**ASSIGNMENT:**

**MODULE ONE.**

1. Critically examine factors responsible for the increase in frequency and magnitude of disasters in the world today
2. Clearly distinguish the following:  
   (i)Disasters and hazards.  
   (ii)Risk analysis and hazard analysis
3. Define vulnerability and examine factors that make communities vulnerable to disasters
4. In your own words, what is your understanding of public health and what are its key elements?
5. Public health is about partnership between the different players. Explain how the role of international non-profit/NGO in terms of
6. recruitment ii) training iii) funding and iv) monitoring for public health projects contribute to the success or failure of those projects in the developing countries

**Q1: Critically examine factors responsible for the increase in frequency and magnitude of disasters in the world today:**

**Disaster-** This is an occurrence that takes place to vulnerable population in the society that leads to disruption of normal livelihood of people due to displacement, environmental damage and loss of life; where when it occurs ,the affected group is unable to cope without external relief to enable them recover and resume their normal life. A disaster can be natural or manmade. For example earthquakes are natural whereas wars are manmade disasters. An event is considered a disaster if it kills 10 or more people, or it leaves at least 100 people injured, homeless or displaced (according to the office of US Foreign Disaster Assistance- OFDA

**Frequency** -refers to the rate at which something occurs over a particular period of time, for example in this context it will refer to the rate at which disasters are occurring globally over a particular period of time.

**Magnitude ­-** refers to the extent of something, like for example the extent of an explosion.

There are several factors that lead to the frequency and magnitude of a disaster when it strikes. Most of these factors can be avoided especially in the cases of man-made disasters. They include the following:

**Anthropogenic activities:** These are activities by people that lead to environmental degradation. For example deforestation; this is clearing of forests permanently in order to convert the land to farms, ranches, logging for timber, charcoal burning or for urban settlement. Trees play a major role in absorbing the atmospheric carbon dioxide released from human’s daily activities like burning fuels and also the exhaled air. Trees use this carbon dioxide for photosynthesis process. Cutting down these trees therefore reverses this process and it leads to albedo effect (ability of earth surface to reflect heat from the sun), causing absorption of light energy from the sun inform of heat and the end result will be global warming.

Global warming means more snow and ice on the surface is melting for example in Arctic ocean causing increased water levels in the sea. Consequently, this leads to exposure of the sea to direct sunlight and water warms up. The heated water causes the ice from the underneath to melt and the water levels rises even higher and this explains the cause of tropical cyclones in oceans like Atlantic ; for example hurricane Mathew in 2016 in Haiti.([www.skepticalscience.com/earth-albedo-effect.htm](http://www.skepticalscience.com/earth-albedo-effect.htm))

Deforestation counteracts rainfall patterns. This is so because trees play a role in rain formation through evapo-transpiration. Lack of sufficient rainfall leads to drought and as a result famine is inevitable, a man-made disaster. Therefore, anthropogenic activities are responsible for both the frequency of disaster occurrences as well as their magnitude.

**Population boom and increased urbanization-** This is rapid population growth and increased movement of people from rural set up to urban areas. Population growth leads to people settling in areas prone to disasters like floods especially on the ocean shores along coastal regions or landslides on loose hilly soils. Urbanization on the other hand leads to congestion in towns due to low social class and limited housing facilities. Due to these factors, disasters like disease outbreaks occur more often for example cholera.

The magnitude of a disaster can also be heightened by the congestive nature of the habitat; for example in case of a disaster like fire outbreak, rescue efforts may be difficult due to limited escape and entrance routes.

Increased urbanization leads to construction of unregulated houses which in the event of collapse cause massive damages like loss of lives and severe injuries. ([www.prb.org/disaster-risk/](http://www.prb.org/disaster-risk/)).

**Poverty-** It is the poor people who feel the pinch most when a disaster occurs. For example, in cases of drought, the poor population is unable to cope with the situation due to lack of money to buy limited commodities like food. This makes poor families to spend days without meals. Thus, women, children and elderly suffer more from protein-energy malnutrition. Most people living below poverty line also tend to face water borne diseases like cholera due to lack of access to clean water, or water- washed diseases like skin and eye infections due to total lack of water . These people still do not have proper ways of human waste disposal like pit latrines which leads to cholera outbreaks. Therefore, poverty increases both the frequency and magnitude of a disaster. (reliefweb.int/report.kenya/rise-cholera-cases).

Other factors that are responsible for the magnitude of a disaster include: population density of a particular area during the event of disaster; for example an earth quake tragedy that takes place in a location where the distribution of the population is scarce is likely to have lesser casualties than a densely populated one; availability of proper communication links like good roads to make it easy for the rescue team to reach disaster stricken area in time reduce the number of mortality ; the severity of a disaster, for example in an earthquake event measured by the Richter scale- the higher the scale the more the damage will result.

**Q2: Clearly distinguish the following:**

**(i)Disasters and hazards.  
(ii)Risk analysis and hazard analysis**

**(i)Disasters-** These are events that occur suddenly and unexpectedly, causing serious disruption of the normal functioning of a community leading to deaths of people and animals, displacement, loss of materials, environmental degradation and economic derailment; whereby the occurrence exceeds the community’s ability to cope using it’s available resources until external relief is involved. A disaster occurs when hazards fall on vulnerable persons with limited ability to mitigate risks. Disasters can be natural (example volcanic eruptions) or man-made (pollution and spillages). (www.ifrc.org>disaster-management); while:

**Hazards-** Are situations, objects or behaviors that pose a probability of causing death, diseases, injuries or damage to environment. For example, extreme temperatures like very hot ones are hazards that lead to forest fires; the most recent occurrence in California. Biological hazards include viruses, bacteria fungus and parasites; for example an increased population of locusts my lead to low farm productivity inadequate for the community which exposes to famine. Again, people who eat bush meat may in some African countries are exposed to a hazard of developing Ebola virus which a deadly hemorrhagic disease. (www.safeopedia.com/defination/152/hazard).

**(ii)Risk analysis-** It is a complex but essential tool that helps in identifying potential threats within a particular project which may hinder realization of the desired outcomes and set objectives. It is useful during planning in order to anticipate and mitigate possible threats, helps a project planner to decide whether to continue with the project or to stop. Risk analysis is mostly useful in projects, information technology or security issues. ([www.mindtools.com/pages/article/nemTMC\_07.htm](http://www.mindtools.com/pages/article/nemTMC_07.htm)); while

**Hazard analysis-** It is a process of knowing what is hazardous within an environment and its unpleasant outcomes and what are the causes of particular hazards. In other words, it seeks to identify the hazard, identify the cause and determine its risks.

**Q3) Define vulnerability and examine factors that make communities vulnerable to disasters**

**Vulnerability**- Can be defined as being predisposed to some kind of unpleasant events that lead to harm and destruction; it is a state that results from certain set of conditions (social, physical, economical or environmental) which increase chances of a community becoming prone to the impact of a disaster.

Synonyms include: susceptibility, predisposition, defenseless or weakness.

There are several factors that make communities vulnerable to disasters and include the following:

1. Social factors: For example marginalization which expose the vulnerable groups to hazards and disasters and can be as a result of abject poverty which makes people settle in slums thus a threat to their social wellbeing. This occurs mostly when a large population of people migrate to urban areas then they lack employment due to lack of proper education or poor governance. It is in these slum dwellings where you will find poor sanitation, loss of clean water supply, poor health services, overcrowding and impassable roads. All these combined brew disasters like disease outbreak, fires, collapsing building among others.

Discrimination: By gender, age, and disability is a social factor that has been a big challenge especially in the developing countries. For example, female, elderly persons and people with disabilities are forgotten during policy making on issues regarding disasters.

Illiteracy: Lack of access of essential information and ethnic clashes also play a role in making communities vulnerable to disasters. Communities for instance need to get a timely report on meteorological pattern of an area so that they may be prepared in case of short or long rain which would affect food production of a particular season; ethnic clashes on the other hand cause people displacement which increase vulnerability to disasters especially women, children and the elderly.

Other social factors that make communities vulnerable are inequality and inequity in the distribution of essential facilities and commodities or poor representation. This is seen mostly due to poor planning within the government agencies especially concerning the issues of disaster preparedness and mitigation.

1. Environmental factors: These are activities that interfere with the normal functioning of the environment. They include deforestation (logging to get timber or burn charcoal, extension of agricultural land or clearing trees to build more houses). These activities lead to global warming because of increased levels of carbon dioxide in the atmosphere, from the burning of trees, exhaled air and from the industries. The trees are supposed to utilize this carbon dioxide for their normal processes like photosynthesis, but since they have been cleared it accumulates in the atmosphere affecting the temperatures. This explains why there are increasing world fires, prolonged dry cold seasons( La nina) or prolonged wet seasons (El nino).
2. Economic factors: These are mostly things that affect daily activities of people may be due to poor governance, corruption and politics. Developing countries are the worst affected by these vices. For example, rise in food prices that means only a few will afford at least three meals in a day. It becomes apparent when a family can barely get food to feed due to its big size, since the more the members the more the mouths to feed. Small children and the elderly are the ones who suffer most because they do not work to get money to buy food and this makes them vulnerable to effects of starvation.

Lack of food and clean water is an economic issue that is brought about by famine. Here people may be having money but no food available to be bought. Poor infrastructure like impassable roads and poor telecommunication hinders transportation of food and clean water to areas where people need them. Also, poor road network and cell phone communication hampers action in times of a distress call. These as well contribute to the affected community to be vulnerable to disasters like famine or diseases outbreak.

Again, poverty in general contributes majorly to vulnerability since people are likely to work in hazardous areas like in mines with no proper resources to deal with disasters when they strike.

1. Physical factors: They include poor design and construction of buildings. For example houses built on loose soil prone to land slides or swampy areas prone to sinking poses makes people to be vulnerable; construction of houses in low lying areas and along rivers and oceans can lead to flooding.

Unregulated land use for example opening a power production plant near residential areas that deals nuclear will expose people to radioactivity which is a disaster. (www.preventionweb.net/risk/vulnerability).

**Q (4) In your own words, what is your understanding of public health and what are its key elements:**

**Public health-** This is a branch in health sciences that deals with disease prevention and control, prolonging life through health promotion activities such health education on change of behavior and attitude as well as creating awareness, so that the quality of health may be improved and hence good quality of life.

Key elements of public health include;

1. To monitor and evaluate heath status to identify health needs of a community-this helps in determining the trends in terms of health of all the age groups within a community. For example, the nutritional status of children under five years which has led to malnourishment can be investigated to determine its causes and how to manage it. Public health plays a vital role in this activity in order to disseminate important information to groups of interest like the government or non governmental agencies so that appropriate actions may be taken; also, public health encourages the community to mitigate this kind of health issue through use of its available resources. The identified health needs are dealt with depending on the priority.
2. To diagnose and investigate health problems and health hazards in the community- Public health officers do routine checks within the community to ensure people safety. For example it is their duty to ensure that people have access to clean drinking water by seeing water sanitation guidelines are followed; health hazards like lack of proper human waste disposal due to lack of pit latrines and toilets are addressed by public health department. The diagnosis done here helps in resource allocation to a particular community
3. To inform, educate and empower people about health issues- public health disseminates information that leads to improved health. For instance, educating the population on activities that they should engage in that may prevent them from getting sick; eat less weigh less is an example of educative information which will see most people not suffering from lifestyle diseases like diabetes and hypertension. Public health can do this through media forums, schools, churches and other gatherings; hence information is power.
4. Develop policies and plans that support individual and community health efforts-policies help in modifying behaviors that can impact peoples’ health negatively. These policies guide the practice of public health and systematic health planning strategies to help in community health improvement. For example in order to mitigate cholera cases and other food related diseases, all the personnel working in hotels and restaurants must have an approved certificate from the public health department to allow them to work there.
5. To enforce laws and regulations that protect and ensure public health and safety- this involves reviewing, evaluating and revising laws and regulations put in place to protect people’s health, to ensure good compliance and encouraging their enforcement. For example, enforcement of clean air standards by avoiding air pollution, enforcement of laws prohibiting the sale of alcoholic and tobacco to minors, enforcing housing and sanitation codes.
6. To link people to needed personal health services and assure the provision of health care when otherwise unavailable- Public health plays a role of ensuring accessibility of essential health services to individual to improve cost effective services. Public health as well identifies barriers within a population which hinders them from getting these services like poor road network, and addresses them as appropriate. Where the population in need is not able to receive these services, public health officers organize for an outreach activity where they deliver the much needed services within reach. For example, immunization of under 5 children done as outreach event in hard to reach areas.
7. To assure a competent public and personal health care workforce- public health is concerned with the qualifications and credentials of health care workers and staff to ensure competence, effective and efficient services. This helps avoid unqualified persons offering sensitive health services which would lead to unpleasant complications. To do this, public health ensures implementation of efficient licensure to qualified persons.
8. To research for new insights and innovative solutions to health problems- research helps to understand better health problems and how to address them. Public health can do this by performing a timely epidemiological analysis. (www.cdc.gov.stlpublichealthgateway/publichealthservices/essentialhealthservices)

**(Q5) Public health is about partnership between the different players. Explain how the role of international non-profit/NGO in terms of**

**(i)recruitment ii) training iii) funding and iv) monitoring for public health projects contribute to the success or failure of those projects in the developing countries:**

1. **Recruitment and training-** Most international non-profit organizations play a vital role in developing countries, where humanitarian welfare is needed. This is more so observed where the developing countries are striving to meet millennium development goals and/or attain universal health coverage. To achieve this objective, the NGO’s tap into the local skilled workforce pool for clinical as well as programme staff, where there’s also competition from other NGO’s. This leads to a characteristic pattern where governments human resource may be undermined due to the often better incentives offered by the NGO’s.

This can be viewed as a contribution to failure in recruitment and training because the key ingredient is the skilled human resource that is absorbed from their areas of clinical specialization, against a poorly replenished skilled workforce due to perennial challenges in training more skilled staff as well as the time it requires. In mitigation, most international NGO’s are signatories of the NGO Code of conduct for health systems strengthening. This advocates for fair human resource practices which have seen the above mentioned failure in recruitment and training issues addressed and actually become a success. The main articles in the code of conduct guide NGO’s to; a) Strengthen the public sector,

b) Promote sustainability, and

c) To create and maintain of human resource training and support systems that are beneficial to the countries they are based in.

This has seen more collaboration between NGO’s and learning institutions for pre service training to increase the number of graduates, and short post college/on job trainings which positively contribute to capacity building as regards training.

Some NGO’s have also been supporting health ministries in developing robust and practical objectives, operation plans, and policies. In addition, they also champion for measures that help increase the country’s capacity to finance their public sector health workforce, Augment their salaries.

**Funding**: This is usually done by donor partners to an NGO or by a Government. For instance, Governments/Public agencies contract some International NGO’s for primary healthcare services. The socio-political environment and legal frameworks not withstanding in such arrangements, appreciable success is observed but not limited to the following aspects;

* Increased and efficient resource mobilization and use,
* Improved quality of care and extended coverage,
* Increased medicines, medical supplies and improved quality of care,
* Universal health coverage for basic services,
* Promotion of Quality assurance.

The main challenges faced in this setting include public sector ability and competence in making timely payments to the NGO’s, which is more often than not likely to strain the NGO in covering of operating costs. It also implies that the quality of services offered may be jeopardized thereby causing a raw deal as the implementing NGO spreads thin in a bid to make ends meet before the next payment is done.

Some International NGO’s in some cases go to the extent of directly contributing to Ministries of Health in developing countries to help then in recruiting additional staff and/or give better incentives to their national health labor force.

**Monitoring;** it can be defined as a long term and systematic process that gathers information on the progress of an implemented project. It is relevant to donors funding projects that are carried out by NGO’s/Partners, in that it offers them an opportunity to assess the reliability, accountability of the later. The outcome informs the donor on decisions regarding further collaborations.

It also informs the partners on whether strategic changes, mid-term or otherwise should be implemented to achieve the desired outcomes. Therefore, monitoring is the key indicator of progress made during project implementation and thus qualifies as an activity that contributes to the success of a given project.