data Help?

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ABSTRACT

This paper provides an overview of human trafficking in Nepal, identifies strategies implemented by the government of the country to handle the problem and possibilities of using big data as a solution to the problem of human trafficking in Nepal. Big data, may be defined as the collection of a large volume of data from the past that is processed using machine learning and artificial intelligence to find a common pattern. The use of big data in tackling the problem of human trafficking is not new in developed countries like the United States but it is still a foreign idea in developing countries like Nepal. This paper explores how big data can be used to minimize the problem of human trafficking in Nepal.

OVERVIEW

Resting on the laps of mountains, sandwiched between the two powerhouses of China and India, lies the small beautiful nation of Nepal. Roughly 29 million people reside in this naturally blessed nation known for the tallest mountain peak in the world, Mt. Everest. Nepal is an ethnically diverse nation with 123 different languages spoken as mother tongue and 126 different castes according to the 2011 census (Central Bureau of Statistics Nepal, 2012). Although the country has prospered through tourism, there are still some major issues that impact the country. One major issue is that of human trafficking, the criminal act of buying or selling of human beings, also known as modern slavery.

Human trafficking has been a major setback for Nepal and its visionary goals. With the literacy rate at 65.9% and just 17% of the total population residing in urban areas, human trafficking especially affects people residing in rural communities (Central Bureau of Statistics Nepal, 2012). Sex trafficking, work exploitation, and child labor are the major problems in the country and due to government instability along with increasing corruption, the country has not found a proper means to tackle these growing issues. Nepal falls under Tier 2 ranking in the *Trafficking in Person Report 2019* meaning that the country is still behind in meeting the minimum standards for eliminating human trafficking, but the government is showing some effort to eradicate this problem.

A large number of working males annually migrate from the country to the Middle East in search of employment where they are often abused and exploited (International Labour Organization,). Underage children are forced to work for lower income and are abused heavily

(U.S. Department of Labor). However, the major problem has been sex exploitation of females and the exportation of them as sex workers to neighboring South Asian countries like Bangladesh, Afghanistan and largely India. The biggest reason behind the large female migration for sex work to India is the open border between the nations. According to Aldama (2018), 1600 km of the border between Nepal and India is marked by 30-cm high concrete piles. There is no requirement for visa or any other documentation to travel between the country and border security is highly compromised. Officers guarding the border do not check any vehicle passing through the border unless it is a heavy duty vehicle carrying a large load. According to Chauhan (2018), the trafficking of children and girls has increased by 500% since 2013 from Nepal to India, and among this population, only 108 were rescued at the border in 2018. The same article says that 26 of the 75 districts in Nepal are trafficking prone which is a huge risk for the country since nearly 35% of the country is at the red zone for trafficking (Chauhan, 2018).

GOVERNMENT OF NEPAL'S APPROACH

The Nepalese government has realized that human trafficking is one of the biggest hindrances towards the development of the country and hence, has come up with various rules and laws to keep up with the international standards. Even after the continuous effort shown from the government, Nepal still falls short of the minimum standards for eliminating human trafficking (U.S. Department of State, 2019). The 2007 Human Trafficking and Transportation (Control) Act (HTTCA) criminalized some forms of sex trafficking and labor trafficking in the country. Although the act was thought to be a visionary approach towards eliminating trafficking in the country, there were major factors that were inconsistent with the international standards. Any form of child pornography was not addressed in the law and that includes the electronic transactions act within the HTTCA (Forum for Women, Law and Development, 2014, p. 12). The act criminalized slavery but failed to criminalize the processes associated with it including recruitment, transportation or use of force to receive the person. The lack of data was a major concern of the committee while passing the law and the lack of training to professions dealing with human trafficking such as police, lawyers and judges was also addressed in the committee as one of the issues (Forum for Women, Law and Development, 2014). Continuous drafts from the National Committee for Controlling Human Trafficking (NCCHT) towards the amendment of the HTTCA have not been put into action and that has resulted in the HTTCA not meeting the minimum requirements according to the international law (U.S. Department of State, 2019).

The Nepalese government's major focus has been to stop the violence against women either domestically or on international level. The regulation of Domestic Violence (Crime and Punishment) Act of 2010 criminalizes any form of domestic violence against women in Nepal. The Gender Equality Act in 2006 amended numerous gender discriminatory laws and added several others including various amendments to the case of rape with major focus on children below 16 years of age (UN Women, 2006). The number of investigations conducted by the NPWC (Nepal Police Women's Cell) has gone up to 313 under the HTTCA during the current fiscal year compared to 227 investigations in the previous fiscal year (U.S. Department of State, 2019). While this shows improvement in the country's effort to minimize human trafficking, among the 546 alleged traffickers, only 447 of them were arrested.

Child labor and child trafficking is another major issue and the government of Nepal has put some laws into place in order to minimize the continuous flow of children from rural parts of the country to the capital, Kathmandu, and other various urban areas dreaming of a better and bigger future. The HTTCA does not criminalize all forms of child trafficking as it is inconsistent with international law around the process of trafficking including force, transportation and fraud (U.S. Department of State, 2019). The 2002 Bonded Labor (Prohibition) Act was put into place to criminalize bonded labor and the Child Labor Act criminalized child labor but the lack of strict penalty on both of these laws fails to meet the standards of similar international laws. The 2002 Bonded Labor (Prohibition) Act criminalizes labor with less than minimum to no wages but the fine of a few thousand Nepalese rupees (less than $500) is not sufficient enough to stop the crime and the same applies to the Child Labor Act(Nepal Law Commission, 2002). The lack of efforts from the government to minimize the growing demand of commercial sex acts or forced labor has been a big hurdle in the process of minimizing trafficking in Nepal. According to the 2019 *Trafficking in Persons Report*, the government adopted a second iteration of the National Master Plan to End Child Labor (2018-2028) which focuses on the worst forms of child labor but the lack of actions against forced child labor and child labor in general by the Department of Labor (DOL) resulted in less than satisfactory outcomes (U.S. Department of State, 2019).

Another major problem of human trafficking in Nepal has been labor exploitation and labor trafficking. The Government of Nepal realized the growing problem of labor trafficking and the increasing number of male victims resulting in the creation and funding of a law enforcement bureau solely dedicated to human trafficking crimes called the Anti-Trafficking in Person Bureau (Anti-TIP Bureau). This initiative fails to meet the minimum standards as the law does not criminalize all forms of forced labor, and the government's major focus is still on female victims compared to their male counterparts (U.S. Department of State, 2019). The 2007 Foreign Employment Act (FEA) criminalizes some forms of labor trafficking and forced labor but the lack of knowledge on the part of the victims while registering cases hinders the investigation process. Migrant workers exploited overseas are still referring their cases to police officers for labor trafficking rather than registering their case under fraud recruitment under the FEA. The Anti-TIP Bureau was set into place but still is not investigating any cases at the time of reporting and due to the lack of proper training to the police staff patrolling the open border between Nepal and India, non-governmental agencies (NGOs) such as Maiti Nepal have taken matters into their own hands to investigate any potential victims of human trafficking crossing the border, but the focus is still on female victims. The corruption in the government of Nepal has been one of the major reasons behind labor trafficking and labor exploitation. NGOs are concerned that due to the close ties between some government officials and recruitment agencies, the proper migrant-friendly practices are not put into place (U.S. Department of State, 2019). Another problem is the negligence of immigration officers in the international airport of Nepal. As a result of this negligence, around 60 percent of domestic workers in the Gulf were working illegally without proper visa and safeguards (U.S. Department of State, 2019).

A common trend can be seen with all the laws that the government of Nepal has put into place in order to minimize trafficking in the country. While the laws are there to safeguard and control the flow of trafficking, these laws still fail to meet the minimum standards set by the international law. Due to the corruption in the government, funds are not appropriately distributed and ties with illegal migration agencies are making it hard to minimize the ever growing crime

rate. NGOs are working towards helping the victims and protecting their rights but a proper solution to prevent the crime before it takes place is not available. This is where the idea of big data can help.

USE OF BIG DATA IN DEVELOPED COUNTRIES LIKE THE U.S.A.

Developed countries like the United States have recognized human trafficking as one of the major crimes in the world and have taken appropriate steps to tackle the problem effectively and efficiently. Approximately one million people are trafficked across the border per year in the United States alone (Peace, 2018). With a huge criminal industry of $150 billion per year, human trafficking, is in the same league as drug trafficking and other major financial crime (Peace, 2018). As a major part of this criminal act is driven by financial motivation, a campaign called Stop the Traffik (STT) has partnered with IBM along with other major financial powerhouses such as Western Union, Barclays, Lloyd's Banking Group, Liberty Global, Europol and University College London to develop a system to tackle the problem of human trafficking through the financial route by using big data (Peace, 2018). They created a Traffik Analysis Hub (TAHub) that is being trained by IBM to find routes of human trafficking. The TAHub uses Watson Natural Language Understanding, which helps to find patterns and similarities between the data provided. This helps the TAHub to identify the means of transportation and routes taken to track down the victim and guilty party. With the further help of IBM i2, there will be more information generated about trafficking networks and patterns. It is understandable that human trafficking is a criminal industry and involves an organization behind it rather than just an individual. In theory, once the routes are analyzed and identified then reaching to the core of the problem should not be an issue. The hard part of data analysis and finding the pattern is done by the machine itself with the use of big data.

Global Emancipation Network, a non-profit organization that uses data to find and track victims of human trafficking, has utilized the data analysis tool, Splunk, to trace the victim and guilty party involved in the trafficking. The lack of data sharing between non-profit organizations working on different sectors has resulted in large gaps of information necessary to figure out the solution for this particular problem of trafficking. Global Emancipation Network (GEN) collects data from all the various sectors working for the same cause of fighting against trafficking in mainly three forms: text, images and interviews. They use Splunk to not only store data, they also use this data to help their cause of fighting human trafficking. With Splunk, GEN is able to track the route of transportation and agencies associated with transporting victims to different parts. This aids in helping the organization to predict the next move of the guilty party and prevent trafficking from happening. GEN approach to preventing human trafficking focuses on using the gigantic amount of data that they collect, i.e. big data, and finding a pattern from a communication medium such as messaging applications . This also helps in locating phone numbers in advertisements related to sex trafficking and who those phone numbers might be associated with in order to track down the individuals (Thorpe, 2018). According to an article written on October 2018 in Forbes, this system has now identified 989 individual victims and is tracking 22,000 more which further demonstrates the effectiveness of using big data to tackle this problem.

While human trafficking might seem like a crime that is mainly done in the dark, big events like the Super Bowl are major markets for human trafficking. Major sporting events are where sex

trafficking flourish and this is another sector where big data is used in countries like the United States. The study done by Mark Latonero during Super Bowl XLV in Dallas mentions some interesting findings based around one of the biggest sporting events. The party environment of these big sporting events attracts a lot of traffickers and they see it as a market to gain profit. The escort ads were double on the weekends following up to the Super Bowl compared to the daily average, and the increase is more significant during the Super Bowl Sunday while most numbers on the ads posted were out-of-area cell phone numbers (Latonero, 2011). The researcher was able to pick out some common words used on the ad as well using standard natural language processing technique and the keywords such as "visiting", "vegas", "cali" were more frequent meaning that most of them were transported to Dallas just for the event (Latonero, 2011). This further elaborates the importance of big data in tracking traffickers as finding keywords and generating a pattern between them can help in tracking the trafficker and the victim.

Not only catching the guilty, spreading awareness among the potential victims of trafficking is one of the important roles that big data plays in preventing human trafficking. An article on CNN runs through the recent research conducted on Bali and how trafficking there was an issue among the population. Before conducting the actual research, the team conducted a "pre-study" where they asked the population of the island about their knowledge regarding human trafficking (Dearnley & Hargreaves, 2020). After the information was collected, the team looked upon the perfect way to tackle the problem. Selling the hope of better life abroad was one of the major factors in the recruitment of victims, as found by the team and hence, the idea to make the population aware of those risk factors was one of the major goals of the campaign. Since the data was collected from various spots, awareness campaigns were tailored in the way that would fit best for a particular local area. By doing this, the guilty party would not be able to manipulate the population easily and the risk becomes lower to the point where there would be no profit in running the human trafficking business on the island. This was one of the most interesting and effective ways of controlling human trafficking from its root. As the population is made more aware about the harm and risk of trafficking, less people will fall for the bigger dreams that the traffickers are deceptively trying to sell to the innocent people of the island.

BIG DATA AS A SOLUTION FOR NEPAL

According to the data collected by Love Justice International (2018), an international organization working to fight against human trafficking in third world countries around the world, there were 171,000 slaves in Nepal as per the data collected as of September 2018. As per the same source, only 221 arrests were made, this ratio is quite concerning. Most of the trafficking is a result of lies and false hope rather than plain ignorance, and Love Justice International has developed a flag system to find the potential high risk cases of human trafficking. Looking at the previous data from the individuals that were victims of trafficking, the organization tries to find certain factors that might lead to suspicious behavior and possibility of trafficking while interviewing a potential victim. With the help of machine learning through artificial intelligence in analyzing data, a transit monitoring strategy is set up where the potential victim's interview answers are monitored and red flagged. This system then arranges the flags from high risk potential to further investigation required category. This can help in providing aid to those high risk potential victims before they are even trafficked just by hearing their part of the story and questioning them while further investigation can be carried over potential targets that might fall under high risk category in the

near future. This is one of the best ways of using data to tackle the problem of human trafficking in Nepal since most cases of sex trafficking, labor trafficking, and child trafficking are results of false hope and lies. By categorizing victims based upon their stories and providing support to them before the crime even takes place, they would be able to prevent human trafficking from happening in the future.

The other way of using big data to tackle human trafficking in Nepal would be to recognize the areas that are highly affected by human trafficking. With 35% of the country being categorized as a red zone for trafficking (Chauhan, 2018), the data collected from those particular areas can assist int finding the optimal solution for that certain region. Most victims of trafficking in the country come from rural areas and are in search of a better life in an urban environment, or even abroad, and this can be used as a base to provide protection to the victims of trafficking. Maiti Nepal, an NGO working to fight against sex trafficking of females in Nepal, rescues or intercepts anywhere from 15 to 50 victims per month (D. Weinert, 2018; P. Weinert, 2018) and data collected from interviewing the victims can help in identifying a common region that is mostly affected by sex trafficking of females in Nepal. In doing so, better laws and more awareness can be provided to the other females of that certain region as they might turn out to be the next victim of this vicious crime.

Cases of labor exploitation and labor trafficking are more complicated compared to sex trafficking in Nepal due to the lack of NGOs working to fight against the crime, and the lack of government's attention toward this particular form of human trafficking. However, most of the migrant workers are sent through foreign employment agencies in Nepal without a proper VISA or documentation. Interviewing the victims of labor exploitation and collecting data from them regarding the agency that sent them to their destination, mode of transportation, the foreign company that they were working for, and region they are from, can result in finding a common factor that can lead to the parties involved in the supply chain. Once the agencies that are associated with this crime and illegal labor export are identified through data analysis, proper actions can be taken against them so that the next group of workers seeking a job abroad do not have to face a similar kind of situation that their colleagues from the past did.

Nepal does not have the common system of using credit cards or debit cards, but money transfers and bank deposits are huge factors in financial trading in the country. People associated with trafficking are required to receive or deposit their part of the compensation at some point and when they do, it is through either money transfer or bank deposit. Major banking institutions of the country like Himalayan Bank, Nepal Investment Bank and many more provide the option of E-Banking and by implementing a system to monitor account balance fluctuation and suspicious banking activity, individuals working for trafficking can be caught. The financial approach taken by IBM with Stop the Traffik can be used as an example and implementing a system to categorize the financial activity of suspected individuals leading to further investigation and the eventual prosecution of the guilty.

One major way of leading females into sex trafficking is through the use of social media in the country. As per an article in Children Rescue Mission, traffickers are using social media and other forms of technology to convince the victims to join them or become a part of their plan by selling false hopes. As observed in the Super Bowl XLV research by Mark Latonero, tracking the

phone number contacting the victim can lead to finding out whether the person is from that part of the country or not. Collecting data about phone numbers of the traffickers from the victims of the past and analyzing them to find the common root of the problem can be useful in preventing future trafficking cases. Monitoring activity of the phone numbers from the past can help trace the location of the individual responsible for the crime. The other way is by monitoring the keywords used in messenger texts or various other messenger platforms offered by different social media of the past victims. Collecting data about these keywords can help in identifying whether these messages are used again to trap another potential target. Monitoring the situation with a potential victim by comparing the text received for deceiving with keywords can help in rescuing the individual before the crime could even take place. This not only helps to prevent the crime, but also helps in finding the individuals trying to deceive the potential victim through tracking.

Limitations

The solution of using big data to fight against human trafficking in Nepal seems like viable option but there are certainly some limitations that come along with it. The biggest one being that Nepal is not as advanced in technology as most of the countries implementing big data are. The inexperience with technology and lack of high-end resources might be one of the hurdles in using big data as an effective tool to fight against human trafficking in the country. Questions might arise on the openness of the Nepalese citizens as well. People from the rural parts of the country are still conservative in their thoughts and actions. Opening up to answer all the questions might be hard for the victims as sharing all the information might result in the community not accepting them. This is not new or unheard in the rural parts of the country. Although, there are few limitations to the solution of using big data to fight against human trafficking, this tool can still be used at the ground level at the beginning and develop it further as an effective tool to tackle the problem of human trafficking.

CONCLUSION

Human trafficking is one of the biggest issues in today but there is an effective and efficient way to fight using technology and information. With the help of data collected from the past, a lot can be prevented in the future. As discussed, most of the Nepalese government's approach to tackle human trafficking revolves around the aftermath of trafficking but using big data ensures that the trafficking does not happen in first place. A proper system of implementation and regulation of resources can be a massive help in tackling this modern day crime. Countries like Nepal should learn from developed countries about how they are using this technology, and implement it accordingly to fit their country's standards. If managed properly, big data can be huge help in tracking victims of trafficking along with the guilty party. In addition to that, future events of trafficking can be prevented by using data from the past.

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