AGAPP: A Mobile Awareness Application

Jessa Angeline C. Anglo
Orense, Bauan, Batangas
jessaangelineanglo.ccs@gmail.com

Joan Paulett E. Magsino
Sinipian, Sta. Teresita, Batangas
joanpaulett.magsino@lpubatangas.edu.ph

James Harvey A. Magsombol
Calumpang, San Luis, Batangas
jamesharvey.magsombol@lpubatangas.edu.ph

Angelo Dave F. Olaes
Butong, Taal, Batangas
angelodave.olaes@lpubatangas.edu.ph

ABSTRACT

The Capstone project titled “AGAPP: A Mobile Awareness Application” was constructed to be implemented to the public as a guide in giving key lifesaving data on different disasters. The application provides relevant information to benefit users to be better adapted against disasters, such as earthquake, fire, flood, epidemic, drought, tsunami, eruption, and typhoon and also first aid and checklist designed to assess the user’s knowledge about disaster preparedness and response. The application established through the use of Android Studio and Java as the programming language. It is an impressive tool to educate users about disaster preparedness and response. This application can be used by people of Batangas City as long as they have Smartphones. AGAPP can be a reference material for future researchers who would also like to progress their own mobile application project using the same type of mobile application development. Furthermore, the researchers recommend the following for the improvement of the mobile application: to broaden its compatibility to other mobile platforms; to enhance the map view and the functionality of the upload to facebook view of the application; and to further upgrade the design and functionality of the said application.

KEYWORDS

Mobile Application, Awareness, Disaster Kit, Disaster Preparedness, Preparedness

1.0 INTRODUCTION

Disaster can happen any time to people’s live. May it be predicted or unpredicted; still it is very dangerous and can affect the way we live. By preparing and planning, we could lessen the risk of being injured and death. Another thing that we could do is to prepare and be alert. Alert in the way that you as a survivor should know what to do and where to go in order to increase the rate of survival and disaster avoidance. According to American Red Cross, there are more than 200 million people who are affected by disasters annually.

Disaster greatly damages animals, plants and human life. Also, it causes large scale of fire, floods, landslides on high areas and destruction and damage to buildings, which we all know is a big issue not only for the government but also for civilians to solve. As we all know, disaster preparedness refers to measures taken to prepare for and diminish the accoutrements of disasters. That is, to anticipate and, where possible, prohibit disasters, mitigate their impact on vulnerable populations. Disaster can happen in any moment. As preparedness emergencies come in many systems, having the right agenda can benefit in making family secure. Devising ahead also assist everyone apprehend what to do in times of disaster. Knowing your plan in times of disaster is significant because in some instances it may be several days before necessary services can be prepared and subsisting this period may be difficult.

It is easy to respond on disasters and effectively cope with the surroundings if we know what to do. According to DHS/FEMA, it is also a repeated cycle of outlining, formulating, instructing, equipping, executing, evaluating, and taking corrective action in an effort to ensure effective coordination during incident response. It can prevent a rough situation from becoming worse.

Nowadays, we can view everything by just a click. Mobile applications are becoming vital resources during disasters. Most of people now entrust on online news for emergency instruction. These applications give tips on the most effective method to equip self and family from disaster, and what to do amid and after a catastrophe strikes. Mobile applications have been a great medium in sharing information.

The application AGAPP: A Mobile Awareness Application is a mobile application designed to provide enough information on what to do in times of natural disasters. *"Agap"* means alertness. Alertness or being prepared in times of disaster is important. By clicking the App, the first thing that will show up is the loading page. This application consists of such areas where we can view important things about Drought, Earthquake, Epidemic, Landslide, Tsunami, Typhoon, Volcanic Eruption, Water Floods, and Wildfire. Also, this application uses such multimedia elements like images, texts and audio. The application consists of scenarios on how the application will help you and the outcome knowledge of the it will give to the user. AGAPP provides a geographical map of the evacuation in the area of Batangas City. It also permits the Batangueño people to use their social media as Facebook via capturing surroundings and automatically uploading in the Facebook account sign in the phone. When the phone is connected to the internet, it will automatically show the weather on the user's location. Having installed it in a mobile phone, you can now use it anytime, anywhere. Batangueños are the potential users of the application. It also gives the option of setting up reminders to complete a task. The app has an interaction display that can easily communicate to the users. AGAPP provides a quality service like preparing to survive different disasters in the world.

1.1 Objectives of the Study

This application addresses the overall problem of ensuring high security and knowledge to everyone. Specifically, the project addresses common "resistances", which has always been one of the issues when the disaster strikes: the number of people who can use this app, internet connectivity and compatibility to all android phones.

The following statements are the specific objectives of the study:

- To provide information to ensure awareness on what to do in times of disaster.
- To promote the best practices and recognized standards of security within the times of the natural disaster.
- To provide maximum knowledge about disaster preparedness.

2.0 REVIEW OF RELATED LITERATURE

Mobile apps are becoming vital resources during disasters—and for good reason. These applications give tips on the most efficient method to equip self and family for buildings to disaster, and what to do amid and after a catastrophe strikes. Some of the primary applications for disasters are KNOW YOUR PLAN, Tudlo and FEMA application. They have different functions as well as specifications but the main mission is to help people in times of disaster.

2.1 Related Literature

This section consists of two parts: the foreign literature and the local literature. The Foreign Literature consists of mobile applications like KNOW YOUR PLAN, FEMA, SAMHSA, SAS and Notepad. Moreover, the local literature, which consists of Tudlo, NOAH, Pindot, Batingaw and Hazards are also classified as mobile applications.

2.1.1 Foreign Literature

To better serve the needs of people affected by disasters, humanitarian organizations develop an application to be able to make use of new technologies to train its staff on a number of the main subject areas such as humanitarian principles, operations planning and security risk management. Some of these subjects can be delivered through more "traditional" eLearning delivery methodologies such as self-study eLearning and webinar-based coaching. However, due to the very mobile nature of the operations, there is an increasing need to enable humanitarian staff with tools and information that they can access on-the-go. In addition, staff and volunteers need to be equipped with tools to access real-time information on disasters, even before they hit. Using mobile application is one of usable tools to be equipped with. [1] The one application that related to disaster preparedness is KNOW YOUR PLAN that was endorsed in 2012 by the Insurance Information Institute. It provides disaster preparedness checklists for hurricanes, wildfires, tornadoes, earthquakes, severe winter weather and evacuations. This mobile equipment gives the option of setting up reminders to complete a task, apprehend progress and customizing and sharing checklists with social network.

Unlike, Know Your Plan, [4] FEMA is coming from the name of the organization that coordinates the federal government's role in preparing, preventing, mitigating the effects, responding to, and recovering from all domestic disasters, whether natural or man-made, including acts of terror. [5] FEMA organization makes ensures that the user can upload and share photos of damage and recovery efforts. Saving a custom list of the items in his family's emergency kit, as well as the places you will meet in case of an emergency is the characteristic of the application.

The human behavior needs to be exercised too, especially before the disaster attacks. Like FEMA, SAMHSA is an organization in USA. Unlike FEMA, [10] the SAMSHA application concerns about the mental behavior of the person at the time of disaster. This application processed in March 2007 by the SAMHSA Organization. The SAMHSA reminds users to be handy, qualified, satisfied and to share belongings easily.

Surviving in different situations when disaster strikes is also important with the help of the applications. [11] The SAS Survival Guide is both e-book and application that is guiding the user to survive in any situation. It was released on 2011. The application came from the book SAS and is transferred to a mobile application that ensures technique of the user to cope with the natural disasters.

The simple application that is downloadable to the phones can help human to be prepared. [12] The most well-known application is the Notepad. A simple yet comfortable noting pads that set right on any mobile device. It is a simple application but it can help to further prepare in any events or even in times of disaster. Notepad is always within at hand.

2.1.2 Local Literature

From international applications, there are also applications that were invented in the Philippines. The NDRRMC (National Disaster Risk Reduction Management Council), a local agency that is tasked to prepare for, and respond to natural calamities, like typhoons and earthquakes. The agency believes that new mobile application could turn smart phones and tablets into disaster preparedness kits.

[3] Hand kit from Albay is called Tudlo. This application came from Visayan and Bicolano word, which means *"to teach, to guide or to point"*. It was founded in September 2012. The mobile application is a multi-purpose communications platform for disaster and emergencies. It is an application that improved communication as well as it saved lives of many people. [6] After Tudlo, Pindot was launched in 2014. Pindot is a mobile application pursuing on disaster management. PINDOT is a pro-active, comprehensive and rational disaster management mobile and web application adopted by the Albay Public Safety and Management Office (APSEMO) as a

communication tool to help reduce and mitigate the effects of natural and man-made calamities with the help of mobile technologies.

[13] Batingaw application, also the same as Tudlo and Pindot was launched by SMART Company and was released in April 2008. It can be used to give government agencies, organizations and individuals' immediate access to disaster warnings, advisories, location data, and disaster mappings. The advantage of this application is its usefulness. It is adopted by NDRRMC. Having information about weather is also good, the Nationwide Operational Assessment of Hazards (NOAH) is suited for that. [25] In October 2012, the NOAH was released by SMART. This aims to provide insightful information about inclement weather and thus mitigate disasters such as floods, typhoons and landslides, launched its website in July, and now a free mobile phone application has been added.

Preparing before the disaster is important because it gives knowledge about surviving, helping and learning as well. [21] Like, Hazards app by Philippine Red Cross, it gives the user instant access to the information needed to know to prepare for and respond to the impact of these hazards. It was released on the month of April, year 2015. It allows users to prepare their homes and families for disasters.

2.2 Related Studies

This section is consisted of two parts: the foreign literature and the local literature. The Foreign Literature consists of mobile applications like Urban Disaster Preparedness, DisAfter, Lebanon Disaster Management, Atlantic Ocean Tsunami Alerter and Serval Mesh Application. Moreover, the local literature which consists of D3, Alerto Pinoy, AlertPH, and First Aid are also classified as mobile applications.

2.2.1 Foreign Studies

Disasters can happen at any moment. By planning ahead, you can avoid waiting in long lines for critical supplies, such as food, water and medicine and you will also have essential items if you need to evacuate. There are three steps to prepare: get a kit, make a plan and be informed. As times goes by agencies that tasked to prepare for, and respond to natural calamities like typhoons and earthquakes developed a new strategy to survive. It is by the use of mobile applications. Different new mobile application could turn smart phones and tablets into disaster preparedness kits.

[26] The international humanitarian organization Oxfam creates mobile application called Disaster Preparedness. It was released in June, 2015 by Oxfam Organization. The application aims to raise mass awareness regarding the preparedness measures against two major urban hazards. It will help the users learn about the basic preparatory and response measures during an emergency situation.

Like in Bangladesh, [6] Nepal also is using application called 'DisAfter' that was released in 2015. 'DisAfter' is primarily designed to help manage volunteering campaigns in Nepal. Users can easily create, manage, and volunteer in campaigns. This application is a big help for the people of Nepal. [30] Lebanon also is using an application called Lebanon Disaster Management released on 2015. The application signifies that the knowledge, science and technology play an important role to empower people to get prepared and manage disasters.

Using social media is also important, because at some point, it helps you share if you are in bad situation. [9] Like social media Disaster Recovery Log released on 2015, it helps you record information about damages to home and property using text, images and audio. The app uses the smartphone's camera feature to capture photos to illustrate the flood damage.

The deadliest natural disaster in human history is the tsunami. [14] Atlantic Ocean Tsunami Alerter released in 2015 a mobile application that alerts the user when there is a tsunami. Each tsunami alert notification would be accompanied by a siren sound and generally it would last for few seconds depending upon the category of warning. For highest signal, it would last for fifteen seconds (seven seconds during

daytime) and for other information bulletins the siren would last for two seconds.

When disaster strikes places unexpectedly, phones normally cannot be used when cellular networks fail. This means that millions of vulnerable people around the world are deprived of the ability to communicate, when they need it most. In the New Zealand Red Cross, [19] the Serval Mesh Application was created in 2016. It is a free application that allows smart-phones to communicate, even in the face of catastrophic failure of cellular networks.

2.2.2 Local Studies

Disaster preparedness refers to measures taken to prepare for and reduce the effects of disasters. That is, to predict and where possible prevent them, mitigates their impact on vulnerable populations, and responds to and effectively copes with their consequences. Preparing is helpful to everyone who wants to acquire knowledge to survive in every natural disaster.

As a kit for preparedness, various officials of the government approved that using mobile phones is helpful. Different new mobile applications could turn smart phones and tablets into disaster preparedness kits. It is important to have tools that will strengthen public awareness on the importance of disaster preparedness most especially that the intensity and frequency of disasters happening in the Philippines nowadays have increased because of climate change due to urbanization.

Awareness is also important when the unexpected hazard comes. [20] The D3 Disaster Preparedness updated in 2016 is an application designed to help users to be better prepared against natural disasters or biological hazards. It provides relevant information about natural, biological, and technological hazards, first aid, and a checklist of important items in preparation for disasters. For the awareness of the people, the AlertoPinoy is recommended. The application was updated early in 2016. [22] The public can access it to know landslide and flood-prone areas that may affect lives and properties. The app is a good source of disaster warnings, emergency alerts, specific reports, other important advisories and relevant tips on safety and disaster preparedness. Similar, to Alerto Pinoy, it is updated early in 2016, [23] AlertPH is a real-time emergency reporting and alerting app that enables citizens to report or be notified of events that need immediate attention, such as disasters, accidents and crimes. It intends to create a virtual community to the Filipinos.

Monitoring the weather is also good for preparing. [27] The UlanMOIn application that aims to address this need through developing an effective location-based real-time rainfall monitoring application is available through mobile devices and browsers, which requires the use of interpolation methods to estimate unavailable rainfall data. It is released by the students of Ateneo de Manila on December 17 in 2014.

Helping others or oneself is important when disaster attacks that the First Aid App can give the user. [13] American Red Cross First Aid consist expert advice for every emergency through the hand of the user. It is released by American Red Cross in July 2012.

With mobile technology taking center stage in today's world, organizations are keen on making significant advancements in the mobile space. The mobile technology gives conducted information that may help the user to survive natural disasters.

3.0 RESEARCH METHOD AND PROCEDURES

This study titled "AGAPP Application" focuses on the mobile application instruction system and show how presentations can be more interesting and appealing to the users or audience.

In order to obtain the researchers' objectives, they used some references that are related to the subject. The authors used several methods of research to get information that formed basis

of this study. They gathered information from different materials such as books, journals and surfed the internet.

For the accomplishment of this study, the authors decided to use Android Studio that will provide a full set of built - in intelligent tools that will create programs for the windows environment.

3.1 Research Design

This study titled AGAPP: A Mobile Awarness Application is a research providing enough information on what to do in times of natural disasters. Furthermore, building the application as the researchers would target to achieve. The researchers will come up with an actual demonstration. Through actual using the app on the android devices without internet connection.

With mobile technology taking center stage in today's world, organizations keep on making significant advancements in the mobile space. The mobile application keeps the user to gather knowledge and let them keep attuned to their user's needs.

Mobile application development has taken a great part in today's technology; it is the process by which application developed for handheld android devices such as personal digital assistants and mobile phones. This application is either pre- installed on phones or downloaded by customers from app stores and other mobile app market or distribution platforms.

With the benefit of ADDIE (Analysis, Design, Development, Implementation and Evaluation) project development model, the researchers are capable of gathering methods and procedures for the finalization of the proposed application project. ADDIE project development model is vital for developing a multimedia application. It will support the researchers to work out the objectives of their proposed project. ADDIE Model is made up of five important phases which include the following:

3.1.1 Analysis Phase

The aim of the analysis phase is to study and document (a) the need, (b) the user, (c) the content, (d) the technology and (e) the constraints. At this phase the instructional problem is clarified, the instructional goals and objectives are established and the learning environment and learner's existing knowledge and skills are identified. The outcome of the analysis of these items is the functional specification document. The functional specification should form the basis of the design and the system and specification.

3.1.1.1 Needs Analysis

The researchers determined what is needed or desired of the client, and thus what is to be polished to the application.

3.1.1.2 User Analysis

In this analysis, the researchers identified who are the potential users or target audience of the application.

3.1.1.3 Content Analysis

This study supported the researchers to define precisely what the proposed project will contain. It also defines what content needs to be developed, the scope and structure of the material, the structure of content and the specific needs of the users.

3.1.1.4 Technical Analysis

The purpose of technical analysis is to accommodate the researchers to inaugurate the baseline technical capabilities and specifications.

3.1.1.5 Constraints Analysis

The researchers identified the mandatory constraints in the proposed application. The items that are to be considered include availability of funds, time and deadlines for delivery, and staff and skills availability.

3.1.2 Design Phase

The design phase is based on the product of the analysis period and ends in a design document guiding the development phase that is to follow.

3.1.3 Development Phase

The development phase involves building the multimedia application that is defined in the design phase. In this stage, the researchers will have to recognize all the required skills in accomplishing the application. The researchers will start work based on the legalized original outline and script, a storyboard of all frames and a flowchart of all probable interactivity. The required tools and authoring system for multimedia creation. are also to be decided upon. The end result is a completed prototype multimedia product.

3.1.4 Implementation Phase

Based on the storyboards, media specialists construct the variety of content that will make up the product: text, still graphics, movies, animations, music, narration and databases. Media must accommodate to the standards specified in the design document and be fully appropriate with the interface. The implementation phase therefore includes the following task: assimilate media and code, conducting production, conducting post-production, and deployment of application.

3.1.5 Evaluation Phase

Ensuring the quality of the product is a very critical task. This is achieved through the evaluation and testing phases in the development process of a multimedia project.

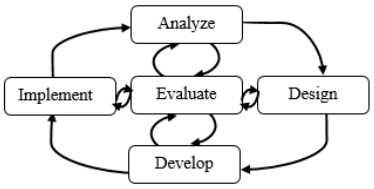


Figure 1 ADDIE Project Development Model

In figure 1, it shown the cycle of ADDIE Model it consists of 5 phases, the Analysis, Design, Development, Implementation and last is the Evaluation.

3.2 Research Participants

The researchers approached several persons who contributed in the research process or in the completion of this study. Research adviser, Mrs. Irene Balmes gave advice and additional assistance in this study. Some also shared their ideas on the design of the application and how it will be presented in the actual implementation of this study.

3.3 Research Procedure

The researchers first prepared a draft of the research tools to be able to gather the necessary data for the study. Through several consultations with the adviser, the instrument was analyzed for administering the results of the study, even though most of the data gathered are based on the internet. The researchers still take the initiative to look for useful resources, such as books and capstone papers that could value the topic. The researchers submitted the whole documents consisting of the Chapter One Introduction, Objectives of the Study, Review of Literature and Research Method and Procedures.

The researchers began working on Chapter two, Review of Related Literature. The researchers prepared and submitted the second part of the documentation. Taking as much time because of the difficulty finding related works from other application as well as identifying the gaps. When it has been, the authors started working on Chapter three, collecting information on how it will be able to create flowchart system for the application which took a lengthy period of time. Following the completion of the whole document, the researches passed the flowchart including the methods and procedures.

Figure 2 Phone Main Screen

In the figure 2, it has shown the main screen of the phone where the menu button located. All application stores at the menu button.

Figure 3 Splash Screen

In the figure 3, it has shows the splash screen also known loading screen of the application.

Figure 4 Application Main Screen

In the figure 4, it has shown the main screen of the application. The main screen consists of different buttons like disaster buttons, Contacts, Upload to Facebook and Maps.

Figure 5 Wildfire Information

In the figure 5, it has shown the information of Wildfire. Including the information where it happened and the source of the information.

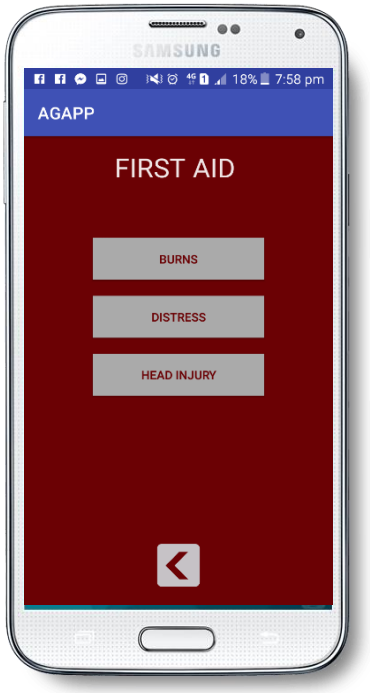


Figure 6 Fire First Aid

In the figure 6, it has shown the First Aid buttons. Each of them is the common injury that the survivor got when there is a wildfire.

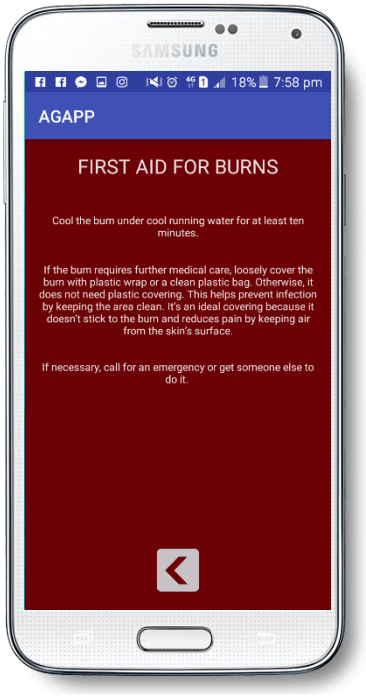


Figure 7 Burn First Aid

In the figure 7, it has shown the steps on how to give first aid on someone has burned.

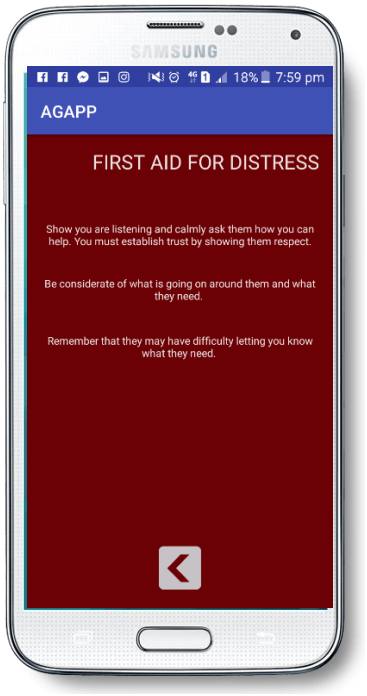


Figure 8 Distress First Aid

In the figure 8, it has shown the steps on how to give first aid on someone who is distress.

Figure 7 Burns First Aid

Figure 8 Distress First Aid

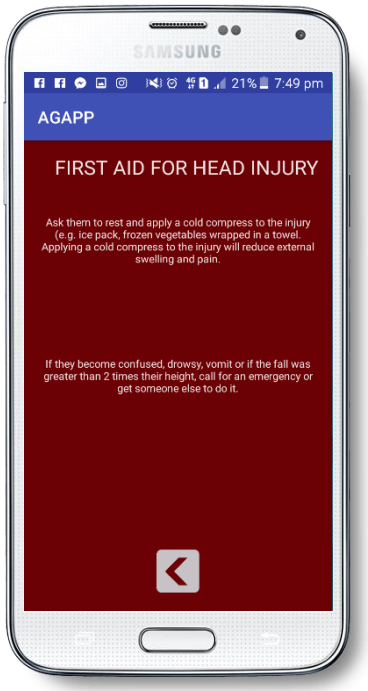


Figure 9 Head Injury First Aid

In the figure 9, it has shown the steps on how to give first aid on someone who has head injury.

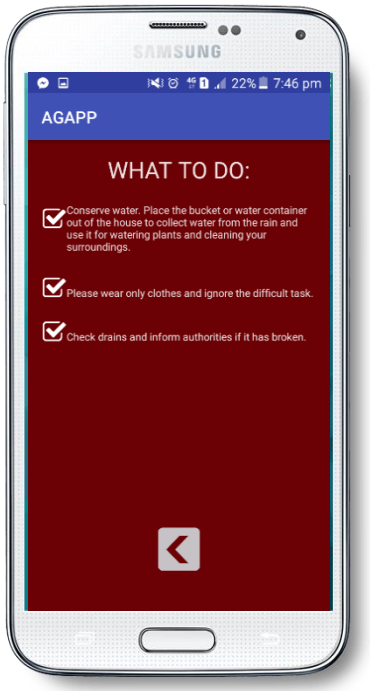


Figure 10 What to do? (Wildfire)

In the figure 10, it has shown the information of what users going to do before the disaster's come.

Figure 11 Earthquake Information

In the figure 11, it has shown the information of Earthquake. Including the information where it happened and the source of the information.

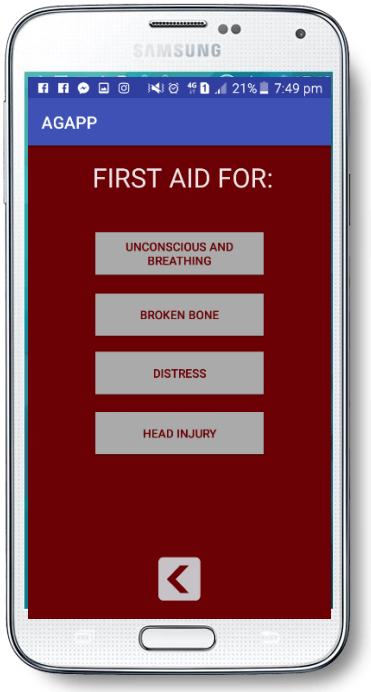


Figure 12 Earthquake First Aid

In the figure 12, it has shown the first aid buttons. Each of them is the common injury that the survivor got when there is an earthquake.

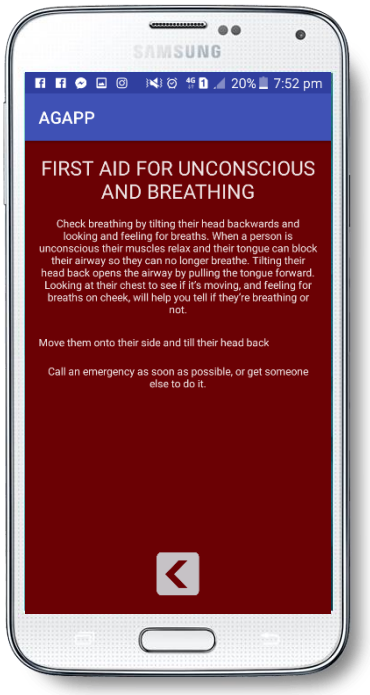


Figure 13 Unconscious and Breathing Fist Aid

In the figure 13, it has shown the steps on how to give first aid on someone who unconscious but breathing.

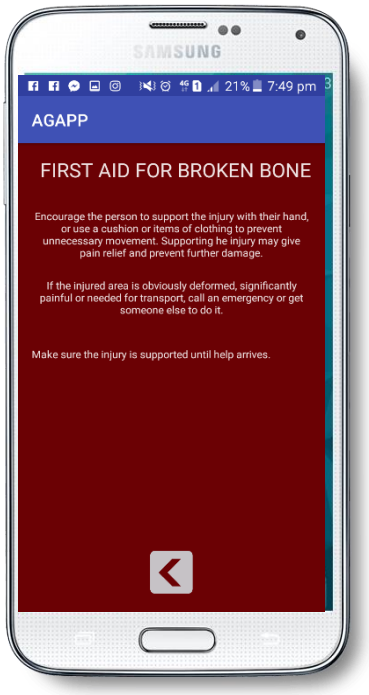


Figure 14 Broken Bone First Aid

In the figure 14, it has shown the steps on how to give first aid on someone who has broken bone.

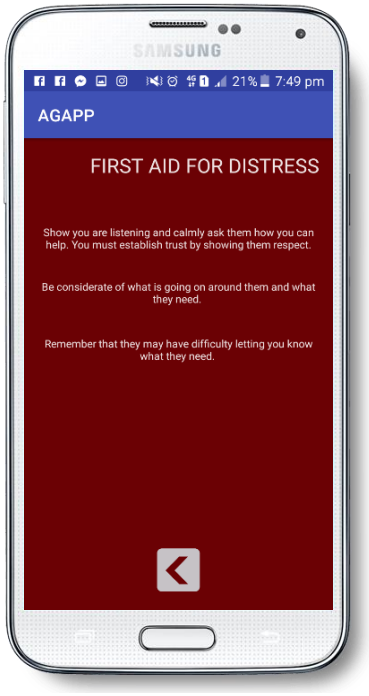


Figure 15 Distress First Aid

In figure 15, it has shown the steps on how to give first aid on someone who is distress.

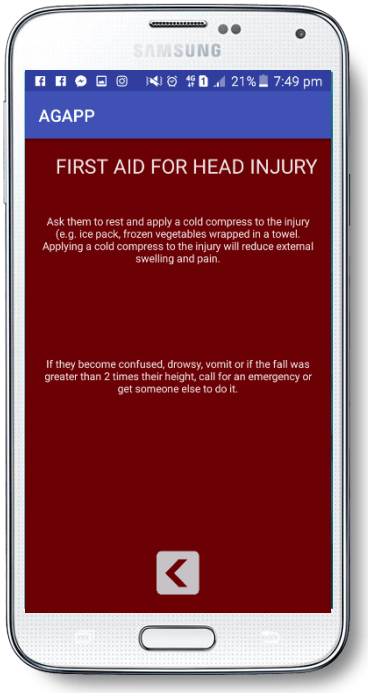


Figure 16 Head Injury First Aid

In figure 16, it has shown the steps on how to give first aid on someone who has head injury.

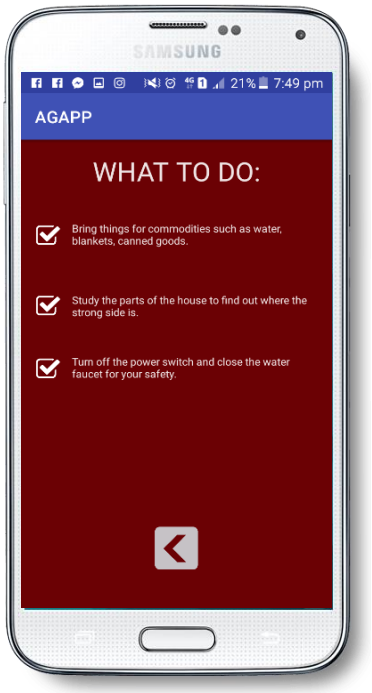


Figure 17 What to do? (Earthquake)

In the figure 17, it has shown the information of what users going to do before the disaster's come.

Figure 18 Epidemic Information

In the figure 18, it has shown the information of Epidemic. Including the information where it happened and the source of the information.

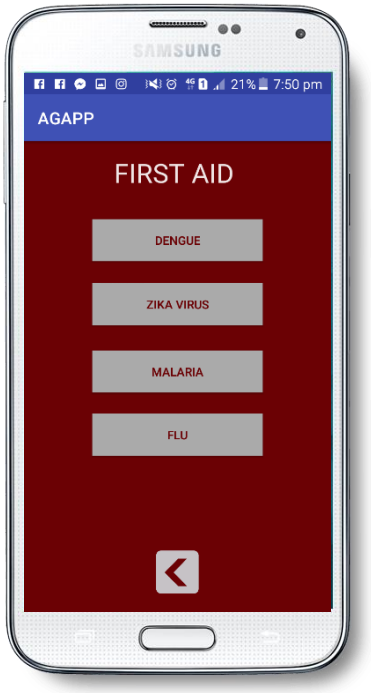


Figure 19 Epidemic First Aid

In the figure 19, it has shown the first aid buttons. Each of them is the common injury that the survivor got when the epidemic hit.

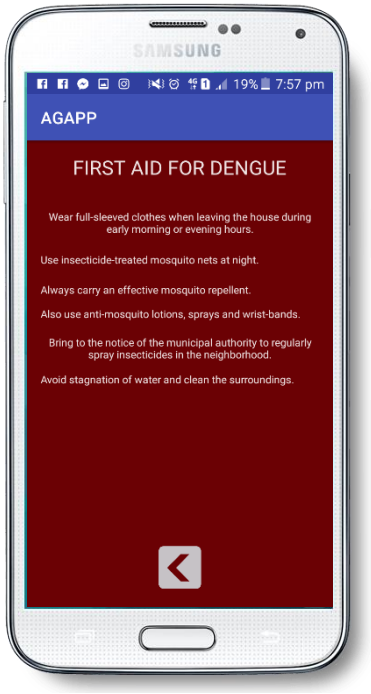


Figure 20 Dengue First Aid

In the figure 20, it has shown the steps on how to give first aid on someone who has dengue.

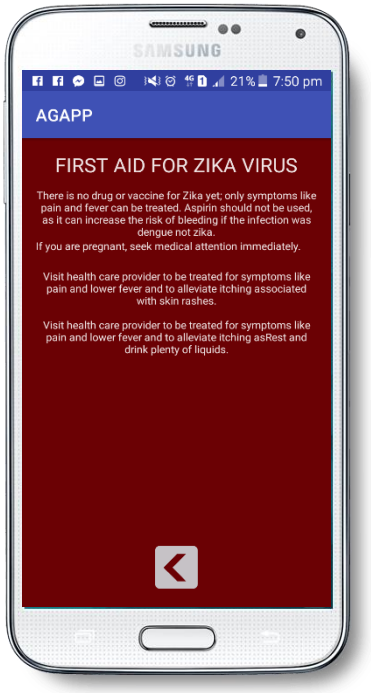


Figure 21 Zika Virus First Aid

In the figure 21, it has shown the steps on how to give first aid on someone who has Zika Virus.

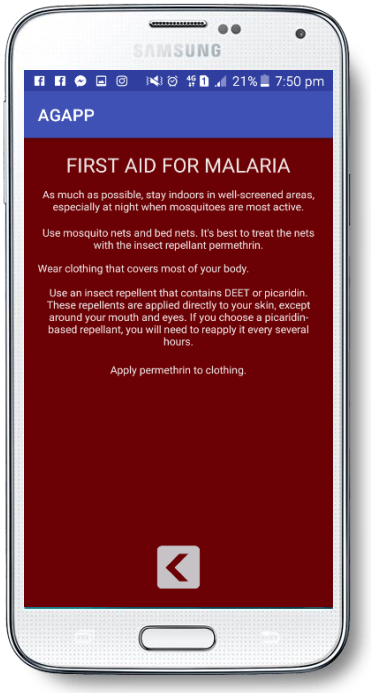


Figure 22 Malaria First Aid

In the figure 22, it has shown the steps on how to give first aid on someone who has Malaria.

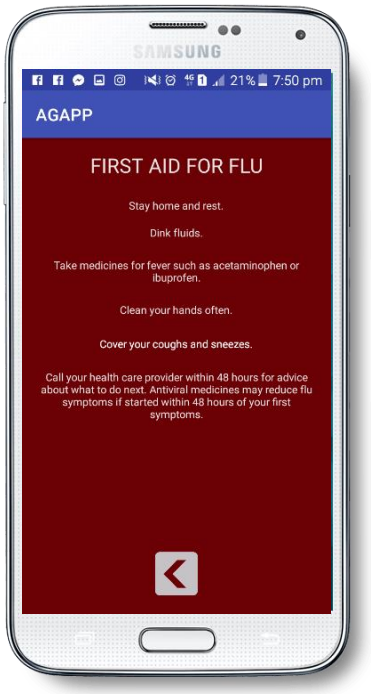


Figure 23 Flu First Aid

In the figure 23, it has shown the steps on how to give first aid on someone who has Flu.

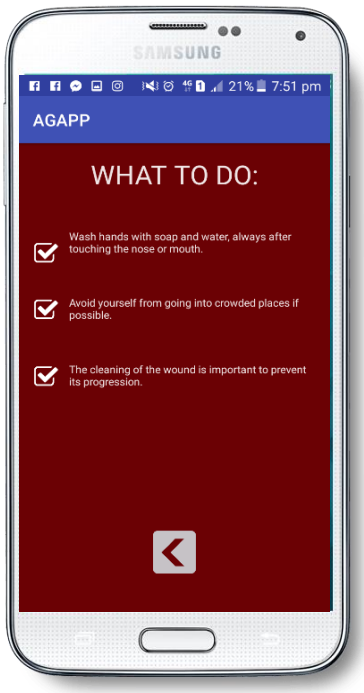


Figure 24 What to do? (Epidemic)

In the figure 24, it has shown the information of what users going to do before the disaster's come.

Figure 25 Landslide Information

In the figure 25, it has shown the information of Landslide. Including the information where it happened and the source of the information.

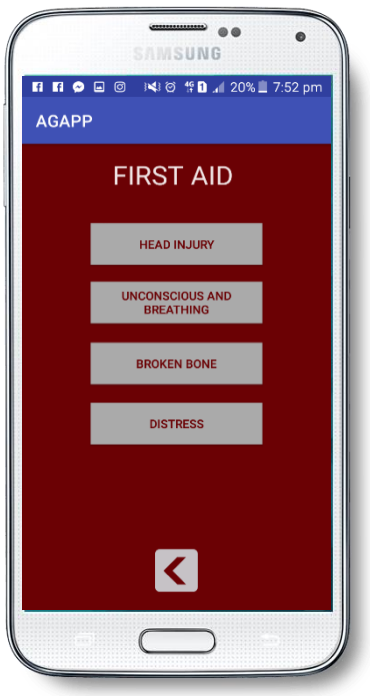


Figure 26 Landslide First Aid

In the figure 26, it has shown the first aid buttons. Each of them is the common injury that the survivor got when there is a landslide.

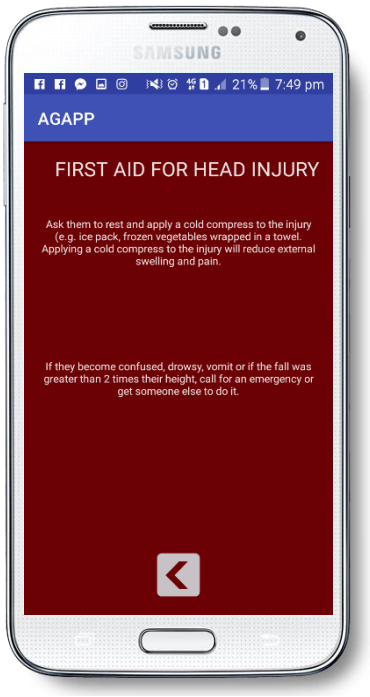


Figure 27 Head Injury First Aid

In the figure 14, it has shown the steps on how to give first aid on someone who has head injury.

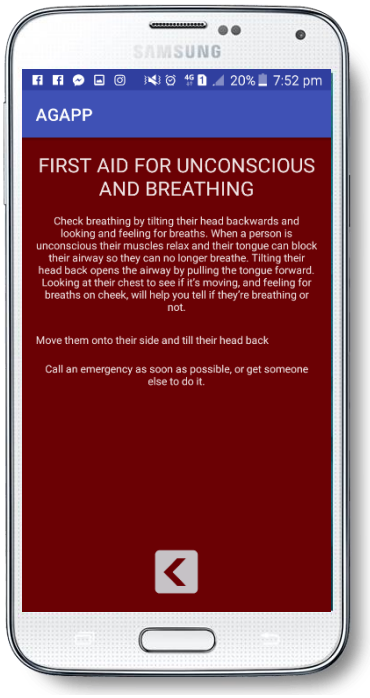


Figure 28 Unconscious and Breathing First Aid

In the figure 28, it has shown the steps on how to give first aid on someone who is unconscious but breathing.

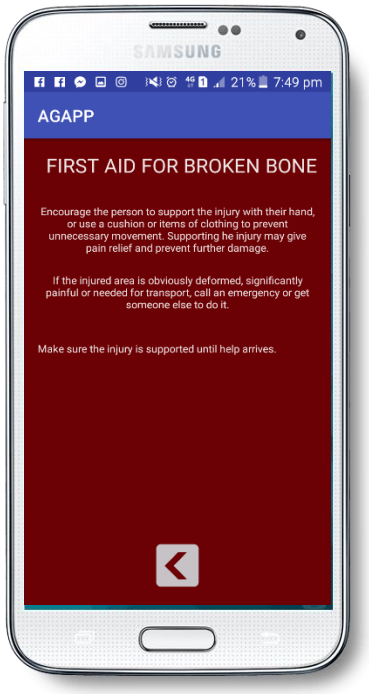


Figure 29 Broken Bone First Aid

In the figure 29, it has shown the steps on how to give first aid on someone who has broken bone.

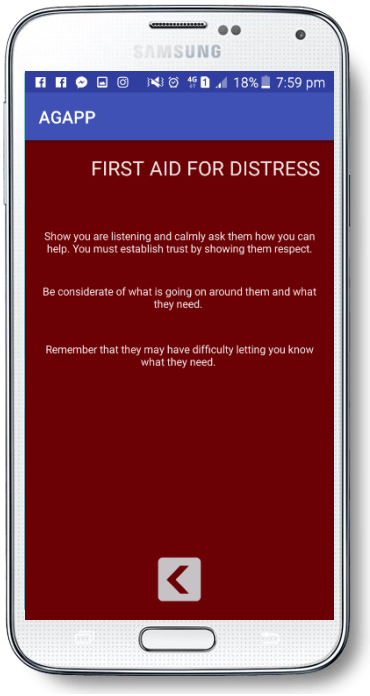


Figure 30 Distress First Aid

In the figure 30, it has shown the steps on how to give first aid on someone who is distress.

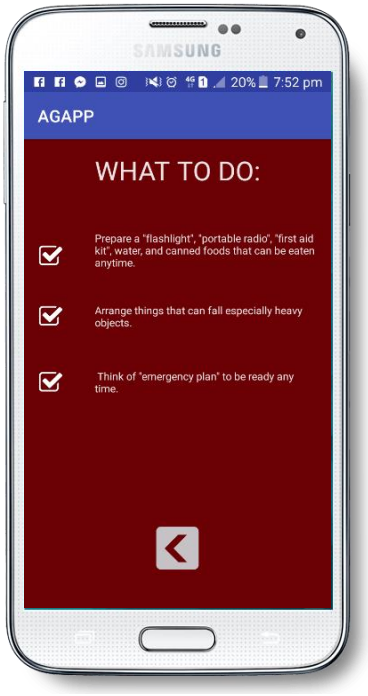


Figure 31 What to do? (Lanslide)

In the figure 31, it has shown the information of what users going to do before the disaster's come.

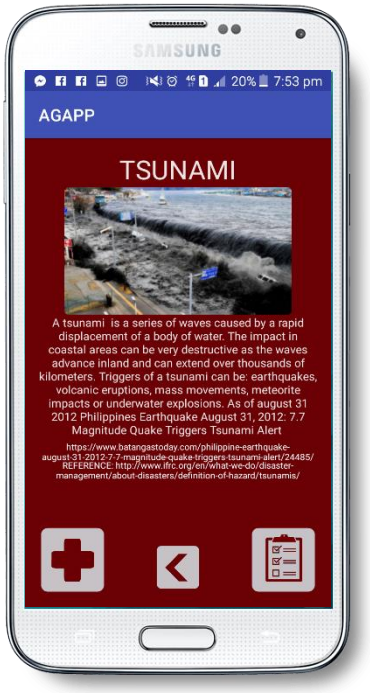


Figure 32 Tsunami Information

In the figure 32, it has shown the information of Tsunami. Including the information where it happened and the source of the information.

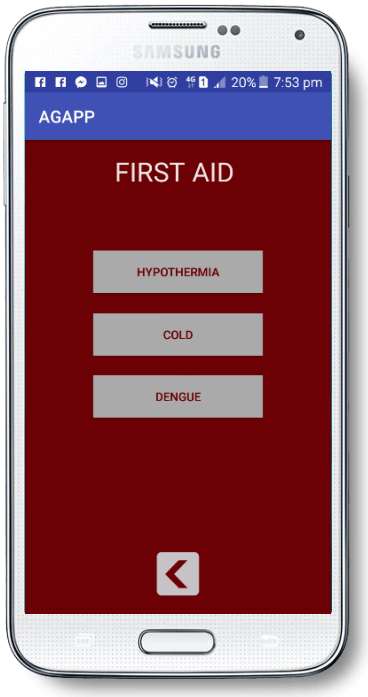


Figure 33 Tsunami First Aid

In the figure 33, it has shown the first aid buttons. Each of them is the common injury that the survivor got when there is a tsunami.

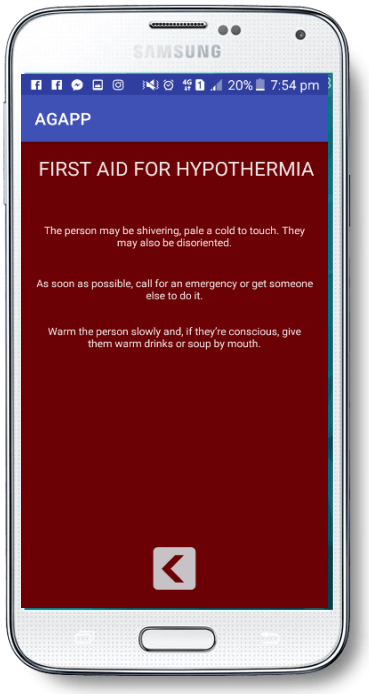


Figure 34 Hypothermia First Aid

In the figure 34, it has shown the steps on how to give first aid on someone who has hypothermia.

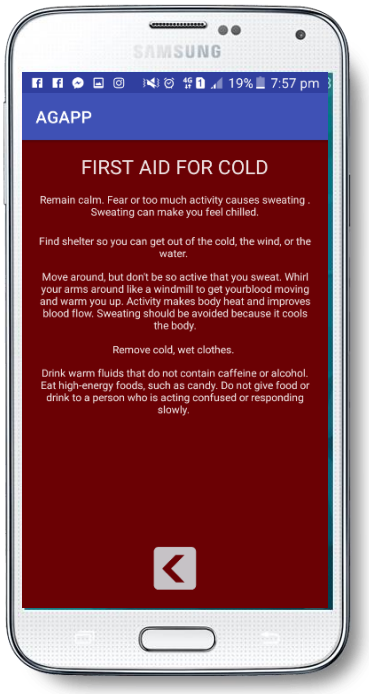


Figure 35 Cold First Aid

In the figure 35, it has shown the steps on how to give first aid on someone who have cold.

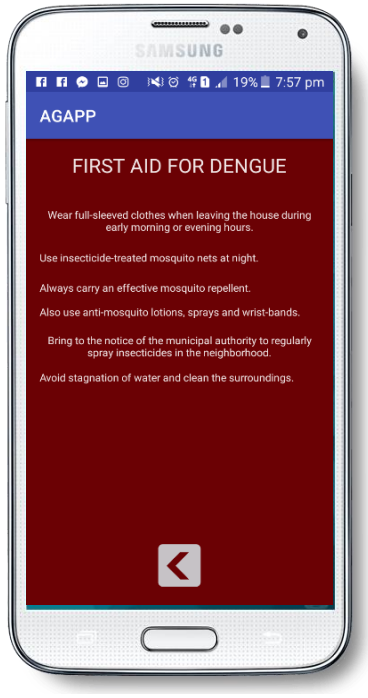


Figure 36 Dengue First Aid

In the figure 36, it has shown the steps on how to give first aid on someone who has dengue.

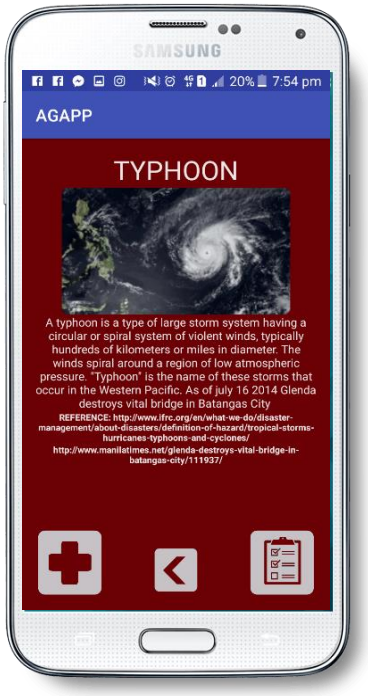


Figure 37 Typhoon Information

In the figure 37, it has shown the information of Typhoon. Including the information where it happened and the source of the information.

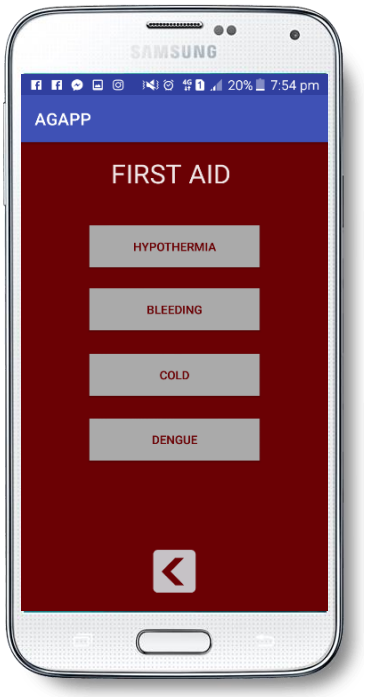


Figure 38 Typhoon First Aid

In the figure 38, it has shown the first aid buttons. Each of them is the common injury that the survivor got when there is an typhoon.

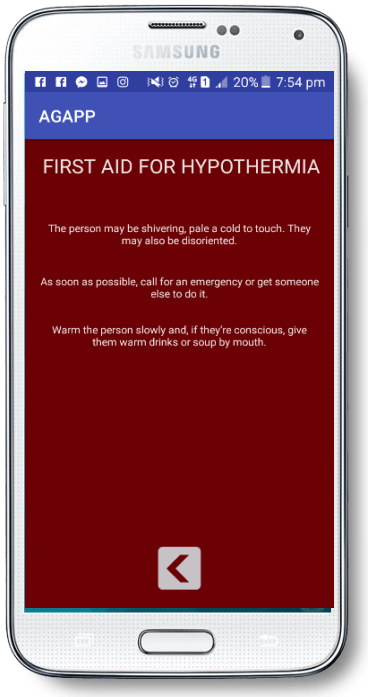


Figure 39 Hypothermia First Aid

In the figure 39, it has shown the steps on how to give first aid on someone who has hypothermia

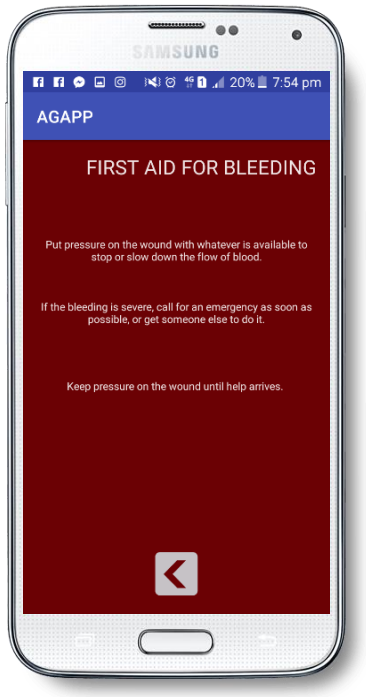


Figure 40 Bleeding First Aid

In the figure 40, it has shown the steps on how to give first aid on someone who is bleeding.

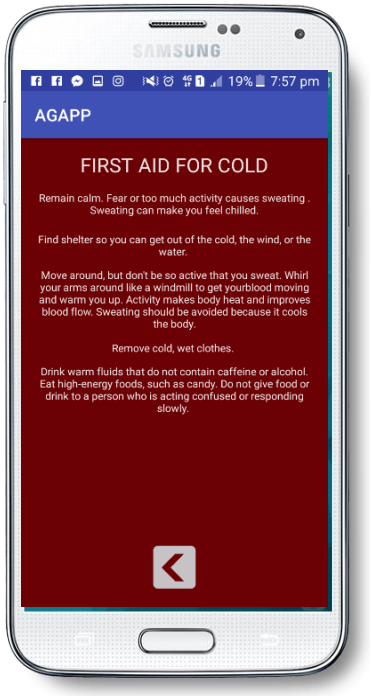


Figure 41 Cold First Aid

In the figure 41, it has shown the steps on how to give first aid on someone who haa a cold.

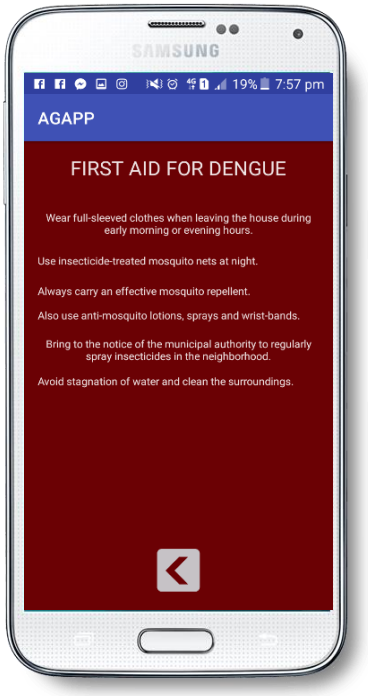


Figure 42 Dengue First Aid

In the figure 42, it has shown the steps on how to give first aid on someone who has dengue.

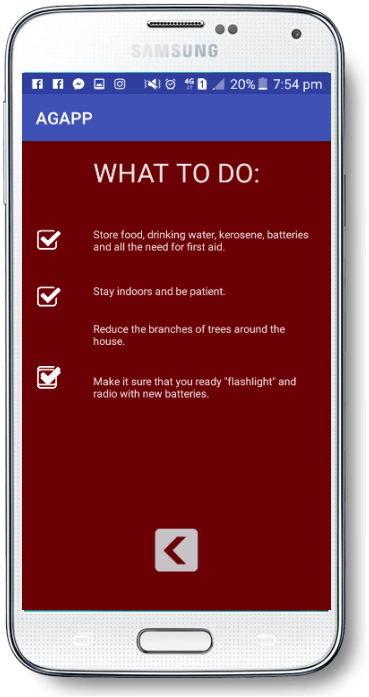


Figure 43 What to do? (Typhoon)

In the figure 43, it has shown the information of what users going to do before the disaster's come

Figure 44 Volcanic Eruption Information

In the figure 44, it has shown the information of Volcanic Eruption. Including the information where it happened and the source of the information.

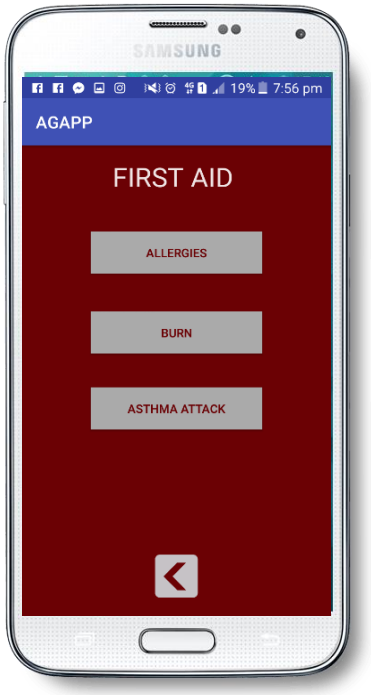


Figure 45 Volcanic Eruption First Aid

In the figure 45, it has shown the first aid buttons. Each of them is the common injury that the survivor got when there is a volcanic eruption.

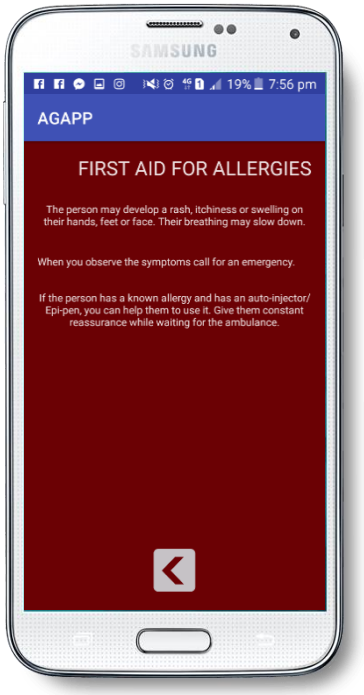


Figure 46 Allergies First Aid

In the figure 46, it has shown the steps on how to give first aid on someone who has an allergy.

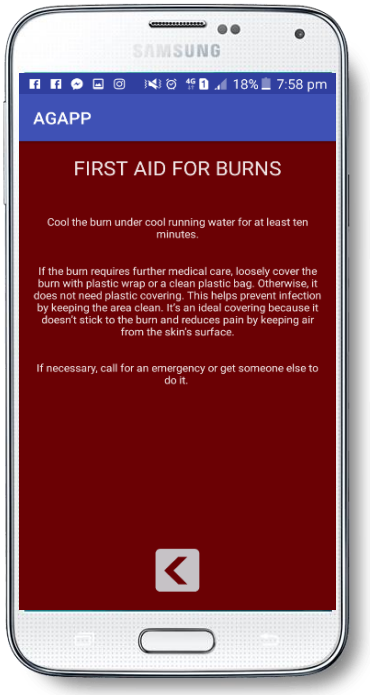


Figure 47 Burns First Aid

In the figure 47, it has shown the steps on how to give first aid on someone who has burned.

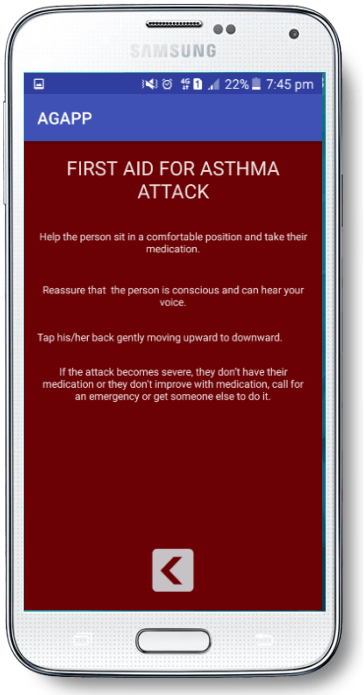


Figure 48 Asthma First Aid

In the figure 48, it has shown the steps on how to give first aid on someone who has asthma.

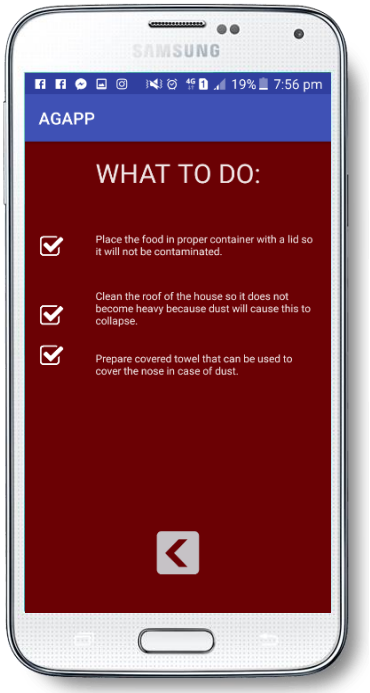


Figure 49 What to do? (Volcanic Eruption)

In the figure 49, it has shown the information of what users going to do before the disaster's come.

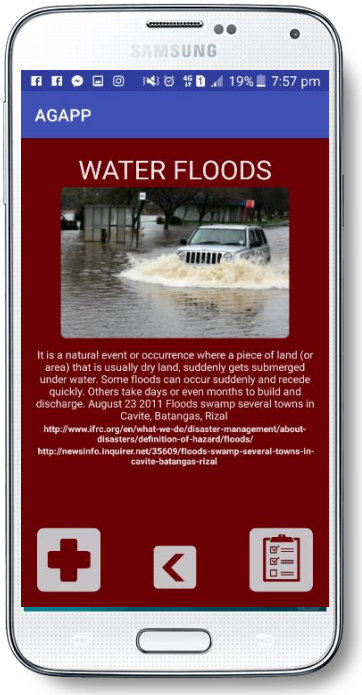


Figure 50 Flood Information

In the figure 50, it has shown the information of Flood. Including the information where it happened and the source of the information.

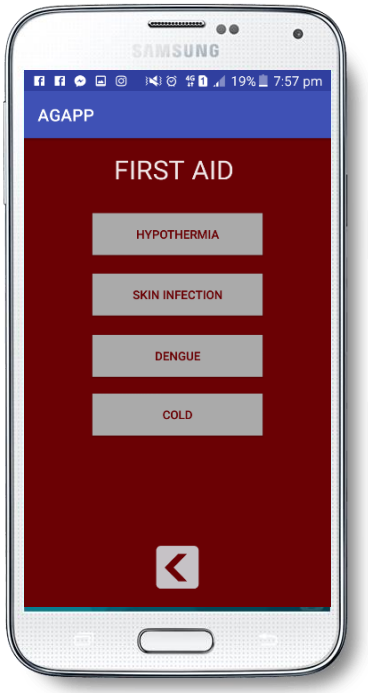


Figure 51 Flood First Aid

In the figure 51, it has shown the first aid buttons. Each of them is the common injury that the survivor got when there is a flood.

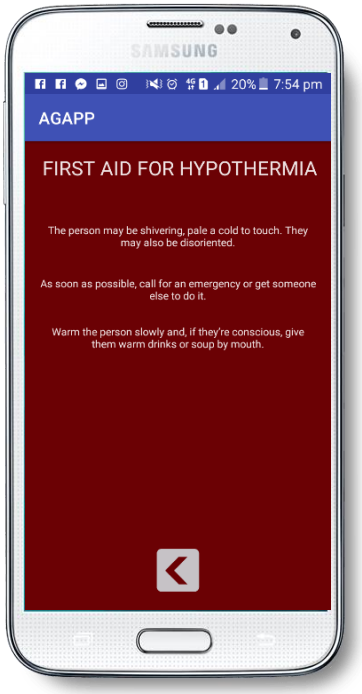


Figure 52 Hypothermia First Aid

In the figure 52, it has shown the steps on how to give first aid on someone who has hypothermia.

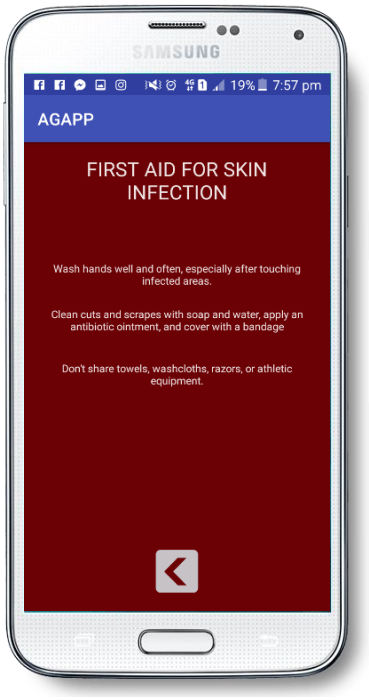


Figure 53 Skin Infection First Aid

In the figure 53, it has shown the steps on how to give first aid on someone who has skin infection.

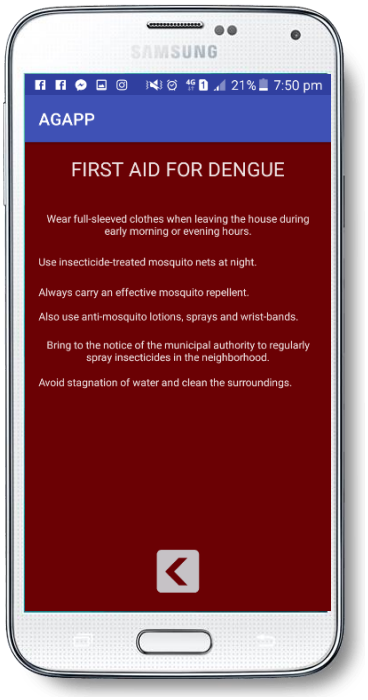


Figure 54 Dengue First Aid

In the figure 54, it has shown the steps on how to give first aid on someone who has dengue.

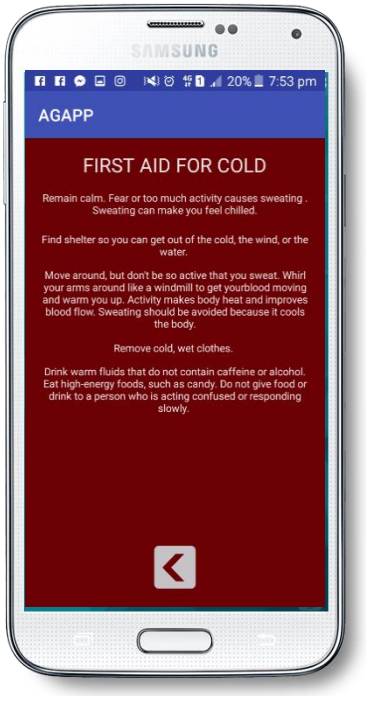


Figure 55 Cold First Aid

In the figure 55, it has shown the steps on how to give first aid on someone who has cold.

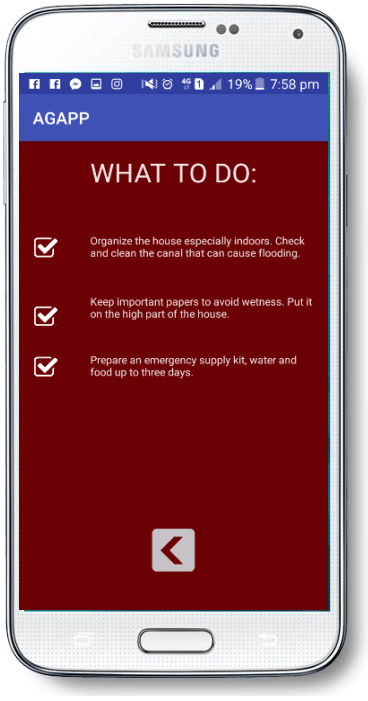


Figure 56 What to do? (Flood)

In the figure 56, it has shown the information of what users going to do before the disaster's come.

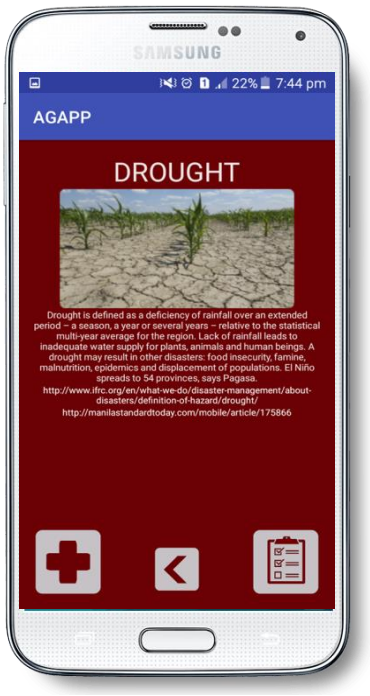


Figure 57 Drought Information

In the figure 57, it has shown the information of Drought. Including the information where it happened and the source of the information.

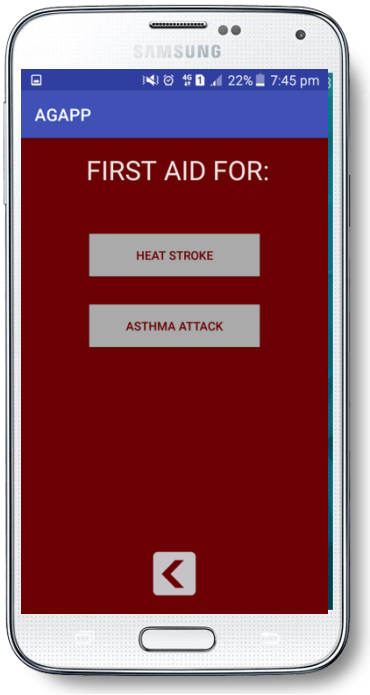


Figure 58 Drought First Aid

In the figure 58, it has shown the first aid buttons. Each of them is the common disease or even injury that the survivor got when there is an drought.

Figure 59 Heat Stroke First Aid

In the figure 59, it has shown the steps on how to give first aid on someone who suffering heat stroke.

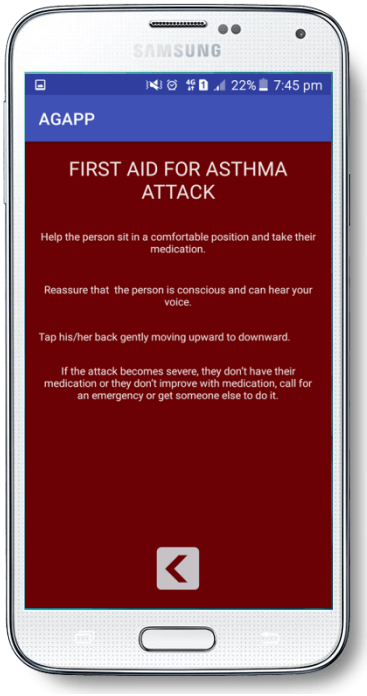


Figure 60 Asthma First Aid

In the figure 60, it has shown the steps on how to give first aid on someone who is suffering asthma.

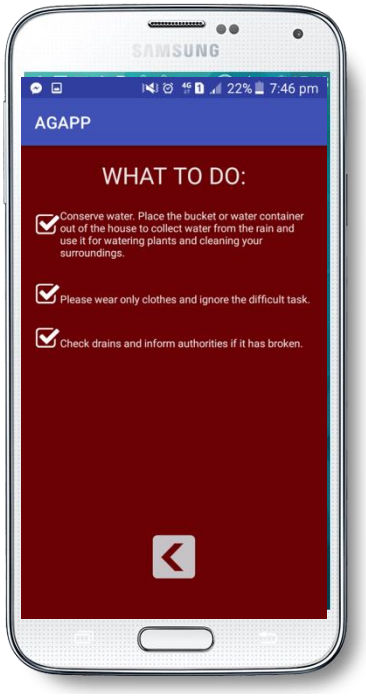


Figure 61 What to do? (Drought)

In the figure 61, it has shown the information of what users going to do before the disaster's come.

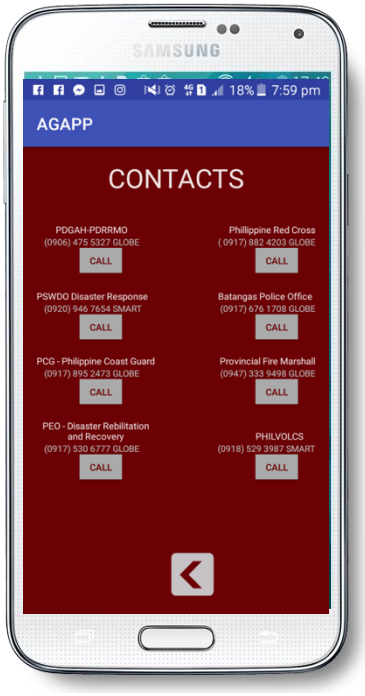


Figure 62 Contacts

In the figure 62, it has shown the emergency numbers of different agencies.

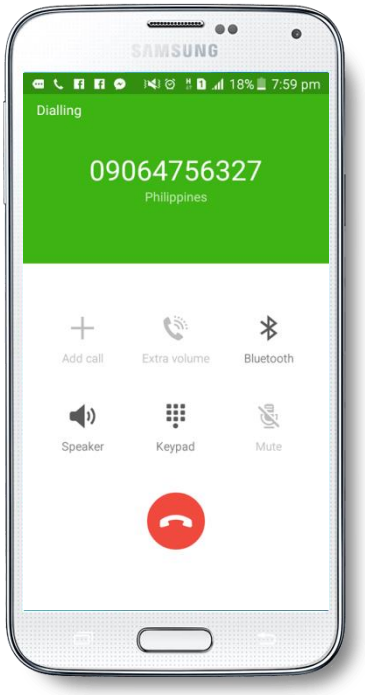


Figure 63 Dialing Number

In the figure 63, it has shown the example screenshots where one number was dialed.

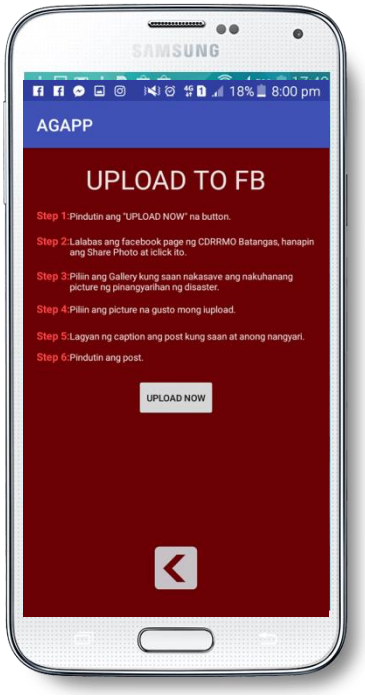


Figure 64 Intructions for Uploading

In figure 64, it showed the instruction for uploading photos to facebook.

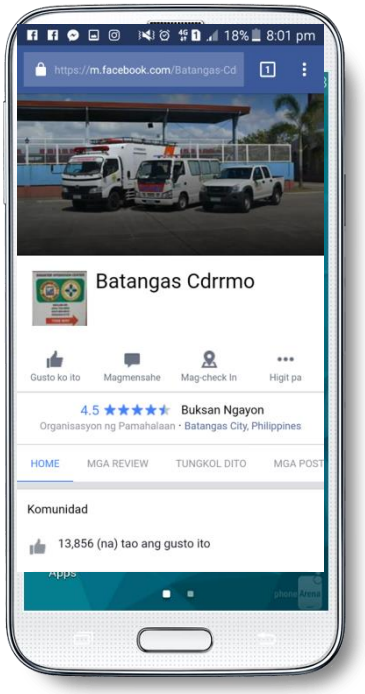


Figure 65 CDRRMO FB Page

In figure 65, it showed the page of CDRRMO it will pop up when the user clicks upload now.

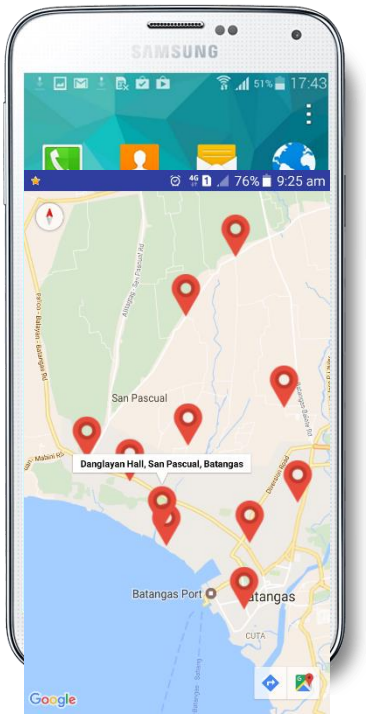
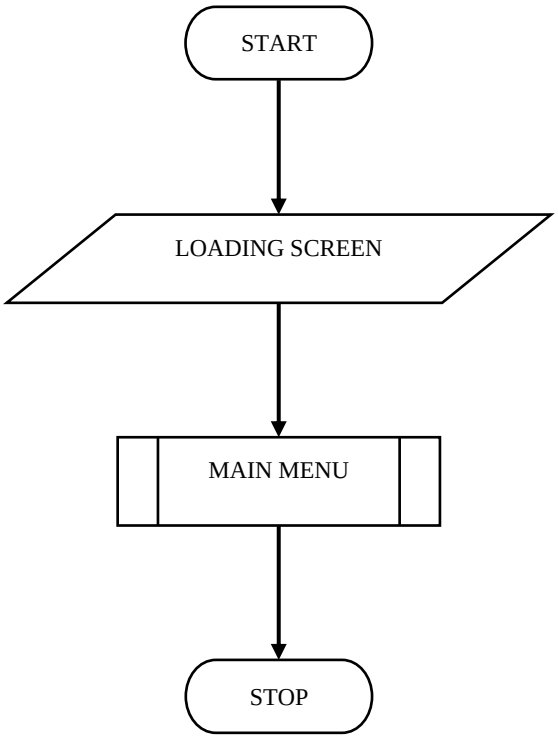


Figure 66 Google Map (Evacuation Areas)

In the figure 66, it showed the Google Map where as you can see there is Red Location Pointer. When the user clicks the Red Location Pointer it will show the address of the evacuation area.



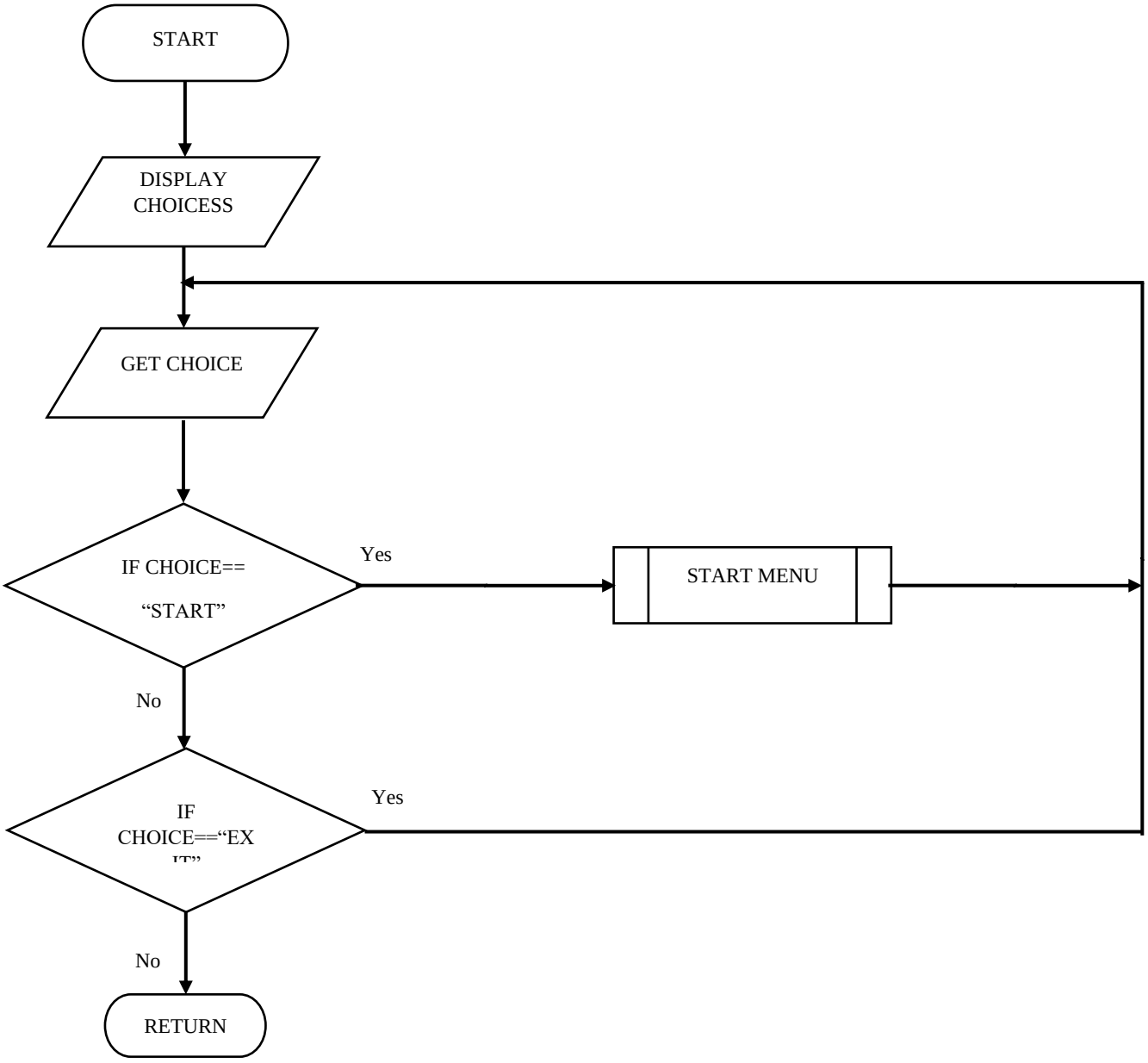


Figure 68 Application Menu

In the figure 68, it showed the flowchart of the application menu. It starts with choices and what will happen if the choice is start or exit.

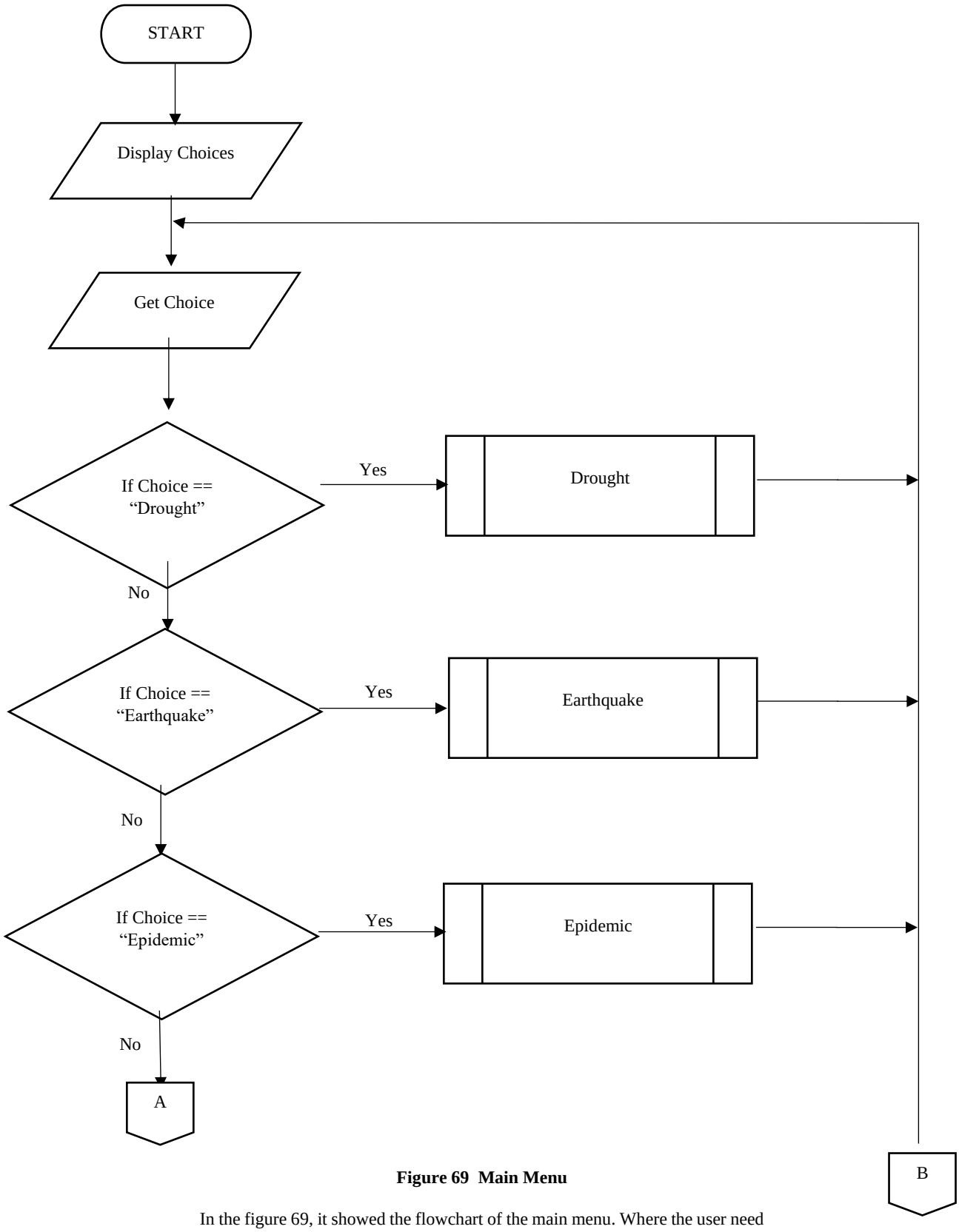


Figure 69 Main Menu

In the figure 69, it showed the flowchart of the main menu. Where the user need to choice one hazard to allow proceeding to the information screen.

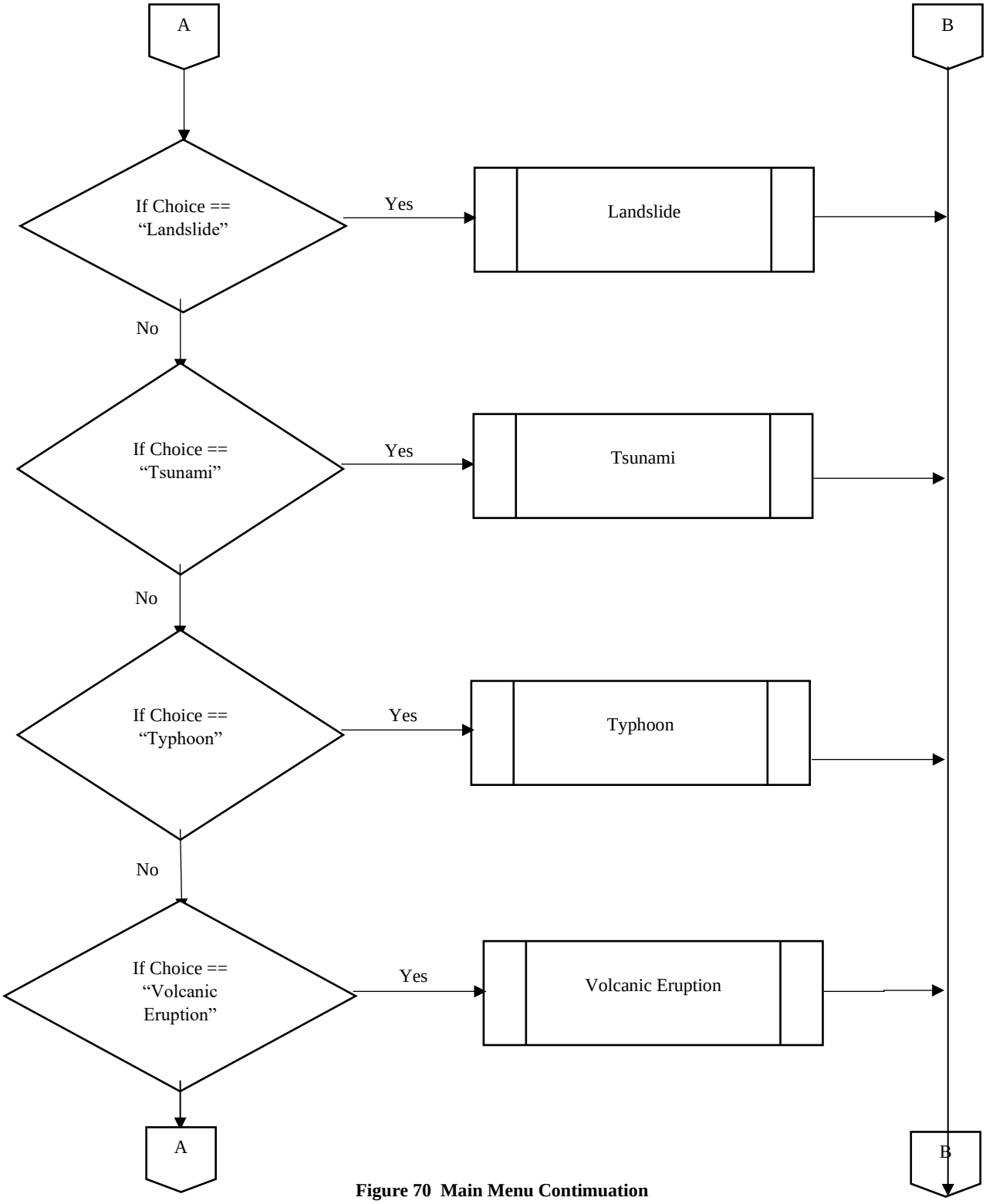


Figure 70 Main Menu Contimuation

START

ure 70, it showed the flowchart of the main menu. Where the user need
e one hazard to allow proceeding to the information screen.

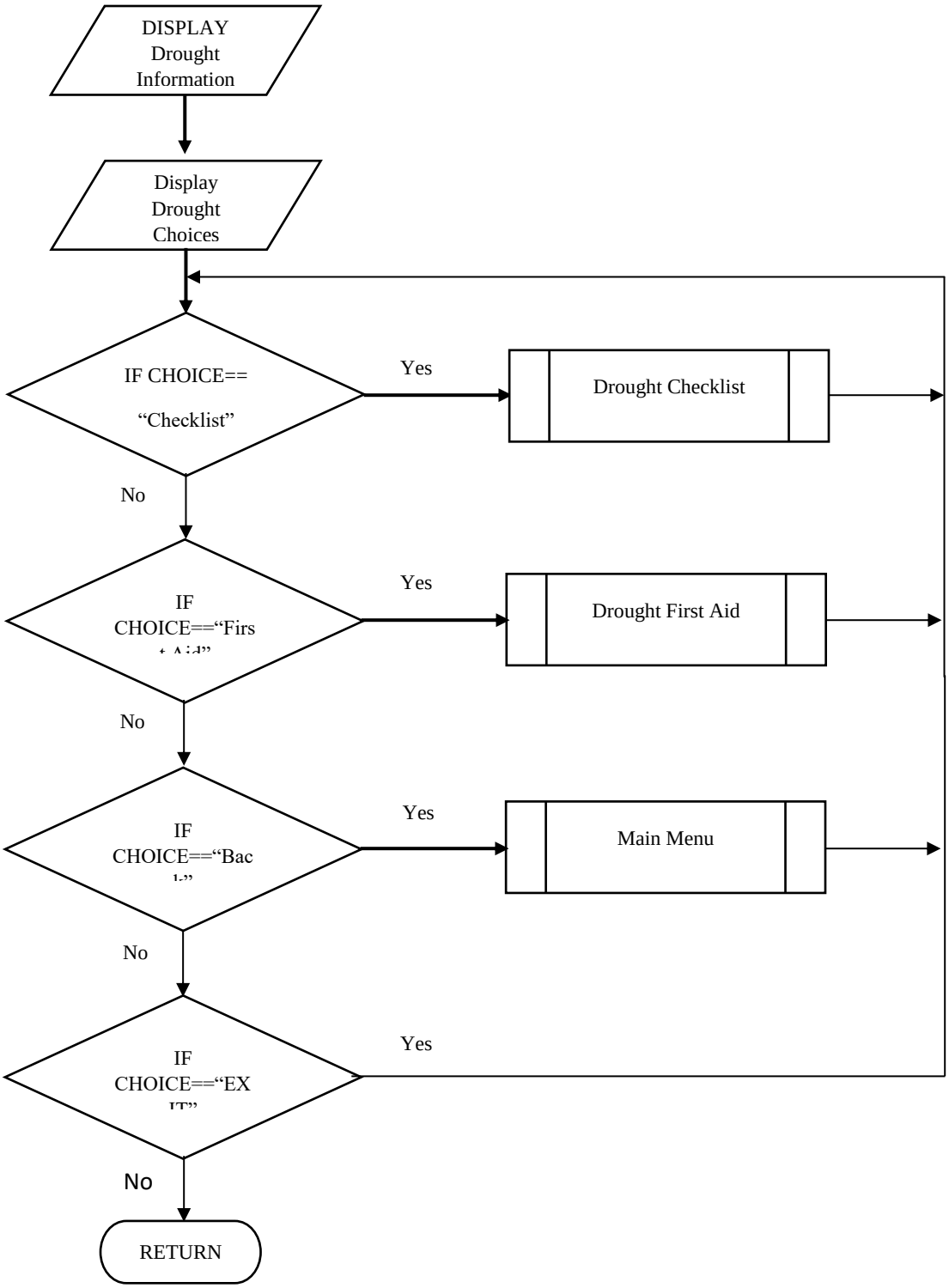


Figure 71 Drought

In the figure 71, it showed the flowchart of the Drought menu. Where the user has choices it is eiher First Aid, Back or Exit.

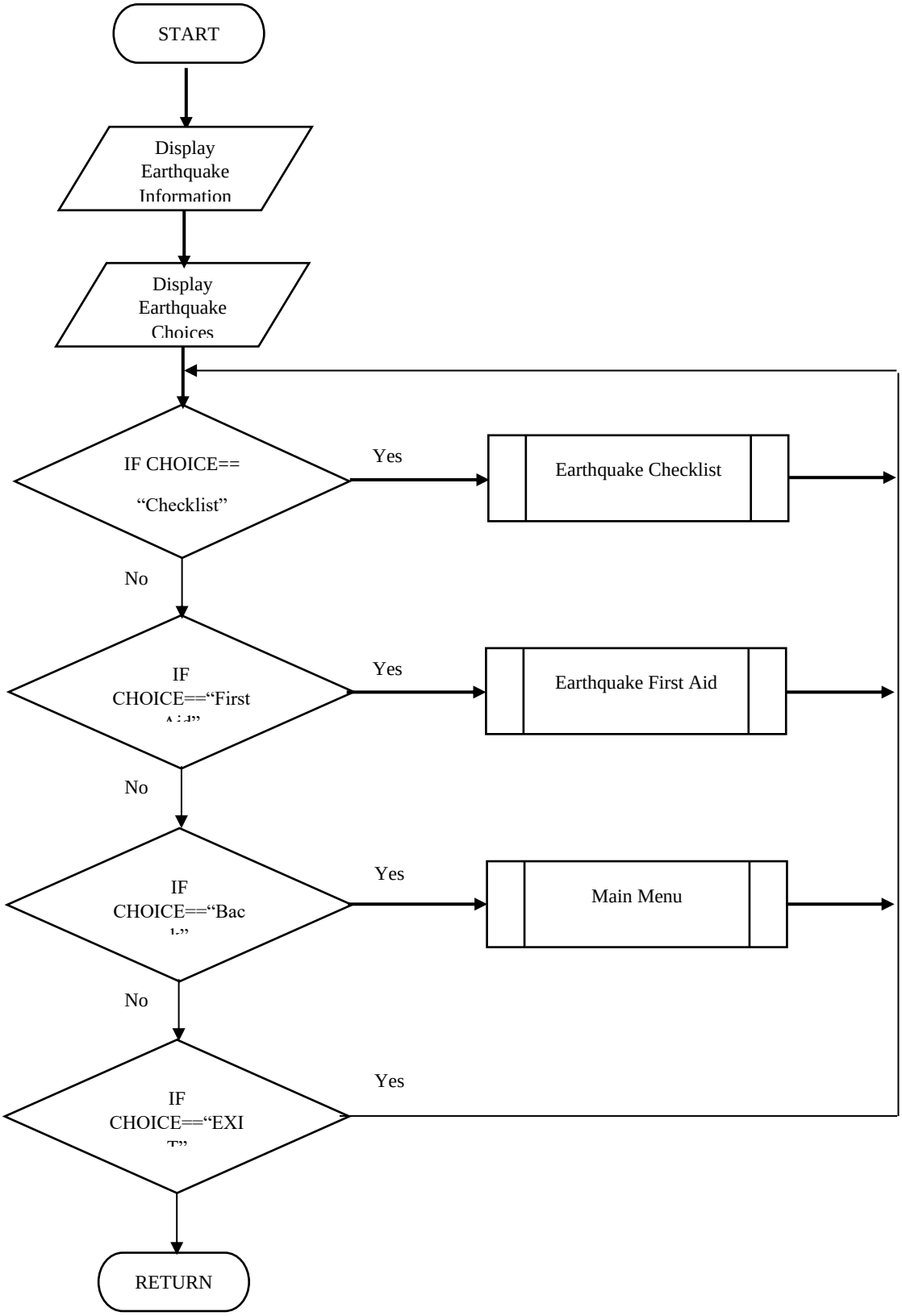


Figure 72 Earthquake

In the figure 72, it showed the flowchart of the Earthquake menu. Where the user has choices it is eiher First Aid, Back or Exit.

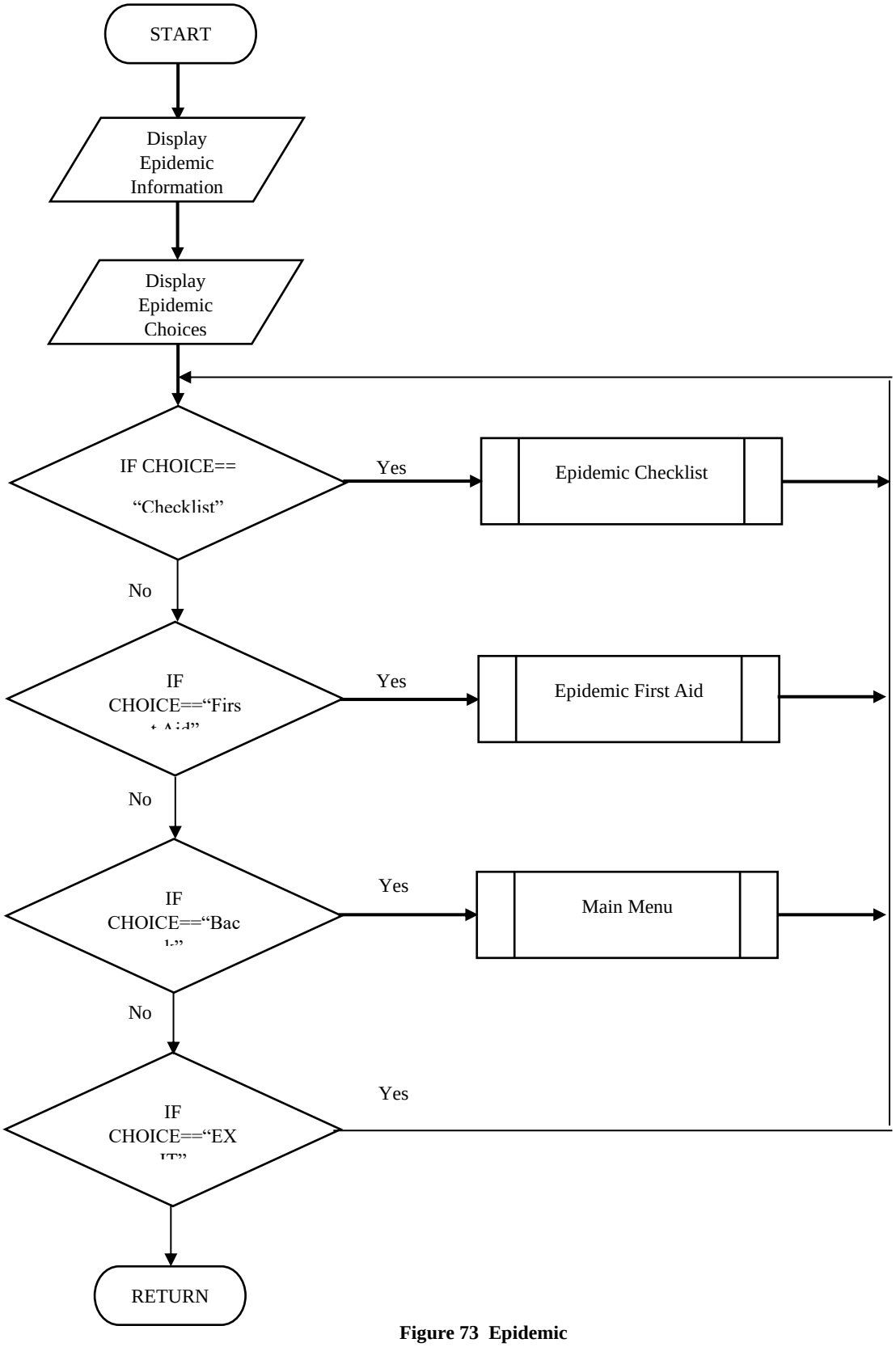


Figure 73 Epidemic

In the figure 73, it showed the flowchart of the Epidemic menu. Where the user has choices it is eiher First Aid, Back or Exit.

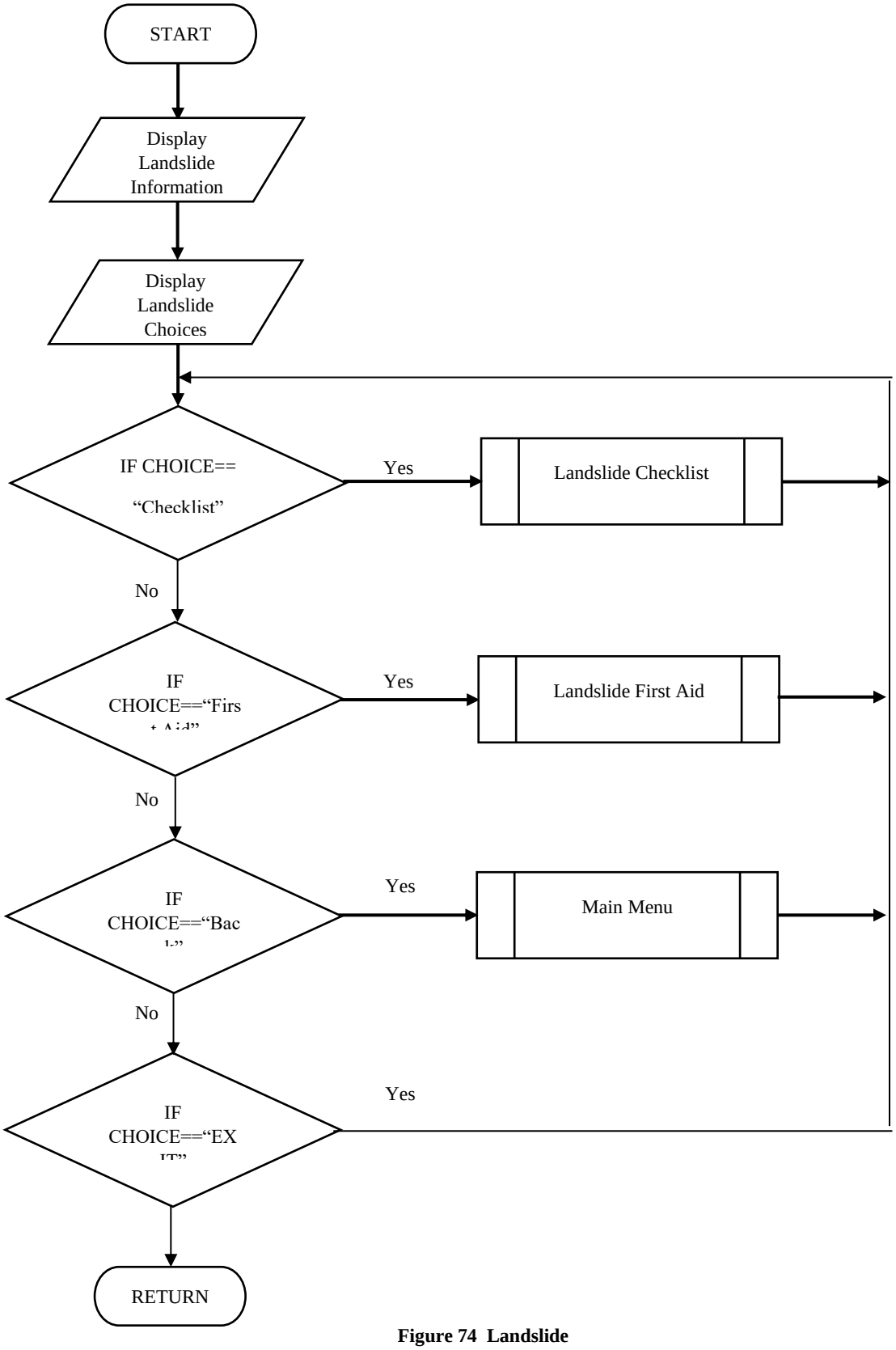


Figure 74 Landslide

In the figure 74, it showed the flowchart of the Landslide menu. Where the user has choices it is eiher First Aid, Back or Exit.

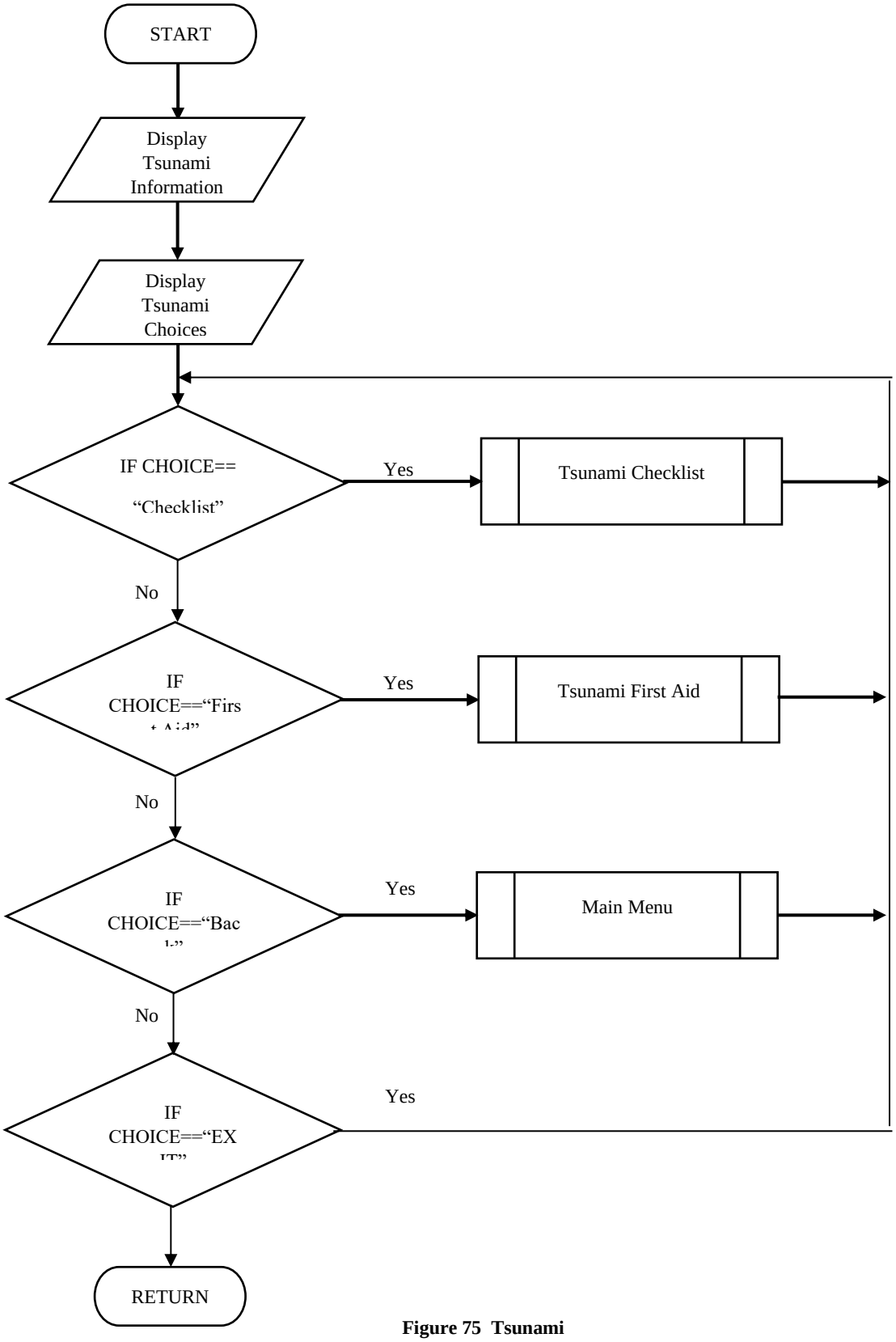


Figure 75 Tsunami

In the figure 75, it showed the flowchart of the Tsunami menu. Where the user has choices it is eiher First Aid, Back or Exit.

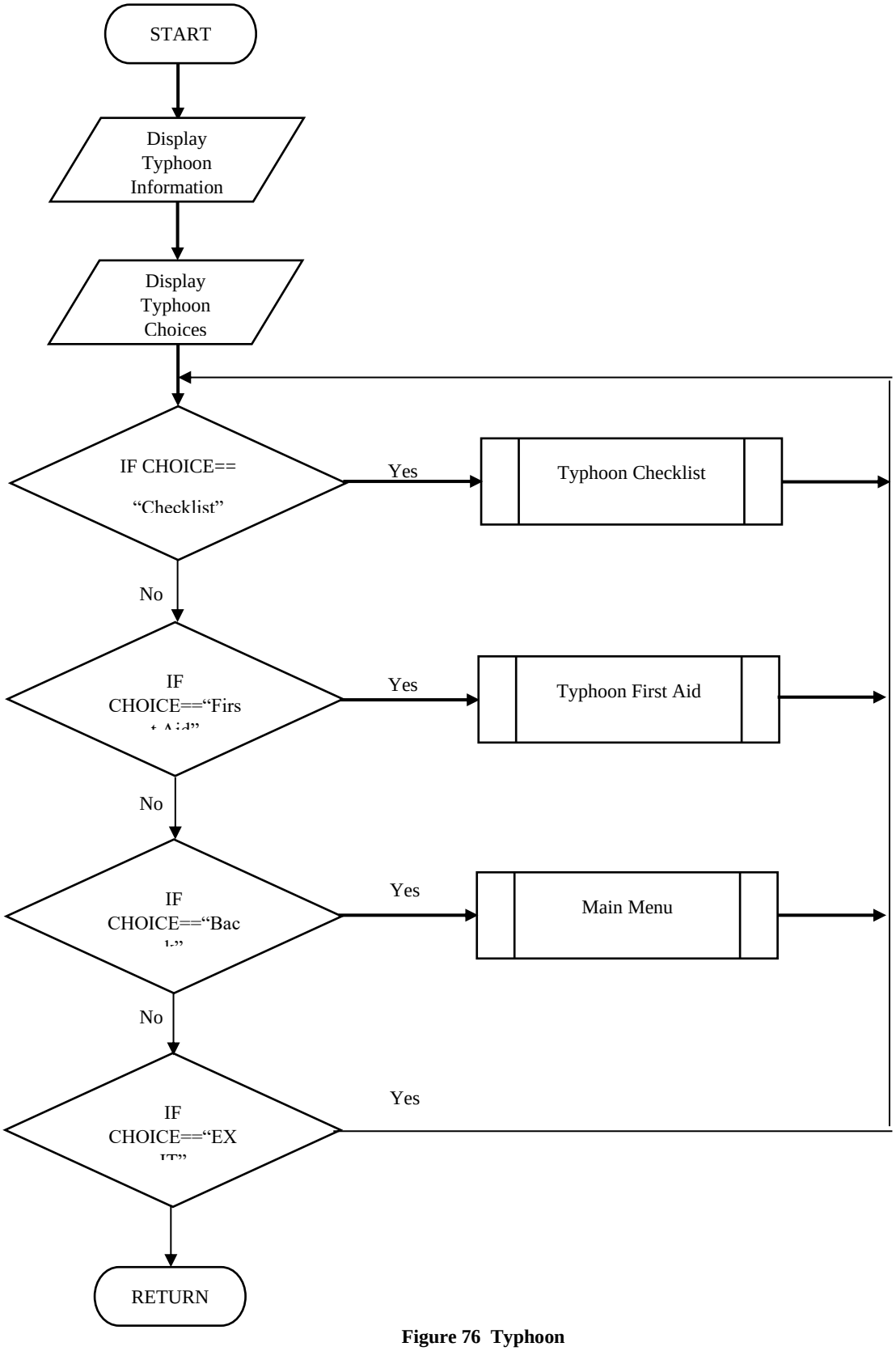


Figure 76 Typhoon

In the figure 76, it showed the flowchart of the Typhoon menu. Where the user has choices it is eiher First Aid, Back or Exit.

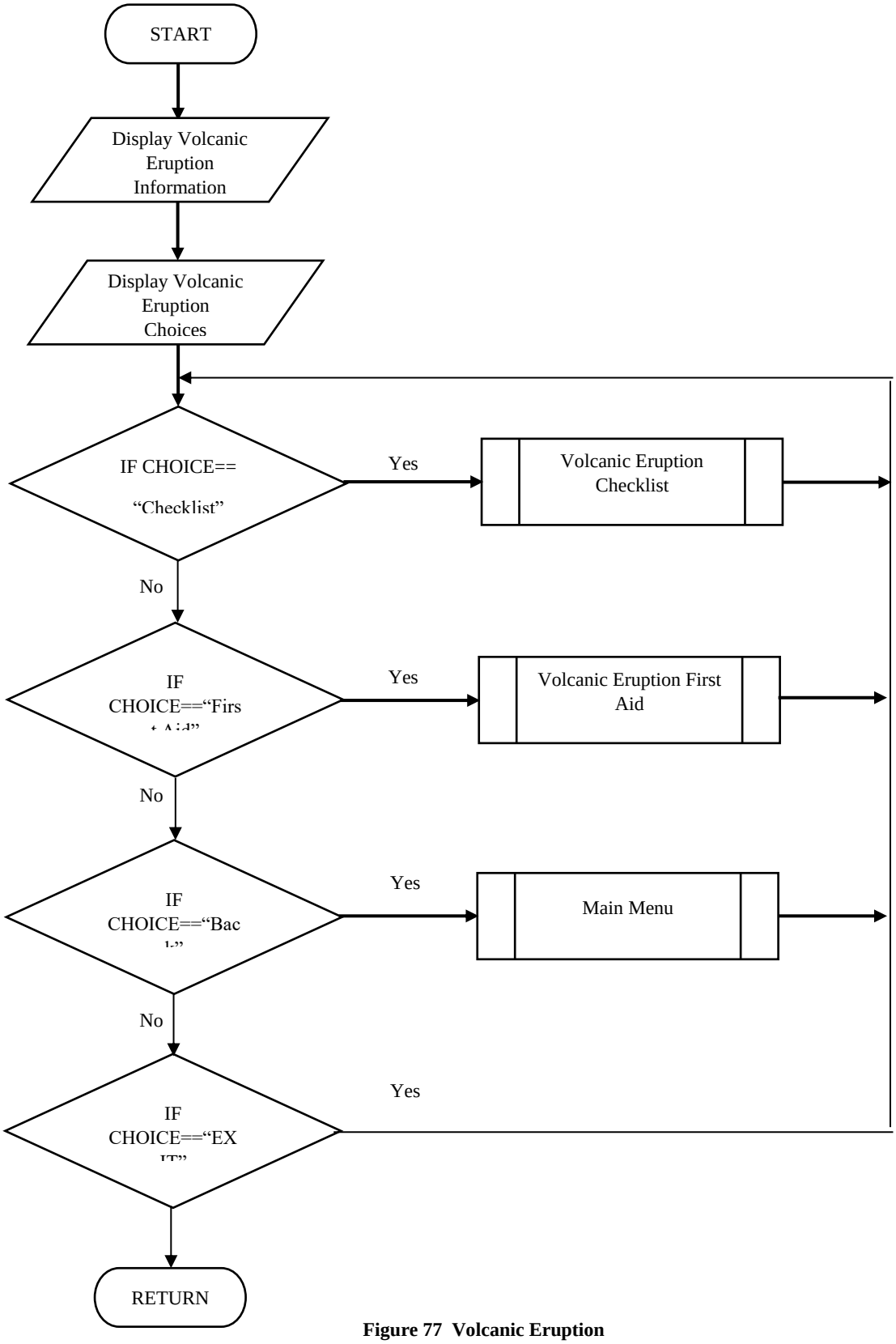


Figure 77 Volcanic Eruption

In the figure 77, it showed the flowchart of the Volcanic Eruption menu. Where the user has choices it is eiher First Aid, Back or Exit.

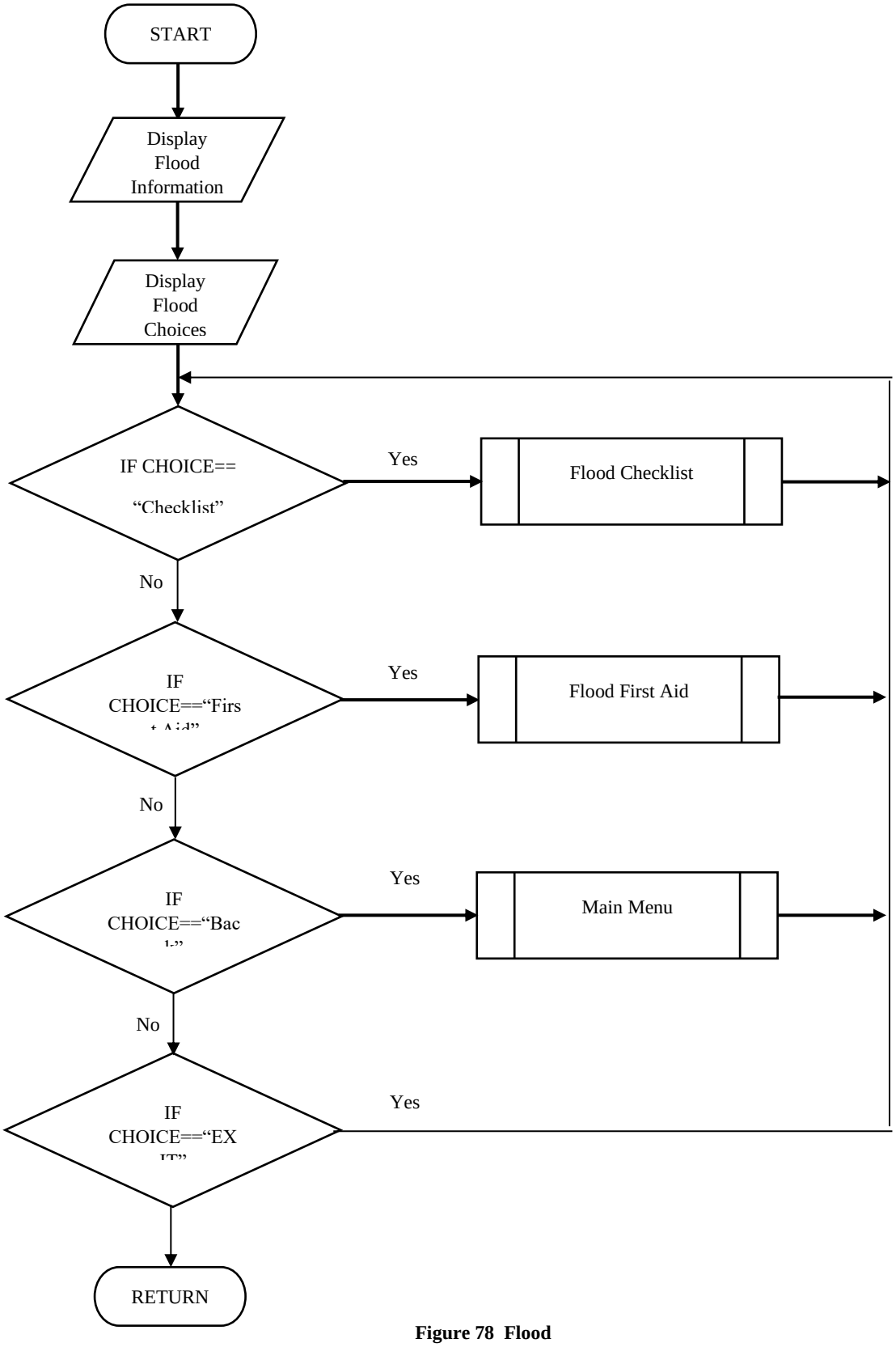


Figure 78 Flood

In the figure 78, it showed the flowchart of the Flood menu. Where the user has choices it is eiher First Aid, Back or Exit.

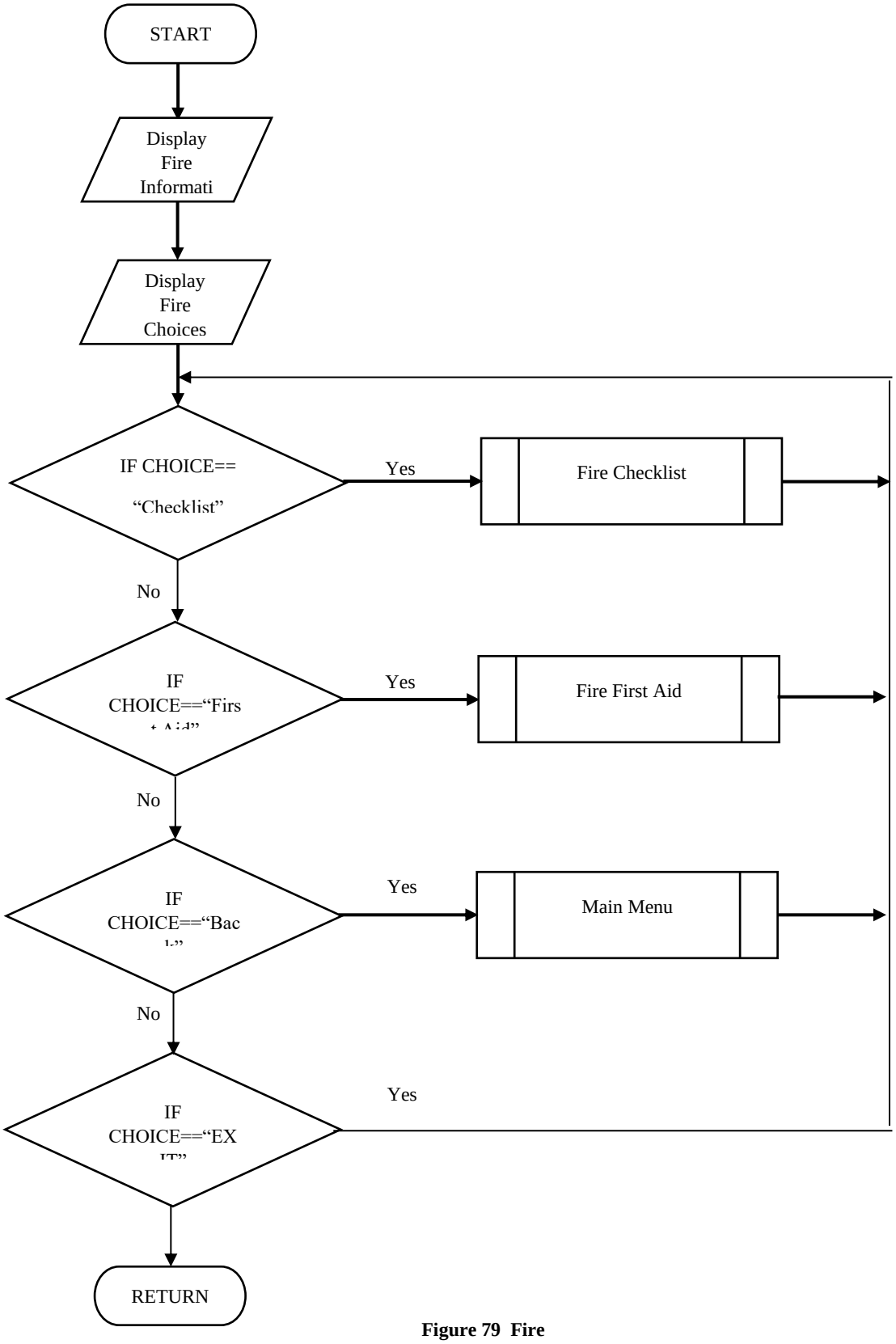


Figure 79 Fire

In the figure 79, it showed the flowchart of the Fire menu. Where the user has choices it is eiher First Aid, Back or Exit.

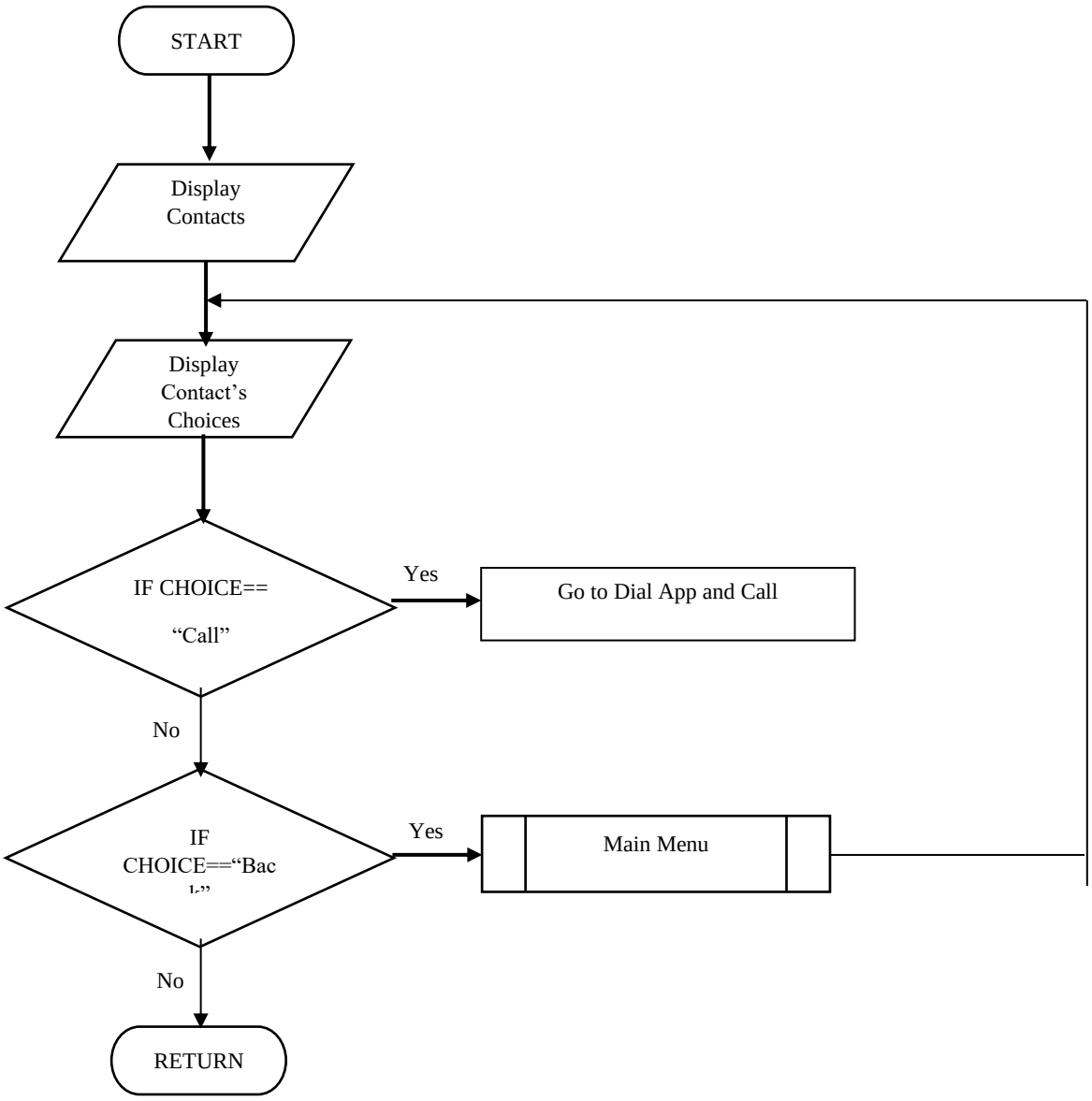


Figure 80 Contacts

In the figure 80, it showed the flowchart of Contacs. It displays the choices either to call or back to the main menu.

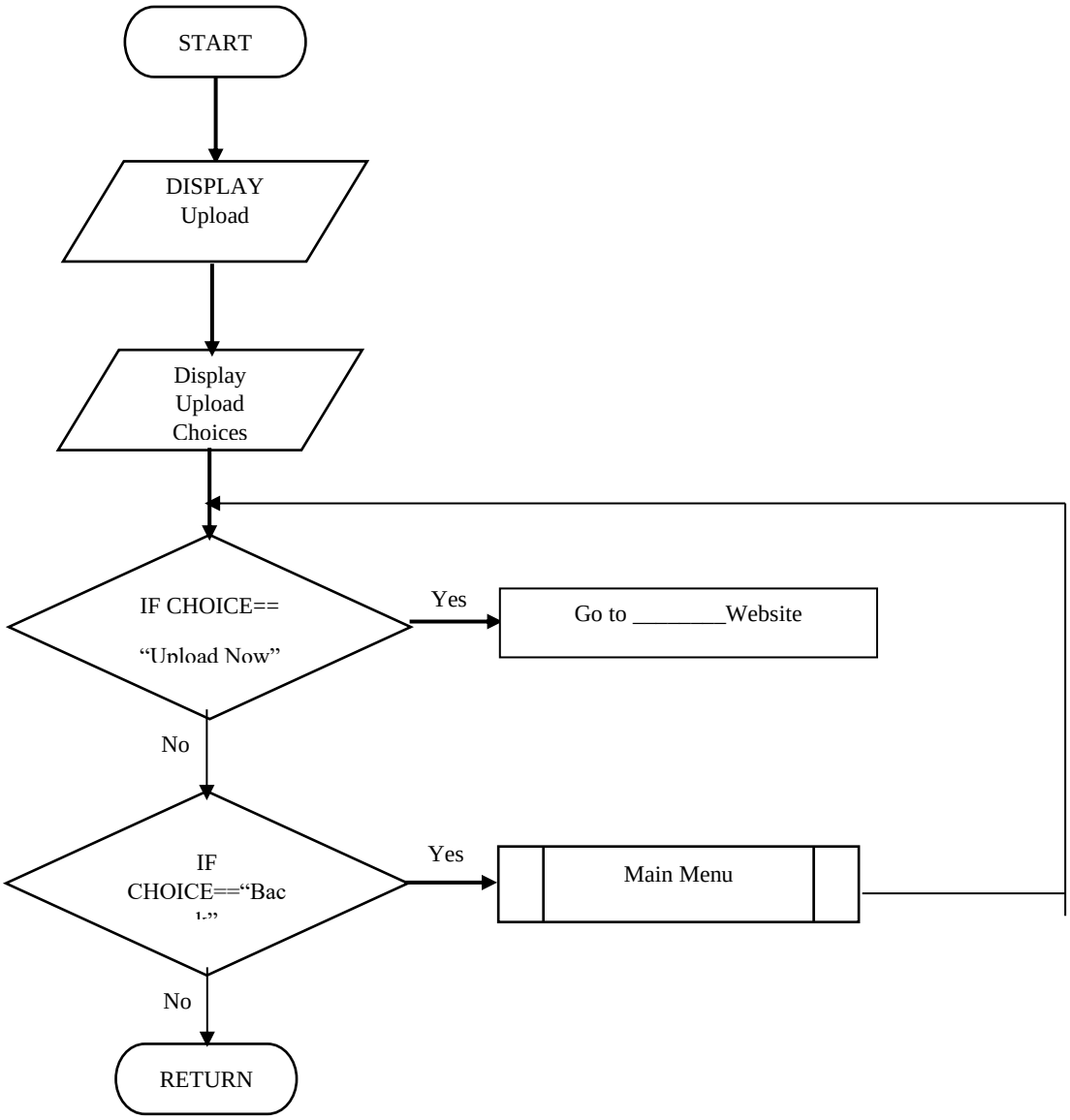


Figure 81 Upload

In the figure 81, it showed the flowchart of Uploading Screen. It displays the steps by steps and choices on how to upload.

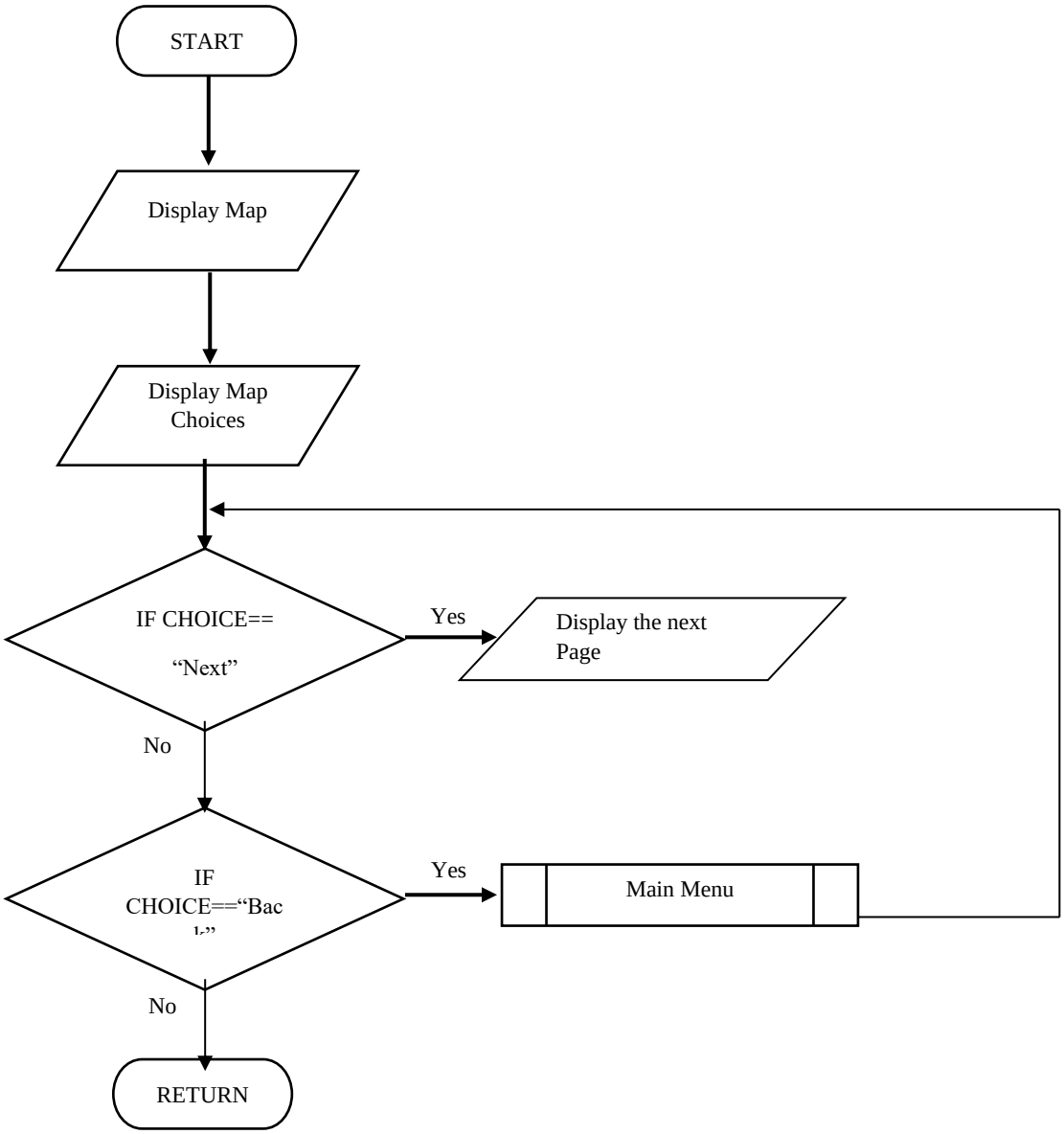


Figure 82 Map

In the figure 82, it showed the flowchart of the Map View. It also has choices either one of those evacuation areas.

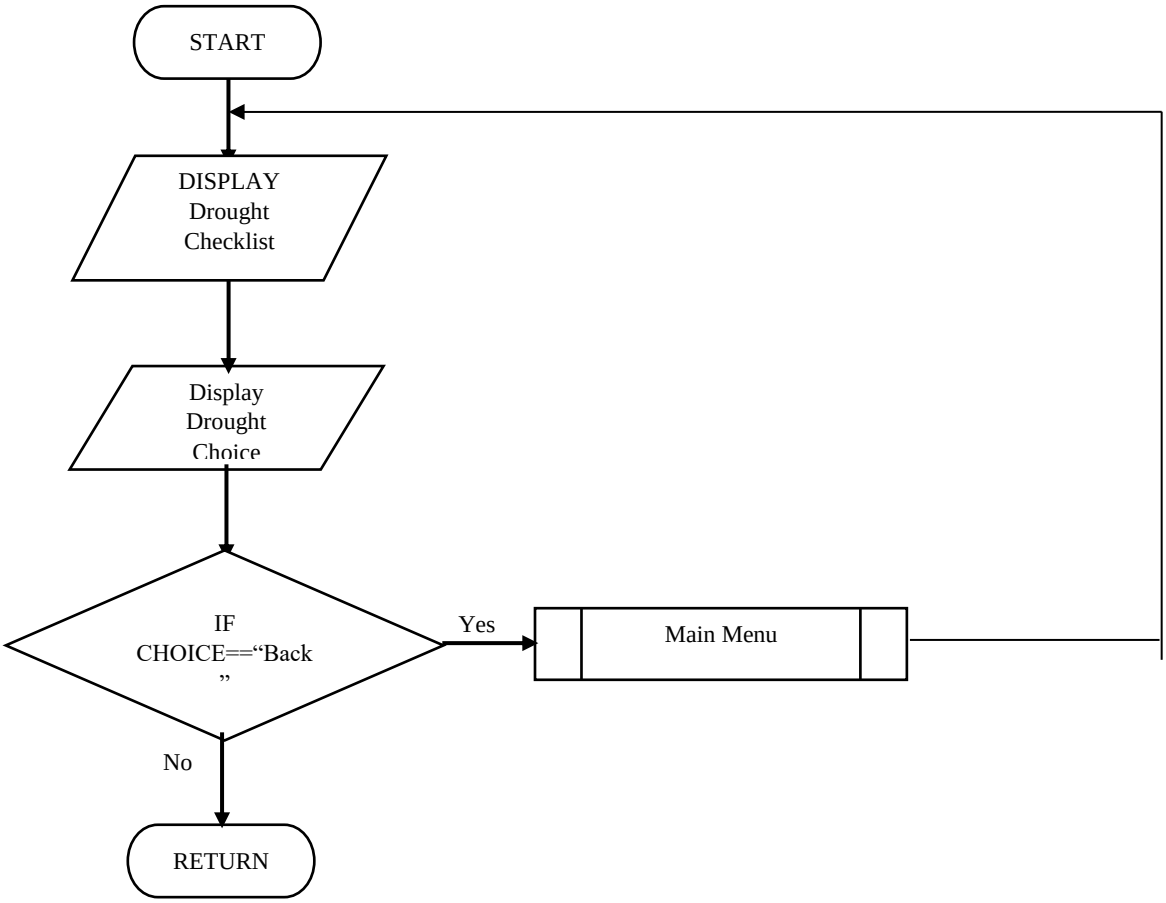


Figure 83 What to do? (Drought)

In the figure 83, it showed the flowchart of what to do before the Drought strikes.

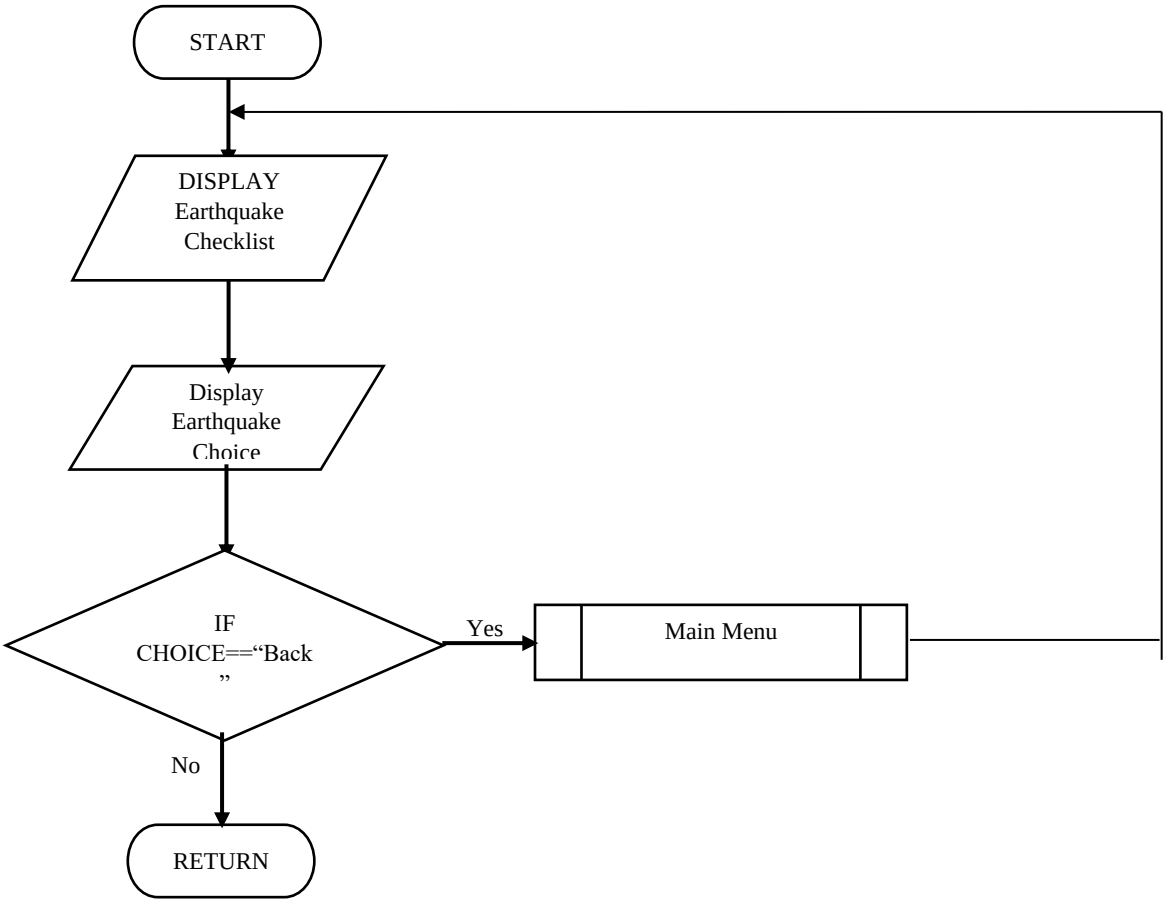


Figure 84 What to do? (Earthquake)

In the figure 84, it showed the flowchart of what to do before the Earthquake strikes.

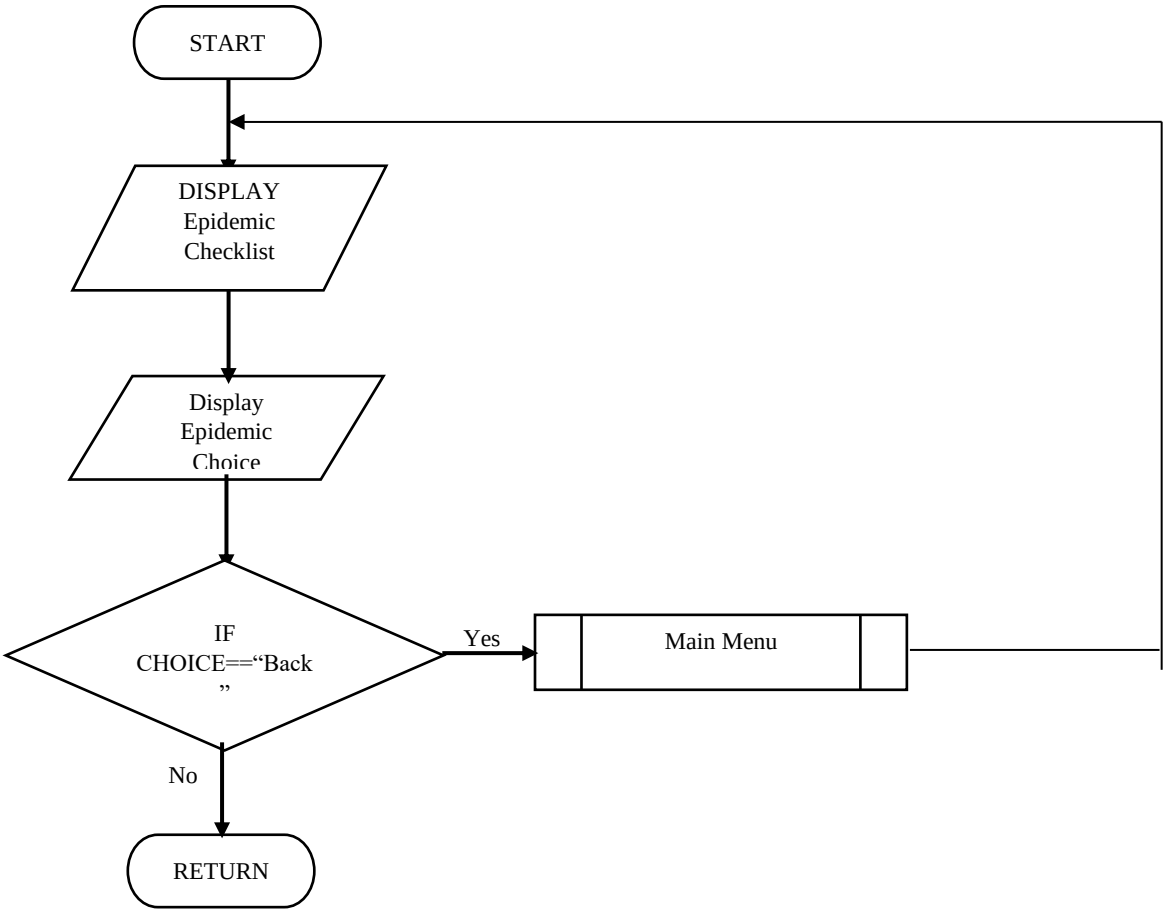


Figure 85 What to do? (Drought)

In the figure 85, it showed the flowchart of what to do before the Drought strikes.

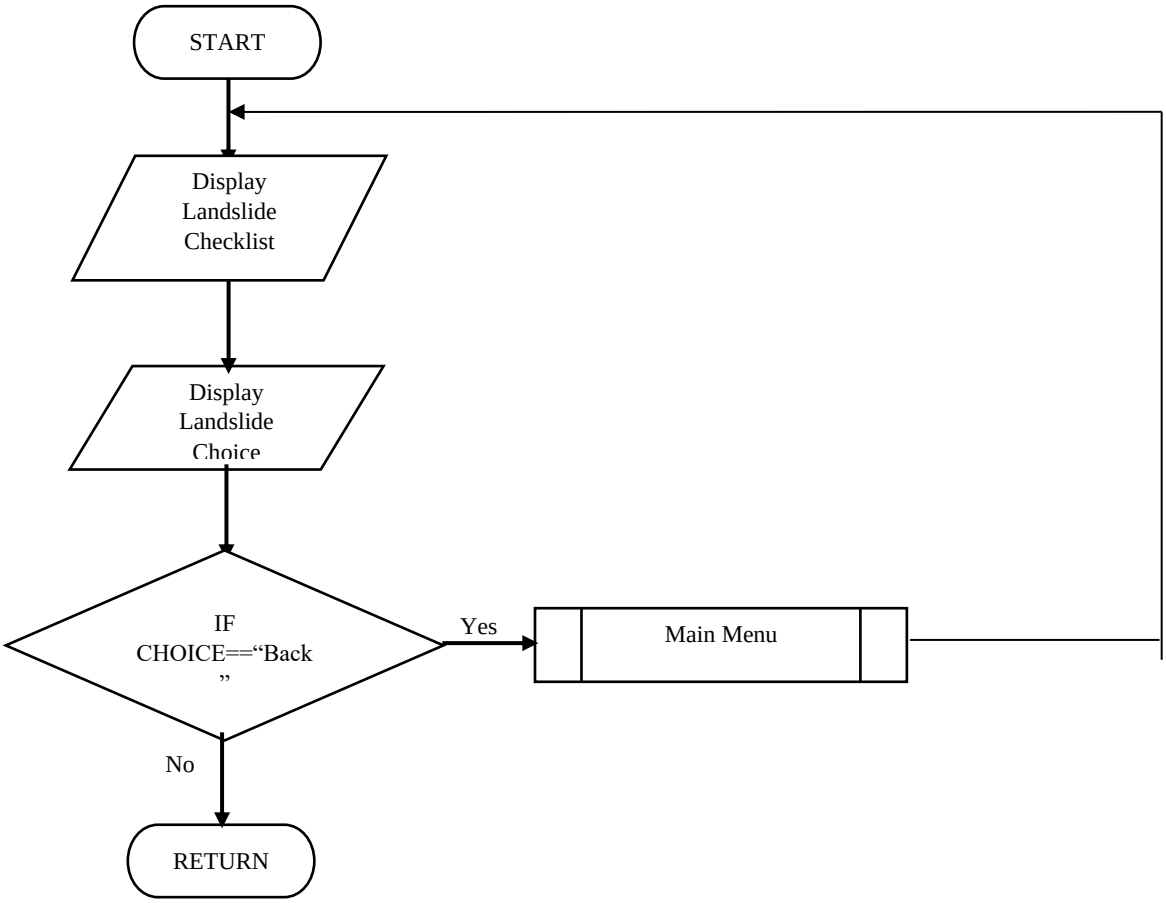


Figure 86 What to do? (Landslide)

In the figure 86, it showed the flowchart of what to do before the Landslide strikes.

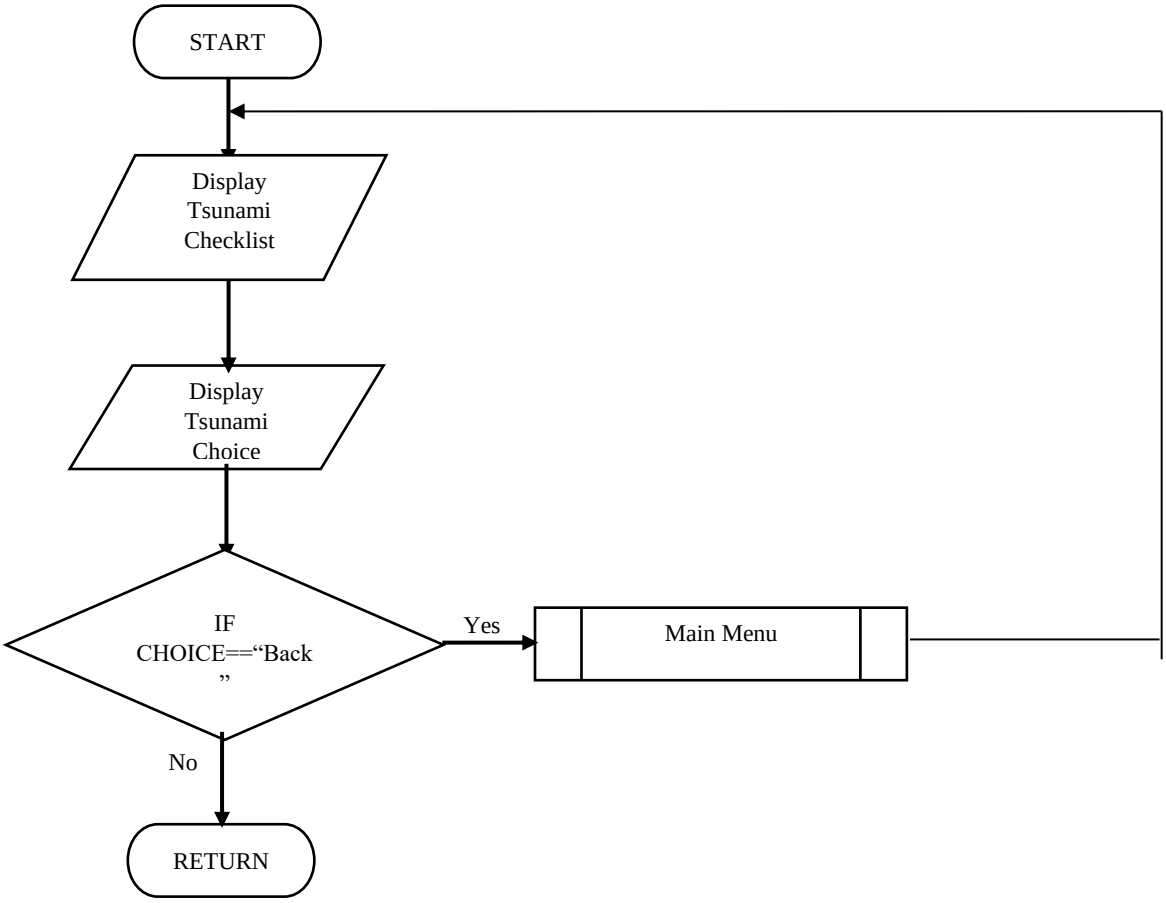


Figure 87 What to do? (Tsunami)

In the figure 87, it showed the flowchart of what to do before the Tsunami strikes.

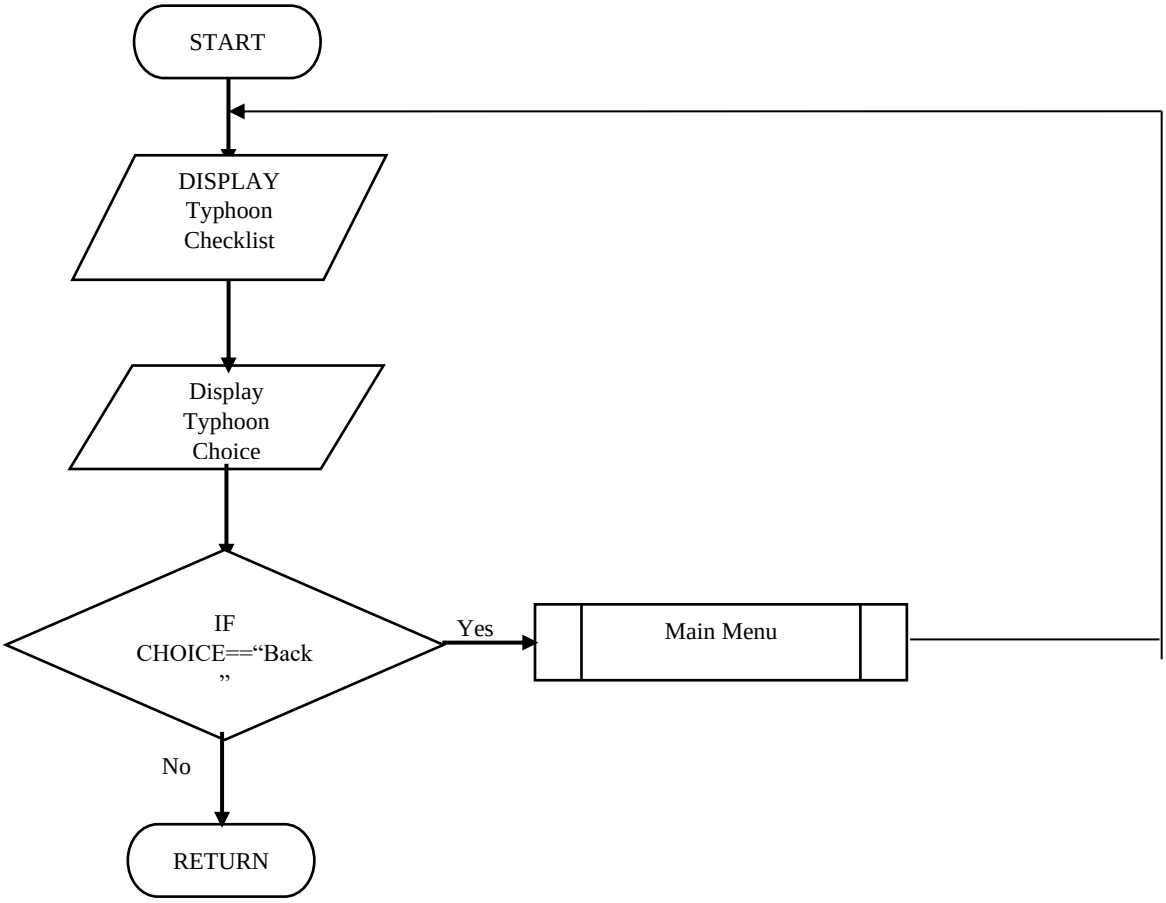


Figure 88 What to do? (Typhoon)

In the figure 88, it showed the flowchart of what to do before the Typhoon strikes.

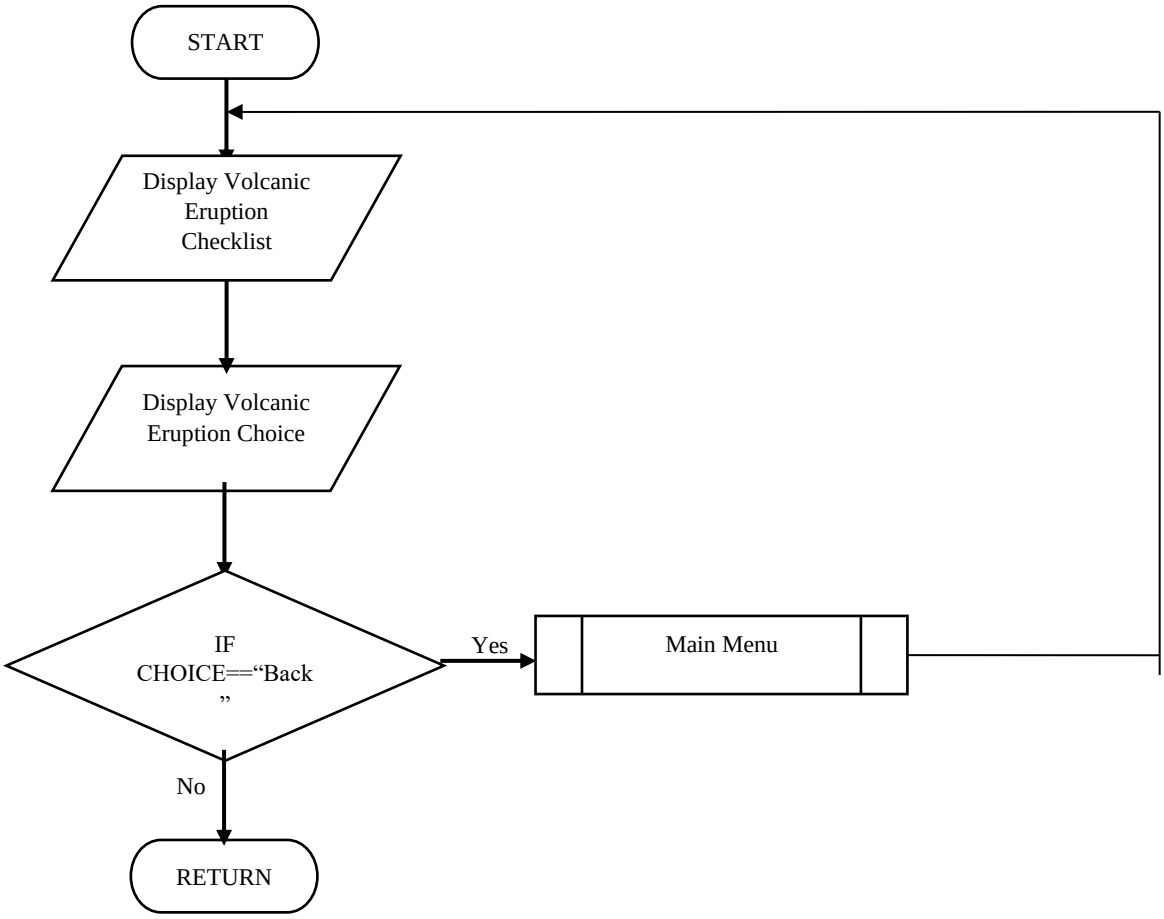


Figure 89 What to do? (Volcanic Eruption)

In the figure 89, it showed the flowchart of what to do before the Volcnic Eruption strikes.

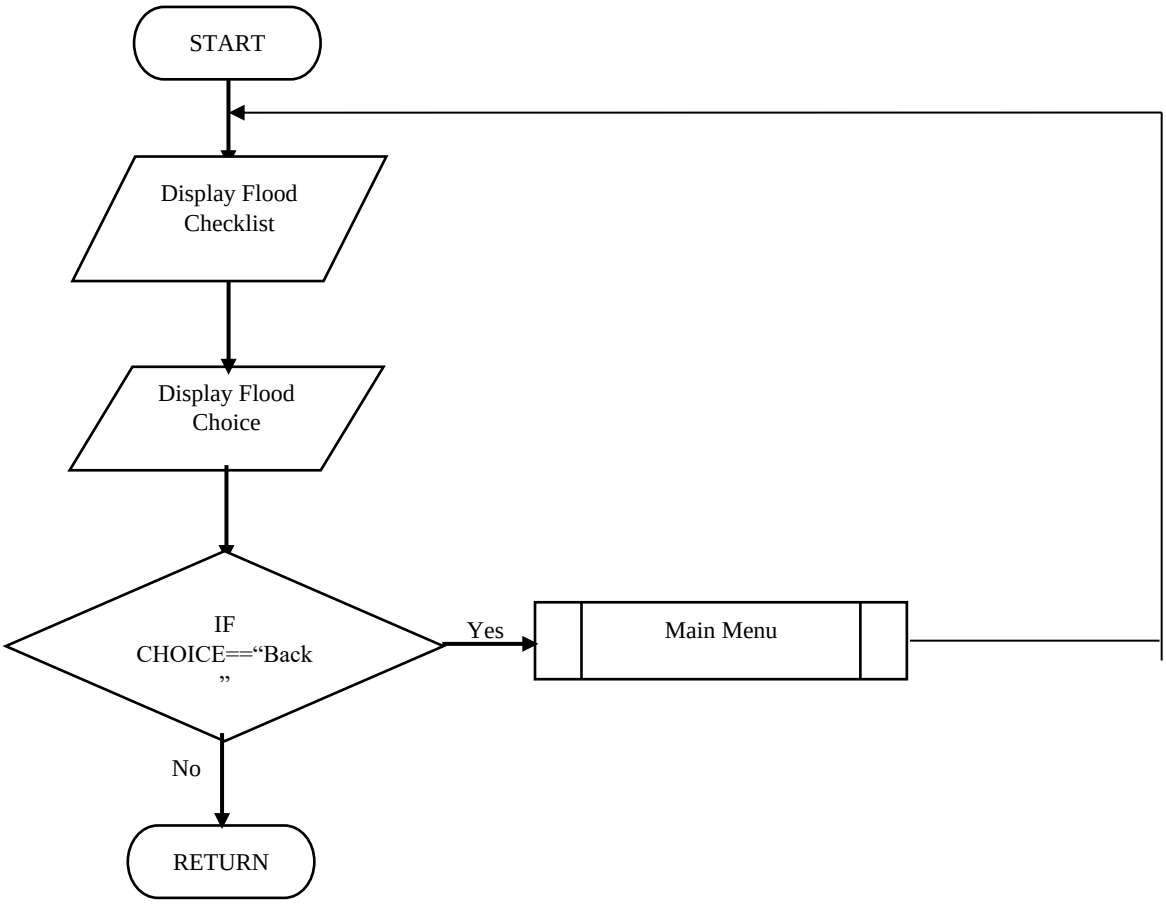


Figure 90 What to do? (Flood)

In the figure 90, it showed the flowchart of what to do before the Flood strikes.

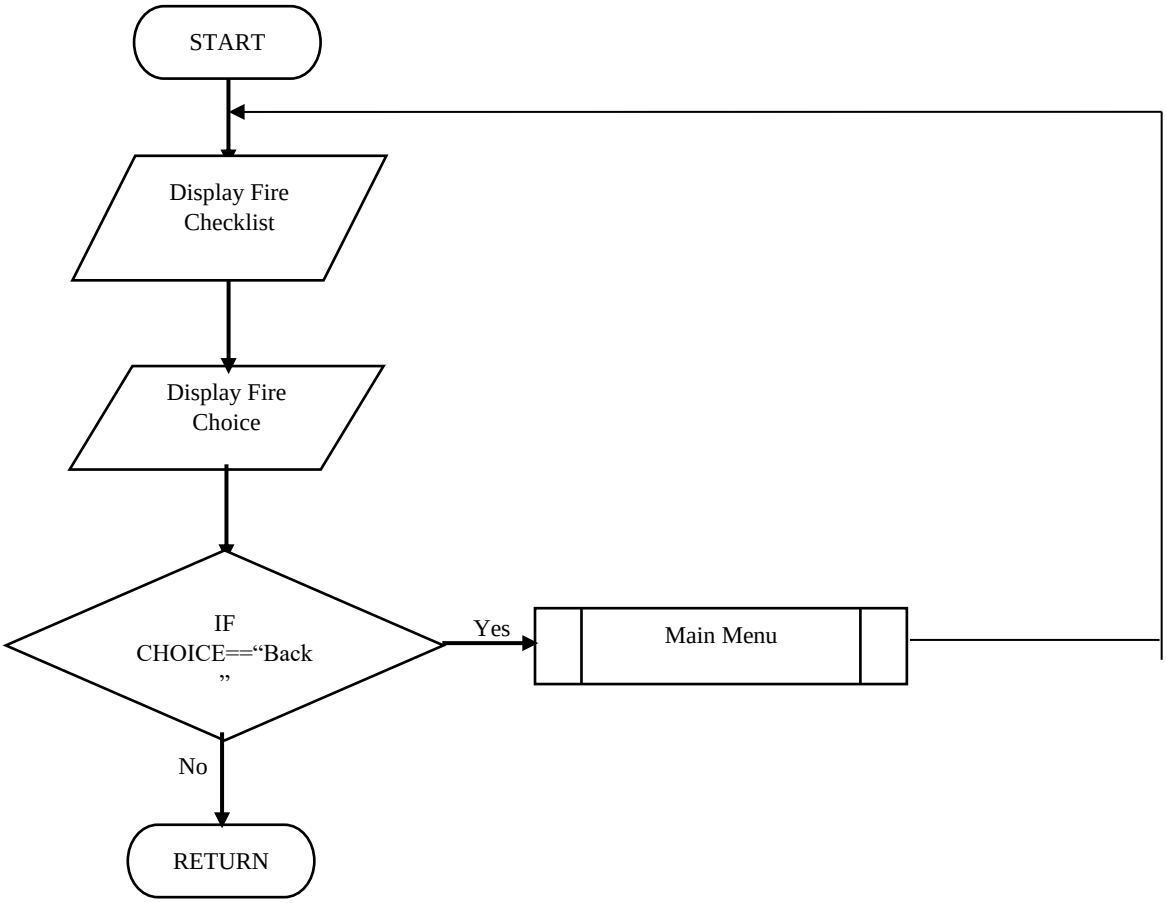


Figure 91 What to do? (Fire)

In the figure 91, it showed the flowchart of what to do before the Fire strikes.

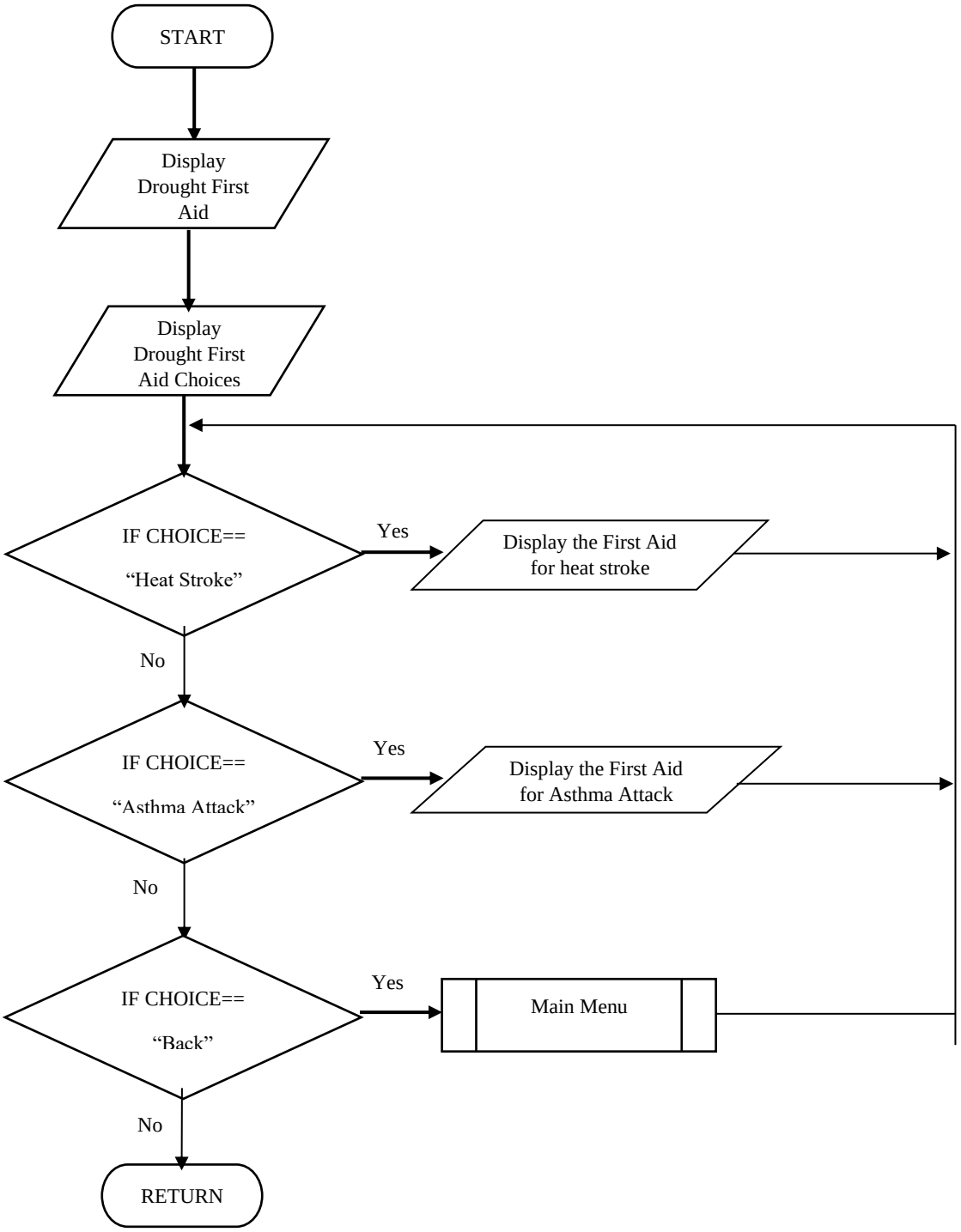


Figure 92 Drought's First Aid

In the figure 92, it showed the first aid flowchart for the common illness and injuries during the drought period.

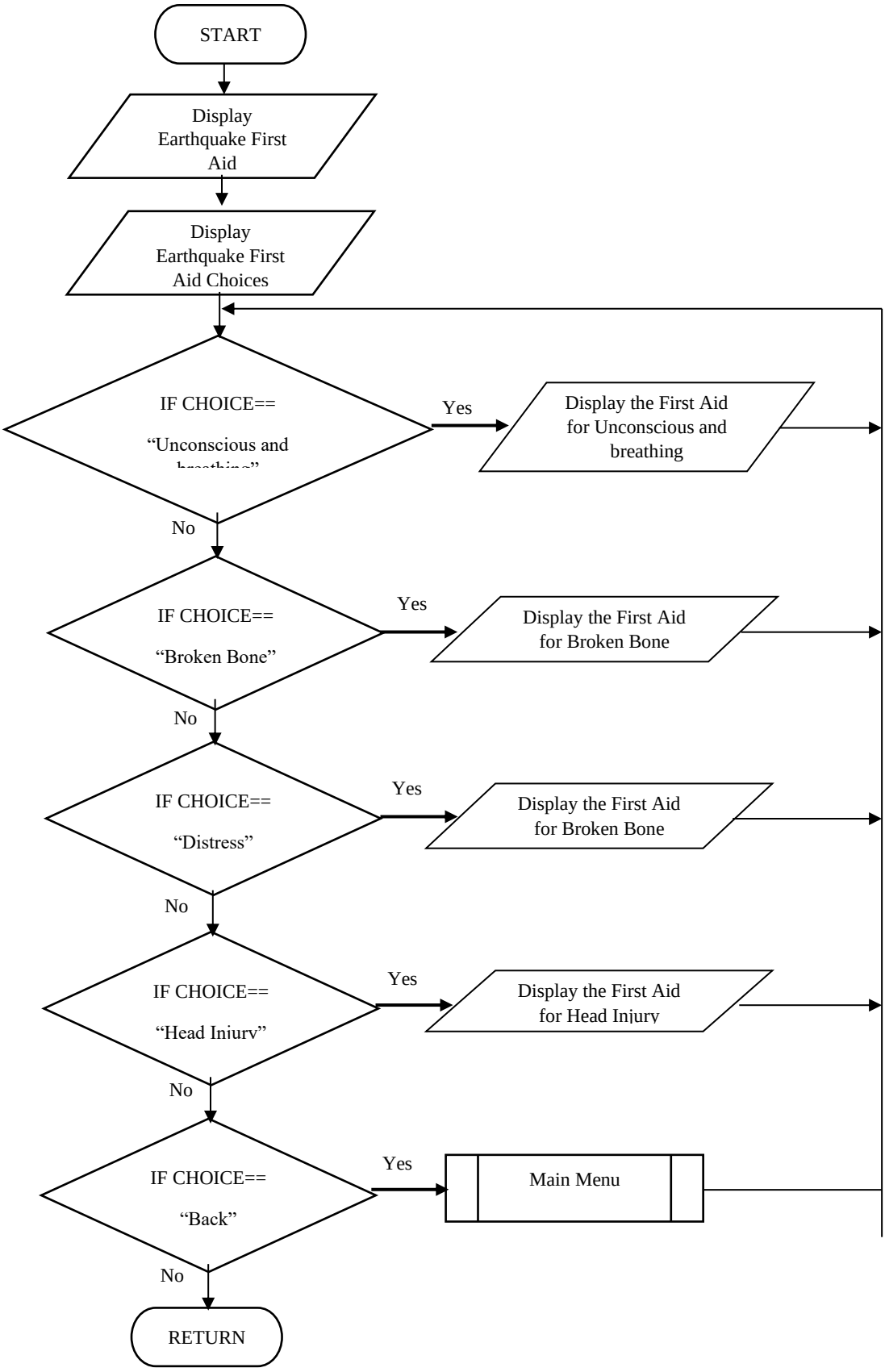


Figure 93 Earthquake's First Aid

In the figure 93, it showed the first aid flowchart for the common illness and injuries during Eartquake.

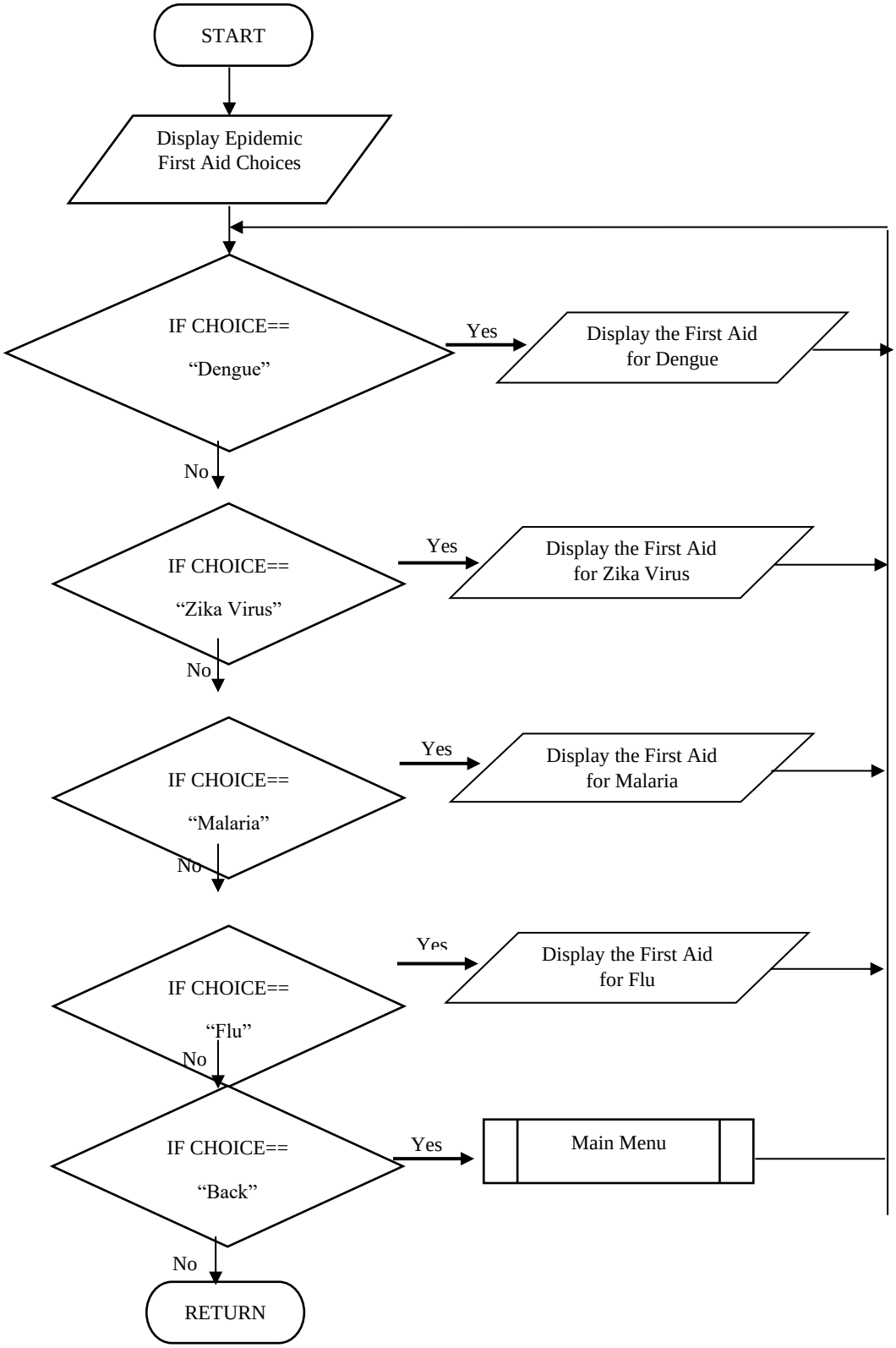


Figure 94 Epidemic's First Aid

In the figure 94, it showed the first aid flowchart for the common illness and injuries when Epidemic srikes.

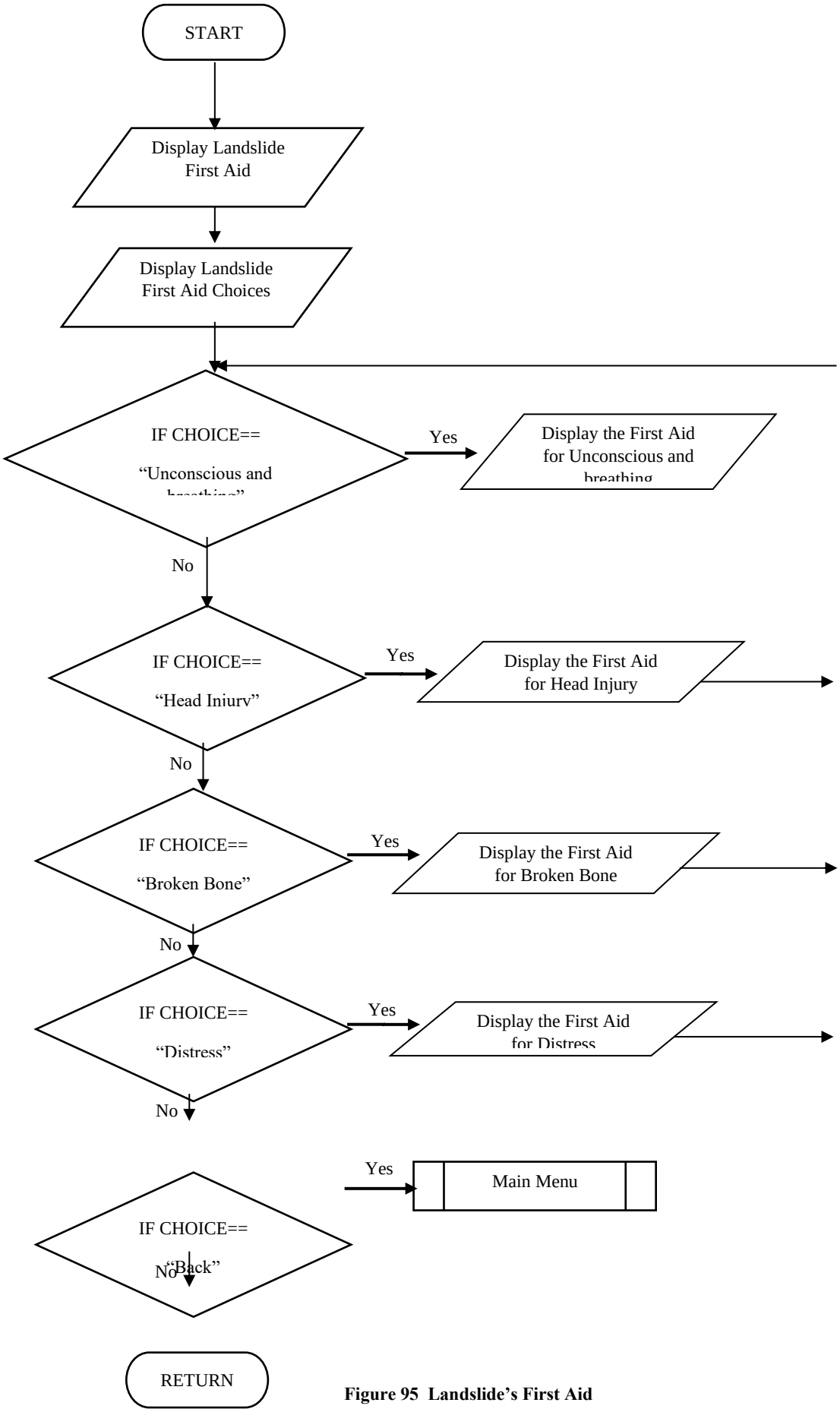


Figure 95 Landslide's First Aid

In the figure 95, it showed the first aid flowchart for the common illness and injuries during Landslide.

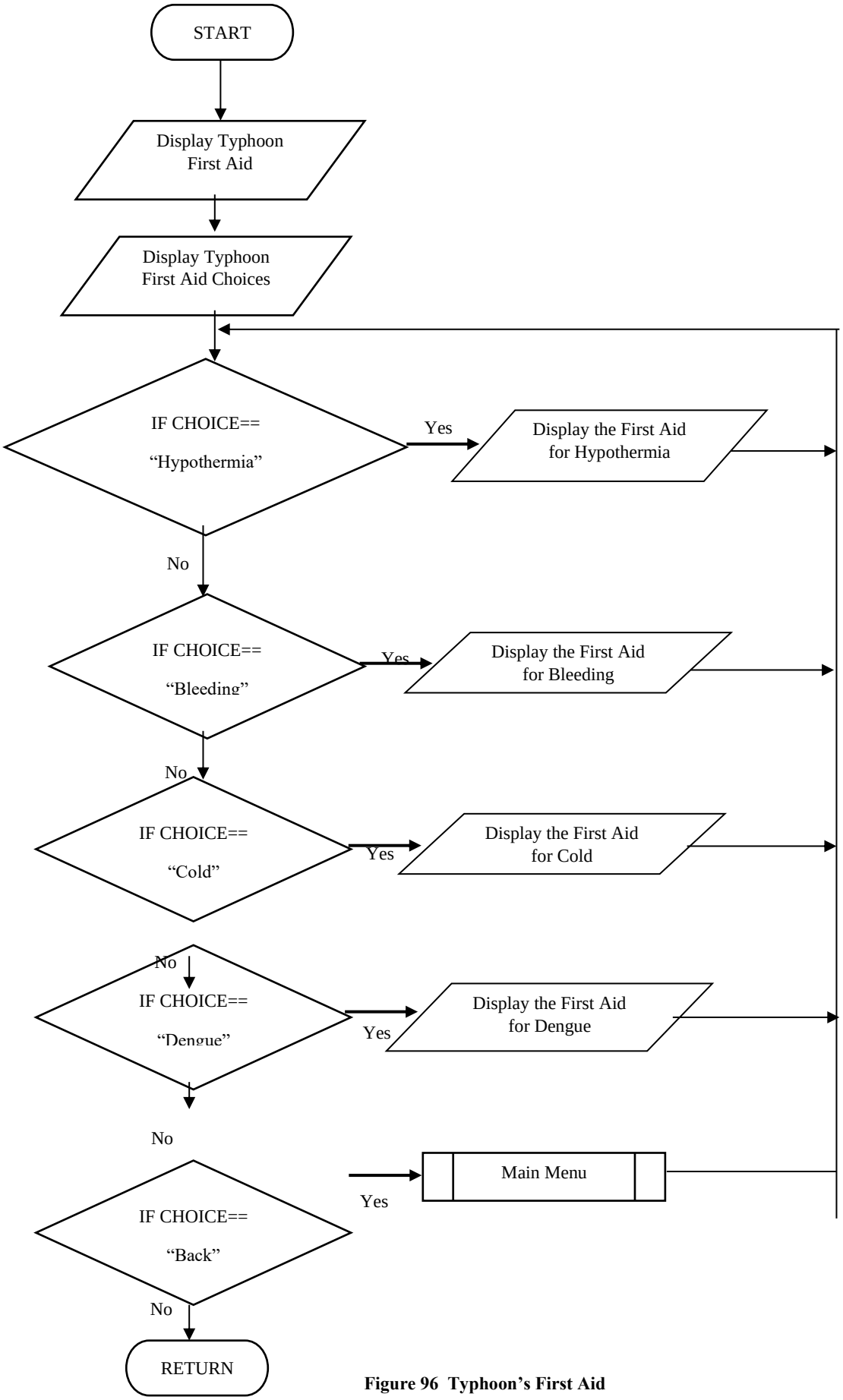


Figure 96 Typhoon's First Aid

In the figure 96, it showed the first aid flowchart for the common illness and injuries during Tyhoon.

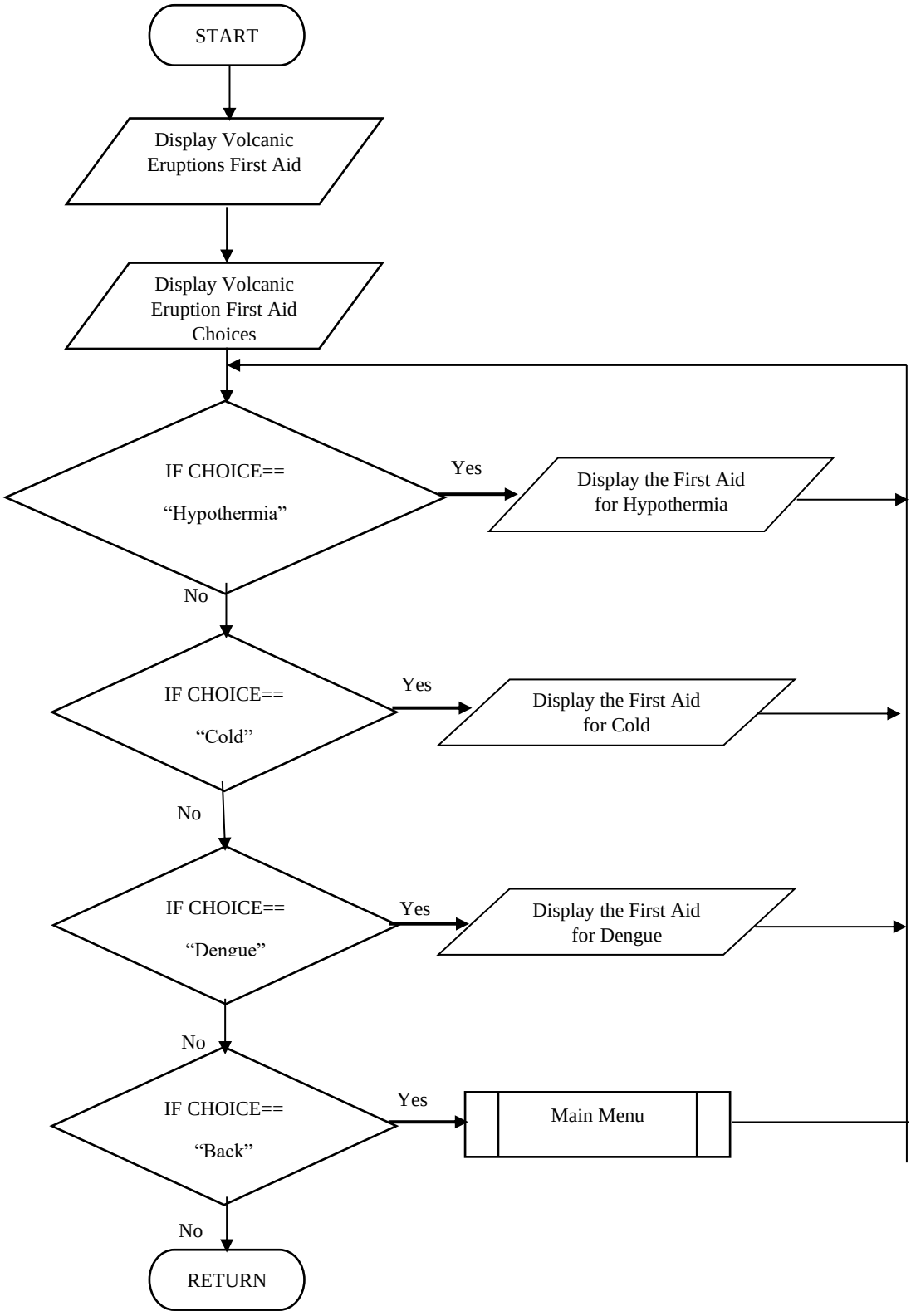


Figure 97 Volcanic Eruption's First Aid

In the figure 97, it showed the first aid flowchart for the common illness and injuries during Volcanic Eruption.

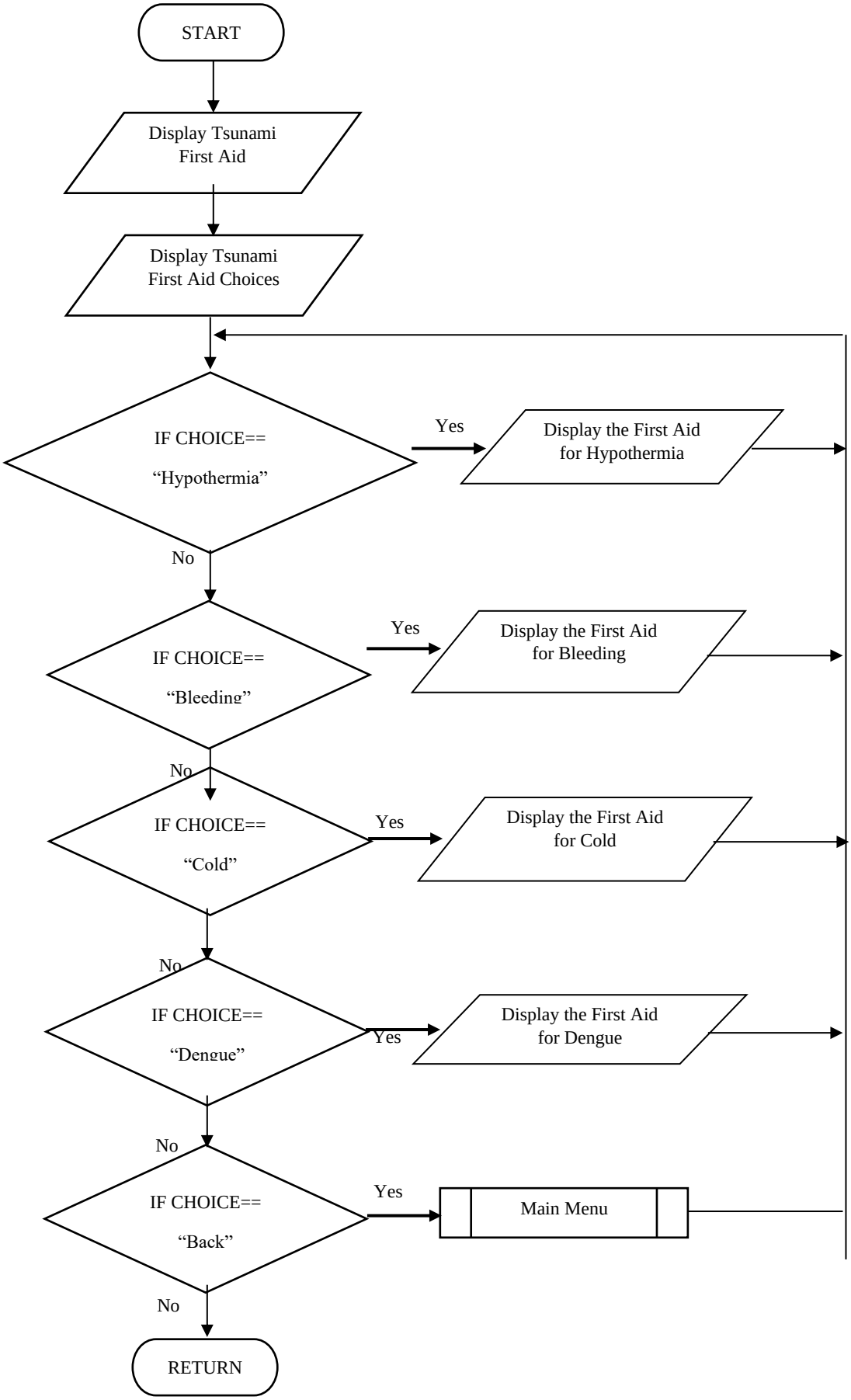


Figure 98 Tsunami's First Aid

In the figure 98, it showed the first aid flowchart for the common illness and injuries during Tsunami.

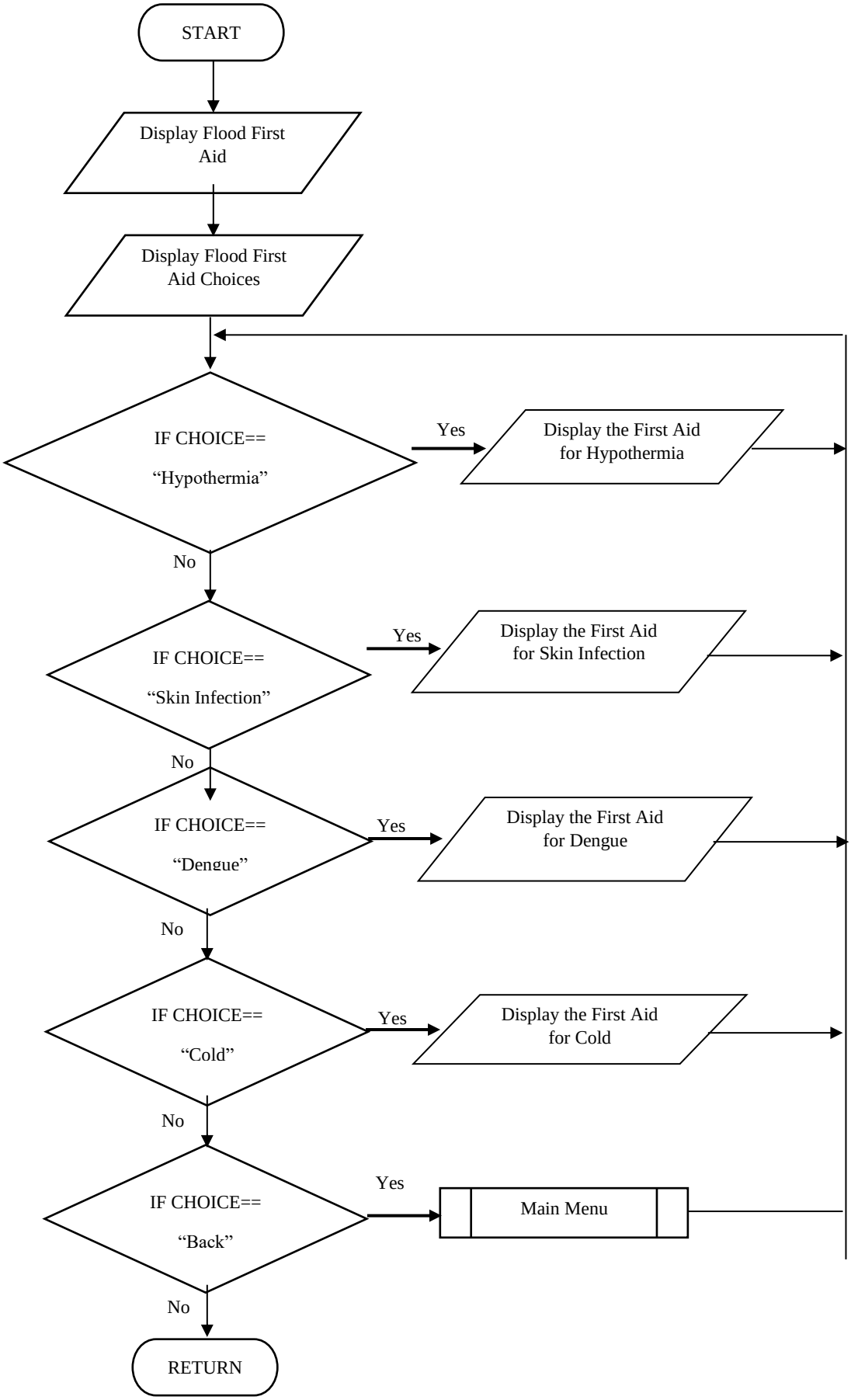


Figure 99 Flood's First Aid

In the figure 99, it showed the first aid flowchart for the common illness and injuries during Flood.

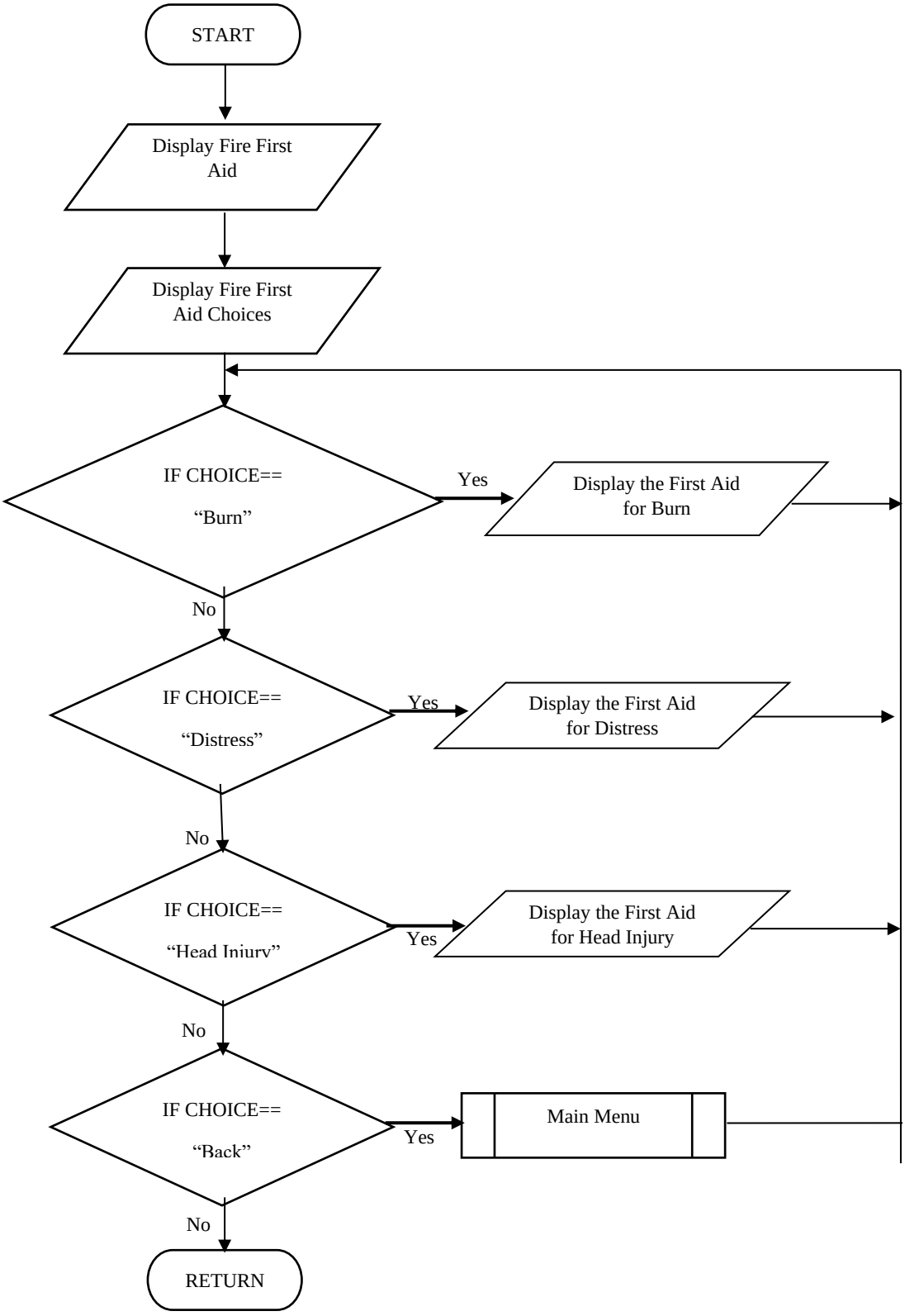
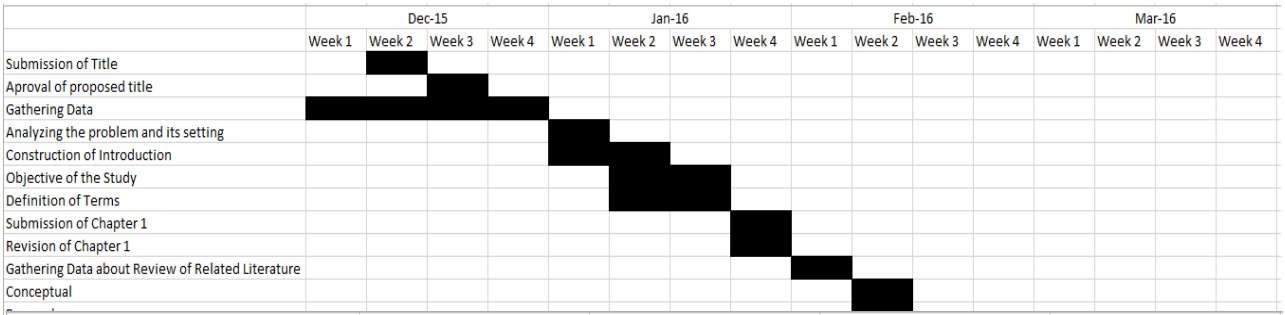


Figure 100 Fire's First Aid

In the figure 100, it showed the first aid flowchart for the common illness and injuries during Fire.



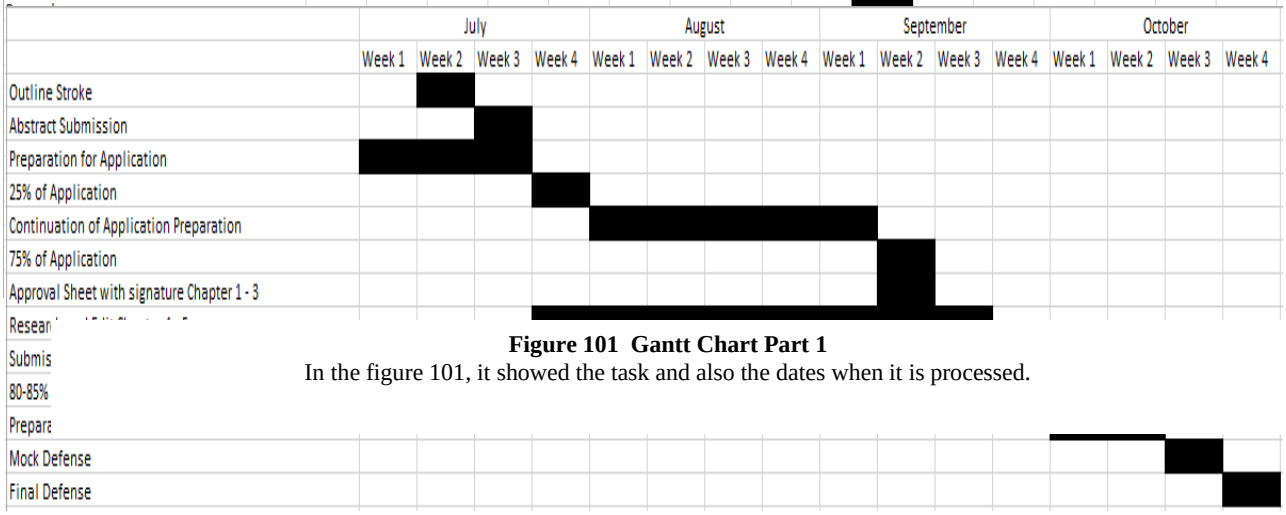


Figure 101 Gantt Chart Part 1

In the figure 101, it showed the task and also the dates when it is processed.

Figure 102 Gantt Chart Part 2

In the figure 102, it showed the task and also the dates when it is processed.

4.0 RESULTS AND FINDINGS

4.1 Results

The results of the study were supported using Java programming language. The application is all about helping people to survive disaster. It consists buttons for every hazard such as drought, earthquake, epidemic, landslide, tsunami, typhoon, volcanic, eruption, flood, and wildfire. Each button has the information of each hazard, and contains checklist and first aid. It has interface that can help user to further understand preparing and even surviving disasters.

4.2 Findings

The application gives information to the people about disaster and how to cope with it. The researchers came up with several limitations. Primarily, it must be used by the users with Android phones. Thus, ordinary phones and iOS phones are not recognized by the application.

5.0 SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 Summary

This research is titled AGAPP: A Mobile Awareness Application. The programming language used is Java programming language. The application created by the authors can provide information about disaster and how to survive different situation when disaster strikes. First, the user will choose one button on different disasters and click it to view that information inside each hazard. The user will view the checklist, first aid and information on each hazard.

5.2 Conclusions

The researchers, therefore, conclude that when every disaster strikes, the main problem of the people is that they are not prepared on what to do. The researchers did this study due to increasing of people who died or got injured when a disaster hit their places. The researchers are very pleased that they were able to develop a disaster preparedness application for android phones. This application will help those people who want to survive every disaster. User will choose one button on different disasters and click it to view that information inside each hazard. The user will view the checklist, first aid and information on each hazard. The researchers believe that through this study, it will reduce the number of people who don't have idea how to survive in every disaster that come.

5.3 Recommendations

The study is recommended to the teachers, students and government officials who will be better users. They can apply their learnings when unexpected hazards come, not only for them but also for their family. This research will help them easily cope with different disasters.

To future researchers, they are advised that they be free to provide more information and enhance their work for further learning. They also recommend interface and installation enhancement of the application. They are allowed to enhance the map view and the functionality of the upload to facebook view of the application.

6.0 REFERENCES

[1] American National Red Cross (2013-2014). Pet First Aid Red Cross. Retrieved March 10, 2016 from https://play oogle.com/store/apps/details?id=com.cu .arc.pfa&hl=en

[2] ArabiaGis (2015). Lebnon Disaster Management. Retrieved March 22,2016 from https://play.google.com/store/apps/details?id=com.arabiagis.disasterapp&hl=en

[3] Carmiel (2015). UlanMo. Retrieved March 22, 2016 from https://play.google.com/store/apps/details?id=ulanmo.main&hl=en

[4] Celso Amo (2014). Mobile app for disaster management launched. Retrieved March 11, 2016 from http://www.philstar.com/good-news/2014/05/12/1321939/mobile-app-disaster-management-launched

[5] Droidgox (2016). PH Weather and Earthquakes. Retrieve March 22, 2016 from https://play.google.com/store/apps/details?id=org.droidgox.phivolcs&hl=en

[6] Ed Forest (2014). Educational Technology. Retrieved March 22, 2016 from http://educationaltechnology.net/the-addie-model-instructional-design/

[7] eLITEs (2016). Disaster Preparedness by OXFAM. Retrieved March 22, 2016 from https://play.google.com/store/apps/details?id=com.elitesbd.oxfam&hl=en

[8] Elizabeth Montalbano (2011). FEMA Launches Mobile Apps for Disaster Preparedness. Retrieved January 14, 2016 from http://www.informationweek.com/mobile/fema-launches-mobile-apps-for-disaster-preparedness/d/d-id/1099838

[9] Federal Emergency Management Agency (2015). Mobile App. Retrieved March 21, 2016 from https://www.fema.gov/mobile-app

[10] Google (2016). Federal Emergency Management Agency. Retrieved January12, 2016 fromhttps://play.google.com/store/apps/details?id=gov.fema.mobile.android&hl=en

[11] Information Week (2011). Retrieved March 10, 2016 from http://www.informationweek.com/mobile/fe

[16] International Federation of Red Cross and Red Crescent Societies Disaster Preparedness. Introduction to Disaster Preparedness. Retrieved March 22, 2016 from http://www.ifrc.org/Global/Introdp.pdf

[17] John “Lofty” Wiseman (2011). ULTIMATE SAS SURVIVAL. Retrieved March 10, 2016 from http://www.sassurvivalguide.com/

[18] North Dakota State University (2016). Disaster Recovery Log. Retrieved January 15, 2016 from https://play.google.com/store/apps/details?id=md.apps.nddrjournal&hl=en

[19] Power App (2014). Notepad. Retrieved March 10, 2016 from https://play.google.com/store/apps/details?id=ru.andrey.notepad&hl=en

[20] Richard Culatta (2013). ADDIE Model. Retrieved March 22, 2016 from http://www.instructionaldesign.org/models/addie.html

[21] Serval Project Communication (2016). The Serval Mesh. Retrieved March 22, 2016 from

ma-launches-mobile-apps-for-disaster-preparedness/d/d-id/1099838

[12] INSURANCE INFORMATION INSTITUTE (2012). KNOW YOUR PLAN APPLICATION: Life Saving App. Retrieved December 12, 2015 from http://www.builtbythefactory.com/know-your-plan-app/

[13] Insurance Information Institute (2012). “Know Your Plan” App Makes Disaster Prep Easy. Retrieved January 13, 2016 from http://www.barnesinsuranceonline.com/blog/know_your_plan_app_makes_disaster_prep_easy.aspx

[14] Insurance Information Institute, Inc. (2016). Apps and Software. Retrieved December 20, 2015 from http://www.iii.org/apps-and softwarehttp://www.iii.org/apps-and-software

[15] Integrated Regional Information Networks. Mobile phone app could help disaster preparedness. Retrieved March 11, 2016 from http://www.irinnews.org/report/96588/philippines-mobile-phone-app-could-help-disaster-preparedness

https://play.google.com/store/apps/details?id=org.servalproject&hl=en

[22] SpanceNext (2011) . Atlantic Ocean Tsunami Alerter. Retrieved March 11, 2016 from https://play.google.com/store/apps/details?id=com.spacenext.tsunami.atlanticocean&hl=en

[23] Steven Milward (2013). Tudlo: Keeping You Safe Even When Disaster Strikes. Retrieved January 13, 2016 from https://www.techinasia.com/tudlo-keeping-safe-disaster-strikes

[24] Substance Abuse and Mental Health Services Administration (SAMHSA) (1992). Access critical, disaster-related behavioral health resources right from your phone with the SAMHSA Disaster App. Retrieved March 10, 2016 from http://www.store.samhsa.gov/apps/disaster/

[25] Tech Boots Apps (2016). D3 Disaster Preparedness. Retrieve March 22, 2016 from

https://play.google.com/store/apps/details?id=com.techboots.samsung.drawer&hl=en

[26] tc120 (2014). Project Noah App: A Disaster Preparedness Mobile Application. Retrieved March 22, 2016 from https://tc120.wordpress.com/2014/09/20/project-noah-app-a-disaster-preparedness-mobile-application-2/

[27] Three Sided Cube (2016). Hazards Application by PRC. Retrieved March 22, 2016 from https://play.google.com/store/apps/details?id=com.cube.gdpc.phl.hzd&hl=en

[28] Tudlo. Retrieved January 7, 2016 from http://tudlo.co/about-us/

[29] Utkrista Malla and Saurav Man Singh.DisAfter (2015). Retrieved January 13, 2016 from https://play.google.com/store/apps/details?id=com.disafter.uki.disafter&hl=en

[30] Vibe Technlogies (2016). Alerto Pinoy. Retrieved March 22, 2016 from https://play.google.com/store/apps/details?id=com.vibetechnologies.alerto&hl=en