**African Centre for Project Management,**

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**Course: Post Graduate Diploma in Public Health**

***Course Unit: Module Two Assignment***

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*Discuss the principles of emergency preparedness*

An emergency is a situation that poses an immediate risk to health, life, property, or environment. Most emergencies require urgent intervention to prevent a worsening of the situation, although in some situations, mitigation may not be possible, and agencies may only be able to offer palliative care for the aftermath.

Emergency preparedness however, refers to the steps you take to make sure you and the people at risk are safe before, during and after an emergency or a disaster. These plans are important for your safety in both natural and man-made disasters. Examples of natural disasters are floods, hurricanes, tornadoes and earthquakes. Man-made disasters can include explosions, fires, chemical and biological attacks as well as wars.

According to WHO (2017), the principles of emergency preparedness are the step by step process for developing and implementing emergency preparedness and it follows an interactive cycle and includes the following;

**Coordinating**

Multisectoral and partner participation coordination mechanism is a key in implementation of emergency preparedness and development. For a project to succeed there is need to coordinate with other agencies to swiftly move on with the project. The involvement of different sectors, agencies and partners makes it easy to achieve emergency preparedness. For example, when we are preparing for emergencies such as flooding, it is necessary to involve the engineering sector to be able to make drainages, the medical to offer treatment to affected individuals, the Psychosocial support sector to be able to comfort and counsel the affected people as well as the public health sector to monitor and prevent emerging issues such as diseases not forgetting the WASH. By coordinating the emergency preparedness, it makes it a success as different stakeholders are involved.

**Resources and Financing**

No project is independent of financing. Finances are key for the success of a project. Without financing and resources both in-kind and human resources, no project can succeed. All steps involved in the emergency preparedness planning should always take account of the financial and in-kind resources. All plans of emergency preparedness should be costed in to see how it can be financed. Most projects fail due to lack of funds and financing agencies. Where there is multisectoral coordination, financing the project becomes easy and cheap to handle as each partner agency will have a part to finance according to their mandate.

**Assessing risk and capacity**

This is the process of determining the risks of the hazards and the available and/or needed capacity to manage the risks. Here all-hazard assessment is done to prioritize the high risk. The capacity to manage the prioritized hazard is then determined to see if the people involved in the preparedness can manage the anticipated emergency. This involves the community as well as the multi sectoral agencies both emergency, development organizations and the private sector.

**Planning**

Planning is the process of identifying at different levels responsibility for a range of activities aimed at meeting specified objectives and implementing accompanying strategies. Having resources and finances available, this is therefore the time to do a step by step allocation of these resources according to activities. Activities of the emergency preparedness are aligned to avoid duplication and breakdown in the process of response during the implementation period of the response. Planning can be done intrasectoral or intersectoral to assign who does what and at what time. Depending on the activities of the organizations, they are assigned duties such as mitigation of specific risk or recovery after the event such as livelihood.

**Implementing**

In the implementation phase, all the stake holders are involved. Development of a clearly explained action plan or road map helps greatly in the implementation of the emergency preparedness where the capacity is strengthened, and finances are transferred to the specific organizations and other stakeholders as per the plan. The resources should be enough both human and non-human for deployment and their capacities built to manage the response.

**Evaluating and taking corrective measures/ actions**

This is where the implementation of the emergency preparedness plans is monitored and evaluated against the predetermined indicators. It is a corrective measure done to avoid a break in the whole process. This can be done independently or together with the below mentioned step of exercise and plan test to see how well the responding teams are prepared.

**Exercising or test the plan**

As mentioned above, exercises provide evidence-based assessment for the monitoring and strengthening of emergency preparedness and it builds individual competencies by learning and practicing their roles. This is like performing drills. For example, a fire out break drill where a scenario of a fire outbreak is shared by all the individuals involved and a fire fighting exercise is performed to strengthen the capacity of the individuals prepared for this emergency.

*With the help of a diagram describe the emergency preparedness process*

The process of emergency preparedness is as described in the diagram below,

**Policy Development**

Policy development is the first step in emergency preparedness. This is the legislation by the national authority or government’s emergency plan for the different anticipated emergencies. Policy development is the first step in emergency preparedness and occurs at different levels involved in emergency response such as at National government, the state, the county/district, community as well as development and humanitarian agencies such as non-governmental organizations.

**Assess risk and vulnerability**

To be prepared for an emergency, one needs to know what type of the risk will pose loss to life, environment and property. Planning for emergency preparedness is worthless when we do not know what our risk is and how vulnerable we are to the risk. Risk and vulnerability assessment are key in the process of the emergency preparedness that it helps guide the actors and policy makers in responding to the emergency. It will be a waste to prepare for hurricane if your facility or area is not near the coast, nor should you spend a lot of time for earthquake planning if your facility or area is not near any area normally susceptible to earthquakes.

**Plan for emergencies**

Planning here include response and recovery for the emergency during and after. It is when the strategies are matched with the resources and the management structure. Where multisectoral approach is used, it also entails which organization is responsible for what activity.

**Train and Educate**

Training and educating the personnel and the community in emergency management skills is necessary for a successful response. This education will need clear messages passed out using the best acceptable format via a mode that is accessible by majority of the community members. Training and educating the community is a much greater investment that is worth doing in order to lessen the effect of emergencies and hence low cost of recovery.

**Monitor and evaluate**

To be sure if the preparedness team is really prepared enough to respond to an emergency, there is need to monitor the process and perform some drills or exercises to see if the personnel are well prepared with enough knowledge. It also helps to know if partners are aware of their responsibilities. Monitoring and evaluation helps in incorporating into the process other recommended interventions incase they are not highlighted in the plan. it also looks at whether the resources are enough to respond to an emergency or not. This is very important to give a report to donors and well wishers to contribute in the emergency response.

*Discuss three potential impacts of emergencies on communities and the immediate response/intervention for each.*

An emergency is a situation that poses an immediate risk to health, life, property, or the environment. Most emergencies require urgent intervention to prevent the worsening of the situation. Emergencies pose great impacts on communities which include loss of life/property, injury or damage to property and the environment.

Many emergencies cause an immediate danger to the life of people involved. This can range from emergencies affecting a single person, such as heart attack, cardiac arrest and injuries from Road traffic accident (RTA) to incidents that affect large numbers of people such as natural disasters (earthquakes, floods, tornadoes, hurricanes, mudslides etc.) and outbursts such as Ebola hemorrhagic fever, cholera or flue.

**Emergency impacts on community**

Disaster impacts comprises of physical and social impact. The physical impacts of disasters include casualties (deaths and injuries) and property damage such as housing, animals and crops and they are usually the most obvious, easily measured and first reported by the media such as the number of deaths during the Ebola outbreak in west Africa in 2014. This is because they are easily measurable quantified.

***Physical impacts***

***Causalities***

Emergencies such as floods, mudslide or disease outbreaks usually leads to loss of life. On March 23, 2014, the World Health Organization (WHO) reported cases of Ebola Virus Disease (EVD) in the forested rural region of southeastern Guinea. The identification of these early cases marked the beginning of the West Africa Ebola epidemic, the largest in history. On August 8, 2014, WHO declared the deteriorating situation in West Africa a Public Health Emergency of International Concern (PHEIC), which is designated only for events with a risk of potential international spread or that require a coordinated international response. Over the duration of the epidemic, EVD spread to seven more countries: Italy, Mali, Nigeria, Senegal, Spain, the United Kingdom, and the United States. Later secondary infection, mainly in a healthcare setting, occurred in Italy, Mali, Nigeria, and the United States.

Two and a half years after the first case was discovered, the outbreak ended with more than 28,600 cases and 11,325 deaths almost half the cases. This is a great impact to the community. Other emergencies such as floods and mudslides also lead to loss of life.

***Damage to properties***

When floods occur, they wash away the earth leading to damage of properties such as crops, houses and infrastructure such as roads affecting communication. For example, according to BBC, (April 2019), the recent cyclone Kenneth that occurred in Mozambique left roads washed away looking like waterfalls as well as crops and farmlands destroyed. This affects communication and can further lead to death due to lack of access to food and health services.

**Social impacts**

Social impacts which include psychosocial, demographic, economic, and political impacts, can develop over a long period of time and can be difficult to assess when they occur and are difficulty to measure causing significant problems.

***Psychosocial Impacts***

Emergencies cause Psychological responses in individuals including Psychophysiological effects such as fatigue, gastrointestinal upsets well as cognitive signs such as confusion, impaired concentration and attention deficit. Also experienced during emergencies are anxiety depression and grief. Behavioral effects such as sleep and appetite changes and substance abuse such as alcohol and cigarettes.

***Economic impacts***

As discussed above about the damage to property, this also results to economic impacts such as losses in asset values measured by the cost of repair or replacement such as repairing damaged car ween screens and damaged houses or putting up completely new houses when the other has completely been damaged beyond repair.

In the case of infrastructure such as the roads and bridges, the government will incur a lot to repair the roads to restore communication, this in turn will affect the citizens negatively.

In cases where there is an out break of a disease such as cholera, there will be a strain on the available resources leading to poor quality of life. For example, the available resources planned for a period of one year will get used up to fight the emergency and later there will be none left for the remaining months hence, reduced access to medical services and thus poor quality of life.

The damaged properties such as vehicles which could be used for public transport for income generation will be affected leading to reduced investment and hence decreased economic productivity.

Financial impact of recovery such as the replacement of or the repair of such damaged properties will mean getting from a third party such as donations which are not long lasting, loans for individuals and the financial impacts of emergency recovery on local and national governments.

***Political impacts***

Where the emergency affects a multicultural area represented by a representative from only one culture or tribe, the period of recovery usually can cause political activism where the unrepresented feel they are cheated and end up in accusing the other of favoritism and tribalism. An example of this has been experienced in the protection of civilian cites in the UN compounds where a clan will attack another clan due to relief supplies which they claim were done favoring the other clan where the community leader comes from.

Other members or individuals will emerge to influence local, state or the federal/national governments/ agencies to formulate policies and take actions they support and terminate those they do not support.

***Emergency management interventions***

The impact management interventions of the above-mentioned impacts include;

**Hazard mitigation practices**

Physical impacts of an emergency/ disaster are to adopt hazard mitigation practices which are preimpact actions to protect against causalities and damage at the time the hazard impacts. These include, hazard source control such as avoiding constructing a house near the coast prone to cyclones, building construction practices such as improved whether resistant constructions of houses with a ream beam reinforced with iron bars to stand lateral stress and land use practices. These practices act directly on the hazard agent to reduce magnitude and duration. Example is patching a hole in a leaking tank truck to prevent a gas or other chemicals from being released and building of dams to protect against floodwater.

**Emergency preparedness practices**

According to Lindell & Perry, (2000), Emergency preparedness practices are preimpact actions that provide human and material resources needed to support active responses at the time of hazard impact. It includes firstly community hazard and vulnerability analysis to determine the response demand which include emergency assessment to define the potential scope of the disaster impacts, hazard operation which are short-term actions to protect property through hazard mitigation, population protection actions to protect people from impact and incident management actions to coordinate the emergency response such as communication.

**Recovery preparedness practices**

Recovery preparedness practices are preimpact actions that are intended to develop the financial and material resources needed to support a disaster recovery.

These include individuals buying insurance policies for properties such as car and housing insurance which will provide for the repair and replacement of the damaged or destroyed properties respectively; Governments of hazard prone communities to prepare for impact assessment, debris management, infrastructure such as roads restoration, housing recovery by provision of temporary housings during the emergency and permanent structures, economic recovery by provision of financial support and provision of jobs and linkage of the community to hazard mitigation such as linking to Non-Governmental Organizations that do hazard mitigation such as construction of dams and dykes.

*It is important to communicate with the public in anticipation of a disaster. Describe the communication process identifying all those involved in the process.*

Communication is the imparting or exchange of information by writing, speaking or using other medium of communication from one place, person or group to another. The ways of communication are either verbal, nonverbal, written or visualization communications. In communication, an information or message is passed from one person or group called the sender through a medium or a channel to the intended receiver who receives the message and interprets the message as intended by the sender and the receiver gives a feed back either through the same channel or another.

During and/or before an incident or emergency, information is as critically important to people as food or water. Not only can accurate information mean the difference between life and death, it can provide reassurance that response and recovery are truly underway and are possible.

It is impossible to communicate without considering strategies, material design and media activities and provide the population anticipated to be vulnerable to the anticipated disaster to protect their lives, properties and the environment.

Therefore, when dealing with disaster, communication planning becomes the first step which is complex involving the collection of, organization, production and dissemination of the information to the intended recipients making it possible to make informed decisions and mobilization of resources (mitigation).

As mentioned earlier that, communication involves the sending of message from a sender to a recipient, the Public and other stake holders such as humanitarian and emergency organizations as well as development agencies here becomes the recipient while the information center becomes the sender.

Before sending a message there is need to plan for the message. This planning process include;

**Diagnosing the situation**

This helps to identify in-depth understanding of the situation identifying what exactly is the situation you want to address to the public. This is the same as the risk assessment mentioned earlier in this paper. There is need to understand the subject matter very well and know the current knowledge of the population or the intended recipients.

**Setting objectives**

Knowing why you need to communicate helps you to be focused and concentrate your communication on what you need to achieve which is done through setting objective. Objectives keep you on track during communication planning as it guides in the communication in order to achieve the goal or aim of the communication. For example, where there is an outbreak of cholera in an area, the purpose of the communication will be to kick off cholera. Therefore to achieve this the objectives will be to communicate effectively to the population the ways through which we can not get cholera, what cholera is, how it is transmitted etc.

**Target audiences**

This gives the intended receiver of the message. It helps in directing the message and in selecting the channel of communication such as use of radio, television, print pamphlets and workshops or using peers. The target audiences also focus on how far the message needs to be sent. The target audiences help in the selection of the media or channel of communications. For example, when targeting the youth, bringing in such campaign messages during soccer sessions on Televisions will be effective as many youth watch soccer while sending out messages in churches and mosques may target the old and religious only.

**Strategy, program, tools and channel**

Communication planning also involves the setting of the strategy/program, tools to be used and the channel of communication. Here the aim of the communication is set such as warning about a flood that is about to happen for the people to mitigate the effects by either evacuating the area or reinforcing their buildings and how it can be achieved to reach the population. It looks how it can be done by selecting the medium/ channel of communication. As mentioned earlier, knowing the intended receivers of the message guides in selecting the message. You can not pass on a message to the whole population in a country only through a television because the television is not accessed by everyone. Some areas lack power to power the television while other people are too poor to have a television. Sometimes it is necessary to select multiple channels of communications to be able to reach the target.

**The time frames**

In communication planning, one also needs to know when the message needs to be passed and for how long. The urgency of the message is crucial in disaster communications detailing what needs to be done and when. This also is another factor that determines the channel of communication. For urgent messages that needs to be received within a short time, channels such as radios and use of community leaders can work better to achieve the target of the urgency.

**Responsible parties**

The next step is who is responsible for what. In our case it will be the emergency responding parties/teams which include individuals vulnerable/targeted by the disaster, responding agencies such as humanitarian, emergency and development organizations and the government including well-wishers. This helps in directing the messages to the intended recipients. Messages need to be passed to individuals with an aim.

**Resources**

These include the human resources and the non-human resources such as funding/finances to be used in the communication process which all need to be costed.

**Monitoring and evaluation**

As the process is ongoing, there is need to monitor how successful it is going and get feedback from the audiences. The reaction of the community or the target recipients gives a message back to the sender to know if the message has been perceived as intended. This point also necessitates the exercising and drills to see if the message can be perceived as intended.

**Evaluation**

Compare with the planned actions. Corrective measures are therefore taken to make sure the process runs as planned.

The parties involved in the process of communication in anticipation of and during emergency/disaster may be the sender which is the communication center and emergency coordination center, the target audiences which include the general public, the vulnerable populations, the people living in the disaster prone areas, national authorities such as the ministry of health, ministry of disaster preparedness and others, communication media and journalists, the academic community (Teachers, students, parents and administrators), international organizations, donors and the international community. The involvement of the many stakeholders ensures that the message is sent to as many as possible recipients of the message which needed to be properly coded and sent on to the receiver through an appropriate channel. The message also needs to be clear and simple to understand and acceptable socially by the recipient community.

*Define the term hazard,*

A hazard is an agent which has the potential to cause harm to a vulnerable target.

A hazard is any object, situation, or behavior that has the potential to cause injury, ill health, or damage to human, property or the environment.

Health and safety hazards exist in everywhere including workplace and some are easily identified and corrected, while others are necessary risks of the job and must be managed through hazard mitigation such as the use of PPEs including helmets, Eyeglasses, heavy gloves in the case of a factory worker or a welder and examination gloves and a Laboratory coats in the case of a Laboratory Technician working in a medical laboratory.

Examples of hazards include, working alone away from your office, electricity, electric cabling, chemicals, working up a ladder, noise, a keyboard, a bully at work, stress and patients with infectious condition.

Most occupational or Work place hazards are inactive or have a low potential of occurring; however, employers must be prepared to deal with them since a hazard becoming active can generate an emergency.

*What is the difference between hazard exposure and hazard vulnerability?*

Hazards are dangers or potential sources of dangers which pose direct threat to a single person or to a group of people’s health and safety or a property, environment or a system.

Hazard exposure is a state of being in which a person or a group of people remain in an imminent risk of danger related to the workplace health and safety and environment or day to day life.

Exposure refers to people, property, systems, or other elements present in hazard zones that are thus subject to potential losses, harm or injury. Example is sitting in a burning bush means you are exposed to the bush fire which is a hazard that can kill if you are not evacuated from there.

Hazard exposures are threats when there are no protective measures taken. For example, an electrical distribution board is an electrocution hazard. If it is protected by a cover, locked out and a safety warning placed on it, its risk is reduced, and it poses fewer hazards.

While, Vulnerability refers to the characteristics and circumstances of an individual, a community, Environment, system or asset that make it susceptible to the damaging effects of a hazard. For example, a person wearing on PPEs while working in a welding company is less vulnerable to the occupational hazards there compared to a person working in the same place without a PPE despite both are exposed to the hazard.

Vulnerability relates to several factors, including:

#### Physical factors such as poor design and construction of buildings and unregulated land use.

#### Social factors including poverty and inequality, marginalization, social exclusion and discrimination by gender, social status, disability and age (amongst other factors) and psychological factors.

#### Economic factors for example, the uninsured informal sector, vulnerable rural livelihoods, dependence on single industries, globalization of business and supply chains, etc. and

#### Environmental factors which include, poor environmental management, overconsumption of natural resources such as mining, and climate change (Global warming a major cause of the frequent hurricane and floods).

* In addition, vulnerability is determined by historical, political, cultural and institutional and natural resource processes that shape the social and environmental conditions people find themselves existing within (IPCC, 2012).

However, both hazard exposure and hazard Vulnerability may varry significantly within a community and over time due to the factors that worsen them.

*List and define the four phases of emergency management*

WHO (2017), defines an emergency as an event or threat that produces or has the potential to produce a range of consequences that require urgent coordinated action. It is the state in which normal procedures are interrupted, and immediate measures need to be taken to prevent that state turning into a disaster.

Emergency management is therefore, the organization and management of the resources and responsibilities for dealing with all humanitarian aspects of emergencies which include, mitigation, preparedness, response and recovery to reduce the harmful effects of all hazards, including disasters.

**The four phases of emergency management include;**

**Preparedness**

Emergency preparedness practices are preimpact actions that provide human and material resources needed to support active responses at the time of hazard impact.It is a continuous cycle of planning, organizing, training, equipping, exercising, evaluating, and taking corrective actions. Training and exercising plans is the cornerstone of preparedness which focuses on readiness to respond to all-hazard incidents and emergencies.

**Response**

Emergency response is all actions taken in responding to an emergency safely. This emergency management phase is a reaction to the occurrence of a catastrophic disaster or emergency. It is comprised of the coordination and management of resources, including personnel, equipment, and supplies. Here the Incident Command System is used in an all-hazards approach; and measures taken to ensure life, property and the environment are safe.

**Recovery**

The recovery phase of emergency management is the process of returning to normal or even better state from an emergency. It consists of those activities that continue beyond the emergency period to restore critical community functions and begin to manage stabilization efforts immediately after the threat to human life has subsided. The goal of the recovery phase is to bring the affected area back to some degree of normalcy.

**Mitigation**

Mitigation is the effort to reduce loss of life and property by lessening the impact of disasters and emergencies. This phase includes any activities that prevent an emergency, reduce the likelihood of occurrence, or reduce the damaging effects of unavoidable hazards and are considered long before an emergency. Examples include flood control projects, raising building elevations, and clearing areas around structures. Non-structural mitigation most often entails adopting insurance such as Fire insurance and Fire extinguishers placed near buildings while the risk of loss of life and injury can be limited with good evacuation plans.

*Explain the relationship between disasters and public health*

A disaster is a serious disruption of the functioning of a community or a society involving widespread human, material, economic or environmental loss and impacts, which exceeds the ability of the affected community or society to cope using its own resources occurring over a relatively short time. Examples include accidents and natural catastrophes (Floods, Hurricanes etc.).

Disasters often result in the breakdown of social system and services with marked effects on human development and economy. They also cause ill-health and deaths either directly or through the disruption of health systems, leaving the affected communities without or with only limited access to healthcare.

The increased magnitude, frequency and impact of disasters fortify the need for adaptation of context-specific, multi-sectoral and multidisciplinary disaster management interventions and plans that include the coordination and integration of activities necessary to build, sustain and improve the capability to prepare for, protect against, respond to, and recover from any emergency.

The learnings from the implementation of the emergency response highlight the need for sustaining all the essential components of primary health care during disasters and adapting a holistic approach by mainstreaming and integrating emergency medical assistance and disaster response into primary health care policies, strategies, and services,

While;

Public Health is the management of public health threats which is concerned with the health of populations, rather than specific care for individual patients, although many public health departments do provide individualized patient services which though in one way or the other also helps the whole public. The major role of public health / Public health management is to identify and control threats to public health, and to create policy which supports public health and the development of healthy populations.

Public health systems as disaster management, involves all public, private, and voluntary entities that contribute to the delivery of essential public health services within an authority and this therefore, ensures that all entities’ contributions to the health and well-being of the community or state are recognized in assessing the provision of public health services through a coordinated mechanism that involves the participation of the community at all levels.

Therefore, Disaster and Public health are related in that they both are concerning health of the public or communities. While public health interventions can as well be a disaster management, the two go hand in hand. Where there is a disaster, the community/ public is affected and public health steps in, to ensure the health of the population is not affected while managing the disaster and putting in place interventions that aim at preventing the disaster from occurring or reducing the impact. Public health also looks at a better future public health in that it is like mitigating a disaster.

When the public health system and policies are weak, the population is born to face mega effects of a disaster therefore, it’s the public health services and policies that determines how well a community is prepared to mitigate, face a disaster and manage appropriately.

*From a Public Health Officer’s point of view, why is it important to train and educate the community on disaster preparedness?*

A disaster as defined above, is a serious disruption of the functioning of a community or a society involving widespread human, material, economic or environmental loss and impacts, which exceeds the ability of the affected community or society to cope using its own resources occurring over a relatively short time.

Disaster or emergency preparedness practices are preimpact actions that provide human and material resources needed to support active responses at the time of hazard impact.It is a continuous cycle of planning, organizing, training, equipping, exercising, evaluating, and taking corrective actions. Training and exercising plans is the cornerstone of preparedness which focuses on readiness to respond to all-hazard incidents and emergencies.

Natural and manmade disasters often result in the failure of social system and services with marked effects on human development and economy. They also cause ill-health and deaths either directly or through the disruption of health systems, leaving the affected communities without access to healthcare in times of emergency.

Training the community on emergency preparedness is essential to maintain a surge capacity at a local and national level to respond immediately when a health emergency or disaster strikes.

Disasters and emergencies occur anytime, emergency preparedness ensures that the community is ready and have the capacity to tackle any emergency at any time.

When the community is trained and educated on emergency preparedness it involves all actions that will improve your chances of successfully dealing with an emergency. This means that when a community deals with an emergency successfully, there will be no or little damage to the community in terms of social systems and services.

Emergency preparedness also determines the impact of the emergency on the community. The more prepared the community and the responding teams and organizations the lesser the impact of the emergency.

Investments in preparedness can result in significant savings in relief and rehabilitation expenses.  
This means that little resources will be needed for the recovery process after the emergency due to the little or limited impact.

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